YOUR HGV Partner!

20th anniversary

KS TOOLS®

1992 - 2012

Tools and more

HGV TOOLS

CENTRAL ADMINISTRATION AND LOGISTICS CENTRE

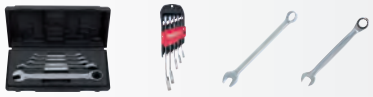
three administration buildings with

2000 m² office area

175 highly qualified employees

26 apprentices in different occupations

9000 m² warehouse and logistics centre



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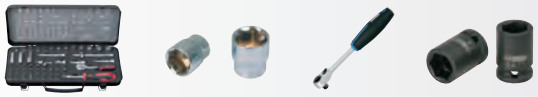

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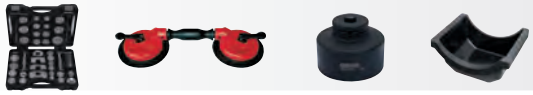

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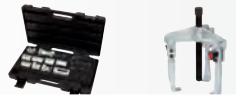

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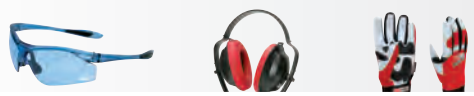

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1 SPANNERS

COMBINATION SPANNERS

CLASSIC Combination spanners, offset

- FlankTraction Profile
- DIN 3113 Form A / ISO 3318 / ISO 7738
- Jaw 15° offset
- Ring head 15° offset
- Polished heads
- Matt finish
- Chrome vanadium

	mm	A1 mm	A2 mm	B1 mm	B2 mm	L mm	g	
517.0606	6	4.7	4.0	10.1	15.5	100.0	10	
517.0607	7	5.0	4.0	11.5	17.0	110.0	15	
517.0608	8	5.5	4.5	12.8	19.2	120.0	20	
517.0609	9	5.9	4.5	14.2	21.2	130.0	30	
517.0610	10	6.5	5.0	15.6	23.2	140.0	40	
517.0611	11	6.9	5.4	16.9	25.3	150.0	50	
517.0612	12	7.3	5.5	18.3	27.2	160.0	60	
517.0613	13	7.8	5.9	19.7	29.4	170.0	70	
517.0614	14	8.3	6.2	21.2	31.5	180.0	80	
517.0615	15	8.6	6.4	22.5	33.2	190.0	90	
517.0616	16	8.9	6.7	24.0	34.7	200.0	100	
517.0617	17	9.3	6.9	25.3	36.5	210.0	130	
517.0618	18	9.9	7.2	26.8	38.7	220.0	140	
517.0619	19	10.5	7.4	28.1	40.7	230.0	170	
517.0620	20	10.9	7.7	29.7	43.1	240.0	190	
517.0621	21	11.3	8.0	31.3	44.5	250.0	210	
517.0622	22	11.5	8.2	32.6	46.9	260.0	230	
517.0624	24	14.0	8.0	35.5	50.4	280.0	270	
517.0627	27	15.5	8.8	39.6	59.5	310.0	420	
517.0630	30	17.0	10.1	43.7	61.8	340.0	500	
517.0632	32	18.0	10.4	46.4	65.8	360.0	530	
517.0634	34	20.0	10.0	49.7	66.0	420.0	735	
517.0638	38	21.5	13.0	56.0	76.0	450.0	1000	
517.0646	46	25.0	15.2	71.5	93.0	506.0	1635	
517.0650	50	26.4	16.4	75.6	102.0	540.0	2100	

Combination spanners set, offset

- FlankTraction profile (12 point)
- DIN 3113 Form A / ISO 3318 / ISO 7738
- Jaw 15° offset
- Ring head 15° offset
- Polished heads
- Matt finish
- Chrome vanadium

			g
517.0048	8 pcs	8 - 9 - 10 - 11 - 13 - 14 - 17 - 19 mm	550
517.0052	12 pcs	8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 mm	880
517.0043	21 pcs	6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20 - 21 - 22 - 24 - 27 - 30 - 32 mm	3800

ULTIMATE*plus* combination spanner, offset

- FlankTraction Profile
- DIN 3113 Form A / ISO 3318 / ISO 7738
- Jaw 15° offset
- Ring head 15° offset
- High quality finish
- Chrome vanadium

		A1 mm	A2 mm	B1 mm	B2 mm	L mm	g	
920.0075	3/16"	5.1	3.4	10.0	14.0	100.0	14	
920.0081	1/4"	4.5	3.6	10.4	15.7	102.0	17	
920.0082	5/16"	5.3	4.5	12.8	19.6	122.0	26	
920.0083	3/8"	6.6	4.9	16.2	23.8	140.0	40	
920.0084	7/16"	6.9	5.0	17.5	25.6	150.0	50	
920.0085	1/2"	7.7	5.9	19.8	29.6	170.0	75	
920.0086	9/16"	8.6	6.2	21.6	31.7	180.0	92	
920.0076	19/32"	9.1	5.8	23.0	32.0	190.0	90	
920.0087	5/8"	8.9	6.6	24.5	34.7	200.0	109	
920.0088	11/16"	8.9	6.7	25.8	36.8	210.0	122	
920.0089	3/4"	10.3	7.4	28.6	40.8	230.0	185	
920.0077	25/32"	11.4	7.2	30.0	42.0	240.0	195	
920.0090	13/16"	11.0	7.8	31.8	45.3	250.0	209	
920.0091	7/8"	11.7	8.0	32.7	46.6	260.0	231	
920.0092	15/16"	12.2	8.5	35.9	50.4	280.0	274	
920.0093	1"	12.3	8.8	36.9	52.4	290.0	286	
920.0094	1.1/16"	12.5	9.2	38.5	53.3	310.0	330	
920.0095	1.1/8"	12.8	9.5	41.4	59.0	330.0	419	
920.0078	1.3/16"	16.0	10.3	44.0	62.0	340.0	505	
920.0096	1.1/4"	14.0	10.3	45.7	65.7	360.0	523	
920.0079	1.5/16"	17.4	11.8	51.0	71.0	430.0	775	

ULTIMATE*plus* combination spanner set, offset

- FlankTraction profile (12 point)
- DIN 3113 Form A / ISO 3318 / ISO 7738
- Jaw 15° offset
- Ring head 15° offset
- High quality finish
- Chrome vanadium

			kg	
920.0042	11 pcs	6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 17 - 19 mm	0.85	
920.0043	21 pcs	6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20 - 21 - 22 - 24 - 27 - 30 - 32 mm	3.15	
920.0080	16 pcs	1/4" - 5/16" - 3/8" - 7/16" - 1/2" - 9/16" - 5/8" - 11/16" - 3/4" - 13/16" - 7/8" - 15/16" - 1" - 1.1/16" - 1.1/8" - 1.1/4"	3.18	

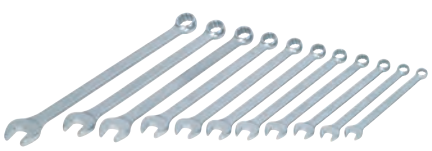
CLASSIC combination spanner, extra long

- FlankTraction Profile
- Jaw 15° offset
- Ring head 15° offset
- Matt finish
- Chrome vanadium

	mm	A1 mm	A2 mm	B1 mm	B2 mm	L mm	g	
517.1508	8	7.5	4.5	13.2	20.3	170.0	45	
517.1509	9	8.0	4.5	14.6	22.4	180.0	50	
517.1510	10	8.5	5.0	16.0	24.4	190.0	62	
517.1511	11	9.0	5.5	17.2	26.4	200.0	74	
517.1512	12	9.5	6.0	19.0	28.4	210.0	90	
517.1513	13	10.0	6.5	20.0	30.5	225.0	108	
517.1514	14	11.0	7.0	21.8	32.5	235.0	120	
517.1515	15	12.0	7.5	23.0	34.5	250.0	150	
517.1516	16	13.0	8.0	24.5	36.4	265.0	174	
517.1517	17	14.0	8.5	26.5	38.4	280.0	206	
517.1518	18	15.0	9.0	28.0	40.6	295.0	240	
517.1519	19	16.0	9.5	29.5	42.6	310.0	272	
517.1521	21	17.0	10.0	33.0	46.6	340.0	355	
517.1522	22	18.0	11.0	34.5	48.7	350.0	420	
517.1524	24	19.0	12.0	37.5	52.7	400.0	535	
517.1527	27	20.0	13.0	42.0	58.9	450.0	700	
517.1530	30	21.0	14.0	47.0	64.8	480.0	875	
517.1532	32	22.0	15.0	49.5	67.0	500.0	1000	
517.1534	34	23.0	15.0	53.0	70.0	520.0	1100	
517.1536	36	24.0	16.0	57.2	73.0	550.0	1320	
517.1541	41	26.0	16.0	63.5	86.0	600.0	1700	
517.1546	46	27.0	17.5	70.9	96.0	640.0	2120	

CLASSIC Combination spanner set, extra long

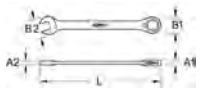
- FlankTraction profile
- Execution similar to DIN 3113
- Jaw 15° offset
- Ring head 15° offset
- Matt finish
- Chrome vanadium



			kg	
517.1500	5 pcs	8 - 10 - 13 - 17 - 19 mm	0.70	
517.1505	11 pcs	12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 21 - 22 - 24 mm	2.67	

GEAR*plus*® Combination ratcheting spanner

- FlankTraction profile (12 point)
- In accordance to DIN 3113 / ISO 3318
- Jaw 15° offset
- Straight form
- Exact gearing with 72 teeth
- Chrome plated and mirror polished
- Chrome vanadium



	mm		A1 mm	A2 mm	B1 mm	B2 mm	L mm	g
503.42055	5,5		6.3	3.9	14.0	15.0	127.5	20
503.4206	6		6.3	3.9	14.0	15.0	128.0	25
503.4207	7		6.5	4.0	16.8	16.7	140.0	30
503.4208	8		6.5	4.0	16.8	16.7	140.0	30
503.4209	9		6.9	4.4	18.8	18.7	149.0	40
503.4210	10		7.3	4.8	20.8	20.8	158.0	50
503.4211	11		7.7	5.2	21.8	23.0	165.0	60
503.4212	12		8.2	5.5	22.8	24.6	171.0	70
503.4213	13		8.6	5.8	24.8	26.8	178.0	80
503.4214	14		9.0	6.2	27.8	29.0	190.0	110
503.4215	15		9.4	6.5	28.8	31.0	199.0	120
503.4216	16		9.9	6.8	30.8	33.0	208.0	150
503.4217	17		10.3	7.2	31.8	35.5	225.0	180
503.4218	18		10.7	7.7	32.8	37.5	236.0	210
503.4219	19		11.2	8.2	33.8	39.4	247.0	240
503.4221	21		13.0	9.0	40.0	45.8	289.0	340
503.4222	22		13.0	9.0	40.0	45.8	289.0	340
503.4224	24		14.5	10.0	46.0	51.8	322.0	470
503.4227	27		15.5	10.5	52.0	56.4	358.0	580
503.4228	30		17.0	11.4	58.0	62.7	401.0	860
503.4229	32		17.5	12.5	62.0	66.4	424.0	1060
503.4230	34		17.5	13.0	62.0	70.0	459.0	1170
503.4102		5/16"	6.5	4.0	16.8	16.7	140.0	30
503.4103		3/8"	7.3	4.8	20.8	20.8	158.0	40
503.4104		7/16"	7.7	5.2	21.8	23.0	165.0	50
503.4105		1/2"	8.6	5.8	24.8	26.8	178.0	70
503.4106		9/16"	9.0	6.2	27.8	29.0	190.0	110
503.4107		5/8"	9.9	6.8	30.8	33.0	208.0	130
503.4108		11/16"	10.3	7.2	31.8	35.5	225.0	170
503.4109		3/4"	11.2	8.2	33.8	39.4	247.0	220

GEAR*plus*® ratchet combination spanner set

- FlankTraction Profile
- In accordance to DIN 3113 / ISO 3318
- Jaw 15° offset
- Straight form
- Exact gearing with 72 teeth
- High quality finish
- Chrome vanadium
- In durable plastic storage case

			kg
503.4295	5 pcs	8 - 10 - 13 - 17 - 19 mm	0.89

GEAR*plus*® combination ratcheting spanner set

- FlankTraction profile (12 point)
- In accordance to DIN 3113 / ISO 3318
- Jaw 15° offset
- Straight form
- Exact gearing with 72 teeth
- Square drive adaptor to DIN 3120 - ISO 1174 with ball lock
- For bits to DIN 3126 / C 6,3
- Chrome plated and mirror polished
- Chrome vanadium
- In durable plastic storage case

1/4" 3/8" 1/2"

			kg
503.4266	16 pcs	GEAR*plus*® combination ratcheting spanner set	1.73

12 x		8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 mm
1 x		1/4"
3 x		1/4" - 3/8" - 1/2"

GEAR*plus*® Double ring ratcheting spanner set

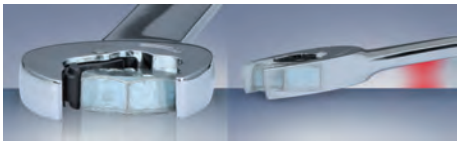
- FlankTraction profile (12 point)
- In accordance to DIN 3113 / ISO 3318
- Jaw 15° offset
- Straight form
- Exact gearing with 72 teeth
- Chrome plated and mirror polished
- Chrome vanadium

			kg
503.4270	4 pcs	24 - 27 - 30 - 32 mm	3.07

DUO GEAR*plus*® combination spanner set with ratchet mechanism in ring and open jaw

- Open end side with innovative ratchet mechanism
- FlankTraction Profile
- In accordance to DIN 3113 / ISO 3318
- Jaw 15° offset
- Straight form
- Exact gearing with 72 teeth
- High quality finish
- Chrome vanadium

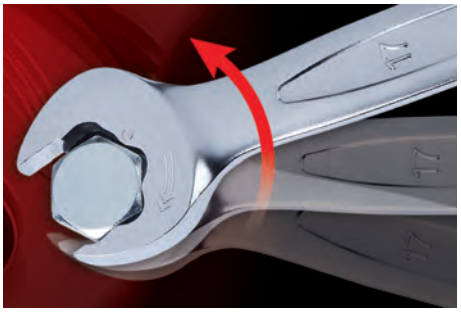
	mm	A1 mm	A2 mm	B1 mm	B2 mm	L mm	Nm B2	g
503.5208	8	6.5	4.1	16.4	16.2	140.0	15.0	30
503.5209	9	6.9	4.3	18.3	18.3	150.0	21.1	40
503.5210	10	7.3	4.8	20.0	20.0	159.0	31.1	50
503.5211	11	7.7	5.1	21.4	21.4	166.0	46.1	60
503.5212	12	8.2	5.3	22.6	22.6	172.0	49.1	70
503.5213	13	8.6	5.9	24.5	24.5	178.0	62.1	80
503.5214	14	9.0	6.3	27.0	27.0	191.0	86.0	110
503.5215	15	9.4	6.6	28.2	28.2	200.0	104.1	120
503.5216	16	9.9	6.9	30.3	30.3	208.0	124.1	150
503.5217	17	10.3	7.3	31.6	31.6	225.0	139.1	170
503.5218	18	10.7	7.8	32.3	32.3	236.0	155.1	210
503.5219	19	11.2	8.3	33.7	33.7	248.0	186.1	220



DUO GEAR*plus*® combination spanner set with ratchet mechanism in ring and open jaw

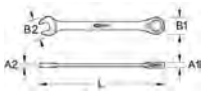
- Open end side with innovative ratchet mechanism
- FlankTraction Profile
- In accordance to DIN 3113 / ISO 3318
- Jaw 15° offset
- Straight form
- Exact gearing with 72 teeth
- High quality finish
- Chrome vanadium
- In durable plastic holder

			kg
503.5205	5 pcs	8 - 10 - 13 - 17 - 19 mm	0.66



GEAR*plus*® combination ratcheting spanner, extra long

- FlankTraction profile (12 point)
- In accordance to DIN 3113 / ISO 3318
- Jaw 15° offset
- Straight form
- Exact gearing with 72 teeth
- Chrome plated and mirror polished
- Chrome vanadium



	mm	A1 mm	A2 mm	B1 mm	B2 mm	L mm	g
503.4008	8	6.5	5.7	16.6	16.7	160.0	40
503.4010	10	7.3	6.3	20.0	20.8	190.0	70
503.4012	12	8.2	7.2	22.7	25.0	220.0	100
503.4013	13	8.6	7.6	24.7	27.1	238.0	130
503.4014	14	9.0	8.1	27.0	29.2	255.0	150
503.4015	15	9.4	8.4	28.3	31.3	275.0	180
503.4016	16	9.9	8.6	30.0	33.4	295.0	200
503.4017	17	10.3	8.9	31.4	35.5	314.0	240
503.4018	18	10.7	9.4	32.9	37.6	333.0	280
503.4019	19	11.2	9.7	34.0	39.7	349.0	320

GEARplus® combination ratcheting spanner set, extra long

- FlankTraction profile (12 point)
- In accordance to DIN 3113 / ISO 3318
- Jaw 15° offset
- Straight form
- Extra long
- Exact gearing with 72 teeth
- Chrome plated and mirror polished
- Chrome vanadium
- In durable metal case

1/4" 3/8" 1/2"

			kg
503.4050	9 pcs	GEARplus® combination ratcheting spanner set, extra long	1.91
5 x		8 - 10 - 13 - 17 - 19 mm	
1 x		1/4“	
3 x		1/4“ - 3/8“ - 1/2“	

GEARplus® ratchet combination spanner set

- FlankTraction profile (12-point)
- In accordance to DIN 3113 / ISO 3318
- Jaw 15° offset
- Straight form
- Extra long
- Exact gearing with 72 teeth
- Chrome plated and mirror polished
- Chrome vanadium

			kg
503.4060	10 pcs	GEARplus® ratchet combination spanner set	3.42
10 x		8 - 10 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 mm	

GEARplus® REVERSIBLE COMBINATION SPANNER

GEARplus® reversing combination ratcheting spanner

- FlankTraction Profile
- In accordance to DIN 3113 / ISO 3318
- Jaw 15° offset
- Ratchet head 15° offset
- Exact gearing with 72 teeth
- With reverse lever
- High quality finish
- Chrome vanadium

	mm		A1 mm	A2 mm	B1 mm	B2 mm	L mm	g
503.4606	6		6.3	3.9	14.0	15.0	126.0	30
503.4607	7		6.5	4.6	16.6	16.7	145.0	30
503.4608	8		6.5	4.6	16.6	16.7	145.0	30
503.4609	9		6.9	4.9	18.4	18.8	150.0	40
503.4610	10		7.3	5.3	20.0	20.8	145.0	50
503.4611	11		7.7	5.6	21.8	23.0	165.0	60
503.4612	12		8.2	6.0	22.7	25.0	172.0	70
503.4613	13		8.6	6.4	24.7	27.1	165.0	80
503.4614	14		9.0	6.8	27.0	29.2	190.0	100
503.4615	15		9.4	7.0	28.3	31.3	200.0	120
503.4616	16		9.9	7.2	30.0	33.4	208.0	150
503.4617	17		10.3	7.7	31.8	35.5	225.0	160
503.4618	18		10.7	8.2	32.6	37.6	237.0	190
503.4619	19		11.2	8.8	33.8	39.7	248.0	220
503.4622	22		13.0	9.0	40.0	46.0	290.0	360
503.4624	24		14.5	10.0	46.0	52.2	323.0	470
503.4627	27		15.5	10.5	52.5	56.5	331.0	660
503.4628	30		17.0	11.4	58.5	62.7	389.0	860
503.4629	32		17.5	12.5	62.6	66.4	415.0	1050
503.4630	34		17.5	13.0	62.5	70.6	460.0	1200
503.4643	36		18.0	13.4	66.2	79.0	490.0	1300
503.4644	38		19.0	13.4	66.2	82.0	490.0	1400
503.4648	41		19.5	16.5	71.0	86.0	565.0	2000
503.4681		5/16“	6.5	4.0	16.6	16.7	145.0	30
503.4683		3/8“	7.3	4.8	20.0	20.8	159.0	60
503.4684		7/16“	7.7	5.2	21.8	23.0	165.0	70
503.4685		1/2“	8.6	5.8	24.7	27.1	178.0	80
503.4686		9/16“	9.0	6.5	27.0	29.2	190.0	100
503.4687		5/8“	9.9	6.8	30.0	33.4	208.0	140
503.4688		11/16“	10.3	7.2	31.8	35.5	225.0	170
503.4689		3/4“	11.2	8.2	33.8	39.7	248.0	230

GEARplus® reversing combination ratcheting spanner set

- FlankTraction profile (12 point)
- In accordance to DIN 3113 / ISO 3318
- Jaw 15° offset
- Ratchet head 15° offset
- Exact gearing with 72 teeth
- With reverse lever
- Square drive adaptor to DIN 3120 - ISO 1174 with ball lock
- For bits to DIN 3126 / C 6,3
- High quality finish
- Chrome vanadium
- In durable plastic storage case

1/4" 3/8" 1/2"

			kg
503.4666	16 pcs	GEARplus® reversing combination ratcheting spanner set	1.79
12 x		8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 mm	
1 x		1/4“	
3 x		1/4“ - 3/8“ - 1/2“	

GEARplus® reversing combination ratcheting spanner set

- FlankTraction profile (12 point)
- In accordance to DIN 3113 / ISO 3318
- Jaw 15° offset
- Ratchet head 15° offset
- Exact gearing with 72 teeth
- Reverse lever
- High quality finish
- Chrome vanadium

			kg
503.4601	4 pcs	24 - 27 - 30 - 32 mm	3.23

DUO GEARplus® combination spanner with ratchet mechanism in ring and open jaw, reversible

- Open end side with innovative ratchet mechanism
- FlankTraction Profile
- In accordance to DIN 3113 / ISO 3318
- Jaw 15° offset
- Ring head 15° offset
- With reverse lever
- Exact gearing with 72 teeth
- High quality finish
- Chrome vanadium

	mm	A1 mm	A2 mm	B1 mm	B2 mm	L mm	Nm B2	g
503.5908	8	6.5	4.1	16.4	16.2	140.0	15.0	40
503.5909	9	6.9	4.3	18.3	18.2	150.0	21.1	45
503.5910	10	7.3	4.8	20.0	20.5	159.0	31.1	50
503.5911	11	7.7	5.1	21.4	22.6	166.0	46.1	60
503.5912	12	8.2	5.3	22.6	24.6	172.0	49.1	70
503.5913	13	8.6	5.9	24.5	26.7	178.0	62.1	80
503.5914	14	9.0	6.3	27.0	28.8	191.0	86.0	100
503.5915	15	9.4	6.6	28.2	30.8	200.0	104.1	120
503.5916	16	9.9	6.9	30.3	33.2	208.0	124.1	140
503.5917	17	10.3	7.3	31.6	35.1	225.0	139.1	170
503.5918	18	10.7	7.8	32.3	37.2	236.0	155.1	200
503.5919	19	11.2	8.3	33.7	39.3	248.0	186.1	210

DUO GEARplus® combination spanner set with ratchet mechanism in ring and open jaw, reversible

- Open end side with innovative ratchet mechanism
- FlankTraction Profile
- In accordance to DIN 3113 / ISO 3318
- Jaw 15° offset
- Ring head 15° offset
- With reverse lever
- Exact gearing with 72 teeth
- High quality finish
- Chrome vanadium
- In durable plastic holder

			kg
503.5905	5 pcs	8 - 10 - 13 - 17 - 19 mm	0.66

OPEN ENDED SPANNERS

Adjustable spanner

- DIN 3117 Form A
- Jaw 15° offset
- Swedish type design
- With mm scale
- With hanging hole
- Matt finish
- Chrome vanadium

	mm		A mm	B mm	C mm	H1 mm	H2 mm	L mm	L	g
577.0100	13	1/2"	6.4	31.0	10.9	9.5	8.9	100.0	4"	50
577.0150	18	23/32"	7.1	46.0	15.2	11.6	10.7	150.0	6"	130
577.0200	23	29/32"	8.7	57.4	20.6	14.6	11.9	200.0	8"	250
577.0250	28	1.1/8"	11.1	69.8	24.9	16.9	14.5	250.0	10"	450
577.0300	34	1.5/16"	13.5	82.3	29.0	20.5	15.2	300.0	12"	690
577.0375	43	1.11/16"	15.9	104.3	37.1	25.4	17.5	375.0	15"	1240
577.0450	53	2.1/16"	18.2	120.0	45.2	30.9	19.1	450.0	18"	2100

Adjustable spanner set

- DIN 3117 Form A
- Jaw 15° offset
- Swedish type design
- With mm scale
- With hanging hole
- Matt finish
- Chrome vanadium

			kg
577.0299	2 pcs	250 - 300 mm	1.14
577.0399	3 pcs	250 - 300 - 375 mm	3.28

Adjustable spanner with dual component comfort grip handle

- DIN 3117 Form A
- Jaw 15° offset
- Swedish type design
- With mm scale
- With hanging hole
- Two component handle
- Matt finish
- Chrome vanadium

	mm		A mm	B mm	C mm	H1 mm	H2 mm	L mm	L	g
577.0201	23	29/32"	8.7	57.4	20.6	14.6	11.9	200.0	8"	250
577.0251	28	1.1/8"	11.1	69.8	24.9	16.9	14.5	250.0	10"	450
577.0301	34	1.5/16"	13.5	82.3	29.0	20.5	15.2	300.0	12"	690

Adjustable spanner set with dual component comfort grip handle

- DIN 3117 Form A
- Jaw 15° offset
- Swedish type design
- With mm scale
- With hanging hole
- Two component handle
- Matt finish
- Chrome vanadium

			kg
577.0199	3 pcs	200 - 250 - 300 mm	1.39

Adjustable spanner with ratchet function

- In accordance to DIN 3117 Form A
- Jaw 15° offset
- Swedish type design
- With mm scale
- Ratchet function
- With hanging hole
- Two component handle
- Matt finish
- Chrome vanadium

	mm		A mm	B mm	C mm	H1 mm	H2 mm	L mm	L	g
577.0252	28	1.1/8"	10.6	75.3	29.6	15.7	20.6	250.0	10"	450

Single open ended spanner

- DIN 894 / ISO 3380
- Jaw 15° offset
- For heavy duty applications
- Phosphate finish
- Tempered steel

	mm	A mm	B mm	L mm	g
517.0522	22	8.0	48.0	193.0	170
517.0524	24	9.0	50.0	217.0	170
517.0527	27	9.8	56.0	239.0	230
517.0530	30	10.8	62.0	263.0	290
517.0532	32	11.8	66.0	275.0	350
517.0536	36	12.8	74.0	305.0	410
517.0538	38	12.8	74.0	305.0	410
517.0540	40	13.7	87.0	350.0	620
517.0541	41	13.8	87.0	344.0	620
517.0542	42	13.5	87.0	350.0	700
517.0546	46	19.8	94.0	380.0	850
517.0548	48	16.5	99.0	395.0	940
517.0550	50	15.8	102.0	413.0	1020
517.0555	55	16.8	112.0	459.0	1280
517.0560	60	17.7	122.0	494.0	1630
517.0565	65	18.7	132.0	528.0	1710
517.0570	70	19.7	142.0	572.0	2500
517.0575	75	20.7	152.0	610.0	3500
517.0580	80	21.7	162.0	645.0	3700
517.0585	85	23.0	173.0	690.0	4780
517.0590	90	23.0	173.0	690.0	5450
517.0595	95	25.0	195.0	847.0	5590
517.0596	100	25.0	195.0	847.0	5800

Slogging open end spanner

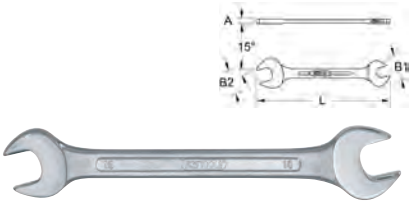
- DIN 133
- Jaw 15° offset
- Impact area
- For heavy duty applications
- Phosphate finish
- Chrome vanadium

	mm	A mm	B mm	L mm	kg
517.0124	24	17.4	56.3	160.0	0.50
517.0127	27	16.5	57.5	180.0	0.53
517.0130	30	17.0	63.5	190.0	0.55
517.0132	32	17.5	67.5	195.0	0.65
517.0136	36	18.5	77.5	210.0	0.85
517.0141	41	19.5	89.0	230.0	1.04
517.0146	46	20.0	99.0	250.0	1.39
517.0150	50	21.5	108.0	275.0	1.57
517.0155	55	24.0	118.5	305.0	2.25
517.0160	60	24.5	129.5	315.0	2.54
517.0165	65	28.0	140.5	345.0	3.64
517.0170	70	30.0	151.0	370.0	4.10
517.0175	75	31.5	163.0	385.0	5.17
517.0180	80	34.5	174.0	400.0	5.82
517.0185	85	34.5	174.0	410.0	6.98
517.0190	90	39.0	195.0	445.0	8.32
517.0195	95	39.0	195.0	455.0	10.40
517.0196	100	47.0	227.0	480.0	11.80

DOUBLE OPEN ENDED SPANNERS

CLASSIC Double open ended spanners

- DIN 3110 / ISO 1085 / ISO 10102 / ISO 3318
- Jaw 15° offset
- Ground heads
- Matt finish
- Chrome vanadium



	mm	A mm	B1 mm	B2 mm	L mm	g
517.0738	3,2x5,5	3.0	10.5	12.0	97.0	11
517.0739	4x5	4.0	14.0	16.0	125.0	21
517.0701	6x7	3.7	15.5	18.0	122.0	20
517.0702	8x9	4.0	20.4	22.7	140.0	40
517.0740	8x10	4.0	18.0	22.0	140.0	30
517.0704	10x11	5.0	24.9	27.1	157.0	50
517.0741	10x12	5.5	22.0	28.0	162.0	60
517.0706	10x13	5.0	24.9	31.2	157.0	70
517.0742	11x13	5.0	25.0	29.0	172.0	69
517.0707	12x13	5.0	29.2	31.2	172.0	70
517.0743	13x14	6.0	30.0	31.5	188.0	90
517.0708	13x17	6.0	31.2	38.9	172.0	120
517.0709	14x15	5.5	33.3	35.3	190.0	100
517.0710	16x17	6.0	37.1	38.9	205.0	130
517.0744	16x18	6.5	36.0	40.0	220.0	150
517.0711	17x19	6.5	38.9	42.8	222.0	180
517.0712	18x19	6.5	40.9	42.8	222.0	180
517.0713	19x22	7.0	42.8	49.5	236.0	200
517.0714	20x22	7.0	45.5	49.5	236.0	230
517.0715	21x23	7.5	47.0	51.0	250.0	220
517.0716	24x27	8.0	54.5	61.0	266.0	330
517.0718	30x32	9.0	65.5	69.0	302.0	510
517.0725	36x41	10.0	77.0	85.0	380.0	950
517.0726	41x46	10.7	86.5	95.5	400.0	1150
517.0728	46x50	11.6	97.0	103.0	420.0	1920

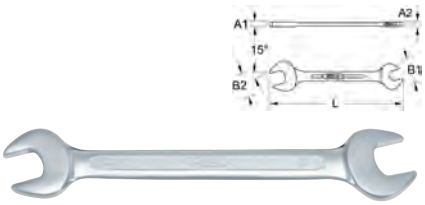
Double open ended spanner set

- DIN 3110 / ISO 1085 / ISO 10102 / ISO 3318
- Jaw 15° offset
- Ground heads
- Matt finish
- Chrome vanadium

			kg	
517.0148	8 pcs	6x7 - 8x9 - 10x11 - 12x13 - 14x15 - 16x17 - 18x19 - 20x22 mm	0.81	
517.0123	11 pcs	6x7 - 8x9 - 10x11 - 12x13 - 14x15 - 16x17 - 18x19 - 20x22 - 21x23 - 24x27 - 30x32 mm	1.60	
517.0125	12 pcs	6x7 - 8x9 - 10x11 - 12x13 - 14x15 - 16x17 - 18x19 - 20x22 - 21x23 - 24x27 - 25x28 - 30x32 mm	2.40	

ULTIMATE*plus* Double open ended spanner

- DIN 3110 / ISO 1085 / ISO 10102 / ISO 3318
- Jaw 15° offset
- High quality finish
- Chrome vanadium



		A1 mm	A2 mm	B1 mm	B2 mm	L mm	g	
920.0181	1/4"x5/16"	3.7	3.7	17.5	15.5	123.0	21	
920.0182	3/8"x7/16"	5.5	5.2	27.0	24.8	156.0	57	
920.0183	1/2"x9/16"	6.0	5.8	33.6	33.3	190.0	93	
920.0184	5/8"x11/16"	6.4	6.3	38.5	36.9	204.0	128	
920.0185	3/4"x25/32"	7.1	6.9	48.6	44.6	237.0	200	
920.0186	13/16"x7/8"	8.1	7.6	50.9	46.7	247.0	257	
920.0187	15/16"x1"	8.8	8.2	57.3	51.6	263.0	303	
920.0188	1.1/16"x1.1/4"	9.2	8.9	69.8	64.4	298.0	463	

ULTIMATE*plus* Double open ended spanner set

- DIN 3110 / ISO 1085 / ISO 10102 / ISO 3318
- Jaw 15° offset
- High quality finish
- Chrome vanadium

			kg	
920.0180	8 pcs	1/4"x5/16" - 3/8"x7/16" - 1/2"x9/16" 5/8"x11/16" - 3/4"x25/32" 13/16"x7/8" - 15/16"x1" - 1.1/16"x1.1/4"	1.62	

Double open ended spanner set

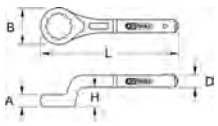
- DIN 895 / ISO 3318 / ISO 1085
- Jaw 15° offset
- For heavy duty applications
- Phosphate finish
- Chrome vanadium

			kg	
517.1490	8 pcs	6x7 - 8x9 - 10x11 - 12x13 - 14x15 - 16x17 - 18x19 - 20x22 mm	0.57	
517.1491	10 pcs	6x7 - 8x9 - 10x11 - 12x13 - 14x15 - 16x17 - 18x19 - 20x22 - 24x27 - 30x32 mm	1.41	

SINGLE RING ENDED SPANNER

Offset single ring spanner

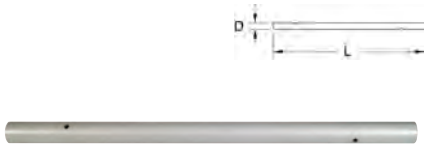
- FlankTraction Profile
- Ring head 75° offset
- With shaft for snap-on handle
- With locking pin
- Heavy duty to deliver maximum torque
- Matt finish
- Chrome vanadium



	mm	A mm	B mm	D mm	H mm	L mm		kg	
517.9024	24	17.0	38.0	19.0	29.5	180.0	1	0.35	
517.9027	27	17.0	42.0	19.0	31.5	190.0	1	0.40	
517.9030	30	18.0	48.0	19.0	33.5	195.0	1	0.45	
517.9032	32	18.0	49.0	21.8	34.0	200.0	2	0.55	
517.9036	36	18.0	49.0	21.8	34.0	200.0	2	0.65	
517.9041	41	20.0	54.0	21.8	35.5	205.0	2	0.75	
517.9046	46	22.0	62.0	25.0	39.5	265.0	3+4	1.05	
517.9050	50	23.0	69.0	25.0	40.0	280.0	3+4	1.15	
517.9055	55	25.5	76.0	25.0	42.5	290.0	3+4	1.40	
517.9060	60	28.0	81.0	30.0	45.5	300.0	5	2.10	
517.9065	65	30.5	90.0	30.0	49.0	345.0	5	2.30	
517.9070	70	33.0	98.0	30.0	53.0	355.0	5	2.60	
517.9080	80	38.0	110.0	30.0	57.5	375.0	5	3.45	
517.9085	85	40.5	125.0	30.0	59.0	385.0	5	3.80	
517.9090	90	45.0	140.0	30.0	63.0	410.0	5	4.88	
517.9095	95	45.0	140.0	30.0	63.0	410.0	5	5.67	
517.9100	100	47.0	140.0	30.0	63.0	412.0	5	6.66	
517.9105	105	47.0	143.0	30.0	63.0	415.0	5	7.50	

Snap-on handle for single ring spanner

- Four different sizes
- Matt finish
- Chrome vanadium



	mm	D mm	L mm	#	g	
517.9002	32 - 41	22.0	610.0	2	1250	
517.9003	46 - 55	25.0	760.0	3	2300	
517.9004	46 - 55	25.0	860.0	4	2800	
517.9005	60 - 105	30.0	860.0	5	3150	

CLASSIC Single ring ended spanner set, offset

- FlankTraction profile
- Ring head 75° offset
- With shaft for snap-on handle
- With locking pin
- Heavy duty to deliver maximum torque
- Includes snap-on handle
- Matt finish
- Chrome vanadium

			kg	
517.9010	4 pcs	24 - 27 - 30 mm	1.95	

consists of:

		g	
517.9024	Single ring ended spanner, offset, 24mm	350	
517.9027	Single ring ended spanner, offset, 27mm	400	
517.9030	Single ring ended spanner, offset, 30mm	450	
517.9002	Snap-on handle f.single ring spanner,24-41mm	1250	

CLASSIC Single ring ended spanner set, offset

- FlankTraction profile
- Ring head 75° offset
- With shaft for snap-on handle
- With locking pin
- Heavy duty to deliver maximum torque
- Includes snap-on handle
- Matt finish
- Chrome vanadium

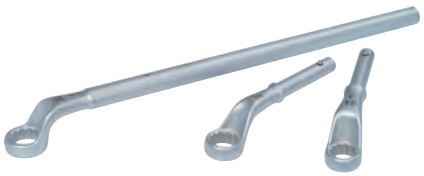
			kg	
517.9015	4 pcs	32 - 36 - 41 mm	3.20	

consists of:

		g	
517.9032	Single ring ended spanner, offset, 32mm	550	
517.9036	Single ring ended spanner, offset, 36mm	650	
517.9041	Single ring ended spanner, offset, 41mm	750	
517.9003	Snap-on handle f.single ring spanner,32-41mm	2300	

CLASSIC Single ring ended spanner set, offset

- FlankTraction profile
- Ring head 75° offset
- With shaft for snap-on handle
- With locking pin
- Heavy duty to deliver maximum torque
- Includes snap-on handle
- Matt finish
- Chrome vanadium



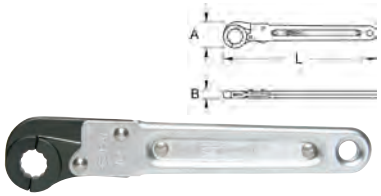
			kg	
517.9020	4 pcs	46 - 50 - 55 mm	5.90	

consists of:

		g	
517.9046	Single ring ended spanner, offset, 46mm	1050	
517.9050	Single ring ended spanner, offset, 50mm	1150	
517.9055	Single ring ended spanner, offset, 55mm	1400	
517.9004	Snap-on handle f.single ring spanner,46-55mm	2800	

Ratchet ring spanner, clamp head

- 12 point
- Straight form
- Hanging hole
- From 27 mm with rubber handle
- Chrome plated handle
- Head phosphate finish
- Chrome vanadium



	mm	A mm	B mm	L mm	g	
500.5010	10	10.0	31.9	155.0	82	
500.5011	11	11.0	31.9	155.0	83	
500.5012	12	12.0	31.7	155.0	85	
500.5013	13	13.0	32.0	155.0	90	
500.5017	17	17.0	35.2	210.0	148	
500.5019	19	19.0	37.2	210.0	156	
500.5022	22	22.0	40.9	210.0	270	
500.5024	24	24.0	41.1	219.0	280	
500.5027	27	27.0	49.7	315.0	340	
500.5032	32	32.0	53.5	319.0	510	

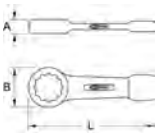
Ratchet ring spanner set, clamp head

- 12 point
- Straight form
- Hanging hole
- From 27 mm with rubber handle
- Chrome plated handle
- Head phosphate finish
- Chrome vanadium

			g	
500.5606	6 pcs	10 - 11 - 13 - 17 - 19 - 22 mm	980	

Slogging ring spanner

- FlankTraction profile (12 point)
- DIN 7444
- Impact area
- For heavy duty applications
- Phosphate finish
- Chrome vanadium

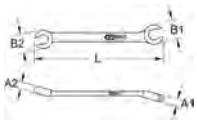


	mm	A mm	B mm	L mm	g	
517.0924	24	15.0	42.5	160.0	360	
517.0927	27	15.5	47.0	180.0	380	
517.0930	30	16.5	52.5	190.0	500	
517.0932	32	16.5	54.0	195.0	530	
517.0936	36	19.5	60.0	205.0	750	
517.0941	41	20.5	66.0	225.0	810	
517.0946	46	22.5	75.0	240.0	980	
517.0950	50	23.5	80.0	250.0	1250	
517.0955	55	25.0	87.5	270.0	1750	
517.0960	60	26.0	93.5	270.0	1960	
517.0965	65	29.0	101.0	290.0	2180	
517.0970	70	32.5	109.5	320.0	2400	
517.0975	75	34.0	114.5	325.0	2760	
517.0980	80	35.0	123.0	345.0	3750	
517.0985	85	37.0	129.0	360.0	4860	
517.0990	90	41.5	152.0	400.0	5880	
517.0995	95	41.5	152.0	400.0	5880	
517.0996	100	41.5	152.0	400.0	5880	

DOUBLE RING SPANNERS

CLASSIC Open double ring spanner, offset

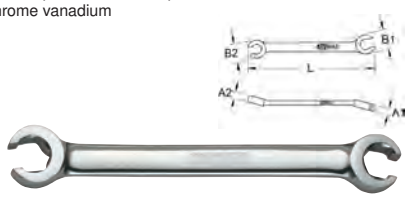
- 6 point
- DIN 3118
- Jaw 15° offset
- Opening 15° cranked
- Chrome vanadium



	mm	A1 mm	A2 mm	B1 mm	B2 mm	L mm	g	
517.0252	8x10	6.6	6.7	17.6	19.8	143.0	45	
517.0253	9x11	7.6	7.4	21.3	22.9	152.0	50	
517.0254	10x11	7.6	7.4	21.3	22.9	152.0	60	
517.0255	10x12	7.6	7.4	21.3	22.9	152.0	80	
517.0257	12x13	8.8	9.0	23.1	23.8	156.0	100	
517.0258	12x14	10.0	9.9	25.3	27.6	178.0	110	
517.0260	14x15	11.4	11.5	30.0	32.1	196.0	120	
517.0261	14x17	11.4	11.5	30.0	32.1	196.0	140	
517.0263	16x18	11.4	11.5	30.0	32.1	196.0	160	
517.0264	17x19	11.4	11.5	30.0	32.1	196.0	180	
517.0265	19x21	13.5	13.1	34.1	37.6	207.0	240	
517.0266	19x22	13.5	13.1	34.1	37.6	207.0	240	
517.0267	22x24	13.5	17.0	37.6	46.0	252.0	320	
517.0268	24x27	17.0	16.2	46.0	42.3	264.0	430	
517.0269	30x32	22.4	20.4	46.3	44.8	283.0	700	

CHROME*plus*® Open double ring spanner, offset

- 6 point
- DIN 3118
- Jaw 15° offset
- Opening 15° cranked
- Chrome plated and mirror polished
- Chrome vanadium



	mm		A1 mm	A2 mm	B1 mm	B2 mm	L mm	g	
518.0511	6x8		6.6	6.7	17.6	19.8	143.0	50	
518.0512	8x12		6.7	7.4	19.8	21.3	147.0	50	
518.0513	9x11		7.6	7.4	21.3	22.9	152.0	60	
518.0523	10x11		7.6	7.4	21.3	22.9	152.0	60	
518.0514	10x12		7.6	7.4	21.3	22.9	152.0	60	
518.0524	12x13		8.8	9.0	23.1	23.8	156.0	80	
518.0515	13x14		10.0	9.9	25.3	25.3	178.0	120	
518.0525	14x15		11.4	11.5	30.0	30.0	196.0	170	
518.0526	14x17		11.4	11.5	30.0	30.0	196.0	170	
518.0516	15x17		11.4	11.5	30.0	30.0	196.0	170	
518.0517	16x18		11.4	11.5	30.0	30.0	196.0	170	
518.0518	17x19		11.4	11.5	30.0	30.0	196.0	170	
518.0519	19x21		13.5	13.1	34.1	34.1	207.0	220	
518.0520	19x22		13.5	13.1	34.1	34.1	207.0	220	
518.0521	24x27		17.0	16.2	46.0	46.0	264.0	360	
518.0522	30x32		22.4	20.4	46.3	46.3	283.0	480	
518.0501		1/4"x5/16"	6.6	6.7	17.6	19.8	143.0	50	
518.0503		3/8"x7/16"	7.6	7.4	21.3	22.9	152.0	60	
518.0506		7/16"x1/2"	8.8	9.0	23.1	23.8	158.0	80	
518.0504		1/2"x9/16"	10.0	9.9	25.3	27.6	178.0	120	
518.0505		5/8"x11/16"	11.4	11.5	30.0	32.1	196.0	170	
518.0507		3/4"x7/8"	13.5	13.1	34.1	37.6	207.0	220	

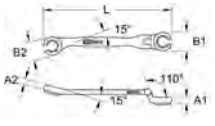
CHROME*plus*® Open double ring spanner set, offset

- 6 point
- Ring head 30° offset
- Spanner has double sized head
- Heavy duty head
- For brake pipe couplers
- No slippage
- Chrome plated and mirror polished
- Chrome vanadium

	mm	A1 mm	A2 mm	B1 mm	B2 mm	C1 mm	C2 mm	L mm	g	
517.0270	10x11	10.5	11.2	17.8	20.0	6.0	6.1	175.0	80	

CHROME*plus*® open double ring spanner, with flexible joint

- 6 point
- Ring head 15° offset
- Opening 15° cranked
- With flexible head
- Chrome plated and mirror polished
- Chrome vanadium



	mm	A1 mm	A2 mm	B1 mm	B2 mm	L mm	g	
518.0378	8	7.0	7.0	18.0	18.0	128.0	50	
518.0379	9	7.0	7.0	18.0	18.0	128.0	50	
518.0380	10	7.0	7.0	18.0	18.0	128.0	50	
518.0381	11	9.0	9.0	22.0	22.0	148.0	120	
518.0382	12	9.0	9.0	22.0	22.0	148.0	120	
518.0383	13	11.0	11.0	26.0	26.0	175.0	140	
518.0384	14	11.0	11.0	26.0	26.0	175.0	140	
518.0387	17	13.0	13.0	32.0	32.0	190.0	200	
518.0389	19	13.0	13.0	32.0	32.0	190.0	200	

CHROME*plus*® open double ring spanner set, with flexible joint

- 6 point
- Ring head 15° offset
- Opening 15° cranked
- With flexible head
- Chrome plated and mirror polished
- Chrome vanadium

			g
518.0350	3 pcs	10 - 11 - 12 mm	240
518.0360	5 pcs	8 - 9 - 10 - 11 - 12 mm	420
518.0370	3 pcs	14 - 17 - 19 mm	620

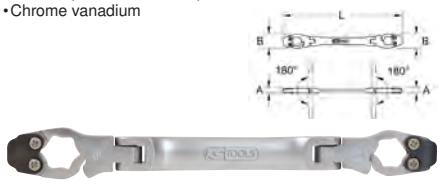
CHROME*plus*® ratchet brake pipe spanner with flexible joint

- 6 point
- Straight form
- 180° revolving head
- With ratchet function
- Suitable for force fit applications
- Chrome plated and mirror polished
- Chrome vanadium

	mm	A mm	B mm	L mm	g
518.0321	11	10.3	19.0	155.0	115

Ratchet spanner with revolving head

- 6 point
- Straight form
- 180° revolving head
- Ratchet function
- Suitable for force fit applications
- Chrome plated and mirror polished
- Chrome vanadium



	mm	A mm	B mm	L mm	g
518.0332	8x9	8.5	14.8	123.0	56
518.0334	10x11	10.0	18.4	156.0	116
518.0336	12x13	11.2	21.1	179.0	170
518.0338	14x15	12.1	24.6	208.0	240

Ratchet spanner set with revolving head

- 6 point
- Straight form
- 180° revolving head
- Ratchet function
- Suitable for force fit applications
- Chrome plated and mirror polished
- Chrome vanadium

			g
518.0330	4 pcs	8x9 - 10x11 - 12x13 - 14x15 mm	600

CHROME*plus*® Starter and block spanner

- FlankTraction profile (12 point)
- Especially suitable for narrow hard to access areas
- Chrome plated and mirror polished
- Chrome vanadium

	mm	A1 mm	A2 mm	B1 mm	B2 mm	L mm	g
518.0852	10x12	6.5	6.6	15.6	17.9	142.0	57
518.0853	11x13	8.0	8.2	17.9	20.7	164.0	90
518.0856	14x17	8.2	9.2	21.4	25.1	190.0	133
518.0857	16x18	8.8	9.6	24.8	27.7	216.0	166
518.0859	19x22	10.0	11.1	27.6	33.0	255.0	244

CHROME*plus*® half moon - and manifold spanner set

- FlankTraction profile
- Especially suitable for narrow hard to access areas
- Chrome plated and mirror polished
- Chrome vanadium

			g
518.0850	5 pcs	10x12 - 11x13 - 14x17 - 16x18 - 19x22 mm	860

ULTIMATE*plus* double ring ended spanner

- FlankTraction profile (12 point)
- In accordance to DIN / ISO
- Straight form
- Matt finish
- Chrome vanadium

	mm	A mm	B1 mm	B2 mm	L mm	g
920.0406	6x7	4.5	10.0	11.5	99.0	10
920.0408	8x9	5.2	13.0	11.5	114.0	15
920.0410	10x11	5.8	16.0	17.0	131.0	28
920.0411	10x13	6.4	16.0	20.5	149.0	35
920.0412	12x13	6.4	19.0	20.5	149.0	35
920.0414	14x15	7.2	21.5	23.0	161.0	50
920.0416	16x17	7.8	24.5	25.5	169.0	65
920.0417	17x19	8.5	25.5	28.0	186.0	80
920.0418	18x19	8.5	27.0	28.0	186.0	80
920.0419	19x22	9.4	28.0	32.5	209.0	115
920.0420	20x22	9.4	29.5	32.5	209.0	120
920.0421	21x23	10.0	30.5	33.5	233.0	145
920.0422	22x24	10.0	32.5	35.5	233.0	150
920.0424	24x26	10.8	35.5	38.0	261.0	190
920.0425	24x27	10.8	35.5	39.0	260.0	200
920.0426	25x28	11.6	36.5	41.0	289.0	240
920.0427	27x32	12.6	39.0	46.0	320.0	320
920.0430	30x32	12.6	43.5	46.0	320.0	340

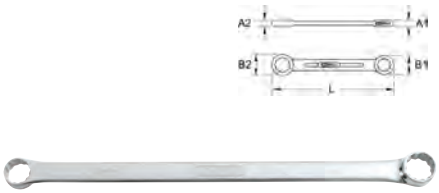
ULTIMATE*plus* straight double open ended spanner set

- FlankTraction profile (12 point)
- In accordance to DIN / ISO
- Straight form
- Matt finish
- Chrome vanadium

			kg
920.0448	8 pcs	6x7 - 8x9 - 10x11 - 12x13 - 14x15 - 16x17 - 18x19 - 20x22 mm	0.66
920.0450	12 pcs	6x7 - 8x9 - 10x11 - 12x13 - 14x15 - 16x17 - 18x19 - 20x22 - 21x23 - 24x27 - 25x28 - 30x32 mm	1.69

CHROME*plus*® double ring spanner set, extra long

- FlankTraction profile (12 point)
- Thin walled
- Mirror polished chrome
- Chrome vanadium



	mm	A1 mm	A2 mm	B1 mm	B2 mm	L mm	g
518.0821	8x10	7.5	8.4	12.5	15.0	235.0	72
518.0822	10x11	8.5	9.5	14.3	17.0	291.0	95
518.0823	12x14	10.4	11.3	17.8	20.3	328.0	157
518.0824	13x15	11.5	13.2	20.2	23.3	386.0	217
518.0825	16x18	13.0	14.8	23.7	26.6	407.0	284
518.0826	17x19	13.0	14.8	23.7	26.6	407.0	284
518.0827	20x21	13.5	15.2	27.5	29.7	415.0	376
518.0828	22x24	15.4	17.7	31.3	34.0	430.0	482

CHROME*plus*® double ring spanner set, extra long

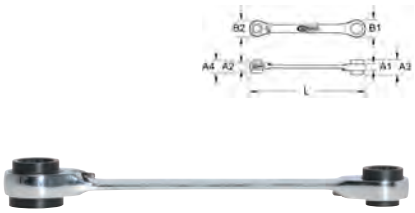
- FlankTraction profile (12 point)
- Thin walled
- Chrome plated and mirror polished
- Chrome vanadium

			kg
518.0800	6 pcs	10x11 - 12x14 - 13x15 - 16x18 - 17x19 - 22x24 mm	1.30

GEAR*plus*® 4 IN 1 DOUBLE RING SPANNER

4 in 1 GEAR*plus*® reversing double ratchet ring spanner

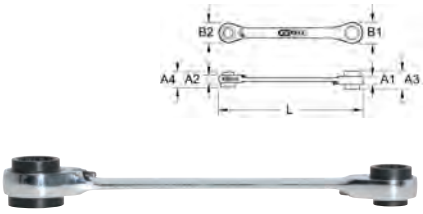
- FlankTraction profile (12 point)
- In accordance to DIN 3110 / ISO 3318
- Straight form
- Exact gearing with 72 teeth
- Four different sizes on each spanner
- With reverse lever
- High quality finish
- Chrome vanadium



		A1 mm	A2 mm	A3 mm	A4 mm	B1 mm	B2 mm	L mm	g	
503.4541	8x11-9x10	7.7	7.3	14.6	13.8	21.8	20.0	150.0	68	
503.4656	8x10-12x13	8.6	7.3	16.8	13.8	24.8	16.8	150.0	86	
503.4543	12x15-13x14	9.4	9.0	18.0	17.1	29.5	18.0	190.0	147	
503.4565	10x19-13x17	11.2	9.0	21.9	17.1	33.6	21.9	190.0	196	
503.4546	16x19-17x18	11.2	10.3	21.9	20.2	33.5	21.9	230.0	244	
503.4657	14x17-18x19	11.2	10.3	21.9	19.3	33.5	21.9	230.0	245	
503.4553	21x27-22x24	16.0	13.0	30.0	26.0	52.0	40.0	275.0	610	
503.4554	30x36-32x34	18.0	18.0	36.0	35.0	65.0	62.0	360.0	1400	

4 in 1 GEAR*plus*® reversing double ratchet ring spanner

- FlankTraction profile (12 point)
- In accordance to DIN 3110 / ISO 3318
- Straight form
- Exact gearing with 72 teeth
- Four different sizes on each spanner
- With reverse lever
- High quality finish
- Chrome vanadium



		A1 mm	A2 mm	A3 mm	A4 mm	B1 mm	B2 mm	L mm	g	
503.4586	5/16"x1/2"-3/8"x7/16"	8.6	7.3	16.8	13.8	24.8	20.2	150.0	91	
503.4589	9/16"x3/4"-5/8"x11/16"	11.2	10.3	21.9	19.3	33.5	31.5	230.0	238	

4 in 1 GEAR*plus*® reversing double ratchet ring spanner

- FlankTraction profile (12 point)
- In accordance to DIN 3110 / ISO 3318
- Straight form
- Exact gearing with 72 teeth
- Four different sizes on each spanner
- With reverse lever
- High quality finish
- Chrome vanadium

			g	
503.4655	2 pcs	8x10 - 12x13 - 14x17 - 18x19 mm	340	

4 in 1 GEAR*plus*® reversing double ratchet ring spanner set

- FlankTraction profile (12 point)
- In accordance to DIN 3110 / ISO 3318
- Straight form
- Exact gearing with 72 teeth
- Four different sizes on each spanner
- With reverse lever
- High quality finish
- Chrome vanadium

			g	
503.4540	3 pcs	8x11 - 9x10 - 12x15 - 13x14 - 16x19 - 17x18 mm	500	

4 in 1 GEAR*plus*® reversing double ratchet ring spanner

- FlankTraction profile (12 point)
- In accordance to DIN 3110 / ISO 3318
- Straight form
- Exact gearing with 72 teeth
- Four different sizes on each spanner
- With reverse lever
- High quality finish
- Chrome vanadium

			kg	
503.4550	2 pcs	21x27 - 22x24 - 30x36 - 32x34 mm	2.01	

4 in 1 GEAR*plus*® reversing double ratchet ring spanner set

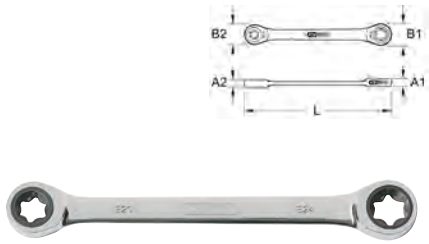
- FlankTraction profile (12 point)
- Straight form
- Exact gearing with 72 teeth
- Four different sizes on each spanner
- With reverse lever
- High quality finish
- Chrome vanadium

			g	
503.4585	2 pcs	5/16"x1/2" - 7/16"x3/8" - 9/16"x3/4" - 11/16"x5/8"	300	

DOUBLE RING SPANNERS FOR TX E PROFILE

GEAR*plus*® Double ring ratchet spanner for TX E profile

- TX E profile
- Straight form
- Exact gearing with 72 teeth
- Chrome plated and mirror polished
- Chrome vanadium



		A1 mm	A2 mm	B1 mm	B2 mm	L mm	g	
503.4351	E6 x E8	6.5	6.9	16.8	20.2	128.0	70	
503.4353	E10 x E12	7.3	7.7	20.2	21.8	150.0	60	
503.4355	E14 x E18	9.0	9.9	26.5	29.5	190.0	150	
503.4357	E20 x E24	10.3	11.2	31.5	33.5	230.0	230	

GEAR*plus*® Double ring ratchet spanner set for TX E profile

- TX E profile
- Straight form
- Exact gearing with 72 teeth
- Chrome plated and mirror polished
- Chrome vanadium

			g	
503.4364	4 pcs	E6xE8 - E10xE12 - E14xE18 - E20xE24	630	

Double ring spanner for TX E-Profile

- TX E profile
- Straight form
- Thin walled
- Matt finish
- Chrome vanadium

		A1 mm	A2 mm	B1 mm	B2 mm	L mm	g	
911.0371	E6 x E8	4.2	5.3	7.3	9.7	114.0	20	
911.0372	E7 x E11	5.2	7.2	10.8	14.8	130.0	50	
911.0373	E10 x E12	6.5	7.7	12.3	15.1	141.0	40	
911.0374	E14 x E18	8.2	10.3	17.0	21.1	180.0	90	
911.0375	E16 x E22	8.4	11.8	19.7	27.3	205.0	130	
911.0376	E20 x E24	11.0	12.6	23.9	27.9	224.0	170	

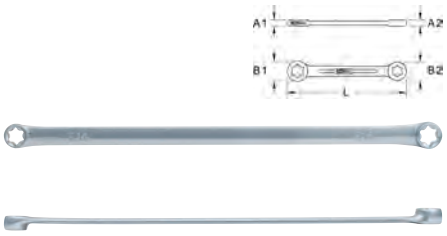
Double ring spanner set for TX E-Profile

- TX E profile
- Straight form
- Thin walled
- Matt finish
- Chrome vanadium

			g
911.0370	6 pcs	E6xE8 - E7xE11 - E10xE12 - E14xE18 - E16xE22 - E20xE24	410

CHROME*plus*® Double ring spanner for TX-E profile, extra long

- TX E profile
- Thin walled
- Chrome plated and mirror polished
- Chrome vanadium



		A1 mm	A2 mm	B1 mm	B2 mm	L mm	g
518.0931	E6 x E7	5.8	6.9	9.5	11.0	200.0	42
518.0932	E8 x E10	7.3	8.6	12.0	14.3	240.0	68
518.0933	E11 x E12	9.1	9.9	14.9	16.6	280.0	109
518.0934	E14 x E16	10.3	11.2	18.1	19.8	320.0	161
518.0935	E18 x E20	11.6	12.7	22.8	25.7	360.0	227
518.0936	E22 x E24	13.3	14.0	26.9	29.2	400.0	344

CHROME*plus*® Double ring spanner set for TX-E profile, extra long

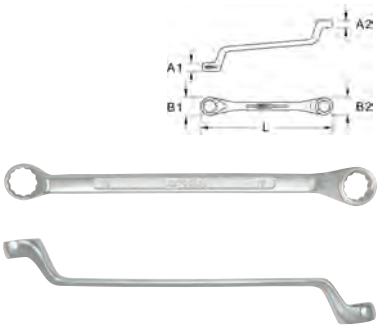
- TX E profile
- Thin walled
- Chrome plated and mirror polished
- Chrome vanadium

			kg
518.0930	6 pcs	E6-E7-E8-E10-E11-E12-E14-E16-E18-E20-E22-E24	1.05

OPEN DOUBLE RING SPANNERS, OFFSET

CLASSIC Double ring spanner, offset

- FlankTraction Profile
- DIN 838 / ISO 1085 / ISO 10104 / ISO 3318
- Ring head 75° offset
- Thin walled
- Polished heads
- Matt finish
- Chrome vanadium



	mm	A1 mm	A2 mm	B1 mm	B2 mm	L mm	g
517.0801	6x7	5.2	5.6	10.3	11.8	175.0	50
517.0802	8x9	6.3	6.4	12.9	14.2	185.0	65
517.0804	10x11	7.2	7.5	16.0	16.9	193.0	85
517.0806	10x13	7.2	9.0	16.0	20.0	215.0	115
517.0807	12x13	8.2	9.0	18.5	20.0	215.0	120
517.0808	13x17	9.0	11.0	20.0	25.2	245.0	170
517.0809	14x15	9.5	10.0	21.5	22.9	225.0	150
517.0835	14x17	9.5	11.0	21.5	25.2	245.0	180
517.0810	16x17	10.3	11.0	24.7	25.2	245.0	195
517.0811	17x19	11.0	11.2	25.2	28.0	283.0	225
517.0812	18x19	10.6	11.2	26.1	28.0	283.0	230
517.0814	19x22	11.2	12.5	28.0	32.2	290.0	295
517.0813	20x22	11.7	12.5	30.5	32.2	290.0	300
517.0815	21x23	12.2	12.5	30.7	33.8	310.0	320
517.0816	24x27	12.7	13.7	36.0	40.0	325.0	430
517.0817	24x30	12.7	14.5	36.0	42.5	340.0	545
517.0818	30x32	14.5	15.1	42.5	46.0	357.0	590
517.0819	27x32	13.7	15.1	40.0	46.0	357.0	640
517.0821	32x36	15.1	17.0	46.0	52.0	400.0	880
517.0825	36x41	17.7	19.7	53.2	61.1	440.0	1100
517.0826	41x46	20.4	22.2	62.0	75.5	485.0	1600
517.0827	46x50	22.2	23.6	68.9	91.8	535.0	2150

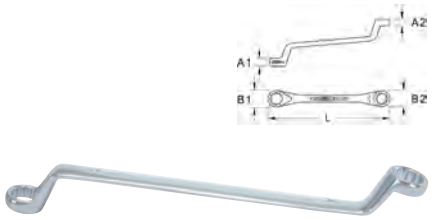
Double ring spanner set, offset

- 12 point
- DIN 838 / ISO 1085 / ISO 10104 / ISO 3318
- Ring head 75° offset
- Thin walled
- Polished heads
- Matt finish
- Chrome vanadium

			kg
517.0248	8 pcs	6x7 - 8x9 - 10x11 - 12x13 - 14x15 - 16x17 - 18x19 - 20x22 mm	1.12
517.0222	11 pcs	6x7 - 8x9 - 10x11 - 12x13 - 14x15 - 16x17 - 18x19 - 20x22 - 21x23 - 24x27 - 30x32 mm	2.80

ULTIMATE*plus* double ring spanner set, offset

- FlankTraction profile (12 point)
- DIN 838 / ISO 3318 / ISO 1085 / ISO 10104
- Ring head 75° offset
- High quality finish
- Chrome vanadium



		A1 mm	A2 mm	B1 mm	B2 mm	L mm	g
920.0281	1/4"x5/16"	5.9	6.6	10.2	12.5	168.0	52
920.0282	3/8"x7/16"	7.5	7.5	16.8	18.2	198.0	92
920.0283	1/2"x9/16"	9.0	9.1	22.7	24.7	239.0	139
920.0284	5/8"x11/16"	9.2	9.5	25.3	26.0	260.0	198
920.0285	3/4"x25/32"	10.4	11.4	31.1	34.6	318.0	319
920.0286	13/16"x7/8"	10.8	11.9	32.5	35.6	327.0	352
920.0287	15/16"x1"	11.8	13.7	36.5	41.4	339.0	466
920.0288	1.1/16"x1.1/4"	13.1	14.6	46.1	49.3	362.0	607

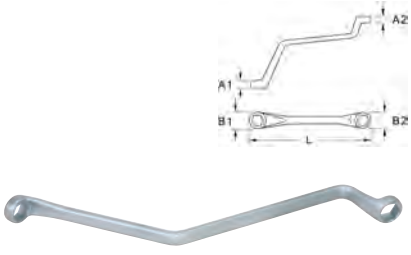
ULTIMATE*plus* double ring ended spanner set, offset

- FlankTraction profile (12 point)
- DIN 838 / ISO 3318 / ISO 1085 / ISO 10104
- Ring head 75° offset
- High quality finish
- Chrome vanadium

			kg
920.0249	11 pcs	6x7 - 8x9 - 10x11 - 12x13 - 14x15 - 16x17 - 18x19 - 20x22 - 21x23 - 24x27 - 30x32 mm	1.80
920.0280	8 pcs	1/4"x5/16" - 3/8"x7/16" - 1/2"x9/16" - 5/8"x11/16" - 3/4"x25/32" - 13/16"x7/8" - 15/16"x1" - 1.1/16"x1.1/4"	2.35

CLASSIC Brake bleeding spanner

- 6 point
- Ring head cranked and offset
- For bleeding the brakes without dismantling of the wheels
- Matt finish
- Chrome vanadium



	mm	A1 mm	A2 mm	B1 mm	B2 mm	L mm	g
518.0307	7	5.3	5.6	12.9	12.1	190.0	60
518.0308	8	7.5	7.0	16.0	15.8	211.0	130
518.0309	9	7.4	6.9	16.0	15.9	211.0	130
518.0310	10	7.3	7.1	17.5	16.9	236.0	135
518.0311	11	7.2	7.0	17.3	16.9	236.0	135

CLASSIC Brake bleeding spanner set

- 6 point
- Ring head cranked and offset
- For bleeding the brakes without dismantling of the wheels
- Matt finish
- Chrome vanadium
- In plastic leather case

518.0300	5 pcs	7 - 8 - 9 - 10 - 11 mm	1.20

Brake bleeding spanner set

- 6 point
- Ring head cranked and offset
- For bleeding the brakes without dismantling of the wheels
- Jaw 15° offset
- Opening 15° cranked
- Ensures secure fitting on line unions and breather valves
- With internal square drive
- Matt finish
- Chrome vanadium

Application area: Brakes, clutches, fuel systems, etc.

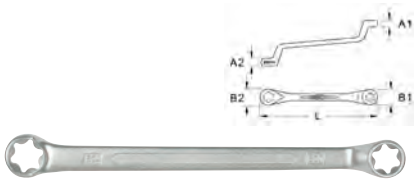
150.2110	11 pcs	Brake bleeding spanner set	1.52

consists of:

518.0307	Brake bleeding spanner,7mm	60
518.0308	Brake bleeding spanner,8mm	130
518.0309	Brake bleeding spanner,9mm	130
518.0310	Brake bleeding spanner,10mm	135
518.0311	Brake bleeding spanner,11mm	135
517.0252	Open double ring spanner offset,8x10mm	45
517.0253	Open double ring spanner offset,9x11mm	50
517.0257	Open double ring spanner offset,12x13mm	100
913.3810	3/8" Crawfoot wrench, hexagonal,10mm	40
913.3811	3/8" Crawfoot wrench, hexagonal,11mm	40
913.3812	3/8" Crawfoot wrench, hexagonal,12mm	40

Double ring spanner for TX E profile, offset

- TX E profile
- Ring head 75° offset
- Thin walled
- Matt finish
- Chrome vanadium

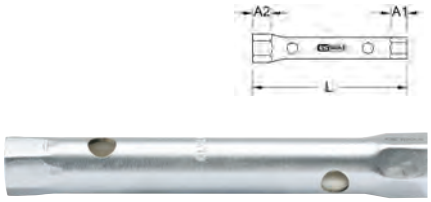


		A1 mm	A2 mm	B1 mm	B2 mm	L mm	g
911.0361	E6 x E8	5.5	6.2	10.0	12.3	147.0	32
911.0362	E7 x E11	5.6	7.0	11.3	14.5	159.0	43
911.0363	E10 x E12	5.9	6.8	13.5	15.5	175.0	50
911.0364	E14 x E18	7.7	9.3	17.3	21.7	215.0	108
911.0365	E16 x E22	8.1	11.6	20.1	27.4	234.0	157
911.0366	E20 x E24	11.3	13.3	23.5	28.2	262.0	223

BOX SPANNERS

Pipe head spanner

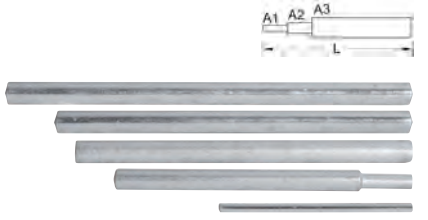
- 6 point
- DIN 896 / ISO 2236 / ISO 1085
- With hollow shaft
- Matt finish
- Chrome vanadium



	mm	A1 mm	A2 mm	L mm		g
518.0870	6x7	10.0	11.0	100.0	1,2,3	27
518.0871	8x9	11.0	12.0	110.0	1,2,3	43
518.0872	10x11	12.5	13.0	120.0	1,2,3	63
518.0881	10x13	13.0	14.5	140.0	2,3	80
518.0873	12x13	14.0	14.5	130.0	2,3	96
518.0874	14x15	15.0	16.0	140.0	2,3	132
518.0875	16x17	16.0	17.0	150.0	2,3	155
518.0882	17x19	17.0	20.0	160.0	2,3	160
518.0876	18x19	18.0	20.0	160.0	2,3	187
518.0877	20x22	20.0	21.0	170.0	2,3	275
518.0878	21x23	20.0	20.0	180.0	2,3	310
518.0883	24x26	24.0	26.0	190.0	4	365
518.0879	24x27	24.0	26.0	190.0	4	365
518.0880	30x32	27.0	31.0	220.0	4	610
518.0884	36x41	32.0	35.0	220.0	5	650
518.0885	41x46	35.0	38.0	240.0	5	950
518.0886	46x50	38.0	40.0	240.0	5	1050

Tommy bar for box spanner

- Hardened
- Matt finish
- Chrome vanadium



	mm	A1 mm	A2 mm	A3 mm	L mm	#	g
518.0865	6x7-10x11	6.0	6.0	6.0	115.0	1	40
518.0866	6x7-21x23	5.8	8.0	9.5	160.0	2	80
518.0867	6x7-21x27	6.0	9.5	9.5	160.0	3	190
518.0868	24x26-30x32	14.0	14.0	14.0	204.0	4	260
518.0869	36x41-46x50	15.6	15.6	15.6	253.0	5	370

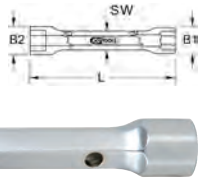
Box wrench sets

- 6 point
- DIN 896 / ISO 2236 / ISO 1085
- With hollow shaft
- Matt finish
- Chrome vanadium

518.0900	10 pcs	Box wrench sets	920
8 x		6x7 - 8x9 - 10x11 - 12x13 - 14x15 - 16x17 - 18x19 - 20x22 mm	
2 x		6-11 + 10-22 mm	

ULTIMATE*plus* Double box spanner

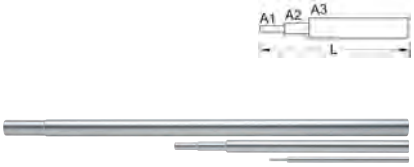
- FlankTraction profile (12 point)
- DIN 896 form A / ISO 2236
- Extremely versatile
- With centre hole
- Can use a combination spanner to drive
- Matt finish
- Chrome vanadium



	mm	B1 mm	B2 mm	dim mm	L mm		g
518.0406	6x7	9.0	10.0	8,0	100.0	1	27
518.0408	8x9	11.5	12.5	9,0	110.0	1	43
518.0410	10x11	14.0	15.0	11,0	120.0	1	63
518.0412	12x13	16.5	17.5	13,0	130.0	2	96
518.0414	14x15	19.5	20.0	14,0	140.0	2	132
518.0416	16x17	21.0	22.0	16,0	150.0	2	155
518.0418	18x19	23.0	24.0	18,0	160.0	2	187
518.0420	20x22	26.0	28.0	20,0	170.0	2	275
518.0421	21x23	27.0	29.0	21,0	180.0	2	310
518.0424	24x26	30.0	32.0	24,0	190.0	3	365
518.0425	25x28	31.0	34.0	25,0	200.0	3	410
518.0427	27x29	34.0	36.0	27,0	210.0	3	540
518.0430	30x32	37.0	39.0	30,0	220.0	3	610

Tommy bar for double box spanner

- Hardened
- Matt finish
- Chrome vanadium



	mm	A1 mm	A2 mm	A3 mm	L mm	#	g
518.0450	6x7-10x11	2.6	5.0	5.0	100.0	1	10
518.0455	12x13-21x23	5.9	7.0	9.3	170.0	2	80
518.0460	24x26-30x32	11.6	12.5	12.5	290.0	3	280

ULTIMATE*plus* Double box head spanner set

- FlankTraction profile (12 point)
- DIN 896 form A / ISO 2236
- Extremely versatile
- With centre hole
- Can use a ring spanner to drive
- Matt finish
- Chrome vanadium

			kg
518.0405	10 pcs	ULTIMATE*plus* Double box head spanner set	1.16
8 x		6x7 - 8x9 - 10x11 - 12x13 - 14x15 - 16x17 - 18x19 - 20x22 mm	
2 x		#1 100 mm + #2 170 mm	

HGV wheel nut wrench

- Two sided serviceable
- Large head depth for projecting bolts
- Alternative insert for tommy bar
- Ideally suited for commercial vehicles
- Matt finish
- Special steel

	mm		L mm	kg	
518.0831	24x27	15/16"x1.1/16"	400.0	1.15	
518.0832	27x32	1.1/16"x1.1/4"	400.0	1.15	
518.0833	32x38	1.1/4"x1.1/2"	400.0	1.15	
518.0834	30x32		400.0	1.15	
518.0835	32x33		400.0	1.15	

Tommy bar for HGV wheel nut wrench

- Matt finish
- Special steel

	Ø mm	L mm	kg	
518.0836	18,0	500.0	1.00	
518.0837	18,0	600.0	1.19	

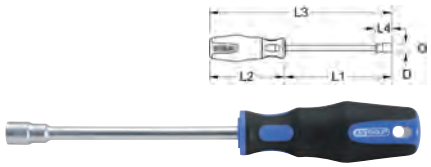
Extended bar HGV wheel nut wrench set

- Two sided serviceable
- Large head depth for projecting bolts
- 1.200 mm extended drive bar
- Loading capacity at 1.200 N•m
- Ideally suited for commercial vehicles
- Matt finish
- Special steel

			kg	
518.0838	4 pcs	24x27 mm, 15/16"x1.1/16"	3.90	
518.0839	4 pcs	30x32 mm	3.90	
518.0840	4 pcs	32x33 mm	3.90	

ERGOTORQUE*plus*® socket screwdriver

- 6 point
- Two component handle
- With hanging hole
- Matt finish
- Chrome vanadium



	mm	D mm	L1 mm	L2 mm	L3 mm	L4 mm	g	
159.1201	4	6.6	150.0	105.0	255.0	4.3	60	
159.1202	5	7.6	150.0	105.0	255.0	4.4	70	
159.1203	5,5	8.2	150.0	105.0	255.0	4.8	80	
159.1204	6	8.8	150.0	105.0	255.0	5.5	80	
159.1205	7	10.0	150.0	105.0	255.0	6.8	110	
159.1206	8	11.2	150.0	114.0	264.0	7.0	110	
159.1207	9	13.9	150.0	114.0	264.0	9.3	110	
159.1208	10	15.0	150.0	114.0	264.0	9.9	120	
159.1209	11	16.5	150.0	114.0	264.0	10.3	130	
159.1210	12	17.6	150.0	114.0	264.0	11.2	180	
159.1211	13	17.6	150.0	114.0	264.0	11.6	180	
159.1212	14	18.9	150.0	114.0	264.0	13.0	180	

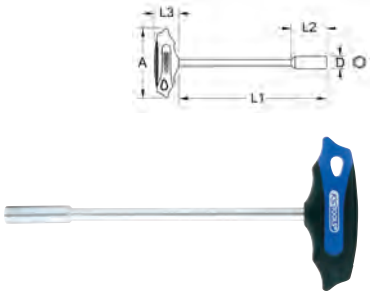
ERGOTORQUE*plus*® socket screwdriver set

- 6 point
- Two component handle
- With hanging hole
- Matt finish
- Chrome vanadium

			g	
159.1200	8 pcs	5 - 6 - 7 - 8 - 10 - 11 - 12 - 13	800	

CHROME*plus*® T-handle socket screwdriver

- 6 point
- Two component handle
- With hanging hole
- Chrome plated and mirror polished
- Chrome vanadium



	mm	D mm	A mm	L1 mm	L2 mm	L3 mm	g	
158.50055	5,5	9.9	95.0	230.0	9.7	33.3	80	
158.5006	6	9.9	95.0	230.0	9.8	33.3	100	
158.5007	7	10.1	95.0	230.0	10.3	33.3	120	
158.5008	8	12.5	115.0	230.0	14.0	39.7	140	
158.5009	9	13.6	115.0	230.0	12.2	39.7	150	
158.5010	10	14.5	115.0	230.0	14.3	39.7	160	
158.5011	11	15.7	115.0	230.0	14.7	39.7	180	
158.5012	12	16.7	115.0	230.0	15.0	39.7	180	
158.5013	13	17.6	115.0	230.0	16.3	39.7	180	
158.5014	14	19.2	115.0	230.0	14.6	39.7	190	

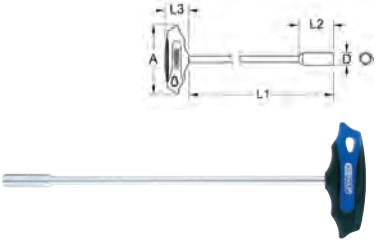
CHROME*plus*® T-handle socket srewdriver set

- 6 point
- Two component handle
- With hanging hole
- Chrome plated and mirror polished
- Chrome vanadium

			kg	
158.5000	6 pcs	6 - 8 - 10 - 12 - 13 - 14 mm	1.40	

CHROME*plus*® T-handle socket screwdriver, extra long

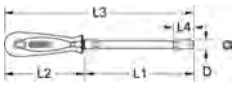
- 6 point
- Two component handle
- With hanging hole
- Chrome plated and mirror polished
- Chrome vanadium



	mm	A mm	D mm	L1 mm	L2 mm	L3 mm	g	
158.5408	8	115.0	12.6	350.0	13.2	39.5	180	
158.5409	9	115.0	13.6	350.0	13.6	39.5	190	
158.5410	10	115.0	14.7	350.0	15.2	39.5	220	
158.5413	13	115.0	17.7	350.0	15.4	39.5	230	
158.5414	14	115.0	19.1	350.0	15.6	39.5	250	

ERGOTORQUE® socket screwdriver

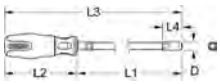
- 6 point
- Flexible
- Limited torque
- Double spiral shaft
- Plastic protective coating
- With hanging hole
- Chrome vanadium



	mm	D mm	L1 mm	L2 mm	L3 mm	L4 mm	g
911.1126	6	10.8	150.0	109.0	259.0	9.3	150
911.1127	7	11.7	150.0	109.0	259.0	10.0	200
911.1128	8	11.9	150.0	109.0	259.0	10.0	200
911.1125	10	12.5	170.0	109.0	279.0	14.3	250

ERGOTORQUE*plus*® socket screwdriver, extra long

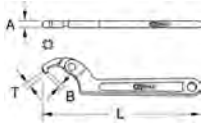
- 6 point
- Flexible
- Limited torque
- Double spiral shaft
- Plastic protective coating
- Two component handle
- With hanging hole
- Chrome vanadium



	mm	D mm	L1 mm	L2 mm	L3 mm	L4 mm	g
911.1175	5	11.9	500.0	114.0	614.0	8.9	270
911.1176	6	10.9	500.0	114.0	614.0	11.3	280
911.1177	7	11.7	500.0	114.0	614.0	11.3	280
911.1178	8	11.7	500.0	114.0	614.0	11.3	280

Hook wrench with nose

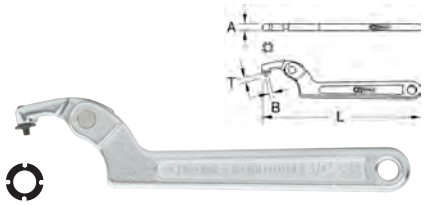
- In accordance to DIN 1080 Form A
- With flexible head
- With hanging hole
- For slotted nuts
- Matt finish
- Chrome vanadium



	mm		A mm	B mm	L mm	T mm	g
517.1302	19-50	3/4-2"	9.0	3.5	162.0	2.9	100
517.1303	32-76	1.1/4-3"	11.5	4.5	205.0	3.7	210
517.1304	50-120	2-4.3/4"	12.4	6.5	295.0	4.6	420
517.1305	114-158	4.1/2-6.1/4"	12.4	9.8	315.0	8.3	440

Flexible hook wrench with pin

- In accordance to DIN 1810 Form A
- With flexible head
- With hanging hole
- For pin type round nuts
- Matt finish
- Chrome vanadium

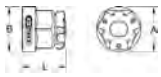


	mm		A mm	B mm	L mm	T mm	g
517.1312	19-50	3/4-2"	9.2	4.0	165.0	4.0	110
517.1313	32-76	1.1/4-3"	11.3	5.0	210.0	4.7	220
517.1314	50-120	2-4.3/4"	12.5	6.0	295.0	5.5	420
517.1315	114-158	4.1/2-6.1/4"	12.6	8.0	320.0	7.6	440

ACCESSORIES

GEAR*plus*® Bit adapter

- FlankTraction profile (12 point)
- Chrome plated and mirror polished
- Chrome vanadium

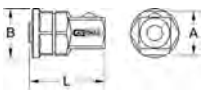


1/4" 3/8" 1/2"

	mm	A mm	B mm	g
503.4290	1/4" x 10mm	10.0	11.0	6
503.4292	5/16" x 13mm	13.0	15.5	11
503.4293	10mm x 13mm	13.0	21.0	17

GEAR*plus*® Socket adapter

- 6 point
- With quick release locking function
- Suitable for GEAR*plus*® spanners
- Square drive adaptor to DIN 3120 - ISO 1174 with ball lock
- Chrome plated and mirror polished
- Chrome vanadium



1/4" 3/8" 1/2"

	mm	A mm	B mm	g
503.4296	1/4" x 10mm	10.0	11.1	50
503.4297	3/8" x 13mm	13.0	14.5	70
503.4298	1/2" x 19mm	19.0	21.4	100

GEAR*plus*® Bit adapter set

- FlankTraction profile (12 point)
- Chrome plated and mirror polished
- Chrome vanadium

5/16" 10 mm

			g
503.4294	2 pcs	GEAR*plus*® Bit adapter set	100
2 x		5/16" - 10 mm	

GEAR*plus*® Socket adapter set, metric

- FlankTraction profile (12 point)
- Suitable for GEAR*plus*® spanners
- Square drive adaptor to DIN 3120 - ISO 1174 with ball lock
- For bits to DIN 3126 / C 6,3
- Chrome plated and mirror polished
- Chrome vanadium

1/4" 3/8" 1/2"

			g
503.4286	4 pcs	GEAR*plus*® Socket adapter set, metric	270
1 x		1/4"	
3 x		1/4" - 3/8" - 1/2"	

GEAR*plus*® Socket adapter set, imperial

- FlankTraction profile (12 point)
- Suitable for GEAR*plus*® spanners
- Square drive adaptor to DIN 3120 - ISO 1174 with ball lock
- For bits to DIN 3126 / C 6,3
- Chrome plated and mirror polished
- Chrome vanadium

1/4" 3/8" 1/2"

			g
503.4287	4 pcs	GEAR*plus*® Socket adapter set, imperial	100
1 x		1/4"	
3 x		1/4" - 3/8" - 1/2"	

2 SOCKETS

TX-E AND TX PROFILE

CHROME*plus*® Bit socket set for TX screws

- TX
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Short execution
- Press fitted nickel plated insert bit
- For manual operation
- Chrome plated and mirror polished
- Chrome vanadium
- In durable metal case

1/2"

			kg	
918.1385	9 pcs	T20 - T25 - T27 - T30 - T40 - T45 - T50 - T55 - T60	1.50	

CHROME*plus*® Bit socket for TX screws

- TX
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Short execution
- Press fitted nickel plated insert bit
- For manual operation
- Chrome plated and mirror polished
- Chrome vanadium

1/2"

	D	D mm	L mm	T mm	kg	
918.1620	T10	22.0	55.0	17.0	70	
918.1621	T15	22.0	55.0	17.0	70	
918.1622	T20	22.0	55.0	17.0	70	
918.1623	T25	22.0	55.0	17.0	70	
918.1624	T27	22.0	55.0	17.0	70	
918.1625	T30	22.0	55.0	17.0	70	
918.1626	T40	22.0	55.0	17.0	70	
918.1627	T45	22.0	55.0	17.0	70	
918.1628	T50	22.0	55.0	17.0	70	
918.1629	T55	22.0	55.0	17.0	80	
918.1630	T60	22.0	55.0	17.0	100	
918.1632	T70	22.0	55.0	17.0	110	

CHROME*plus*® Bit socket set for TX screws, long

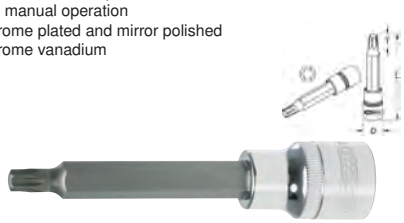
- TX
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Long execution
- Press fitted nickel plated insert bit
- For manual operation
- Chrome plated and mirror polished
- Chrome vanadium
- Includes storage rail

1/2"

			kg	
918.1317	9 pcs	T20 - T25 - T27 - T30 - T40 - T45 - T50 - T55 - T60	1.24	

CHROME*plus*® Bit socket for TX screws, long

- TX
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Long execution
- Press fitted nickel plated insert bit
- For manual operation
- Chrome plated and mirror polished
- Chrome vanadium



1/2"

	D	D mm	L mm	T mm	kg	
918.1640	T10	22.0	110.0	72.0	120	
918.1641	T15	22.0	110.0	72.0	120	
918.1642	T20	22.0	110.0	72.0	120	
918.1643	T25	22.0	110.0	72.0	120	
918.1644	T27	22.0	110.0	72.0	120	
918.1645	T30	22.0	110.0	72.0	120	
918.1646	T40	22.0	110.0	72.0	120	
918.1647	T45	22.0	110.0	72.0	120	
918.1648	T50	22.0	110.0	72.0	120	
918.1649	T55	22.0	110.0	72.0	130	
918.1650	T60	22.0	110.0	72.0	150	

CHROME*plus*® Bit socket set for TX tamperproof screws

- For tamperproof TX
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Short execution
- Press fitted nickel plated insert bit
- For manual operation
- Chrome plated and mirror polished
- Chrome vanadium metal steel storage case

1/2"

			kg	
918.1386	9 pcs	TB20 - TB25 - TB27 - TB30 - TB40 - TB45- TB50 - TB55 - TB60	1.50	

CHROME*plus*® Bit socket for TX tamperproof screws

- For tamperproof TX
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Press fitted nickel plated insert bit
- For manual operation
- Chrome plated and mirror polished
- Chrome vanadium

1/2"

	D	D mm	L mm	T mm	kg	
918.1720	TB10	18.0	55.0	24.0	80	
918.1721	TB15	18.0	55.0	24.0	80	
918.1722	TB20	18.0	55.0	24.0	80	
918.1723	TB25	18.0	55.0	24.0	80	
918.1724	TB27	18.0	55.0	24.0	80	
918.1725	TB30	18.0	55.0	24.0	80	
918.1726	TB40	18.0	55.0	24.0	80	
918.1727	TB45	18.0	55.0	24.0	80	
918.1728	TB50	18.0	55.0	24.0	80	
918.1729	TB55	18.0	55.0	24.0	80	
918.1730	TB60	18.0	55.0	24.0	100	
918.1732	TB70	18.0	55.0	24.0	100	

CHROME*plus*® Bit socket set for TX tamperproof screws, long

- TX
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Long execution
- With press fitted nickel plated insert bit
- For manual operation
- Chrome plated and mirror polished
- Chrome vanadium
- Includes storage rail

1/2"

			kg	
918.1890	9 pcs	TB20 - TB25 - TB27 - TB30 - TB40 - TB45 - TB50 - TB55 - TB60	1.50	

CHROME*plus*® Bit socket for TX tamperproof screws, long

- For tamperproof TX
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Press fitted nickel plated insert bit
- For manual operation
- Chrome plated and mirror polished
- Chrome vanadium

1/2"

	D	D mm	L mm	T mm	kg	
918.1740	TB10	22.0	110.0	72.0	115	
918.1741	TB15	22.0	110.0	72.0	115	
918.1742	TB20	22.0	110.0	72.0	120	
918.1743	TB25	22.0	110.0	72.0	120	
918.1744	TB27	22.0	110.0	72.0	120	
918.1745	TB30	22.0	110.0	72.0	130	
918.1746	TB40	22.0	110.0	72.0	130	
918.1747	TB45	22.0	110.0	72.0	130	
918.1748	TB50	22.0	110.0	72.0	150	
918.1749	TB55	22.0	110.0	72.0	150	
918.1750	TB60	22.0	110.0	72.0	150	

CHROME*plus*® TX E Socket set

- TX E
- Internal square to DIN 3120 / ISO 1174 with ball reception
- For manual operation
- Chrome plated and mirror polished
- Chrome vanadium
- In durable metal case

1/2"

			kg	
918.4410	9 pcs	E10 - E11 - E12 - E14 - E16 - E18 - E20 - E22 - E24	1.00	

CHROME*plus*® TX E Socket

- TX E
- Internal square to DIN 3120 / ISO 1174 with ball reception
- For manual operation
- Chrome plated and mirror polished
- Chrome vanadium

1/2"

		L mm	D1 mm	D2 mm	T mm	g	
918.1276	E10	38.0	14.0	23.0	16.0	50	
918.1733	E11	38.0	14.0	23.0	16.0	50	
918.1278	E12	38.0	16.0	23.0	16.0	55	
918.1277	E14	38.0	17.0	23.0	13.0	55	
918.1280	E16	38.0	19.0	23.0	13.0	60	
918.1281	E18	40.0	21.0	25.0	14.0	65	
918.1282	E20	40.0	24.0	25.0	14.0	70	
918.1294	E22	40.0	26.0	25.0	14.0	80	
918.1295	E24	42.0	29.0	26.0	16.0	85	

CHROME*plus*® TX E Socket set, deep

- TX E
- Internal square to DIN 3120 / ISO 1174 with ball reception
- Long execution
- For manual operation
- Chrome plated and mirror polished
- Chrome vanadium
- In durable plastic storage case

1/2"

			kg	
918.4420	8 pcs	E10 - E12 - E14 - E16 - E18 - E20 - E22 - E24	1.00	

CHROME*plus*® TX E Socket, deep

- TX E
- Internal square to DIN 3120 / ISO 1174 with ball reception
- Long execution
- For manual operation
- Chrome plated and mirror polished
- Chrome vanadium

1/2"

		L mm	D1 mm	D2 mm	T mm	g	
918.1761	E10	78.0	14.0	25.0	8.0	100	
918.1762	E11	78.0	15.0	25.0	12.0	100	
918.1763	E12	78.0	16.0	25.0	12.0	110	
918.1764	E14	78.0	17.0	25.0	13.0	100	
918.1765	E16	78.0	18.0	25.0	14.0	115	
918.1766	E18	78.0	20.0	25.0	16.0	130	
918.1767	E20	78.0	24.0	25.0	17.0	160	
918.1768	E22	78.0	26.0	25.0	17.0	195	
918.1769	E24	78.0	28.0	25.0	18.0	230	

HEXAGON PROFILE

CHROME*plus*® Bit socket set for hexagon screws

- Hexagon socket
- In accordance with DIN 7422
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Short execution
- Press fitted nickel plated insert bit
- For manual operation
- Chrome plated and mirror polished
- Chrome vanadium
- In durable metal case

1/2"

			kg
918.1330	9 pcs	4 - 5 - 6 - 7 - 8 - 10 - 12 - 14 - 17 mm	2.30

CHROME*plus*® Bit socket for hexagon screws

- Hexagon socket
- In accordance with DIN 7422
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Short execution
- Press fitted nickel plated insert bit
- For manual operation
- Chrome plated and mirror polished
- Chrome vanadium

1/2"

	mm		D mm	L mm	T mm	g
918.1604	4,0		22.0	55.0	17.0	70
918.1605	5,0		22.0	55.0	17.0	70
918.1606	6,0		22.0	55.0	17.0	70
918.1607	7,0		22.0	55.0	17.0	70
918.1608	8,0		22.0	55.0	17.0	70
918.1609	9,0		22.0	55.0	17.0	70
918.1610	10,0		22.0	55.0	17.0	80
918.1612	12,0		22.0	55.0	17.0	100
918.1614	14,0		22.0	55.0	17.0	110
918.1617	17,0		22.0	55.0	17.0	150
918.1619	19,0		22.0	55.0	17.0	170
918.1701		3/16"	22.0	55.0	17.0	60
918.1702		7/32"	22.0	55.0	17.0	70
918.1703		1/4"	22.0	55.0	17.0	70
918.1704		9/32"	22.0	55.0	17.0	70
918.1705		5/16"	22.0	55.0	17.0	85
918.1706		3/8"	22.0	55.0	17.0	90
918.1707		1/2"	22.0	55.0	17.0	100
918.1708		9/16"	22.0	55.0	17.0	110
918.1709		5/8"	22.0	55.0	17.0	150

CHROME*plus*® Bit socket set for hexagon screws, long

- Hexagon socket
- In accordance with DIN 7422
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Long execution
- Press fitted nickel plated insert bit
- For manual operation
- Chrome plated and mirror polished
- Chrome vanadium
- Includes storage rail

1/2"

			kg
918.1336	6 pcs	5 - 6 - 7 - 8 - 10 - 12 mm	0.88

CHROME*plus*® Bit socket for hexagon screws, long

- Hexagon socket
- In accordance with DIN 7422
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Long execution
- Press fitted nickel plated insert bit
- For manual operation
- Chrome plated and mirror polished
- Chrome vanadium

1/2"

	mm	D mm	L mm	T mm	g	
918.1654	4,0	22.0	110.0	72.0	120	
918.1655	5,0	22.0	110.0	72.0	120	
918.1656	6,0	22.0	110.0	72.0	120	
918.1658	8,0	22.0	110.0	72.0	120	
918.1659	9,0	22.0	110.0	72.0	130	
918.1660	10,0	22.0	110.0	72.0	130	
918.1662	12,0	22.0	110.0	72.0	150	
918.1664	14,0	22.0	110.0	72.0	180	

SPLINE PROFILE

CHROME*plus*® Bit socket set for spline (XZN®) screws

- Spline (XZN®)
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Press fitted nickel plated insert bit
- For manual operation
- Chrome plated and mirror polished
- Chrome vanadium
- Includes storage rail

1/2"

			kg	
918.1349	6 pcs	M5 - M6 - M8 - M10 - M12 - M14	0.59	

CHROME*plus*® Bit socket for spline (XZN®) screws

- Spline (XZN®)
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Press fitted nickel plated insert bit
- For manual operation
- Chrome plated and mirror polished
- Chrome vanadium

1/2"

		D mm	L mm	T mm	g	
918.1671	M5	22.0	55.0	17.0	70	
918.1673	M8	22.0	55.0	17.0	70	
918.1674	M10	22.0	55.0	17.0	80	
918.1675	M12	22.0	55.0	17.0	100	
918.1676	M14	22.0	55.0	17.0	110	
918.1677	M16	22.0	55.0	17.0	140	

CHROME*plus*® Bit socket set for spline (XZN®) screws, long

- Spline (XZN®)
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Long execution
- Press fitted nickel plated insert bit
- For manual operation
- Chrome plated and mirror polished
- Chrome vanadium
- Includes storage rail

1/2"

			kg	
918.1358	6 pcs	M5 - M6 - M8 - M10 - M12 - M14	0.93	

CHROME*plus*® Bit socket for spline (XZN®) screws, long

- Spline (XZN®)
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Long execution
- With press fitted nickel plated insert bit
- For manual operation
- Chrome plated and mirror polished
- Chrome vanadium

1/2"

		D mm	L mm	T mm	g	
918.1691	M5	22.0	110.0	72.0	120	
918.1693	M8	22.0	110.0	72.0	120	
918.1694	M10	22.0	110.0	72.0	120	
918.1695	M12	22.0	110.0	72.0	150	
918.1696	M14	22.0	110.0	72.0	180	

CHROME*plus*® Bit socket set

- Chrome plated and mirror polished
- Chrome vanadium
- In durable plastic case

1/2"

			kg	
918.1752	32 pcs	CHROME*plus*® Bit socket set	6.30	

8 x		5 - 6 - 7 - 8 - 10 - 12 - 14 - 17 mm
4 x		6 - 8 - 10 - 12 mm
8 x		T25 - T27 - T30 - T40 - T45 - T50 - T55 - T60
8 x		2 x T30 - 2 x T40 - 2 x T50 - 2 x T60
4 x		M5 - M6 - M8 - M10
4 x		M6 - M8 - M10 - M12

ACCESSORIES

CHROME*plus*® Extension

- DIN 3123 / ISO 3316
- Square drive to DIN 3120 / ISO 1174 with ball lock
- Internal square to DIN 3120 / ISO 1174 with ball reception
- For manual operation
- Chrome plated and mirror polished
- Chrome vanadium

1/2"

	L mm	g	
918.1274	50.0	90	
918.1279	75.0	120	
918.1202	125.0	180	
918.1203	250.0	420	

CHROME*plus*® Wobble extension

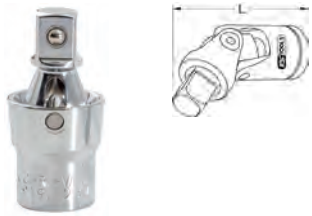
- Internal square to DIN 3120 / ISO 1174 with ball reception
- Wobble extension with ball lock
- 8° tilt angle to each side
- For manual operation
- Chrome plated and mirror polished
- Chrome vanadium

1/2"

	L mm	g	
918.1264	50.0	90	
918.1267	75.0	120	
918.1201	125.0	180	
918.1204	250.0	420	

CHROME*plus*® Power universal ball joint

- Ideal for use with electric screwdriver
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Very low running rotation
- New joint construction
- Outstanding use of angles up to 45°
- Very resistant to breakage
- Can be used by hand or with electric screwdriver
- Chrome plated and mirror polished
- Chrome vanadium



1/2"

	L mm	g	
919.1250	70.0	160	

CHROME*plus*® power universal joint set

- Square drive to DIN 3120 / ISO 1174 with ball lock
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Very low running rotation
- New joint construction
- Outstanding use of angles up to 45°
- Very resistant to breakage
- Can be used by hand or with and electric screwdriver
- Chrome plated and mirror polished
- Chrome vanadium

1/4" 3/8" 1/2"

			g	
919.1000	3 pcs	CHROME*plus*® power universal joint set	270	

consists of:

		g	
919.1450	1/4" CHROMEplus® power universal joint	30	
919.3850	3/8" CHROMEplus® power universal joint	80	
919.1250	1/2" CHROMEplus® power universal joint	160	

Adaptor and reducing adaptor set

- DIN 3123 / ISO 3316
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- Internal square to DIN 3120 / ISO 1174 with ball reception
- For manual operation
- Matt finish
- Chrome vanadium
- In durable plastic case

1/4" 3/8" 1/2"

			kg	
911.0106	6 pcs	1/4" x 3/8" - 3/8" x 1/4" - 3/8" x 1/2" - 1/2" x 3/8" - 1/2" x 3/4" - 3/4" x 1/2"	0.66	

CHROME*plus*® Flexible head drive handle

- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- Ideal for difficult to access areas
- Protects ratchet and torque wrenches from overloading
- Burnished head
- Chrome plated and mirror polished
- Chrome vanadium

1/2"

	■	L mm	head,spare	g	
918.1291	1/2"	380.0	918.1292-1	790	
918.1297	1/2"	460.0	918.1292-2	1115	
918.1292	1/2"	600.0	918.1292-1	1400	
918.1293	1/2"	760.0	918.1292-1	1630	

RATCHETS

CHROME*plus*® SUPER-TEN Reversible ratchet set

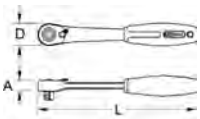
- According to DIN 3122 / ISO 3315
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- Reversing
- Extremely slim head
- Fine gearing 72 teeth ratchet mechanism
- Ejection mechanism on the ratchet head
- Ergonomic dual component handle with soft zone
- Hanging hole
- Chrome plated and mirror polished
- Chrome vanadium

1/4" - 1/2"

			g
919.1002	2 pcs	1/4" - 1/2"	650

CHROME*plus*® SUPER-TEN Reversible ratchet

- According to DIN 3122 / ISO 3315
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- 710 N•m maximum load
- Reversing
- Extremely slim head
- Fine gearing 72 teeth ratchet mechanism
- Ejection mechanism on the ratchet head
- Ergonomic dual component handle with soft zone
- With hanging hole
- Chrome plated and mirror polished
- Chrome vanadium



1/2"

	A mm	D mm	L mm	Repair set	g
919.1290	16.0	30.0	245.0	919.1299	356

CHROME*plus*® Telescopic reversible ratchet

- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- Reversing
- Exact gearing 36-teeth ratchet mechanism
- Infinitely variable
- Ejection mechanism on the ratchet head
- Ergonomic dual component handle
- Chrome plated and mirror polished
- Chrome vanadium

1/2"

	A mm	D mm	L mm	Repair set	g
918.1270	19.0	43.0	380,0-500,0	918.1275	1200

SOCKET SETS

SUPERLOCK Socket set

- Matt finish
- Chrome vanadium
- In durable plastic case

1/4"

			kg
911.0623	23 pcs	SUPERLOCK Socket set	0.45
12 x		4 - 4,5 - 5 - 5,5 - 6 - 7 - 8 - 9 - 10 - 11 12 - 13 mm	
1 x		1/4"	
1 x		100 mm	
1 x		1/4"	
2 x		PH1 - PH2	
2 x		PZ1 - PZ2	
4 x		T15 - T20 - T25 - T30	

CHROME*plus*® Socket set

- 6 point
- FlankTraction profile
- Chrome plated and mirror polished
- Chrome vanadium
- In durable plastic storage case

1/4"

			kg
918.0640	40 pcs	CHROME*plus*® Socket set	0.80
13 x		4 - 4,5 - 5 - 5,5 - 6 - 7 - 8 - 9 - 10 - 11 12 - 13 - 14 mm	
2 x		PH1 - PH2	
6 x		PZ1 - PZ2	
7 x		3 - 4 - 5 - 6 - 7 - 8 mm	
5 x		T10 - T15 - T20 - T25 - T27 - T30 T40	
1 x		M4 - M5 - M6 - M8 - M10	
1 x		1/4"	
1 x		100 mm	
1 x		1/4"	
1 x		1/4"	
1 x		110 mm	

ULTIMATE*plus* socket set

- 6 point
- Matt finished
- Chrome vanadium
- In durable plastic storage case

1/4"

			kg
920.1551	51 pcs	ULTIMATE*plus* socket set	2.30
1 x		1/4"	
3 x		1/4": 50 - 100 - 150 mm	
13 x		1/4": 4 - 4,5 - 5 - 5,5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 mm	
3 x		1/4": 8 - 10 - 13 mm	
6 x		1/4": 3 - 4 - 5 - 6 - 8 - 10 mm	
9 x		1/4":T8 - T9 - T10 - T15 - T20 - T25 - T27 - T30 - T40	
4 x		1/4": PH0 - PH1 - PH2 - PH3	
3 x		1/4": PZ1 - PZ2 - PZ3	
4 x		1/4": 4,5 - 5,5 - 6,5 - 8 mm	
1 x		1/4"	
1 x		1/4"	
1 x		1/4"	
1 x		1/4"	
1 x		1/4" : 75 mm	

SUPERLOCK Socket set

- Matt finish
- Chrome vanadium
- In durable plastic case

1/2"

			kg
911.0620	20 pcs	SUPERLOCK Socket set	3.30
15 x		10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 18 - 19 - 22 - 24 - 27 - 30 - 32 mm	
2 x		125 - 250 mm	
1 x		1/2"	
1 x		1/2"	
1 x		250 mm	

CHROME*plus*® Socket set

- 6 point
- FlankTraction profile
- Chrome plated and mirror polished
- Chrome vanadium
- In durable plastic storage case

1/2"

			kg
918.0635	35 pcs	CHROME*plus*® Socket set	5.75
18 x		10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 19 - 20 - 21 - 22 - 24 - 27 - 30 - 32 - 34 mm	
10 x		10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 18 - 19 mm	
2 x		16 - 21 mm	
2 x		125 - 250 mm	
1 x		1/2“	
1 x		F3/8“ x M1/2“	
1 x		250 mm	

SUPERLOCK Socket set

- Matt finish
- Chrome vanadium
- In durable plastic storage case

1/4" - 1/2"

		kg
911.0708	108 pcs	SUPERLOCK Socket set	7.00
13 x		1/4“: 4 - 4,5 - 5 - 5,5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 mm
8 x		1/4“: 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 mm
5 x		1/4“: E4 - E5 - E6 - E7 - E8
3 x		1/4“: 4 - 5,5 - 6,5 mm
2 x		1/4“: PH1 - PH2
2 x		1/4“: PZ1 - PZ2
4 x		1/4“: 3 - 4 - 5 - 6 mm
7 x		1/4“: T8 - T10 - T15- T20 - T25- T27 T30
17 x		1/2“: 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 18 - 19 - 20 - 21 - 22 - 24 - 27 30 - 32 mm
5 x		1/2“: 14 - 15 - 17 - 19 - 22 mm
8 x		1/2“: E10 - E11 - E12 - E14 - E16 E18 - E20 - E24
2 x		1/2“: 16 - 21 mm
2 x		1/4“: 50 - 100 mm
3 x		5/16“: 8 - 10 - 12 mm
2 x		5/16“: PH3 - PH4
2 x		5/16“: PZ3 - PZ4
5 x		5/16“: 7 - 8 - 10 - 12 - 14 mm
5 x		5/16“: T40 - T45 - T50 - T55 - T60
1 x		1/4“
1 x		1/4“
1 x		1/4“
1 x		1/4“: 145 mm
3 x		1,5 - 2 - 2,5 mm
1 x		1/2“: 125 - 250 mm
1 x		1/2“
1 x		1/2“
1 x		1/2“ x 5/16“
1 x		1/2“: 250 mm

CHROME*plus*® Socket set

- 6 point
- FlankTraction profile
- Chrome plated and mirror polished
- Chrome vanadium
- In durable plastic case

1/4" - 1/2"

		kg
918.0694	94 pcs	CHROME*plus*® Socket set	6.38
13 x		1/4“: 4 - 4,5 - 5 - 5,5 - 6 - 7 - 8 - 9 - 10 11 - 12 - 13 - 14 mm
8 x		1/4“: 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 mm
18 x		1/2“: 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 19 - 20 - 21 - 22 - 23 - 24 - 27 - 30 - 32 mm
4 x		1/2“: 14 - 15 - 17 - 19 mm
2 x		1/2“: 16 - 21 mm
3 x		1/4“: 4 - 5,5 - 7 mm
2 x		1/4“: PH1 - PH2
2 x		1/4“: PZ1 - PZ2
4 x		1/4“: 3 - 4 - 5 - 6 mm
6 x		1/4“: TB8 - TB10 - TB15 - TB20 TB25 - TB30
2 x		1/4“: 50 - 100 mm
1 x		1/4“: 150 mm
3 x		5/16“: 8 - 10 - 12 mm
2 x		5/16“: PH3 - PH4
2 x		5/16“: PZ3 - PZ4
4 x		5/16“: 8 - 10 - 12 - 14 mm
4 x		5/16“: TB40 - TB45 - TB50 - TB55
1 x		1/4“
1 x		1/4“
1 x		1/4“
1 x		1/4“: 145 mm
4 x		1 - 1,5 - 2 - 2,5 mm
1 x		1/4“
2 x		1/2“: 125 - 250 mm
1 x		F3/8“ x M1/2“
1 x		1/2“
1 x		1/2“ x 5/16“
1 x		1/2“: 250 mm

CHROME*plus*® universal tool set

- With 3 drawers and upper insert storage
- 6 point
- FlankTraction profile
- Chrome plated and mirror polished
- Chrome vanadium
- In durable steel tool chest

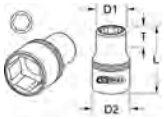
1/4" 1/2"

			kg
918.0100	99 pcs	CHROME*plus*® universal tool set	19.50
11 x		1/4": 4 - 5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 13 - 14 mm	
3 x		1/4": 8 - 10 - 13 mm	
1 x		1/4": 50 mm	
1 x		1/4"	
1 x		1/4": 110 mm	
1 x		1/4": 140 mm	
3 x		1/2": 4 - 4,5 - 7 mm	
2 x		1/2": PH1 - PH2	
2 x		1/2": PZ1 - PZ2	
6 x		1/2": 3 - 4 - 5 - 6 - 7 - 8 mm	
7 x		1/2": T10 - T15 - T20 - T25 - T27 T30 - T40	
12 x		1/2": 13 - 15 - 17 - 18 - 19 - 20 - 21 22 - 24 - 27 - 30 - 32 mm	
2 x		1/2": 17 - 19 mm	
2 x		1/2": 16 - 21 mm	
2 x		1/2": 125 - 250 mm	
1 x		1/2": F1/4" x M 3/8"	
1 x		1/2"	
1 x		1/2": 250 mm	
1 x		1,5 - 2 - 2,5 - 3 - 4 - 5 - 6 - 7 - 8 - 10 mm	
12 x		8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 17 - 18 - 19 mm	
6 x		6 x 38 - 3 x 75 - 4 x 100 - 5,5 x 100 6,5 x 125 - 8 x 150 mm	
4 x		PH2 x 38 mm - PH1 x 75 mm - PH2 x 100 mm - PH3 x 150 mm	
1 x		130 mm	
1 x		180 mm	
1 x		210 mm	
1 x		10"	
1 x		250 mm	
1 x		300 g	

3/4" PROGRAM

CLASSIC Hexagonal socket

- 6 point
- FlankTraction profile
- According to DIN 3124 / ISO 2725
- Internal square to DIN 3120 / ISO 1174 with ball reception
- Short execution
- For manual operation
- Matt finish
- Chrome vanadium

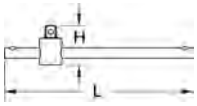


3/4"

	mm	D1 mm	D2 mm	L mm	T mm	g
911.3419	19,0	30.0	36.0	52.0	19.0	210
911.3421	21,0	32.0	36.0	52.0	19.0	220
911.3422	22,0	33.0	36.0	52.0	19.0	220
911.3423	23,0	35.0	38.0	52.0	19.0	220
911.3424	24,0	36.0	38.0	52.0	20.0	220
911.3426	26,0	37.0	36.0	55.0	23.0	220
911.3427	27,0	40.0	36.0	55.0	24.0	230
911.3429	29,0	42.0	36.0	55.0	24.0	260
911.3430	30,0	43.0	38.0	58.0	26.0	290
911.3432	32,0	46.0	38.0	58.0	27.0	300
911.3435	35,0	50.0	40.0	60.0	27.0	400
911.3436	36,0	51.0	40.0	60.0	28.0	430
911.3438	38,0	53.0	41.0	60.0	28.0	490
911.3441	41,0	57.0	44.0	63.0	31.0	540
911.3446	46,0	63.0	44.0	66.0	33.0	630
911.3450	50,0	68.0	48.0	69.0	35.0	840

Sliding T-handle

- DIN 3122 / ISO 3315
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- For manual operation
- Matt finish
- Chrome vanadium



3/4"

	H mm	L mm	kg
911.3405	16.0	450.0	1.22

CHROME*plus*® Flexible head drive handle

- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- Ideal for difficult to access areas
- Protects ratchet and torque wrenches from overloading
- Burnished head
- Chrome plated and mirror polished
- Chrome vanadium

3/4"

	L mm	head,spare	kg
918.1801	1030.0	918.1801-1	3.80

Extensions

- DIN 3123 / ISO 3316
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- Internal square to DIN 3120 / ISO 1174 with ball reception
- For manual operation
- Matt finish
- Chrome vanadium

3/4"

	L mm	g
911.3402	100.0	420
911.3403	200.0	730
911.3404	400.0	1600

Reversible ratchet

- DIN 3122 / ISO 3315
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- Reversing
- Fine gearing 72 teeth ratchet mechanism
- Ejection mechanism on the ratchet head
- Ergonomic handle
- Matt finish
- Chrome vanadium

3/4"

	A mm	D mm	L mm	Repair set	kg
911.3400	21.0	55.0	500.0	911.3409	1.98

CHROME*plus*® Telescopic reversible ratchet

- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- Reversing
- Exact gearing 24 teeth ratchet mechanism
- Ejection mechanism on the ratchet head
- Knurled handle
- Recessed reverse lever
- Chrome plated and mirror polished
- Chrome vanadium

3/4"

	A mm	D mm	L mm	Repair set	kg
911.3490	30.0	63.0	510,0-730,0	911.3499	3.35

CHROME*plus*® Reversible ratchet

- According to DIN 3122 / ISO 3315
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- Reversing
- Exact gearing 24 teeth ratchet mechanism
- Ejection mechanism on the ratchet head
- Knurled handle
- Recessed reverse lever
- Chrome plated and mirror polished
- Chrome vanadium

3/4"

	A mm	D mm	L mm	Repair set	kg	
911.3401	30.0	63.0	500.0	911.3499	2.55	

Reversible ratchet

- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- Maximum load capacity up to 1.750 N•m
- Reversing
- Exact gearing 24 teeth ratchet mechanism
- Extremely substaintial handle bar
- Ejection mechanism on the ratchet head
- Knurled handle
- Recessed reverse lever
- Ideally suited for extreme loads
- Burnished head
- Matt finish
- Chrome vanadium

3/4"

	A mm	D mm	L mm	Repair set	kg	
911.3410	35.0	70.0	1000.0	911.3499	3.00	

CLASSIC Socket set

- 6 point
- Matt finish
- Chrome vanadium
- In durable plastic case

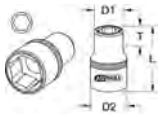
3/4"

			kg
911.0721	21 pcs	CLASSIC Socket set	14.50
16 x		19 - 21 - 22 - 23 - 24 - 26 - 27 - 29 - 30 32 - 35 - 36 - 38 - 41 -46 - 50 mm	
3 x		100 - 200 - 400 mm	
1 x		450 mm	
1 x		500 mm	

1" PROGRAM

CLASSIC Hexagonal socket

- 6 point
- FlankTraction profile
- According to DIN 3124 / ISO 2725
- Internal square to DIN 3120 / ISO 1174 with ball reception
- Short execution
- For manual operation
- Matt finish
- Chrome vanadium



1"

	mm	D1 mm	D2 mm	L mm	T mm	kg	
911.1036	36,0	54.0	48.0	70.0	30.0	0.51	
911.1038	38,0	56.0	48.0	70.0	30.0	0.60	
911.1041	41,0	60.0	50.0	70.0	31.0	0.64	
911.1046	46,0	66.0	50.0	75.0	34.0	0.90	
911.1050	50,0	71.0	50.0	75.0	35.0	1.10	
911.1054	54,0	75.0	50.0	80.0	36.0	1.14	
911.1055	55,0	80.0	50.0	80.0	38.0	1.30	
911.1058	58,0	83.0	50.0	85.0	40.0	1.40	
911.1060	60,0	85.0	50.0	85.0	41.0	1.50	
911.1063	63,0	86.0	60.0	88.0	43.0	1.68	
911.1065	65,0	88.0	60.0	88.0	45.0	1.74	
911.1067	67,0	90.0	60.0	88.0	46.0	1.85	
911.1070	70,0	92.0	60.0	92.0	48.0	2.00	
911.1071	71,0	94.0	60.0	92.0	50.0	2.13	
911.1075	75,0	95.0	60.0	95.0	51.0	2.28	
911.1077	77,0	96.0	60.0	96.0	52.0	2.40	
911.1080	80,0	97.0	60.0	97.0	54.0	2.58	

Sliding adaptor

- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- To the use with extensions
- For manual operation
- Matt finish
- Chrome vanadium

1"

	L mm	kg	
911.1081	80.0	640	

CHROME*plus*® Extension

- DIN 3123 / ISO 3316
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- Internal square to DIN 3120 / ISO 1174 with ball reception
- Chrome plated and mirror polished
- Chrome vanadium

1"

	L mm	kg	
911.1020	200.0	1.33	
911.1040	400.0	2.35	

CHROME*plus*® Flexible head drive handle

- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- Ideal for difficult to access areas
- Protects ratchet and torque wrenches from overloading
- Burnished head
- Chrome plated and mirror polished
- Chrome vanadium

1"

	L mm	head,spare	kg	
918.1802	1050.0	918.1802-1	3.80	

Reversible ratchet

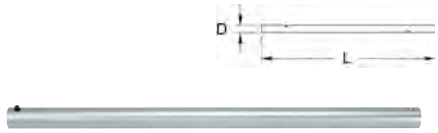
- According to DIN 3122 / ISO 3315
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- Reversing
- Exact gearing 24 teeth ratchet mechanism
- Lightweight recessed reverse lever
- Ideally suited for extreme loads
- Burnished head
- With handle
- Chrome plated and mirror polished
- Chrome vanadium

1"

	A mm	D mm	L mm	Replacement handle bar	Repair set	kg	
911.1019	35.0	70.0	210.0	911.1021	911.1099	1.97	

Universal handle

- With ball lock
- For manual operation
- Matt finish
- Chrome vanadium



1"

	D mm	L mm	kg	
911.1021	28.0	540.0	2.55	

CLASSIC Socket set

- 6 point
- Matt finish
- Chrome vanadium
- Robust 24 teeth ratchet mechanism
- In durable steel storage case

1"

			kg	
911.0815	15 pcs	36 - 41 - 46 - 50 - 55 - 60 - 65 - 70 - 75 - 80 mm	29.00	
911.0822	22 pcs	36 - 38 - 41 - 46 - 50 - 54 - 55 - 58 - 60 - 63 - 65 - 67 - 70 - 71 - 75 - 77 - 80 mm	43.50	

SOCKETS

Manufacturing and fabrication steps

Raw material blank cutting

Forging of the blank socket with square drive and socket profile

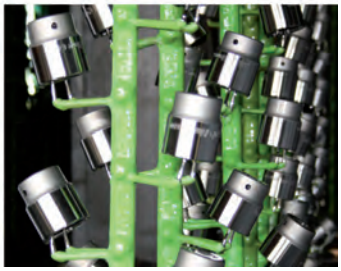
Dressing the socket size

Amti slip ground

Knurling

Hardening and tempering

Galvanizing preprocessing

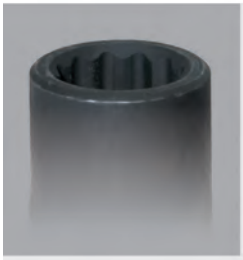


Outside profiles

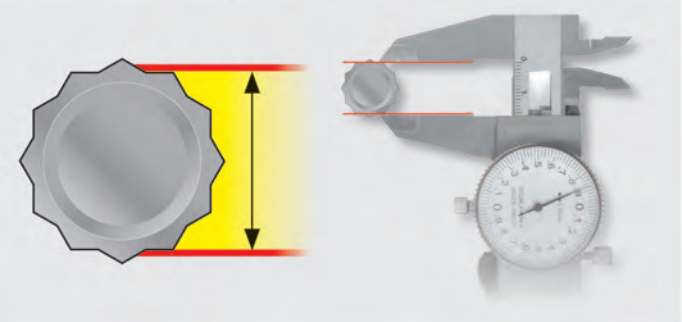
Flank Traction hexagonal

- The recessed corners typical of this profile ensure that the corners are protected and that the force is applied in the area of the flank.
- Use even for bolts or nuts which are not 100% in shape or which are damaged.
- Good pressure distribution
- Bolt head is protected

Flank Traction 12 point



- Universal profile for 12 point bolt and nut drives, but can also be used for hexagonal applications.
- In order to be able to determine the correct wrench size, the nut or bolt has to be measured from flat to flat using the calliper gauge as for a pure hexagon (see figure).



E-TORX®

- This profile is regarded as a further development of the cross-head and hex. socket.
- A typical characteristics is the six-point star shape with rounded tips.
- No come-out effect thanks to the vertical application of the drive forces
- Optimum power transmission
- T = Internal profile

Inside profiles

Hexagonal socket

- Recognisable from the typical hexagonal form of the blade.
- Old proven wrench profile which is frequently used where access to the bolt heads is difficult due to the design.
- In order to be able to use the wrench blade properly, any soiling in the driver profile has to be removed.

TORX®

- This profile is regarded as a further development of the cross-head and hex. socket.
- A typical characteristics is the six-point star shape with rounded tips.
- No come-out effect thanks to the vertical application of the drive forces
- Optimum power transmission
- T = Internal profile
- E = External profile

XZN®

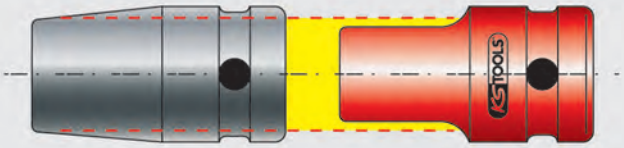
- This profile is recognisable from the 12 tips arranged in a star shape.
- The recess of the bolt heads consists of three squares and not 2 hexagons, hence the English name „triple square bolts“.
- Thanks to the squares, the teeth form an angle of 90° instead of the 120° with a hexagon.
- In order to be able to use the slightly tapered wrench blade properly, any soiling in the driver profile has to be removed.

Ribe®

- Special profile with 6 tapered splines arranged in a star which are also suitable for transmission of high torques.
- The profile is frequently used where access to the bolt heads is difficult due to the design.
- In order to be able to use the wrench blade properly, any soiling in the driver profile has to be removed.

TORX® = Registered trademark of Camcar/Textron, Texas
RIBE® = Registered trademark of Richard Berger
XZN® = Registered trademark of Bauer-Schaurte

Lean form



Standard design

KS Tools design - thin-walled

KS Tools power sockets are thin-walled and can therefore be easily used even where space is at a premium. Different lengths are also available, depending on the application.

Drive profiles

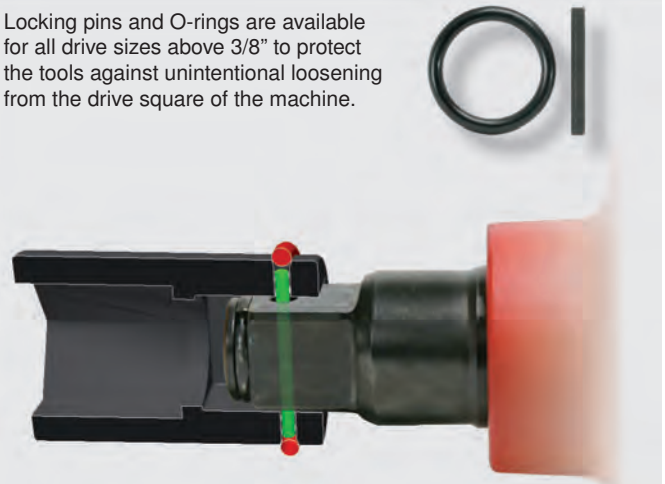
- 1/4” inside square
- 3/8” inside square
- 1/2” inside square
- 3/4” inside square
- 1” inside square

Tools of chrome molybdenum

The tools are characterised by particularly high elasticity when used with pneumatic or electrically driven machines. They are perfectly designed for machine use with minimum risk of breakage even with high force application. The surfaces of these tools are phosphated and should therefore be oiled as additional protection against corrosion.

Loosening protection

Locking pins and O-rings are available for all drive sizes above 3/8” to protect the tools against unintentional loosening from the drive square of the machine.



SPIRAL PROFILE SOCKETS

Everyone in the workshop has been faced at least once in his day-to-day work with the tiresome problem of worn and rounded bolt and nut heads. Not only the fact that it can be very irritating to have to loosen such bolted connections, but also the additional time taken can become a cost problem with respect to the repair costing. It is then very difficult to explain the additional costs for the repair to the customer. KS Tools spiral profile sockets have been specifically developed to overcome such problems. The success of the application is achieved by the tapered special profile with aggressive spiral grooves. The new and aggressive groove design grips the bolt or nut tightly all round so that a positive bond is formed between socket and head. The more powerful the drive, the more effectively the special profile grips the head. The loosened bolts or nuts are then removed from the impact wrench-proof special nut using a driver mandrel.

1/2“ ACCESSORIES

Impact extension

- Square drive adaptor to DIN 3121 / ISO 1174 with ball lock
- Internal square drive to DIN 3121 / ISO 1174
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1/2"

	L mm	D mm	g	
515.1134	75.0	25.0	220	
515.1135	125.0	25.0	425	
515.1136	250.0	25.0	440	

Impact universal ball joint

- Square drive adaptor to DIN 3121 / ISO 1174 with ball lock
- Internal square drive to DIN 3121 / ISO 1174
- Suspension
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1/2"

	L mm	D mm	g	
515.1133	67.0	28.0	170	

Impact adaptor

- Square drive adaptor to DIN 3121 / ISO 1174 with ball lock
- Internal square drive to DIN 3121 / ISO 1174
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1/2"

	□	■	L mm	D mm	g	
515.1143	1/2“	3/8“	38.0	25.0	72	
515.1144	1/2“	3/4“	48.0	30.0	165	

O-Ring

- For impact drivers and impact sockets
- For safeguard

1/2"

	for sockets mm	D mm	B mm	g	
515.1137	6-12	19.0	4.0	10	
515.1138	15-32	24.0	4.0	12	

Connection pin

- For impact drivers and impact sockets
- For safeguard

1/2"

	for sockets mm	D mm	L mm	g	
515.1141	6-12	3.0	20.0	10	
515.1142	15-32	3.0	26.0	14	

Impact adaptor and reducing adaptor set

- Ideal set of compilation for adaptors and ball joints
- Chrome molybdenum
- In durable plastic case

1/4" 3/8" 1/2" 3/4"

			kg	
515.0100	9 pcs	Impact adaptor and reducing adaptor set	2.50	

consists of:

		g	
515.1133	1/2" Impact universal joint with suspension, 67 mm	170	
515.1143	1/2" Impact adapter, F 1/2" x 3/8" M	72	
515.1144	1/2" Impact adapter, F 1/2" x 3/4" M	165	
515.1372	3/4" Impact adaptor, F 3/4" x 1/2" M	325	
515.1374	3/4" Impact universal joint with suspension, 108 mm	700	
515.1530	1/4" Impact adaptor, F 1/4" x 3/8" M	16	
515.1531	3/8" Impact sockets adapter, F 3/8" x 1/4" M	20	
515.1532	3/8" Impact sockets adapter, F 3/8" x 1/2" M	62	
515.1533	3/8" Impact universal joint with suspension, 51 mm	105	

1/2“ SOCKETS

Hexagon impact socket

- 6 point
- According to DIN 3129 / ISO 2725-2
- Internal square drive to DIN 3121 / ISO 1174
- Short execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1/2"

	mm		L mm	D1 mm	D2 mm	T mm	g	
515.1008	8,0		78.0	15.0	25.0	12.0	160	
515.1009	9,0		78.0	16.0	25.0	12.0	160	
515.1010	10,0		78.0	17.0	25.0	12.0	160	
515.1011	11,0		78.0	18.0	25.0	13.0	160	
515.1012	12,0		78.0	20.0	25.0	14.0	180	
515.1013	13,0		78.0	21.0	25.0	14.0	180	
515.1014	14,0		78.0	22.0	25.0	14.0	210	
515.1015	15,0		78.0	23.0	30.0	16.0	210	
515.1016	16,0		78.0	25.0	30.0	16.0	220	
515.1017	17,0		78.0	26.0	30.0	17.0	220	
515.1018	18,0		78.0	27.0	30.0	18.0	220	
515.1019	19,0		78.0	28.0	30.0	20.0	220	
515.1020	20,0		78.0	30.0	30.0	20.0	220	
515.1021	21,0		78.0	31.0	30.0	22.0	230	
515.1022	22,0		78.0	32.0	30.0	22.0	230	
515.1023	23,0		78.0	33.0	30.0	24.0	230	
515.1024	24,0		78.0	35.0	30.0	24.0	310	
515.1025	25,0		78.0	36.0	30.0	24.0	340	
515.1026	26,0		78.0	37.0	30.0	27.0	340	
515.1027	27,0		78.0	38.0	30.0	27.0	410	
515.1028	28,0		78.0	40.0	30.0	27.0	410	
515.1029	29,0		78.0	40.0	30.0	27.0	410	
515.1030	30,0		78.0	42.0	30.0	30.0	410	
515.1031	31,0		78.0	43.0	30.0	30.0	410	
515.1032	32,0		78.0	45.0	30.0	32.0	430	
515.0040		3/8“	38.0	17.0	25.0	6.0	70	
515.0041		7/16“	38.0	19.0	25.0	8.0	70	
515.0042		1/2“	38.0	21.0	25.0	8.0	75	
515.0043		9/16“	38.0	23.0	25.0	8.0	80	
515.0044		5/8“	38.0	25.0	30.0	9.0	115	
515.0045		11/16“	38.0	27.0	30.0	9.0	120	
515.0046		3/4“	38.0	28.0	30.0	10.0	120	
515.0047		13/16“	38.0	30.0	30.0	12.0	120	
515.0048		7/8“	38.0	32.0	30.0	12.0	130	
515.0049		15/16“	38.0	34.0	30.0	14.0	135	
515.0050		1“	40.0	36.0	30.0	14.0	140	
515.0051		1.1/16“	43.0	38.0	30.0	14.0	180	
515.0052		1.1/8“	43.0	40.0	30.0	16.0	200	
515.0053		1.1/4“	43.0	44.0	30.0	18.0	220	
515.0054		1.5/16“	46.0	45.0	30.0	18.0	230	

12 point impact socket

- 12 point
- Internal square drive to DIN 3121 / ISO 1174
- Short execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1/2"

	mm	L mm	D1 mm	D2 mm	T mm	g	
515.0910	10,0	38.0	17.0	25.0	6.0	100	
515.0911	11,0	38.0	18.0	25.0	7.0	100	
515.0912	12,0	38.0	19.0	25.0	7.0	100	
515.0913	13,0	38.0	21.0	25.0	8.0	100	
515.0914	14,0	38.0	22.0	25.0	8.0	100	
515.0915	15,0	38.0	23.0	30.0	9.0	140	
515.0916	16,0	38.0	25.0	30.0	9.0	140	
515.0917	17,0	38.0	26.0	30.0	10.0	140	
515.0918	18,0	38.0	27.0	30.0	10.0	140	
515.0919	19,0	38.0	28.0	30.0	12.0	140	
515.0920	20,0	38.0	30.0	30.0	12.0	140	
515.0921	21,0	38.0	31.0	30.0	13.0	150	
515.0922	22,0	38.0	32.0	30.0	14.0	150	
515.0923	23,0	43.0	33.0	30.0	14.0	160	
515.0924	24,0	43.0	35.0	30.0	16.0	160	

Spiral profile socket

- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Rejuvenating special profile with aggressive spiral nut
- For turning off of screws with rounded or turned heads
- Bites firmly to give a firm connection between stuck nut and head
- Phosphate finish
- Chrome molybdenum

1/2"

	mm	L mm	g	
913.1469	12,0	34.0	40	
913.1468	13,0	34.0	50	
913.1467	14,0	34.0	70	
913.1466	15,0	34.0	70	
913.1465	17,0	34.0	70	
913.1249	19,0	34.0	90	
913.1250	20,0	34.0	110	
913.1463	21,0	34.0	90	
913.1252	22,0	34.0	120	
913.1253	23,0	34.0	130	
913.1462	24,0	34.0	110	
913.1255	25,0	34.0	150	
913.1461	27,0	34.0	110	

Hexagon impact socket, deep

- 6 point
- Internal square drive to DIN 3121 / ISO 1174
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1/2"

	mm	L mm	D1 mm	D2 mm	T mm	g	
515.1108	8,0	78.0	15.0	25.0	12.0	160	
515.1109	9,0	78.0	16.0	25.0	12.0	160	
515.1110	10,0	78.0	17.0	25.0	12.0	160	
515.1111	11,0	78.0	18.0	25.0	13.0	160	
515.1112	12,0	78.0	17.0	25.0	14.0	160	
515.1113	13,0	78.0	21.0	25.0	14.0	180	
515.1114	14,0	78.0	22.0	25.0	14.0	180	
515.1115	15,0	78.0	23.0	30.0	15.0	210	
515.1116	16,0	78.0	25.0	30.0	16.0	210	
515.1117	17,0	78.0	26.0	30.0	17.0	220	
515.1118	18,0	78.0	27.0	30.0	18.0	220	
515.1119	19,0	78.0	29.0	30.0	20.0	220	
515.1120	20,0	78.0	30.0	30.0	20.0	220	
515.1121	21,0	78.0	31.0	30.0	22.0	220	
515.1122	22,0	78.0	32.0	30.0	22.0	230	
515.1123	23,0	78.0	33.0	30.0	24.0	230	
515.1124	24,0	78.0	35.0	30.0	24.0	310	
515.1125	25,0	78.0	36.0	30.0	24.0	340	
515.1126	26,0	78.0	37.0	30.0	27.0	340	
515.1127	27,0	78.0	38.0	30.0	27.0	410	
515.1128	28,0	78.0	40.0	30.0	27.0	410	
515.1129	29,0	78.0	41.0	30.0	27.0	410	
515.1130	30,0	78.0	42.0	30.0	30.0	410	
515.1131	31,0	78.0	43.0	30.0	31.0	410	
515.1132	32,0	78.0	45.0	30.0	32.0	430	

TX E impact socket, deep

- TX E
- Internal square drive to DIN 3121 / ISO 1174
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1/2"

	mm	L mm	D1 mm	D2 mm	T mm	g	
515.1051	E10	75.0	13.0	22.0	8.0	150	
515.1052	E11	75.0	14.0	22.0	21.0	150	
515.1053	E12	75.0	16.0	22.0	21.0	150	
515.1054	E14	75.0	16.0	22.0	18.0	170	
515.1055	E16	75.0	19.0	22.0	20.0	180	
515.1056	E18	75.0	20.0	22.0	19.0	200	
515.1057	E20	75.0	24.0	22.0	20.0	240	
515.1058	E22	75.0	26.0	24.0	34.0	280	
515.1059	E24	75.0	28.0	26.0	21.0	320	

Hexagon impact socket set, deep

- 6 point
- According to DIN 3129 / ISO 2725-2
- Internal square drive to DIN 3121 / ISO 1174
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum
- Includes storage rail

1/2"

			kg	
515.0103	3 pcs	17 - 19 - 21 mm	0.86	

Hexagon impact socket set

- 6 point
- According to DIN 3129 / ISO 2725-2
- Internal square drive to DIN 3121 / ISO 1174
- Short execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum
- In durable plastic case

1/2"

			kg	
515.0112	12 pcs	Hexagon impact socket set	2.40	

consists of:

		g	
515.1010	1/2" Hexagon impact socket, 10mm	160	
515.1011	1/2" Hexagon impact socket, 11mm	160	
515.1013	1/2" Hexagon impact socket, 13mm	180	
515.1014	1/2" Hexagon impact socket, 14mm	210	
515.1017	1/2" Hexagon impact socket, 17mm	220	
515.1019	1/2" Hexagon impact socket, 19mm	220	
515.1021	1/2" Hexagon impact socket, 21mm	230	
515.1022	1/2" Hexagon impact socket, 22mm	230	
515.1023	1/2" Hexagon impact socket, 23mm	230	
515.1024	1/2" Hexagon impact socket, 24mm	310	
515.1133	1/2" Impact universal joint with suspension, 67 mm	170	
515.1135	1/2" Impact extensions, 125 mm	425	

Hexagon impact socket set, deep

- 6 point
- According to DIN 3129 / ISO 2725-2
- Internal square drive to DIN 3121 / ISO 1174
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum
- On a magnetic storage rail

1/2"

			kg	
515.0612	13 pcs	Hexagon impact socket set, deep	2.69	
10 x		12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 21 - 22 mm		
1 x		1/2"		
1 x		125 mm		

12 Point impact socket set

- 12 point
- Internal square drive to DIN 3121 / ISO 1174
- Short execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum
- In durable plastic case

1/2"

			kg	
515.0900	13 pcs	10 - 12 - 13 - 14 - 15 - 16 - 17 - 19 - 20 - 21 - 22 - 23 - 24 mm	2.80	

Impact socket set

- Internal square drive to DIN 3121 / ISO 1174
- Short execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum
- In durable plastic case

1/2"

			kg	
515.1050	9 pcs	E10 - E11 - E12 - E14 - E16 - E18 - E20 - E22 - E24	1.97	

Spiral profile socket set

- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Rejuvenating special profile with aggressive spiral nut
- For turning off of screws with rounded or turned heads
- Bites firmly to give a firm connection between stuck nut and head
- Drive out pin
- Phosphate finish
- In durable plastic case

1/2"

			g	
913.1240	6 pcs	Spiral profile socket set	690	

consists of:

913.1249	1/2" Spiral-Profile-Socket, 19 mm	90	
913.1250	1/2" Spiral-Profile-Socket, 20 mm	110	
913.1252	1/2" Spiral-Profile-Socket, 22 mm	120	
913.1253	1/2" Spiral-Profile-Socket, 23 mm	130	
913.1255	1/2" Spiral-Profile-Socket, 25 mm	150	

Spiral profile socket set

- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Rejuvenating special profile with aggressive spiral nut
- For turning off of screws with rounded or turned heads
- Bites firmly to give a firm connection between stuck nut and head
- Drive out pin
- Phosphate finish
- Chrome molybdenum
- In durable plastic case

1/4" 1/2"

			kg	
913.1460	15 pcs	Spiral profile socket set	1.10	

consists of:

913.1408	1/4" Spiral profile socket, 8 mm	40	
913.1410	1/4" Spiral profile socket, 10 mm	40	
913.1412	1/4" Spiral profile socket, 12 mm	40	
913.1461	1/2" Spiral-Profile-Socket, 27 mm	110	
913.1462	1/2" Spiral-Profile-Socket, 24 mm	110	
913.1463	1/2" Spiral-Profile-Socket, 21 mm	90	
913.1465	1/2" Spiral-Profile-Socket, 17 mm	70	
913.1466	1/2" Spiral-Profile-Socket, 15 mm	70	
913.1467	1/2" Spiral-Profile-Socket, 14 mm	70	
913.1468	1/2" Spiral-Profile-Socket, 13 mm	50	
913.1470	1/4" Spiral-Profile-Socket, 11 mm	40	
913.1473	1/4" Spiral-Profile-Socket, 6 mm	40	
913.1474	Extraction drive small	10	
913.1475	Extraction drive large	58	
913.1249	1/2" Spiral-Profile-Socket, 19 mm	90	

Aluminium wheel impact socket, deep

- Specially for the wheel assembly and/or dismantling
- 6 point
- Internal square drive to DIN 3121 / ISO 1174
- Long execution
- For machinery usage
- Plastic sleeves for the damage-free work on aluminium rims
- Plastic sleeve it protects the surfaces at the wheel screws/ nuts
- Plastic sleeves interchangeable
- Colour coded identifies the socket size
- Phosphate finish
- Chrome molybdenum

1/2"

	Colour code	mm	L mm	D1 mm	D2 mm	T mm	Replacement sleeves	g	
515.1072		15,0	85.0	21.0	25.0	23.0	515.2053	180	
515.1073		17,0	85.0	24.0	30.0	23.0	515.2050	220	
515.1075		19,0	85.0	26.0	30.0	23.0	515.2051	240	
515.1076		21,0	85.0	28.0	30.0	23.0	515.2052	270	
515.1077		22,0	85.0	30.0	32.0	23.0	515.2054	320	

Aluminium wheel impact socket set, deep

- Specially for the wheel assembly and/or dismantling
- 6 point
- Internal square drive to DIN 3121 / ISO 1174
- For machinery usage
- Plastic sleeves for the damage free work on aluminium rims
- Plastic sleeves interchangeable
- Colour coded identifies the socket size
- Chrome molybdenum
- In durable plastic case

1/2"

			kg	
515.1070	3 pcs	17 - 19 - 21 mm	0.78	

1/2" BIT SOCKETS

Impact universal bit socket for internal hexangonal screws

- Hexagon socket
- Internal square drive to DIN 3121 / ISO 1174
- Suspension
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1/2"

	mm	L1 mm	L2 mm	D mm	g	
911.0966	6,0	75.0	39.0	28.0	170	
911.0967	7,0	75.0	39.0	28.0	170	
911.0968	8,0	75.0	39.0	28.0	170	
911.0970	10,0	75.0	39.0	28.0	180	
911.0972	12,0	75.0	39.0	28.0	180	
911.0974	14,0	75.0	39.0	28.0	190	
911.0977	17,0	75.0	39.0	28.0	210	
911.0979	19,0	75.0	39.0	28.0	230	

Impact bit socket for hexagon screws, long

- Hexagon socket
- Internal square drive to DIN 3121 / ISO 1174
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1/2"

	mm	L mm	D mm	g	
911.0925	5,0	75.0	25.0	90	
911.0926	6,0	75.0	25.0	92	
911.0927	8,0	75.0	25.0	102	
911.0928	10,0	75.0	25.0	130	
911.0929	12,0	75.0	25.0	136	
911.0930	14,0	75.0	25.0	136	
911.0931	17,0	75.0	25.0	140	
911.0932	19,0	75.0	25.0	210	

Impact socket for TX® screws, long

- TX
- Internal square drive to DIN 3121 / ISO 1174
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1/2"

		L mm	D mm	g	
911.0915	T30	75.0	25.0	100	
911.0916	T40	75.0	25.0	105	
911.0917	T45	75.0	25.0	110	
911.0918	T50	75.0	25.0	133	
911.0919	T55	75.0	25.0	145	
911.0920	T60	75.0	25.0	160	
911.0921	T70	75.0	25.0	180	
911.0922	T80	75.0	25.0	200	

Impact socket for RIBE® screws, long

- For RIBE® screws
- Internal square drive to DIN 3121 / ISO 1174
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1/2"

		L mm	D mm	g	
911.0935	M5	75.0	25.0	90	
911.0936	M6	75.0	25.0	90	
911.0937	M7	75.0	25.0	90	
911.0938	M8	75.0	25.0	90	
911.0939	M9	75.0	25.0	90	
911.0940	M10	75.0	25.0	100	
911.0941	M12	75.0	25.0	110	
911.0942	M13	75.0	25.0	120	
911.0943	M14	75.0	25.0	130	

Impact bit socket for spline(XZN®) screws

- Spline (XZN®)
- Internal square drive to DIN 3121 / ISO 1174
- Short execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1/2"

		L mm	D mm	T mm	g	
515.1171	M14	45.0	25.0	20.0	110	
515.1173	M16	45.0	25.0	20.0	120	
515.1175	M18	45.0	25.0	20.0	130	

Impact bit socket for spline(XZN®) screws

- Spline (XZN®)
- Internal square drive to DIN 3121 / ISO 1174
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1/2"

		L mm	D mm	T mm	g	
515.1172	M14	75.0	25.0	50.0	150	
515.1174	M16	75.0	25.0	50.0	170	
515.1176	M18	75.0	25.0	50.0	190	

Impact bit socket for spline(XZN®) screws, long

- Spline (XZN®)
- Internal square drive to DIN 3121 / ISO 1174
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1/2"

		L mm	D mm	T mm	g	
911.0945	M4	75.0	25.0	45.0	90	
911.0946	M5	75.0	25.0	45.0	90	
911.0947	M6	75.0	25.0	45.0	90	
911.0948	M8	75.0	25.0	45.0	90	
911.0949	M9	75.0	25.0	45.0	100	
911.0950	M10	75.0	25.0	45.0	100	
911.0951	M12	75.0	25.0	45.0	110	
911.0952	M14	75.0	25.0	45.0	130	
911.0953	M16	75.0	25.0	45.0	150	

Impact universal bit socket set

- Hexagon socket
- Internal square drive to DIN 3121 / ISO 1174
- Suspension
- For machinery usage
- Phosphate finish
- Chrome molybdenum
- In durable plastic case

1/2"

			g	
911.0960	6 pcs	8 - 10 - 12 - 14 - 17 - 19 mm	1.48	
911.0965	4 pcs	6 - 7 - 8 - 10 mm	1.03	

Impact bit socket set for TX screws, long

- TX
- Internal square drive to DIN 3121 / ISO 1174
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum
- In durable plastic case

1/2"

			kg	
911.0901	8 pcs	T30 - T40 - T45 - T50 - T55 - T60 - T70 - T80	1.05	

Impact bit socket set for RIBE® screws, long

- RIBE®
- Internal square drive to DIN 3121 / ISO 1174
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum
- In durable plastic case

1/2"

			kg	
911.0934	9 pcs	M5 - M6 - M7 - M8 - M9 - M10 - M12 - M13 - M14	1.10	

Impact bit socket set for spline(XZN®) screws

- Spline (XZN®)
- Internal square drive to DIN 3121 / ISO 1174
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum
- In durable plastic case

1/2"

			kg	
911.0944	9 pcs	M 4 - M 5 - M 6 - M 8 - M 9 - M10 - M12 - M14 - M16	1.14	

Impact bit socket set for spline (XZN®) screws, long

- Ideal set compilation for motor vehicles
- Spline (XZN®)
- Internal square drive to DIN 3121 / ISO 1174
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1/2" 3/4"

			kg	
515.1160	7 pcs	Impact bit socket set for spline (XZN®) screws, long	1.05	

consists of:

		g	
515.1161	1/2" impact socket, XZN, M14 small	110	
515.1162	1/2" impact socket, XZN, M14 large	150	
515.1163	1/2" impact socket, XZN, M16 small	120	
515.1164	1/2" impact socket, XZN, M16 large	170	
515.1165	1/2" impact socket, XZN, M18 small	130	
515.1166	1/2" impact socket, XZN, M18 large	190	
515.1167	3/4" Impact socket, 24mm	280	

3/4" ACCESSORIES

Impact extension

- Square drive adaptor to DIN 3121 / ISO 1174 with ball lock
- Internal square drive to DIN 3121 / ISO 1174
- For machinery usage
- Phosphate finish
- Chrome molybdenum

3/4"

	L mm	D mm	g	
515.1375	90.0	44.0	500	
515.1376	100.0	44.0	540	
515.1377	150.0	44.0	750	
515.1378	175.0	44.0	850	
515.1379	200.0	44.0	950	
515.1381	250.0	44.0	1110	

Impact universal ball joint

- Square drive adaptor to DIN 3121 / ISO 1174
- Internal square drive to DIN 3121 / ISO 1174
- Suspension
- For machinery usage
- Phosphate finish
- Chrome molybdenum

3/4"

	L mm	D mm	g	
515.1374	108.0	44.0	700	

Impact socket adapter

- Square drive adaptor to DIN 3121 / ISO 1174 with ball lock
- Internal square drive to DIN 3121 / ISO 1174
- For machinery usage
- Phosphate finish
- Chrome molybdenum

3/4"

	□	■	L mm	D mm	g	
515.1372	3/4"	1/2"	56.0	44.0	325	
515.1373	3/4"	1"	63.0	44.0	450	

O-Ring

- For impact drivers and impact sockets
- For safeguard

3/4"

	for sockets mm	D mm	g	
515.1382	17 - 49	36.0	10	
515.1383	50 - 70	46.0	12	

Connection pin

- For impact drivers and impact sockets
- For safeguard

3/4"

	for sockets mm	D mm	L mm	g	
515.1384	17 - 49	4.0	36.0	10	
515.1385	50 - 70	4.0	46.0	14	

3/4" SOCKETS

Hexagon impact socket

- 6 point
- According to DIN 3129 / ISO 2725-2
- Internal square drive to DIN 3121 / ISO 1174
- Short execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

3/4"

	mm		L mm	D1 mm	D2 mm	T mm	g	
515.1317	17,0		50.0	30.0	44.0	7.0	230	
515.1318	18,0		50.0	31.0	44.0	7.0	230	
515.1319	19,0		50.0	33.0	44.0	9.0	230	
515.1320	20,0		50.0	34.0	44.0	11.0	240	
515.1321	21,0		50.0	35.0	44.0	11.0	240	
515.1322	22,0		50.0	36.0	44.0	14.0	250	
515.1323	23,0		50.0	38.0	44.0	14.0	250	
515.1324	24,0		50.0	39.0	44.0	14.0	250	
515.1325	25,0		50.0	40.0	44.0	14.0	270	
515.1326	26,0		50.0	41.0	44.0	14.0	270	
515.1327	27,0		53.0	43.0	44.0	14.0	280	
515.1328	28,0		53.0	44.0	44.0	15.0	320	
515.1329	29,0		53.0	45.0	44.0	15.0	320	
515.1330	30,0		53.0	46.0	44.0	15.0	370	
515.1331	31,0		53.0	48.0	44.0	15.0	380	
515.1332	32,0		56.0	49.0	44.0	15.0	380	
515.1333	33,0		56.0	51.0	44.0	18.0	410	
515.1334	34,0		56.0	51.0	44.0	18.0	410	
515.1335	35,0		56.0	53.0	44.0	18.0	470	
515.1336	36,0		56.0	54.0	44.0	18.0	470	
515.1337	37,0		57.0	55.0	44.0	18.0	470	
515.1338	38,0		57.0	57.0	44.0	18.0	470	
515.1341	41,0		57.0	60.0	44.0	22.0	590	
515.1346	46,0		62.0	66.0	44.0	24.0	770	
515.1350	50,0		72.0	71.0	54.0	30.0	970	
515.1355	55,0		74.0	78.0	54.0	30.0	1250	
515.1360	60,0		75.0	84.0	54.0	30.0	1600	
515.1365	65,0		78.0	88.0	54.0	33.0	1650	
515.1370	70,0		83.0	96.0	54.0	35.0	1920	
515.1386		13/16"	52.0	32.0	38.0	11.0	240	
515.1387		7/8"	52.0	34.0	38.0	11.0	250	
515.1388		15/16"	52.0	36.0	38.0	13.0	250	
515.1389		1"	52.0	38.0	38.0	13.0	260	
515.1390		1.1/16"	52.0	40.0	40.0	16.0	280	
515.1391		1.1/8"	52.0	42.0	42.0	16.0	330	
515.1392		1.1/4"	52.0	46.0	44.0	16.0	370	
515.1393		1.5/16"	56.0	48.0	44.0	18.0	410	
515.1394		1.3/8"	56.0	50.0	44.0	18.0	440	
515.1395		1.7/16"	56.0	52.0	44.0	18.0	450	
515.1396		1.1/2"	56.0	53.0	44.0	18.0	460	
515.1397		1.5/8"	62.0	58.0	44.0	23.0	590	
515.1398		1.11/16"	62.0	64.0	44.0	23.0	700	
515.1399		1.3/4"	62.0	65.0	44.0	23.0	750	
515.1401		1.7/8"	68.0	68.0	44.0	27.0	790	
515.1402		2"	72.0	71.0	54.0	30.0	880	

www.kstools.com

Hexagon impact socket, deep

- 6 point
- Internal square drive to DIN 3121 / ISO 1174
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

3/4"

	mm	L mm	D1 mm	D2 mm	T mm	g
515.1417	17,0	90.0	30.0	44.0	12.0	390
515.1418	18,0	90.0	31.0	44.0	12.0	590
515.1419	19,0	90.0	33.0	44.0	12.0	600
515.1420	20,0	90.0	34.0	44.0	12.0	610
515.1421	21,0	90.0	35.0	44.0	12.0	630
515.1422	22,0	90.0	37.0	44.0	19.0	640
515.1423	23,0	90.0	38.0	44.0	19.0	640
515.1424	24,0	90.0	39.0	44.0	19.0	640
515.1425	25,0	90.0	40.0	44.0	19.0	640
515.1426	26,0	90.0	41.0	44.0	19.0	650
515.1427	27,0	90.0	43.0	44.0	19.0	650
515.1428	28,0	90.0	44.0	44.0	19.0	650
515.1429	29,0	90.0	45.0	44.0	19.0	660
515.1430	30,0	90.0	46.0	44.0	19.0	680
515.1431	31,0	90.0	48.0	44.0	19.0	730
515.1432	32,0	90.0	49.0	44.0	19.0	740
515.1433	33,0	90.0	51.0	44.0	19.0	770
515.1434	34,0	90.0	51.0	44.0	19.0	790
515.1435	35,0	90.0	53.0	44.0	19.0	820
515.1436	36,0	90.0	54.0	44.0	19.0	840
515.1437	37,0	90.0	55.0	44.0	19.0	860
515.1438	38,0	90.0	56.0	44.0	19.0	880
515.1441	41,0	90.0	60.0	44.0	56.0	970
515.1446	46,0	90.0	66.0	44.0	56.0	1260
515.1450	50,0	90.0	71.0	54.0	56.0	1650

Hexagon impact socket, extra deep

- 6 point
- Internal square drive to DIN 3121 / ISO 1174
- Extra long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

3/4"

	mm	L mm	D1 mm	D2 mm	T mm	kg
515.1182	27,0	270.0	42.0	44.0	27.0	1.09
515.1183	30,0	270.0	46.0	44.0	30.0	1.14
515.1184	32,0	270.0	49.0	44.0	32.0	1.16
515.1191	27,0	400.0	42.0	44.0	27.0	1.25
515.1192	30,0	400.0	46.0	44.0	30.0	1.32
515.1193	32,0	400.0	49.0	44.0	32.0	1.36
515.1194	33,0	400.0	50.0	44.0	32.0	1.38

Special impact 12-point socket, deep

- 12-point
- Internal square drive to DIN 3121 / ISO 1174
- Ideally for the dismantling and/or assembly of cylinder head screws in commercial vehicles
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

Application range: Mercedes Benz, MAN, etc.

3/4"

	mm	L mm	g
455.0010	17,0	110.0	570
455.0011	19,0	110.0	600

Impact socket for TX screws, deep

- TX
- Internal square drive to DIN 3121 / ISO 1174
- Ideally for the dismantling and/or assembly of cylinder head screws in commercial vehicles
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

Application range: Mercedes Benz, MAN, etc.

3/4"

		L mm	g
455.0012	E18	110.0	620
455.0013	E20	110.0	670
455.0081	E28	90.0	556

Hexagon impact socket set

- 6 point
- Internal square drive to DIN 3121 / ISO 1174
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum
- In durable metal case

3/4"

			kg
515.0510	8 pcs	24 - 27 - 29 - 30 - 32 - 33 - 34 - 36 mm	4.20

Hexagon impact socket set

- 6 point
- According to DIN 3129 / ISO 2725-2
- Internal square drive to DIN 3121 / ISO 1174
- Short execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum
- In durable plastic case

3/4"

			kg
515.0208	8 pcs	26 - 27 - 29 - 30 - 32 - 35 - 36 - 38 mm	3.50

3/4" BIT SOCKETS

Impact bit socket, hexagon

- Hexagon socket
- Internal square drive to DIN 3121 / ISO 1174
- Short execution
- For machinery usage
- Matt finish
- Chrome molybdenum

3/4"

	mm	L mm	D mm	g
515.0001	14,0	60.0	40.0	140
515.0002	17,0	60.0	40.0	280
515.0003	19,0	60.0	40.0	340
515.0004	21,0	60.0	40.0	340
515.0005	22,0	60.0	40.0	340
515.0006	24,0	60.0	40.0	340

Impact bit socket for spline(XZN®) screws

- Spline (XZN®)
- Internal square drive to DIN 3121 / ISO 1174
- Short execution
- For machinery usage
- Matt finish
- Chrome molybdenum

3/4"

		L mm	D mm	g
515.0012	M16	60.0	40.0	270
515.0013	M18	60.0	40.0	270

Impact bit socket for hexagon screws, long

- Hexagon socket
- Internal square drive to DIN 3121 / ISO 1174
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

3/4"

	mm	L mm	D mm	g	
450.0461	17,0	140.0	44.0	672	
450.0462	19,0	140.0	44.0	686	
450.0463	22,0	140.0	44.0	710	
450.0464	24,0	140.0	44.0	760	

Impact socket for TX® screws, long

- For TX screws
- Internal square drive to DIN 3121 / ISO 1174
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

3/4"

		L mm	D mm	g	
450.0441	T60	140.0	44.0	630	
450.0442	T70	140.0	44.0	650	
450.0443	T80	140.0	44.0	656	
450.0444	T90	140.0	44.0	666	
450.0445	T100	140.0	44.0	680	

Impact bit socket for TX E screws, long

- TX E
- Internal square drive to DIN 3121 / ISO 1174
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

3/4"

		L mm	D mm	g	
450.0451	E18	140.0	44.0	672	
450.0452	E20	140.0	44.0	692	
450.0453	E22	140.0	44.0	700	
450.0454	E24	140.0	44.0	748	

Impact bit socket set

- Hexagon
- Internal square drive to DIN 3121 / ISO 1174
- Short execution
- For machinery usage
- Matt finish
- Chrome molybdenum
- In durable steel storage case

3/4"

			kg	
515.0000	6 pcs	14 - 17 - 19 - 21 - 22 - 24 mm	2.52	

Impact bit socket set

- TX and Spline
- Internal square drive to DIN 3121 / ISO 1174
- Short execution
- For machinery usage
- Matt finish
- Chrome molybdenum
- In durable steel storage case

3/4"

			kg	
515.0010	6 pcs	Impact bit socket set	2.20	

consists of:

		g	
515.0012	3/4" impact bit socket XZN, M16	270	
515.0013	3/4" impact bit socket XZN, M18	270	
515.0016	3/4" impact bit socket, TX, T70	270	
515.0017	3/4" impact bit socket, TX, T80	270	
515.0018	3/4" impact bit socket, TX, T90	280	
515.0019	3/4" impact bit socket, TX, T100	290	

Impact interchangeable bit set

- For machinery usage
- Phosphate finish
- Chrome molybdenum
- In durable plastic storage case

3/4" 1"

			kg	
450.0420	16 pcs	Impact interchangeable bit set	6.00	

consists of:

		g	
450.0422	Impact bit socket hex adaptor, 17mm	360	
450.0423	Impact bit socket hex adaptor, 19mm	370	
450.0425	Impact bit socket hex adaptor, 22mm	380	
450.0426	Impact bit socket hex adaptor, 24mm	460	
450.0427	Impact bit socket TX adaptor, T60	330	
450.0428	Impact bit socket TX adaptor, T70	330	
450.0429	Impact bit socket TX adaptor, T80	340	
450.0430	Impact bit socket TX adaptor, T90	350	
450.0431	Impact bit socket TX adaptor, T100	360	
450.0433	Impact bit socket TX E adaptor, E18	470	
450.0434	Impact bit socket TX E adaptor, E20	340	
450.0435	Impact bit socket TX E adaptor, E22	370	
450.0436	Impact bit socket TX E adaptor, E24	390	
450.0437	3/4" impact bit socket adaptor, 22mm	260	
450.0438	1" impact bit socket adaptor, 22mm	500	

1" ACCESSORIES

Impact extension

- Square drive adaptor to DIN 3121 / ISO 1174
- Internal square drive to DIN 3121 / ISO 1174
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1"

	L mm	D mm	kg	
515.1804	175.0	54.0	1.45	
515.1806	250.0	54.0	1.58	
515.1807	300.0	54.0	1.96	

Impact universal ball joint

- Square drive adaptor to DIN 3121 / ISO 1174
- Internal square drive to DIN 3121 / ISO 1174
- Suspension
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1"

	L mm	D mm	kg	
515.1801	130.0	54.0	1.38	

Impact adaptor

- Square drive adaptor to DIN 3121 / ISO 1174 with ball lock
- Internal square drive to DIN 3121 / ISO 1174
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1"

	□	■	L mm	D mm	kg
515.1798	1"	3/4"	75.0	54.0	0.57
515.1799	1"	1.1/2"	82.0	54.0	1.00

1" SOCKETS

Hexagon impact socket

- 6 point
- According to DIN 3129 / ISO 2725-2
- Internal square drive to DIN 3121 / ISO 1174
- Short execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1"

	mm		L mm	D2 mm	D1 mm	T mm	kg
515.1722	22,0		58.0	51.0	39.0	12.0	0.51
515.1724	24,0		58.0	54.0	42.0	14.0	0.51
515.1727	27,0		58.0	54.0	46.0	14.0	0.52
515.1729	29,0		60.0	54.0	48.0	16.0	0.53
515.1730	30,0		60.0	54.0	49.0	16.0	0.53
515.1731	31,0		60.0	54.0	51.0	16.0	0.56
515.1732	32,0		61.0	54.0	60.0	19.0	0.59
515.1733	33,0		61.0	54.0	54.0	19.0	0.62
515.1734	34,0		61.0	54.0	54.0	19.0	0.64
515.1736	36,0		65.0	54.0	57.0	19.0	0.67
515.1737	37,0		65.0	54.0	58.0	19.0	0.67
515.1738	38,0		65.0	54.0	59.0	20.0	0.68
515.1740	40,0		65.0	54.0	62.0	23.0	0.87
515.1741	41,0		65.0	54.0	63.0	23.0	0.92
515.1742	42,0		65.0	54.0	63.0	23.0	0.98
515.1746	46,0		74.0	54.0	69.0	23.0	1.00
515.1750	50,0		74.0	54.0	74.0	26.0	1.07
515.1755	55,0		85.0	54.0	81.0	28.0	1.44
515.1760	60,0		89.0	54.0	87.0	31.0	1.78
515.1765	65,0		93.0	54.0	93.0	32.0	1.80
515.1770	70,0		98.0	54.0	99.0	35.0	2.04
515.1775	75,0		100.0	86.0	106.0	40.0	3.48
515.1780	80,0		100.0	86.0	112.0	47.0	4.10
515.1785	85,0		102.0	86.0	119.0	47.0	4.80
515.1790	90,0		107.0	86.0	124.0	47.0	5.10
515.1795	95,0		107.0	86.0	131.0	50.0	5.25
515.1891		1"	58.0	51.0	42.0	14.0	0.52
515.1892		1.1/4"	60.0	51.0	51.0	16.0	0.61
515.1893		1.7/16"	62.0	52.0	56.0	20.0	0.64
515.1894		1.1/2"	62.0	52.0	58.0	22.0	0.67
515.1895		1.5/8"	62.0	52.0	62.0	22.0	0.92
515.1896		1.13/16"	64.0	58.0	68.0	23.0	1.00
515.1897		1.7/8"	66.0	58.0	70.0	24.0	1.08
515.1898		2.1/4"	75.0	62.0	84.0	30.0	1.52

12 point impact socket

- 12 point
- Internal square drive to DIN 3121 / ISO 1174
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1"

	mm	L mm	T mm	kg
450.0405	55,0	75.0	40.0	1.23
450.0407	65,0	75.0	38.0	1.34

Hexagon impact socket

- 6 point
- Internal square drive to DIN 3121 / ISO 1174
- Extra thick walled / long centre execution
- For machinery usage
- Phosphate
- Chrome molybdenum

1"

	mm	L mm	D1 mm	D2 mm	T mm	
515.2124	24,0	76.0	38.0	52.0	13.0	570
515.2127	27,0	76.0	42.0	52.0	14.0	580
515.2130	30,0	76.0	45.0	52.0	18.0	620
515.2132	32,0	76.0	48.0	52.0	18.0	640
515.2133	33,0	76.0	49.0	52.0	18.0	650
515.2134	34,0	76.0	50.0	52.0	18.0	670
515.2136	36,0	76.0	54.0	52.0	20.0	690
515.2138	38,0	76.0	56.0	52.0	23.0	710
515.2141	41,0	80.0	59.0	52.0	23.0	720

Hexagon impact socket, deep

- 6 point
- Internal square drive to DIN 3121 / ISO 1174
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1"

	mm	L mm	D1 mm	D2 mm	T mm	kg
515.1822	22,0	90.0	39.0	51.0	16.0	0.71
515.1824	24,0	90.0	42.0	54.0	16.0	0.72
515.1827	27,0	90.0	46.0	54.0	19.0	0.80
515.1830	30,0	90.0	49.0	54.0	19.0	0.80
515.1832	32,0	90.0	52.0	54.0	19.0	0.91
515.1833	33,0	90.0	54.0	54.0	23.0	0.91
515.1834	34,0	90.0	54.0	54.0	23.0	0.95
515.1836	36,0	90.0	57.0	54.0	23.0	0.95
515.1838	38,0	90.0	59.0	54.0	23.0	0.99
515.1841	41,0	90.0	63.0	54.0	40.0	1.20
515.1846	46,0	100.0	69.0	54.0	40.0	1.36
515.1850	50,0	100.0	74.0	54.0	40.0	1.57
515.1855	55,0	100.0	81.0	54.0	52.0	1.95
515.1860	60,0	120.0	87.0	54.0	52.0	2.82
515.1865	65,0	120.0	93.0	54.0	60.0	3.15
515.1870	70,0	125.0	99.0	54.0	60.0	3.34
515.1875	75,0	125.0	105.0	54.0	60.0	4.43
515.1880	80,0	125.0	112.0	54.0	75.0	4.76
515.1885	85,0	135.0	119.0	54.0	75.0	5.80
515.1890	90,0	135.0	124.0	54.0	75.0	6.10

Hexagon torque impact socket, extra deep

- Ideal for controlled loosening of wheel screws and nuts with impact wrenches
- Internal square drive to DIN 3121 / ISO 1174
- Extra long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1"

	mm	max N-m	L mm	D mm	T mm	kg
515.1461	24,0	350	300.0	54.0	24.0	1.38
515.1462	27,0	350	300.0	54.0	27.0	1.40
515.1463	27,0	450	300.0	54.0	27.0	1.58
515.1464	30,0	500	300.0	54.0	30.0	1.56
515.1465	32,0	450	300.0	54.0	32.0	1.60
515.1466	32,0	550	300.0	54.0	32.0	1.60
515.1467	32,0	600	300.0	54.0	33.0	1.60
515.1468	33,0	550	300.0	54.0	33.0	1.64
515.1469	33,0	600	300.0	54.0	36.0	1.64

Impact socket set for light commercial hub nuts

- 6 point
- Internal square drive to DIN 3121 / ISO 1174
- Short and long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

			kg	
515.0305	2 pcs	515.1732, 32 mm + 515.1832, 32 mm, long	1.68	
515.0306	2 pcs	515.1733, 33 mm + 515.1833, 33 mm, long	1.68	

Hexagon impact socket set

- 6 point
- According to DIN 3129 / ISO 2725-2
- Internal square drive to DIN 3121 / ISO 1174
- Short execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum
- In durable steel storage case

			kg	
515.0610	8 pcs	27 - 29 - 30 - 32 - 33 - 34 - 36 - 38 mm	3.00	

Hexagon impact socket set, deep

- 6 point
- Internal square drive to DIN 3121 / ISO 1174
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum
- In durable steel storage case

			kg	
515.0308	8 pcs	24 - 27 - 30 - 32 - 33 - 34 - 36 - 38 mm	4.20	

1“ BIT SOCKETS

Impact bit socket for hexagon screws, long

- Hexagon socket
- Internal square drive to DIN 3121 / ISO 1174
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

	mm	L mm	D mm	g	
450.0491	17,0	145.0	51.0	992	
450.0492	19,0	145.0	51.0	1006	
450.0493	22,0	145.0	51.0	1030	
450.0494	24,0	145.0	51.0	1080	

The complete socket product range can be found in our general catalogue K11.

Impact socket for TX® screws, long

- TX
- Internal square drive to DIN 3121 / ISO 1174
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

		L mm	D mm	g	
450.0471	T60	145.0	51.0	950	
450.0472	T70	145.0	51.0	970	
450.0473	T80	145.0	51.0	976	
450.0474	T90	145.0	51.0	986	
450.0475	T100	145.0	51.0	1000	

Impact bit socket for TX E screws, long

- TX E
- Internal square drive to DIN 3121 / ISO 1174
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

		L mm	D mm	g	
450.0481	E18	145.0	51.0	992	
450.0482	E20	145.0	51.0	1012	
450.0483	E22	145.0	51.0	1020	
450.0484	E24	145.0	51.0	1068	

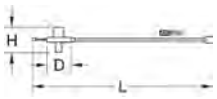
CONVERSION TABLE
FROM INCHES TO MILLIMETRES

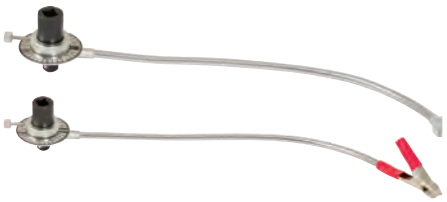
inch	mm	1	2	3	4	5	6	7	8	9
		Millimetres								
0	0	25,400	50,800	76,200	101,600	127,000	152,400	177,800	203,200	228,600
1/64	0,397	25,797	51,197	76,597	101,997	127,397	152,797	178,197	203,597	228,997
1/32	0,794	26,194	51,594	76,994	102,394	127,794	153,194	178,594	203,994	229,394
3/64	1,191	26,591	51,991	77,391	102,791	128,191	153,591	178,991	204,391	229,791
1/16	1,588	26,988	52,388	77,788	103,188	128,588	153,988	179,388	204,788	230,188
5/64	1,984	27,384	52,784	78,184	103,584	128,984	154,384	179,784	205,184	230,584
3/32	2,381	27,781	53,181	78,581	103,981	129,381	154,781	180,181	205,581	230,981
7/64	2,778	28,178	53,578	78,978	104,378	129,778	155,178	180,578	205,978	231,378
1/8	3,175	28,575	53,975	79,375	104,775	130,175	155,575	180,975	206,375	231,775
9/64	3,572	28,972	54,372	79,772	105,172	130,572	155,972	181,372	206,772	232,172
5/32	3,969	29,369	54,769	80,169	105,569	130,969	156,369	181,769	207,169	232,569
11/64	4,366	29,766	55,166	80,566	105,966	131,366	156,766	182,166	207,566	232,966
3/16	4,762	30,162	55,562	80,962	106,362	131,762	157,162	182,562	207,962	233,362
13/64	5,159	30,559	55,959	81,359	106,759	132,159	157,559	182,959	208,359	233,759
7/32	5,556	30,956	56,356	81,756	107,156	132,556	157,956	183,356	208,756	234,156
15/64	5,953	31,353	56,753	82,153	107,553	132,953	158,353	183,753	209,153	234,553
1/4	6,35	31,750	57,150	82,550	107,950	133,350	158,750	184,150	209,550	234,950
17/64	6,747	32,147	57,547	82,947	108,347	133,747	159,147	184,547	209,947	235,347
9/32	7,144	32,544	57,944	83,344	108,744	134,144	159,544	184,944	210,344	235,744
19/64	7,541	32,941	58,341	83,741	109,141	134,541	159,941	185,341	210,741	236,141
5/16	7,938	33,338	58,738	84,138	109,538	134,938	160,338	185,738	211,138	236,538
21/64	8,334	33,734	59,134	84,534	109,934	135,334	160,734	186,134	211,534	236,934
11/32	8,731	34,131	59,531	84,931	110,331	135,731	161,131	186,531	211,931	237,331
23/64	9,128	34,528	59,928	85,328	110,728	136,128	161,528	186,928	212,328	237,728
3/8	9,525	34,925	60,325	85,725	111,125	136,525	161,925	187,325	212,725	238,125
25/64	9,922	35,322	60,722	86,122	111,522	136,922	162,322	187,722	213,122	238,522
13/32	10,319	35,719	61,119	86,519	111,919	137,319	162,719	188,119	213,519	238,919
27/64	10,716	36,116	61,516	86,916	112,316	137,716	163,116	188,516	213,916	239,316
7/16	11,112	36,512	61,912	87,312	112,712	138,112	163,512	188,912	214,312	239,712
29/64	11,509	36,909	62,309	87,709	113,109	138,509	163,909	189,309	214,709	240,109
15/32	11,906	37,306	62,706	88,106	113,506	138,906	164,306	189,706	215,106	240,506
31/64	12,303	37,703	63,103	88,503	113,903	139,303	164,703	190,103	215,503	240,903
1/2	12,7	38,100	63,500	88,900	114,300	139,700	165,100	190,500	215,900	241,300
33/64	13,097	38,497	63,897	89,297	114,697	140,097	165,497	190,897	216,297	241,697
17/32	13,494	38,894	64,294	89,694	115,094	140,494	165,894	191,294	216,694	242,094
35/64	13,891	39,291	64,691	90,091	115,491	140,891	166,291	191,691	217,091	242,491
9/16	14,288	39,688	65,088	90,488	115,888	141,288	166,688	192,088	217,488	242,888
37/64	14,684	40,084	65,484	90,884	116,284	141,684	167,084	192,484	217,884	243,284
19/32	15,081	40,481	65,881	91,281	116,681	142,081	167,481	192,881	218,281	243,681
39/64	15,478	40,878	66,278	91,678	117,078	142,478	167,878	193,278	218,678	244,078
5/8	15,875	41,275	66,675	92,075	117,475	142,875	168,275	193,675	219,075	244,475
41/64	16,272	41,672	67,072	92,472	117,872	143,272	168,672	194,072	219,472	244,872
21/32	16,669	42,069	67,469	92,869	118,269	143,669	169,069	194,469	219,869	245,269
43/64	17,066	42,466	67,866	93,266	118,666	144,066	169,466	194,866	220,266	245,666
11/16	17,462	42,862	68,262	93,662	119,062	144,462	169,862	195,262	220,662	246,062
45/64	17,859	43,259	68,659	94,059	119,459	144,859	170,259	195,659	221,059	246,459
23/32	18,256	43,656	69,056	94,456	119,856	145,256	170,656	196,056	221,456	246,856
47/64	18,653	44,053	69,453	94,853	120,253	145,653	171,053	196,453	221,853	247,253
3/4	19,05	44,450	69,850	95,250	120,650	146,050	171,450	196,850	222,250	247,650
49/64	19,447	44,847	70,247	95,647	121,047	146,447	171,847	197,247	222,647	248,047
25/32	19,844	45,244	70,644	96,044	121,444	146,844	172,244	197,644	223,044	248,444
51/64	20,241	45,641	71,041	96,441	121,841	147,241	172,641	198,041	223,441	248,841
13/16	20,638	46,038	71,438	96,838	122,238	147,638	173,038	198,438	223,838	249,238
53/64	21,034	46,434	71,834	97,234	122,634	148,034	173,434	198,834	224,234	249,634
27/23	21,431	46,831	72,231	97,631	123,031	148,431	173,831	199,231	224,631	250,031
55/64	21,828	47,228	72,628	98,028	123,428	148,828	174,228	199,628	225,028	250,428
7/8	22,225	47,625	73,025	98,425	123,825	149,225	174,625	200,025	225,425	250,825
57/64	22,622	48,022	73,422	98,822	124,222	149,622	175,022	200,422	225,822	251,222
29/32	23,019	48,419	73,819	99,219	124,619	150,019	175,419	200,819	226,219	251,619
59/64	23,416	48,816	74,216	99,616	125,016	150,416	175,816	201,216	226,616	252,016
15/16	23,812	49,212	74,612	100,012	125,412	150,812	176,212	201,612	227,012	252,412
61/64	24,209	49,609	75,009	100,409	125,809	151,209	176,609	202,009	227,409	252,809
31/32	24,606	50,006	75,406	100,806	126,206	151,606	177,006	202,406	227,806	253,206
63/64	25,003	50,403	75,803	101,203	126,603	152,003	177,403	202,803	228,203	253,603

ROTARY ANGLE DISCS

Rotary angle disc

- For fastening screws at an angle
- Device for angle regulated fastening with a torque wrench
- Flexible arm
- Range 0° - 360°
- Square drive adaptor to DIN 3120 - ISO 1174 with ball lock
- Optionally with a magnetic arm or claw arm





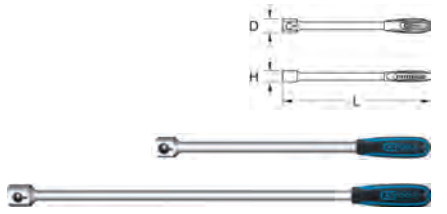
1/2" 3/4"

	□	■	Arm	Pitch	D mm	H mm	L mm	g
516.1195	1/2"	1/2"	Magnet	2°	67.0	63.0	480.0	170
516.1196	1/2"	1/2"	Claw	2°	67.0	63.0	538.0	60
516.1197	3/4"	3/4"	Magnet	2°	87.0	87.0	624.0	170
516.1198	3/4"	3/4"	Claw	2°	87.0	87.0	698.0	60

ERGOTORQUE® *basic* TORQUE WRENCH

ERGOTORQUE® *plus* universal wrench without torque function - with retangular tool holder

- Ideal for loosening jammed screw connections
- Can untighten without any torque restraint
- Made of solid material
- Two-component handle with a soft zone, is ergonomic in design and comfortable in the hand
- Snap lock tool holder available for replaceable 9x12 or 14x18 end tools



9x12 mm 14x18 mm

	□	L mm	D mm	H mm	g
516.4890	9 x 12	405.0	26.0	20.0	872
516.4895	14 x 18	635.0	28.0	26.0	1350

Insert type box wrench

- Square drive adaptor to DIN 3120 - ISO 1174 with ball lock

3/8" 1/2"

	□	■	L mm	g
516.1933	1/2"	1/2"	43.0	49
516.1943	1/2"	3/8"	43.0	48

ERGOTORQUE *BASIC* torque wrench with insert type ratchet head

- Actuation accuracy: ±3 % tolerance from the set scale value
- Precise reading accuracy for a minimum 5,000 tightening cycles
- For controlled fastening in clockwise and counter clockwise directions
- The direction of rotation (clockwise and counter clockwise) can be changed by simply rotating the square drive piece
- Double scale in N•m and lbf•ft divisions for precise adjustment
- Large vision panel, precise adjustment using a magnifying glass
- An audible and palpable signal when the desired torque value is achieved
- With exact gearing 30 teeth ratchet mechanism
- Torque setting is quick and easy using the locking knob in the handle end
- Secure locking function within the handle
- Two component handle with a soft zone, is ergonomic in design and comfortable in the hand
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- Individually marked with serial number-unique product identification
- Including test certificate in accordance with DIN EN ISO 6789 national standard

1/2"

	■	N•m	lbf•ft	Division N•m	L mm	D mm	H mm	kg
516.1932	1/2"	10-100	8-75	5.00	395.0	43.0	27.0	0.91
516.1942	1/2"	20-200	15-150	10.00	485.0	43.0	27.0	1.30
516.1972	1/2"	60-320	45-236	10.00	585.0	43.0	27.0	1.45

ERGOTORQUE® basic torque wrench with bag

- Actuation accuracy: ±3 % tolerance of the set scale value
- Precise reading accuracy for a minimum 5,000 tightening cycles
- For controlled fastening in clockwise and counter clockwise directions
- The direction of rotation (clockwise and counter clockwise) can be changed by simply rotating the square drive piece
- Double scale in N•m and lbf•ft divisions for precise adjustment
- Large vision panel, precise adjustment using a magnifying glass
- An audible and palpable signal when the desired torque value is achieved
- With exact gearing 30 teeth ratchet mechanism
- Torque setting is quick and easy using the locking knob in the handle end
- Secure locking function within the handle
- Two component handle with a soft zone, is ergonomic in design and comfortable in the hand
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- Individually marked with serial number - unique product identification
- Including test certificate in accordance with DIN EN ISO 6789 national standard

1/2"

			kg
516.1905	6 pcs	ERGOTORQUE®basic torque wrench with bag	2.50

consists of:

		kg
516.1942	1/2"Torque wrench,insert type ratchet head, 20-200Nm	1.30
516.1443	1/2" Rotary square box wrench	0.07
918.1202	1/2" CHROMEplus® extension, 125mm	0.18
918.1247	1/2" CHROMEplus® Hexagon socket, deep, 17mm	0.14
918.1249	1/2" CHROMEplus® Hexagon socket, deep, 19mm	0.15
918.1258	1/2" CHROMEplus® Hexagon socket, deep, 21mm	0.19

ERGOTORQUE® *precision* TORQUE WRENCH

ERGOTORQUE® *precision* torque wrench with rotary mushroom ratchet head

- Actuation accuracy: ±3 % tolerance of the set scale value
- Precise reading accuracy for a minimum 5.000 tightening cycles
- For controlled fastening in clockwise and counter clockwise directions
- Torque setting by pulling out and pushing in the slide in knob at the end of the handle
- The direction of rotation (clockwise and counter clockwise) can be changed by simply rotating the square drive piece
- Double scale in N•m and lbf•ft divisions for precise adjustment
- Includes micrometer scale in N•m divisions for precise and fine adjustment
- Large vision panel, precise adjustment using a magnifying glass
- An audible and palpable signal when the desired torque value is achieved
- Exact gearing 30 teeth ratchet mechanism
- Torque setting is quick and easy using the locking knob in the handle end
- Secure locking function within the handle
- Two component handle with a soft zone, is ergonomic in design and comfortable in the hand
- Square drive adaptor to DIN 3120 - ISO 1174 with ball lock
- Individually marked with serial number unique product identification
- Includes test certificate in accordance with DIN EN ISO 6789 national standard

1/4" 3/8" 1/2" 3/4" 1"

	■	N•m	Division N•m	lbf•ft	L mm	D mm	H mm	kg
516.1412	1/4"	1-25	0.10	0,8-18	289.0	35.0	18.0	0.46
516.1422	3/8"	5-50	0.25	4-37	350.0	45.0	23.0	0.61
516.1432	1/2"	10-100	0.50	8-75	412.0	45.0	23.0	0.91
516.1442	1/2"	20-200	1.00	15-150	500.0	45.0	23.0	1.30
516.1472	1/2"	60-320	1.00	45-236	585.0	45.0	23.0	1.45
516.1482	1/2"	80-420	1.00	60-310	678.0	45.0	23.0	2.10
516.1490	3/4"	100-550	1.00	75-405	960.0	69.0	33.0	3.80
516.1493	3/4"	200-750	10.00	150-550	1250.0	69.0	33.0	4.80
516.1495	1"	300-1000	20.00	220-730	1500.0	90.0	36.0	5.80

ERGOTORQUE® *precision* torque wrench 3/4", 200-750 Nm, with mushroom ratchet head 1"

- Actuation accuracy: ±3 % tolerance from the set scale value
- Precise reading accuracy for a minimum 5,000 tightening cycles
- For controlled fastening in clockwise and counter clockwise directions
- Torque setting by pulling out and pushing in the slide-in knob at the end of the handle
- The direction of rotation (clockwise and counter clockwise) can be changed by simply rotating the square drive piece
- Double scale in N•m and lbf•ft divisions for precise adjustment
- Including micrometer scale in N•m divisions for precise and fine adjustment
- Large vision panel, precise adjustment using a magnifying glass
- An audible and palpable signal when the desired torque value is achieved
- With exact gearing 30 teeth ratchet mechanism
- Torque setting is quick and easy using the locking knob in the handle end
- Secure locking function within the handle
- Two component handle with a soft zone, is ergonomic in design and comfortable in the hand
- Square drive to DIN 3120 / ISO 1174 with ball lock
- Individually marked with serial number - unique product identification
- Including test certificate in accordance with DIN EN ISO 6789 national standard

3/4" 1"

		■	N·m	lbf·ft	L mm	kg	
516.1497	2 pcs	3/4" + 1"	200 - 750	150 - 550	1250.0	5.18	

consists of:

		kg	
516.1493	3/4" Torque wrench,rotary mushroom ratchet head, 200-750Nm	4.80	
516.1496	1" Rotary square box wrench	0.38	

ERGOTORQUE® *precision* torque wrench with reversible ratchet head

- Actuation accuracy: ±3 % tolerance of the set scale value
- Precise reading accuracy for a minimum 5.000 tightening cycles
- For controlled fastening in a clockwise direction
- Can untighten without any torque restraint thanks to the anticlockwise latch
- Double scale in N•m and lbf•ft divisions for precise adjustment
- Includes micrometer scale in N•m divisions for precise and fine adjustment
- Large vision panel, precise adjustment using a magnifying glass
- An audible and palpable signal when the desired torque value is achieved
- With exact gearing 30 teeth ratchet mechanism
- With ejection mechanism on the ratchet head
- Torque setting is quick and easy using the locking knob in the handle end
- Secure locking function within the handle
- Two-component handle with a soft zone, is ergonomic in design and comfortable in the hand
- Square drive adaptor to DIN 3120-ISO 1174 with ball lock
- Individually marked with serial number-unique product identification
- Includes test certificate in accordance with DIN EN ISO 6789 national standard

1/4" 3/8" 1/2"

	■	N·m	lbf·ft	Division N·m	L mm	D mm	H mm	kg	
516.1512	1/4"	1-25	0,8 -18	0.10	289.0	35.0	18.0	0.46	
516.1522	3/8"	5-50	4-37	0.25	350.0	45.0	23.0	0.61	
516.1532	1/2"	10-100	8-75	0.50	412.0	45.0	23.0	0.91	
516.1542	1/2"	20-200	15-150	1.00	500.0	45.0	23.0	1.30	
516.1572	1/2"	60-320	45-236	1.00	585.0	45.0	23.0	1.45	
516.1582	1/2"	80-420	60-310	1.00	678.0	45.0	23.0	2.10	

ERGOTORQUE® *precision* torque wrench with retangular tool holder

- Actuation accuracy: ±3 % tolerance of the set scale value
- Precise reading accuracy for a minimum 5,000 tightening cycles
- For controlled fastening in clockwise and counter clockwise directions
- Easy to adjust from clockwise to counter clockwise by turning the torque wrench 180°
- Double scale in N•m and lbf•ft divisions for precise adjustment
- With additional micrometer scale in N•m divisions for precise and fine adjustment
- Large vision panel, precise adjustment using a magnifying glass
- An audible and palpable signal when the desired torque value is achieved
- Torque setting is quick and easy using the locking knob in the handle end
- Secure locking function within the handle
- Two-component handle with a soft zone, is ergonomic in design and comfortable in the hand
- Snap lock tool holder available for replaceable 9x12 or 14x18 end tools
- Individually marked with serial number-unique product identification
- Includes test certificate in accordance with DIN EN ISO 6789 national standard

9x12 mm 14x18 mm

	□	N·m	lbf·ft	Division N·m	L mm	L_1 mm	S_1 mm	kg
516.1612	9x12	1-25	0,8-18	0.10	280.0	245,0	17,5	0.30
516.1622	9x12	5-50	4-37	0.25	335.0	295,0	17,5	0.45
516.1632	9x12	10-100	8-75	0.50	375.0	335,0	17,5	0.60
516.1633	14x18	10-100	8-75	0.50	375.0	335,0	17,5	1.02
516.1642	9x12	20-200	15-150	1.00	465.0	425,0	17,5	0.85
516.1652	14x18	20-200	15-150	1.00	470.0	435,0	25,0	0.90
516.1672	14x18	60-320	45-236	1.00	565.0	530,0	25,0	1.20
516.1682	14x18	80-420	60-310	1.00	650.0	435,0	25,0	1.60

Rotary square box wrench

- Enables quick pre-fastening of the screw connections, especially in constrained spaces
- Simple to be used in place of the standard box wrench
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock

1/4" 3/8" 1/2" 3/4" 1"

	□	■	D mm	L mm	g	
516.1403	3/8"	1/4"	31.0	33.0	21	
516.1413	3/8"	3/8"	31.0	33.0	21	
516.1423	1/2"	3/8"	39.0	52.0	65	
516.1443	1/2"	1/2"	39.0	52.0	65	
516.1494	3/4"	3/4"	63.0	73.0	180	
516.1491	1"	3/4"	83.0	78.0	380	
516.1496	1"	1"	83.0	78.0	380	

T-handle box wrench

- Enables quick pre-fastening of the screw connections
- Especially for using in confined spaces
- Especially suitable for rapid screw tightening with the T-handle
- It is simply to be used in place of the standard box wrench
- Ergonomically shaped T-handle
- Square drive adaptor to DIN 3120 - ISO 1174 with ball lock

1/4" 3/8" 1/2"

	□	■	D mm	L mm	g	
516.1404	3/8"	1/4"	83.0	72.0	51	
516.1414	3/8"	3/8"	83.0	72.0	51	
516.1424	1/2"	3/8"	100.0	83.0	97	
516.1444	1/2"	1/2"	100.0	83.0	107	

TORQUE WRENCH WITH QUICK-SET FEATURE

Torque wrench with quick set feature, reversible

- Actuation accuracy: ±3 % tolerance of the set scale value
- Precise reading accuracy for a minimum 10.000 tightening cycles
- With idle condition, resetting to the minimum value (0) is not necessary
- For controlled fastening in a clockwise direction
- Can untighten without any torque restraint thanks to the anticlockwise latch
- Double scale in N•m and lbf•ft divisions for precise adjustment
- Large vision panel, precise adjustment using a magnifying glass
- An audible and palpable signal when the desired torque value is achieved
- With exact gearing 72 teeth ratchet mechanism
- Torque setting is simple and quick by sliding the scale using the knurled-head screw
- Secure locking function using the integrated hex screw
- Ergonomic handle designed for comfortable use
- Square drive adaptor to DIN 3120-ISO 1174 with ball lock
- Individually marked with serial number-unique product identification
- Includes test certificate in accordance with DIN EN ISO 6789 national standard

1/2" 3/4"

	■	N·m	lbf·ft	L mm	D mm	H mm	kg	
516.4522	1/2"	10-60	7,5-44	380.0	38.0	24.0	1.00	
516.4532	1/2"	20-100	15-70	450.0	38.0	24.0	1.20	
516.4542	1/2"	40-200	30-150	450.0	38.0	24.0	1.20	
516.4572	1/2"	60-350	45-260	590.0	38.0	24.0	1.45	
516.4590	3/4"	160-800	120-590	1140.0	70.0	37.0	6.70	
516.4595	3/4"	200-1000	150-750	1340.0	70.0	37.0	7.40	

Torque wrench with quick set feature and retangular tool holder

- Actuation accuracy: ±3 % tolerance of the set scale value
- Precise reading accuracy for a minimum 10.000 tightening cycles
- With idle condition, resetting to the minimum value (0) is not necessary
- For controlled fastening in clockwise and counter clockwise directions
- Easy to adjust from clockwise to counter clockwise by turning the torque wrench 180°
- Double scale in N•m and lbf•ft divisions for precise adjustment
- Large vision panel, precise adjustment using a magnifying glass
- An audible and palpable signal when the desired torque value is achieved
- Torque setting is simple and quick by sliding the scale using the knurled-head screw
- Secure locking function using the integrated hex screw
- Ergonomic handle designed for comfortable use
- Snap lock tool holder available for replaceable 9x12 or 14x18 end tools
- Individually marked with serial number-unique product identification
- Includes test certificate in accordance with DIN EN ISO 6789 national standard

9x12 mm | 14x18 mm

		N•m	lbf•ft	L mm	L mm	S mm	kg
516.4622	9x12	10-60	7,5-44	380.0	345,0	17,5	1.00
516.4632	9x12	20-100	15-70	445.0	410,0	17,5	1.10
516.4642	14x18	40-200	30-150	450.0	425,0	25,0	1.10
516.4672	14x18	60-350	45-260	580.0	560,0	25,0	1.40

PRECISION TORQUE TESTING INSTRUMENT WITH DIAL INDICATOR

Dial Torque wrench with a drag indicator

- Display accuracy: ±4 % tolerance of the set scale value
- Precise reading accuracy for a minimum 5.000 tightening cycles
- For controlled fastening in a clockwise and counter clockwise direction
- Display type torque wrench with dial indicator and drag indicator
- Double scale in N•m and lbf•ft divisions for precise adjustment
- Large vision panel for precise adjustment
- Ergonomic designed handle provides secure transmission of the torque
- Square drive adaptor to DIN 3120-ISO 1174 with ball lock
- Individually marked with serial number-unique product identification
- Includes test certificate in accordance with DIN EN ISO 6789 national standard

1/4" 3/8" 1/2" 3/4" 1"

		N•m	In•lb	lbf•ft	Division N•m	Division in•lb	Division lbf•ft	L mm	Signal	kg
516.3610	1/4"	0,7-3,5	6-30		0.10	1.0		270.0	-	0.73
516.3615	1/4"	1,8-9	15-75		0.20	1.0		270.0	-	0.73
516.3620	3/8"	3,6-18	30-150		0.50	2.0		270.0	-	0.73
516.3625	3/8"	6-30	50-250		0.50	5.0		270.0	-	0.73
516.3630	3/8"	14-70		10-50	2.00		1.0	270.0	-	0.73
516.3635	1/2"	50-250		34-170	5.00		5.0	560.0	-	1.40
516.3640	1/2"	70-350		50-250	10.00		5.0	560.0	-	1.40
516.3645	3/4"	96-480		70-350	10.00		10.0	675.0	-	3.20
516.3650	3/4"	160-800		120-600	25.00		10.0	1180.0	-	4.50
516.3655	1"	280-1400		200-1000	25.00		20.0	1970.0	+	9.00
516.3660	1"	560-2800		400-2000	50.00		40.0	3200.0	+	21.00

TORQUE WRENCH WITH CLOSE-GAP RELEASE

Torque wrench with close gap release

- Actuation accuracy: ±4 % tolerance of the set scale value
- Precise reading accuracy for a minimum 5.000 tightening cycles
- For controlled fastening in clockwise and counter clockwise directions
- The direction of rotation (clockwise and counter clockwise) can be changed by simply rotating the square drive piece
- Four fold scale in N•m, Kg•fm, lbf•in und lbf•ft divisions for precise adjustment
- An audible and palpable signal when the desired torque value is achieved
- Torque setting is easy by pulling out, adjusting and pushing in the winder in the handle
- Automatic reset in the initial position
- Ergonomic handle designed for comfortable use
- Square drive adaptor to DIN 3120-ISO 1174 with ball lock
- Individually marked with serial number unique product identification
- Includes test certificate in accordance with DIN EN ISO 6789 national standard

1/4" 3/8" 1/2" 3/4"

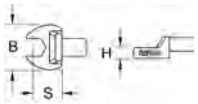
		N•m	lbf•ft	Division N•m	Division lbf•ft	L mm	kg
516.3510	3/8"	2,5-11	2-8	0.50	0.5	300.0	0.56
516.3515	3/8"	5-33	4-24	1.00	1.0	405.0	0.69
516.3520	3/8"	12-68	10-50	2.00	2.0	480.0	1.00
516.3525	1/2"	12-68	10-50	2.00	2.0	480.0	1.00
516.3530	1/2"	25-150	20-110	5.00	2.0	575.0	1.70
516.3535	1/2"	50-250	40-180	10.00	5.0	605.0	2.30
516.3540	1/2"	70-350	50-260	10.00	10.0	815.0	3.00
516.3545	3/4"	140-800	120-580	20.00	20.0	935.0	6.50
516.3550	1"	200-1000	150-750	25.00	25.0	1030.0	9.70
516.3555	1"	500-2000	350-1500	50.00	50.0	1400.0	18.00

PUSH FIT TOOLS

CAUTION:
The maximum torque loads of the push-fit tools are in line with DIN 899 and can be less than the maximum torque of the tool used.
*** Please note the changed values on the torque wrench!**

Push fit flared wrench

- With a locking pin
- Chrome plated

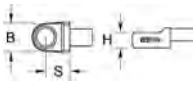


9x12 mm

		mm	S mm	B mm	H mm	g
516.2107	9 x 12	7	17,5	22.0	5.0	35
516.2108	9 x 12	8	17,5	22.0	5.0	35
516.2109	9 x 12	9	17,5	26.0	5.5	35
516.2110	9 x 12	10	17,5	26.0	5.5	35
516.2111	9 x 12	11	17,5	26.0	5.5	35
516.2112	9 x 12	12	17,5	30.0	7.0	35
516.2113	9 x 12	13	17,5	30.0	7.0	35
516.2114	9 x 12	14	17,5	35.0	8.0	40
516.2115	9 x 12	15	17,5	35.0	8.0	40
516.2116	9 x 12	16	20,0*	38.0	8.5	45
516.2117	9 x 12	17	20,0*	38.0	8.5	50
516.2118	9 x 12	18	20,0*	42.0	9.0	60
516.2119	9 x 12	19	20,0*	42.0	9.0	60

Push fit ring spanner (box wrench)

- With a locking pin
- Chrome plated

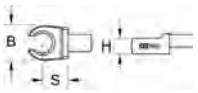


9x12 mm

		mm	S mm	B mm	H mm	g
516.2307	9 x 12	7	17,5	13.0	8.0	30
516.2308	9 x 12	8	17,5	14.2	8.0	30
516.2310	9 x 12	10	17,5	17.2	9.0	30
516.2311	9 x 12	11	17,5	18.5	9.0	30
516.2312	9 x 12	12	17,5	20.0	12.0	35
516.2313	9 x 12	13	17,5	21.5	12.0	35
516.2314	9 x 12	14	17,5	23.0	12.0	40
516.2315	9 x 12	15	17,5	24.2	12.0	40
516.2316	9 x 12	16	17,5	25.7	13.0	40
516.2317	9 x 12	17	17,5	27.2	13.0	40
516.2318	9 x 12	18	17,5	28.5	13.0	40
516.2319	9 x 12	19	17,5	30.3	13.0	40
516.2321	9 x 12	21	17,5	33.0	15.0	50
516.2322	9 x 12	22	17,5	34.5	15.0	50

Open push fit ring spanner (box wrench)

- With a locking pin
- Chrome plated

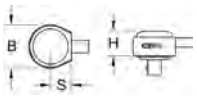


9x12 mm

			S mm	B mm		
516.2510	9 x 12	10	17,5	21.0	40	
516.2511	9 x 12	11	17,5	22.5	40	
516.2512	9 x 12	12	17,5	23.7	40	
516.2513	9 x 12	13	17,5	25.2	40	
516.2514	9 x 12	14	17,5	27.0	50	
516.2517	9 x 12	17	17,5	31.5	65	
516.2518	9 x 12	18	17,5	33.0	65	
516.2519	9 x 12	19	17,5	34.5	65	
516.2522	9 x 12	22	20,0*	39.0	65	

Push fit fine toothed reversible ratchet head

- With a locking pin
- Fine toothed
- With release feature
- Chrome plated



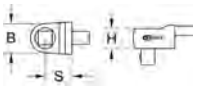
9x12 mm

1/4" 3/8" 1/2"

			S mm	B mm	H mm		
516.2614	9 x 12	1/4"	17,5	27.0	25.0	75	
516.2638	9 x 12	3/8"	17,5	35.0	35.0	152	
516.2612	9 x 12	1/2"	17,5	43.0	40.0	228	

Push fit square mount

- With a locking pin
- Chrome plated



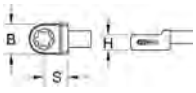
9x12 mm

1/4" 3/8" 1/2"

			S mm	B mm	H mm		
516.2814	9 x 12	1/4"	17,5	20.0	14.0	70	
516.2838	9 x 12	3/8"	17,5	20.0	14.0	76	
516.2812	9 x 12	1/2"	17,5	20.0	14.0	80	

TX-E push fit ring spanner (box wrench)

- With a locking pin
- Chrome plated

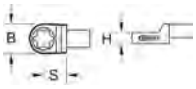


9x12 mm

			S mm	B mm	H mm	
516.3006	9 x 12	E 6	17,5	13.0	8.0	40
516.3008	9 x 12	E 8	17,5	14.2	8.0	45
516.3010	9 x 12	E 10	17,5	17.2	9.0	50
516.3012	9 x 12	E 12	17,5	18.5	9.0	50
516.3014	9 x 12	E 14	17,5	21.5	10.0	60

TX Push fit ring spanner (box wrench)

- With a locking pin
- Chrome plated

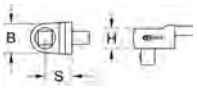


14x18 mm

			S mm	B mm	H mm	
516.3114	14 x 18	E 14	25,0	22.5	11.0	130
516.3118	14 x 18	E 18	25,0	24.0	11.0	135
516.3120	14 x 18	E 20	25,0	29.0	13.0	150
516.3124	14 x 18	E 24	25,0	30.5	13.0	150

Push fit square mount

- With a locking pin
- Chrome plated



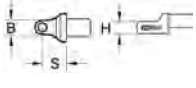
14x18 mm

1/2" 3/4"

			S mm	B mm	H mm	
516.2912	14 x 18	1/2"	25,0	27.0	18.0	210
516.2934	14 x 18	3/4"	25,0	40.0	25.0	400

Push fit bit holder

- With a locking pin
- Chrome plated



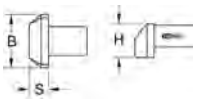
14x18 mm

5/16"

			S mm	B mm	H mm	
516.2020	14 x 18	5/16"	25,0	16.0	12.5	115

Push fit weld on head

- With a locking pin
- Burnished



14x18 mm

		Weld dimension mm	S mm	B mm	H mm	
516.2070	14 x 18	11 x 25	12,0	25.0	21.5	100

TORQUE CONVERTOR

Universal torque convertor

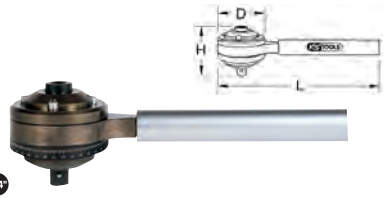
- Accuracy: ±5 % Tolerance
- For controlled fastening in clockwise and counter clockwise directions
- Device for angle regulated fastening with a torque wrench
- Single stage precision planetary gear for both directions
- Two support devices
- Square drive adaptor to DIN 3120 - ISO 1174 with ball lock
- Supplied in a metal storage case

1/2" 3/4" 1"

				Nm	Nm	D mm	L mm	H mm	kg
516.3700	1/2"	1 : 5	3/4"	260	1300	110.0	395.0	127.0	4.20
516.3705	3/4"	1 : 5	1"	540	2700	110.0	395.0	127.0	4.40

Torque convertor

- High accuracy: ±5 % Tolerance
- For controlled fastening in clockwise and counter clockwise directions
- Device for angle-regulated fastening with a torque wrench
- With anti-backlash mechanism
- Encapsulated precision planetary gearing
- With straight strut
- Housing with angle scale ring
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- In durable plastic case incl. spare anti/backlash mechanism



1/2" 3/4"

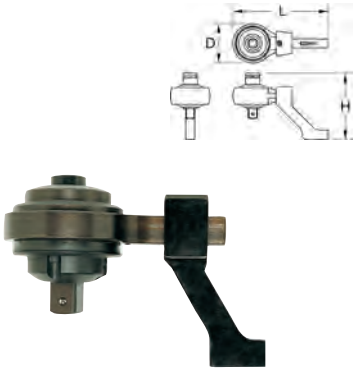
				Nm	Nm	D mm	L mm	H mm	kg
516.3740	1/2"	6:1	3/4"	280	1680	100.0	128.0	106.0	4.90

Accessories:

		kg
516.3742	Spare square for 516.3740	0.10
516.3743	Straight strut for 516.3740	1.00
516.3744	Extension for straight strut for 516.3740	1.17

Torque convertor

- High accuracy: ±5 % Tolerance
- For controlled fastening in clockwise and counter clockwise directions
- Device for angle-regulated fastening with a torque wrench
- With anti-backlash mechanism
- Encapsulated precision planetary gearing
- With adjustable angular strut
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- In durable plastic case incl. spare anti/backlash mechanism



3/4" 1"

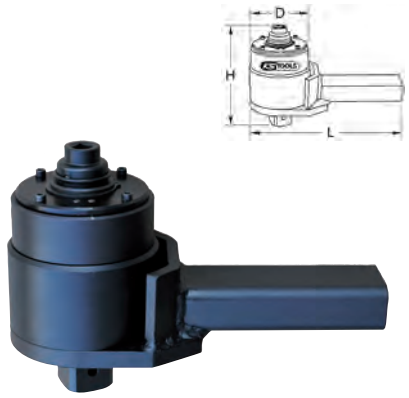
				→ Nm	← Nm	D mm	L mm	H mm	kg
516.3745	3/4"	5,4:1	1"	500	2700	115.0	201.0	126.0	6.34

Accessories:

		kg
516.3747	Spare square for 516.3745	0.24
516.3748	Angular strut for 516.3745	1.42

Torque convertor

- High accuracy: ±5 % Tolerance
- For controlled fastening in clockwise and counter clockwise directions
- Device for angle-regulated fastening with a torque wrench
- With anti-backlash mechanism
- Encapsulated precision planetary gearing
- With straight strut
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- In durable plastic case incl. spare anti/backlash mechanism

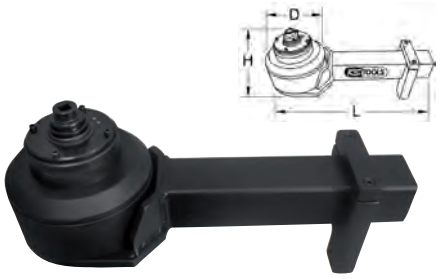


1/2" 1.1/2"

				→ Nm	← Nm	D mm	L mm	H mm	kg
516.3755	1/2"	20:1	1.1/2"	225	4500	120.0	312.0	204.8	8.30

Torque convertor

- High accuracy: ±5 % Tolerance
- For controlled fastening in clockwise and counter clockwise directions
- Device for angle-regulated fastening with a torque wrench
- With anti-backlash mechanism
- Encapsulated precision planetary gearing with backstop
- With adjustable strut
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- In durable plastic case incl. spare anti/backlash mechanism



1/2" 1.1/2"

				→ Nm	← Nm	D mm	L mm	H mm	kg
516.3765	1/2"	26:1	1.1/2"	365	9500	184.0	505.0	214.9	30.30

Accessories:

		kg
516.3767	Replacement shear pin for 516.3765	0.01

Torque convertor

- High accuracy: ±5 % Tolerance
- For controlled fastening in clockwise and counter clockwise directions
- Device for angle-regulated fastening with a torque wrench
- With anti-backlash mechanism
- Encapsulated precision planetary gearing
- Moving strut with 1" socket mounting
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- In durable plastic case incl. spare anti/backlash mechanism

3/4" 1"

				→ Nm	← Nm	D mm	L mm	H mm	kg
516.3750	3/4"	4,5:1	1"	770	3500	108.0	264.0	130.0	7.30

Accessories:

		g
516.3752	Spare square for 516.3750	280

Torque convertor

- High accuracy: ±5 % Tolerance
- For controlled fastening in clockwise and counter clockwise directions
- Device for angle-regulated fastening with a torque wrench
- With anti-backlash mechanism
- Encapsulated precision planetary gearing with backstop
- With adjustable strut
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- In durable plastic case incl. spare anti/backlash mechanism

1/2" 1.1/2"

				→ Nm	← Nm	D mm	L mm	H mm	kg
516.3760	1/2"	26:1	1.1/2"	230	6000	130.0	328.0	216.3	15.70

Accessories:

		kg
516.3762	Replacement shear pin for 516.3765	0.01

ELECTRONIC TORQUE TESTING INSTRUMENTS

Electronic workshop tester for torque wrenches, 5 - 500 N·m

- High display accuracy: +1 % tolerance of the scale values, +/- 1 digit
- For checking or adjusting torque wrenches and torque screwdrivers in the range from 5 to 500 N·m
- For controlled display in a clockwise and counter clockwise direction
- Simple electronic tester with integrated torsion transducer
- Digital scale in N·m divisions for precise adjustment
- Display mode: First Peak (detection of first peak)
- Large LCD display for clear reading of the values
- With automatic reset and automatic shutdown
- Simple and comfortable operating
- 1/4" + 3/8" + 1/2" + 3/4" square drive by means of square adaptor
- Individually marked with serial number - unique product identification
- Including test certificate in accordance with DIN EN ISO 6789 national standard
- No main power required – includes 4 x AA 1.5 V LR46 batteries
- Includes reinforcement screw
- In durable plastic storage case

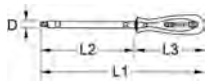
1/4" 3/8" 1/2" 3/4"

		L mm	B mm	H mm	Measuring range N·m	kg
516.0100	1/4" + 3/8" + 1/2" + 3/4"	180,0	130.0	147.0	5 - 500	4.82

4 SCREWDRIVERS

ERGOTORQUE® Square screwdriver

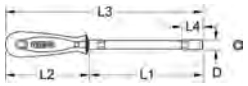
- Flexible blade with double spiral shaft
- Limited torque
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- Plastic protective coating
- One component handle
- With hanging hole



	D mm	L1 mm	L2 mm	L3 mm	L4 mm	g
911.1120	15.0	200.0	150.0	50.0	25.0	150

ERGOTORQUE® socket screwdriver

- 6 point
- Flexible
- Limited torque
- Double spiral shaft
- Plastic protective coating
- With hanging hole
- Chrome vanadium



	mm	D mm	L1 mm	L2 mm	L3 mm	L4 mm	g
911.1126	6	10.8	150.0	109.0	259.0	9.3	150
911.1127	7	11.7	150.0	109.0	259.0	10.0	200
911.1128	8	11.9	150.0	109.0	259.0	10.0	200
911.1125	10	12.5	170.0	109.0	279.0	14.3	250

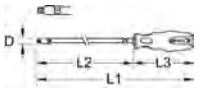
ERGOTORQUE® double ended blade set

- Double ended blades
- Includes screwdriver handle
- Interchangeable through clamping ring
- Hardened blade
- Matt finish
- Chrome vanadium
- In durable plastic storage case

			g
911.2400	9 pcs	ERGOTORQUE® double ended blade set	750
1 x			
1 x		5 x 6 mm	
1 x		PH1 x PH2	
1 x		PZ1 x PZ2	
2 x		3 x 4 mm - 5 x 6 mm	
3 x		T10 x T15 - T20 x T25 - T30 x T40	

ERGOTORQUE® square screwdriver, extra long

- Flexible blade with double spiral shaft
- Limited torque
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- Plastic protective coating
- Two component handle
- With hanging hole

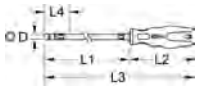


1/4"

	■	D mm	L1 mm	L2 mm	L3 mm	L4 mm	g
911.1171	1/4"	12,0	500.0	114.0	614.0	32.0	280

ERGOTORQUE® bit screwdriver, extra long

- Flexible blade with double spiral shaft
- Limited torque
- For bits to DIN 3126 / C 6,3
- Plastic protective coating
- Hanging hole

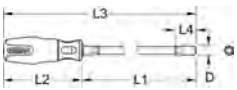


1/4"

	■	D mm	L1 mm	L2 mm	L3 mm	L4 mm	g
911.1172	1/4"	10,0	500.0	114.0	614.0	43.0	280

ERGOTORQUE*plus*® socket screwdriver, extra long

- 6 point
- Flexible
- Limited torque
- Double spiral shaft
- Plastic protective coating
- Two component handle
- With hanging hole
- Chrome vanadium



	mm	D mm	L1 mm	L2 mm	L3 mm	L4 mm	g
911.1175	5	11.9	500.0	114.0	614.0	8.9	270
911.1176	6	10.9	500.0	114.0	614.0	11.3	280
911.1177	7	11.7	500.0	114.0	614.0	11.3	280
911.1178	8	11.7	500.0	114.0	614.0	11.3	280

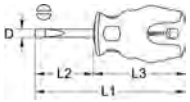
ERGOTORQUE® screwdriver set

- Flexible blade with double spiral shaft
- Limited torque
- Plastic protective coating
- Two component handle
- With hanging hole
- Contains also the most current 1/4" bits and sockets
- In display box

			kg
911.1180	16 pcs	ERGOTORQUE® screwdriver set	1.30
1 x		1/4"	
1 x		1/4"	
1 x		7 mm	
3 x		5 - 6 - 8 mm	
2 x		5.5 - 6.5 mm	
2 x		PH1 - PH2	
6 x		T10 - T15 - T20 - T25 - T27 - T30	

ERGOTORQUE*plus*® screwdriver for slotted screws, stubby

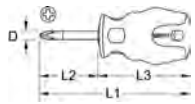
- DIN 5265
- Extra short blade
- Two component handle
- Optimal power transmission
- With hanging hole
- Hardened blade
- Chrome finish with burnished tips
- Blade made of chrome vanadium



	D mm	L1 mm	L2 mm	L3 mm	g
159.1001	6,0	98.0	38.0	60.0	40

ERGOTORQUE*plus*® screwdriver for phillips screws PH, stubby

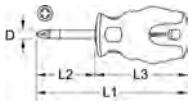
- DIN / ISO 8764
- Extra short blade
- Two component handle
- Optimal power transmission
- With hanging hole
- Hardened blade
- Chrome finish with burnished tips
- Blade made of chrome vanadium



	D	L1 mm	L2 mm	L3 mm	g
159.1026	PH2	98.0	38.0	60.0	40

ERGOTORQUE*plus*® screwdriver for phillips screws PZ, stubby

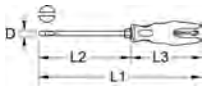
- DIN / ISO 8764
- Extra short blade
- Two component handle
- Optimal power transmission
- With hanging hole
- Hardened blade
- Chrome finish with burnished tips
- Blade made of chrome vanadium



	D	L1 mm	L2 mm	L3 mm	g	
159.1046	PZ2	98.0	38.0	60.0	40	

ERGOTORQUE*plus*® screwdriver for slotted screws

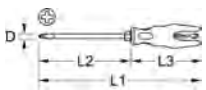
- DIN 5265
- Two component handle
- Hexagon drive
- Optimal power transmission
- With hanging hole
- Hardened blade
- Chrome finish with burnished tips
- Blade made of chrome vanadium



	D mm	L1 mm	L2 mm	L3 mm		g	
159.1002	3.0	155.0	75.0	80.0		40	
159.1003	4.0	155.0	75.0	80.0		40	
159.1004	4.0	180.0	100.0	80.0		50	
159.1005	5.5	205.0	100.0	105.0		50	
159.1006	5.5	230.0	125.0	105.0		50	
159.1007	5.5	255.0	150.0	105.0		60	
159.1008	6.5	230.0	125.0	105.0	●	60	
159.1009	6.5	255.0	150.0	105.0	●	90	
159.1010	8.0	265.0	150.0	115.0	●	130	
159.1011	8.0	315.0	200.0	115.0	●	150	
159.1012	10.0	315.0	200.0	115.0	●	180	
159.1013	10.0	365.0	250.0	115.0	●	190	

ERGOTORQUE*plus*® screwdriver for phillips screws PH

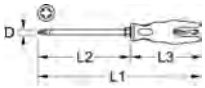
- DIN / ISO 8764
- Two component handle
- Hexagon drive
- Optimal power transmission
- With hanging hole
- Hardened blade
- Chrome finish with burnished tips
- Blade made of chrome vanadium

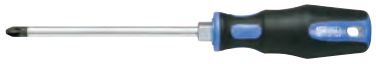


	D	L1 mm	L2 mm	L3 mm		g	
159.1027	PH0	180.0	75.0	105.0		30	
159.1020	PH1	180.0	75.0	105.0		40	
159.1029	PH1	205.0	100.0	105.0		70	
159.1021	PH2	205.0	100.0	105.0	●	70	
159.1022	PH2	230.0	125.0	105.0	●	80	
159.1023	PH2	255.0	150.0	105.0	●	90	
159.1028	PH2	305.0	200.0	105.0	●	110	
159.1024	PH3	265.0	150.0	115.0	●	130	
159.1025	PH3	315.0	200.0	115.0	●	150	

ERGOTORQUE*plus*® screwdriver for phillips screws PZ

- DIN / ISO 8764
- Two component handle
- Hexagon drive
- Optimal power transmission
- With hanging hole
- Hardened blade
- Chrome finish with burnished tips
- Blade made of chrome vanadium

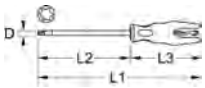




	D	L1 mm	L2 mm	L3 mm		g	
159.1047	PZ0	180.0	75.0	105.0		30	
159.1040	PZ1	180.0	75.0	105.0		30	
159.1049	PZ1	205.0	100.0	105.0		30	
159.1041	PZ2	205.0	100.0	105.0	●	30	
159.1042	PZ2	230.0	125.0	105.0	●	60	
159.1043	PZ2	255.0	150.0	105.0	●	60	
159.1048	PZ2	305.0	200.0	105.0	●	110	
159.1044	PZ3	365.0	150.0	115.0	●	130	
159.1045	PZ3	315.0	200.0	115.0	●	150	

ERGOTORQUE*plus*® screwdriver for TX screws

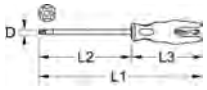
- Two component handle
- Optimal power transmission
- With hanging hole
- Hardened blade
- Chrome finish with burnished tips
- Blade made of chrome vanadium



	D	L1 mm	L2 mm	L3 mm	g	
159.1030	T8	205.0	100.0	105.0	50	
159.1031	T9	205.0	100.0	105.0	50	
159.1032	T10	205.0	100.0	105.0	50	
159.1033	T15	205.0	100.0	105.0	50	
159.1034	T20	205.0	100.0	105.0	50	
159.1035	T25	205.0	100.0	105.0	60	
159.1036	T27	205.0	100.0	105.0	60	
159.1037	T30	205.0	100.0	105.0	60	
159.1038	T40	205.0	100.0	105.0	80	

ERGOTORQUE*plus*® screwdriver for TX screws, tamperproof

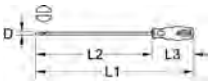
- Two component handle
- Optimal power transmission
- With hanging hole
- Hardened blade
- Chrome finish with burnished tips
- Blade made of chrome vanadium



	D	L1 mm	L2 mm	L3 mm	g	
159.1050	TB8	205.0	100.0	105.0	50	
159.1051	TB9	205.0	100.0	105.0	50	
159.1052	TB10	205.0	100.0	105.0	50	
159.1053	TB15	205.0	100.0	105.0	50	
159.1054	TB20	205.0	100.0	105.0	50	
159.1055	TB25	205.0	100.0	105.0	60	
159.1056	TB27	205.0	100.0	105.0	60	
159.1057	TB30	205.0	100.0	105.0	60	
159.1058	TB40	205.0	100.0	105.0	80	

ERGOTORQUE*plus*® screwdriver for slotted screws, extra long

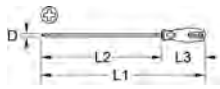
- DIN 5265
- Two component handle
- Optimal power transmission
- With hanging hole
- Hardened blade
- Chrome finish with burnished tips
- Blade made of chrome vanadium



	D mm	L1 mm	L2 mm	L3 mm	g	
159.1107	5.5	405.0	300.0	105.0	100	

ERGOTORQUE*plus*® screwdriver for phillips screws PH, extra long

- DIN / ISO 8764
- Two component handle
- Optimal power transmission
- With hanging hole
- Hardened blade
- Chrome finish with burnished tips
- Blade made of chrome vanadium



	D	L1 mm	L2 mm	L3 mm	g	
159.1128	PH2	405.0	300.0	105.0	100	

ERGOTORQUE*plus*® screwdriver set

- DIN/ISO 8764
- With two component handle
- With hexagon drive
- Optimal power transmission
- With hanging hole
- Hardened blade
- Chrome finish with burnished tips
- Blade made of chrome vanadium
- Supplied complete with clip strip

			kg	
159.0114	13 pcs	ERGOTORQUE*plus*® screwdriver set	1.42	

consists of:

		g	
159.1001	ERGOTORQUE+ screwdriver slot,short,6mm	40	
159.1002	ERGOTORQUE+ screwdriver slot,3mm,L=155mm	40	
159.1004	ERGOTORQUE+ screwdriver slot,4mm,L=180mm	50	
159.1005	ERGOTORQUE+ screwdriver slot,5,5mm,L=205mm	50	
159.1008	ERGOTORQUE+ screwdriver slot,6,5mm,L=230mm	60	
159.1010	ERGOTORQUE+ screwdriver slot,8mm,L=265mm	130	
159.1022	ERGOTORQUE+ screwdriver PH2,L=230mm	80	
159.1024	ERGOTORQUE+ screwdriver PH3,L=265mm	130	
159.1026	ERGOTORQUE+ screwdriver short, PH2	40	
159.1029	ERGOTORQUE+ screwdriver PH1,L=205mm	70	
159.1042	ERGOTORQUE+ screwdriver PZ2,L=230mm	60	
159.1049	ERGOTORQUE+ screwdriver PZ1,L=205mm	30	
159.0114-99	Aluminium tool holder	200	

ERGOTORQUE*plus*® screwdriver set

- Two component handle
- Optimal power transmission
- With hanging hole
- Hardened blade
- Chrome finish with burnished tips
- Blade made of chrome vanadium

159.0030	6 pcs	ERGOTORQUE*plus*® screwdriver set	580
6 x		T10 - T15 - T20 - T25 - T30 - T40	

ERGOTORQUE*plus*® screwdriver set

- Two component handle
- Optimal power transmission
- With hanging hole
- Hardened blade
- Chrome finish with burnished tips
- Blade made of chrome vanadium

159.0040	6 pcs	ERGOTORQUE*plus*® screwdriver set	580
6 x		TB10 - TB15 - TB20 - TB25 - TB30 - TB40	

ERGOTORQUE*plus*® socket screwdriver set

- 6 point
- Two component handle
- With hanging hole
- Matt finish
- Chrome vanadium

159.1200	8 pcs	ERGOTORQUE*plus*® socket screwdriver set	800
8 x		5 - 6 - 7 - 8 - 10 - 11 - 12 - 13 mm	

ERGOTORQUE®*max* hammer cap screwdriver set

- Two component handle
- Hexagon drive
- Includes T-handle ratchet
- Protective cap on the handle end
- Internal square drive adaptor to DIN 3120 / ISO 1174 in the hammer cap
- Ideal for usage with T-handle screwdriver drive and standard ratchet
- Optimal power transmission
- Hardened blade
- Chrome finish with burnished tips
- Blade made of chrome vanadium

151.1100	7 pcs	ERGOTORQUE®*max* hammer cap screwdriver set	0.98
4 x		3,5 - 4,5 - 5,5 - 7 mm	
2 x		PH1 - PH2	
1 x		1/4"	

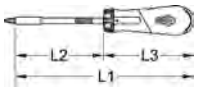
ERGOTORQUE®*max* hammer cap screwdriver set

- Two component handle
- Hexagon drive
- Includes T-handle ratchet
- Protective cap on the handle end
- Optimal power transmission
- Hardened blade
- Blade made of chrome vanadium
- In durable plastic storage case

151.1150	13 pcs	ERGOTORQUE®*max* hammer cap screwdriver set	2.70
5 x		3,5 - 5,5- 7 - 8 - 10 mm	
5 x		PH0 - PH1 - PH2 - PH3 - PH4	
1 x		6 mm	
1 x		PH2	
1 x		1/4"	

Revolver ratchet bit screwdriver

- Exact gearing with 72 teeth
- Ratchet function
- Handle with double function (standard and pistol handle)
- For bits to DIN 3126 / C 3,6
- Magnetic
- 40 Nm maximum torque
- Integrated bit magazine
- Two component handle
- Blade mirror polished chrome

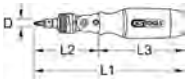


1/4"

		L1 mm	L2 mm	L3 mm	
159.2051	1/4"	260.0	130.0	130.0	450

Ratchet bit screwdriver

- Robust gearing with 24 teeth
- Ratchet function
- 180° multi ajustable blade
- For bits to DIN 3126 / C 6,3
- Magnetic
- Integrated bit magazine with 13 bits
- Ergonomically designed handle



		D mm	L1 mm	L2 mm	L3 mm	
911.2470	1/4"	10.0	190.0	82.0	108.0	380

Hand-impact screwdriver

- Reversing
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- 1/4 Revolution of the impact screwdriver through hammer blow (Parable mechanism)
- Optimal feed rate
- No slippage of the blade bit possible
- Ideal for loosening jammed screw connections
- Ideally suited for the automotive area
- Special steel

1/2"

		D mm	L mm	
515.1004	1/2"	35.0	135.0	950

Hand impact screwdriver set

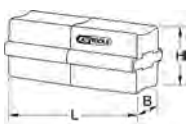
- Reversing
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- 1/4 Revolution of the impact screwdriver through hammer blow (Parable mechanism)
- Optimal feed rate
- No slippage of the blade bit possible
- Ideal for loosening jammed screw connections
- Ideally suited for the automotive area
- Includes the most current impact bits, impact bit adaptor
- Special steel
- In durable plastic storage case

1/2"

			kg
515.1003	11 pcs	Hand impact screwdriver set	1.00
1 x		1/2“	
1 x		1/2“	
6 x		5 - 6 - 8 - 10 - 12 - 14 mm	
3 x		PH1 - PH2 - PH3	

Magnetizer and demagnetizer

- Easy to use
- To magnetise by pulling the blade through
- To demagnetise by pulling the blade over the recess
- For screwdrivers, tweezers and similar tools made of steel
- Plastic housing



	B mm	H mm	L mm	g
550.1126	15.0	20.0	47.0	70

CLASSIC bit set

- External hexagon drive to DIN 3126 / ISO 1173 - C 6,3
- Can be used by hand or with and electric screwdriver
- Includes magnetic quick release bit holder and 1/4" socket adapter
- Practical belt holder
- Ideally suited for fittings in trade and industry
- Precise and orderly arrangement of the popular 1/4" bits
- Nickel plated
- Special steel
- In durable plastic storage case

1/4"

			kg
911.2060	32 pcs	CLASSIC bit set	0.30
1 x		1/4“	
1 x		1/4“	
3 x		PH1 - PH2 - PH3	
6 x		2 x PZ1 - 2 x PZ2 - 2 x PZ3	
3 x		5,5 - 6,5 - 8 mm	
3 x		4 - 5 - 6 mm	
15 x		2 x TB10 - 3 x TB15 - 2 x TB20 3 x TB25 - 3 x TB30 - 2 x TB40	

CHROME®*plus* bit set

- External hexagon drive to DIN 3126 / ISO 1173 - C 6,3
- Can be used by hand or with and electric screwdriver
- Colour coding
- Includes magnetic quick release bit holder and 1/4" socket adapter
- Ideally suited for fittings in trade and industry
- Practical belt holder
- Precise and orderly arrangement of the popular 1/4" bits
- Nickel plated
- Special steel
- Includes durable two component storage case

1/4"

			kg
918.2030	32 pcs	CHROME®*plus* bit set	0.32
1 x		1/4“	
1 x		1/4“	
4 x		3 - 4 - 5 - 6 mm	
4 x		PH1 - 2 x PH2 - PH3	
4 x		PZ1 - 2 x PZ2 - PZ3	
4 x		3 - 4 - 5 - 6 mm	
7 x		T10 - T15 - T20 - T25 - T27 - T30 T40	
7 x		TB10 - TB15 - TB20 - TB25 - TB27 TB30 - TB40	

CLASSIC bit set

- External hexagon drive to DIN 3126 / ISO 1173 - C 6,3
- Can be used by hand or with and electric screwdriver
- Includes bitholder and 1/4" socket adapter
- Ideally suited for fittings in trade and industry
- Orderly arrangement of the popular 1/4" bits
- Sand blasted
- Special steel
- In durable plastic storage case

1/4"

			kg
911.2026	100 pcs	CLASSIC bit set	0.75
1 x		60 mm	
2 x		25 - 50 mm	
1 x		1/4“	
1 x		1/4“	
9 x		3 - 4 - 4,5 - 5 - 5,5 - 6 - 6,5 - 7 - 8 mm	
8 x		PH0 - PH1 - 5 x PH2 - PH3	
8 x		PZ0 - PZ1 - 5 x PZ2 - PZ3	
9 x		1,5 - 2 - 2,5 - 3 - 4 - 5 - 5,5 - 6 - 8 mm	
10 x		1/16“ - 5/64“ - 3/32“ - 7/64“ - 1/8“ - 9/64“ - 5/32“ - 3/16“ - 7/32“ - 1/4“	
6 x		2 - 2,5 - 3 - 4 - 5 - 6 mm	
6 x		5/64“ - 3/32“ - 7/64“ - 1/8“ - 9/64“ - 5/32“	
9 x		T8 - T10 - T15 - T20 - T25 - T27 - T30 - T40 - T45	
9 x		TB8 - TB10 - TB15 - TB20 - TB25 - TB27 - TB30 - TB35 - TB40	
3 x		M5 - M6 - M8	
3 x		#1 - #2 - #3	
4 x		#1 - #2 - #3 - #4	
4 x		4 - 6 - 8 - 10 mm	
3 x		6 - 8 - 10 mm	
4 x		#0 - #1 - #2 - #3	

CHROME*plus*® bit set

- External hexagon drive to DIN 3126 / ISO 1173 - C 6,3
- Can be used by hand or with and electric screwdriver
- Colour coding
- Includes magnetic quick release bit holder
- Ideally suited for fittings in trade and industry
- Practical belt holder
- Precise and orderly arrangement of the popular 1/4" bits
- Nickel plated
- Special steel
- Includes durable two component storage case

1/4"

			kg
918.2070	71 pcs	CHROME*plus*® bit set	0.75

1 x		1/4“
1 x		1/4“
6 x		3 x 4 mm - 3 x 6 mm
12 x		3 x PH1 - 6 x PH2 - 3 x PH3
12 x		3 x PZ1 - 6 x PZ2 - 3x PZ3
9 x		3 x 4 mm - 3 x 5 mm - 3 x 6 mm
14 x		3 x T10 - 2 x T15 - 2 x T20 - 2 x T25 2 x T27 - 2 x T30 - 2 x T40
6 x		TB15 - TB20 - TB25 - TB27 - TB30 TB40
2 x		4 - 6 mm
4 x		2 x PH2 - 2 x PH3
3 x		2x PZ1 - 2x PZ2

CHROME*plus*® bit set

- Can be used by hand or with an electric screwdriver
- Ideally suited for fittings in trade and industry
- Precise arrangement of the popular 1/4" bits
- Exact gearing with 72 teeth
- Offset angle 5°
- Matt finish
- Chrome vanadium
- In high quality chrome box

1/4"

			g
918.4600	31 pcs	CHROME*plus*® bit set	600

consists of:

		g
918.1594	1/4" Bit ratchet reversible	70
911.1452	1/4" Socket adaptor 30mmL	10
911.2201	1/4" Bit,25mm,PH1	10
911.2204	1/4" Bit,25mm,PH2	10
911.2207	1/4" Bit,25mm,PH3	10
911.2219	1/4" Bit,25mm,PZ1	10
911.2222	1/4" Bit,25mm,PZ2	10
911.2225	1/4" Bit,25mm,PZ3	10
911.2258	1/4" Bit hex. socket,25mm,4mm	10
911.2261	1/4" Bit hex. socket,25mm,5mm	10
911.2264	1/4" Bit hex. socket,25mm,6mm	10
911.2312	1/4" Bit TX,25mm,T10	10
911.2315	1/4" Bit TX,25mm,T15	10
911.2318	1/4" Bit TX,25mm,T20	10
911.2321	1/4" Bit TX,25mm,T25	10
911.2324	1/4" Bit TX,25mm,T27	10
911.2327	1/4" Bit TX,25mm,T30	10
911.2330	1/4" Bit TX,25mm,T40	10

Micro bit set

- External hexagon drive and locking ring
- For manual operation
- Includes reversing GEAR*plus*® bit ratchet ring spanner
- Ideally suited for fittings in trade and industry
- Precise and orderly arrangement of the popular micro-bits
- Nickel plated
- Special steel

			g
503.4670	32 pcs	Micro bit set	520

1 x		8 x 10 mm
1 x		4 mm
3 x		PH0 - PH1 - PH2
5 x		4 - 5 - 6 - 7 - 8 mm
4 x		5 - 6 - 8 - 10 mm
9 x		T8 - T10 - T15 - T20 - T25 - T27 - T30 T40 - T45
9 x		TB8 - TB10 - TB15 - TB20 - TB25 TB27 - TB30 - TB40 - TB45

Bit adaptor socket

- With clamping ring
- Internal square to DIN 3120 / ISO 1174 with ball reception
- For 1/4" bits with external hexagon drive to DIN 3126 / ISO 1173
- For manual operation
- Matt finish
- Chrome vanadium

1/4"

	D1 mm	D2 mm	L mm	T mm	g
911.4327	10.0	12.0	25.0	8.0	10

TX PLUS socket set

- Ideal set compilation for TX and TX PLUS screws
- With external hexagon drive to DIN 3126 / ISO 1173 Form C 6,3 and C 8
- Can be used by hand or with an electric screwdriver
- Ideally suited for fittings in trade and industry
- Reinforced execution
- Nickel plated
- Special steel
- In durable plastic storage box

Applications for TX PLUS:
Opel (Corsa) / VW Passat / Fiat 1,3 / 1,4 / Toyota / Nissan / Renault / Subaru /GM / Ford etc.
e.g.: flywheel / timing belt housing cover / general engine / transmission

Applications for TX PLUS:
VW, Mercedes Benz (car+HGV Actros/Atego), Audi, Bosch, MAN, Ford, Opel, John Deere, etc.
e.g.: plug-in pumps of pump-line-nozzle systems, air mass meters, EWS3 immobiliser controller / injection pumps / alternators, etc.

			g
911.3120	22 pcs	TX PLUS socket set	432

consists of:

		g
911.3101	1/4“ 5 star tamperproof bit, TS10	10
911.3102	1/4“ 5 star tamperproof bit, TS15	10
911.3103	1/4“ 5 star tamperproof bit, TS20	10
911.3104	1/4“ 5 star tamperproof bit, TS25	10
911.3106	1/4“ 5 star tamperproof bit, TS30	10
911.3121	10mm 5 star tamperproof bit, TS40	40
911.3122	10mm 5 star tamperproof bit, TS45	40
911.3123	10mm 5 star tamperproof bit, TS50	40
911.3124	10mm 5 star tamperproof bit, TS55	40
911.3125	10mm 5 star tamperproof bit, TS60	40
911.3240	1/4“ TORX PLUS bit, IP60	5
911.3241	1/4“ TORX PLUS bit, IP15	6
911.3242	1/4“ TORX PLUS bit, IP20	5
911.3243	1/4“ TORX PLUS bit, IP25	5
911.3244	1/4“ TORX PLUS bit, IP30	5
911.3260	10 mm TORX PLUS bit, IP40	13
911.3261	10 mm TORX PLUS bit, IP45	14
911.3262	10 mm TORX PLUS bit, IP50	16
911.3263	10 mm TORX PLUS bit, IP55	20
911.3264	10 mm TORX PLUS bit, IP60	25
911.4311	3/8" Bit adaptor socket w. clamp ring f. bits 10mm	30
911.4327	1/4“ Bit adaptor socket w.clamp ring	10

CLASSIC Bit set

- Ideal set compilation for RIBE® screws
- External hexagon drive to DIN 3126 / ISO 1173 form C 8
- Can be used by hand, electric screwdriver and impact drivers
- Ideally suited for fittings in trade and industry
- Reinforced execution
- Precise arrangement of the popular 5/16" RIBE® bits
- Phosphate finish
- Special steel
- In durable plastic storage case

5/16"

			kg
911.4306	14 pcs	CLASSIC Bit set	0.82
1 x		1/2"	
6 x		M5 - M6 - M7 - M8 - M10 - M12	
7 x		M7 - M8 - M9 - M10 - M12 - M13 M14	

TX Socket and bit set

- Matt finish
- Chrome vanadium
- In durable plastic case

1/4" 3/8" 1/2"

			kg
911.4305	57 pcs	TX Socket and bit set	2.00
2 x		3/8" x 10mm - 1/2" x 1/4"	
12 x		1/4": E4 - E5 - E6 - E7 - E8; 3/8": E10 - E11 - E12 - E14;1/2": E16 - E18 - E20	
7 x		4 - 5 - 6 - 7 - 8 - 10 - 12 mm	
9 x		TB20 - TB25 - TB27 - TB30 - TB40 - TB45 - TB50 - TB55 - TB60	
5 x		M5 - M6 - M8 - M10 - M12	
2 x		8 - 10 mm	
2 x		PH2 - PH3	
5 x		5 - 6 - 7 - 8 - 10 mm	
9 x		T20 - T25 - T27 - T30 - T40 - T45 - T50 - T55 - T60	
4 x		M6 - M8 - M10 - M12	

CLASSIC bit set

- 10 mm external hexagon
- Can be used by hand, electric screwdriver and impact drivers
- Includes 3/8" + 1/2" socket adapter for 10 mm bits
- Ideally suited for fittings in trade and industry
- Reinforced execution
- Precise arrangement of the popular 10 mm bits
- Nickel plated
- Special steel
- In durable plastic storage case

10 mm

			kg
911.4304	42 pcs	CLASSIC bit set	1.60
2 x		3/8" - 1/2"	
7 x		4 - 5 - 6 - 7 - 8 - 10 - 12 mm	
8 x		T20 - T25 - T30 - T40 - T45 - T50 T55 - T60	
5 x		M5 - M6 - M8 - M10 - M12	
2 x		8 - 10 mm	
2 x		PH2 - PH3	
4 x		5 - 6 - 8 - 10 mm	
8 x		T20 - T25 - T30 - T40 - T45 - T50 T55 - T60	
4 x		M6 - M8 - M10 - M12	

TX Socket and bit set

- Matt finish
- Chrome vanadium
- In durable plastic case

1/4" 3/8" 1/2"

			kg
911.4301-1	30 pcs	TX Socket and bit set	1.45
5 x		1/4": E4 - E5 - E6 - E7 - E8	
4 x		3/8": E10 - E11 - E12 - E14	
5 x		1/2": E16 - E18 - E20 - E22 - E24	
2 x		3/8" x 10 mm - 1/2" x 10mm	
7 x		30 mm (T20 - T25 - T30 - T40 - T45 T50 - T55)	
7 x		75 mm (T20 - T25 - T30 - T40 - T45 T50 - T55)	

Bit adaptor socket with clamping ring

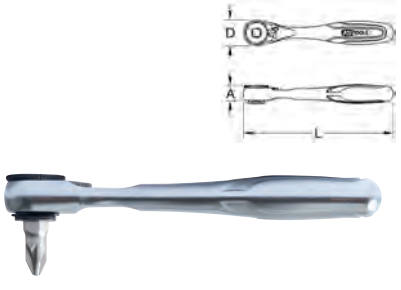
- Clamping ring
- Internal square to DIN 3120 / ISO 1174 with ball reception
- For 10 mm bits with external hexagon drive to DIN 3126 / ISO 1173
- For manual operation
- Matt finish
- Chrome vanadium

1/2"

	⌀ mm	L mm	D1 mm	D2 mm	T mm	g
911.4312	10.0	40.0	17.0	22.0	15.0	50

Bit ratchet reversible

- For bits with external hexagon drive to DIN 3126 / ISO 1173 - C 6,3
- Reversing
- Gearing with 72-teeth
- Extremely flat ratchet head
- Chrome plated and mirror polished
- Chrome vanadium



1/4"

	A mm	D mm	L mm	g
918.1594	12.5	20.0	100.0	70

4 HEXAGON KEY WRENCHES

BASIC Hexagon key wrench

- Short execution
- In accordance to DIN / ISO 2936
- Continuous hardened
- Phosphate finish
- Special steel

	mm		L1 mm	L2 mm	g
151.26007	0,7		38.0	11.0	10
151.26009	0,9		38.0	11.0	10
151.26013	1,3		39.0	11.0	10
151.26015	1,5		45.0	11.0	10
151.2602	2,0		50.0	15.0	10
151.26025	2,5		55.0	17.0	10
151.2603	3,0		60.0	19.5	10
151.26035	3,5		61.0	22.0	10
151.2604	4,0		65.0	23.0	10
151.26045	4,5		67.0	24.0	20
151.2605	5,0		72.0	26.0	20
151.26055	5,5		80.0	28.0	20
151.2606	6,0		90.0	32.0	30
151.2607	7,0		94.0	32.0	40
151.2608	8,0		100.0	36.0	60
151.2609	9,0		104.0	37.0	80
151.2610	10,0		112.0	40.0	110
151.2611	11,0		119.0	43.0	150
151.2612	12,0		125.0	45.0	170
151.2613	13,0		132.0	49.0	250
151.2614	14,0		140.0	56.0	270
151.2616	16,0		150.0	59.0	400
151.2617	17,0		160.0	63.0	440
151.2618	18,0		170.0	66.0	600
151.2619	19,0		180.0	70.0	630
151.2621	21,0		190.0	77.0	700
151.2622	22,0		200.0	80.0	750
151.2624	24,0		200.0	95.0	820
151.2630		1/32"	52.0	12.0	10
151.2631		1/16"	57.0	14.0	10
151.2632		5/64"	60.0	16.5	10
151.2633		3/32"	63.0	17.5	10
151.2634		7/64"	68.0	17.5	10
151.2635		1/8"	73.0	18.0	10
151.2636		9/64"	77.0	19.0	10
151.2637		5/32"	83.0	21.0	10
151.2638		3/16"	88.0	23.5	20
151.2639		7/32"	95.0	28.0	30
151.2640		1/4"	103.0	29.0	40
151.2641		5/16"	113.0	31.0	80
151.2642		3/8"	123.0	37.0	110
151.2643		7/16"	135.0	45.0	130
151.2644		1/2"	147.0	50.0	150
151.2645		9/16"	162.0	55.0	250
151.2646		5/8"	170.0	60.0	400
151.2647		3/4"	180.0	70.0	620
151.2648		7/8"	200.0	77.0	740
151.2649		1"	237.0	80.0	820

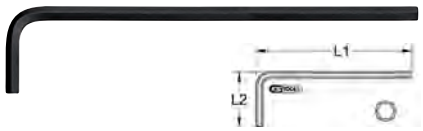
BASIC Hexagon key wrench set on a ring

- In accordance to DIN / ISO 2936
- Storage ring
- Continuous hardened
- Phosphate finish
- Special steel

			g
151.3250	8 pcs	2 - 2,5 - 3 - 4 - 5 - 6 - 8 - 10 mm	330

BASIC Hexagon key wrench, long

- Long execution
- In accordance to DIN / ISO 2936
- Continuous hardened
- Phosphate finish
- Special steel



	mm		L1 mm	L2 mm	g
151.27013	1,3		70.0	12.0	10
151.27015	1,5		74.0	13.5	10
151.2702	2,0		80.0	15.0	10
151.27025	2,5		86.0	17.0	10
151.2703	3,0		94.0	18.0	10
151.27035	3,5		98.0	20.0	10
151.2704	4,0		104.0	21.0	20
151.27045	4,5		110.0	24.0	30
151.2705	5,0		116.0	24.0	30
151.2706	6,0		134.0	28.0	40
151.2707	7,0		150.0	32.0	60
151.2708	8,0		165.0	32.0	80
151.2709	9,0		165.0	38.0	110
151.2710	10,0		180.0	40.0	150
151.2712	12,0		190.0	45.0	250
151.2714	14,0		195.0	56.0	390
151.2717	17,0		205.0	63.0	620
151.2719	19,0		210.0	70.0	880
151.2720		1/16"	74.0	13.5	10
151.2721		5/64"	80.0	15.0	10
151.2722		3/32"	86.0	17.0	10
151.2723		7/64"	92.0	18.0	10
151.2724		1/8"	94.0	18.0	10
151.2725		9/64"	100.0	20.0	10
151.2726		5/32"	104.0	21.0	10
151.2727		3/16"	116.0	24.0	20
151.2728		7/32"	126.0	28.0	30
151.2729		1/4"	134.0	28.0	40
151.2730		5/16"	152.0	32.0	80
151.2731		3/8"	170.0	40.0	110
151.2732		1/2"	190.0	45.0	150
151.2733		9/16"	215.0	56.0	250
151.2734		5/8"	250.0	63.0	390
151.2735		3/4"	280.0	70.0	620

CLASSIC Ball ended hexagon key wrench set

- Long execution
- DIN/ISO 2936
- With ball head on the long end
- Ideal for difficult to access screws
- Continuous hardened
- Matt chrome
- Chrome vanadium
- In a convenient folding holder

			g
151.2120	9 pcs	1,5 - 2 - 2,5 - 3 - 4 - 5 - 6 - 8 - 10 mm	345

CLASSIC 3 in 1 Hexagon key wrench set

- Long execution
- DIN / ISO 2936
- Handle with double function (holder / T-handle)
- Continuous hardened
- Matt chrome
- Special steel

			g
151.2040	8 pcs	2 - 2,5 - 3 - 4 - 5 - 6 - 8 - 10 mm	340

CLASSIC 3 in 1 Ball ended hexagon key wrench set

- Long execution
- DIN / ISO 2936
- Ball head on the long end
- Ideal for difficult to access screws
- Handle with double function (holder / T-handle)
- Continuous hardened
- Matt chrome
- Special steel

			g
151.2100	8 pcs	2 - 2,5 - 3 - 4 - 5 - 6 - 8 - 10 mm	330

CLASSIC Ball ended hexagon key wrench set

- Extra long execution
- DIN / ISO 2936
- Ball head on the long end
- Ideal for difficult to access screws
- Continuous hardened
- Matt chrome
- Special steel

			kg
151.2150	10 pcs	3 - 4 - 5 - 6 - 7 - 8 - 10 - 12 - 14 - 17 mm	2.38

CLASSIC 3 in 1 TX key wrench set

- Long execution
- Continuous hardened
- Handle with double function (holder / T-handle)
- Matt chrome
- Special steel

			g
151.2300	8 pcs	T10 - T15 - T20 - T25 - T30 - T40 - T45 - T50	310

CLASSIC 3 in 1 TX tamperproof key wrench set

- Long execution
- With tamperproof
- Handle with double function (holder / T-handle)
- Continuous hardened
- Matt chrome
- Special steel

			g
151.2200	8 pcs	TB10 - TB15 - TB20 - TB25 - TB30 - TB40 - TB45 - TB50	250

CLASSIC RIBE® Key wrench set

- Long execution
- Continuous hardened
- Matt chrome
- Special steel

151.2450	7 pcs	M4 - M5 - M6 - M7 - M8 - M9 - M10	310	

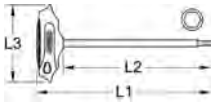
CLASSIC Spline key wrench set

- Short execution
- Continuous hardened
- Matt chrome
- Special steel

151.4100	5 pcs	M5 - M6 - M8 - M10 - M12	150	

ERGOTORQUE*plus*® T-handle hexagon key wrench

- With two component handle
- Continuous hardened
- Tip burnished
- Chrome plated and mirror polished
- Special steel



	Ø mm	L1 mm	L2 mm	L3 mm	g	
158.8032	2,0	130.0	100.0	80.0	20	
158.80325	2,5	130.0	100.0	80.0	30	
158.8033	3,0	130.0	100.0	80.0	30	
158.8034	4,0	180.0	150.0	80.0	50	
158.8035	5,0	185.0	150.0	100.0	100	
158.8036	6,0	185.0	150.0	100.0	140	
158.8038	8,0	230.0	200.0	100.0	320	
158.8040	10,0	235.0	200.0	115.0	360	

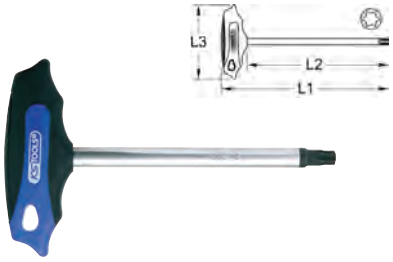
ERGOTORQUE*plus*® T-handle key wrench set

- In accordance to DIN / ISO 2936
- Continuous hardened
- Chrome plated and mirror polished
- Tip burnished
- Special steel
- In durable wall holder

158.8130	8 pcs	2 - 2,5 - 3 - 4 - 5 - 6 - 8 - 10 mm	1.08	

ERGOTORQUE*plus*® T-handle TX key wrench

- With two component handle
- Continuous hardened
- Tip burnished
- Chrome plated and mirror polished
- Special steel



	D	L1 mm	L2 mm	L3 mm	g	
158.8020	T10	130.0	100.0	80.0	20	
158.8021	T15	130.0	100.0	80.0	30	
158.8022	T20	130.0	100.0	80.0	30	
158.8023	T25	135.0	100.0	100.0	50	
158.8024	T27	135.0	100.0	100.0	100	
158.8025	T30	135.0	100.0	100.0	100	
158.8026	T40	235.0	200.0	100.0	300	
158.8027	T45	285.0	250.0	100.0	320	
158.8028	T50	290.0	250.0	115.0	360	

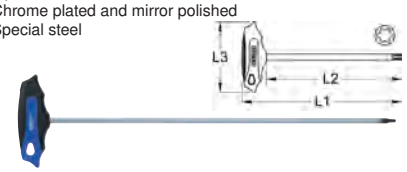
ERGOTORQUE*plus*® T-handle TX key wrench set

- Continuous hardened
- Chrome plated and mirror polished
- Tip burnished
- Special steel
- In durable wall holder

158.8160	9 pcs	T10 - T15 - T20 - T25 - T27 - T30 - T40 - T45 - T50	1.33	

ERGOTORQUE*plus*® T-handle TX key wrench, long

- Extra long execution
- With two component handle
- Continuous hardened
- Tip burnished
- Chrome plated and mirror polished
- Special steel



		L1 mm	L2 mm	L3 mm	g	
158.8051	T10	403.0	373.0	80.0	30	
158.8052	T15	403.0	373.0	80.0	30	
158.8053	T20	403.0	373.0	100.0	40	
158.8054	T25	408.0	373.0	100.0	40	
158.8055	T27	408.0	373.0	100.0	40	
158.8056	T30	408.0	373.0	100.0	45	

ERGOTORQUE®plus T-handle TX key wrench set

- Extra long execution
- With two component handle
- Continuous hardened
- Tip burnished
- Chrome plated and mirror polished
- Special steel

Application range: valves, motors, bumpers, headlights, fuse boxes etc.

158.8050	6 pcs	T10 - T15 - T20 - T25 - T27 - T30	375	

3 Way T-handle hexagonal key wrench set

- Hexagonal profile on three ends
- For difficult to access areas
- Matt finish
- Chrome finish with burnished tips
- Chrome vanadium
- In durable plastic storage case

158.5100	8 pcs	2 - 2,5 - 3 - 4 - 5 - 6 - 8 - 10 mm	7.00	

3 Way T-handle TX key wrench set

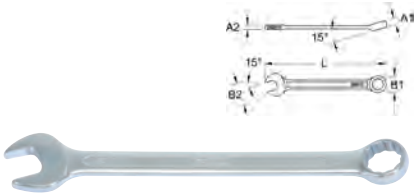
- TX profile on three ends
- For difficult to access areas
- Matt finish
- Chrome finish with burnished tips
- Chrome vanadium
- In durable plastic storage case

158.5200	9 pcs	T10 - T15 - T20 - T25 - T27 - T30 - T40 - T45 - T50	7.00	

COMBINATION SPANNERS

ULTIMATE*plus* combination spanner, offset

- FlankTraction Profile
- DIN 3113 Form A / ISO 3318 / ISO 7738
- Jaw 15° offset
- Ring head 15° offset
- High quality finish
- Chrome vanadium



		A1 mm	A2 mm	B1 mm	B2 mm	L mm	g	
920.0075	3/16"	5.1	3.4	10.0	14.0	100.0	14	
920.0081	1/4"	4.5	3.6	10.4	15.7	102.0	17	
920.0082	5/16"	5.3	4.5	12.8	19.6	122.0	26	
920.0083	3/8"	6.6	4.9	16.2	23.8	140.0	40	
920.0084	7/16"	6.9	5.0	17.5	25.6	150.0	50	
920.0085	1/2"	7.7	5.9	19.8	29.6	170.0	75	
920.0086	9/16"	8.6	6.2	21.6	31.7	180.0	92	
920.0076	19/32"	9.1	5.8	23.0	32.0	190.0	90	
920.0087	5/8"	8.9	6.6	24.5	34.7	200.0	109	
920.0088	11/16"	8.9	6.7	25.8	36.8	210.0	122	
920.0089	3/4"	10.3	7.4	28.6	40.8	230.0	185	
920.0077	25/32"	11.4	7.2	30.0	42.0	240.0	195	
920.0090	13/16"	11.0	7.8	31.8	45.3	250.0	209	
920.0091	7/8"	11.7	8.0	32.7	46.6	260.0	231	
920.0092	15/16"	12.2	8.5	35.9	50.4	280.0	274	
920.0093	1"	12.3	8.8	36.9	52.4	290.0	286	
920.0094	1.1/16"	12.5	9.2	38.5	53.3	310.0	330	
920.0095	1.1/8"	12.8	9.5	41.4	59.0	330.0	419	
920.0078	1.3/16"	16.0	10.3	44.0	62.0	340.0	505	
920.0096	1.1/4"	14.0	10.3	45.7	65.7	360.0	523	
920.0079	1.5/16"	17.4	11.8	51.0	71.0	430.0	775	

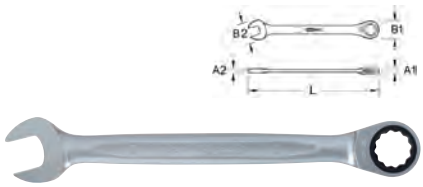
ULTIMATE*plus* Combination spanner set, offset

- FlankTraction profile (12 point)
- DIN 3113 form A / ISO 3318 / ISO 7738
- Jaw 15° offset
- Ring head 15° offset
- High quality finish
- Chrome vanadium

			kg	
920.0080	16 pcs	1/4" - 5/16" - 3/8" - 7/16" - 1/2" - 9/16" - 5/8" - 11/16" - 3/4" - 13/16" - 7/8" - 15/16" - 1" - 1.1/16" - 1.1/8" - 1.1/4"	3.18	

GEAR*plus*® Combination ratcheting spanner

- FlankTraction profile (12 point)
- In accordance to DIN 3113 / ISO 3318
- Jaw 15° offset
- Straight form
- Exact gearing with 72 teeth
- Chrome plated and mirror polished
- Chrome vanadium



		A1 mm	A2 mm	B1 mm	B2 mm	L mm	g	
503.4102	5/16"	6.5	4.0	16.8	16.7	140.0	30	
503.4103	3/8"	7.3	4.8	20.8	20.8	158.0	40	
503.4104	7/16"	7.7	5.2	21.8	23.0	165.0	50	
503.4105	1/2"	8.6	5.8	24.8	26.8	178.0	70	
503.4106	9/16"	9.0	6.2	27.8	29.0	190.0	110	
503.4107	5/8"	9.9	6.8	30.8	33.0	208.0	130	
503.4108	11/16"	10.3	7.2	31.8	35.5	225.0	170	
503.4109	3/4"	11.2	8.2	33.8	39.4	247.0	220	

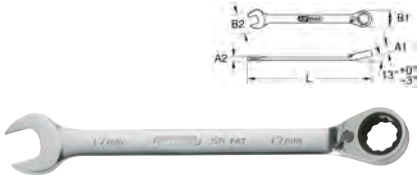
GEAR*plus*® Double ring ratcheting spanner set

- FlankTraction profile (12 point)
- In accordance to DIN 3113 / ISO 3318
- Jaw 15° offset
- Straight form
- Exact gearing with 72 teeth
- Chrome plated and mirror polished
- Chrome vanadium

			kg	
503.4202	5 pcs	5/16" - 3/8" - 1/2" - 11/16" - 3/4"	0.69	

GEAR*plus*® reversing combination ratcheting spanner

- FlankTraction Profile
- In accordance to DIN 3113 / ISO 3318
- Jaw 15° offset
- Ratchet head 15° offset
- Exact gearing with 72 teeth
- With reverse lever
- High quality finish
- Chrome vanadium



		A1 mm	A2 mm	B1 mm	B2 mm	L mm	g	
503.4681	5/16"	6.5	4.0	16.6	16.7	145.0	30	
503.4683	3/8"	7.3	4.8	20.0	20.8	159.0	60	
503.4684	7/16"	7.7	5.2	21.8	23.0	165.0	70	
503.4685	1/2"	8.6	5.8	24.7	27.1	178.0	80	
503.4686	9/16"	9.0	6.5	27.0	29.2	190.0	100	
503.4687	5/8"	9.9	6.8	30.0	33.4	208.0	140	
503.4688	11/16"	10.3	7.2	31.8	35.5	225.0	170	
503.4689	3/4"	11.2	8.2	33.8	39.7	248.0	230	

GEAR*plus*® Reversing combination ratcheting spanner set

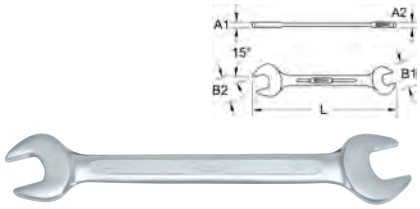
- FlankTraction profile (12 point)
- In accordance to DIN 3113 / ISO 3318
- Jaw 15° offset
- Ratchet head 15° offset
- Exact gearing with 72 teeth
- With reverse lever
- High quality finish
- Chrome vanadium

			kg	
503.4602	5 pcs	5/16" - 3/8" - 1/2" - 11/16" - 3/4"	0.54	

DOUBLE OPEN ENDED SPANNERS

ULTIMATE*plus* Double open ended spanner

- DIN 3110 / ISO 1085 / ISO 10102 / ISO 3318
- Jaw 15° offset
- High quality finish
- Chrome vanadium



		A1 mm	A2 mm	B1 mm	B2 mm	L mm	g	
920.0181	1/4"x5/16"	3.7	3.7	17.5	15.5	123.0	21	
920.0182	3/8"x7/16"	5.5	5.2	27.0	24.8	156.0	57	
920.0183	1/2"x9/16"	6.0	5.8	33.6	33.3	190.0	93	
920.0184	5/8"x11/16"	6.4	6.3	38.5	36.9	204.0	128	
920.0185	3/4"x25/32"	7.1	6.9	48.6	44.6	237.0	200	
920.0186	13/16"x7/8"	8.1	7.6	50.9	46.7	247.0	257	
920.0187	15/16"x1"	8.8	8.2	57.3	51.6	263.0	303	
920.0188	1.1/16"x1.1/4"	9.2	8.9	69.8	64.4	298.0	463	

ULTIMATE*plus* Double open ended spanner set

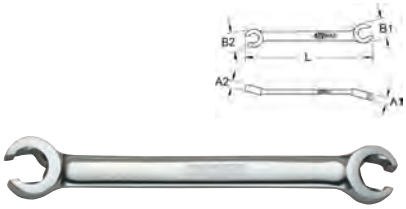
- DIN 3110 / ISO 1085 / ISO 10102 / ISO 3318
- Jaw 15° offset
- High quality finish
- Chrome vanadium

			kg	
920.0180	8 pcs	1/4"x5/16" - 3/8"x7/16" - 1/2"x9/16" - 5/8"x11/16" - 3/4"x25/32" - 13/16"x7/8" - 15/16"x1" - 1.1/16"x1.1/4"	1.62	

DOUBLE RING SPANNERS

CHROME*plus*® Open double ring spanner, offset

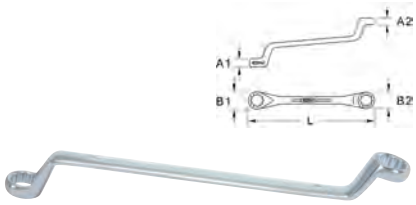
- 6 point
- DIN 3118
- Jaw 15° offset
- Opening 15° cranked
- Chrome plated and mirror polished
- Chrome vanadium



		A1 mm	A2 mm	B1 mm	B2 mm	L mm	g	
518.0501	1/4"x5/16"	6.6	6.7	17.6	19.8	143.0	50	
518.0503	3/8"x7/16"	7.6	7.4	21.3	22.9	152.0	60	
518.0506	7/16"x1/2"	8.8	9.0	23.1	23.8	158.0	80	
518.0504	1/2"x9/16"	10.0	9.9	25.3	27.6	178.0	120	
518.0505	5/8"x11/16"	11.4	11.5	30.0	32.1	196.0	170	
518.0507	3/4"x7/8"	13.5	13.1	34.1	37.6	207.0	220	

ULTIMATE*plus* double ring spanner set, offset

- FlankTraction profile (12 point)
- DIN 838 / ISO 3318 / ISO 1085 / ISO 10104
- Ring head 75° offset
- High quality finish
- Chrome vanadium



		A1 mm	A2 mm	B1 mm	B2 mm	L mm	g	
920.0281	1/4"x5/16"	5.9	6.6	10.2	12.5	168.0	52	
920.0282	3/8"x7/16"	7.5	7.5	16.8	18.2	198.0	92	
920.0283	1/2"x9/16"	9.0	9.1	22.7	24.7	239.0	139	
920.0284	5/8"x11/16"	9.2	9.5	25.3	26.0	260.0	198	
920.0285	3/4"x25/32"	10.4	11.4	31.1	34.6	318.0	319	
920.0286	13/16"x7/8"	10.8	11.9	32.5	35.6	327.0	352	
920.0287	15/16"x1"	11.8	13.7	36.5	41.4	339.0	466	
920.0288	1.1/16"x1.1/4"	13.1	14.6	46.1	49.3	362.0	607	

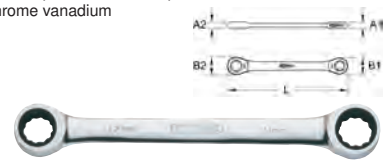
ULTIMATE*plus* Double ring ended spanner set, offset

- FlankTraction profile (12 point)
- DIN 838 / ISO 3318 / ISO 1085 / ISO 10104
- Ring head 75° offset
- High quality finish
- Chrome vanadium

			kg
920.0280	8 pcs	1/4"x5/16" - 3/8"x7/16" - 1/2"x9/16" - 5/8"x11/16" - 3/4"x25/32" - 13/16"x7/8" - 15/16"x1" - 1.1/16"x1.1/4"	2.35

GEAR*plus*® Double ratchet ring spanner

- FlankTraction profile (12 point)
- In accordance to DIN 3110 / ISO 3318
- Straight form
- Exact gearing with 72 teeth
- Chrome plated and mirror polished
- Chrome vanadium



		A1 mm	A2 mm	B1 mm	B2 mm	L mm	g
503.4402	5/16"x3/8"	6.5	7.3	16.8	20.2	128.0	40
503.4403	7/16"x1/2"	7.7	8.6	23.0	24.8	170.0	80
503.4404	9/16"x5/8"	9.0	9.9	26.5	29.5	190.0	125
503.4405	11/16"x3/4"	10.3	11.2	31.5	33.5	230.0	200

4 in 1 GEAR*plus*® reversing double ratchet ring spanner set

- FlankTraction profile (12 point)
- Straight form
- Exact gearing with 72 teeth
- Four different sizes on each spanner
- With reverse lever
- High quality finish
- Chrome vanadium

			g
503.4585	2 pcs	5/16"x1/2" - 7/16"x3/8" - 9/16"x3/4" - 11/16"x5/8"	300

BOX SPANNERS

CHROME*plus*® Socket set

- Imperial sizes
- 6 point
- FlankTraction profile
- Chrome plated and mirror polished
- Chrome vanadium
- In durable plastic case

1/4"

			kg
918.0847	47 pcs	CHROME*plus*® Socket set	1.13

10 x		5/32" - 3/16" - 7/32" - 1/4" - 9/32" 5/16" - 11/32" - 3/8" - 7/16" - 1/2"
10 x		5/32" - 3/16" - 7/32" - 1/4" - 9/32" 5/16" - 11/32" - 3/8" - 7/16" - 1/2"
3 x		4 - 5,5 - 7 mm
2 x		PH1 - PH2
5 x		1/8" - 5/32" - 3/16" - 7/32" - 1/4"
6 x		T10 - T15 - T20 - T25 - T30 - T40
4 x		M4 - M5 - M6 - M8
2 x		50 - 100 mm
1 x		150 mm
1 x		1/4"
1 x		1/4"
1 x		110 mm
1 x		110 mm

CLASSIC Hexagonal socket

- 6 point
- FlankTraction profile
- According to DIN 3124 / ISO 2725
- Internal square to DIN 3120 / ISO 1174 with ball reception
- For manual operation
- Matt finish
- Chrome vanadium

1/2"

		D1 mm	D2 mm	L mm	T mm	g	
917.1348	3/8"	14.0	16.0	16.0	9.0	50	
917.1349	7/16"	16.0	17.0	17.0	9.0	50	
917.1350	1/2"	18.0	19.0	19.0	13.0	60	
917.1351	9/16"	20.0	21.0	21.0	13.0	60	
917.1352	19/32"	21.0	22.0	22.0	14.0	60	
917.1353	5/8"	22.0	24.0	24.0	14.0	60	
917.1354	11/16"	24.0	24.0	24.0	16.0	70	
917.1355	3/4"	26.0	27.0	27.0	16.0	90	
917.1356	13/16"	28.0	28.0	28.0	17.0	90	
917.1357	7/8"	30.0	30.0	30.0	18.0	120	
917.1358	15/16"	32.0	32.0	32.0	19.0	130	
917.1359	1"	34.0	34.0	34.0	19.0	150	
917.1360	1.1/16"	36.0	36.0	36.0	20.0	170	
917.1329	1.1/8"	38.0	38.0	38.0	20.0	170	
917.1330	1.1/4"	40.0	42.0	42.0	21.0	240	

CLASSIC Hexagonal socket, deep

- 6 point
- FlankTraction profile
- According to DIN 3124 / ISO 2725
- Internal square to DIN 3120 / ISO 1174 with ball reception
- Long execution
- For manual operation
- Matt finish
- Chrome vanadium

1/2"

		D1 mm	D2 mm	L mm	T mm	g	
917.1201	3/8"	15.0	16.0	76.0	15.0	90	
917.1202	7/16"	17.0	17.0	76.0	13.0	100	
917.1203	1/2"	19.0	19.0	76.0	13.0	120	
917.1204	15/16"	33.0	32.0	76.0	19.0	250	
917.1205	9/16"	21.0	21.0	76.0	13.0	130	
917.1206	11/16"	25.0	24.0	76.0	17.0	150	
917.1207	3/4"	40.0	27.0	76.0	17.0	180	
917.1208	7/8"	31.0	30.0	76.0	19.0	240	
917.1209	1"	35.0	34.0	76.0	19.0	270	

Socket for 12 point screws

- 12 point
- FlankTraction profile
- According to DIN 3124 / ISO 2725-1
- Internal square to DIN 3120 / ISO 1174 with ball reception
- For manual operation
- Matt finish
- Chrome vanadium

1/2"

		D1 mm	D2 mm	L mm	T mm	g	
917.1368	5/16"	13.0	23.0	38.0	7.0	45	
917.1369	11/32"	14.0	23.0	38.0	8.0	48	
917.1370	3/8"	15.0	23.0	38.0	15.0	58	
917.1371	13/32"	16.0	23.0	38.0	14.0	50	
917.1372	7/16"	17.0	23.0	38.0	13.0	53	
917.1373	1/2"	19.0	23.0	38.0	13.0	60	
917.1374	9/16"	21.0	23.0	38.0	13.0	62	
917.1375	19/32"	22.0	24.0	40.0	15.0	65	
917.1376	5/8"	23.0	24.0	40.0	15.0	68	
917.1377	11/16"	25.0	23.0	40.0	17.0	70	
917.1378	3/4"	27.0	24.0	40.0	17.0	80	
917.1379	25/32"	28.0	25.0	40.0	17.0	85	
917.1380	13/16"	29.0	26.0	42.0	19.0	95	
917.1381	7/8"	31.0	27.0	42.0	19.0	100	
917.1382	15/16"	33.0	28.0	42.0	19.0	110	
917.1383	1"	35.0	29.0	42.0	19.0	123	
917.1384	1. 1/16"	37.0	30.0	42.0	19.0	150	
917.1385	1. 1/8"	39.0	31.0	43.0	20.0	180	
917.1386	1. 3/16"	41.0	33.0	43.0	21.0	200	
917.1387	1. 1/4"	43.0	35.0	45.0	23.0	210	

12 Point socket, deep

- 12 point
- FlankTraction profile
- According to DIN 3124 / ISO 2725-1
- Internal square to DIN 3120 / ISO 1174 with ball reception
- Long execution
- For manual operation
- Matt finish
- Chrome vanadium

1/2"

		D1 mm	D2 mm	L mm	T mm	g
917.1277	1/2"	19.0	23.0	77.0	16.0	105
917.1278	9/16"	21.0	23.0	77.0	17.0	125
917.1279	5/8"	23.0	24.0	77.0	18.0	130
917.1280	11/16"	25.0	25.0	77.0	18.0	140
917.1281	3/4"	27.0	26.0	82.0	22.0	165
917.1282	13/16"	29.0	29.0	82.0	22.0	205
917.1283	7/8"	31.0	29.0	82.0	24.0	230
917.1284	15/16"	33.0	29.0	82.0	26.0	250

Bit socket for hexagon screws

- Hexagon socket
- In accordance with DIN 7422
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Short execution
- Press fitted nickel plated insert bit
- For manual operation
- Matt finish
- Chrome vanadium

1/2"

		D mm	L mm	T mm	g
917.1316	3/16"	22.0	55.0	17.0	60
917.1317	7/32"	22.0	55.0	17.0	70
917.1318	1/4"	22.0	55.0	17.0	70
917.1319	9/32"	22.0	55.0	17.0	70
917.1320	5/16"	22.0	55.0	17.0	85
917.1321	3/8"	22.0	55.0	17.0	90
917.1322	1/2"	22.0	55.0	17.0	100
917.1323	9/16"	22.0	55.0	17.0	110
917.1324	5/8"	22.0	55.0	17.0	150

CHROME*plus*® Socket set

- Imperial sizes
- 6 point
- FlankTraction profile
- Chrome plated and mirror polished
- Chrome vanadium
- In durable plastic storage case

1/2"

			kg
918.0830	30 pcs	CHROME*plus*® Socket set	3.40

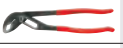
15 x		3/8"-7/16"-1/2"-9/16"-19/32"-5/8"-11/16"-3/4" 13/16"-7/8"-15/16"-1"-1.1"/16"-1.1"/8"-1.1"/4"
7 x		1/2" - 9/16" - 11/16" - 3/4" - 7/8" 15/16" - 1"
2 x		5/8" - 13/16"
2 x		125 - 250 mm
1 x		1/2"
1 x		F1/2" x M3/8"
1 x		380 mm
1 x		250 mm

CHROME*plus*® Universal tool kit set

- With 3 drawers and upper insert storage
- Imperial sizes
- 6 point
- FlankTraction profile
- Chrome plated and mirror polished
- Chrome vanadium
- In durable steel tool chest

1/4" 1/2"

			kg
918.0150	99 pcs	CHROME*plus*® Universal tool kit set	25.60

13 x		1/4": 5/32" - 3/16" - 7/32" - 1/4" - 9/32" - 5/16" 11/32" - 3/8" - 13/32" - 7/16" - 15/32" - 1/2" - 9/16"
3 x		1/4": 5/16" - 3/8" - 1/2"
1 x		1/4": 50 mm
1 x		1/4"
1 x		1/4": 110 mm
1 x		1/4": 140 mm
3 x		1/4": 5/32" - 1/4" - 9/32"
2 x		1/4": PH1 - PH2
2 x		1/4": PZ1 - PZ2
6 x		1/4": 1/8" - 5/32" - 3/16" - 7/32" - 1/4" - 5/16"
7 x		1/4": T10 - T15 - T20 - T25 - T27 - T30 - T40
12 x		1/2": 7/16" - 1/2" - 9/16" - 5/8" - 11/16" - 3/4" 13/16" - 7/8" - 15/16" 1.1/16" - 1.3/16" - 1.1/4"
2 x		1/2": 11/16" - 3/4"
2 x		1/2": 16 - 21 mm
2 x		1/2": 125 - 250 mm
1 x		1/2"
1 x		1/2"
1 x		1/2": 250 mm
1 x		1/16" - 5/64" - 3/32" - 1/8" - 5/32" - 3/16" 7/32" - 1/4" - 5/16" - 3/8"
12 x		1/4" - 5/16" - 3/8" - 7/16" - 1/2" - 9/16" - 5/8" 11/16" - 3/4" - 13/16" - 7/8" - 15/16"
6 x		6 x 38 mm - 3 x 75 mm - 4 x 100 mm 5,5 x 100 mm - 6,5 x 125 mm - 8 x 150 mm
4 x		PH2 x 38 mm - PH1 x 75 mm - PH2 x 100 mm PH3 x 150 mm
1 x		130 mm
1 x		180 mm
1 x		210 mm
1 x		10"
1 x		250 mm
1 x		300 g

12 Point socket

- 12 point
- FlankTraction profile
- According to DIN 3124 / ISO 2725
- Internal square to DIN 3120 / ISO 1174 with ball reception
- Short execution
- For manual operation
- Matt finish
- Chrome vanadium

3/4"

		D1 mm	D2 mm	L mm	T mm	g
911.3519	3/4"	29.0	35.0	50.0	16.0	210
911.3521	13/16"	31.0	35.0	51.0	17.0	220
911.3522	7/8"	33.0	35.0	51.0	18.0	220
911.3523	15/16"	34.0	35.0	51.0	19.0	220
911.3524	1"	37.0	38.0	52.0	20.0	220
911.3526	1.1/16"	39.0	38.0	54.0	20.0	220
911.3527	1.1/8"	41.0	38.0	57.0	20.0	230
911.3529	1.3/16"	43.0	38.0	57.0	21.0	260
911.3530	1.1/4"	45.0	38.0	58.0	22.0	290
911.3532	1.5/16"	47.0	40.0	59.0	24.0	300
911.3535	1.3/8"	49.0	40.0	59.0	24.0	400
911.3536	1.7/16"	50.0	40.0	60.0	27.0	430
911.3538	1.1/2"	52.0	41.0	64.0	30.0	490
911.3541	1.5/8"	56.0	40.0	67.0	30.0	540
911.3546	1.3/4"	60.0	40.0	70.0	32.0	630
911.3550	2"	67.0	40.0	80.0	34.0	840

Socket set

- Imperial sizes
- 12 point
- Matt finish
- Chrome vanadium
- In durable plastic case

3/4"

			kg
911.0751	21 pcs	Socket set	14.50

16 x		3/4"-13/16"-7/8"-15/16"-1"-1.1/16"-1.1/8"-1.3/16" 1.1/4"-1.5/16-1.3/8"-1.7/16"-1.1/2"-1.5/8"-1.3/4"-2"
3 x		100 - 200 - 400 mm
1 x		450 mm
1 x		500 mm

BITS

CLASSIC Bit set

- External hexagon drive to DIN 3126 / ISO 1173 - C 6,3
- Can be used by hand or with and electric screwdriver
- Includes bit holder, bit ratchet, 1/4" socket adaptor and 1/4" bit screwdriver
- Ideally suited for fittings in trade and industry
- Precise and orderly arrangement of the popular 1/4" bits
- Sand blasted
- Special steel
- In durable plastic storage case

1/4"

			kg
911.2085	122 pcs	CLASSIC Bit set	1.15
1 x		1/4"	
1 x		1/4"	
1 x		1/4"	
2 x		30 - 50 mm	
1 x		1/4"	
10 x		4 - 5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 mm	
10 x		5/32" - 3/16" - 7/32" - 1/4" - 9/32" - 5/16" - 1/2"	
9 x		3 - 4 - 4,5 - 5 - 5,5 - 6 - 6,5 - 7 - 8 mm	
5 x		PH0 - PH00 - PH1 - PH2 - PH3	
5 x		PZ0 - PZ00 - PZ1 - PZ2 - PZ3	
9 x		1,5 - 2 - 2,5 - 3 - 4 - 5 - 5,5 - 6 - 8 mm	
10 x		1/16" - 5/64" - 3/32" - 7/64" - 1/8" - 9/64" - 5/32" - 3/16" - 7/32" - 1/4"	
6 x		2 - 2,5 - 3 - 4 - 5 - 6 - 8 mm	
13 x		T5 - T6 - T7- T8 - T9 - T10 - T15 - T20 - T25 - T27 - T30 - T40 - T45	
9 x		TB8 - TB10 - TB15 - TB20 - TB25 - TB27 - TB30 - TB35 - TB40	
3 x		M5 - M6 - M8	
3 x		#1 - #2 - #3	
4 x		4 - 6 - 8 - 10 mm	
4 x		4 - 6 - 8 - 10 mm	
3 x		6 - 8 - 10 mm	
4 x		#0 - #1 - #2 - #3	
9 x		TS10 - TS15 - TS20 - TS25 - TS27 - TS30 - TS40 - TS45 - TS50	

KEY WRENCHES

BASIC Hexagon key wrench

- Short execution
- In accordance to DIN / ISO 2936
- Continuous hardened
- Phosphate finish
- Special steel

		L1 mm	L2 mm	g	
151.2630	1/32"	52.0	12.0	10	
151.2631	1/16"	57.0	14.0	10	
151.2632	5/64"	60.0	16.5	10	
151.2633	3/32"	63.0	17.5	10	
151.2634	7/64"	68.0	17.5	10	
151.2635	1/8"	73.0	18.0	10	
151.2636	9/64"	77.0	19.0	10	
151.2637	5/32"	83.0	21.0	10	
151.2638	3/16"	88.0	23.5	20	
151.2639	7/32"	95.0	28.0	30	
151.2640	1/4"	103.0	29.0	40	
151.2641	5/16"	113.0	31.0	80	
151.2642	3/8"	123.0	37.0	110	
151.2643	7/16"	135.0	45.0	130	
151.2644	1/2"	147.0	50.0	150	
151.2645	9/16"	162.0	55.0	250	
151.2646	5/8"	170.0	60.0	400	
151.2647	3/4"	180.0	70.0	620	
151.2648	7/8"	200.0	77.0	740	
151.2649	1"	237.0	80.0	820	

BASIC Hexagon key wrench, long

- Long execution
- In accordance to DIN / ISO 2936
- Continuous hardened
- Phosphate finish
- Special steel

		L1 mm	L2 mm	g	
151.2720	1/16"	74.0	13.5	10	
151.2721	5/64"	80.0	15.0	10	
151.2722	3/32"	86.0	17.0	10	
151.2723	7/64"	92.0	18.0	10	
151.2724	1/8"	94.0	18.0	10	
151.2725	9/64"	100.0	20.0	10	
151.2726	5/32"	104.0	21.0	10	
151.2727	3/16"	116.0	24.0	20	
151.2728	7/32"	126.0	28.0	30	
151.2729	1/4"	134.0	28.0	40	
151.2730	5/16"	152.0	32.0	80	
151.2731	3/8"	170.0	40.0	110	
151.2732	1/2"	190.0	45.0	150	
151.2733	9/16"	215.0	56.0	250	
151.2734	5/8"	250.0	63.0	390	
151.2735	3/4"	280.0	70.0	620	

CLASSIC 3 in 1 Hexagon key wrench set

- Long execution
- DIN / ISO 2936
- Imperial sizes
- Handle with double function (holder / T-handle)
- Continuous hardened
- Matt chrome
- Special steel

			g	
151.2070	8 pcs	5/64" - 3/32" - 1/8" - 5/32" - 3/16" - 1/4" - 5/16" - 3/8"	360	

MACHINING

Thread file, imperial

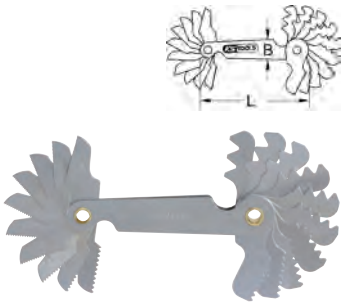
- For the restoration of defective internal and external threads
- Suitable for right and left handed threads
- Two sided serviceable
- Special steel

Suitable for thread pitch: 24 - 10 pitch imperial

	L mm	g	
150.1345	230.0	130	

Thread gauge

- For controlling and increasing the interior thread and outside thread
- Imperial sizes
- Cylindrical tapered
- Leaves fan shaped arrangement
- Leaves individually marked with size
- Out of hardened spring steel



	Tooth pitch		g	
301.0090	22	4 - 4,5 - 5 - 6 - 7 - 8 - 9 - 10 - 11 12 - 13 - 14 - 16 - 18 - 20 - 22 - 24 - 32 - 40 - 48 - 56 - 64	40	

Thread chaser

- For recutting edges and cleaning of damaged outside threads
- No damage of the thread due to the soft holding guides
- Suitable for right and left handed threads
- Quick cutting jaw modification possible from the magazine
- Special steel

Replacement jaws metric: 1.0 - 1.25 - 1.5 - 1.75 - 2.0 - 2.5 - 3.0 - 3.5 mm
Replacement jaws imperial: 24 - 20 - 18 - 16 - 14 - 12 - 11,5 - 11 - 10 - 9 - 8 - 7.5 - 7 - 6 - 5 - 4 pitch/imperial

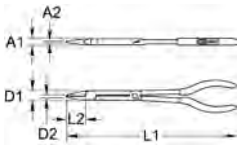
	Ø mm	Replacement jaws mm	Replacement jaws inch	kg	
150.1430	25,0 - 140,0	150.1431	150.1432	1.40	

6 PLIERS

STANDARD PLIERS

CLASSIC Double jointed telephone pliers, extra long

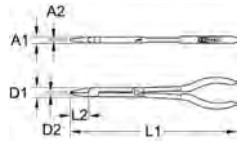
- Serrated execution
- With double joint
- Extremely narrow design
- With PVC dipped handle
- For difficult to access areas
- Matt chrome
- Special tool steel



	A1 mm	A2 mm	D1 mm	D2 mm	L1 mm	L2 mm	g
500.7061	10.0	10.0	18.0	3.0	340.0	32.0	450

CLASSIC Double jointed flat pliers, extra long

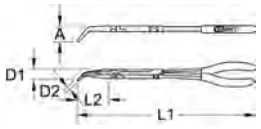
- Serrated execution
- With double joint
- Extremely narrow design
- For difficult to access areas
- With PVC dipped handle
- Matt chrome
- Special tool steel



	A1 mm	A2 mm	D1 mm	D2 mm	L1 mm	L2 mm	g
500.7062	11.0	3.0	18.0	5.0	300.0	65.0	450

Double jointed long nosed pliers 45° curved and extra long

- Serrated execution
- With double joint
- Extremely narrow design
- 45° curved jaws
- With PVC dipped handle
- For difficult to access areas
- Matt chrome
- Special tool steel



	A mm	D1 mm	D2 mm	L1 mm	L2 mm	g
500.7063	22.0	17.0	5.0	335.0	60.0	450

CLASSIC Double jointed plier set, extra long

- Serrated execution
- With double joint
- Extremely narrow design
- With PVC dipped handle
- For difficult to access areas
- Matt chrome
- Special tool steel

			kg
500.7060	3 pcs	300 - 335 - 340 mm	1.40

ERGOTORQUE*plus*® plier set

- With two component handle
- For soft and medium wire
- Inductively hardened precision cutting edges
- Chrome plated and mirror polished
- Special tool steel

			kg
119.1010	3 pcs	ERGOTORQUE*plus*® plier set	0.80
1 x		165 mm	
1 x		185 mm	
1 x		215 mm	

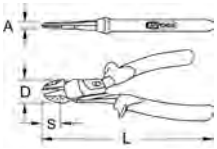
ERGOTORQUE*plus*® plier set

- With two component handle
- Inductively hardened precision cutting edges
- Chrome plated and mirror polished
- Special tool steel

			kg
119.1004	4 pcs	ERGOTORQUE*plus*® plier set	1.00
1 x		165 mm	
1 x		165 mm	
1 x		185 mm	
1 x		215 mm	

ULTIMATE*plus* high leverage side cutter

- Long cutting edge
- Induction-hardened precision cutting
- With two component handle
- Suitable for various types of wire
- Extremely robust execution
- Titanium coated surface
- Special tool steel

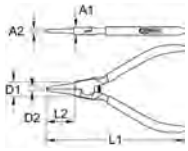


	A mm	D mm	L mm	S mm	g
119.2025	17,0	30.0	210.0	23,0	300

CIRCLIP PLIERS

Circlip pliers for external circlips

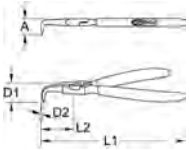
- In accordance to DIN 5254
- Slip inhibiting machined precision tips
- Durable, straight design
- Self closing
- With rubber grip
- Power version
- Die forged
- Chrome vanadium



	mm	A1 mm	A2 mm	D1 mm	D2 mm	L1 mm	L2 mm	g
119.2051	10,0 - 25,0	8.0	1.0	13.5	3.5	135,0	30.0	80
119.2056	19,0 - 60,0	9.0	1.5	15.0	4.5	175,0	40.0	150
119.2061	40,0 - 100,0	10.0	2.5	20.0	6.0	230,0	50.0	250

Circlip pliers for external circlips, angled

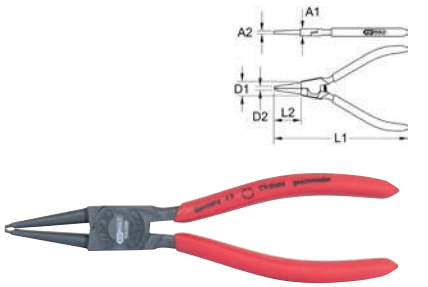
- In accordance to DIN 5256
- Slip inhibiting machined precision tips
- 90° angled version
- Self closing
- With rubber grip
- Power version
- Die forged
- Chrome vanadium



	mm	A mm	D1 mm	D2 mm	L1 mm	L2 mm	g
119.2052	10,0 - 25,0	20.0	15.0	3.0	125,0	20.0	80
119.2057	19,0 - 60,0	25.0	20.0	4.5	165,0	32.0	150
119.2062	40,0 - 100,0	30.0	25.0	6.0	210,0	40.0	250

Circlip pliers for internal circlips

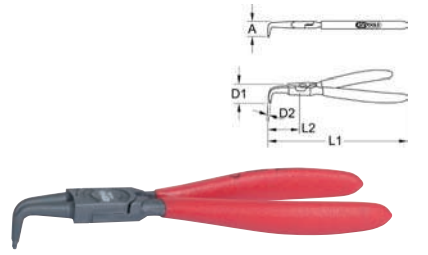
- In accordance to DIN 5254
- Slip inhibiting machined precision tips
- Durable, straight version
- With rubber grip
- Power version
- Die forged
- Chrome vanadium



	mm	A1 mm	A2 mm	D1 mm	D2 mm	L1 mm	L2 mm	g
119.2053	12,0 - 25,0	7.5	1.2	15.0	2.7	135,0	30.0	80
119.2058	19,0 - 60,0	9.5	1.6	18.0	5.0	180,0	40.0	150
119.2063	40,0 - 100,0	10.0	2.0	20.0	6.0	230,0	50.0	250

Circlip pliers for internal circlips, angled

- In accordance to DIN 5256
- Slip inhibiting machined precision tips
- 90° angled tips
- With rubber grip
- Power version
- Die forged
- Chrome vanadium



	mm	A mm	D1 mm	D2 mm	L1 mm	L2 mm	g
119.2054	12,0 - 25,0	16.5	14.5	2.5	125,0	20.0	80
119.2059	19,0 - 60,0	21.0	18.0	3.0	165,0	25.0	150
119.2064	40,0 - 100,0	25.0	20.0	5.0	210,0	35.0	250

Circlip pliers set

- For inside and outside circlips
- With rubber grip
- 90° angled tips
- Durable, straight precision tips
- All outside circlips with opening spring
- Power version
- Chrome vanadium

			g
119.2050	4 pcs	Circlip pliers set	455

consists of:

		g
119.2051	Circlip pliers for external circlips, 10-25 mm	80
119.2052	Circlip pliers for external circlips, angled, 12-25 mm	80
119.2053	Circlip pliers for internal circlips, 12-25 mm	80
119.2054	Circlip pliers for internal circlips, angled, 12-25 mm	80

Circlip pliers set

- For inside and outside circlips
- With rubber grip
- 90° angled tips
- Durable, straight precision tips
- All outside circlips with opening spring
- Power version
- Chrome vanadium

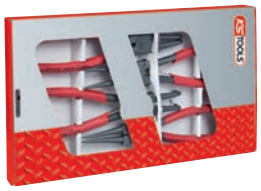
			g
119.2055	4 pcs	Circlip pliers set	735

consists of:

		g
119.2056	Circlip pliers for external circlips, 19-60 mm	150
119.2057	Circlip pliers for external circlips, angled, 19-60 mm	150
119.2058	Circlip pliers for internal circlips, 19-60 mm	150
119.2059	Circlip pliers for internal circlips, angled, 19-60 mm	150

Circlip pliers set

- For inside and outside circlips
- With rubber grip
- 90° angled tips
- Durable, straight precision tips
- All outside circlips with opening spring
- Power version
- Chrome vanadium



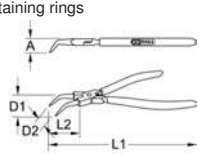
			g
119.2060	4 pcs	Circlip pliers set	1000

consists of:

		g
119.2061	Circlip pliers for external circlips, 40-10 mm	250
119.2062	Circlip pliers for external circlips, angled, 40-10 mm	250
119.2063	Circlip pliers for internal circlips, 40-10 mm	250
119.2064	Circlip pliers for internal circlips, angled, 40-10 mm	250

CLASSIC wheel bearing circlip pliers, angled

- Durable precision tips
- 45° angled tips
- Self opening
- With PVC dipped handle
- For the disassembly and assembly of wheel bearing retaining rings
- Can be used on the front and rear
- For all common wheel bearing retaining rings
- Chrome vanadium



	A mm	D1 mm	D2 mm	L1 mm	L2 mm	g
500.1038	22.0	23.0	2.3	240.0	32.0	250
500.1039	22.0	23.0	3.0	300.0	46.0	490

Circlip plier set with ratchet function

- For inside and outside circlips
- With rubber grip
- Interchangeable tips
- 8 types of pliers by reversing the tips
- Includes disassembly and assembly heads
- Chrome vanadium

Internal circlips: 60,0 mm - 100,0 mm
External circlips: 40,0 mm - 85,0 mm

			kg
500.1350	20 pcs	Circlip plier set with ratchet function	1.80

Circlip plier set with ratchet function

- For inside and outside circlips
- With rubber grip
- Interchangeable tips
- 6 types of pliers by reversing the tips
- Includes disassembly and assembly heads
- Chrome vanadium

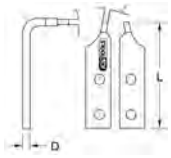
Internal circlips: 78,0 mm - 159,0 mm
External circlips: 89,0 mm - 159,0 mm

			kg
500.1300	14 pcs	Circlip plier set with ratchet function	1.80

Circlip pliers for internal circlips with 0° + 90° tips

- For internal circlips
- Interchangeable tips
- For circlips according to DIN 472 / DIN 984
- Black powder coating
- Chrome vanadium

Application range: Trucks, land and construction machines, municipally and forestery technology, etc.



	D mm	L mm	mm	kg	
500.1340	3.5	540.0	122,0 - 300,0	2.01	

Circlip pliers for external circlips with 0° + 90° tips

- For external security rings
- Interchangeable tips
- For circlips according to DIN 472 / DIN 984
- Black powder coating
- Chrome vanadium

Application range: Trucks, land and construction machines, municipally and forestery technology, etc.

	D mm	L mm	mm	kg	
500.1345	3.5	540.0	122,0 - 300,0	2.02	

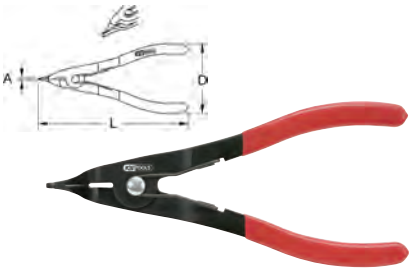
Spare parts:

		D mm	L mm	g	
500.1341	tips straight	3.5	65.0	90	
500.1342	tips 90°	3.5	74.0	125	

Lockring pliers, serrated

- With PVC dipped handle
- Serrated and angular tip
- With self closing mechanism
- For the dismantling and assembly lockring
- For external security rings
- No sliping due to the serrated tips
- Chrome molybdenum

Ideally suited for the dismantling and assembly of lockring on drive shafts on for example VW, MB and Opel.

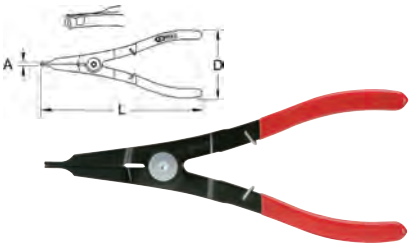


	A mm	D mm	L mm	g	
115.1048	0,0-20,0	45.0	210.0	220	

Lockring pliers, fully formed tips

- With PVC dipped handle
- Fully formed tips
- With self closing mechanism
- For the dismantling and assembly lockring
- For external security rings
- No sliping due to the serrated tips
- Chrome molybdenum

Ideally suited for the dismantling and assembly of lockring on drive shafts on for example VW, MB, Opel, BMW and Ford.

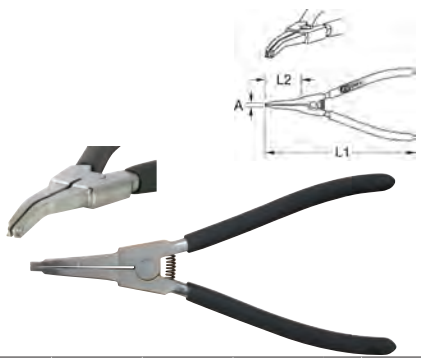


	A mm	D mm	L mm	g	
115.1049	0,0-20,0	45.0	240.0	600	

Drive shaft removal pliers

- 30° angled
- With PVC dipped handle
- Self-closing
- Plier head with cut out and ring stop body
- For the disassembly and assembly of nut caps without lug retainer
- Chrome vanadium

Application range: For the dismantling of the external (bellow joints in the exchange of the axle boots and / or the drive shaft sleeves). e.g.: for Audi, Opel, VW (Golf, T4), Fiat, Mitsubishi.

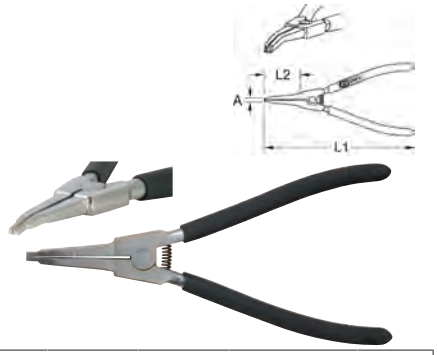


	A mm	L1 mm	L2 mm	g	
115.0991	0,0-33,0	210.0	50.0	215	

Drive shaft removal pliers

- Slightly angled
- With PVC dipped handle
- Self-closing
- Checkered plier head
- For the disassembly and assembly of drive shaft circlips without lug retainer
- Slip proof
- Chrome vanadium

Application range: For the removal of external circlips e.g. on synchronisation joints

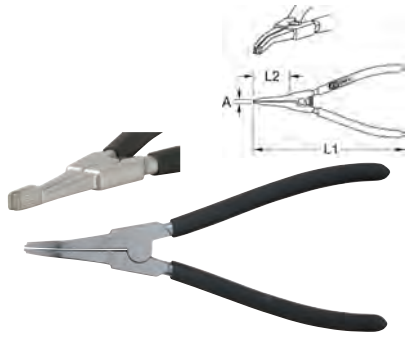


	A mm	L1 mm	L2 mm	g	
115.0992	0,0-37,0	210.0	50.0	220	

Drive shaft removal pliers

- Straight form
- With PVC dipped handle
- Self-closing
- Checkered plier head
- For the disassembly and assembly of drive shaft circlips without lug retainer
- Slip proof
- Chrome vanadium

Application range: For the removal of external circlips e.g. on drive shafts, transmissions, etc

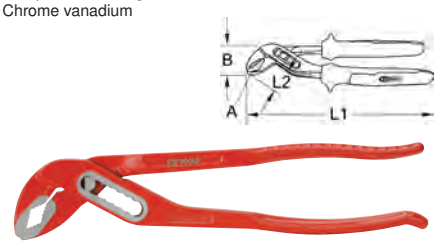


	A mm	L1 mm	L2 mm	g	
115.0993	0,0-37,0	210.0	48.0	220	

INSTALLATION PLIERS

Water pump pliers

- In accordance to DIN 8976
- Toothed gripping surfaces
- Optimum power transfer
- Industrial and ground heads
- Red powder coating
- Chrome vanadium



	A	B mm	L1 mm	L2 mm	g	
115.1000	1"	30.0	175.0	30.0	160	
115.2000	1.1/4"	35.0	240.0	36.0	310	
115.3000	1.1/2"	40.0	300.0	42.0	620	

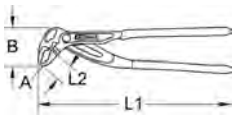
Water pump plier set

- With accurate industrial adjustment
- With safety clamping protection
- Optimum power transfer
- Double sided gripping jaws
- Ground heads
- With PVC dipped handle
- Chrome vanadium

			g
115.8501	2 pcs	10" - 12"	960

Water pump pliers

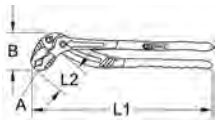
- With accurate industrial adjustment
- With safety clamping protection
- Optimum power transfer
- Double sided gripping jaws
- Ground heads
- With PVC dipped handle
- Chrome vanadium



	A mm	B mm	L1 mm	L2 mm	g	
115.8502	36.0	44.0	175.0	26.5	185	
115.8000	51.0	54.0	250.0	33.5	340	
115.8500	61.5	65.0	300.0	41.5	510	

Water pump plier Quattro Gripp

- Maximum jaw opening approx. 40% above DIN ISO
- Push-button with 4 tooth technique
- With accurate industrial adjustment
- With safety clamping protection
- Optimum power transfer
- Substaintial precision through joint
- Ground heads
- Handle dip insulated
- Chrome vanadium

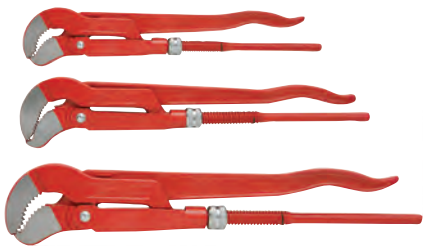


	A mm	B mm	L1 mm	L2 mm	g	
115.8520	50.0	50.0	260.0	40.0	370	
115.8525	70.0	60.0	320.0	50.0	630	
115.8530	100.0	90.0	400.0	65.0	1250	

PIPE WRENCHES

Angled pipe plier set

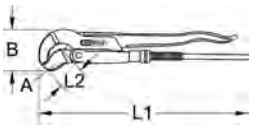
- With PVC dipped handle
- Toothed gripping surfaces
- Optimum power transfer
- With grooved handle adjustment
- Progressive teeth
- Chrome vanadium



			kg	
113.2100	3 pcs	1" - 1.1/2" - 2"	4.79	

S Jaw angled pipe plier, offset

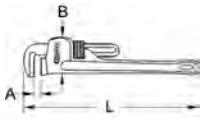
- In accordance to DIN 5234
- Jaw 45° offset
- Ground heads
- Infinitely variable
- Gear, contrary to the direction of rotation
- Red powder coating
- Drop forged
- Chrome vanadium



	A	B mm	L1 mm	L2 mm	kg	
113.0500	1/2"	48.0	245.0	45.0	0.48	
113.1000	1"	95.0	320.0	60.0	0.82	
113.1500	1.1/2"	73.0	420.0	73.0	1.40	
113.2000	2"	87.0	550.0	87.0	2.57	
113.3000	3"	112.0	630.0	112.0	4.30	

One handed pipe pliers

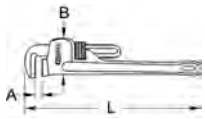
- Type "Stillson"
- Aluminium cast body
- Ground heads
- Infinitely variable
- Drop forged
- Aluminium forged



	A	B mm	L mm	kg	
111.3100	2"	75.0	350.0	0.88	
111.3200	2.1/2"	90.0	450.0	1.46	
111.3300	3.1/2"	100.0	600.0	2.44	

One handed steel pipe plier

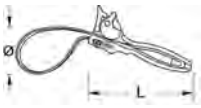
- Type "Stillson"
- Ground heads
- Infinitely variable
- Die forged head
- Handle of steel



	A mm	B mm	L mm	kg	
111.3500	25.0	50.0	200.0	0.37	
111.3505	30.0	60.0	250.0	0.65	
111.3510	40.0	65.0	300.0	0.87	
111.3515	50.0	70.0	350.0	1.27	
111.3520	60.0	85.0	450.0	1.85	
111.3525	75.0	95.0	600.0	3.00	
111.3530	85.0	125.0	900.0	5.10	
111.3535	110.0	150.0	1200.0	9.10	

Strap pipe pliers

- For hard to reach places
- Especially suited for plastic pipes
- Glass fibre reinforced handle
- Belt made of reinforced, non slip rubber



	Ø mm	L mm	g	
114.0150	110,0	190.0	180	

Chain pipe wrench

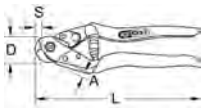
- Function is similar to a ratchet
- For hard to reach places
- Hardened teeth
- Drop-forged
- Chrome vanadium

	Ø mm	L mm	kg	
114.0040	110,0	390.0	1.36	

BOLT CUTTERS

Steel wire shear

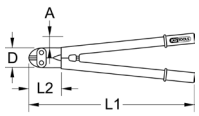
- For medium steel wire up to 4,7 mm
- With opening spring and safety catch
- Induction hardened cutting
- No splaying out of the wire
- With PVC dipped handle
- Special tool steel



	Ø mm	A mm	D mm	L mm	S mm	g
118.0092	4,7	11.0	27.0	140.0	9,0	100

Bolt cutters

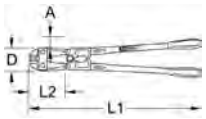
- With forged arms
- With steel tube legs and eccentric adjustment
- With interchangeable cutter head
- Cutter head made of high quality special steel
- Inductively hardened precision cutting edges
- Phosphate finish
- Special tool steel



	A mm	D mm	L1 mm	L2 mm	Replacement cutter head	kg
118.0218	20.0	65.0	460.0	120.0	118.0119	2.60
118.0224	25.0	82.0	610.0	135.0	118.0125	2.90
118.0230	30.0	65.0	760.0	155.0	118.0131	3.20
118.0236	35.0	110.0	900.0	170.0	118.0137	5.40

Bolt cutters

- With pipe handle
- With steel tube legs and eccentric adjustment
- With interchangeable cutter head
- Cutter head made of high quality special steel
- Inductively hardened precision cutting edges
- Phosphate finish
- Special tool steel

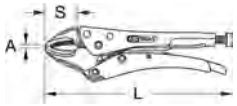


	A mm	D mm	L1 mm	L2 mm	Replacement cutter head	kg
118.0118	20.0	65.0	450.0	115.0	118.0119	1.50
118.0124	22.0	85.0	600.0	136.0	118.0125	2.50
118.0130	27.0	95.0	750.0	155.0	118.0131	4.88
118.0136	35.0	110.0	900.0	170.0	118.0137	6.70
118.0142	40.0	120.0	1050.0	195.0	118.0143	6.70

LOCKING PLIERS

Locking pliers

- Forged gripping jaws
- Serrated execution
- Size adjustment using the adjustment wheel
- Quick release lever
- Easy locking action
- For round and flat material
- To hold when welding
- Nickel plated
- Chrome vanadium



	A mm	L mm	S mm	g
115.1031	0,0-50,0	125.0	19,3	180
115.1032	0,0-55,0	175.0	24,0	340
115.1033	0,0-60,0	250.0	27,5	520

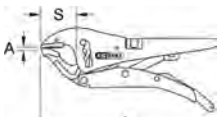
Automatic locking pliers

- Forged gripping jaws
- Automatic adjustment by cam mechanism
- Serrated execution
- Quick-release lever
- For round and flat material
- Heavy but controlled clamping
- To hold when welding
- Knurled handle
- Nickel plated
- Chrome vanadium

	A mm	L mm	S mm	g
115.1150	0,0-32,0	125.0	22,0	250
115.1155	0,0-47,0	250.0	29,0	620

Locking pliers, serrated

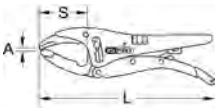
- Forged gripping jaws
- Serrated execution
- Quick release lever
- Size adjustment using the adjustment wheel
- For round and flat material
- To hold when welding
- Nickel plated
- Chrome vanadium



	A mm	L mm	S mm	g
115.1036	0,0-55,0	250.0	40,0	670

Locking pliers, serrated

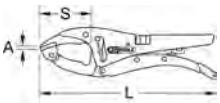
- Forged gripping jaws
- Serrated execution
- Quick release lever
- Size adjustment using the adjustment wheel
- For round and flat material
- To hold when welding
- Nickel plated
- Chrome vanadium



	A mm	L mm	S mm	g
115.1037	0,0-85,0	250.0	60,0	800

Locking pliers, serrated

- Forged gripping jaws
- Movable clamping jaws
- Serrated execution
- Quick-release lever
- Size adjustment using the adjustment wheel
- For round and flat material
- To hold when welding
- Nickel plated
- Chrome vanadium



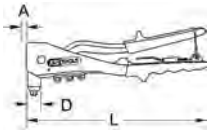
	A mm	L mm	S mm	g
115.1038	0,0-85,0	250.0	60,0	800

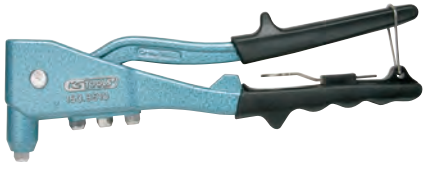
RIVETING PLIERS

Standard hand riveting tool

- Suitable for blind rivets
- Including four interchangeable mouthpieces
- Magazine and key in the riveter body
- Narrow head pliers
- With safety lock on the handle end
- With rubber grip
- Die-cast metal body

Blind rivets: 2,4 - 3,2 - 4,0 - 4,8 mm





	A mm	D mm	L mm	g
150.9510	24.0	21.0	270.0	920

Standard hand riveting tool set

- Suitable for blind rivets
- Four interchangeable mouthpieces
- Magazine and key in the riveter body
- Includes 200 blind rivets
- With rubber grip
- Die-cast metal body

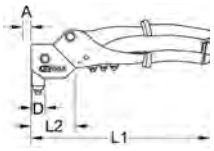
Blind rivets: 2,4 - 3,2 - 4,0 - 4,8 mm

			kg	
150.9520	205 pcs	Standard hand riveting tool set	1.25	

Hand rivet tool

- Suitable for blind rivets
- 360° rotating head
- For difficult to access areas
- Narrow head pliers
- With safety lock on the handle end
- Including four interchangeable mouthpieces
- Die-cast metal body

Blind rivets: 2,4 - 3,2 - 4,0 - 4,8 mm



	A mm	D mm	L1 mm	L2 mm	g	
150.9540	27.0	21.0	290.0	70.0	870	

Universal hand riveting tool set

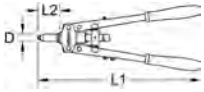
- Suitable for blind rivets and blind rivet nuts
- 360° rotating head
- For difficult to access areas
- Four interchangeable mouthpieces and nut rivet pulling inserts
- Die-cast metal body

Blind rivets: 2,4 - 3,2 - 4,0 - 4,8 mm
Rivet nuts: M3 - M4 - M5 - M6

			kg	
150.9610	10 pcs	Universal hand riveting tool set	1.96	

Universal riveting tool

- Suitable for blind rivets and blind rivet nuts
- Retractable legs for increased power consumption
- Mouthpiece magazine intergrated in the handle
- With two component handle
- Die cast metal body



	D mm	L1 mm	L2 mm	kg	
150.9633	30.0	510.0	45.0	1.60	

Universal riveting tool set

- Suitable for blind rivets and blind rivet nuts
- Retractable legs for increased power consumption
- Mouthpiece magazine intergrated in the handle
- With two component handle
- Die-cast metal body

Blind rivets: 2,4 - 3,2 - 4,0 - 4,8 - 6,4 mm
Rivet nuts: M4 - M5 - M6 - M8 - M10

			kg	
150.9630	11 pcs	Universal riveting tool set	2.67	

Mouthpieces for riveting

	D mm	Suitable for	g	
150.9570	2.4	150.9610+150.9630	10	
150.9571	3.2	150.9610+150.9630	10	
150.9572	4.0	150.9610+150.9630	10	
150.9573	4.8	150.9610+150.9630	10	
150.9574	5.0	150.9610+150.9630	10	
150.9575	6.4	150.9610+150.9630	10	

Replacement jaws for gripping rivet

	Suitable for	g	
150.9578	150.9610	10	
150.9579	150.9630	10	

Rivet head

	Suitable for	g	
150.9620	150.9610	160	

Rivet nut pulling spindle for riveting tools

		Suitable for	g	
150.9613	M3	150.9610	30	
150.9614	M4	150.9610	30	
150.9615	M5	150.9610	30	
150.9616	M6	150.9610	30	
150.9634	M4	150.9630	40	
150.9635	M5	150.9630	40	
150.9636	M6	150.9630	40	
150.9638	M8	150.9630	70	
150.9640	M10	150.9630	70	

Replacement rivet heads for rivet tools

	Suitable for	g	
150.9611	150.9610	60	
150.9631	150.9630	100	
150.9632	150.9630	40	

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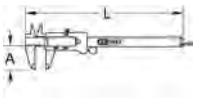
VENIER CALIPER

Digital venier caliper 0 -150 mm

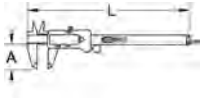
- In accordance with DIN 862
- With fixed adjusting screw and fine rolling adjustment
- For external, internal, step and depth measurements
- Scale division in black
- Measuring bar in mm and imperial divisions
- mm/imperial switching
- With thread table
- Reset (to zero) in every position possible
- Large LCD display - figure height 10.0 mm
- With automatic switching off
- Entirely hardened, finely engineered
- Stainless steel
- In durable plastic case



	Measuring range mm	A mm	L mm	Display accuracy mm	Depth gauge	g
300.0532	0 - 150	40.0	235.0	+/- 0,01	sides	150

Digital venier caliper 0 - 150 mm

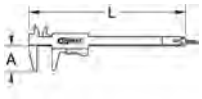
- In accordance with DIN 862
- Fixed adjusting screw and fine rolling adjustment
- For external, internal, step and depth measurements
- Scale division in black
- Measuring bar in mm and imperial divisions
- mm/imperial switching
- Thread table
- Reset (to zero) in every position possible
- Large LCD display figure height 10,0 mm
- Automatic switching off
- Entirely hardened, finely engineered
- Stainless steel
- In durable plastic case



	Measuring range mm	A mm	L mm	Display accuracy mm	Depth gauge	g
300.0520	0 - 150	40.0	230.0	+/- 0,01	sides	320

Pocket venier caliper 0 - 150 mm

- In accordance with DIN 862
- Instant declaration
- For external, internal, step and depth measurements
- Scale division in black
- Measuring bar in mm and imperial divisions
- Thread table
- Entirely hardened, finely engineered
- Stainless steel
- In leather case



	Measuring range mm	A mm	L mm	Display accuracy mm	Depth gauge	g
300.0510	0 - 150	40.0	235.0	+/- 0,05	sides	145

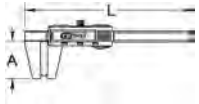
Workshop venier caliper 0 - 300 mm

- In accordance with DIN 862
- Locking screw
- For external, internal, step and depth measurements
- Scale division in black
- Measuring bar in mm divisions
- Entirely hardened, finely engineered
- Stainless steel
- In durable plastic case

	Measuring range mm	A mm	L mm	Display accuracy mm	Depth gauge	g
300.0515	0 - 300	55.0	415.0	+/- 0,05	sides	250

Digital brake disk venier caliper 0 - 60 mm

- In accordance with DIN 862
- Locking screw
- For internal measurements
- Scale division in black
- Measuring bar in mm and imperial divisions
- mm/imperial switching
- Reset (to zero) in every position possible
- Large LCD display figure height 10.0 mm
- Automatic switching off
- Entirely hardened, finely engineered
- Stainless steel
- In durable plastic case



	Measuring range mm	A mm	L mm	Display accuracy mm	g
300.0540	0 - 60	55.0	160.0	+/- 0,01	130

Digital brake drum gauge HGV 0 - 100 mm

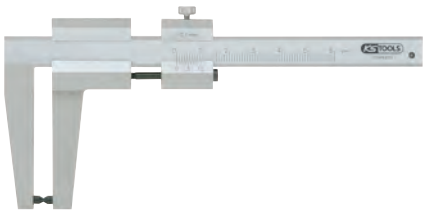
- In accordance with DIN 862
- With locking screw
- For testing the material strength of brake discs
- Scale division in black
- Precision scale division in mm and imperial
- mm/imperial switching
- Hold button for fixing measured value despite beak displacement
- Reset (to zero) in every position possible
- LCD display - figure height 6,0 mm
- With automatic switching off
- Vernier and scale matt finish chrome plated
- Stainless steel, hardened
- In durable plastic case

Application: Commercial vehicle, buses, etc.

	Measuring range mm	A mm	L mm	Display accuracy mm	g
300.0539	0 - 100	95.0	207.0	+/- 0,01	155

Brake disk venier caliper 0 - 60 mm

- In accordance with DIN 862
- Locking screw
- For internal measurements
- Scale division in black
- Measuring bar in mm divisions
- Entirely hardened, finely engineered
- Stainless steel
- In durable wooden case



	Measuring range mm	A mm	L mm	Display accuracy mm	g
300.0535	0 - 60	55.0	162.0	+/- 0,01	130
300.0536	0 - 90	124.0	225.0	+/- 0,01	135

HGV brake drum caliper 0 - 500 mm

- In accordance with DIN 862
- Locking screw
- For external and internal measurements
- Scale division in black
- Fine adjustment
- Measuring bar in mm divisions
- Thread table
- Internal measure has direct reading
- Entirely hardened, finely engineered
- Stainless steel
- In durable wooden case

	Inner measuring range mm	Outer measuring range mm	A mm	L mm	Display accuracy mm	kg
300.0530	0 - 500	60 - 560	150.0	660.0	+/- 0,05	1.38

DIAL GAUGES & TABLE STAND

Precision dial indicator gauge 0 - 10 mm

- In accordance with DIN 878
- With fixed adjusting screw and revolving scale reading
- Shockproof
- Splash proofed
- Measuring tip protected against contamination by a bellowed sleeve
- Clamping shaft Ø 8 mm H6
- With 2 measuring scales
- Spindle and clamping shaft made from stainless steel
- In durable plastic case

	D mm	Display accuracy mm	Pointer revolution mm	g
300.0560	60.0	+/- 0,01	1.0	280

Magnetic measurement stand

- For clamping of the dial indicator
- Revolving base
- Transverse arm with joint and fine adjustment
- With on and off switchable magnetic base
- High adhesive force on burnished steel and cast areas
- Also adhesive on convolutions
- Foot with prismatic base and stop area mounted edges
- With dial guage reception Ø 8 mm
- Mirror polished chrome housing

	Radius mm	Magnet foot L x W x H mm	Total depth mm	Adhesive force n	Stand Ø mm	kg
300.0625	180.0	60x50x55	280.0	600,0	16,0	2.00

SETS

Measuring tool set

- Practical assortment for daily workshop usage
- Includes accurate machined protective foam insert
- In durable plastic storage case

			kg
915.1310	8 pcs	Measuring tool set	1.20
1 x		0 - 150 mm	
1 x		0 - 25 mm	
1 x		0 - 10 mm	
1 x		300 mm	
1 x		145 mm	
1 x		3 m x 16 mm	
1 x		0,5 - 1,75 mm	
1 x		0,04 - 1 mm	

Brake disc test case

- For measuring the radial and axial runout of wheel hubs and brake discs
- Exact positioning of the dial gauge on the test object with magnetic dial gauge holder
- Quick and easy attachment of stand with prismatic support and activated magnets
- Precise setting of the measuring scale with adjustable tolerance marks
- With rotating, knurled outer ring
- Suitable for measuring the brake disc thickness, and for detection of irregularities and distortion
- With measured value fixing lever and measuring force control with ratchet function
- In durable plastic storage case

			kg
150.2230	3 pcs	Brake disc test case	4.00

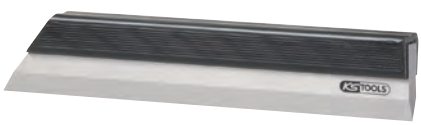
consists of:

		g
150.2201	Work frame with mandrel jig and interchangeable support plate	1460
150.2202	Flared arbor 8 mm	170
150.2203	Flared arbor 11 mm	170
150.2204	Burr arbor	180
150.2205	Support cylinder for work frame	10
151.2023	Hexagonal key socket wrench 3 mm	10

RULERS

Precision straightedge

- In accordance with DIN 874/00
- Hand warmth protection
- Test area precise and finely engineered
- Flatness tolerance for highest accuracy
- For controlled and test working in the light gap procedure
- Hardened
- Stainless steel



	L mm	H mm	g
300.0630	50.0	25.0	40
300.0631	75.0	25.0	60
300.0632	100.0	25.0	80
300.0633	125.0	25.0	100
300.0634	150.0	25.0	120
300.0635	200.0	25.0	160
300.0636	300.0	25.0	240
300.0637	400.0	25.0	320
300.0638	500.0	25.0	400
300.0639	600.0	25.0	480

Precision straightedge

- For the inspection and the exact working on cylinder heads
- In accordance with DIN 874/1
- Double T profile rail with rear 5 hand slots
- On edge and flat sides examination process
- Hanging hole
- Steel

	L mm	H mm	S mm	kg
152.1090	300.0	16.0	16,0	2.10

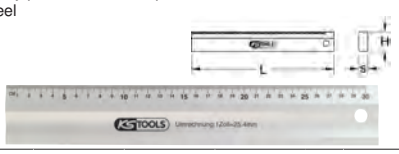
Semi flexible steel ruler

- Upper edge 1 mm
- Lower edge 1 mm
- Large decimal scale
- Units engraved
- Scale division in black
- Anti glare matt finish reflection free
- Rounded edges
- Measuring accuracy according to EC accuracy class II
- Rust proof
- Hard tempered spring steel

	L mm	H mm	g
300.0110	300.0	30.0	70
300.0111	500.0	30.0	105
300.0112	1000.0	30.0	245
300.0117	1500.0	30.0	370
300.0118	2000.0	30.0	490

Precision ruler

- mm division on the upper edge
- Chamfer
- Without protective layer
- Hanging hole
- Finely polished and zinc plated
- Steel



	H mm	L mm	S mm	g
300.0121	50.0	300.0	5,0	186
300.0122	50.0	500.0	5,0	292
300.0123	50.0	600.0	5,0	350
300.0124	50.0	800.0	5,0	460
300.0125	50.0	1000.0	5,0	600

SQUARES

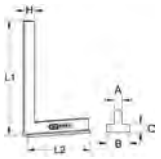
Square

- Ideal for general working
- Machined on all sides
- Steel

	L1 mm	L2 mm	H mm	S mm	g
300.0231	100.0	70.0	20.0	5,0	115
300.0232	150.0	100.0	20.0	5,0	175
300.0233	200.0	130.0	20.0	5,0	250
300.0234	250.0	160.0	25.0	5,0	375
300.0235	300.0	180.0	25.0	5,0	525
300.0236	400.0	230.0	30.0	5,0	615
300.0237	500.0	280.0	30.0	5,0	870
300.0238	600.0	330.0	30.0	5,0	1095
300.0239	750.0	375.0	30.0	5,0	1550
300.0241	1000.0	500.0	30.0	5,0	2910

Square with stock

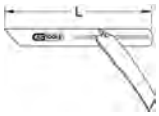
- Ideal for general working
- Stock
- Machined on all sides
- Steel



	L1 mm	L2 mm	H mm	A mm	B mm	C mm	
300.0270	100.0	70.0	20.0	5.0	20.0	5.0	170
300.0271	150.0	100.0	20.0	5.0	20.0	5.0	260
300.0272	200.0	130.0	20.0	5.0	20.0	5.0	340
300.0273	250.0	160.0	25.0	5.0	25.0	5.0	530
300.0274	300.0	180.0	25.0	5.0	25.0	5.0	620
300.0275	400.0	230.0	30.0	6.0	30.0	6.0	1160
300.0276	500.0	280.0	30.0	6.0	30.0	6.0	1440
300.0277	600.0	330.0	30.0	6.0	30.0	6.0	1720
300.0278	750.0	375.0	30.0	6.0	30.0	6.0	2060
300.0279	1000.0	500.0	30.0	6.0	30.0	6.0	2760

Adjustable square with steel blade

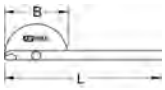
- Blade made from steel
- Ideal for simple metal working
- Wing nut for locking
- Channel for the adjustment of the angle
- Chrome plated
- Spring steel

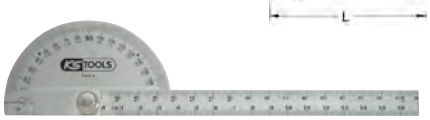


	L mm	
300.0327	200.0	180
300.0328	250.0	200
300.0329	300.0	220
300.0330	400.0	240
300.0331	500.0	260

Protractor

- Ideal for measuring of angles 0 - 180°
- Half round arch
- Locking screw
- Divisions printed in two directions
- Two direction scale in mm division in upper and lower edge
- Units engraved
- Scale division in black
- Anti glare matt finish
- Stainless steel

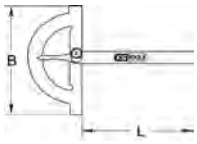




	B mm	L mm	
300.0700	90.0	220.0	70
300.0701	200.0	400.0	150

Protractor with open arch

- Ideal for measuring of angles 0 - 180°
- Half round open arch
- With locking screw
- Degree graduation 1°
- With large decimal scale
- Units engraved
- Scale division in black
- Anti glare matt finish
- Stainless steel



	B mm	L mm	
300.0640	80.0	120.0	150
300.0641	120.0	150.0	200
300.0642	150.0	200.0	300
300.0643	200.0	300.0	500
300.0644	300.0	500.0	1400
300.0645	300.0	600.0	1450
300.0646	320.0	690.0	1500
300.0647	420.0	800.0	2600
300.0648	420.0	1000.0	2900
300.0649	420.0	1190.0	3400

DIVIDERS

Pointed dividers with regulating arc

- Square edged irgs and riveted hinge
- Locking screw
- Ground and finely polished
- Hardened points
- Ground and finely polished
- Special steel

	A mm	L mm	
300.0416	300.0	150.0	135
300.0417	400.0	200.0	190
300.0418	500.0	250.0	275
300.0419	600.0	300.0	320

MARKING GAUGE & SCRIBER

Scriber

- For marking of work pieces
- Straight and 70° bent tip
- Knurled handle
- Hardened point
- Burnished
- Special steel

	L mm	D mm	
300.0300	190.0	4.0	10

Scriber

- For marking of work pieces
- Straight form
- Hard metal tip
- Pocket clip
- Hardened point
- Chrome plated
- Special steel

	L mm	D mm	
300.0301	145.0	5.0	60

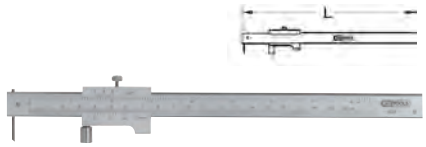
Scriber in ballpoint pen form

- For marking of work pieces
- Straight form
- Hardened and interchangeable hard metal tips
- Pocket clip
- Protection through foldaway needle tip
- Adjustable and lead bow mine
- Metal housing

	L mm	D mm	Replacement tip	
300.0302	150.0	8.0	300.0303	40

Universal marking gauge with stop roller

- Ideal for simple marking of work pieces
- Vernier caliper 1/128"
- Interchangeable tip
- Locking screw
- Measuring bar with mm divisions
- Hardened
- Stainless steel

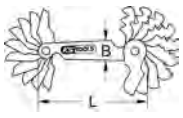


	Measuring range mm	L mm	Display accuracy mm	Replacement tip	
300.0626	200,0	265.0	1/20 mm; 1/128"	300.0651	200

THREAD- & FEELER GAUGES

Thread gauge

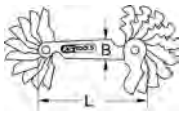
- For controlling and increasing the interior thread and outside thread
- Metric sizes
- Cylindrical tapered
- Leaves fan shaped arrangement
- Leaves individually marked with size
- Out of hardened spring steel

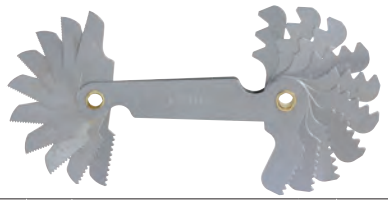


	Tooth pitch		
301.0095	20	0,40; 0,45; 0,50; 0,60; 0,70; 0,75; 0,80; 1,00; 1,25; 1,50; 1,75; 2,00; 2,50; 3,00; 3,50; 4,00; 4,50; 5,00; 5,50; 6,00;	40

Thread gauge

- For controlling and increasing the interior thread and outside thread
- Imperial sizes
- Cylindrical tapered
- Leaves fan shaped arrangement
- Leaves individually marked with size
- Out of hardened spring steel





	Tooth pitch		g
301.0090	22	4 - 4,5 - 5 - 6 - 7 - 8 - 9 - 10 - 11 12 - 13 - 14 - 16 - 18 - 20 - 22 - 24 - 32 - 40 - 48 - 56 - 64	40

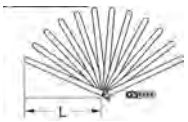
Feeler gauge

- For the testing of intervals, contact distances, etc.
- Feeler gauge conical tapered
- Fixing nut
- Leaves individually marked with size
- Blades made out of hardened spring steel

	Tooth pitch	Measuring range mm	L mm	g
300.0600	20	0,05 - 0,10 - 0,15 - 0,20 - 0,25 - 0,30 - 0,35 - 0,40 - 0,45 - 0,50 - 0,55 - 0,60 - 0,65 - 0,70 - 0,75 - 0,80 - 0,85 - 0,90 - 0,95 - 1,00	100.0	50

Piston tolerance gauge

- For the testing of intervals, contact distances, etc.
- Feeler gauge cylindrical
- Blades fan shaped on a ring
- Leaves individually marked with size
- Blades made out of hardened spring steel



	Tooth pitch	Measuring range mm	L mm	g
300.0614	8	0,05 - 0,1 - 0,15 - 0,2 - 0,25 - 0,3 - 0,4 - 0,5	150.0	30
300.0617	8	0,05 - 0,1 - 0,15 - 0,2 - 0,25 - 0,3 - 0,4 - 0,5	200.0	50
300.0615	13	0,05 - 0,1 - 0,15 - 0,2 - 0,25 - 0,3 - 0,4 - 0,5 - 0,6 - 0,7 - 0,8 - 0,9 - 1,0	150.0	80
300.0618	13	0,05 - 0,1 - 0,15 - 0,2 - 0,25 - 0,3 - 0,4 - 0,5 - 0,6 - 0,7 - 0,8 - 0,9 - 1,0	200.0	150
300.0616	20	0,05 - 0,1 - 0,15 - 0,2 - 0,25 - 0,3 - 0,35 - 0,4 - 0,45 - 0,5 - 0,55 - 0,6 - 0,65 - 0,7 - 0,75 - 0,8 - 0,85 - 0,9 - 0,95 - 1,0	150.0	150

FOLDING RULES

Wooden folding rule, yellow

- Out of ten yellow dividers
- Outside visible joints with spring fittings
- Through riveted joints
- Two sided mm divisions on the upper and lower edge
- Large decimal scale
- Scale division in black
- Overall length 2 meters
- Measuring accuracy according to EC accuracy class III
- Beech wood

	L m	Width mm	Number of links	g
300.0060	2.0	16.0	10	100

Plastic folding rule, yellow

- Out of ten yellow dividers
- Durable special joint connection
- Two sided mm divisions on the upper and lower edge
- Large decimal scale
- Scale division in black
- Overall length 2 meters
- Measuring accuracy according to EC accuracy class III
- Glass fibre reinforced and bends resistant ABS-plastic

	L m	Width mm	Number of links	g
300.0061	2.0	16.0	10	100

REEL TAPE MEASURES

PRECISION*plus* tape measure with locking device and belt clip

- Yellow varnished steel strip
- mm divisions on the upper and lower edge
- Scale division in black
- Decimal in red marking
- Automatic tape returns and tape locking
- Plastic tape guide
- Wrist strap
- Measuring accuracy according to EC accuracy class II
- Weathering spring band steel
- Dual component plastic housing

	L m	Tape width mm	g
300.0113	3.0	16.0	100
300.0114	5.0	19.0	130
300.0115	5.0	25.0	190
300.0116	8.0	25.0	210

PRECISION*plus* tape measure with locking device and belt clip

- Yellow lacquered, abrasion proof polyamide coated steel tape
- mm divisions on the upper and lower edge
- Scale division in black
- Decimal in red marking
- Automatic tape returns and tape locking
- Metallic tape guide
- Wrist strap
- Measuring accuracy according to EC accuracy class II
- Flexible, kink proof weathering spring band steel
- ABS two component housing

	L m	Tape width mm	g
300.0131	3.0	16.0	100
300.0132	5.0	19.0	150
300.0133	5.0	25.0	150
300.0134	8.0	25.0	370
300.0135	10.0	30.0	500

PRECISION*plus* tape measure with locking device, belt clip and magnetic stop

- Yellow lacquered, abrasion proof polyamide coated steel tape
- mm divisions on the upper and lower edge
- Scale division in black
- Decimal in red marking
- Automatic tape returns and tape locking
- Magnetic stop
- Measuring accuracy according to EC accuracy class II
- Flexible, kink proof weathering spring band steel
- ABS two component housing

	L m	Tape width mm	g
300.0143	5.0	25.0	150

Enclosed tape measure with plastic tape

- Yellow glass fibre reinforced plastic tape
- Stretch, abrasion resistant and washable
- Measuring begins at 100 mm after measurement stop
- cm division on the lower edge
- Large decimal scale-red marking
- Scale division in black
- Good handling through the crank arm and locking position
- Measuring accuracy according to EC accuracy class III
- Impact resistant, ABS plastic housing

	L m	Tape width mm	g
300.0040	10.0	10.0	350
300.0041	20.0	10.0	400
300.0042	30.0	10.0	550
300.0043	50.0	10.0	690

SPIRIT LEVELS

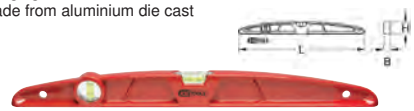
Aluminium profile spirit level

- Smooth aluminium rectangular profile
- Light profile weight
- Accurate to 0,5 mm per meter
- 3 robust Acrylglas vials (0° + 45° + 90°)
- 1,8 mm wall thickness
- Hanging hole
- Aluminium

	L mm	B mm	H mm	g
204.5400	400.0	22.0	50.0	200
204.5500	500.0	22.0	50.0	240
204.5600	600.0	22.0	50.0	300
204.5800	800.0	22.0	50.0	350
204.5900	1000.0	22.0	50.0	400

Heavy aluminium die cast spirit level in torpedo form, magnetic

- Skeleton profile
- Accurate to 0,5 mm per meter
- 2 robust Acrylglas vials (0° + 90°)
- Very high torsional stiffness
- Torpedo form
- Magnetic
- Measuring area milled
- Hanging hole
- Made from aluminium die cast



	L mm	B mm	H mm	g
204.6400	400.0	23.0	47.0	470
204.6500	500.0	23.0	47.0	600
204.6600	600.0	23.0	47.0	600
204.6800	800.0	23.0	47.0	1000

INTERIOR & ASSEMBLY

Radio and navigation system installation and removal set

- For the damage free dismantling and assembly of car radios and navigation systems
- For loosening the bolt fastner
- In durable plastic storage case

Application range: Porsche, Mercedes Benz, Fiat, VW, Audi, Ford, BMW, Opel, Clarion, Kenwood, Panasonic, Pioneer, JVC, Sony, Becker, Blaupunkt, Grundig etc.

			kg	
500.1380	52 pcs	Radio and navigation system installation and removal set	1.41	

Airbag dismantling tool set

- For the dismantling and assembly of airbag units
- Sockets are the ideal length
- Optimal access to the reinforcement screws of the airbag pad
- Universal usage
- In durable plastic case

Application range: Audi, BMW, Mercedes Benz, Opel, VW, Renault, Seat, Skoda, Vag, etc.

			kg	
140.2310	12 pcs	Airbag dismantling tool set	1.60	

consists of:

140.2301	1/4" Airbag bit socket TB 30	30	
140.2302	1/4" Airbag bit socket TX 30	30	
140.2303	1/4" Airbag bit socket hexagonal 5 mm	30	
140.2304	1/4" Airbag bit socket TB 25	30	
140.2305	1/4" Airbag bit socket TX 25	30	
140.2311	Airbag dismantling tool, 2 pcs	70	
140.2313	Airbag dismantling tool, 2 pcs	100	
140.2315	Airbag unlocking tool	30	
140.2316	Airbag removal lever for VW 105 x 96 mm, Slotted 5,5 + 8,0 mm	50	
140.2317	Universal airbag unlocking tool	30	

Clip remover

- For metal and plastic clips
- Durable tool for the removal of door panels
- Lever effect due to the angled head on the front end of the lifter
- Robust execution with durable square shaft
- With hanging hole
- Special steel

	L mm	g	
140.2230	275.0	160	

Clip remover V-form

- Universal usage
- For removing cover panels trims and protective caps, etc
- With cutting edge blade
- Bevelled ground cutting edge blade
- With hanging hole
- With two component handle
- Stainless steel

	B mm	L1 mm	L2 mm	T mm	g	
911.8192	5.0	230.0	95.0	8.0	120	

Clip remover U-form, wide offset

- Universal usage
- For removing cover panels trims and protective caps, etc
- Bevelled ground blades
- With hanging hole
- With two component handle
- Stainless steel

	B mm	L1 mm	L2 mm	T mm	g	
911.8193	8.0	260.0	120.0	20.0	210	

Clip remover U-form, wide angled

- Universal usage
- For removing cover panels trims and protective caps, etc
- Bevelled ground blades
- With hanging hole
- With two component handle
- Stainless steel

	B mm	L1 mm	L2 mm	T mm	g	
911.8194	16.0	230.0	95.0	20.0	150	

Clip remover Y-form, double width angled

- Universal usage
- For removing cover panels trims and protective caps, etc
- Bevelled ground blades
- With hanging hole
- With two component handle
- Stainless steel

	B mm	L1 mm	L2 mm	T mm	g	
911.8195	8.0	230.0	95.0	20.0	150	

Clip remover and cutting set

- Universal use due to different blades
- For removing cover panels trims and protective caps, etc
- Bevelled ground blades
- With hanging hole
- With two component handle
- Stainless steel

			kg	
911.8190	5 pcs	Clip remover and cutting set	2.00	

consists of:

		g	
911.8191	Panel lever U-form, narrow offset, 230 mm	120	
911.8192	Panel lever V-form, narrow offset, 230 mm	120	
911.8193	Panel lever U-form, wide angled, 230 mm	210	
911.8194	Panel lever U-form, wide offset, 230 mm	150	
911.8195	Panel lever Y-form, wide offset, 230mm	150	

Moulding wedge with felt

- With felt trimming
- For the careful assembly by pressing in trim mouldings
- The flat surface protects components
- Suitable for the aligning of car doors or to force them open
- Special plastic

	L mm	B mm	g	
911.8141	250.0	20.0	70	

Plastic lever and beveled wedge

- The flat surface protects components
- Ideally suited for working on trims, door panels, rubber seals etc.
- Special plastic

	L mm	B mm	g	
911.8142	250.0	20.0	30	

Trim plastic wedge

- Ideal for the aligning of car doors or to force them open
- The flat surface protects components
- Suitable for working on trims, door panels, rubber seals etc.
- Special plastic

	D mm	L mm	g	
911.8138	30.0	195.0	90	
911.8139	60.0	195.0	150	

Trim removal combination wedge

- Ideally suitable for the dismantling and assembly of trims Door mouldings, door accessories etc
- Swallow tail opening 45° angled
- The flat surface protects components
- Optimal leverage with the short wedge and long lever
- Optimal usage for removal and refitting trims and mouldings cutting edges on the ends
- Special plastic

	L mm	B mm	g	
911.8140	210.0	26.0	90	

Plastic lever wedge set

- Ideal for the aligning of car doors or to force them open
- The flat surface protects components
- Suitable for working on trims, door panels, rubber seals etc.
- Impact resistant special plastic

			g	
911.8160	5 pcs	Plastic lever wedge set	430	

consists of:

		g	
911.8138	Trim plastic wedge, L=195mm x B=30mm	90	
911.8139	Trim plastic wedge, L=195mm x B=60mm	150	
911.8140	Trim plastic wedge, L=210mm x B=26mm	90	
911.8141	Moulding wedge with felt, L=250mm x B=20mm	70	
911.8142	Plastic lever and beveled wedge, L=250mm x B=20mm	30	

Sanding block with sponge rubber backing

- Accepts emery and sandpaper etc
- Moulded handle ensures a comfortable grip
- Ideally suited for working on surfaces
- Clamping clips made from stainless steel
- Special plastic

	L mm	B mm	g	
515.3095	210.0	105.0	330	

BODYWORK

Pneumatic chisel set

- Non slip soft grip handle
- Air exhaust through the handle
- Ultra light housing from two component plastic
- Ergonomic designed handle
- For ripping out car body sheet metal with compressed air
- Ideal for industry
- Also suitable for loosening firmly rusted fittings
- Stepless impact regulation
- Vibration dampened
- Cold insulated handle
- Includes 1/4" coupling connector
- In durable plastic case

Technical data:

Chisel holder:	10 mm
Number of blows:	3000 blows/min
No load current:	3200 r.p.m.
Vibration:	8,5 ms²
Noise performance level:	99.2 dbA
Noise pressure level:	110.9 dbA
Air consumption:	270 l/min
Operating pressure:	max. 6,3 bar (90 psi)
Min. tube diameter:	3/8“
Connection thread:	1/4“PT

			kg	
515.3810	7 pcs	Pneumatic chisel set	1.70	

Vibro impact pneumatic chisel hammer set

- With non slip soft grip handle
- Air exhaust through the handle
- Ergonomic designed handle
- Ideal for industry
- Efficient, gentle loosening of screw fittings
- With stepless impact regulation
- Vibration dampened
- Cold insulated handle
- Includes 1/4" coupling connector
- Ultra light housing from two component plastic

			kg	
515.3880	6 pcs	Vibro impact pneumatic chisel hammer set	5.70	

consists of:

		kg	
515.3881	Pneumatic chisel hammer	2.17	
515.3882	Holder for pneumatic chisel hammer	1.55	
515.3886	Pneumatic chisel track rod loosener,110mm	0.14	
515.3887	Pneumatic chisel hammer,110mm	0.15	
515.3888	Pneumatic chisel loosening adapter,130mm	0.16	
515.3889	Pneumatic chisel loosening mandrel,100x25x12mm	0.19	

Vibro Power hammer chisel accessories

- As complement to Vibro-Power system 515.3880
- Universal use for bodywork and chassis repair
- Extension of the working range
- Utilisation of vibration and shock pulse of Vibro Power pneumatic hammer
- Robust chisel forged out of one piece

Application: Cutting exhausts, loosening of ball joint, extracting bolts and cutting metal sheets

		g	
515.3961	Vibro Power punch Ø6.5mm	95	
515.3962	Vibro Power exhaust slitting chisel for inner tube width 23mm	190	
515.3963	Vibro Power exhaust slitting chisel for outer tube width 23mm	190	
515.3964	Vibro Power metal sheet slitting chisel,anti-twist protection 20mm	160	
515.3965	Vibro Power flat chisel with anti-twist protection width 19mm	220	
515.3966	Vibro Power halfround chisel,anti-twist protection 26mm	210	
515.3967	Vibro Power fork separator 20mm	300	
515.3968	Vibro Power fork separator 25mm	330	
515.3969	Vibro Power fork separator 32mm	590	

Further information to Vibro Power system on page 111.

Pneumatic pistol grip drill

- Low rotation speed
- Non slip soft grip handle
- Ultra light robust housing from special plastic
- Air exhaust through the handle
- Quick release chuck capacity 0 - 13 mm
- Practical clockwise and anticlockwise switch
- Suitable for continuous duty
- Ideally suited for working with hard to machine materials
- For spot weld drills, polishing and grinding wheels, erasing rubbers etc.
- Very substaintial guide
- Stepless speed regulation
- Vibration dampened
- Handle for 2 hand operation 360° revolving and lockable
- Cold insulated handle
- Includes 1/4" coupling connector

Technical data:

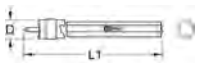
Chuck capacity:	1,5 - 13 mm
Chuck thread reception:	3/8“ x 24 Gang
Capacity:	330 Watt
No load current:	450 r.p.m.
Vibration:	< 0,15 ms²
Noise performance level:	95 dbA
Noise pressure level:	87 dbA
Air consumption:	113 l/min
Operating pressure:	max. 6,3 bar (90 psi)
Min. tube diameter:	3/8“ - 10 mm
Connection thread:	1/4“NPT

	B mm	D1 mm	L1 mm	kg	
515.3035	200.0	43.0	230.0	1.60	

HSS Spot weld cutter

- Right hand cutting
- Interchangeable crowns
- Milling machine depth adjustable
- For efficient and fast working
- For loosening of spot welds
- No deformation of the sheet metal
- Special high performance steel

Ideally suitable with compressed air drill, electric drill and rechargeable battery drill.



	D mm	D	L mm	Replacement crowns	Center point	Content	g
332.0951	8.0	5/16"	72.0	332.0952	332.0955	1	30
332.0953	10.0	3/8"	72.0	332.0954	332.0955	1	30

HSS Spot weld cutter set

- Right hand cutting
- Interchangeable crowns
- Milling machine depth adjustable
- For efficient and fast working
- For loosening of spot welds
- No deformation of the sheet metal
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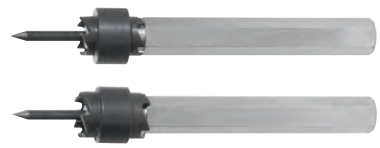
Ideally suitable with compressed air drill, electric drill and rechargeable battery drill.

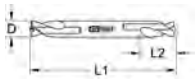


			g
332.0950	2 pcs	8 - 10 mm	100

HSSE Double ended spot weld drill

- Right hand cutting
- Relieved cone has a ground point
- Cutting edge has thinning point
- 135° pointed angle
- Double ended usage
- Extra short and durable
- For thin walled materials
- Surface without discolouration
- High performance steel

Ideally suitable in steel, cast steel and high and low alloyed steel up to 900 N/mm² tensile, bronze, brass, brushed aluminum alloy, graphite, nickel silver, sintered iron, pressure-, malleable- and cast iron



	D mm	L1 mm	L2 mm	Content	g
332.0908	8.0	70.0	16.3	1	20

HSS Double ended spot weld drill set

- Stackable for storage
- With integral clasp
- High strength hinge
- Right hand cutting
- Relieved cone has a ground point
- Cutting edge has thinning point
- 135° pointed angle
- Double ended usage
- Extra short and durable
- For thin walled materials
- Surface without discolouration
- High performance steel

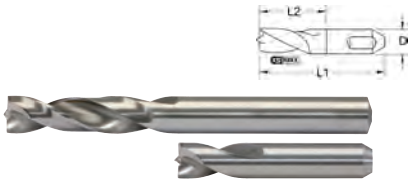
Ideally suitable in steel, cast steel and high and low alloyed steel up to 900 N/mm² tensile, bronze, brass, brushed aluminum alloy, graphite, nickel silver, sintered iron, pressure-, malleable- and cast iron

			g
332.0938	3 pcs	3 x 332.0908	20

HSSE Spot weld drill

- Right hand cutting
- Centre tip has a ground point
- Accurate polished
- For burr free drilling without using a centre punch
- For the drilling of welding points
- Surface without discolouration
- High performance steel

Ideally suited in a hand drilling machine.
For drilling of plastic sheet, copper, zinc, aluminum, brass and steel sheet.

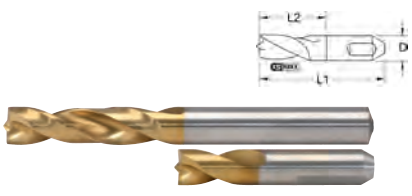


	D mm	L1 mm	L2 mm	Content	g
332.0106	6.0	70.0	25.0	1	10
332.0108	8.0	80.0	30.0	1	20
332.0110	10.0	90.0	35.0	1	40

HSSE TIN Spot weld drill

- Right hand cutting
- Centre tip has a ground point
- Accurate polished
- For burr free drilling without using a centre punch
- For the drilling of welding points
- TIN coated surface
- High performance steel

Ideally suited in a hand drilling machine.
For drilling of plastic sheet, copper, zinc, aluminum, brass and steel sheet.

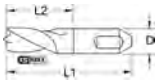


	D mm	L1 mm	L2 mm	Content	g
332.0206	6.0	70.0	25.0	1	10
332.0208	8.0	80.0	30.0	1	20
332.0210	10.0	90.0	35.0	1	40

HSSE TICN Spot weld drill

- Right hand cutting
- Centre tip has a ground point
- Accurate polished
- For burr free drilling without using a centre punch
- For the drilling of welding points
- TICN coated surface
- High performance steel

Ideally suited in a hand drilling machine.
For drilling of plastic sheet, copper, zinc, aluminum, brass and steel sheet.



	D mm	L1 mm	L2 mm	Content	g
332.0308	8.0	80.0	30.0	1	20
332.0310	10.0	90.0	35.0	1	40

Fastdrill pneumatic spot weld drill set

- Special gearbox for high torque
- With non slip soft grip handle
- Air exhaust through the handle
- Suitable for continuous duty
- Ideally suited for internal and external spot welds
- For carbide spot weld drills
- Very substaintial guide
- With revolving and removable frame on the fixation on the object
- Feed achievement through Pneumatic-cylinder
- With stepless speed regulation
- Cold insulated handle
- Includes 1/4" coupling connector
- Robust machined housing

Technical data:

Receiver in mm	8 mm
Capacity:	280 Watt
No load current:	1000 r.p.m.
Vibration:	< 0,233 ms²
Noise performance level:	95.4 dbA
Noise pressure level:	82.4 dbA
Air consumption:	340 l/min
Operating pressure:	6 bar
Min. tube diameter:	3/8" - 10 mm
Connection thread:	1/4"PT

			kg
515.1310	3 pcs	Fastdrill pneumatic spot weld drill set	2.40

consists of:

		kg
515.1311	Fastdrill pneumatic spot weld drill	1.85
515.1312	Bracket, small, for Fastdrill	0.55
515.1314	T-handle wrench	0.04

Accessories:

		kg
515.1313	Bracket, big, for Fastdrill	0.80

Bracket, small, for Fastdrill

- As complement to Fastdrill 515.1310
- Large reach of the bracket for deeper welding point
- Bracket can be replaced without the use of tools
- Can be rotated on the machine shaft

	H mm	L mm	g	
515.1312	55.0	150.0	550	

Bracket, big, for Fastdrill

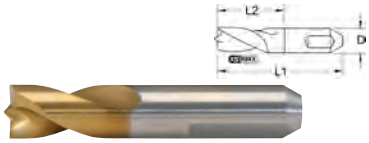
- As complement to Fastdrill 515.1310
- Large reach of the bracket for deeper welding point
- Bracket can be replaced without the use of tools
- Can be rotated on the machine shaft

	H mm	L mm	g	
515.1313	130.0	206.0	800	

HSSE TiN Spot weld cutter

- Right hand cutting
- Centre tip has a ground point
- Accurate polished
- For burr free drilling without using a centre punch
- For the drilling of welding points
- TIN coated surface
- High performance steel

Ideally suited in a compressed air drill and vario milling machine.

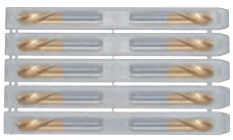


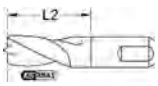
	D mm	L1 mm	L2 mm	Content	g	
332.0508	6.5	44.0	15.0	1	10	
332.0808	8.0	44.0	15.0	1	10	

HSSE TiN Spot weld cutter

- Right hand cutting
- Centre tip has a ground point
- Accurate polished
- For burr free drilling without using a centre punch
- For the drilling of welding points
- TIN coated surface
- High strength steel

Ideally suited in a compressed air drill and vario milling machine

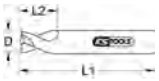




	D mm	L1 mm	L2 mm	Content	g	
332.0809	8.0	44.0	23.0	10	100	

Carbide spot weld drill

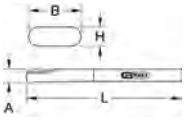
- Right hand cutting
- Highest stability under load
- Double edged
- Welded carbide head
- Especially temperature resistance up to max. 1100 °C
- High performance carbide
- Suitable for high strength car body panels



	D mm	L1 mm	L2 mm	Content	g	
515.1305	8.0	44.0	11.0	1	22	
515.1308	10.0	44.0	11.0	1	22	

Bodywork slitting chisel

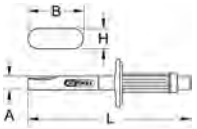
- DIN 7255
- Flat oval form
- Blade can be resharpened
- Extra flat
- Burnished
- Chrome vanadium



	L mm	A mm	B mm	H mm		g	
140.2162	300.0	21.0	25.0	6.0	-	450	

Bodywork slitting chisel with hand grip

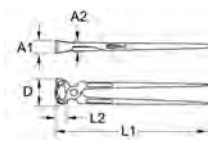
- DIN 7255
- Flat oval form
- Blade can be resharpened
- Extra flat
- Burnished
- Chrome vanadium



	L mm	A mm	B mm	H mm	g	
140.2165	300.0	21.0	25.0	6.0	550	

Bodywork end pincers

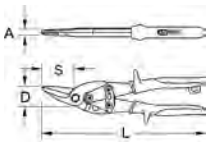
- In accordance with DIN 5173
- Polished head
- Ideal suitable for bodywork
- Horse shoe nail head
- Oil-hardened
- Cutting-hardness approximately 55 HRC
- Black surface
- Special tool steel



	A1 mm	A2 mm	D mm	L1 mm	L2 mm	g	
116.1415	22.0	25.0	49.0	300.0	20.0	785	

Template cutting shear with lever gearing

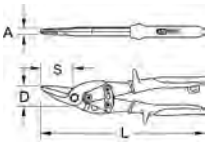
- Right hand cutting
- Self opening handle
- Serrated blades
- With internal spring
- With easy locking action
- Includes hanging loop
- Induction hardened precision cutting
- With two component handle
- Cuts steel sheet up to 1.5 mm, stainless steel up to 1.0 mm
- Special tool steel



	Ø mm	A mm	D mm	L mm	S mm	g	
118.0045	Right hand cutting 1,5 (1,0)	30,0	50.0	260.0	40,0	540	

Template cutting shear with lever gearing

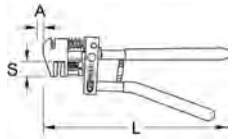
- Left handed cut
- Self opening handle
- Serrated blades
- With internal spring
- With easy locking action
- Includes hanging loop
- Induction hardened precision cutting
- With two component handle
- Cuts steel sheet up to 1.5 mm, stainless steel up to 1.0 mm
- Special tool steel



	Ø mm	A mm	D mm	L mm	S mm	g	
118.0046	Left handed cut 1,5 (1,0)	30,0	50.0	260.0	40,0	540	

Punched hole and joggler pliers

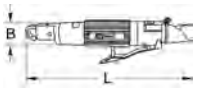
- Self opening
- Fast conversion by simply turning the head
- For the flanging and punching sheet metal and body parts
- Punching up to 1,25 mm thickness
- Hole diameter 5 mm
- Requires light expenditure of energy
- Special tool steel



	A mm	L mm	S mm	kg	
118.0055	22.0	285.0	13,0	1.23	

Pneumatic reciprocating bodywork saw, low vibration

- Air exhaust through the used air tube to the rear
- For one handed operation with ergonomic design
- For works in car body panels, beams and profile
- Secure operation lever with locking device
- Suitable for small sawing radius
- Stepless speed regulation
- Number of revolutions adjustable through regulating screw
- Vibration dampened
- Cold insulated handle
- Includes 1/4" coupling connector
- Robust metal housing



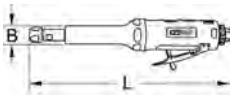
Technical data:

Stroke:	10 mm
Cutting strokes:	5760 strokes/min
Vibration:	< 9,1 ms²
Noise pressure level:	69.2 dbA
Noise performance level:	81.0 dbA
Air consumption:	196 l/min
Operating pressure:	max. 6,3 bar (90 psi)
Min. tube diameter:	3/8“ - 10 mm
Connection thread:	1/4“PT

	B mm	L mm		kg
515.3000	45.0	790.0	129.3740-46	0.80

Pneumatic reciprocating saw

- Light but sturdy saw for most vehicle body operations
- Versatile application of vehicle body / sheet metal working / plastics and composite materials
- Saw operates extremely quietly / including exhaust air hose
- Precise working possible even with tight sawing radii
- Adjustable bracket for cutting depth adjustment
- Powerful, suitable also for double wall sheet metal work
- Secure operation lever with locking device
- Vibration dampened
- Gentle on user and machine
- Including coupling plug 7.2 mm and 1 x sheet 24 teeth
- Aluminium housing with powder coating
- Meets the requirements of Vibration Directive 2002/44/EC of July 2002



Technical data:

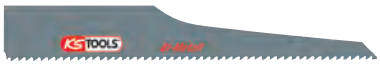
Stroke:	10 mm
Cutting strokes:	10,000 strokes/min
Vibration:	< 3,0 ms²
Noise pressure level:	80.0 dbA
Air consumption:	48 l/min
Operating pressure:	6,3 bar (90 psi)
Min. tube diameter:	3/8“ - 10 mm
Connection thread:	1/4“PT

	B mm	L mm		kg
515.3200	38.0	215.0	129.3740-46	0.55

Jigsaw blades

- Flexible and shatter proof
- Suitable for:
- Non ferrous metal and stainless steel
- Steel sheet and car body panels
- Compression moulded material and formica

Suitable for: Ober, KS, Pneutec, CP, KS 515.3000 und 515.3200



	No. teeth	TPI	D mm	L mm	Content	g
129.3740	80	32	1.0	100.0	5	30
129.3742	60	24	1.0	100.0	5	30
129.3744	45	18	1.0	100.0	5	30
129.3746	35	14	2.0	100.0	5	30

Jigsaw blades

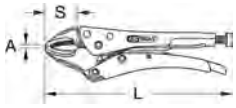
- Flexible and shatter proof
- Suitable for:
- Non ferrous metal and stainless steel
- Steel sheet and car body panels
- Compression moulded material and formica

Suitable for: SIG und Flex

	No. teeth	TPI	D mm	L mm	Content	g
129.3750	80	32	0.7	100.0	5	20
129.3752	60	24	1.0	100.0	5	20
129.3754	45	18	1.4	100.0	5	20
129.3756	35	14	1.8	100.0	5	20

Locking pliers

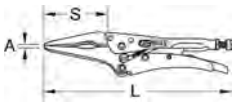
- Forged gripping jaws
- Serrated execution
- Size adjustment using the adjustment wheel
- Quick release lever
- Easy locking action
- For round and flat material
- To hold when welding
- Nickel plated
- Chrome vanadium



	A mm	L mm	S mm	g
115.1031	0,0-50,0	125.0	19,3	180
115.1032	0,0-55,0	175.0	24,0	340
115.1033	0,0-60,0	250.0	27,5	520

Long nose locking pliers

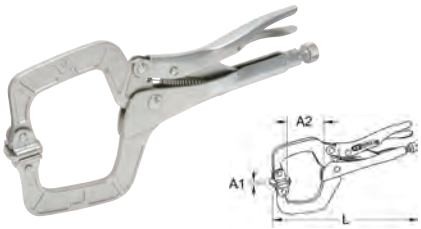
- Forged gripping jaws
- Serrated execution
- Size adjustment using the adjustment wheel
- Quick-release lever
- Easy locking action
- For round and flat material
- To hold when welding
- Nickel plated
- Chrome molybdenum



	A mm	L mm	S mm	g
115.1034	0,0-35,0	150.0	45,0	180
115.1035	0,0-45,0	225.0	65,0	340

Welding gripping pliers with movable clamping jaws

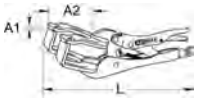
- Flat gripping jaws
- Movable clamping jaws
- Quick-release lever
- Easy locking action
- Size adjustment using the adjustment wheel
- For profiled bulky components
- Good adaptation to existing surfaces
- Nickel plated
- Chrome molybdenum



	A1 mm	A2 mm	L mm	g
115.1074	0,0-100,0	70.0	285.0	780
115.1075	0,0-270,0	240.0	450.0	1250

Welding gripping pliers

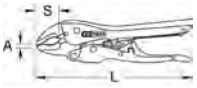
- With malleable cast iron jaws
- Suitable for setting the welding points between the cut outs
- Quick-release lever
- Size adjustment using the adjustment wheel
- To hold and adjust sheets and profiles
- With easy locking action
- Nickel plated
- Chrome molybdenum



	A1 mm	A2 mm	L mm	g
115.1078	0,0-45,0	70.0	220.0	600
115.1079	0,0-55,0	70.0	280.0	780

Automatic locking pliers

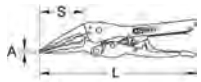
- Forged gripping jaws
- Automatic adjustment by cam mechanism
- Serrated execution
- Quick-release lever
- For round and flat material
- Heavy but controlled clamping
- To hold when welding
- Knurled handle
- Nickel plated
- Chrome vanadium



	A mm	L mm	S mm	g
115.1150	0,0-32,0	125.0	22,0	250
115.1155	0,0-47,0	250.0	29,0	620

Automatic long nosed locking pliers

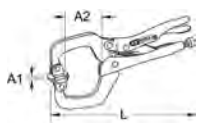
- Forged gripping jaws
- Automatic adjustment by cam mechanism
- Serrated execution
- Quick-release lever
- Heavy but controlled clamping
- For round and flat material
- To hold when welding
- Knurled handle
- Nickel plated
- Chrome molybdenum



	A mm	L mm	S mm	g
115.1160	0,0-51,0	175.0	55,0	260

Automatic gripping pliers

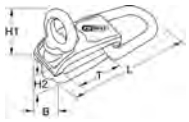
- Flat gripping jaws
- Movable clamping jaws
- Automatic adjustment by cam mechanism
- Quick-release lever
- Heavy but controlled clamping
- For round and flat material
- For profiled bulky components
- Good adaptation to existing surfaces
- Knurled handle
- Nickel plated
- Chrome molybdenum



	A1 mm	A2 mm	L mm	g
115.1165	0,0-68,0	55.0	175.0	330
115.1170	0,0-90,0	90.0	275.0	650

Mini pull clamp

- Two directions of pull
- Eyelet can be mounted to the left and right
- Ideal for car body repairs
- Extremely versatile
- Special steel



	L mm	B mm	H1 mm	H2 mm	T mm	Fixing bolt	kg
140.2400	150.0	36.0	100.0	42,0	27.0	M12x1,75	930

Standard pull clamp

- One direction of pull
- Ideal for car body repairs
- Extremely versatile
- Special steel

	L mm	B mm	H1 mm	H2 mm	T mm	Fixing bolt	kg
140.2405	220.0	44.0	90.0	22,0-42,0	32.0	TG/M17x90	1.95

Standard pull clamp with 2 pull directions

- Two directions of pull
- Ideal for car body repairs
- Extremely versatile
- Special steel

	L mm	B mm	H1 mm	H2 mm	T mm	Fixing bolt	kg
140.2410	220.0	44.0	125.0	22,0-80,0	32.0	TG/M17x90	2.13

Small pull clamp

- One direction of pull
- No distorting due to the security device
- Ideal for car body repairs
- Extremely versatile
- Special steel

	L mm	B mm	H1 mm	H2 mm	T mm	Fixing bolt	kg
140.2415	255.0	32.0	85.0	23,0-42,0	70.0	TG/M14x85	1.65

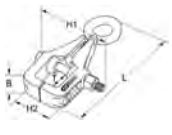
Box pull clamp

- One direction of pull
- Extra instep
- Ideal for car body repairs
- Extremely versatile
- Special steel

	L mm	B mm	H1 mm	H2 mm	T mm	Fixing bolt	kg
140.2420	245.0	38.0	130.0	80,0-85,0	64.0	TG/M14x130	2.04

Box pull clamp with adaptable jaws

- One direction of pull
- Extra instep
- Ideal for car body repairs
- Extremely versatile
- Special steel



	L mm	B mm	H1 mm	H2 mm	T mm	Fixing bolt	kg
140.2425	245.0	38.0	130.0	80,0-85,0	64.0	TG/M14x130	2.01

Box pull clamp with 2 pull directions

- Two directions of pull
- Ideal for car body repairs
- Extremely versatile
- Special steel

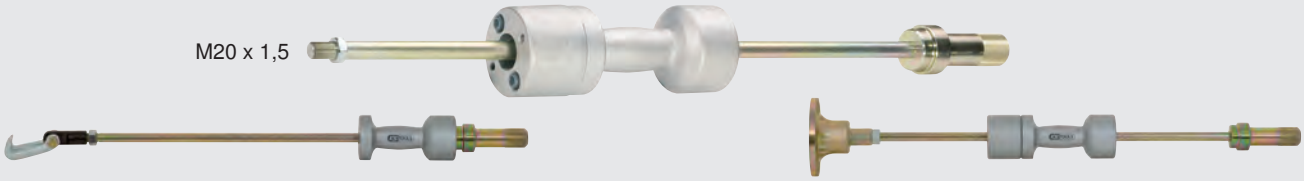
	L mm	B mm	H1 mm	H2 mm	T mm	Fixing bolt	kg
140.2430	245.0	38.0	155.0	80,0-145,0	64.0	TG/M14x130	2.21

Maxi pull clamp

- One direction of pull
- With extra large mouth
- Ideal for car body repairs
- Extremely versatile
- Special steel

	L mm	B mm	H1 mm	H2 mm	T mm	Fixing bolt	kg
140.2435	240.0	46.0	150.0	20,0-100,0	42.0	TG/M19x150	3.00

KS universal slide hammer system, 6+3 kg



Weight reduced for light work (6 kg ≈ 7 t)

Full weight for maximum impact force (9 kg ≈ 11 t)

Application in vehicle body area

700.1423 + 700.1425

Application with adapter for slide hammer attachment M20x1.5

700.1424

Application without adapter

140.2455

11 different puller clamps for use with hooks for selection 140.2400 to 140.2450

Application in engine area

152.1056 + 152.1057

Injector puller M27x1.0 special hex. socket wrench WAF10 with bore

Application in chassis area

700.1411

Wheel hub puller flange car, SUV and transporter Working range 98 - 138 mm

700.1421

1.1/2“x16G x M20x1.5
Further adapters available

700.1481

Wheel hub puller flange car, SUV and transporter working range 112 - 205 mm

700.1471 + 700.1472

Brake disc puller flange and slider hammer adapter Ford Transit

Double jaw pull clamp

- One direction of pull
- No distorting due to the security device
- Ideal for car body repairs
- Extremely versatile
- Special steel

	L mm	B mm	H1 mm	H2 mm	T mm	Fixing bolt	kg	
140.2440	175.0	120.0	90.0	22,0-36,0	32.0	TG/M17x90	2.49	

Double jaw pull clamp with 2 pull directions

- Two directions of pull
- No distorting due to the security device
- Ideal for car body repairs
- Extremely versatile
- Special steel

	L mm	B mm	H1 mm	H2 mm	T mm	Fixing bolt	kg	
140.2445	175.0	120.0	140.0	22,0-135,0	32.0	TG/M17x90	2.86	

Double jaw pull clamp with 3 pull directions

- Three directions of pull
- No distorting due to the security device
- Ideal for car body repairs
- Extremely versatile
- Special steel

	L mm	B mm	H1 mm	H2 mm	T mm	Fixing bolt	kg	
140.2450	175.0	120.0	140.0	22,0-135,0	32.0	TG/M17x90	3.40	

Universal slide hammer with puller hook, 6+3kg

- For use with pull clamps
- Extra heavy and solid execution
- For universal use for automobiles + trucks
- Enormous impact delivery of up to 11 tonnes
- With 6 kg impact weight
- Includes 3 kg additional weight
- With M 20 x 1.5 mm connection thread
- Weights variably attachable and removable
- Special steel

			kg	
700.1475	3 pcs	Universal slide hammer with puller hook, 6+3kg	13.24	

consists of:

140.2455	Universal pull hook, incl. adaptor, 2 pcs	1.00	
700.1415	Universal slide hammer 6 + 3 kg, 850mm	12.00	

Universal slide hammer

- Extra heavy and solid execution
- For universal use for automobiles + trucks
- Enormous impact delivery of up to 11 tonnes
- With 6 kg impact weight
- Includes 3 kg additional weight
- With M 20 x 1.5 mm connection thread
- Additional weights can be screwed together
- Special steel

	L mm	kg	
700.1415	850.0	12.00	

Accessories:

		g	
700.1421	Adaptor ET UN 1.1/2" x IT M20 x 1.5	720	
700.1423	Adaptor for double hook	270	
700.1428	Adaptor ET UN 1.1/2" x IT M16 x 2.0	720	
700.1430	Adaptor ET UN 1.1/2" x IT M16 x 1,5	720	
700.1424	Universal hook M20 x 1.5 for ball joints + car body	2400	
140.2455	Universal pull hook, incl. adaptor, 2 pcs	1000	
700.1425	Double hook	750	

Welders protective helmet, Racing Design

- Turns fully automatically from bright after dark as soon as the light arch is ignited
- Due to high quality solar cells battery replacement is no longer require
- Equiped with a sensitivityand delaying switch for switching between dark and light to prevent welders blindness when welding at high amp capacity
- Quick switching is possible when changing from seam to spot welding
- Selection switch for reaction time
- Robust multi positional head band
- Complete neck protection
- Face protection to EN 175 / eye protection to EN379 1/2/1

Technical data:

Switching timed:	1/25,000 s 0.6 s delay
Window:	98 x 40 mm (3.7/8" x 1.5/8")
Cassette size:	110 x 90 x 9 mm (4.3/8" x 3.1/2" x 0,35")
Power requirement:	Litium battery + solar cells
UV / IR protection:	According to EN169 / to DIN 16
Colour selection:	Varible adjustment from DIN 9-13 Standard light adjustment DIN 3 (4)
Working temperature:	-5° to +55°C
Storage temperature:	-20° up tp +70°C

	L mm	B mm	H mm	g	
310.0180	330.0	200.0	200.0	480	

Surge protector

- Protects the vehicle against voltage tip whilst welding
- With security protection
- Visibility signal and tone signal in voltages tips
- With reverse polarity protection

		g	
150.3080	12 V	480	
150.3085	24 V	480	
150.3045	12/24V	480	

Super spotter Kit

- Handy workshop tool
- For the repair of bodywork damage
- For hammerring out of car body sheet panels
- By means of special electrodes nails or dome headed screws are welded on the sheet metal so the dents can be removed with an impact hammer, hammering out with performing accurate blows
- With a heat electrode placed hot points can be set on the sheet metal
- Also an electrode contains for the welding of copper plated dome head screws for the reinforcement of housings, parts, etc. directly on the bodywork
- In durable plastic storage case

		kg	
500.8550	Super spotter Kit	10.39	

consists of:

		g	
500.8551	Welding gun 220V, 50/60 Hz	5460	
500.8554	Electrode for welding nails, Copper	10	
500.8556	Electrode for rivets, magnetic, Copper	10	
500.8557	Electrode for washers, Brass	10	
500.8558	Heating electrode for hot spots, Brass	10	
500.8559	Slide hammer puller 1,5 kg	2080	
500.8560	Electrode extension, brass	10	
500.8571	Spotter-consumables, welding nails 2.0 x 50 mm, pcs 500	660	
500.8572	Spotter consumables, welding nails, 2,5 x 50 mm, pcs 100	210	
500.8574	Spotter-consumables, rivets 3 x 3.2 mm, pcs 100	30	
500.8579	Spotter-consumables, screws M 4 x 16 mm, pcs 100	140	
500.8592	Washers 8.0 x 16.0 mm copper coated pcs 100	160	

Super spotter addditional kit

- For removing of car body damage
- Includes the adaptor for the slide hammer puller
- The flexible and strong steel wire profile is used so the processing of securing car body panels
- The movable pull hooks situated can be pulled by the claw fastener straightening the carbody and/or the bump on
- It can be hooked on 1-9 pull hooks, at what point exact or extensive enabling the removal of dents

			kg	
500.8530	15 pcs	Super spotter addditional kit	1.04	

consists of:

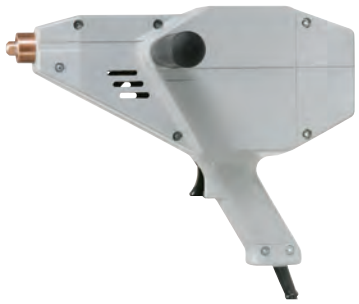
		g	
500.8531	Welding electrode, f.500.8550	23	
500.8532	Corrugated wire, 10pcs, 2x310mm	122	
500.8533	Corrugated wire magnetic positioner	34	
500.8534	Multi hook head, 6 claw connection	315	
500.8536	System adaptor side hammer	86	
500.8572	Welding nail, 100pcs, 2.5x50mm	210	

Accessories:

		g	
500.8535	Hook head for corrugated + washer connection IG M14x 1.5	65	

Welding gun 220V - 50/60 Hz

- Handy workshop tool
- For the repair of bodywork damage
- For hammerring out of car body sheet panels
- Plastic housing



	L mm	kg	
500.8551	285.0	5.46	

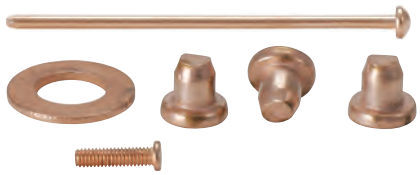
Slide hammer puller 1.5 kg

- For problem free hammerring out of car bodywork panels
- With 1.5 kg slide weight
- Usable in connection with the super spotter
- Special steel

	L mm	Height mm	Replacement span head	kg	
500.8559	475.0	80.0	500.8561	2.08	

Super spotter consumables

- Usable in connection with the super spotter
- For the reinforcement of the car body
- Copper coated



		g	
500.8570	Welding nail, 100pcs, 2x50mm	140	
500.8571	Welding nail, 500pcs, 2x50mm	660	
500.8572	Welding nail, 100pcs, 2.5x50mm	210	
500.8573	Welding nail, 500pcs, 2.5x50mm	1150	
500.8592	Washer, 100pcs, 8x16mm	160	
500.8595	Triangular-washer 2.5 x 50.0 mm copper coated 100pcs	500	
500.8574	Rivet, 100pcs, 3x3.2mm	30	
500.8575	Rivet, 100pcs, 3x4.5mm	40	
500.8576	Rivet, 100pcs, 5x8.2mm	40	
500.8579	Screw, 100pcs, M4x16mm	140	

Triangular-washer, copper plated

- Usable in connection with the slide hammer puller not with the super spotter
- For the reinforcement of the car body
- Copper coated

		g	
500.8593	20 pcs	100	
500.8594	50 pcs	250	
500.8595	100 pcs	500	
500.8596	1000 pcs	5000	

Super spotter electrodes

- Usable in connection with the super spotter
- Copper and/or brass

		g	
500.8554	Electrode f.welding nails	10	
500.8556	Electrode f.rivets, magnetic	10	
500.8562	Electrode f.screws	20	
500.8557	Electrode f.washers	10	
500.8558	Heating electrode f.hot spots	10	
500.8559	Slide hammer, 1.5kg	2080	

Flame proof mats

- Asbestos free
- Reduced fire risk
- Very flexible
- Good formability

	B mm	L mm	max. °C	g	
610.3350	330.0	500.0	700	330	
610.3351	460.0	800.0	700	650	
610.3399	1500.0	2000.0	600	2110	

Hydraulic alignment tool kit

- For pressing, clamps and spreading of car body parts
- Simple handling due to plug in connection
- Includes hydraulic hand pump/ high pressure cylinder 10 t, detachable handle simple handling due to plug in connection
- Special steel
- In durable wheeled storage case

			kg	
160.0175	17 pcs	Hydraulic alignment tool kit	41.00	

consists of:

		kg	
160.0176	Hydraulic pump f.body repair kit, 10 t	7.00	
160.0177	Hydraulic piston f.body repair kit, 10 t	5.55	
160.0178	Adaptor f.bodywork aligement tool	1.93	
160.0179	Extension tube f.body repair kit, 530mm	3.34	
160.0180	Extension tube f.body repair kit, 400mm	1.66	
160.0181	Extension tube f.body repair kit, 300mm	1.70	
160.0182	Extension tube f.body repair kit, 175mm	1.70	
160.0183	Adaptor f.body repair kit, MxM	1.66	
160.0184	Pressure plate, V form	1.14	
160.0185	Pressure plate, 150x95mm	0.66	
160.0186	Wedge adaptor (notched)	0.66	
160.0187	Pressure plate (laterally offset)	0.86	
160.0188	Piston attachment (laterally offset)	0.86	
160.0189	Rubber ball, Ø 80 mm	0.66	
160.0190	Adaptor head, cylinder serrated Ø 50 mm	1.14	

Car body panel beating set

- For hammering out on the car body area
- Practical grouping together
- For stretching and forming of car body sheet panels
- In durable plastic storage case

			kg	
140.2100	7 pcs	Car body panel beating set	7.50	

consists of:

		g	
140.2114	Car bodywork-universal slapping dolly,hand fist form, 70 mm	1380	
140.2115	Car bodywork-pointed slapping dolly,arched + ground, 130 mm	1630	
140.2116	Car bodywork-heel dolly,arched and ground, 60 mm	1130	
140.2119	Car bodywork-toe dolly (large),arched and ground, 120 mm	1400	
140.2133	Panel beaters hammer, standard hammer arched, round/square	420	
140.2137	Panel beaters-pick hammer straight head,round/pointed, 325 mm	460	
140.2139	Panel beaters-serrated hammer fine head,round/square,325 mm	490	

Car body panel beating set

- For hammering out on the car body area
- High quality execution
- Includes clamping and simple tools
- Special steel

			kg	
140.2125	3 pcs	Car body panel beating set	2.04	

consists of:

		g	
140.2112	Car bodywork panel beating grid toe dolly 127mm	1130	
140.2132	Panel beaters hammer, serrated hammer large round/square	490	
140.2133	Panel beaters hammer, standard hammer arched, round/square	420	

Bodywork slapping spoon

- With blue lacquered handle
- Work areas ground and polished
- Light execution
- Special steel

	L mm	B mm	g	
140.2150	250.0	50.0	290	

Bodywork drip moulding spoon

- With blue lacquered handle
- Work areas ground and polished
- Special steel

	L mm	B mm	kg	
140.2151	240.0	45.0	1.07	

Contour gauge

- For quick checking and transferring of car body contours
- Exact and professional work results
- Easy to use
- Metal side frame for optional attachment of a 2nd gauge
- Extension of the working range to 500 mm
- With 250 mm / 10" long scale / pitch in mm / inch
- 45 mm insertion depth
- 4 magnets on rear side
- Plastic

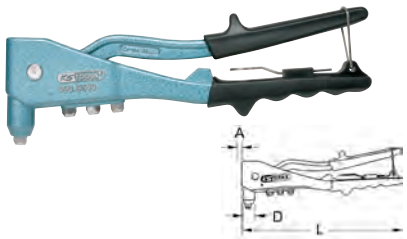
Application range: Car body work / modelling / carpentry / tile laying

	H mm	T mm	L mm	g	
140.2147	100.0	20.0	280.0	425	

Standard hand riveting tool

- Suitable for blind rivets
- Including four interchangeable mouthpieces
- Magazine and key in the riveter body
- Narrow head pliers
- With safety lock on the handle end
- With rubber grip
- Die-cast metal body

Blind rivets: 2,4 - 3,2 - 4,0 - 4,8 mm



	A mm	D mm	L mm	g	
150.9510	24.0	21.0	270.0	920	

Standard hand riveting tool set

- Suitable for blind rivets
- Four interchangeable mouthpieces
- Magazine and key in the riveter body
- Includes 200 blind rivets
- With rubber grip
- Die-cast metal body

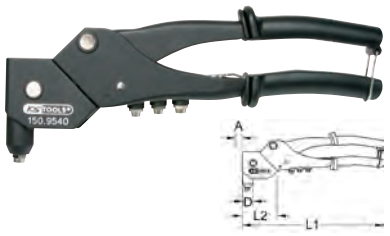
Blind rivets: 2,4 - 3,2 - 4,0 - 4,8 mm

			kg	
150.9520	205 pcs	Standard hand riveting tool set	1.25	

Hand rivet tool

- Suitable for blind rivets
- 360° rotating head
- For difficult to access areas
- Narrow head pliers
- With safety lock on the handle end
- Including four interchangeable mouthpieces
- Die-cast metal body

Blind rivets: 2,4 - 3,2 - 4,0 - 4,8 mm



	A mm	D mm	L1 mm	L2 mm	g	
150.9540	27.0	21.0	290.0	70.0	870	

Universal hand riveting tool set

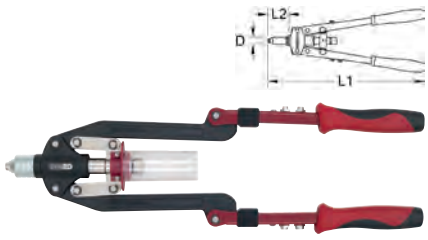
- Suitable for blind rivets and blind rivet nuts
- 360° rotating head
- For difficult to access areas
- Four interchangeable mouthpieces and nut rivet pulling inserts
- Die-cast metal body

Blind rivets: 2,4 - 3,2 - 4,0 - 4,8 mm
Rivet nuts: M3 - M4 - M5 - M6

			kg	
150.9610	10 pcs	Universal hand riveting tool set	1.96	

Universal riveting tool

- Suitable for blind rivets and blind rivet nuts
- Retractable legs for increased power consumption
- Mouthpiece magazine intergrated in the handle
- With two component handle
- Die cast metal body



	D mm	L1 mm	L2 mm	kg	
150.9633	30.0	510.0	45.0	1.60	

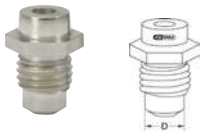
Universal riveting tool set

- Suitable for blind rivets and blind rivet nuts
- Retractable legs for increased power consumption
- Mouthpiece magazine intergrated in the handle
- With two component handle
- Die-cast metal body

Blind rivets: 2,4 - 3,2 - 4,0 - 4,8 - 6,4 mm
Rivet nuts: M4 - M5 - M6 - M8 - M10

			kg	
150.9630	11 pcs	Universal riveting tool set	2.67	

Mouthpieces for riveting



	D mm	Suitable for	g	
150.9570	2.4	150.9610+150.9630	10	
150.9571	3.2	150.9610+150.9630	10	
150.9572	4.0	150.9610+150.9630	10	
150.9573	4.8	150.9610+150.9630	10	
150.9574	5.0	150.9610+150.9630	10	
150.9575	6.4	150.9610+150.9630	10	

Replacement jaws for gripping rivet

	Suitable for	g	
150.9578	150.9610	10	
150.9579	150.9630	10	

Rivet head

	Suitable for	g	
150.9620	150.9610	160	

Rivet nut pulling spindle for riveting tools

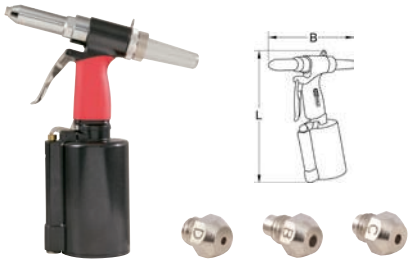
		Suitable for	g	
150.9613	M3	150.9610	30	
150.9614	M4	150.9610	30	
150.9615	M5	150.9610	30	
150.9616	M6	150.9610	30	
150.9634	M4	150.9630	40	
150.9635	M5	150.9630	40	
150.9636	M6	150.9630	40	
150.9638	M8	150.9630	70	
150.9640	M10	150.9630	70	

Replacement rivet heads for rivet tools

	Suitable for	g	
150.9611	150.9610	60	
150.9631	150.9630	100	
150.9632	150.9630	40	

Pneumatic riveting tool pistol

- Air exhaust through the handle rear end
- For one handed operation with ergonomic design
- For pop rivet working
- With swivel joint at the coupling connector for flexible use
- Cold insulated
- Includes 1/4" coupling connector
- Robust aluminium housing



Technical data:

Rivet sizes:	2,4 - 3,2 - 4,0 - 4,8 mm
Stroke length:	14 mm
Driving power:	8677,5 N
Vibration:	< 2,5 ms²
Noise performance level:	98.6 dbA
Noise pressure level:	85 dbA
Air consumption:	1 l/Hub
Operating pressure:	max. 6,3 bar (90 psi)
Min. tube diameter:	3/8“ - 10 mm
Connection thread:	1/4“PT

	B mm	L mm	kg	
515.3102	195.0	290.0	1.50	

Pneumatic riveting tool pistol

- Air exhaust through the handle rear end
- For one handed operation with ergonomic design
- For professional riveting, continuous operation
- For steel, aluminium, stainless steel or copper riveting up to 6,4 mm
- With 6 mouth pieces, 4,8 mm is pre assembled
- Especially low noise level
- Swivel joint at the connection thread for flexible use
- Cold insulated
- Includes 1/4" coupling connector
- Robust aluminium housing

Technical data:

Rivet sizes:	3,2 - 4,0 - 4,8 - 6,4 mm
Stroke length:	19 mm
Driving power:	13839,5 N
Vibration:	< 2,5 ms²
Noise performance level:	85 dbA
Noise pressure level:	73.3 dbA
Air consumption:	1,8 l/Hub
Operating pressure:	max. 6,3 bar (90 psi)
Min. tube diameter:	3/8“ - 10 mm
Connection thread:	1/4“PT

	B mm	L mm	kg	
515.3101	210.0	340.0	2.00	

Cordless riveting tool pistol

- Handy and ergonomic dual component housing
- Universal use for aluminium and steel rivets Ø 2.4/3.2/4.0/4.8 mm
- Approx. 220 rivets per battery
- With practical clockwise and anticlockwise reversing function
- Very short setup time
- Fast change of rivets
- Short processing time
- Stepless controllable motor speed through electronic switch
- 40% extended lifespan due to changeable special carbon brush conductors
- With lithium-ion high performance rechargeable battery
- Includes automatic turn off charging station
- Fast charging function (1 hour)
- Blow mould plastic housing
- In durable plastic storage case

Technical data:

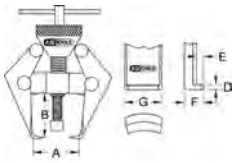
Rivet sizes:	2,4 / 3,2 / 4,0 / 4,8 mm
Stroke length:	15 mm
Vibration:	3,2 ms²
Noise performance level:	86,9 dbA
Noise pressure level:	75.9 dbA
Driving power:	4.900 Nm
Capacity:	10,8 V
Rechargeable battery:	10,8 V - 1,5 Ah

	L mm	B mm	H mm	Spare carbon brushes set	Battery pack	number of Charger batteries		kg	
515.4104	235.0	55.0	200.0	515.3595	515.3592	0	0	1.15	
515.4105	235.0	55.0	200.0	515.3595	515.3592	1	1	2.69	
515.4106	235.0	55.0	200.0	515.3595	515.3592	2	1	3.07	

WINDSCREEN

Battery clamp and wiper arm puller 2 arm

- Ideally suited for drawing-off small parts
- T-handle drive
- Independent pressure of the hooks
- Extremely robust spindle with inductively hardened thread
- Special steel



	A mm	B mm	max t	mm	D mm	E mm	F mm	G mm	kg
700.1190	15	32	1,2	M8 x 50	2,5	9	10,5	11	0.30

Universal windscreen wiper arm puller set

- Suited for a multitude of vehicle types and car brands
- Alternatively can be used mechanically or with an impact spindle
- Special steel
- In durable plastic storage case

			kg
700.1240	13 pcs	Universal windscreen wiper arm puller set	3.81

consists of:

700.1232	Hollow spindle can be used mechanically with the pull hooks	170
700.1233	Pull hook Gr.1, opening 22 mm, H = 50 mm	110
700.1234	Pull hook Gr.2, opening 25 mm, H = 50 mm	140
700.1235	Pull hook Gr.3, opening 16 mm, H = 60 mm	150
700.1236	Pull hook Gr.4, opening 25 mm, H = 41 mm	110
700.1237	Pull hook Gr.5, opening 30 mm, H = 50 mm	150
700.1238	Pull hook Gr.6, opening 20 mm, H = 50 mm	100
700.1239	Pull hook Gr.7, opening 17 mm, H = 56 mm	100
700.1241	Pull hook Gr 8, opening 16 mm, H = 80 mm	170
700.1242	Universal 2 Arm Wiper arm puller set with two pairs of arms	690
700.1243	Spindle extension, 30 mm, for 700.1232 and 700.1242	20
700.1244	Spindle design hollow, for 700.1232 and 700.1242	20

Universal 2 arm wiper arm puller set

- This set is supplied with two sets of heavy duty legs for added versatility.
- The legs are extremely durable whilst being slim in design so the can used on a wide variety of wiper arms

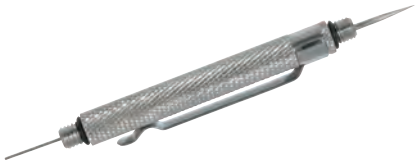
700.1242	6 pcs	Universal 2 arm wiper arm puller set	690

consists of:

700.1245	Spindel extension 30 mm for 700.1232 and 700.1242	100
700.1246	Traverse arm	100
700.1247	Pair of legs - Slim type	100
700.1248	Pair of legs - Wide type	100

Washer jet cleaning and adjusting tool

- For the cleaning and adjusting of washer jet nozzles
- Clip for the breast pocket
- Aluminium



	L mm	
550.1022	95.0	40

2 in 1 Telescopic magnetic holder

- Load capacity to 0.5 kg
- Extendable telescopic function
- Cleaning needle
- Clip for the breast pocket
- Ideal for adjusting of wiper nozzles
- Aluminium

	Head Ø mm	L mm	
550.1001	8.0	150,0 - 675,0	500

Telescopic magnetic lifter

- Load capacity to 2.5 kg
- With flexible magnetic head
- With an extendable telescopic function
- Includes cleaning needle for washer jet nozzles
- Clip for the breast pocket
- Aluminium

	Head Ø mm	L mm	
550.1023	11.0	150,0 - 590,0	60

Wire feeder starter tool

- For powerful piercing through the glue trim and inserting the cutting edge wire
- Slotted probe end for inserting the cutting wire
- With spring steel blade
- With one component handle

	L mm	
140.2206	340.0	80

Square windscreen cutting wire

- Best cutting edge effect
- For cutting working
- Best suited for cutting of wide and hard glue bondings in hard to access areas
- Stainless steel wire

	L m	
140.2214	22.5	100
140.2215	50.0	200

Windscreen cutting wire pull handle set

- Cutting edge wire is attached by means of a cone in the handle
- Ergonomically designed hand grip
- With one component handle

140.2210	2 pcs	Windscreen cutting wire pull handle set	110

consists of:

140.2353	Windscreen cutting wire pull handle, single	65

Pull knife

- Flexible pull handle
- For the ripping out of glued vehicle bonds
- Includes 25 mm blade
- Practical one man operation
- Aluminium

	L mm	Replacement handle	
140.2241	130.0	140.2247	240

Special pull knife blade

- Blade length 20 mm
- Precise and easy cutting
- Newly developed toothed cutting edge
- Extremely substaintial and resilient
- Precise guide on the blade and the cutting edge
- Knife blade can be repeatably sharpened
- Ideally suited in all standard practice hand cutting knives
- High quality chrome-nickel-nirostasteel

	Content	g	
140.2340	1	15	
140.2341	5	90	

Special pull knife blade

- Blade length 25 mm
- Precise and easy cutting
- Newly developed toothed cutting edge
- Extremely substaintial and resilient
- Precise guide on the blade and the cutting edge
- Knife blade can be repeatably sharpened
- Ideally suited in all standard practice hand cutting knives
- High quality chrome-nickel-nirostasteel

	Content	g	
140.2342	1	15	
140.2343	5	90	

Special pull knife blade

- Blade length 38 mm
- Precise and easy cutting
- Newly developed toothed cutting edge
- Extremely substaintial and resilient
- Precise guide on the blade and the cutting edge
- Knife blade can be repeatably sharpened
- Ideally suited in all standard practice hand cutting knives
- High quality chrome-nickel-nirostasteel

	Content	g	
140.2344	1	15	
140.2345	5	90	

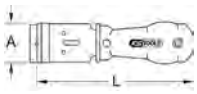
Trim and air grill remover, rubberised seating

- Permits the loosening of panelling, right and left handed
- rubber bushes on the underside avoid scratches on glass or paintwork

	L mm	g	
140.2231	246.0	70	

Scraper

- With easily interchangeable blades
- With reinforcement eyelet
- Soft grip handle



	A mm	L mm		g	
911.8126	38.0	160.0	911.8127	90	

Clip remover

- For metal and plastic clips
- Durable tool for the removal of door panels
- Lever effect due to the angled head on the front end of the lifter
- Robust execution with durable square shaft
- With hanging hole
- Special steel

	L mm	g	
140.2230	275.0	160	

Windscreen dismantling set

- For glued car windows
- Insert made from high quality foam
- In durable plastic case

			kg	
140.1040	8 pcs	Windscreen dismantling set	2.78	

consists of:

		g	
140.2230	Dismantling lever for interior panels	160	
140.2231	Double trim strip remover	70	
911.8126	Professional-Scraper	90	
140.2206	Wire feeder-starter tool	80	
140.2213	Cutting wire on a roll	100	
140.2241	Standard-Pull cutting knife	240	
140.2210	Windscreen cutting wire pull handle-set, 2 pcs	110	

Cuttting wire insertion tool

- Ideal for confined spaces
- For the optimal usage against stop of the cutting edge wire in the inner area
- Ideal for particularly heavily bonded joints
- Without inner stop to reduce any chance of damage
- With one component handle

	L mm	g	
140.2205	350.0	220	

Windscreen cutting wire pull handle set, heavy execution

- Optimal working in any direction
- Cutting edge wire is attached by means of a cone in the grip
- Ergonomically designed hand grip
- Two component handle

			g	
140.2201	2 pcs	Windscreen cutting wire pull handle set, heavy execution	600	

Universal glass removal kit

- For the dismantling of windshields and other glued trims
- Correct easy and damage free dismantling
- Suction pad has a max. suction of 110 kg
- In durable plastic storage case

Application: Citroen C5 / C6 (mandatory for removal of the rear window), Opel Astra, DC A class, etc.

			kg	
140.2360	5 pcs	Universal glass removal kit	4.81	

consists of:

		g	
140.2331	Windsceen removal tool, 2 suction heads+wire drive	5200	
140.2361	Wire directing holder with single suction head	600	
140.2334	Reamer for 140.2234	56	
140.2335	Wire for 140.2330	103	
310.0110	Glasses - transparent	45	

Professional protective board set

- For the protection of the chrome instrument trims
- For different working areas and applications
- Straighter and easily bent front edge
- The handle in the plate ensures safe accurate working

			kg	
140.2320	4 pcs	Professional protective board set	1.36	

consists of:

		g	
140.2321	Professional protection board straight 450 x 300 mm	450	
140.2322	Professional protection board angled 450 x 300 mm	450	
140.2323	Professional protection board straight 270 x 200 mm	230	
140.2324	Professional protection board angled 270 x 200 mm	230	

Pinch weld scraper

- With interchangeable spring steel blade
- Working length max. 115 mm
- Aluminium handle

	A mm	L mm		g	
140.2282	13.0	240.0	140.2283	200	
140.2286	16.0	240.0	140.2287	200	
140.2288	19.0	240.0	140.2289	200	

Long knife for trim seals

- For the use with conventional trapezoid blades and hook blades
- Includes a replacement blade in the handle
- Non slip handle
- Aluminium

	L mm		g	
140.2284	230.0	907.2206	300	
140.2290	470.0	907.2206	320	
140.2291	620.0	907.2206	380	

Windscreen installation set

- For the installation of windscreens with the traditional rubber sealing
- Also suitable for clearing windscreen rubber seals

Application range: Universel suitable for cars, vans, commercial vehicles, buses and vintage cars

			g	
140.2240	5 pcs	Windscreen installation set	890	

consists of:

		g	
140.2233	Glass hook, for rubber windscreen inserts 270 mm	120	
140.2234	Glass hook, for rubber windscreen inserts 200 mm	110	
140.2235	Glass hook, for rubber windscreen inserts 210 mm	120	
140.2236	Tapered tool for strip insertion, 160 mm	220	
140.2237	Locking tool with 6 m pull nylon cord, 170 mm	120	

Locking tool

- 6 m nylon cord
- For the professional dismantling of vehicle rubbered non bonded windscreens
- Hanging hole
- One component handle

	L mm	g	
140.2237	170.0	120	

Glass hook with ball end, extra long

- Extra long execution
- For the dismantling and assembly of rubber sealings and trim strips
- For protective lifting or cleaning of sealings
- With hanging hole
- With one component handle

	L mm	g	
140.2229	295.0	160	

Locking strip insertion tool

- For non bonded vehicle windscreens
- With 6 interchangeable yoke heads
- Quick insertion of the different rubber profiles is possible
- With hanging hole
- With one component handle

	L mm	g	
140.2236	160.0	220	

Glass hook with long shaft

- Pointed execution
- For rubber bonded vehicle windscreens
- Hanging hole
- One component handle

	L mm	g	
140.2233	270.0	120	

Glass hook with short shaft

- Pointed execution
- For rubber bonded vehicle windscreens
- Hanging hole
- One component handle

	L mm	g	
140.2234	200.0	110	

Ball head with short shaft

- For rubber bonded vehicle windscreens
- Hanging hole
- One component handle

	L mm	g	
140.2235	210.0	120	

One handed mini suction cup

- Convenient one handed operation by lever
- Lifting, carrying and holding
- Special plastic

	Suction cup Ø mm	Load capacity kg	g	
140.1015	70.0	8.0	30	

Tilting suction holder with 2 double jointed heads

- With adjustable suction head and quick release lever
- Ideally suited for curved surfaces
- Lifting, carrying and holding
- Suitable for all materials with gas density surfaces
- All metal parts of stainless steel, therefore also for use in swimming pools, outdoor construction sites or in the maritime
- Special plastic

Application: Glass, plastic, metal, coated wood and marble

	Suction cup Ø mm	Load capacity kg	g	
140.1008	150.0	80.0	820	

Three way suction holder

- 3 suction pads and quick-release levers
- Optimal for lifting, carrying and moving large parts
- For flat and non-porous surfaces
- Special plastic

	Suction cup Ø mm	Load capacity kg	kg	
140.1007	120.0	120.0	1.13	

Panel bag

- Ideal for the damage free opening of car doors
- Also suitable for levelling during the installation of panels and bonnets
- Extremely high pressure power
- Easy pumping up through hand pump
- Robust panel bag

	L mm	B mm	g	
116.1035	200.0	150.0	190	

Panel bag set with hand pump

- Ideal for the damage free opening of car doors
- For creation of a working gap between door frame and door pillar
- Also suitable for levelling during the installation of panels and bonnets
- Inflation using hand pump with quick connector
- Relief valve on bellows
- Extremely high pressure power

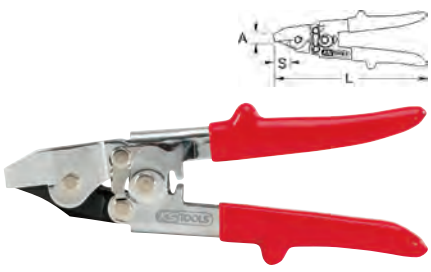
			g	
150.1685	4 pcs	Panel bag set with hand pump	300	

consists of:

		g	
150.1687	Panel bag 180 x 38mm	23	
150.1688	Panel bag 190 x 160mm	27	
150.1689	Panel bag 160 x 160mm	47	
150.1686	Hand bellows	84	

Cartridge tip pliers

- PVC dipped handle
- Very versitile
- Safety locking device
- Clean V-cut in the cartridge tip
- Cut from solid steel
- Chrome vanadium



	A mm	L mm	S mm	g	
140.2220	33.0	210.0	20,0	420	

Hand cartridge gun 310 ml

- For working with cartridges and softpacks
- Fast and simple cartridge change
- Metal housing

	L1 mm	L2 mm	Replacement nozzle	g	
980.1000	210.0	340.0	980.1001	750	

Hand cartridge gun 600 ml

- For working with cartridges and softpacks
- Fast and simple cartridge change
- Metal housing

	L1 mm	L2 mm	Replacement nozzle	kg	
980.3000	210.0	480.0	980.1001	1.10	

380 ml cordless cartridge gun

- Handy and ergonomic dual component housing
- Ideal for glue cartridges or epoxy resin based + 2 component mortar
- Drop free mechanism
- Carbon brushes interchangeable
- With lithium ion high performance rechargeable battery
- Processing quantity per rechargeable battery load at room temparture 20°C is up to 15 cartridges
- Longer running time through higher load capacity
- Fast charging function (1 hour)
- Includes automatic turn off charging station
- In durable plastic storage case

Technical data:

Capacity:	10,8 V
Capacity of the unit:	380 ml
Propulsion without load:	min. 2 mm / sec max. 4 mm / sec
Output pressure:	539 kgf
Charging time:	1 hour
Rechargeable battery:	10,8 V - 1,5 Ah

	L mm	B mm	H mm	Spare carbon brushes set	Battery pack	number of Charger batteries		kg	
515.3564	390.0	140.0	270.0	515.3596	515.3597	0	0	4.00	
515.3565	390.0	140.0	270.0	515.3596	515.3597	1	1	5.25	
515.3566	390.0	140.0	270.0	515.3596	515.3597	2	1	5.50	

Cordless cartridge gun 400 ml

- Handy and ergonomic dual component housing
- Ideal for glue, silicone or acrylic based cartridges
- Drop free mechanism
- Stepless controllable feed
- Carbon brushes interchangeable
- Lithium ion high performance rechargeable battery
- Processing quantity per rechargeable battery load at room temparture 20° C is up to 15 cartridges
- Longer running time through higher load capacity
- Fast charging function (1 hour)
- Includes automatic turn off charging station
- In durable plastic storage case

Technical data:

Capacity:	10,8 V
Capacity of the unit:	400 ml
Propulsion without load:	6,1 mm / sec
Output pressure:	392 kgf
Charging time:	1 hour
Rechargeable battery:	10,8 V - 1,5 Ah

	L mm	B mm	H mm	Spare carbon brushes set	Battery pack	number of Charger batteries		kg	
515.3574	450.0	138.0	245.0	515.3596	515.3592	0	0	3.70	
515.3575	450.0	138.0	245.0	515.3596	515.3592	1	1	4.60	
515.3576	450.0	138.0	245.0	515.3596	515.3592	2	1	4.80	

Cordless cartridge gun 600 ml

- Handy and ergonomic dual component housing
- Ideal for glue, silicone or acrylic based cartridges
- Drop free mechanism
- Stepless controllable feed
- Carbon brushes interchangeable
- Lithium ion high performance rechargeable battery
- Processing quantity per rechargeable battery load at room temparture 20° C is up to 15 cartridges
- Longer running time through higher load capacity
- Fast charging function (1 hour)
- Includes automatic turn off charging station
- In durable plastic storage case

Technical data:

Capacity:	10,8 V
Capacity of the unit:	600 ml
Propulsion without load:	6,1 mm / sec
Output pressure:	392 kgf
Charging time:	1 hour
Rechargeable battery:	10,8 V - 1,5 Ah

	L mm	B mm	H mm	Spare carbon brushes set	Battery pack	number of Charger batteries		kg	
515.3579	560.0	138.0	245.0	515.3596	515.3592	0	0	4.10	
515.3580	560.0	138.0	245.0	515.3596	515.3592	1	1	5.00	
515.3581	560.0	138.0	245.0	515.3596	515.3592	2	1	5.20	

Aluminium work platform

- Skid proof profile on the platform stage
- Chequer plate profile on the steps
- Double sided usage
- Large platform for safe standing
- Safety clips for added security
- Beams and step made from aluminium
- Easy to store as the unit is fully collapsible
- The gripped plastic feet protect the surface and add stability
- Substaitial aluminium construction

Technical data:

Platform dimensions:	1000 x 300 mm
Standing height:	470.0 mm
Max. load:	150 kg

	L mm	B mm	H mm	kg	
800.0960	1345.0	405.0	480.0	7.40	

Safety assembly step

- No tipping over through obliquely placed standing feet
- Anti slip, hot dip galvanised, with the frame riveted lattice rustproof
- Step to DIN 50976
- Massive and distortion stiff steel tube construction
- Base frame plastic coated
- The gripped plastic feet protect the surface and add stability
- Applicable e.g. panel assembly, engine compartment works, roof works truck pit working
- Universal suitable in very high vehicles e.g.: motor homes, small vehicles, truck and buses, terrain vehicles

Technical data:

Height 2nd step:	450.0 mm
Surface area:	690 x 620 mm
Steel grating:	590 x 290 mm
Max. load:	300 kg

		kg	
450.0960	Safety assembly step	14.00	

Universal telescopic multi purpose trolley

- Ideally for the car body restoration, panel spraying area or for windshields
- Universal application the all rounder both height and width adjustable
- After use space saving folding away
- Rubber underside to prevent damage to the paintwork and other panels
- 4 substaintial wheels, 2 with locking brakes
- Simple handling
- Capacity up to 100 kg
- Robust construction made from square tube

	B mm	H mm	kg	
500.8100	257,0-1380,0	845,0-1320,0	23.50	

Ultrasound leak detector

- Acoustic locating of leaks on car body and other parts
- Transmitter is connected in the vehicle interior through the cigarette lighter
- The receiver is passed externally around the vehicle
- Detection of wind noise or any water leaks can then be isolated

		g	
150.1690	Ultrasound leak detector	460	

More tools for windscreen repair can be found in our general catalogue K11 or on our homepage: www.kstools.com

Hydraulic bottle jack 2 - 50 t

- Security valve against overload
- Telescopic piston pole
- Additional spindle for extension (not in 30 and 50 t executions)
- Two piece lever arms
- For heavy vehicles weights
- Especially suitable for narrow hard to access areas
- High level of stability
- Ideally suited in combination with jack for the neutralizing and bracing of a load
- Heavy steel construction

	Max load t	Min total height mm	Max total height mm	Hydraulic lift mm	Screw extension mm	Dimension of base plate mm	kg	
160.0350	2,0	181.0	345.0	116.0	48,0	88x92	2.90	
160.0351	3,0	194.0	372.0	118.0	60,0	92x100	3.80	
160.0352	5,0	216.0	413.0	127.0	70,0	96x112	5.10	
160.0354	10,0	230.0	460.0	150.0	80,0	110x127	7.10	
160.0356	15,0	230.0	460.0	150.0	80,0	113x136	9.30	
160.0358	20,0	242.0	452.0	150.0	60,0	144x155	11.90	
160.0359	30,0	285.0	465.0	180.0	-	190x155	21.70	
160.0360	50,0	300.0	480.0	180.0	-	218x176	30.70	

Hydraulic steel trolley jack 3 t

- Large base for safe standing
- Controlled releasing through the turning of the pump lever
- Raising with small pump lifts to the maximum height
- Good maneuverability through two oil and acid resistant nylon direct castors
- Integrated screw tray
- The lower area of the pump lever is coated with foam material
- Lifting plate diameter 140 mm
- Overload protection through pressure relief valve
- Ideally suited for daily workshop use
- Heavy steel construction

	Max capacity t	Stroke way mm	Min total height mm	Max total height mm	Total length mm	Spare lifting plate	kg	
160.0366	3,0	410.0	125.0	535.0	720.0	160.0362	43.00	

Hydraulic steel trolley jack 2 t

- Very shallow depth for comfortable working under the vehicle
- Large base for safe standing
- Raising with the pump lever and foot lever is possible
- Foot pedal for the bridging of the empty stroke
- Controlled releasing through the turning of the pump lever
- Raising with small pump lifts to the maximum height
- Good maneuverability through two oil and acid resistant nylon direct castors
- Integrated screw tray
- The lower area of the pump lever is coated with foam material
- Lifting plate diameter 120 mm
- Overload protection through pressure relief valve
- Ideally suited for daily workshop use
- Heavy steel construction

	Max capacity t	Stroke way mm	Min total height mm	Max total height mm	Total length mm	Spare lifting plate	kg	
160.0367	2,0	420.0	70.0	490.0	700.0	160.0363	43.00	
160.0368	3,0	440.0	90.0	530.0	800.0	160.0363	54.00	

Hydraulic aluminium trolley jack 3 t

- Especially light aluminum jack
- Shallow depth for comfortable working under the vehicle
- Large base for safe standing
- Controlled releasing through the turning of the pump lever
- Raising with small pump lifts to the maximum height
- Good maneuverability through two oil and acid resistant full steel direct castors
- Intergrated screw tray
- The lower area of the pump lever is coated with foam material
- Lifting plate diameter 120 mm
- Problem free movement due to lightweight and secure handling
- Ideally suited for the use in service vehicles and workshop use
- Extremely heavy aluminium construction

	Max capacity t	Stroke way mm	Min total height mm	Max total height mm	Total length mm	Spare lifting plate	kg	
160.0305	3,0	360.0	105.0	465.0	680.0	160.0317	33.00	

Jack for forklifts, hydraulic 4 - 5 t

- Specially developed for forklifts, agricutural and industrial vehicles
- Combination lifting jack with scissor action
- Scissor capacity of 4 tons and cylinder capacity of 5 tons
- Steal wheels

	Max capacity t	Stroke way mm	Min total height mm	Max total height mm	Total length mm	kg	
160.0716	5,0	350.0	65.0	415.0	700.0	47.00	

Aluminium axle stand set

- Especially light and stabile
- High level of stability due to the diameter of the base plate
- Safety locking bolt with chain
- Suits itself especially well in combination with jack for the safe bracing of a load
- Aluminium

	Max load t	Stroke way mm	Min total height mm	Max total height mm	kg	
160.0315	3,0	140.0	260.0	400.0	2.20	

Steel axle stands with quick adjustment

- 4 feet on each stand
- Solid construction
- For heavy vehicles weights
- High level of stability due to the diameter of the base plate
- Lifting bar made from cast steel
- Quick adjustment (in pairs)
- Height adjustment has 13 stages
- Suits itself especially well in combination with jack for the safe bracing of a load
- Made from solid steel

	Max load t	Stroke way mm	Min total height mm	Max total height mm	kg	
160.0370	3,0	130.0	295.0	425.0	8.00	
160.0371	6,0	205.0	400.0	605.0	15.00	
160.0372	12,0	250.0	480.0	730.0	26.00	

Pneumatic hydraulic jack 22 - 55 t

- Hydraulic jack for vehicles up to max. 50 t
- Large lifting base for safe standing
- Short and compact design
- Overload protection through overload pressure valve
- Maximum lift is reached using one of the three adaptors included
- Automatic piston withdrawal through two outside lying springs
- Easy running oil and acid resistant solid rubber wheels
- Especially suitable for narrow hard to access areas
- Ideally suited for daily workshop use
- Durable steel construction

	Max capacity t	A mm	B mm	C mm	D mm	kg	
160.0730	22,0	207.0	112.0	113.0	432.0	39.00	
160.0731	35,0	258.0	147.0	133.0	538.0	47.00	
160.0732	50,0	296.0	142.0	137.0	575.0	64.00	

Pneumatic hydraulic trolley jack 22 t

- Hydraulic jack for vehicles up to max. 22 t
- Large lifting base for safe standing
- Short and compact design
- Extremely light weight ideal for the mobile usage
- Overload protection through overload pressure valve
- Maximum lift is reached using one of the two adaptors included
- Very short and transportable design
- Easy running oil and acid resistant solid rubber wheels
- Especially suitable for narrow hard to access areas
- Ideally suited for daily workshop use
- Durable steel construction

	Max capacity t	Stroke way mm	Min total height mm	Max total height mm	Max total length mm	kg	
160.0720	22,0	240.0	210.0	450.0	540.0	25.00	

HGV wheel lifter

- Steel tubular structure with deep-welded joints
- Light and agile transportation for use in smallest space
- For the easy stacking and transporting of tyres and wheels
- From round tubes welded together manufactured and solid
- 2 fixed rubber wheels
- Improved standing and prevention of tipping
- Ideal for the changing of truck wheels, bus wheels and forklift wheels
- 3-stage adjustable wheel size
- Perfectly suitable with the tyre trade or vehicle workshops

Technical data:

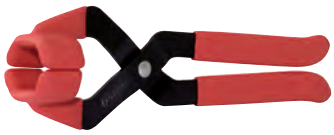
Wheel carrier length:	220,0 mm
Effective stroke:	100,0 mm
Largest diameter of the wheel:	250 kg
Reception of tyre:	6,5“ - 22,5“
Smallest diameter of the wheel:	600,0 mm
Largest diameter of the wheel	1100,0 mm
Maximum clamping width:	620,0 mm
Average clamping width:	450,0 mm
Minimum clamping width:	290,0 mm

		kg	
160.0250	HGV wheel lifter	13.50	

WHEELS & TYRES

HGV wheel nut cap pliers

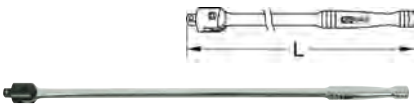
- PVC dipped handle
- For removing of wheel nut caps
- No slipping through specially coated jaws
- Ideally suited for commercial vehicles
- Special tool steel



	A mm	L1 mm	L2 mm	g	
150.1995	28,0-60,0	250.0	72.0	305	

CHROME*plus*® Flexible head drive handle

- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- Ideal for difficult to access areas
- Protects ratchet and torque wrenches from overloading
- Burnished head
- Chrome plated and mirror polished
- Chrome vanadium



	■	L mm	head,spare	g	
918.1291	1/2“	380.0	918.1292-1	790	
918.1297	1/2“	460.0	918.1292-2	1115	
918.1292	1/2“	600.0	918.1292-1	1400	
918.1293	1/2“	760.0	918.1292-1	1630	
918.1801	3/4“	1030.0	918.1801-1	3800	
918.1802	1“	1050.0	918.1802-1	3800	

Wheel nut wrench for cars

- DIN 3319 / ISO 6788
- Square drive adaptor to DIN 3120 - ISO 1174 with ball lock
- Ideally suited for cars
- Polished heads
- Matt finish
- Chrome vanadium

	mm	L mm	kg	
518.1150	17x19x22x1/2“	400.0	1.25	

HGV wheel nut wrench

- 6 point
- DIN 3319 / ISO 1174
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- Polished heads
- Matt finish
- Chrome vanadium

	mm	kg	
518.1155	24x27x32x3/4“	3.50	

Cross wrench for cars

- DIN 3119 / ISO 6788
- Forged, robust execution
- Heads, arms and centre hardened
- Loading capacity tested at 500 Nm
- Ideally suited for cars
- Polished heads
- Matt finish
- Special steel

	mm	L mm	kg	
518.1151	17x19x22x13/16“	400.0	1.25	
518.1152	17x19x22x1/2“	400.0	1.25	

HGV wheel nut wrench

- 6 point
- DIN 3119 / ISO 6788
- Square drive adaptor to DIN 3120 / 1174 with ball lock
- Forged, robust execution
- Heads, arms and centre hardened
- Loading capacity on tested at 2000 N•m
- Polished heads
- Matt finish
- Special steel

	mm	L mm	kg	
518.1156	24x27x30x32	750.0	5.60	
518.1157	24x27x32x3/4"	750.0	5.60	
518.1158	27x30x32x33	750.0	5.60	
518.1159	27x30x32x3/4"	750.0	5.60	

HGV wheel nut wrench, dismountable

- 6 point
- DIN 3319 / ISO 6788
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- Substantial centre
- Safety screw
- Matt finish
- Special steel
- Supplied in a cloth case

	mm	L mm	kg	
518.1161	24x27x30x32	750.0	6.00	
518.1162	24x27x32x3/4"	750.0	5.90	

HGV wheel nut wrench

- Two sided serviceable
- Large head depth for projecting bolts
- Alternative insert for tommy bar
- Ideally suited for commercial vehicles
- Matt finish
- Special steel

	mm		L mm	kg	
518.0831	24x27	15/16"x1.1/16"	400.0	1.15	
518.0832	27x32	1.1/16"x1.1/4"	400.0	1.15	
518.0833	32x38	1.1/4"x1.1/2"	400.0	1.15	
518.0834	30x32		400.0	1.15	
518.0835	32x33		400.0	1.15	

Tommy bar for HGV wheel nut wrench

- Matt finish
- Special steel

	Ø mm	L mm	kg	
518.0836	18,0	500.0	1.00	
518.0837	18,0	600.0	1.19	

Extended bar HGV wheel nut wrench set

- Two sided serviceable
- Large head depth for projecting bolts
- 1.200 mm extended drive bar
- Loading capacity at 1.200 N•m
- Ideally suited for commercial vehicles
- Matt finish
- Special steel

			kg	
518.0838	4 pcs	24x27 mm, 15/16"x1.1/16"	3.90	
518.0839	4 pcs	30x32 mm	3.90	
518.0840	4 pcs	32x33 mm	3.90	

ERGOTORQUE® *precision* torque wrench with rotary mushroom ratchet head

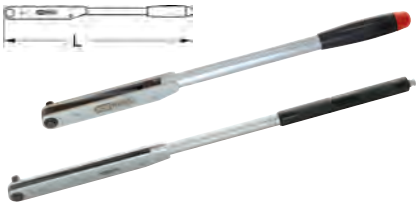
- Actuation accuracy: ±3 % tolerance of the set scale value
- Precise reading accuracy for a minimum 5.000 tightening cycles
- For controlled fastening in clockwise and counter clockwise directions
- Torque setting by pulling out and pushing in the slide in knob at the end of the handle
- The direction of rotation (clockwise and counter clockwise) can be changed by simply rotating the square drive piece
- Double scale in N•m and lbf•ft divisions for precise adjustment
- Includes micrometer scale in N•m divisions for precise and fine adjustment
- Large vision panel, precise adjustment using a magnifying glass
- An audible and palpable signal when the desired torque value is achieved
- Exact gearing 30 teeth ratchet mechanism
- Torque setting is quick and easy using the locking knob in the handle end
- Secure locking function within the handle
- Two component handle with a soft zone, is ergonomic in design and comfortable in the hand
- Square drive adaptor to DIN 3120 - ISO 1174 with ball lock
- Individually marked with serial number unique product identification
- Includes test certificate in accordance with DIN EN ISO 6789 national standard

3/4" 1"

	■	N•m	Division N•m	lbf•ft	L mm	D mm	H mm	kg	
516.1490	3/4"	100-550	1.00	75-405	960.0	69.0	33.0	3.80	
516.1493	3/4"	200-750	10.00	150-550	1250.0	69.0	33.0	4.80	
516.1495	1"	300-1000	20.00	220-730	1500.0	90.0	36.0	5.80	

Torque wrench with close gap release

- Actuation accuracy: ±4 % tolerance of the set scale value
- Precise reading accuracy for a minimum 5.000 tightening cycles
- For controlled fastening in clockwise and counter clockwise directions
- The direction of rotation (clockwise and counter clockwise) can be changed by simply rotating the square drive piece
- Four fold scale in N•m, Kg•fm, lbf•in und lbf•ft divisions for precise adjustment
- An audible and palpable signal when the desired torque value is achieved
- Torque setting is easy by pulling out, adjusting and pushing in the winder in the handle
- Automatic reset in the initial position
- Ergonomic handle designed for comfortable use
- Square drive adaptor to DIN 3120 - ISO 1174 with ball lock
- Individually marked with serial number unique product identification
- Includes test certificate in accordance with DIN EN ISO 6789 national standard



3/4" 1"

	■	N•m	lbf•ft	Division N•m	Division lbf•ft	L mm	kg	
516.3545	3/4"	140 - 800	120 - 580	20.00	20.0	935.0	6.50	
516.3550	1"	200 - 1000	150 - 750	25.00	25.0	1030.0	9.70	
516.3555	1"	500 - 2000	350 - 1500	50.00	50.0	1400.0	18.00	

Universal torque convertor set

- Robust tightening and loosening
- Designed for use with the crank handle supplied
- Intergrated support device
- Square drive adaptor to DIN 3120 / ISO 1174
- 1:64 Torque ratio
- 4.000 N•m maximum output torque
- Includes crank handle and extension
- Indispensable as essential equipment on service vehicles
- Ideal for trucks, construction machines and agricultural machines
- Not suited for use with impact wrenches
- In durable plastic storage case

1"

			kg	
516.1150	5 pcs	Universal torque convertor set	11.00	

consists of:

		kg	
516.1151	1" Torque multiplier, 3 pcs, 1:64	8.54	
515.2130	Impact socket 30 mm	0.62	
515.2132	1" Hexagon impact socket, intermediate length, 32mm	0.64	

Universal torque convertor set

- Robust tightening and loosening
- Designed for use with the crank handle supplied
- Intergrated support device
- Square drive adaptor to DIN 3120 / ISO 1174
- 1:64 Torque ratio
- 4.000 N•m maximum output torque
- Includes crank handle and extension
- Indispensable as essential equipment on service vehicles
- Ideal for trucks, construction machines and agricultural machines
- Not suited for use with impact wrenches
- In durable plastic storage case

1"

			kg
516.1156	5 pcs	Universal torque convertor set	12.00

consists of:

		kg
516.1151	1" Torque multiplier, 3 pcs, 1:64	8.54
515.2133	1" Hexagon impact socket, intermediate length, 33mm	0.65
515.2138	Impact socket 38 mm	0.71

Universal torque convertor set

- Robust tightening and loosening
- Designed for use with the crank handle supplied
- Intergrated support device
- Square drive adaptor to DIN 3120 / ISO 1174
- 1:64 Torque ratio
- 4.000 N•m maximum output torque
- Includes crank handle and extension
- Indispensable as essential equipment on service vehicles
- Ideal for trucks, construction machines and agricultural machines
- Not suited for use with impact wrenches
- In durable plastic storage case

1"

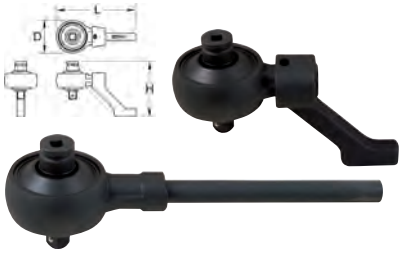
			kg
516.1155	5 pcs	Universal torque convertor set	11.50

consists of:

		kg
516.1151	1" Torque multiplier, 3 pcs, 1:64	8.54
515.2130	Impact socket 30 mm	0.62
515.2133	1" Hexagon impact socket, intermediate length, 33mm	0.65

Universal torque convertor

- Accuracy: ±5 % Tolerance
- For controlled fastening in clockwise and counter clockwise directions
- Device for angle regulated fastening with a torque wrench
- Single stage precision planetary gear for both directions
- Two support devices
- Square drive adaptor to DIN 3120 - ISO 1174 with ball lock
- Supplied in a metal storage case

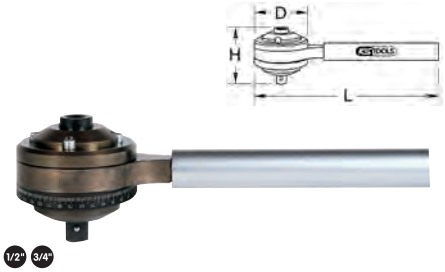


1/2" 3/4" 1"

	□	○	■	→ Nm	← Nm	D mm	L mm	H mm	kg
516.3700	1/2"	1 : 5	3/4"	260	1300	110.0	395.0	127.0	4.20
516.3705	3/4"	1 : 5	1"	540	2700	110.0	395.0	127.0	4.40

Torque convertor

- High accuracy: ±5 % Tolerance
- For controlled fastening in clockwise and counter clockwise directions
- Device for angle-regulated fastening with a torque wrench
- With anti-backlash mechanism
- Encapsulated precision planetary gearing
- With straight strut
- Housing with angle scale ring
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- In durable plastic case incl. spare anti/backlash mechanism

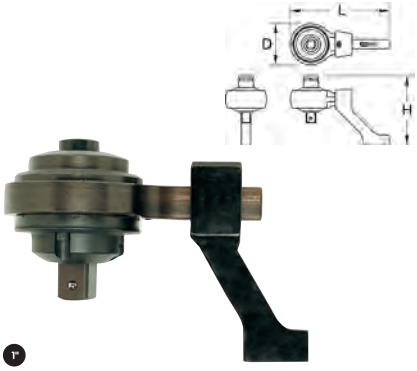


1/2" 3/4"

	□	○	■	→ Nm	← Nm	D mm	L mm	H mm	kg
516.3740	1/2"	6:1	3/4"	280	1680	100.0	128.0	106.0	4.90

Torque convertor

- High accuracy: ±5 % Tolerance
- For controlled fastening in clockwise and counter clockwise directions
- Device for angle-regulated fastening with a torque wrench
- With anti-backlash mechanism
- Encapsulated precision planetary gearing
- With adjustable angular strut
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- In durable plastic case incl. spare anti/backlash mechanism



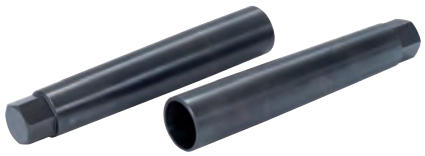
3/4" 1"

	□	○	■	→ Nm	← Nm	D mm	L mm	H mm	kg
516.3745	3/4"	5,4:1	1"	500	2700	115.0	201.0	126.0	6.34

Hub nut centering and protecting sleeves set

- For fast disassembly and assembly of truck tyres
- To fix the brake drum
- No slipping while the disassembly and assembly
- Protects hub nut threads
- Exact centering of the wheel to hub nut
- Special steel

Application: Commercial vehicles (e.g. MB/MAN/Scania/Volvo) VA and HA, all-wheel drive / site vehicles with drum brake



			mm	L mm	g
450.0370	2 pcs	M22x1,5	19	145.0	630
450.0371	2 pcs	M7/8"x11G	19	145.0	630

Pneumatic impact wrench 3/4", 1,898 Nm

- Air exhaust through the handle (exhaust hose optional)
- One handed switching above the draw-off
- With 3 stages torque control for loosening and tightening
- Low vibration
- Low sound level
- High performance double hammer mechanism
- Drive with mit spring ring, bore for locking pin
- Long service life
- Includes 3/8" coupling connector

3/4"

Technical data:

Square drive:	3/4"
Max. tightening torque:	1627 Nm
Max. loosening torque:	1898 Nm
Vibration:	10,2 ms²
No load current:	5500 r.p.m.
Noise performance level:	84 dbA
Noise pressure level:	90 dbA
Operating pressure:	max. 6,3 bar (90 psi)
Air consumption:	198 l/min
Min. tube diameter:	1/2" - 13 mm
Max. screw size:	M 27
Connection thread:	3/8"PT

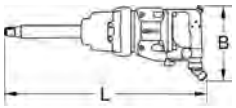
	H mm	L mm	kg
515.3740	250.0	215.0	3.40

Accessories:

515.3741	Exhaust air hose with fastening clamp

Pneumatic impact wrench 2,441 N•m

- With non-slip handle
- Air exhaust through the handle sidewards
- With 3 stages torque control for loosening and tightening
- Draw-off is integrated in the handle
- Low vibration
- Low sound level
- With rubber housing
- High performance double hammer mechanism
- With bore for locking pin
- Long service life
- Includes 1/2" coupling connector
- Ultra light housing from aluminium



1"

Technical data:

Square drive:	1"
Max. tightening torque:	2033 Nm
Max. loosening torque:	2441 Nm
Vibration:	> 12,5 ms²
No load current:	6000 r.p.m.
Noise performance level:	86 dbA
Noise pressure level:	96 dbA
Operating pressure:	max. 6,3 bar (90 psi)
Air consumption:	282 l/min
Min. tube diameter:	1/2" - 13 mm
Max. screw size:	M 38
Connection thread:	1/2"PT

	B mm	L mm	kg
515.3745	170.0	467.0	7.30

Hexagon impact socket

- 6 point
- According to DIN 3129 / ISO 2725-2
- Internal square drive to DIN 3121 / ISO 1174
- Short execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

3/4"

	mm		L mm	D1 mm	D2 mm	T mm	g
515.1317	17,0		50.0	30.0	44.0	7.0	230
515.1318	18,0		50.0	31.0	44.0	7.0	230
515.1319	19,0		50.0	33.0	44.0	9.0	230
515.1320	20,0		50.0	34.0	44.0	11.0	240
515.1321	21,0		50.0	35.0	44.0	11.0	240
515.1322	22,0		50.0	36.0	44.0	14.0	250
515.1323	23,0		50.0	38.0	44.0	14.0	250
515.1324	24,0		50.0	39.0	44.0	14.0	250
515.1325	25,0		50.0	40.0	44.0	14.0	270
515.1326	26,0		50.0	41.0	44.0	14.0	270
515.1327	27,0		53.0	43.0	44.0	14.0	280
515.1328	28,0		53.0	44.0	44.0	15.0	320
515.1329	29,0		53.0	45.0	44.0	15.0	320
515.1330	30,0		53.0	46.0	44.0	15.0	370
515.1331	31,0		53.0	48.0	44.0	15.0	380
515.1332	32,0		56.0	49.0	44.0	15.0	380
515.1333	33,0		56.0	51.0	44.0	18.0	410
515.1334	34,0		56.0	51.0	44.0	18.0	410
515.1335	35,0		56.0	53.0	44.0	18.0	470
515.1336	36,0		56.0	54.0	44.0	18.0	470
515.1337	37,0		57.0	55.0	44.0	18.0	470
515.1338	38,0		57.0	57.0	44.0	18.0	470
515.1341	41,0		57.0	60.0	44.0	22.0	590
515.1346	46,0		62.0	66.0	44.0	24.0	770
515.1350	50,0		72.0	71.0	54.0	30.0	970
515.1355	55,0		74.0	78.0	54.0	30.0	1250
515.1360	60,0		75.0	84.0	54.0	30.0	1600
515.1365	65,0		78.0	88.0	54.0	33.0	1650
515.1370	70,0		83.0	96.0	54.0	35.0	1920
515.1386		13/16"	52.0	32.0	38.0	11.0	240
515.1387		7/8"	52.0	34.0	38.0	11.0	250
515.1388		15/16"	52.0	36.0	38.0	13.0	250
515.1389		1"	52.0	38.0	38.0	13.0	260
515.1390		1.1/16"	52.0	40.0	40.0	16.0	280
515.1391		1.1/8"	52.0	42.0	42.0	16.0	330
515.1392		1.1/4"	52.0	46.0	44.0	16.0	370
515.1393		1.5/16"	56.0	48.0	44.0	18.0	410
515.1394		1.3/8"	56.0	50.0	44.0	18.0	440
515.1395		1.7/16"	56.0	52.0	44.0	18.0	450
515.1396		1.1/2"	56.0	53.0	44.0	18.0	460
515.1397		1.5/8"	62.0	58.0	44.0	23.0	590
515.1398		1.11/16"	62.0	64.0	44.0	23.0	700
515.1399		1.3/4"	62.0	65.0	44.0	23.0	750
515.1401		1.7/8"	68.0	68.0	44.0	27.0	790
515.1402		2"	72.0	71.0	54.0	30.0	880

Hexagon impact socket

- 6 point
- Internal square drive to DIN 3121 / ISO 1174
- Extra thick walled / long centre execution
- For machinery usage
- Phosphate
- Chrome molybdenum

1"

	mm	L mm	D1 mm	D2 mm	T mm	g
515.2124	24,0	76.0	38.0	52.0	13.0	570
515.2127	27,0	76.0	42.0	52.0	14.0	580
515.2130	30,0	76.0	45.0	52.0	18.0	620
515.2132	32,0	76.0	48.0	52.0	18.0	640
515.2133	33,0	76.0	49.0	52.0	18.0	650
515.2134	34,0	76.0	50.0	52.0	18.0	670
515.2136	36,0	76.0	54.0	52.0	20.0	690
515.2138	38,0	76.0	56.0	52.0	23.0	710
515.2141	41,0	80.0	59.0	52.0	23.0	720

Hexagon impact socket

- 6 point
- According to DIN 3129 / ISO 2725-2
- Internal square drive to DIN 3121 / ISO 1174
- Short execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1"

	mm		L mm	D2 mm	D1 mm	T mm	kg
515.1722	22,0		58.0	51.0	39.0	12.0	0.51
515.1724	24,0		58.0	54.0	42.0	14.0	0.51
515.1727	27,0		58.0	54.0	46.0	14.0	0.52
515.1729	29,0		60.0	54.0	48.0	16.0	0.53
515.1730	30,0		60.0	54.0	49.0	16.0	0.53
515.1731	31,0		60.0	54.0	51.0	16.0	0.56
515.1732	32,0		61.0	54.0	60.0	19.0	0.59
515.1733	33,0		61.0	54.0	54.0	19.0	0.62
515.1734	34,0		61.0	54.0	54.0	19.0	0.64
515.1736	36,0		65.0	54.0	57.0	19.0	0.67
515.1737	37,0		65.0	54.0	58.0	19.0	0.67
515.1738	38,0		65.0	54.0	59.0	20.0	0.68
515.1740	40,0		65.0	54.0	62.0	23.0	0.87
515.1741	41,0		65.0	54.0	63.0	23.0	0.92
515.1742	42,0		65.0	54.0	63.0	23.0	0.98
515.1746	46,0		74.0	54.0	69.0	23.0	1.00
515.1750	50,0		74.0	54.0	74.0	26.0	1.07
515.1755	55,0		85.0	54.0	81.0	28.0	1.44
515.1760	60,0		89.0	54.0	87.0	31.0	1.78
515.1765	65,0		93.0	54.0	93.0	32.0	1.80
515.1770	70,0		98.0	54.0	99.0	35.0	2.04
515.1775	75,0		100.0	86.0	106.0	40.0	3.48
515.1780	80,0		100.0	86.0	112.0	47.0	4.10
515.1785	85,0		102.0	86.0	119.0	47.0	4.80
515.1790	90,0		107.0	86.0	124.0	47.0	5.10
515.1795	95,0		107.0	86.0	131.0	50.0	5.25
515.1891		1"	58.0	51.0	42.0	14.0	0.52
515.1892		1.1/4"	60.0	51.0	51.0	16.0	0.61
515.1893		1.7/16"	62.0	52.0	56.0	20.0	0.64
515.1894		1.1/2"	62.0	52.0	58.0	22.0	0.67
515.1895		1.5/8"	62.0	52.0	62.0	22.0	0.92
515.1896		1.13/16"	64.0	58.0	68.0	23.0	1.00
515.1897		1.7/8"	66.0	58.0	70.0	24.0	1.08
515.1898		2.1/4"	75.0	62.0	84.0	30.0	1.52

Impact socket set for light commercial hub nuts

- 6 point
- Internal square drive to DIN 3121 / ISO 1174
- Short and long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1"

			kg	
515.0305	2 pcs	515.1732, 32 mm + 515.1832, 32 mm, long	1.68	
515.0306	2 pcs	515.1733, 33 mm + 515.1833, 33 mm, long	1.68	

Hexagon impact socket, extra deep

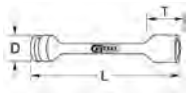
- 6 point
- Internal square drive to DIN 3121 / ISO 1174
- Extra long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

3/4"

	mm	L mm	D1 mm	D2 mm	T mm	kg	
515.1182	27,0	270.0	42.0	44.0	27.0	1.09	
515.1183	30,0	270.0	46.0	44.0	30.0	1.14	
515.1184	32,0	270.0	49.0	44.0	32.0	1.16	
515.1191	27,0	400.0	42.0	44.0	27.0	1.25	
515.1192	30,0	400.0	46.0	44.0	30.0	1.32	
515.1193	32,0	400.0	49.0	44.0	32.0	1.36	
515.1194	33,0	400.0	50.0	44.0	32.0	1.38	

Hexagon torque impact socket, extra deep

- Ideal for controlled loosening of wheel screws and nuts with impact wrenches
- Internal square drive to DIN 3121 / ISO 1174
- Extra long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum



1"

	mm	max N•m	L mm	D mm	T mm	kg	
515.1461	24,0	350	300.0	54.0	24.0	1.38	
515.1462	27,0	350	300.0	54.0	27.0	1.40	
515.1463	27,0	450	300.0	54.0	27.0	1.58	
515.1464	30,0	500	300.0	54.0	30.0	1.56	
515.1465	32,0	450	300.0	54.0	32.0	1.60	
515.1466	32,0	550	300.0	54.0	32.0	1.60	
515.1467	32,0	600	300.0	54.0	33.0	1.60	
515.1468	33,0	550	300.0	54.0	33.0	1.64	
515.1469	33,0	600	300.0	54.0	36.0	1.64	

Stainless steel magnetic tray

- 1 magnet
- For holding screws and other small parts such as wheel nuts
- Magnetic plate is covered with plastic
- Stainless steel

	Ø mm	g	
800.0150	150,0	430	

Stainless steel magnetic tray

- 2 magnets
- For holding screws and other small parts such as wheel nuts
- Magnetic plate is covered with plastic
- Stainless steel

	L mm	B mm	g	
800.0151	240.0	140.0	850	

HGV tyre mounting lever

- Enables fast dismantling and fitting
- Phosphate finish
- Chrome vanadium

	L mm	g	
911.8147	535.0	600	

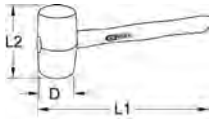
HGV tyre mounting lever

- Heavy and robust execution
- Enables fast dismantling and fitting
- Matt finish
- Chrome vanadium

	L mm	g	
911.8180	650.0	1100	

Rubber hammer

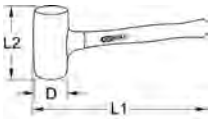
- DIN 5128
- With ash handle
- Hammer head made out of hard rubber



	g	D mm	L1 mm	L2 mm	handle,spare		g	
140.5221	300	54.0	300.0	85.0	140.5304	140.5404	360	
140.5222	500	67.0	310.0	100.0	140.5305	140.5405	560	
140.5223	700	74.0	330.0	120.0	140.5306	140.5405	760	

Dead blow hammer

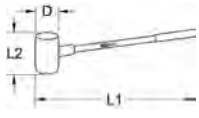
- With polyurethane glassfiber composite handle
- Shock absorbing effect through steel shot in the hammer head
- Substantially higher impact effect than standard conventional hammers
- For safer working with less recoil



	g	D mm	L1 mm	L2 mm	handle,spare		g	
140.5252	350	30.0	275.0	90.0	-	-	360	
140.5254	690	35.0	311.0	100.0	-	-	700	
140.5255	940	45.0	340.0	100.0	-	-	950	
140.5256	1170	50.0	346.0	110.0	-	-	1180	
140.5257	1400	55.0	355.0	120.0	-	-	1410	
140.5258	1540	60.0	380.0	130.0	-	-	1550	

Dead blow hammer, extra large

- Fiberglass handle
- Special absorbing effect through steel shot in the hammer head
- Substantially higher impact effect than standard conventional hammers
- Polyurethane glassfiber composite
- For safer working with less recoil



	g	D mm	L1 mm	L2 mm	handle,spare		kg	
140.5259	4500	80.0	890.0	180.0	-	-	4.76	
140.5260	5000	105.0	900.0	200.0	-	-	5.26	

Valve thread repair tool

- For the repair of damaged threads on external and internal valves
- Multi functional including ventalation and removal

		g
100.5050	Valve thread repair tool	20

Commercial vehicle thread repair set

- For re-cutting and cleaning of internal and external threads
- Suitable for right and left handed threads up to Ø 140mm
- Quick cutting jaw modification possible from the magazine
- No damage of the thread due to the soft holding guides
- With 3 x die for HGV hub nut threads
- Special steel
- In durable plastic storage case

Chaser metric: 1.0 - 1.25 -1.5 -1.75 -2.0 -2.5 -3.0 -3.5 mm
Chaser imperial: 24-20-18-16-14-12-11.5-11-10-9-8-7.5-7-6-5-4 pitch
Thread file metric 0.8-1.0-1.25 -1.5-1.75-2.0-2.5-3.0 mm
Thread file, imperial 24-20-18-16-14-12 -11-10
Die: M18x1.5 / M20x1.5 / M22x1.5

Application: Trucks, land and construction machines, municipally and forestery technology on e.g. axle threads, hydraulic cylinder screw joints, steering and push rods

			kg
150.1435	12 pcs	25,0 - 140,0	2.58

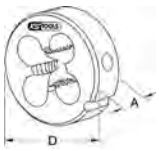
consists of:

		g
150.1430	Thread repairer, Ø 25-140mm	1400
150.1340	Thread repair file, metric, 230mm	130
150.1345	Thread repair file, imperial, 230mm	130
150.4911	Die M18 x 1.50	66
150.4902	Die M20 x 1.50	59
150.4904	Die M22 x 1.50	51

HSS die MF

- DIN EN 22568 form B
- Tolerance according to ISO - 6g
- Right hand cutting
- Specification, ground cutting edge
- Metric fine thread
- Surface without discolouration
- High performance steel

Ideally usably in high and low alloyed steel up to 800 N/mm² stability and NE metals.



		A mm	D mm	Content	g
332.1022	M18 x 1,5	14.0	45.0	1	100
332.1026	M20 x 1,5	14.0	45.0	1	100
332.1063	M22 x 1,5	16.0	55.0	1	110

Threading die adaptor set

- Universal use for round cutting dies according to DIN E 22568 form B
- Slim design
- Ideal for difficult to access areas
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Includes extension and locking knob
- Special steel
- In durable plastic storage case

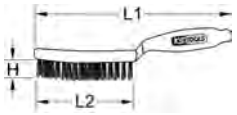
			kg
331.0620	8 pcs	Threading die adaptor set	1.94

consists of:

		g
331.0621	Die adaptor SW 24 / M3 - M6	60
331.0622	Die adaptor SW 24 / M7 - M8	50
331.0623	Die adaptor SW 24 / M9 - M10	90
331.0624	Die adaptor SW 41 / M11 - M14	230
331.0625	Die adaptor SW 41 / M18 - M20	360
331.0626	Die adaptor SW 41 / M22 - M24	430
331.0627	Locking bolt for extension	120
331.0628	1/2" Extension adaptor for cutting die	250

Steel wire hand brush 4 rowed

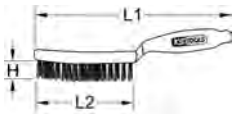
- 4 rowed
- Universal usage
- Plastic hand grip casing
- For surface preparation
- Straight steel wire



	H mm	L1 mm	L2 mm	g
201.2325	25.0	285.0	130.0	120

Brass wire hand brush 3 rowed

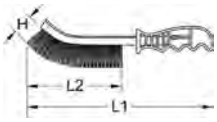
- 3 rowed
- Universal usage
- Plastic hand grip casing
- For surface preparation
- Straight brass wire



	H mm	L1 mm	L2 mm	g
201.2326	25.0	285.0	130.0	105

Steel wire all purpose wire brush

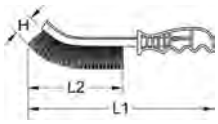
- With plastic handle
- For surface preparation
- Crimped steel wire



	H mm	L1 mm	L2 mm	g
201.2300	28.0	250.0	145.0	90

Brass steel all purpose wire brush

- With plastic handle
- For surface preparation
- Curved brass wire



	H mm	L1 mm	L2 mm	g	
201.2302	28.0	250.0	145.0	90	

Round angled brush for tyre mounting paste

- Screwed on brush
- 45° offset
- Ideal for mounting paste on the wheel rim
- Wood handle

	Ø mm	L mm	g	
100.4020	45,0	400.0	250	

Tyre mounting paste 5 kg, gold

- ideally suitable for the dismantling and assembly of tyres with Steel or aluminium rims
- For the dismantling and assembly of truck tyres with steel rims
- Simply apply with a brush or a sponge on the wheel rim
- Optimal lubricating and bonding properties whilst protecting the tyre
- Releases the air out quickly which guarantees a strong bond in a short time the construction components
- The professional black paste avoids staining as with the white paste
- Also suitable for wide tyres
- Supplied in a bucket

Application range: Trucks land and construction machines

		kg	
100.4005	Tyre mounting paste 5 kg, gold	5.00	

Fluorecent crayon

- Smudge free
- Suitable to write on all surfaces
- Breakpfoof

	Colour code	Ø mm	L mm	Content	g	
100.4050	○	14,0	110.0	12	140	
100.4045	●	14,0	110.0	12	140	

HGV tyre vulcanising repair set

- Self vulcanising material
- Simple handling
- Robust metal tools
- Ideally suited for the fast repair of damaged tyres
- Please check with the local country laws associated with tyre repairs for air tyres

			kg	
150.1080	5 pcs	HGV tyre vulcanising repair set	0.90	

consists of:

		g	
150.1082	30 Replacement strings 178 mm	190	
150.1083	Needle long	110	
150.1074	Rasp	110	
150.1071	Lubricant, 70 g	70	
150.1075	Break-off utility knife 9 mm	10	

Calibrated tyre filling gauge

- For one handed operation with ergonomic design
- Rubber coated manometer
- Manometer with bar scale
- With filling lever and pressure release button
- Tube with integrated locking male nipple
- Hanging hole
- Includes 1/4" coupling connector
- Robust rubber coated housing

Technical data:

Working range:	0 - 10 bar
Tube length:	500 mm
Operating pressure:	max. 6,3 bar (90 psi)
Connection thread:	1/4"PT

	L mm	g	
515.1960	540.0	450	

Micro fine woven gloves - white

- CE / EN 388 [1131]
- Very comfortable design and fit
- Especially breathe able fabric
- With PU reinforced gripping palm
- Ideal for working with small parts
- Printed logo

		Content	g	
310.0450	L	12 pair	385	
310.0455	XL	12 pair	435	
310.0460	XXL	12 pair	482	

Micro fine woven gloves - black

- CE / EN 388 [1131]
- Very comfortable design and fit
- Especially breatheable fabric
- With PU reinforced gripping palm
- Ideal for working with small parts
- Printed logo

		Content	g	
310.0470	L	12 pair	420	
310.0475	XL	12 pair	430	
310.0480	XXL	12 pair	445	

Mechanic gloves

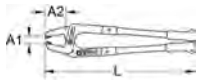
- CE / EN 388 [2112]
- Universal use for work and leisure
- Ideal for working with small parts secure grip
- With silicone gel padding in the palm area
- With elasticated wrists
- With hook and loop fastener

		g	
310.0350	L	85	
310.0355	XL	90	
310.0360	XXL	95	

AXLES

Grease cap pliers

- Hard rubber handle
- For the damage free drawing off of grease caps
- 2x6 moveable adjustable steps
- Wedge shaped jaw profile
- Head burnished
- Special tool steel

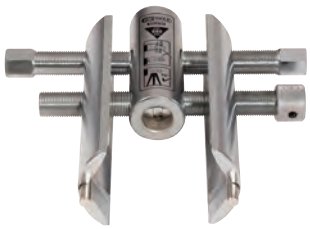


	A1 mm	A2 mm	L mm	kg	
450.0210	0,0-100,0	85.0	500.0	1.20	

Vario nut and cap key set

- For the dismantling and assembly of vario nuts
- Suitable for exact torque with a 3/4" square drive
- Certain stop through clamping screws and adapter guides on the basic device
- Hole separation maximum 145 mm
- Slim design
- Especially suitable for narrow hard to access areas
- Ideally suited for special nuts and caps
- Special steel

Application range: 6 point-, 8 point-, nuts- and round nuts



			kg	
450.0180	13 pcs	Vario nut and cap key set	3.68	

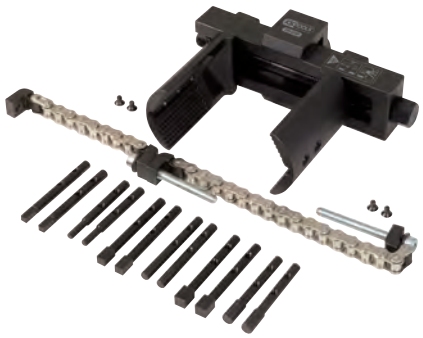
consists of:

		g	
450.0181	Vario nut and cap key	2810	
450.0182	2 Pieces round adapter 6 mm	41	
450.0183	2 Pieces round adapter 8 mm	41	
450.0184	2 Pieces round adapter 10 mm	41	
450.0185	2 Pieces square adapter 6 mm	41	
450.0186	2 Pieces square adapter 8 mm	41	
450.0187	2 Pieces square adapter 10 mm	41	

Vario nut and cap key set, heavy duty

- Extra heavy execution
- For the dismantling and assembly of vario nuts
- Suitable for exact torque with a 3/4" square drive
- Certain stop through clamping screws and adapter guides on the basic device
- Hole separation maximum 145 mm
- Includes clamping chain
- Slim design
- Especially suitable for narrow hard to access areas
- Ideally suited for special nuts and caps
- Special steel

Application range: 6 point-, 8 point-, Nuts- and round nuts.



			kg	
450.0190	14 pcs	Vario nut and cap key set, heavy duty	4.80	

consists of:

		g	
450.0191	Vario nut and cap key	3708	
450.0192	2 Pieces round adapter 6 mm	470	
450.0193	2 Pieces round adapter 8 mm	55	
450.0194	2 Pieces round adapter 10 mm	64	
450.0195	2 Pieces square adapter 6 mm	45	
450.0196	2 Pieces square adapter 8 mm	52	
450.0197	2 Pieces square adapter 10 mm	61	
450.0198	Clamping chain	430	

Clamp nut socket

- For professional loosening and tightening
- Extremely versatile
- Rectangular form
- Usably with rectangular clamp nuts on the axle stub
- Suitable for exact torque with a 3/4" square drive
- Milled out profile
- For machinery usage
- Special steel

Application range: DAF, Mercedes Benz, Kässbohrer-Setra, MAN

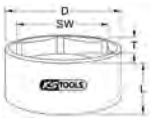
3/4"

	dim mm	□	H mm	g	
450.0106	56,0	3/4	76.0	900	
450.0107	60,0	3/4	76.0	870	

Hexagonal socket, short

- 6 point
- Short execution
- Robust execution
- Phosphate finish
- Chrome molybdenum

Application range: SW 85, MB Actros, Scania, Rockinger, SAF, SW 90, Fiat Eurocargo 4x4, SW 95, MB Actros, Iveco, Fiat, Volvo, SW 105, DAF, Kässbohrer, Setra, Fiat, Volvo, SW110, Fruehauf, SW 115, DAF, Ford Transcontinental, SW 120, DAF, Scania, SAF etc.



1"

	mm	D mm	L mm	T mm	kg	
911.1085	85,0	112,0	71.0	40.0	2.08	
911.1086	90,0	119,0	71.0	40.0	2.34	
911.1087	95,0	126,0	71.0	40.0	2.63	
911.1088	100,0	133,0	71.0	40.0	2.92	
911.1089	105,0	140,0	71.0	40.0	3.23	
911.1090	110,0	147,0	71.0	40.0	3.56	
911.1091	115,0	154,0	71.0	40.0	3.90	
911.1092	120,0	160,0	71.0	40.0	4.27	

Hexagon impact socket

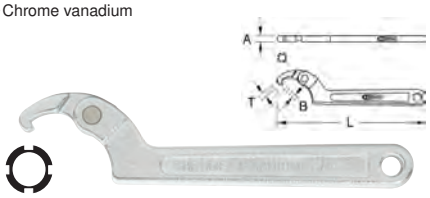
- 6 point
- According to DIN 3129 / ISO 2725-2
- Internal square drive to DIN 3121 / ISO 1174
- Short execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1"

	mm		L mm	D1 mm	D2 mm	T mm	kg	
515.1750	50,0		74.0	74.0	54.0	26.0	1.07	
515.1755	55,0		85.0	81.0	54.0	28.0	1.44	
515.1760	60,0		89.0	87.0	54.0	31.0	1.78	
515.1765	65,0		93.0	93.0	54.0	32.0	1.80	
515.1770	70,0		98.0	99.0	54.0	35.0	2.04	
515.1775	75,0		100.0	106.0	86.0	40.0	3.48	
515.1780	80,0		100.0	112.0	86.0	47.0	4.10	
515.1785	85,0		102.0	119.0	86.0	47.0	4.80	
515.1790	90,0		107.0	124.0	86.0	47.0	5.10	
515.1795	95,0		107.0	131.0	86.0	50.0	5.25	
515.1891		1"	58.0	42.0	51.0	14.0	0.52	
515.1892		1.1/4"	60.0	51.0	51.0	16.0	0.61	
515.1893		1.7/16"	62.0	56.0	52.0	20.0	0.64	
515.1894		1.1/2"	62.0	58.0	52.0	22.0	0.67	
515.1895		1.5/8"	62.0	62.0	52.0	22.0	0.92	
515.1896		1.13/16"	64.0	68.0	58.0	23.0	1.00	
515.1897		1.7/8"	66.0	70.0	58.0	24.0	1.08	
515.1898		2.1/4"	75.0	84.0	62.0	30.0	1.52	

Hook wrench with nose

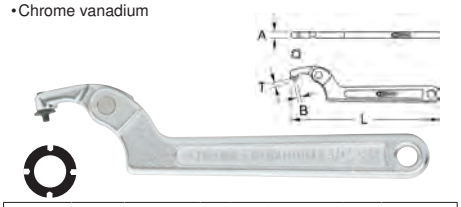
- In accordance to DIN 1080 Form A
- With flexible head
- With hanging hole
- For slotted nuts
- Matt finish
- Chrome vanadium



	mm		A mm	B mm	L mm	T mm	g	
517.1302	19-50	3/4-2"	9.0	3.5	162.0	2.9	100	
517.1303	32-76	1.1/4-3"	11.5	4.5	205.0	3.7	210	
517.1304	50-120	2-4.3/4"	12.4	6.5	295.0	4.6	420	
517.1305	114-158	4.1/2-6.1/4"	12.4	9.8	315.0	8.3	440	

Flexible hook wrench with pin

- In accordance to DIN 1810 Form A
- With flexible head
- With hanging hole
- For pin type round nuts
- Matt finish
- Chrome vanadium



	mm		A mm	B mm	L mm	T mm	g	
517.1312	19-50	3/4-2"	9.2	4.0	165.0	4.0	110	
517.1313	32-76	1.1/4-3"	11.3	5.0	210.0	4.7	220	
517.1314	50-120	2-4.3/4"	12.5	6.0	295.0	5.5	420	
517.1315	114-158	4.1/2-6.1/4"	12.6	8.0	320.0	7.6	440	

Socket set for KM groove nuts, studs exterior

- For loosening and tightening groove nuts DIN 981 on crimping or clamping sleeves
- Minimum space on nut size
- Slim design
- Suitable for exact torque possible
- Pin + rubber rings for safe holding
- Working range KM4 to KM12 (nuts of ball bearing)

Application range: Removal and installation of bearings, gear wheels, cone roll bearings, ball bearings etc.
Trucks, land and construction machines, municipally and forestery technology, etc.

1/2" 3/4"

			kg	
450.5000	9 pcs	1/2": KM4-KM5-KM6-KM7-KM8 3/4": KM9-KM10-KM11-KM12	3.20	

KM groove nuts, studs exterior

- For loosening and tightening groove nuts DIN 981 on crimping or clamping sleeves
- Minimum space on nut size
- Slim design
- Suitable for exact torque possible
- Pin + rubber rings for safe holding
- Working range KM4 to KM12 (nuts of ball bearing)

Application range: Removal and installation of bearings, gear wheels, cone roll bearings, ball bearings etc.
Trucks, land and construction machines, municipally and forestery technology, etc.

1/2" 3/4"

		for nut	D1 mm	D2 mm	Stud	B mm	H mm	g	
450.5004	1/2"	KM4	37.3	28.3	4	4.0	60.0	90	
450.5005	1/2"	KM5	44.3	34.3	4	5.0	60.0	115	
450.5006	1/2"	KM6	52.3	41.3	4	5.0	60.0	145	
450.5007	1/2"	KM7	59.3	48.3	4	5.0	60.0	185	
450.5008	1/2"	KM8	65.5	53.5	4	6.0	60.0	218	
450.5009	3/4"	KM9	73.5	60.5	4	6.0	60.0	270	
450.5010	3/4"	KM10	78.5	65.5	4	6.0	60.0	315	
450.5011	3/4"	KM11	82.5	68.5	4	7.0	60.0	354	
450.5012	3/4"	KM12	87.5	74.5	4	7.0	60.0	406	

Socket set for KM groove nuts, studs internal

- For loosening and tightening groove nuts DIN 981 on crimping or clamping sleeves
- Minimum space on nut size
- Internal studs for high torque
- Use in conjunction with extensions, ratchets etc.
- Suitable for exact torque
- Pin + rubber rings for safe holding
- Working range KM4 to KM12 (nuts of ball bearing)

Application: Removal and installation of bearings, gear wheels, cone roll bearings, ball bearings etc.
Trucks, land and construction machines, municipally and forestery technology, etc.

1/2" 3/4"

			kg	
450.5020	9 pcs	1/2": KM4-KM5-KM6-KM7-KM8 3/4": KM9-KM10-KM11-KM12	4.20	

KM groove nuts, studs internal

- For loosening and tightening groove nuts DIN 981 on crimping or clamping sleeves
- Minimum space on nut size
- Internal studs for high torque
- Suitable for exact torque possible
- Pin + rubber rings for safe holding
- Working range KM4 to KM12 (nuts of ball bearing)

Application range: Removal and installation of bearings, gear wheels, cone roll bearings, ball bearings etc.
Trucks, land and construction machines, municipally and forestery technology, etc.

1/2" 3/4"

		for nut	D1 mm	D2 mm	Stud	B mm	H mm	g	
450.5024	1/2"	KM4	43.0	28.3	4	4.0	60.0	142	
450.5025	1/2"	KM5	51.0	34.3	4	5.0	60.0	192	
450.5026	1/2"	KM6	59.0	41.3	4	5.0	60.0	212	
450.5027	1/2"	KM7	66.0	48.3	4	5.0	60.0	270	
450.5028	1/2"	KM8	74.6	53.5	4	6.0	60.0	312	
450.5029	3/4"	KM9	80.0	60.5	4	6.0	60.0	400	
450.5030	3/4"	KM10	86.0	65.5	4	6.0	60.0	504	
450.5031	3/4"	KM11	93.0	69.5	4	7.0	60.0	697	
450.5032	3/4"	KM12	98.0	74.5	4	7.0	60.0	811	

BPW wheel cap socket

- For the dismantling and assembly of grease caps on BPW axles
- Extremely versatile
- Flat oval form
- Suitable for exact torque on a hexagon head possible
- Ideally suited for very high tightening and loosening torques
- For machinery usage
- Special steel

3/4"

	dim mm	mm	Ø mm	H mm	kg	
450.0207	95,0	41,0	110,0	90.0	2.50	
450.0208	111,0	41,0	132,0	90.0	2.75	

BPW axle nut socket

- For the dismantling and assembly of BPW axle nuts
- Extremely versatile
- Flat oval form
- Suitable for exact torque with a 3/4" square drive
- For machinery usage
- Special steel

3/4"

	dim mm	□	Ø mm	H mm	kg	
450.0204	65,0	3/4	82,0	66.0	1.07	
450.0205	80,0	3/4	100,0	80.0	1.50	

BPW axle nut socket

- With 3/4" square drive
- Suitable for exact torque
- Extremely versatile
- For machinery usage
- Special steel

Application: BPW axle nuts (crown nuts) 16 tonne axles

3/4"

	mm	D mm	T mm	L mm	kg
450.0215	85	110.0	33.0	84.0	2.78

HINO axle nut socket

- For the dismantling and assembly of HINO axle nuts
- For 11.9 t axles
- 8 point
- Extremely versatile
- Suitable for exact torque with a 3/4" square drive
- For machinery usage
- Special steel

3/4"

	□	dim mm	Ø mm	H mm	kg
450.0230	3/4"	105,0	125,0	85.0	2.82

Axle nut socket 95 mm with guide band

- Six sided drive SW 36
- Positive drive of the axle nut
- Any extensive slipping is avoided
- Milled out profile
- Robust execution
- Can be used with an impact wrench or torque wrench
- Special steel

Application range: Mercedes Benz axle trailers

3/4"

	dim mm	mm	Ø mm	H mm	kg
450.0202	95,0	36,0	118,0	157.0	2.36

Axle nut socket 140 mm

- Positive drive of the axle nut
- Robust execution
- Can be used with an impact wrench or torque wrench
- Ideally suited for brake restoration working
- Forward tension with SW 32 mm is at 150 N•m
- Angle of rotation 20-30° with SW 46
- Special steel

Application range: SAF Euro axle, etc.

3/4"

	dim mm	mm	H mm	kg
450.0110	140,0	32/46	100.0	2.27

Groove nut socket with 6 studs

- Internal square drive to DIN 3121 / ISO 1174
- High accuracy of fit
- Extremely robust execution
- Suitable for high tightening and loosening torque
- Special steel

Application range: Mercedes Benz Sprinter HA, etc.

3/4"

	Inner Ø mm	Outer Ø mm	H mm	Stud Ø mm	Stud	Stud width mm	g
450.0165	50.0	70.0	52.0	61.0	6	6.0	820

Groove nut socket with 6 studs

- Internal square drive to DIN 3121 / ISO 1174
- Rigid locating tube
- Optional with expander sleeve (bayonet locking system)
- High accuracy of fit
- Extremely robust execution
- Suitable for high tightening and loosening torque
- Special steel

Application range: Mercedes Benz Atego Rear axle, Vitaro 814, MAN, etc.

3/4"

	Inner Ø mm	Outer Ø mm	Locating tube Ø mm	H mm	Stud Ø mm	Stud	Stud width mm	kg
450.0160	80.0	95.0	49,0	185.0	87.0	6	10.0	2.60

Accessories:

		Ø mm	g
450.0161	3/4" Expander sleeve for location tube	57	800

Axle nut socket 85 mm

- Six sided drive SW 36
- Positive drive of the axle nut
- Any extensive slipping is avoided
- Milled out profile
- Robust execution
- Can be used with an impact wrench or torque wrench
- Special steel

Application range: SAF axle trailers

3/4"

	dim mm	mm	Ø mm	H mm	kg
450.0201	85,0	36,0	118,0	82.0	1.40

Groove nut socket with 4 studs

- Internal square drive to DIN 3121 / ISO 1174
- High accuracy of fit
- Extremely robust execution
- Suitable for high tightening and loosening torque
- Special steel

Application range: Mercedes Benz M Class, etc.

3/4"

	Inner Ø mm	Outer Ø mm	H mm	Stud Ø mm	Stud	Stud width mm	g
450.0166	52.0	63.0	60.0	52.0	4	8.0	850

Groove nut socket with 6 studs

- Internal square drive to DIN 3121 / ISO 1174
- Rigid locating tube
- High accuracy of fit
- Extremely robust execution
- Suitable for high tightening and loosening torque
- Special steel

Application range: Mercedes Benz Actros Rear axle, HL/HL 8 (Hypoid), etc.

3/4"

	Inner Ø mm	Outer Ø mm	H mm	Stud Ø mm	Stud	Stud width mm	kg
450.0167	105.0	125.0	182.0	115.0	6	10.0	2.60

Groove nut socket with 6 studs

- Internal square drive to DIN 3121 / ISO 1174
- Optional with sleeve locating tube
- High accuracy of fit
- Extremely robust execution
- Suitable for high tightening and loosening torque
- Special steel

Application range: Mercedes Benz und MAN 10 + 13 t Reduction axle, Hypoid- and Trailer axle NR 7/4, Omnibus 0305 G + 0405 G, etc.

3/4"

	Inner Ø mm	Outer Ø mm	H mm	Stud Ø mm	Stud	Stud width mm	g
450.0168	95.0	115.0	165.0	101.0	6	6.0	820

Special socket for 8 point screws

- Special 8 point internal profile
- To the dismantling and assembly of the control switch for the differential lock
- Ideally suited also for various electric switches on the transmissions
- Chrome plated and mirror polished
- Special steel

Application range: MAN, Mercedes Benz LKW Actros, SK Baureihe, etc.

1/2"

	Profile	dim mm	Ø mm	L mm	g
455.0100	8 point	27	34,0	57.0	200

Groove nut socket with 6 studs

- Internal square drive to DIN 3121 / ISO 1174
- Six sided drive SW 60
- High accuracy of fit
- Extremely robust execution
- Suitable for high tightening and loosening torque
- Special steel

Application range: MAN TGA Front axle, V9-82L-01(Disk brake/ABS), etc.

3/4"

	Inner Ø mm	Outer Ø mm	H mm	Stud Ø mm	Stud	Stud width mm	kg
450.0170	101.0	110.0	80.0	93.0	6	8.0	2.60

Accessories:

		Inner Ø mm	Outer Ø mm	L mm	g
450.0150	Sleeve locating tube	46.0	52.0	140.0	520
450.0152	Sleeve locating tube	60.0	67.0	140.0	820

Groove nut socket for rear axle nut

- With hexagon drive SW 32
- For the dismantling and assembly of the rear axle nut
- High accuracy of fit
- Robust execution
- Suitable for high tightening and loosening torque
- Drive tube Ø 35 mm
- Special steel

Application range: Mercedes Benz Citaro

	Inner Ø mm	Outer Ø mm	H mm	Stud Ø mm	Stud	Stud width mm	kg
450.0251	122.0	139.0	310.0	123.5	6	10.4	3.87

Groove nut socket for differential nuts

- With hexagon drive SW 32
- Removal and installation of differential nuts
- High accuracy of fit
- Robust execution
- Suitable for high tightening and loosening torque
- Special steel

Application range: Mercedes Benz Citaro, Evo bus (ZF axle 132)

	Inner Ø mm	Outer Ø mm	H mm	Stud Ø mm	Stud	Stud width mm	g
450.0252	72.0	84.0	60.0	72.0	6	10.5	646

Groove nut socket MB+MAN, with 6 studs

- Square drive to DIN 3121 / ISO 1174
- Extremely versatile
- Suitable for exact torque
- Special profile with 6 internal studs
- Suitable for high tightening and loosening torque
- Special steel

Application range: MB+MAN drive axle

3/4"

	A mm	B mm	D1 mm	D2 mm	Stud	T mm	L mm	kg
450.0169	11.5	100.5	119.0	110.0	6	11.6	80.0	3.30

Extension tube for the rear axle

- With hexagon drive SW 41
- For the removal and installation of wheel hubs
- For the protection of the wheel bearing and threaded bolts
- Suitable for right and left handed threads
- Special steel

Application range:
Right handed thread = rear axle HL2 e.g. MAN L serie
Left handed thread = Mercedes Benz Atego/Vario

	Thread	Inner Ø mm	Outer Ø mm	L mm	kg
450.0156	M75 x 1.5	60	78.0	180.0	2.51
450.0157	M75 x 1.5 L	60	78.0	180.0	2.51

Extension tube for MAN TGA rear axle

- For the removal and installation of wheel hubs
- Extension tube for the protection of the wheel bearing and threaded bolts
- With knurling and bore for toggle lever
- Special steel

Application range: MAN TGA rear axle e.g. HY 1350

	Thread	Inner Ø mm	Outer Ø mm	L mm	kg
450.0155	M100 x 1.5	96	105.0	360.0	3.55

Slotted nut wrench with guide tube, MAN TGA rear axle

- High accuracy of fit
- Extremely robust execution
- Suitable for high tightening and loosening torque
- Replaceable locating tube
- Special steel

Application: MAN TGA rear axle

	D1 mm	D2 mm	H mm	Stud	Stud width mm	kg
450.0175	148.0	117.0	158.0	6	11.5	4.50

Groove nut socket with 6 studs

- Internal square drive to DIN 3121 / ISO 1174
- Six sided drive SW 60
- Optional with sleeve locating tube
- High accuracy of fit
- Extremely robust execution
- Suitable for high tightening and loosening torque
- Special steel

Application range: MAN TGA Front axle, V9-82L-01(Disk brake/ABS), etc.

	Inner Ø mm	Outer Ø mm	H mm	Stud Ø mm	Stud	Stud width mm	kg
450.0176	133.0	145.0	110.0	117.0	6	12.0	3.82

Accessories:

		Inner Ø mm	Outer Ø mm	L mm	g
450.0152	Sleeve locating tube	60.0	67.0	140.0	820

Sleeve locating tube

- Practical connector system with fixing screw
- Usably for different groove socket nuts (module systems)
- Enables stable work position
- Prevents slippage of the socket
- Extremely robust execution
- Change through loosening of the grub screw on the hexagon
- Special steel

	Inner Ø mm	Outer Ø mm	L mm	g
450.0150	46.0	52.0	140.0	520
450.0151	54.0	60.0	140.0	690
450.0152	60.0	67.0	140.0	820

Axle nut socket 98 mm

- Six sided drive SW 36
- Positive drive of the axle nut
- Any extensive slipping is avoided
- Milled out profile
- Robust execution
- Can be used with an impact wrench or torque wrench
- Special steel

Application range: Iveco Euro Cargo, etc.

	dim mm	mm	Ø mm	H mm	kg
450.0200	98,0	36,0	122,0	115.0	2.27

Axle nut socket 110 mm with guide band

- Six sided drive SW 36
- Positive drive of the axle nut
- Any extensive slipping is avoided
- Milled out profile
- Robust execution
- Can be used with an impact wrench or torque wrench
- Special steel

Application range: Iveco Eurotech Cursor HA, etc.

	dim mm	mm	Ø mm	H mm	kg
450.0203	110,0	36,0	133,0	116.0	2.36

Scania VA axle nut socket

- With six sided drive SW 41
- Suitable for exact torque
- 8 point
- Extremely versatile
- For machinery usage
- Special steel

Application range : Scania front axle (e.g. 124L / 144L), Series 4 from 96 for vehicles above 16 t, removal and fitting of the axle nuts in front of the brake disc

	dim mm	D1 mm	D2 mm	T mm	L mm	kg
450.0220	80	105.0	41.0	25.0	98.0	2.05

Axle nut impact socket, 8 point profile SW 80

- With 1" square drive
- Positive drive of the axle nut
- Any extensive slipping is avoided
- Milled out profile
- Robust execution
- Can be used with an impact wrench or torque wrench
- Special steel

Application range: Scania front axle (e.g. 124L / 144L), Series 4 from 96 for vehicles above 16 t
Removal and fitting of the axle nuts in front of the brake disc

	mm	D mm	T mm	L mm	kg
450.0221	80	98.0	25.0	75.0	1.75

Axle nut impact socket, 8 point

- With 1" square drive
- 8 point socket profile
- Positive drive of the axle nut
- Any extensive slipping is avoided
- Milled out profile
- Robust execution
- Can be used with an impact wrench or torque wrench
- Special steel

Application range: Removal and installation of the axle nut of Scania rear axle

	mm	D mm	T mm	L mm	kg
450.0222	100	123.0	25.0	88.0	2.68

Groove nut socket with 8 studs

- With 3/4" square drive to DIN 3121 / ISO 1174
- Special profile with 8 external studs
- Positive drive of the axle nut
- Any extensive slipping is avoided
- Milled out profile
- Robust execution
- Can be used with an impact wrench or torque wrench
- Special steel

Application range: Scania 420 (heavy duty tipper axis) removal and installation of the mounting nut on the axle bearing

	A mm	B mm	Stud	D1 mm	D2 mm	T mm	L mm	kg
450.0236	9.5	103.0	8	119.0	90.0	75.0	100.0	2.71

Simmerring installation tool, Scania transmission + rear axle

- Sealing ring installation aid for manual use
- For damage free mounting
- Extremely versatile
- Special steel

Application range: Scania transmission flange shafts on transmission and rear axle (e.g. change fo simmerrings part no. 1502384 / 1502385)

	A mm	D1 mm	D2 mm	H mm	L mm	kg
450.0237	56.0	109.0	86.0	19.0	70.0	2.39

Groove nut socket Scania with 4 studs

- With 3/4“ square drive to DIN 3121 / ISO 1174
- Suitable for exact torque possible
- Special profile with 4 internal studs
- Extremely versatile
- For machinery usage
- Special steel

Application range: Scania transmission flange shafts on transmission and rear axle (e.g. change fo simmerrings)

3/4"

	A mm	B mm	Stud	D1 mm	D2 mm	T mm	L mm	kg
450.0235	7.0	64.0	4	82.0	70.0	19.0	65.0	1.24

Special socket for leaf spring bolts, profile flat/oval SW 34x56mm

- With 3/4" square drive
- Socket profile flat oval
- Any extensive slipping is avoided
- Milled out profile
- Robust execution
- Can be used with an impact wrench or torque wrench
- Special steel

Application range: Scania, suitable for removal and installation of leaf spring bolts on the rear axles of younger year of construction

3/4"

	mm	D mm	T mm	L mm	g
450.0227	34	64.0	12.0	50.0	765

Wheel cap and axle nut socket

- With 3/4" drive
- 8 point socket profile
- Positive drive of the axle nut
- Any extensive slipping is avoided
- Milled out profile
- Robust execution
- Can be used with an impact wrench or torque wrench
- Special steel

Application range: e.g. Volvo axle nut / dust grease caps FM and FH VA (450Nm)

3/4"

	mm	D mm	T mm	L mm	kg
450.0241	115	138.0	45.0	80.0	2.76

Special socket for leaf spring bolts, profile flat/oval

- With 3/4" drive
- Socket profile flat oval
- Any extensive slipping is avoided
- Milled out profile
- Robust execution
- Can be used with an impact wrench or torque wrench
- Special steel

Application range: Scania, suitable for removal and installation of leaf spring bolts on the front axles

3/4"

	mm	D mm	T mm	L mm	g
450.0225	28	54.0	12.0	50.0	420

Axle nut socket

- With 3/4" drive
- 6 point socket profile
- Slim design
- Robust execution
- Positive drive of the axle nut
- Any extensive slipping is avoided
- Milled out profile
- Can be used with an impact wrench or torque wrench
- Special steel

Application range: Axle nut Volvo FH front axle cover, steering pin (e.g. FM 12)

3/4"

	mm	D mm	T mm	L mm	kg
450.0245	80	100.0	17.0	55.0	1.30

Socket for front rear leaf spring bolts, Volvo, 2 studs

- With 6 point drive SW 27
- Suitable for exact torque
- With 2 external studs Ø 8.7 mm
- Extremely versatile
- For machinery usage
- Special steel

Application: Volvo e.g. FL6 / F10 / F12

3/4"

	mm	D mm	Stud	L mm	g
450.0242	27	37.0	2	31.5	160

Special socket for leaf spring bolts, profile flat/oval SW 34x46mm

- With 3/4" square drive
- Socket profile flat oval
- Any extensive slipping is avoided
- Milled out profile
- Robust execution
- Can be used with an impact wrench or torque wrench
- Special steel

Application range: Scania, suitable for removal and installation of leaf spring bolts on the rear axles of older year of construction

3/4"

	mm	D mm	T mm	L mm	g
450.0226	34	64.0	12.0	50.0	625

Hexagonal socket, short

- 6 point
- Short execution
- Robust execution
- Phosphate finish
- Chrome molybdenum

Application range: SW 85, MB Actros, Scania, Rockinger, SAF, SW 90, Fiat Eurocargo 4x4, SW 95, MB Actros, Iveco, Fiat, Volvo, SW 105, DAF, Kässbohrer, Setra, Fiat, Volvo, SW110, Fruehauf, SW 115, DAF, Ford Transcontinental, SW 120, DAF, Scania, SAF etc.

1"

	mm	D mm	L mm	T mm	kg
911.1089	105,0	140.0	71.0	40.0	3.23

Socket for front rear leaf spring bolts, Volvo, profile flat oval SW 28.5 mm

- With 3/4" drive
- Suitable for exact torque
- Socket profile flat oval
- Extremely versatile
- For machinery usage
- Chrome molybdenum

Application: Volvo rear axle e.g. FH, for removal and installation of leaf spring bolts on the springs

3/4"

	mm	■	D mm	T mm	L mm	g
450.0243	28,5	3/4“	62.0	22.0	60.0	800

Single open ended spanner

- DIN 894 / ISO 3380
- Jaw 15° offset
- For heavy duty applications
- Phosphate finish
- Tempered steel

	mm	A mm	B mm	L mm	g
517.0522	22	8.0	48.0	193.0	170
517.0524	24	9.0	50.0	217.0	170
517.0527	27	9.8	56.0	239.0	230
517.0530	30	10.8	62.0	263.0	290
517.0532	32	11.8	66.0	275.0	350
517.0536	36	12.8	74.0	305.0	410
517.0538	38	12.8	74.0	305.0	410
517.0540	40	13.7	87.0	350.0	620
517.0541	41	13.8	87.0	344.0	620
517.0542	42	13.5	87.0	350.0	700
517.0546	46	19.8	94.0	380.0	850
517.0548	48	16.5	99.0	395.0	940
517.0550	50	15.8	102.0	413.0	1020
517.0555	55	16.8	112.0	459.0	1280
517.0560	60	17.7	122.0	494.0	1630
517.0565	65	18.7	132.0	528.0	1710
517.0570	70	19.7	142.0	572.0	2500
517.0575	75	20.7	152.0	610.0	3500
517.0580	80	21.7	162.0	645.0	3700
517.0585	85	23.0	173.0	690.0	4780
517.0590	90	23.0	173.0	690.0	5450
517.0595	95	25.0	195.0	847.0	5590
517.0596	100	25.0	195.0	847.0	5800

Slogging ring spanner

- FlankTraction profile (12 point)
- DIN 7444
- Impact area
- For heavy duty applications
- Phosphate finish
- Chrome vanadium

	mm	A mm	B mm	L mm	g
517.0924	24	15.0	42.5	160.0	360
517.0927	27	15.5	47.0	180.0	380
517.0930	30	16.5	52.5	190.0	500
517.0932	32	16.5	54.0	195.0	530
517.0936	36	19.5	60.0	205.0	750
517.0941	41	20.5	66.0	225.0	810
517.0946	46	22.5	75.0	240.0	980
517.0950	50	23.5	80.0	250.0	1250
517.0955	55	25.0	87.5	270.0	1750
517.0960	60	26.0	93.5	270.0	1960
517.0965	65	29.0	101.0	290.0	2180
517.0970	70	32.5	109.5	320.0	2400
517.0975	75	34.0	114.5	325.0	2760
517.0980	80	35.0	123.0	345.0	3750
517.0985	85	37.0	129.0	360.0	4860
517.0990	90	41.5	152.0	400.0	5880
517.0995	95	41.5	152.0	400.0	5880
517.0996	100	41.5	152.0	400.0	5880

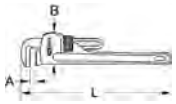
CLASSIC Single ring ended spanner set, offset

- FlankTraction profile
- Ring head 75° offset
- With shaft for snap-on handle
- With locking pin
- Heavy duty to deliver maximum torque
- Includes snap-on handle
- Matt finish
- Chrome vanadium

			kg
517.9010	4 pcs	24 - 27 - 30 mm	1.95
517.9015	4 pcs	32 - 36 - 41 mm	3.20
517.9020	4 pcs	46 - 50 - 55 mm	5.90

One handed pipe pliers

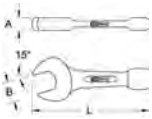
- Type "Stillson"
- Aluminium cast body
- Ground heads
- Infinitely variable
- Drop forged
- Aluminium forged



	A	B mm	L mm	kg
111.3100	2"	75.0	350.0	0.88
111.3200	2.1/2"	90.0	450.0	1.46
111.3300	3.1/2"	100.0	600.0	2.44

Slogging open end spanner

- DIN 133
- Jaw 15° offset
- Impact area
- For heavy duty applications
- Phosphate finish
- Chrome vanadium



	mm	A mm	B mm	L mm	kg
517.0124	24	17.4	56.3	160.0	0.50
517.0127	27	16.5	57.5	180.0	0.53
517.0130	30	17.0	63.5	190.0	0.55
517.0132	32	17.5	67.5	195.0	0.65
517.0136	36	18.5	77.5	210.0	0.85
517.0141	41	19.5	89.0	230.0	1.04
517.0146	46	20.0	99.0	250.0	1.39
517.0150	50	21.5	108.0	275.0	1.57
517.0155	55	24.0	118.5	305.0	2.25
517.0160	60	24.5	129.5	315.0	2.54
517.0165	65	28.0	140.5	345.0	3.64
517.0170	70	30.0	151.0	370.0	4.10
517.0175	75	31.5	163.0	385.0	5.17
517.0180	80	34.5	174.0	400.0	5.82
517.0185	85	34.5	174.0	410.0	6.98
517.0190	90	39.0	195.0	445.0	8.32
517.0195	95	39.0	195.0	455.0	10.40
517.0196	100	47.0	227.0	480.0	11.80

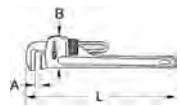
Offset single ring spanner

- FlankTraction Profile
- Ring head 75° offset
- With shaft for snap-on handle
- With locking pin
- Heavy duty to deliver maximum torque
- Matt finish
- Chrome vanadium

	mm	A mm	B mm	D mm	H mm	L mm		kg
517.9024	24	17.0	38.0	19.0	29.5	180.0	1	0.35
517.9027	27	17.0	42.0	19.0	31.5	190.0	1	0.40
517.9030	30	18.0	48.0	19.0	33.5	195.0	1	0.45
517.9032	32	18.0	49.0	21.8	34.0	200.0	2	0.55
517.9036	36	18.0	49.0	21.8	34.0	200.0	2	0.65
517.9041	41	20.0	54.0	21.8	35.5	205.0	2	0.75
517.9046	46	22.0	62.0	25.0	39.5	265.0	3+4	1.05
517.9050	50	23.0	69.0	25.0	40.0	280.0	3+4	1.15
517.9055	55	25.5	76.0	25.0	42.5	290.0	3+4	1.40
517.9060	60	28.0	81.0	30.0	45.5	300.0	5	2.10
517.9065	65	30.5	90.0	30.0	49.0	345.0	5	2.30
517.9070	70	33.0	98.0	30.0	53.0	355.0	5	2.60
517.9080	80	38.0	110.0	30.0	57.5	375.0	5	3.45
517.9085	85	40.5	125.0	30.0	59.0	385.0	5	3.80
517.9090	90	45.0	140.0	30.0	63.0	410.0	5	4.88
517.9095	95	45.0	140.0	30.0	63.0	410.0	5	5.67
517.9100	100	47.0	140.0	30.0	63.0	412.0	5	6.66
517.9105	105	47.0	143.0	30.0	63.0	415.0	5	7.50

One handed steel pipe plier

- Type "Stillson"
- Ground heads
- Infinitely variable
- Die forged head
- Handle of steel



	A mm	B mm	L mm	kg
111.3500	25.0	50.0	200.0	0.37
111.3505	30.0	60.0	250.0	0.65
111.3510	40.0	65.0	300.0	0.87
111.3515	50.0	70.0	350.0	1.27
111.3520	60.0	85.0	450.0	1.85
111.3525	75.0	95.0	600.0	3.00
111.3530	85.0	125.0	900.0	5.10
111.3535	110.0	150.0	1200.0	9.10

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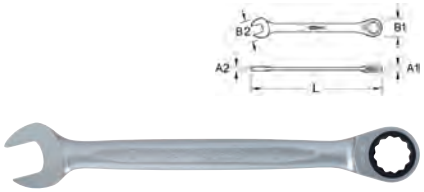
GEARplus® Double ring ratcheting spanner set

- FlankTraction profile (12 point)
- In accordance to DIN 3113 / ISO 3318
- Jaw 15° offset
- Straight form
- Exact gearing with 72 teeth
- Chrome plated and mirror polished
- Chrome vanadium

			kg
503.4270	4 pcs	24 - 27 - 30 - 32 mm	3.07

GEARplus® Combination ratcheting spanner

- FlankTraction profile (12 point)
- In accordance to DIN 3113 / ISO 3318
- Jaw 15° offset
- Straight form
- Exact gearing with 72 teeth
- Chrome plated and mirror polished
- Chrome vanadium



	mm		A1 mm	A2 mm	B1 mm	B2 mm	L mm	g
503.42055	5,5		6.3	3.9	14.0	15.0	127.5	20
503.4206	6		6.3	3.9	14.0	15.0	128.0	25
503.4207	7		6.5	4.0	16.8	16.7	140.0	30
503.4208	8		6.5	4.0	16.8	16.7	140.0	30
503.4209	9		6.9	4.4	18.8	18.7	149.0	40
503.4210	10		7.3	4.8	20.8	20.8	158.0	50
503.4211	11		7.7	5.2	21.8	23.0	165.0	60
503.4212	12		8.2	5.5	22.8	24.6	171.0	70
503.4213	13		8.6	5.8	24.8	26.8	178.0	80
503.4214	14		9.0	6.2	27.8	29.0	190.0	110
503.4215	15		9.4	6.5	28.8	31.0	199.0	120
503.4216	16		9.9	6.8	30.8	33.0	208.0	150
503.4217	17		10.3	7.2	31.8	35.5	225.0	180
503.4218	18		10.7	7.7	32.8	37.5	236.0	210
503.4219	19		11.2	8.2	33.8	39.4	247.0	240
503.4221	21		13.0	9.0	40.0	45.8	289.0	340
503.4222	22		13.0	9.0	40.0	45.8	289.0	340
503.4224	24		14.5	10.0	46.0	51.8	322.0	470
503.4227	27		15.5	10.5	52.0	56.4	358.0	580
503.4228	30		17.0	11.4	58.0	62.7	401.0	860
503.4229	32		17.5	12.5	62.0	66.4	424.0	1060
503.4230	34		17.5	13.0	62.0	70.0	459.0	1170
503.4102		5/16"	6.5	4.0	16.8	16.7	140.0	30
503.4103		3/8"	7.3	4.8	20.8	20.8	158.0	40
503.4104		7/16"	7.7	5.2	21.8	23.0	165.0	50
503.4105		1/2"	8.6	5.8	24.8	26.8	178.0	70
503.4106		9/16"	9.0	6.2	27.8	29.0	190.0	110
503.4107		5/8"	9.9	6.8	30.8	33.0	208.0	130
503.4108		11/16"	10.3	7.2	31.8	35.5	225.0	170
503.4109		3/4"	11.2	8.2	33.8	39.4	247.0	220

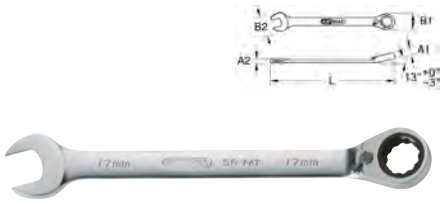
GEARplus® reversing combination ratcheting spanner set

- FlankTraction profile (12 point)
- In accordance to DIN 3113 / ISO 3318
- Jaw 15° offset
- Ratchet head 15° offset
- Exact gearing with 72 teeth
- Reverse lever
- High quality finish
- Chrome vanadium

			kg
503.4601	4 pcs	24 - 27 - 30 - 32 mm	3.23

GEARplus® reversing combination ratcheting spanner

- FlankTraction Profile
- In accordance to DIN 3113 / ISO 3318
- Jaw 15° offset
- Ratchet head 15° offset
- Exact gearing with 72 teeth
- With reverse lever
- High quality finish
- Chrome vanadium



	mm		A1 mm	A2 mm	B1 mm	B2 mm	L mm	g
503.4606	6		6.3	3.9	14.0	15.0	126.0	30
503.4607	7		6.5	4.6	16.6	16.7	145.0	30
503.4608	8		6.5	4.6	16.6	16.7	145.0	30
503.4609	9		6.9	4.9	18.4	18.8	150.0	40
503.4610	10		7.3	5.3	20.0	20.8	145.0	50
503.4611	11		7.7	5.6	21.8	23.0	165.0	60
503.4612	12		8.2	6.0	22.7	25.0	172.0	70
503.4613	13		8.6	6.4	24.7	27.1	165.0	80
503.4614	14		9.0	6.8	27.0	29.2	190.0	100
503.4615	15		9.4	7.0	28.3	31.3	200.0	120
503.4616	16		9.9	7.2	30.0	33.4	208.0	150
503.4617	17		10.3	7.7	31.8	35.5	225.0	160
503.4618	18		10.7	8.2	32.6	37.6	237.0	190
503.4619	19		11.2	8.8	33.8	39.7	248.0	220
503.4622	22		13.0	9.0	40.0	46.0	290.0	360
503.4624	24		14.5	10.0	46.0	52.2	323.0	470
503.4627	27		15.5	10.5	52.5	56.5	331.0	660
503.4628	30		17.0	11.4	58.5	62.7	389.0	860
503.4629	32		17.5	12.5	62.6	66.4	415.0	1050
503.4630	34		17.5	13.0	62.5	70.6	460.0	1200
503.4643	36		18.0	13.4	66.2	79.0	490.0	1300
503.4644	38		19.0	13.4	66.2	82.0	490.0	1400
503.4648	41		19.5	16.5	71.0	86.0	565.0	2000
503.4681		5/16"	6.5	4.0	16.6	16.7	145.0	30
503.4683		3/8"	7.3	4.8	20.0	20.8	159.0	60
503.4684		7/16"	7.7	5.2	21.8	23.0	165.0	70
503.4685		1/2"	8.6	5.8	24.7	27.1	178.0	80
503.4686		9/16"	9.0	6.5	27.0	29.2	190.0	100
503.4687		5/8"	9.9	6.8	30.0	33.4	208.0	140
503.4688		11/16"	10.3	7.2	31.8	35.5	225.0	170
503.4689		3/4"	11.2	8.2	33.8	39.7	248.0	230

Universal wheel bearing puller for cars, vans + commercial vehicles

- Special tool for expressing the joint hubs or drawing-off of the wheel hub
- Easy installation and easy handling
- Shoulder screws with colour coding
- Special steel
- In durable plastic storage case

Application range:
For working on brake drums, wheel hubs, wheel bearings, HBU, hub unit bearings, drive flanges etc.
Working range Rim diameter Ø min 112 mm / max 205 mm

For removing the hubs with universal slide hammer KS 700.1415
Removing drive shaft with Vibro Power spindle (included in set) and/or with hydraulic spindle KS 700.1400-1 or 615.0001 (optional)

Suitable for
Passenger cars / LCV wheel hubs with 5 + 6er divisions and wheel screws with thread M14x1.5 + M12x1.5
e.g.: VW cars/ T4,T5 / LT, MB cars/ Sprinter, BMW etc.
wheel screws with thread M14x1.5 + M12x1.5
e.g.: FORD Transit, RENAULT Master, OPEL Movano etc.

			kg
700.1480	28 pcs	Universal wheel bearing puller for cars, vans + commercial vehicles	12.30

consists of:

		g
700.1481	Universal wheel hub flange with interior threads UN1.1/2	6450
700.1482	Puller screws with coil + cleaning nut M12x1.5, 5 pcs	550
700.1483	Puller screws with coil + cleaning nut M14x1.5, 5 pcs	700
700.1484	Spacer sleeve for wheel screws, 5 pcs	700
700.1485	Adaptor f.wheel screws,inner thread M14 & M16x1.5, 5 pcs	950
700.1486	Puller screws with coil + cleaning nut M14, 5 pcs	650
700.1487	Threaded adaptor for slide hammer I: M20x1.5 A: UN1.1/2"	730
700.1488	VIBRO IMPACT spindle TR20 with adaptor	1300

Universal slide hammer

- Extra heavy and solid execution
- For universal use for automobiles + trucks
- Enormous impact delivery of up to 11 tonnes
- With 6 kg impact weight
- Includes 3 kg additional weight
- With M 20 x 1.5 mm connection thread
- Additional weights can be screwed together
- Special steel

	L mm	kg
700.1415	850.0	12.00

Hydraulic compression spindle

- With low effort maximal pressure
- Special steel

	A mm	B mm	max t	Ø Body mm	Body mm	Pressure spindle mm	dim mm	kg
615.0001	260	23	12	41	UN1.1/2"x16	M11x85	17	1.60

Brake disc puller set for Ford Transit

- For damage free removal of the brake disc
- No damages to wheel bearing and ABS sensor
- Quick attachment - large working freedom
- Optimum release force thanks to axially guided impact
- Extra heavy and solid execution
- Enormous impact delivery of up to 11 t
- With 6 kg impact weight
- Includes 3 kg additional weight
- With M 20 x 1.5 mm connection thread
- Weights variably attachable and removable
- Special steel

Application range:
Ford Transit 2000.5 (01/200 - 05/2006)
Ford Transit 2006.5 (04/2006 -)
except vehicles with reinforced front axle (payload over 1850 kg)

	Bolt Ø mm	L mm	mm	kg	
700.1470	M10	1000.0	AG M20x1,5	14.50	

consists of:

		kg	
700.1415	Universal slide hammer 6+3kg, 850mm	12.00	
700.1471	Brake disc puller flange Ford Transit	2.00	
700.1472	Adaptor for slide hammer f.700.1471	0.50	

Universal wheel hub extractor set and drive shaft ejector

- Ideal for transporter and commercial vehicle
- Variable use for bolt circle diameter up to 300 mm
- Universal use for bolts up to max. Ø 22 mm
- Impact spindle includes impact wrench
- Optionally upgradeable with hydraulic spindle or slide hammer
- Special steel

			kg	
450.0035	6 pcs	Universal wheel hub extractor set and drive shaft ejector	7.91	

consists of:

		g	
450.0037	Puller arm set, 3 pcs, 200mm	2727	
450.0036	Disc traverse, Ø 150mm	1740	
450.0038	Impact spindle, 340mm	838	
700.1400-4	Impact spanner, 30mm, L=200mm	935	

Universal wheel hub extractor set

- For bolt circle diameter up to 250 mm
- Clamp foot hole for bolts 14 mm, 18 mm + 22 mm
- Special steel

			kg	
670.0013	5 pcs	Universal wheel hub extractor set	3.60	
670.0014	6 pcs	Universal wheel hub extractor set	4.10	
670.0015	7 pcs	Universal wheel hub extractor set	4.60	

Universal wheel hub extractor

- Variable use for bolt circle diameter up to 300 mm
- Universal use for bolts up to max. Ø 22 mm
- Impact spindle includes impact wrench
- Optionally upgradeable with hydraulic spindle or slide hammer
- Special steel

			kg	
450.0040	12 pcs	Universal wheel hub extractor	15.00	

consists of:

		g	
450.0041	Tapered thrust bolt Tr.30	1680	
450.0043	Traverse, 370 mm	8000	
450.0044	Extension and nut	800	
450.0045	Thread adaptor, M18 x 1,5	600	
450.0046	Thread adaptor, M20 x 1,5	600	
450.0055	Thread adaptor, M22 x 1,5	604	
450.0048	Locating thrust piece size1, 90 mm/65 mm, H 30 mm	1140	
450.0049	Locating thrust piece size2, 110 mm/85 mm, H 30 mm	1340	
450.0039	Thrust piece size 3, 70mm / 55mm	1000	

Universal wheel hub extractor for commercial vehicles

- Extracting the wheel hubs and/or housing over the grease cap thread
- Six sided drive enable unscrewing on the cap
- Robust execution
- Trapezoid thread spindle for high removal power drive SW 30
- Special steel

	Ø mm	mm	dim mm	kg	
450.0000	AG M115 x 1,5	Tr.30 x 260	30	3.74	
450.0001	AG M125 x 2,0	Tr.30 x 260	30	1.56	
450.0002	IG M135 x 2,0	Tr.30 x 260	30	2.19	
450.0003	IG M136 x 2,5	Tr.30 x 260	30	1.48	
450.0004	IG M155 x 3,0	Tr.30 x 260	30	0.71	

Bearing assembly and deassembly tool set

- Can be used manually with a hammer or workshop press
- Optimal placing through the pressure plates
- For easy and damage free assembly
- For the correct dismantling and assembly of bearings
- Suitable for commercial, agricultural engineering and construction machines
- Forged, robust execution
- Special steel
- In durable plastic storage case

			kg	
450.0080	5 pcs	Bearing assembly and deassembly tool set	6.45	

consists of:

		kg	
450.0082	Pressure plates (use with press)	0.51	
450.0083	Impact plates long (use with a hammer)	1.91	
450.0084	Special 6 point socket for mandral shaft	0.34	
450.0088	Universal 3 jaw thrust piece	0.20	
450.0087	Locking bolt for jaw spreading	2.07	

Commercial vehicle thread repair set

- For re-cutting and cleaning of internal and external threads
- Suitable for right and left handed threads up to Ø 140mm
- Quick cutting jaw modification possible from the magazine
- No damage of the thread due to the soft holding guides
- With 3 x die for HGV hub nut threads
- Special steel
- In durable plastic storage case

Chaser metric: 1.0 - 1.25 -1.5 -1.75 -2.0 -2.5 -3.0 -3.5 mm
Chaser imperial: 24-20-18-16-14-12-11.5-11-10-9-8-7.5-7-6-5-4 pitch
Thread file metric 0.8-1.0-1.25 -1.5-1.75-2.0-2.5-3.0 mm
Thread file, imperial 24-20-18-16-14-12 -11-10
Die: M18x1.5 / M20x1.5 / M22x1.5

Application: Trucks, land and construction machines, municipally and forestery technology on e.g. axle threads, hydraulic cylinder screw joints, steering and push rods

			kg	
150.1435	12 pcs	25,0 - 140,0	2.58	

consists of:

		g	
150.1430	Thread repairer, Ø 25-140mm	1400	
150.1340	Thread repair file, metric, 230mm	130	
150.1345	Thread repair file, imperial, 230mm	130	
150.4911	Die M18 x 1.50	66	
150.4902	Die M20 x 1.50	59	
150.4904	Die M22 x 1.50	51	

Axle oil tray set for HGV

- For clean and simple removal of the drive shaft
- Suitable for different wheel diameters
- Special plastic

		l	B mm	H mm	L mm	g	
455.0060	2 pcs	2.5 l	315.0	155.0	250.0	964	

BRAKES

Steel wire all purpose wire brush

- With plastic handle
- For surface preparation
- Crimped steel wire

	H mm	L1 mm	L2 mm	g
201.2300	28.0	250.0	145.0	90

Stainless steel wire all purpose wire brush

- With plastic handle
- For surface preparation
- Curled and rust free steel wire

	H mm	L1 mm	L2 mm	g
201.2301	28.0	250.0	145.0	90

Brass steel all purpose wire brush

- With plastic handle
- For surface preparation
- Curved brass wire

	H mm	L1 mm	L2 mm	g
201.2302	28.0	250.0	145.0	90

Steel wire brake saddle wire brush 2 rowed, straight

- 2 rowed
- Hanging hole
- Very narrow execution
- For narrow brake saddle shafts
- Robust stock
- Dual component handle
- For removing of stubborn brake dust
- For surface preparation
- Smooth steel wire

	B mm	H mm	L1 mm	L2 mm	g
201.2320	12.0	22.0	225.0	90.0	90

Steel wire brake saddle wire brush 2 rowed, straight and tapered point

- 2 rowed
- Hanging hole
- Tapered point
- Very narrow execution
- For narrow brake saddle shafts
- Robust stock
- Dual component handle
- For removing of stubborn brake dust
- For surface preparation
- Smooth steel wire

	B mm	H mm	L1 mm	L2 mm	g
201.2321	12.0	14,0 - 22,0	225.0	90.0	90

Brass wire brake saddle wire brush 2 rowed, straight

- 2 rowed
- Very narrow execution
- For narrow brake saddle shafts
- Robust stock
- Hanging hole
- Dual component handle
- For removing of stubborn brake dust
- For surface preparation
- Curved brass wire

	B mm	H mm	L1 mm	L2 mm	g
201.2322	12.0	22.0	225.0	90.0	90

Brake saddle file

- With vehicles with disk brakes
- With two component handle
- With hanging hole
- Bevelled edges
- Insert unilaterally coarsely diagonally milled
- With blunt scraper on the forehead side
- For cleaning the brake saddle
- For removing of coarse residues
- Special steel

	B mm	L1 mm	L2 mm	File blade	g
157.0950	12.0	270.0	150.0	161.0950	170

Brake saddle file extra narrow

- Especially suited for Japanese vehicles
- For vehicles with disk brakes
- With two component handle
- With hanging hole
- Extra narrow execution
- Bevelled edges
- Insert unilaterally coarsely diagonally milled
- With blunt scraper on the forehead side
- For cleaning the brake saddle
- For removing of coarse residues
- Special steel

	B mm	L1 mm	L2 mm	File blade	g
157.0960	10.0	270.0	150.0	161.0960	140

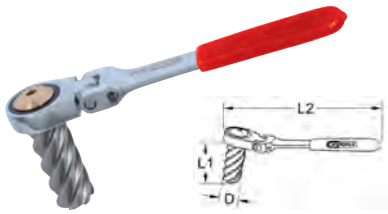
Reamer for ABS sensors

- For the repair of worn or damaged threads
- Ideally suited for motor vehicle workshops and repair companies
- Enables restoration of damaged threads
- Special steel

	Ø mm	L1 mm	L2 mm	g
150.1985	15,0	23.0	150.0	180
150.1986	18,0	23.0	150.0	190
150.1987	18,0	34.0	150.0	205

Reamer for ABS sensors for HGV

- For cleaning the mounting bore of the ABS sensors
- For a correct and damage free assembly of the new sensor
- With fixable joint and ratchet function
- For working in hard to access areas



	D mm	L1 mm	L2 mm	g
450.0340	18.0	45.0	150.0	180

HGV spring lever

- Ideally suited for brake shoe release springs
- dismantling and assembly of the back plate not necessary
- Enables works within the wheel housing
- Hanging hole
- Dual component handle
- Forged execution
- Special steel

Application range: Mercedes Benz, MAN, LKW and Omnibusse with Euro axle, Iveco Eurocargo, Eurotech, etc.

	L mm	g
450.0310	450.0	580
450.0311	620.0	680

Brake shoes dismantling and assembly tool, Volvo

- For the restoration of the drum brake
- For opening and fixing the brake shoes retaining spring
- For the dismantling and assembly of the jaw pins
- With drive spindle for continuous opening
- Robust execution
- Special steel

Application range: VOLVO drum brake with Z cam e.g: N7 | N10 | N12 | F7 | F12 | F16 | FH12 | FH16 | FL7 |FL10 | ERF E series | EC series

	⬢	B mm	L mm	kg
450.0240	17	220.0	320.0	1.90

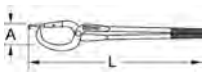
Car brake spring pliers

- For attaching and dismantaling the brake shoes retaining spring
- For glued and riveted brake shoes
- Special surround
- Chrome vanadium

	A mm	L mm	g	
150.2116	130.0	220.0	340	

Car brake spring pliers

- For attaching and dismantaling the brake shoes retaining spring
- For glued and riveted brake shoes
- Special surround
- Chrome vanadium



	A mm	L mm	g	
150.2211	130.0	325.0	335	

HGV brake spring pliers

- For attaching and dismantaling the brake shoes retaining spring
- For glued and riveted brake shoes
- Special surround
- Interchangeable tip
- Knurled handle
- Chrome vanadium

	A mm	L mm	Replacement tip	kg	
450.0320	205.0	500.0	450.0321	1.25	

Universal brake service set

- Universal usably in the course of maintenance and service works on drum brakes and Disc brakes
- In durable plastic storage case

Application range: Cars, Vans

			kg	
150.2210	18 pcs	Universal brake service set	3.00	

consists of:

		g	
150.2211	Car brake spring pliers f.150.2210	335	
150.2212	Assembly/disassembly tool no 1	130	
150.2213	Assembly/disassembly tool no 2	130	
150.2215	Lever type 1 f.150.2210	130	
150.2217	Brake plate f.150.2210	40	
150.2218	Brake clip tool f.150.2210	70	
150.2219	Brake piston tool f.150.2210	270	
150.2220	Lever type 2 f.150.2210	130	
150.2221	Lever type 3 f.150.2210	130	
150.2222	Brake piston reset device,150.2210, 3/8“	90	
150.2223	3/8“ hex bit socket f.150.2210, 3/8“	20	
150.2224	3/8“ hex bit socket f.150.2210, 1/4“	20	
911.3867	Hex bit socket, 3/8“, 7mm	46	
911.3868	Hex bit socket, 3/8“, 8mm	47	
911.3874	TX bit socket, 3/8“, T40	45	
911.3884	TX bit socket, 3/8“, T50	70	
911.3885	TX bit socket, 3/8“, T45	50	
911.3886	Hex bit socket, 3/8“, 10mm	60	

Brake pad rivet clip set

- For the correct dismantling and assembly of brake linings
- Suited to taking off and to rivet on the lining
- Special steel
- In durable plastic storage case

Application range: Transporter, light commercial, commerecial, agricultural engineering, trailers, etc.

			kg	
150.2200	6 pcs	Brake pad rivet clip set	2.71	

consists of:

		g	
150.2201	Work frame with mandrel jig and interchangeable support plate	1460	
150.2202	Flared arbor 8 mm	170	
150.2203	Flared arbor 11 mm	170	
150.2204	Burr arbor	180	
150.2205	Support cylinder for work frame	10	
151.2023	Hexagonal key socket wrench 3 mm	10	

MAN brake caliper socket set

- Special socket
- For the dismantling and assembly of brake line fittings
- Extra large drive for extremely tight fitting couplings
- Extremely robust
- Especially suitable for narrow hard to access areas
- Chrome vanadium

			kg	
450.0360	3 pcs	MAN brake caliper socket set	1.33	

consists of:

		g	
450.0361	MAN Brake caliper socket E 20	176	
450.0362	MAN Brake caliper socket E 24	216	
503.4228	GEAR+ combination ratcheting spanner, straight form, 30 mm	860	

Breaker bar set

- Adaptor 14x18 mm
- Snap lock retangular tool holder
- Dual component handle
- Chrome vanadium

		L mm	dim mm	kg	
516.0363	14 x 18	635.0	30,0	1.50	

Brake caliper socket with flexi head drive handle SW26, DAF

- 6 point
- Internal square to DIN 3120 / ISO 1174 with ball reception
- Square drive to DIN 3120 / ISO 1174 with ball lock
- Flexi head drive handle 800mm for high power transmission
- Ideal for difficult to access areas
- Chrome molybdenum

Application range: For loosening and tightening brake caliper reinforcement screws on DAF vehicles

			kg	
450.0335	2 pcs	Brake caliper socket with flexi head drive handle SW26, DAF	1.90	

consists of:

		g	
515.1026	1/2“ Hexagon impact socket, 26mm	340	
918.1293	1/2“ CHROMEplus® Flexi head drive handle, 800mm	1630	

Hexagon impact socket

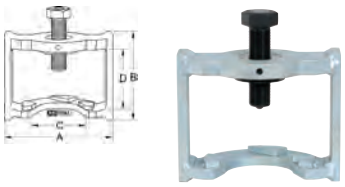
- 6 point
- According to DIN 3129 / ISO 2725-2
- Internal square drive to DIN 3121 / ISO 1174
- Short execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1/2“

	mm	L mm	D1 mm	D2 mm	T mm	g	
515.1022	22,0	78.0	32.0	30.0	22.0	230	
515.1023	23,0	78.0	33.0	30.0	24.0	230	
515.1024	24,0	78.0	35.0	30.0	24.0	310	
515.1025	25,0	78.0	36.0	30.0	24.0	340	
515.1026	26,0	78.0	37.0	30.0	27.0	340	
515.1027	27,0	78.0	38.0	30.0	27.0	410	
515.1028	28,0	78.0	40.0	30.0	27.0	410	
515.1029	29,0	78.0	40.0	30.0	27.0	410	
515.1030	30,0	78.0	42.0	30.0	30.0	410	
515.1031	31,0	78.0	43.0	30.0	30.0	410	
515.1032	32,0	78.0	45.0	30.0	32.0	430	

Brake linkage adjuster extractor, BPW

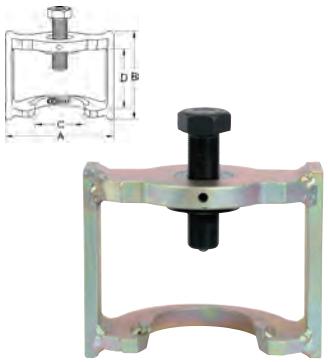
- Substantial construction for drawing off firmly sitting BPW brake linkage adjusters
- Suitable for older and automatic linkage adjusters
- Special steel



	A mm	B mm	C mm	D mm	mm	dim mm	kg	
450.0305	160	127	65	78	M22x1,5 x 90	32	2.70	

Brake linkage adjuster extractor, HALDEX

- Substantial construction for drawing off firmly sitting brake linkage adjuster
- Certain stop through ring shaped bearing area
- Special steel



	A mm	B mm	C mm	D mm	mm	dim mm	kg
450.0300	160	127	65	78	M22x1,5 x 95	32	3.10

Brake piston adaptor tool, small

- Centered winding back of the brake piston without needing to hold
- No damage or cross threading, of the piston and piston boring in the brake saddle
- Alienation tools no longer required
- It is required in the maintenance works and in the exchange of the braking distances, around the brake piston to press it back into the brake saddle
- Ideally suited for floating calipers with a single piston and fixed calipers with two pistons

		g
150.2056	Brake piston adaptor tool, small	875

Brake piston adaptor tool, large

- Centered winding back of the brake piston without needing to hold
- No damage or cross threading, of the piston and piston boring in the brake saddle
- Alienation tools no longer required
- It is required in the maintenance works and in the exchange of the braking distances, around the brake piston to press it back into the brake saddle
- Ideally suited for floating calipers with a single piston and fixed calipers with two pistons

		g
150.2057	Brake piston adaptor tool, large	1700

Brake wind back tool set

- Clockwise and anticlockwise
- For the winding back of the brake piston
- Adaptor plates with nosings for borings in the brake piston
- Numerical adaptor plates enable good allocation
- Magnetic spindle drive plate
- Includes stepped adaptor plate for front axles
- Can be used on the front and rear making the work easy
- Fine sandblasted surface
- In durable plastic storage case

			kg
150.2030	30 pcs	Brake wind back tool set	3.30

consists of:

		g
150.2001	Clockwise spindle,155mm	360
150.2002	Piston windback adaptor#0, Ø 63mm	105
150.2003	Brake piston adaptor tool 1	180
150.2004	Brake piston tool adaptor 2,Ø 51mm	40
150.2005	Brake piston tool adaptor 3,Ø 54mm	45
150.2006	Brake piston tool adaptor 4,Ø 32mm	60
150.2007	Brake piston tool adaptor 5,Ø 35mm	60
150.2008	Brake piston tool adaptor 6,Ø 42mm	68
150.2009	Brake piston tool adaptor 7,Ø 42mm	84
150.2010	Piston windback adaptor#8, Ø 47mm	46
150.2011	Piston windback adaptor#9, Ø 54mm	46
150.2012	Piston windback adaptor#Z, Ø 30mm	80
150.2013	Brake piston adaptor tool G,Ø 30mm	84
150.2016	Brake piston adaptor tool M,Ø 32mm	60
150.2019	Brake piston adaptor tool E	60
150.2030	Brake piston wind back tool set, 30pcs	3300
150.2034	Brake piston adaptor tool B,Ø 38mm	70
150.2036	Anti-clockwise spindle,155mm	360
150.2037	Brake piston adaptor tool K1,Ø 54mm	60
150.2038	Brake piston adaptor tool K2,Ø 45mm	50
150.2048	Brake piston adaptor tool C,Ø 38mm	40
150.2051	Brake piston adaptor tool D,Ø 52mm	200
150.2052	Brake piston adaptor tool F,Ø 35mm	90
150.2053	Brake piston adaptor tool J,Ø 42mm	80
150.2054	Piston windback adaptor#X, Ø 30mm	50
150.2059	Brake piston adaptor tool P,Ø 52mm	70
150.2062	Brake piston adaptor tool Q,Ø 30mm	40
150.2064	Counter plate 11, Ø 90mm	90
150.2069	Brake piston adaptor tool R,Ø 35mm	50
150.2071	Brake piston adaptor tool S,Ø 40mm	50
150.2072	Brake piston adaptor tool T,Ø 25mm	60
150.2073	Brake piston adaptor tool V,Ø 40mm	90
150.2074	Brake piston adaptor tool A,Ø 42mm	80
150.2099	Brake piston adaptor tool Z,Ø 28mm	40

Iveco brake piston service tool set

- For pushing back the brake piston on disc brakes
- Enormous time and costs saving
- Especially suitable for narrow hard to access areas
- Special steel

Application range: Iveco Eurocargo, Stralis, Daily

			kg
450.0365	7 pcs	Iveco brake piston service tool set	1.08

consists of:

		g
150.2001	Brake piston adaptor tool, Basic unit	360
150.2003	Brake piston adaptor tool	180
150.2007	Brake piston adaptor tool for D 35 mm	60
503.4010	GEAR*plus*® combination ratcheting spanner, SW 10 mm	70
503.8135	MICRO-Bits internal hexagon, 8 mm	10
150.2042	Brake piston adaptor tool for IVECO	50

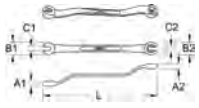
Pneumatic spindle for brake piston adaptor

- Clockwise and anticlockwise
- For the winding back of the brake piston
- Comfortable and fast working through compressed air spindle
- Automatic balancing of different thread pitches
- Rotation can be precisely controlled
- Magnetic spindle drive plate
- Optimal stop due to rubber coated control lever
- Special steel

	L mm	3/8" Extension square adaptor	kg
150.2039	260.0	150.2041	2.85

CHROME*plus*® Open double ring spanner set, offset

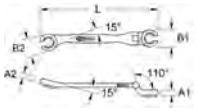
- 6 point
- Ring head 30° offset
- Spanner has double sized head
- Heavy duty head
- For brake pipe couplers
- No slippage
- Chrome plated and mirror polished
- Chrome vanadium



	mm	A1 mm	A2 mm	B1 mm	B2 mm	C1 mm	C2 mm	L mm	g
517.0270	10x11	10.5	11.2	17.8	20.0	6.0	6.1	175.0	80

CHROME*plus*® open double ring spanner, with flexible joint

- 6 point
- Ring head 15° offset
- Opening 15° cranked
- With flexible head
- Chrome plated and mirror polished
- Chrome vanadium



	mm	A1 mm	A2 mm	B1 mm	B2 mm	L mm	g	
518.0378	8	7.0	7.0	18.0	18.0	128.0	50	
518.0379	9	7.0	7.0	18.0	18.0	128.0	50	
518.0380	10	7.0	7.0	18.0	18.0	128.0	50	
518.0381	11	9.0	9.0	22.0	22.0	148.0	120	
518.0382	12	9.0	9.0	22.0	22.0	148.0	120	
518.0383	13	11.0	11.0	26.0	26.0	175.0	140	
518.0384	14	11.0	11.0	26.0	26.0	175.0	140	
518.0387	17	13.0	13.0	32.0	32.0	190.0	200	
518.0389	19	13.0	13.0	32.0	32.0	190.0	200	

CHROME*plus*® open double ring spanner set, with flexible joint

- 6 point
- Ring head 15° offset
- Opening 15° cranked
- With flexible head
- Chrome plated and mirror polished
- Chrome vanadium

			g	
518.0350	3 pcs	10 - 11 - 12 mm	240	
518.0360	5 pcs	8 - 9 - 10 - 11 - 12 mm	420	
518.0370	3 pcs	14 - 17 - 19 mm	620	

Brake bleeding spanner set

- 6 point
- Ring head cranked and offset
- For bleeding the brakes without dismantling of the wheels
- Jaw 15° offset
- Opening 15° cranked
- Ensures secure fitting on line unions and breather valves
- With internal square drive
- Matt finish
- Chrome vanadium

Application area: Brakes, clutches, fuel systems, etc.

			kg	
150.2110	11 pcs	Brake bleeding spanner set	1.52	

consists of:

		g	
518.0307	Brake bleeding spanner,7mm	60	
518.0308	Brake bleeding spanner,8mm	130	
518.0309	Brake bleeding spanner,9mm	130	
518.0310	Brake bleeding spanner,10mm	135	
518.0311	Brake bleeding spanner,11mm	135	
517.0252	Open double ring spanner offset,8x10mm	45	
517.0253	Open double ring spanner offset,9x11mm	50	
517.0257	Open double ring spanner offset,12x13mm	100	
913.3810	3/8" Crawfoot wrench, hexagonal,10mm	40	
913.3811	3/8" Crawfoot wrench, hexagonal,11mm	40	
913.3812	3/8" Crawfoot wrench, hexagonal,12mm	40	

Crawfoot wrench, hexagonal

- 6 point
- Internal square drive
- For manual operation
- Matt finish
- Chrome vanadium

3/8"

			kg	
913.3800	10 pcs	10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 mm	0.63	

CHROME*plus*® 12 point crawfoot wrench

- 12 point
- Internal square drive
- For manual operation
- Chrome plated and mirror polished
- Chrome vanadium
- Includes storage rail

3/8"

			kg	
913.3900	10 pcs	10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 19 - 22 mm	0.63	

Crowfeet pipe spanner set

- 12 point
- With internal square drive
- For loosening and tightening pipe spanners
- For manual operation
- Slim execution
- For difficult to access areas
- Burnished
- Special steel
- In durable plastic storage case

Application range: Trucks, land and construction machines, municipally and forestery technology, etc.

			kg	
913.1300	10 pcs	Crowfeet pipe spanner set	2.70	

consists of:

		g	
913.1301	3/8" Crowfeet pipe spanner 19mm	62	
913.1302	1/2" Crowfeet pipe spanner 21mm	94	
913.1303	1/2" Crowfeet pipe spanner 22mm	112	
913.1304	1/2" Crowfeet pipe spanner 24mm	120	
913.1305	1/2" Crowfeet pipe spanner 27mm	153	
913.1306	1/2" Crowfeet pipe spanner 30mm	170	
913.1307	1/2" Crowfeet pipe spanner 32mm	254	
913.1308	1/2" Crowfeet pipe spanner 36mm	337	
913.1309	1/2" Crowfeet pipe spanner 41mm	400	
913.1310	1/2" Crowfeet pipe spanner 46mm	632	

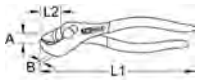
One handed multi function spanner

- Multi function spanner with ratchet function
- For complete screw working
- Adapts itself automatically to the screw size
- No sliping due to the coarse teeth
- Chrome vanadium

	dim mm	L mm	g	
114.0050	8-19	190.0	165	
114.0051	14-32	300.0	515	

Special pipe wrench

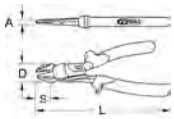
- 2-stage adjustment
- PVC dipped handle
- Ideal for round turned pipe fittings
- Polished surface
- Chrome vanadium



	A mm	B mm	L1 mm	L2 mm	g	
115.1361	0,0-16,0	7.0	178.0	23.0	180	

ULTIMATE*plus* high leverage side cutter

- Long cutting edge
- Induction-hardened precision cutting
- With two component handle
- Suitable for various types of wire
- Extremely robust execution
- Titanium coated surface
- Special tool steel



	A mm	D mm	L mm	S mm	g	
119.2025	17,0	30.0	210.0	23,0	300	

Universal brake flaring tool master set

- Easy and handy to use
- With hydraulic pressure spindle
- Enables use directly on the vehicle
- Prevents damages of the coated surfaces
- For the universal use in vehicle workshops
- Ideally suited to the use at brake connections and/or hydraulics conections
- For thin walled steel-, Aluminium and copper conductions
- For the manufacture of convex and double flared joints
- Fast and precise work results through straight flaring tool action
- No rotating prevents the pipe from splitting
- Including cutter, bender and pipe deburring tool for professional flaring
- In durable plastic storage case

			kg	
122.1290	16 pcs	Universal brake flaring tool master set	3.05	

consists of:

		g	
122.1272	Tool body	625	
122.1271	Locking screw M12x1.25	50	
122.1281	Hydraulic spindle	500	
122.1282	Hand grip with screw	150	
122.1273	Clamping jaw set, 4.75 mm, 3/16“	50	
122.1274	Clamping jaw set 5mm	50	
122.1275	Clamping jaw set 6mm	50	
122.1276	Flaring cone 4.75-5mm, OP1	50	
122.1277	Flaring cone 6mm, OP1	50	
122.1278	Flaring cone 4.75-5-0-6mm, OP2	50	
122.1279	Flaring cone 4.75-5mm	50	
122.1280	Flared arbor 6mm	20	
101.1000	Mini pipe cutter, 3-16mm	100	
105.3010	Internal and external deburrer, 3 - 40mm	40	
120.1050	3in1 Mini bender, 3-6mm	150	
122.1283	FLAREFIX Locking bolt for hydraulic spindle	82	

Clamping jaw set

- Replacement jaw (pair) for the Universal flaring tool 122.1270
- Special steel

	Ø mm	Ø	g	
122.1273	4,75	3/16“	50	
122.1274	5,0		50	
122.1275	6,0		50	

Flaring cone

- Replacement flaring cone for the universal flaring tool 122.1230 + 122.1250
- Special steel

		mm	g	
122.1276	OP1	4,75 - 5,0	50	
122.1277	OP1	6,0	50	
122.1278	OP2	4,75 - 5,0, 0-6, 0	50	
122.1279		4,75 - 5, 0	50	

Universal brake flaring tool set

- Metric sizes
- For the manufacture of convex and double flared joints
- For the universal use in vehicle workshops
- Idealiy suited for brakes and hydraulic connections
- For thin walled steel, aluminium and copper conductions
- Automatic mandral return
- Fast and precise practical working
- Straight flaring
- No rotating prevents the pipe from splitting
- In durable plastic storage case

			kg	
122.1250	14 pcs	Universal brake flaring tool set	4.27	

consists of:

		g	
122.1244	Flaring tool rotating head	3270	
122.1231	Flaring tool die, 3/16“+4,75mm	50	
122.1251	Flaring tool die set, 5mm	50	
122.1252	Flaring tool die set, 6mm	50	
122.1236	Flaring tool punch, OP0	50	
122.1237	Flaring tool punch, OP1 4.75mm	50	
122.1254	Flaring tool punch, OP1 4.75/5mm	50	
122.1255	Flaring tool punch, OP1 4.75	50	
122.1256	Flaring tool punch, OP1 5mm	50	
122.1257	Flaring tool punch, OP1 6mm	50	
122.1258	Flaring tool punch, OP2 4.75/5/6mm	50	
122.1259	Flaring tool punch, OP1 6mm	50	

Universal brake flaring tool set

- Imperial sizes
- For the manufacture of convex and double flared joints
- For the universal use in vehicle workshops
- Ideally suited for brakes and hydraulic connections
- For thin walled steel, aluminium and copper conductions
- Automatic mandral return
- Fast and precise practical working
- Straight flaring
- No rotating prevents the pipe from splitting
- In durable plastic storage case

			kg	
122.1230	14 pcs	Universal brake flaring tool set	4.27	

consists of:

		g	
122.1244	Flaring tool rotating head	3270	
122.1231	Flaring tool die, 3/16“+4,75mm	50	
122.1232	Flaring tool die, 1/4“	50	
122.1233	Flaring tool die, 5/16“	50	
122.1234	Flaring tool die, 3/8“	50	
122.1236	Flaring tool punch, OP0	50	
122.1237	Flaring tool punch, OP1 4.75mm	50	
122.1238	Flaring tool punch, OP1 3/16“	50	
122.1239	Flaring tool punch, OP1 1/4“	50	
122.1240	Flaring tool punch, OP2 3/16“+1/4“	50	
122.1241	Flaring tool punch, OP1 5/16“	50	
122.1242	Flaring tool punch, OP1 3/8“	50	
122.1243	Flaring tool punch, OP1 5/16“+3/8“	50	

Clamping jaw set

- Replacement jaw (pairs) for the Universal flaring tool 122.1230 + 122.1250
- Special steel

	Ø mm	Ø	g	
122.1231	5,0	3/16“	50	
122.1251	5,0		50	
122.1252	6,0		50	
122.1232		1/4“	50	
122.1233		5/16“	50	
122.1234		3/8“	50	

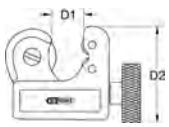
Flaring cone

- Replacement flaring cone for the universal flaring tool 122.1230 + 122.1250
- Special steel

		Ø mm	Ø	g	
122.1236	OP0			50	
122.1237	OP1	4,75		50	
122.1254	OP1	4,75-5,0		50	
122.1255	OP1	4,75		50	
122.1256	OP1	5,0		50	
122.1257	OP1	6,0		50	
122.1258	OP2	4,75-5,0-6,0		50	
122.1259	OP1	6,0		50	
122.1238	OP1		3/16“	50	
122.1239	OP1		1/4“	50	
122.1240	OP2		3/16“ - 1/4“	50	
122.1241	OP1		5/16“	50	
122.1242	OP1		3/8“	50	
122.1243	OP2		5/16“ + 3/8“	50	

Mini pipe cutter

- For copper, brass and thin walled steel tubes
- With 2 support rollers
- V²A cutter can be retrofitted
- With hard chrome plated knurled knob
- Metal housing
- Special steel



	D1 mm	D2 mm	Metal	V²A	Plastic	g	
101.1000	3,0 - 16,0	35.0	101.1001	101.1002	-	100	

Mini pipe cutter

- Ergonomically designed
- For copper, brass and thin walled steel tubes
- With 2 support rollers
- With large impact head
- V²A cutter can be retrofitted
- Metal housing
- Special steel

	D1 mm	D2 mm	Metal	V²A	Plastic	g
101.5000	3,0 - 28,0	55.0	101.1001	101.1002	-	260

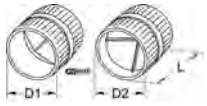
Telescopic pipe cutter

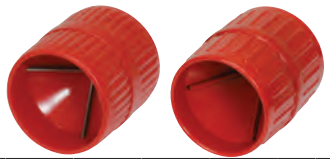
- With removeable internal deburrer
- Includes spare wheel under the cover cap on the rotary handle
- With 2 support rollers
- With large knurled knob
- Metal housing
- Special steel

	D1 mm	D2 mm	L mm	Metal	V²A	Plastic	g
103.5000	6,0 - 38,0	60.0	156.0	103.5001	-	-	500

Internal and external deburrer

- 3 cutting edges for clean deburring
- For copper, aluminum and soft steel piping
- Plastic or metal body
- Special steel

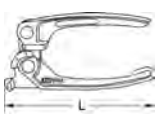




		D1 mm	D2 mm	L mm	g
105.1000	Metal	3,0 - 40,0	6,0 - 40,0	57.0	240
105.2000	Plastic	3,0 - 42,0	6,0 - 42,0	50.0	240

3 in 1 Mini bender

- For exact two handed bending up to 90°
- For copper, aluminum, brass and soft steel piping
- For 3 dimensions without exchange of bending segments
- Undersize and bend radius on the bending form
- Special steel



	Ø mm	Ø	L mm	g
120.1050	3,0 + 4,75 + 6,0	1/8" + 3/16" + 1/4"	140.0	150

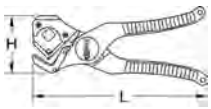
3 in 1 Mini Bender

- For exact two handed bending up to 180°
- For copper, aluminum, brass and soft steel piping
- For 3 dimensions without exchange of bending segments
- Undersize and bend radius on the bending form
- Special steel

	Ø mm	Ø	L mm	g
120.1000	6,0 + 8,0 + 10,0	-	270.0	420
120.1001	-	1/4" + 5/16" + 3/8"	240.0	420

Hose cutter Ø 6 - 25 mm

- Aluminium die cast body



	Ø mm	H mm	L mm		g
222.2060	6,0 - 25,0	50.0	185.0	222.2061	300

Special clamping gripping pliers

- For the cutting of plastic pipes
- Enormous time and costs saving
- Suitable for narrow hard to access areas
- Versitile use

Application range: Mercedes Benz, MAN, DAF, Iveco, Volvo, Scania, Renault etc.

	Size mm	Ø mm	g
450.0350	1	8 / 9 / 10 / 11 / 12	775
450.0351	2	7 / 9 / 10 / 12 / 14	775
450.0352	3	15 / 16 / 18	636

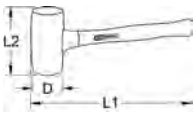
Dead blow hammer

- With steel tube handle and plastic handle
- Shock absorbing effect through steel shot in the head
- Up to 100% higher impact effect than normal Soft head hammers
- Polyamid heads interchangeable, shatterproof and wear resistant
- For safer working with less recoil

	g	D mm	L1 mm	L2 mm	handle,spare		head,spare	g
140.5270	360	25.0	270.0	105.0	-	140.5280	-	360
140.5271	480	30.0	290.0	105.0	-	140.5281	-	480
140.5272	590	35.0	295.0	110.0	-	140.5282	-	590
140.5273	850	40.0	300.0	120.0	-	140.5283	-	850
140.5274	990	45.0	305.0	120.0	-	140.5284	-	990
140.5275	1110	50.0	310.0	125.0	-	140.5285	-	1110
140.5276	1290	55.0	325.0	135.0	-	140.5286	-	1290
140.5277	1670	60.0	335.0	140.0	-	140.5287	-	1670

Dead blow hammer

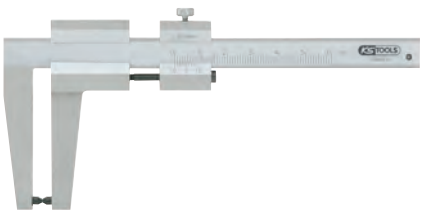
- With polyurethane glassfiber composite handle
- Shock absorbing effect through steel shot in the hammer head
- Substantially higher impact effect than standard conventional hammers
- For safer working with less recoil



	g	D mm	L1 mm	L2 mm	handle,spare		head,spare	g
140.5252	350	30.0	275.0	90.0	-	-		360
140.5254	690	35.0	311.0	100.0	-	-		700
140.5255	940	45.0	340.0	100.0	-	-		950
140.5256	1170	50.0	346.0	110.0	-	-		1180
140.5257	1400	55.0	355.0	120.0	-	-		1410
140.5258	1540	60.0	380.0	130.0	-	-		1550

Brake disk venier caliper 0 - 60 mm

- In accordance with DIN 862
- Locking screw
- For internal measurements
- Scale division in black
- Measuring bar in mm divisions
- Entirely hardened, finely engineered
- Stainless steel
- In durable wooden case



	Measuring range mm	A mm	L mm	Display accuracy mm	g
300.0535	0 - 60	55.0	162.0	+/- 0,01	130
300.0536	0 - 90	124.0	225.0	+/- 0,01	135

Digital brake disk venier caliper 0 - 60 mm

- In accordance with DIN 862
- Locking screw
- For internal measurements
- Scale division in black
- Measuring bar in mm and imperial divisions
- mm/imperial switching
- Reset (to zero) in every position possible
- Large LCD display figure height 10.0 mm
- Automatic switching off
- Entirely hardened, finely engineered
- Stainless steel
- In durable plastic case

	Measuring range mm	A mm	L mm	Display accuracy mm	g
300.0540	0 - 60	55.0	160.0	+/- 0,01	130

Digital brake drum gauge HGV 0 - 100 mm

- In accordance with DIN 862
- With locking screw
- For testing the material strength of brake discs
- Scale division in black
- Precision scale division in mm and imperial
- mm/imperial switching
- Hold button for fixing measured value despite beak displacement
- Reset (to zero) in every position possible
- LCD display - figure height 6,0 mm
- With automatic switching off
- Vernier and scale matt finish chrome plated
- Stainless steel, hardened
- In durable plastic case

Application: Commercial vehicle, buses, etc.

	Measuring range mm	A mm	L mm	Display accuracy mm	g
300.0539	0 - 100	95.0	207.0	+/- 0,01	155

Automotive brake drum caliper 0 - 300 mm

- In accordance with DIN 862
- Locking screw
- For external and internal measurements
- Scale division in black
- Fine adjustment
- Measuring bar in mm divisions
- Thread table
- Internal measure has direct reading
- Entirely hardened, finely engineered
- Stainless steel
- In durable wooden case

	Inner measuring range mm	Outer measuring range mm	A mm	L mm	Display accuracy mm	g
300.0525	0 - 300	40 - 340	95.0	410.0	+/- 0,02	500

HGV brake drum caliper 0 - 500 mm

- In accordance with DIN 862
- Locking screw
- For external and internal measurements
- Scale division in black
- Fine adjustment
- Measuring bar in mm divisions
- Thread table
- Internal measure has direct reading
- Entirely hardened, finely engineered
- Stainless steel
- In durable wooden case

	Inner measuring range mm	Outer measuring range mm	A mm	L mm	Display accuracy mm	kg
300.0530	0 - 500	60 - 560	150.0	660.0	+/- 0,05	1.38

Brake disc test case

- For measuring the radial and axial runout of wheel hubs and brake discs
- Exact positioning of the dial gauge on the test object with magnetic dial gauge holder
- Quick and easy attachment of stand with prismatic support and activated magnets
- Precise setting of the measuring scale with adjustable tolerance marks
- With rotating, knurled outer ring
- Suitable for measuring the brake disc thickness, and for detection of irregularities and distortion
- With measured value fixing lever and measuring force control with ratchet function
- In durable plastic storage case

			kg
150.2230	3 pcs	Brake disc test case	4.00

consists of:

		kg
300.0625	Magnetic measurement stand	2.00
300.0560	Precision dial indicator gauge 0 - 10 mm	0.28
300.0556	Micrometer	0.32

Magnetic measurement stand

- For clamping of the dial indicator
- Revolving base
- Transverse arm with joint and fine adjustment
- With on and off switchable magnetic base
- High adhesive force on burnished steel and cast areas
- Also adhesive on convolutions
- Foot with prismatic base and stop area mounted edges
- With dial guage reception Ø 8 mm
- Mirror polished chrome housing

	Radius mm	Magnet foot L x W x H mm	Total depth mm	Adhesive force n	Stand Ø mm	kg
300.0625	180.0	60x50x55	280.0	600,0	16,0	2.00

Precision dial indicator gauge 0 - 10 mm

- In accordance with DIN 878
- With fixed adjusting screw and revolving scale reading
- Shockproof
- Splash proofed
- Measuring tip protected against contamination by a bellowed sleeve
- Clamping shaft Ø 8 mm H6
- With 2 measuring scales
- Spindle and clamping shaft made from stainless steel
- In durable plastic case

	D mm	Display accuracy mm	Pointer revolution mm	g
300.0560	60.0	+/- 0,01	1.0	280

Digital precision dial indicator gauge 0 - 10 mm

- mm/imperial switching
- Reset (to zero) in every position
- Large LCD display figure height 6,0 mm
- Clamping shaft Ø 8 mm H6
- Automatic switching off
- Spindle and clamping shaft made from stainless steel
- In durable wooden case

	D mm	Measuring range mm	Display accuracy mm	g
300.0565	60.0	0 - 10	+/- 0,02	280

Micrometer

- In accordance with DIN 863
- With measurement locking lever
- Measuring force rule through ratchet sensation
- Spindle made out of hardened steel
- Measuring surfaces with hard metal tips
- With hand warmth insulation
- Stainless steel
- In durable plastic case

	Measuring range mm	A mm	L mm	Display accuracy mm	Ø Spindle mm	Ø Drum mm	Ø Spindle pitch mm	g
300.0555	0 - 25	30.0	130.0	+/- 0,01	6,5	17,0	0,5	300
300.0556	25 - 50	35.0	165.0	+/- 0,01	6,5	17,0	0,5	315
300.0557	50 - 75	46.0	190.0	+/- 0,01	6,5	17,0	0,5	370
300.0558	75 - 100	58.0	220.0	+/- 0,01	6,5	17,0	0,5	485

Brake fluid tester

- For checking the H2O content in the brake fluid
- With automatic switching off after 12 minutes
- Handy pin form with clip for the breast pocket
- With safety cover
- Plastic housing

Technical data:

Readout:	optical/5LED
Dimensions:	L150 mm x Ø20 mm
Battery type:	1xAAA
Working range:	DOT4
Standard:	IEC/EN 61010-1
Protection class:	IP 44

	D mm	L mm	g	
150.2199	20.0	150.0	70	

Digital brake fluid tester set with printer

- Includes printer with integrated software
- For inspection of the brake fluid
- Exact measurement of the boiling point possible
- For measuring all brake fluids on Glykolbasis (DOT3, DOT4, DOT 5.1)
- Portable can be used anywhere just connect to a 12 V vehicle battery
- Measurement possible through a sample goblet and dropper also means testing outside of the vehicle
- Enormous time savings through testing directly in the fluid container
- Easy intelligible multilinguale menu navigation
- Easy to read display
- Acknowledged by leading vehicle manufacturers
- Exceeds the requirements of the TÜV Austria
- Notice of an evtl. change of the brake fluid

Technical data:

Compatable for brake fluid:	DOT3, DOT4, DOT5.1
Maximum Testing temparture:	320°C (608°F)
Output-version:	°C / °F
Operational voltage:	12 V

			kg	
150.2198	2 pcs	Digital brake fluid tester set with printer	1.55	

consists of:

		g	
150.2196	Digital brake fluid tester	1255	
150.2197	Printer f.digital brake fluid tester	187	

Brake maintenance device KS20

- Portable brake maintenance device
- Very good and user friendly usage
- Intergrated suction for extracting the old brake fluid
- Damage on ABS brake systems is prevented
- Mode of operation for use with original containers up to 20 litres
- Will not over-fill the amount of brake fluid required
- Fast, clean and environmentally friendly working
- Bleeding of the device after brake fluid change is not required
- Pressure regulator and analogous pressure notice shows on the device front
- Automatic end switching off in empty container
- Manual on switch and empty switch
- Includes rubber cone set and euroadaptor E20
- Housing made from steel

Application range: Tyre business, petrol stations, motorcycle workshops, small motor vehicle workshops, etc.

Technical data:

Max Container size:	20 l
Working pressure:	ca. 0,4 - 3,5 bar
Voltage:	230 V
Filling tube length:	3.5 m
Dimensions	1000 x 400 x 400 mm

		kg	
160.0705	Brake maintenance device KS20	20.00	

Digital brake fluid tester

- For inspection of the brake fluid
- Exact measurement of the boiling point possible
- For measuring all brake fluids on Glykolbasis (DOT3, DOT4, DOT 5.1)
- Portable can be used anywhere just connect to a 12 V vehicle battery
- Measurement possible through a sample goblet and dropper also means testing outside of the vehicle
- Enormous time savings through testing directly in the fluid container
- Easy intelligible multilinguale menu navigation
- Easy to read display
- Acknowledged by leading vehicle manufacturers
- Exceeds the requirements of the TÜV Austria
- Notice of an evtl. change of the brake fluid

Technical data:

Compatable for brake fluid:	DOT3, DOT4, DOT5.1
Maximum Testing temparture:	320°C (608°F)
Output-version:	°C / °F
Operational voltage:	12 V
Dropper with test container	150.2195-1

		kg	
150.2195	Digital brake fluid tester	1.25	

Brake maintenance device KS5

- Portable brake maintenance device
- Very good and user friendly usage
- Mode of operation for use with original containers up to 5 litres
- Will not over fill the amount of brake fluid required
- Pressureless uncoupling on the vehicle
- Fast, clean and environmentally friendly working
- Pressure regulator and analogous pressure notice shows on the device front
- Automatic end switching off in empty container
- Manual on switch and empty switch
- Includes rubber cone set and euroadaptor E20
- Housing made from steel

Application range: Tyre business, petrol stations, motorcycle workshops, small motor vehicle workshops, etc.

Technical data:

Max Container size:	5 L
Working pressure:	ca. 0,4 - 3 bar
Voltage:	230 V
Filling tube length:	3.5 m
Dimensions	400 x 200 x 300 mm

		kg	
160.0700	Brake maintenance device KS5	7.00	

Universal adaptor set for brake bleeding

- Usable in connection with brake maintenance devices
- Valuable supplement
- Including a selection of adapters for brake fluid reservoir
- Special steel
- In durable plastic storage case

			kg	
160.0710	4 pcs	Universal adaptor set for brake bleeding	1.35	

consists of:

		g	
160.0708	Uni adaptor	270	
160.0709	Bayonet adaptor	175	
160.0713	Euro adaptor E20	118	
160.0715	Threaded adaptor G75	215	

Brake bleeder panel

- For the bleeding and filling of motor vehicle brake systems
- One-man operation
- Suitable for all current vehicles
- Vacuum production over compressed air through special "Venturi" -effect
- Bubble development is prevented efficiently
- Includes vacuum pistol and fill up container
- 1 lt fill up container 1 lt with automatic control mechanism
- The compressed air operated pistol draws the old brake fluid through
- By means of fill up container this balances the new fluid container that becomes sucked through the Vacuum pistol system
- Includes 1/4" coupling connector

Technical data:

Operating pressure:	min. 5,0 - max. 12,0
Connection thread:	1/4“PT
Operating temperature:	-18 °C up to max. 60 °C
Exhaust tube length:	1 m
Collecting container volume:	2,0 l
Waste container volume:	1,0 l

			kg	
150.2058	3 pcs	Brake bleeder panel	1.81	

consists of:

		g	
150.2301	Brake bleeder unit	950	
150.2302	Brake bleeder filling bottle, 1 litre	450	
150.2303	Replacement tube f.brake bleeder	410	

Easy Valve bleeder with reception bottle

- With non-return valve, to avoid the backflow of old brake fluid or exhausted air
- Especially suited for clutch systems
- Old brake fluid is piped directly in the reception bottle and recycled
- One man operation
- Very short setup time - simple operation
- Universal usage
- No adaptors necessary
- Low priced in the acquirement

		kg	
150.2305	Easy Valve bleeder with reception bottle	1.18	

Brake bleeding refill bottle

- Practical refill device
- While ventilation of the hydraulic brake system it is possible to refill brake fluid in reservoir
- Prevent the complete emptiness of the brake fluid reservoir and prevent the air gets into hydraulic brake system
- Universal clamping device for different reservoir openings
- Mount on the bottle on the brake fluid reservoir - open the valve - automatic level of control

		kg	
150.2302	1	0.45	

Brake fluid reception container

- Universal adapter
- Flexible silicone tube
- For catching the brake fluid during the bleeding

		g	
160.0735	1 l	300	

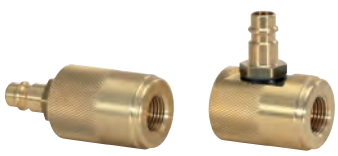
Suction and filling bottle

- Ideal remedy for the drop free bleeding off of brake fluid out of that reservoir (bottle)
- Special plastic

		g	
160.0738	Suction and filling bottle	92	

Compressed air adaptor set

- With universal connector
- For filling the air brake plant truck compressed from the manufacturer Bosch and Wabco+Grau
- Set contains 0° and 90° executions for different place ratios
- Applicably for the tyre abundance connection for the pressure regulator
- Unnecessary air load and sound load diminishes



			kg	
450.0315	2 pcs	Compressed air adaptor set	0.45	

Filter strap wrench

- Robust and especially high quality webbing
- For loosening heavy duty oil and fuel filters
- Particularly large work area and light weight
- 1/2" square drive
- Little space required on the outer diameter of the filter
- Ideally suited to tighten round fittings
- Stable nylon strap

1/2"

	Ø mm	Ø	H mm	g	
455.0055	150,0	6“	50.0	380	

Steel strap filter wrench

- Extremely rugged steel strap wrench
- For loosening heavy duty oil and fuel filters
- Secure grip of the filter
- 1/2" square drive
- High performance guaranteed professional work
- Automatic adjustment in the specified diameter range
- Ideal for compressed air cartridges
- Special steel

1/2"

	Ø mm	Ø	H mm	g	
455.0050	105 - 118	4.1/8“ - 4.21/32“	75.0	930	
455.0051	118 - 130	4.21/32“ - 5.5/32“	75.0	950	
455.0052	130 - 143	5.5/32“ - 5.21/32“	75.0	990	

Universal oil filter wrench, 104-150mm

- With self tensioning effect
- Work clockwise / anticlockwise - loose and tighten
- Serrated jaws
- Less space required
- With 21 mm or 1/2" drive
- Special steel

Application area: Oil and fuel filters, air dryer cartridges etc.

	D mm	H mm	g	
700.5008	104 - 150	110.0	1780	

CHASSIS

Axle backlash tester

- For localising sources of faults in the vehicle axle area
- Testing under load
- Large time savings during fault diagnostics
- Suitable for all cars up to 3.5 t
- Special steel

Application range: Dome bearings / silent bearings / carrier joint / track rod end / coupling rod / wheel bearings / axial joint / steering gear / stabiliser, etc.

	L1 mm	L2 mm	D1 mm	D2 mm	kg	
700.1465	400.0	400.0	25.0	50.0	1.90	

Electronic professional stethoscope

- For the professional defect diagnosis
- Serves the acoustic test and judgment of a component under load
- Delivers fast, absolutely clear and unambiguous test results over sounds
- Contains 6 independent sensors that can mounted for example on the vehicle floor or in the engine compartment for ease
- Simple coordination of the defect source through colour coded cable and colour table on the box
- In durable plastic storage case

Application range:
Engine: Valves, baerings, piston pins
Alternator: Bearing sounds
Differential: Barrel sounds
Bodywork: Creak and squeak sounds

			kg	
150.1695	21 pcs	Electronic professional stethoscope	2.50	

consists of:

		g	
150.1695-1	Headset f.150.1695	350	
150.1695-2	Amplifier f.150.1695	115	
150.1695-3	Hand held stethoscope f.150.1695	165	
150.1695-4	Velcro strap f.150.1695, 8pcs	9	
150.1695-5	Sensor f.150.1695	10	
150.1695-6	Coulour coded cable f.150.1695, 6pcs	755	

MECHANICS LEVERS

Mechanics pry bar

- Angular lever end guarantees non slip surface
- Ideally suited for and breakdown and installation work
- Go through blade and hammer cap
- Suitable for the testing of defective bearings
- Dual component handle
- Massive execution especially for commercial vehicles
- Special steel

	Biegeradius	L mm	kg	
911.8411	0°	900.0	1.70	
911.8412	45°	900.0	1.75	
911.8413	75°	600.0	1.17	
911.8414	90°	600.0	1.20	
911.8415	45°	1120.0	4.75	

Mechanics pry bar set

- Angular lever end guarantees non slip surface
- Ideally suited for and breakdown and installation work
- Go through blade and hammer cap
- Suitable for the testing of defective bearings
- Dual component handle
- Massive execution specially for commercial vehicles
- Special steel
- In durable plastic storage case

			kg	
911.8410	4 pcs	Mechanics pry bar set	8.70	

consists of:

		kg	
911.8411	Mechanics pry bar, straight 900 mm	1.70	
911.8412	Mechanics pry bar 45°, angled head 900 mm	1.75	
911.8413	Mechanics pry bar 75°, angled head 600 mm	1.17	
911.8414	Mechanics pry bar 90°, angled head 600 mm	1.20	

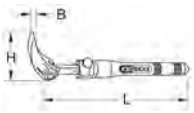
Lever bar

- 4 point
- Quenched and tempered
- Black lacquer
- Special steel

	D1 mm	D2 mm	L m	S mm		kg	
156.0598	22.0	35.0	1.8	37,0	-	10.00	

Roller head telescopic lever

- Lever extension with push-button in steps
- Roller head adjustable in steps
- Extra narrow, with recessed push button
- Maximum power transmission in the narrowest area
- Optimal leverage in minimal work area
- Ideally suitable for passenger cars to commercial vehicles
- Special steel



	L mm	H mm	B mm	g	
911.8186	325-460	90.0	12.0	780	
911.8187	600-915	120.0	20.0	1900	
911.8188	865-1350	145.0	24.0	4260	

Brass and aluminium punch

- For extracting bearing, bolts and bushes, etc.
- Rimed handle for better control
- Brass / Aluminium

		Ø mm	L mm	kg	
156.0415	Brass	20,0	300.0	1.13	
156.0416	Aluminium	30,0	300.0	1.89	

Punch set for trucks

- Conical tapered point
- Universal use
- For extracting cotter pins, bolts, bearing rings, etc.
- Ideally suited for daily workshop use
- High quality and substaintial construction
- Premium tempered and hardened steel
- Special steel

			kg	
450.0090	4 pcs	6,4 - 6,4 - 8,0 - 13,0 mm	2.91	

consists of:

		g	
450.0091	HGV Punch, tapered, 300 x 6,4 mm	390	
450.0092	HGV Punch, tapered, 380 x 6,4 mm	730	
450.0093	HGV Punch, tapered, 300 x 8,0 mm	410	
450.0094	HGV Punch, tapered, 460 x 13 mm	1310	

Centre punch

- Round
- Quenched and tempered
- Tip can be resharpened
- Black surface finish
- Chrome vanadium

	L mm	D mm	S mm		g
156.0340	150.0	5.0	10,0	-	70
156.0342	150.0	6.0	12,0	-	120
156.0344	210.0	7.0	14,0	-	170
156.0346	215.0	8.0	16,0	-	230
156.0348	220.0	9.0	18,0	-	310
156.0350	220.0	10.0	20,0	-	410
156.0352	220.0	11.0	22,0	-	510
156.0354	250.0	12.0	24,0	-	640

Flat chisel set, heavy duty

- Heavy execution
- Dimensionally stable 25 mm six point shaft
- For the preparation of truck rivets and welds
- Ideal for preparation working
- Chiseling of rusted bolts and nuts is possible
- Ideally suited for commercial vehicles
- Special steel

			kg
450.0025	2 pcs	400 - 600 mm	3.97

Hand impact wrench

- Ideal for loosening extremely jammed screws
- Also usably to the tightening of screws and/or nuts
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- Optimal 8:1 torque ratio
- 360° rotating head
- Impact screw can be combined with every 1/2" drive nut
- With one component handle

1/2"

	■	L mm	kg
150.2096	1/2"	475.0	1.32

SPECIAL SOCKETS & NUT SPLITTERS

Impact universal ball joint

- Square drive adaptor to DIN 3121 / ISO 1174 with ball lock
- Internal square drive to DIN 3121 / ISO 1174
- Suspension
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1/2"

	L mm	D mm	g
515.1133	67.0	28.0	170

Impact universal ball joint

- Square drive adaptor to DIN 3121 / ISO 1174
- Internal square drive to DIN 3121 / ISO 1174
- Suspension
- For machinery usage
- Phosphate finish
- Chrome molybdenum

3/4"

	L mm	D mm	g
515.1374	108.0	44.0	700

Impact universal ball joint

- Square drive adaptor to DIN 3121 / ISO 1174
- Internal square drive to DIN 3121 / ISO 1174
- Suspension
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1"

	L mm	D mm	kg
515.1801	130.0	54.0	1.38

12 Point impact socket set

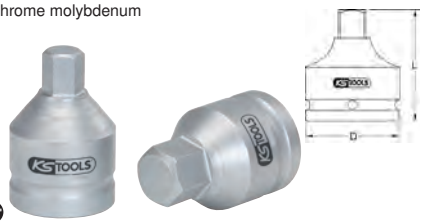
- 12 point
- Internal square drive to DIN 3121 / ISO 1174
- Short execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum
- In durable plastic case

1/2"

			kg
515.0900	13 pcs	10 - 12 - 13 - 14 - 15 - 16 - 17 - 19 - 20 - 21 - 22 - 23 - 24 mm	2.80

Impact bit socket, hexagon

- Hexagon socket
- Internal square drive to DIN 3121 / ISO 1174
- Short execution
- For machinery usage
- Matt finish
- Chrome molybdenum



3/4"

	mm	L mm	D mm	g
515.0001	14,0	60.0	40.0	140
515.0002	17,0	60.0	40.0	280
515.0003	19,0	60.0	40.0	340
515.0004	21,0	60.0	40.0	340
515.0005	22,0	60.0	40.0	340
515.0006	24,0	60.0	40.0	340

Impact bit socket set

- Hexagon
- Internal square drive to DIN 3121 / ISO 1174
- Short execution
- For machinery usage
- Matt finish
- Chrome molybdenum
- In durable steel storage case

3/4"

			kg
515.0000	6 pcs	14 - 17 - 19 - 21 - 22 - 24 mm	2.52

Impact bit socket for spline(XZN®) screws

- Spline (XZN®)
- Internal square drive to DIN 3121 / ISO 1174
- Short execution
- For machinery usage
- Matt finish
- Chrome molybdenum

3/4"

		L mm	D mm	g
515.0012	M16	60.0	40.0	270
515.0013	M18	60.0	40.0	270

Impact bit socket for TX, short

- TX
- Square drive according to DIN 3121 / ISO 1174
- Short execution
- For machinery usage
- Matt finish
- Chrome molybdenum

3/4"

		L mm	D mm	g
515.0016	T70	60.0	40.0	270
515.0017	T80	60.0	40.0	270
515.0018	T90	60.0	40.0	280
515.0019	T100	60.0	40.0	290

Impact bit socket set

- TX and Spline
- Internal square drive to DIN 3121 / ISO 1174
- Short execution
- For machinery usage
- Matt finish
- Chrome molybdenum
- In durable steel storage case

3/4"

			kg	
515.0010	6 pcs	Impact bit socket set	2.20	

consists of:

		g	
515.0012	3/4" impact bit socket XZN, M16	270	
515.0013	3/4" impact bit socket XZN, M18	270	
515.0016	3/4" impact bit socket, TX, T70	270	
515.0017	3/4" impact bit socket, TX, T80	270	
515.0018	3/4" impact bit socket, TX, T90	280	
515.0019	3/4" impact bit socket, TX, T100	290	

Impact interchangeable bit set

- For machinery usage
- Phosphate finish
- Chrome molybdenum
- In durable plastic storage case

3/4" 1"

			kg	
450.0420	16 pcs	Impact interchangeable bit set	6.00	

consists of:

		g	
450.0422	Impact bit socket hex adaptor, 17mm	360	
450.0423	Impact bit socket hex adaptor, 19mm	370	
450.0425	Impact bit socket hex adaptor, 22mm	380	
450.0426	Impact bit socket hex adaptor, 24mm	460	
450.0427	Impact bit socket TX adaptor, T60	330	
450.0428	Impact bit socket TX adaptor, T70	330	
450.0429	Impact bit socket TX adaptor, T80	340	
450.0430	Impact bit socket TX adaptor, T90	350	
450.0431	Impact bit socket TX adaptor, T100	360	
450.0433	Impact bit socket TX E adaptor, E18	470	
450.0434	Impact bit socket TX E adaptor, E20	340	
450.0435	Impact bit socket TX E adaptor, E22	370	
450.0436	Impact bit socket TX E adaptor, E24	390	
450.0437	3/4" impact bit socket adaptor, 22mm	260	
450.0438	1" impact bit socket adaptor, 22mm	500	

Impact bit socket for hexagon screws, long

- Hexagon socket
- Internal square drive to DIN 3121 / ISO 1174
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1"

	mm	L mm	D mm	g	
450.0491	17,0	145.0	51.0	992	
450.0492	19,0	145.0	51.0	1006	
450.0493	22,0	145.0	51.0	1030	
450.0494	24,0	145.0	51.0	1080	

Impact socket for TX® screws, long

- TX
- Internal square drive to DIN 3121 / ISO 1174
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1"

		L mm	D mm	g	
450.0471	T60	145.0	51.0	950	
450.0472	T70	145.0	51.0	970	
450.0473	T80	145.0	51.0	976	
450.0474	T90	145.0	51.0	986	
450.0475	T100	145.0	51.0	1000	

Impact bit socket for TX E screws, long

- TX E
- Internal square drive to DIN 3121 / ISO 1174
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1"

		L mm	D mm	g	
450.0481	E18	145.0	51.0	992	
450.0482	E20	145.0	51.0	1012	
450.0483	E22	145.0	51.0	1020	
450.0484	E24	145.0	51.0	1068	

Hydraulic nut splitter

- Small execution
- Suitable for nuts to a tensile strength class 10
- Work pressure max. 5 t
- Especially suitable for narrow hard to access areas

	dim mm	L mm	g	
700.1150	7 -27	210.0	700	

Hydraulic nut splitter set

- Large execution
- Suitable for nuts to a tensile strength class 10
- Work pressure max. 13 t
- In durable plastic storage case

			kg	
700.1160	4 pcs	22 - 36 mm; M14 - M24	3.80	

Hydraulic nut splitter set

- For the splitting of seized or over tightened bolts without damage to the bolt thread
- Working range from 7.0 - 36.0 mm
- Inductively hardened cutting edge
- Suitable for nuts to a tensile strength class 10
- Requires light expenditure of energy
- Special steel

			kg	
700.1170	7 pcs	Hydraulic nut splitter set	5.00	

consists of:

		g	
700.1150	Nut splitter small, SW 7,0 - 27,0 mm / M4 - M14	700	
700.1163	Nut splitter	3600	
700.1151	Replacement chisel small	50	
700.1152	Replacement plate small	50	
700.1161	Replacement chisel large	100	
700.1162	Replacement plate large	100	
151.2073	Hexagon key 3/8" for replacement plate large	110	

FORK SEPARATORS

Separating and assembly fork

- For quick loosening of track and steering rod ends steering arms and additional controlling parts
- Ideal for confined spaces
- Special steel

	A mm	L mm	kg	
670.0091	18	330	0.90	
670.0092	23	330	0.90	
670.0093	31	330	1.10	
670.0094	35	330	1.30	
670.0095	45	330	1.50	

BALL JOINT SEPARATORS

Universal ball joint ejector

- For many automobiles and commercial vehicles
- Special steel

	A mm	C mm	max t	dim mm	mm	kg	
670.0061	23	55	4	17	M16x1,5 x 60	0.80	
670.0062	28	55	4	17	M16x1,5 x 60	0.80	
670.0063	34	63	4	19	M18x1,5 x 70	0.90	

Universal ball joint extractor

- Tools for removing of carrier joint and tie rod joints or
- track rod joint studs for steering gear, suspension arm, axle casing und stabiliser
- universal suitable for passenger cars to commercial vehicles
- Compact and durable design
- Extremely robust spindle with inductively hardened thread

			kg	
670.0060	3 pcs	23 - 28 - 34 mm	2.90	

Universal ball joint separator

- For many automobiles and commercial vehicles
- Special steel

	A mm	B mm	C mm	max N·m	mm	dim mm	kg	
670.0101	18	40	40	50	M14x1,5x60	17	0.30	
670.0102	25	50	50	120	M16x1,5x60	17	0.70	
670.0103	29	60	60	160	M18x1,5x75	19	1.00	
670.0104	40	80	80	280	G1/2"x14gx110	22	2.10	
670.0105	45	90	100	400	G3/4"x14gx125	27	2.80	
670.0106	58-80	80	80	280	G1/2"x14gx110	22	2.10	

Ball joint extractor cap „VIBRO IMPACT“

- Pressure pieces in the spindle rotating mouted
- Spindle suitable for impact wrenches
- Less space required
- Cast forged execution
- Special steel

	A mm	C mm	mm	dim mm	kg	
450.0060	30	58	Tr.22	18	1.10	
450.0061	32	90	Tr.24	25	2.51	
450.0062	39	58	Tr.24	25	2.83	

Ball joint puller„VIBRO-IMPACT“ with window

- Pressure pieces in the spindle rotating mouted
- Spindle suitable for impact wrenches
- Less space required
- Cast forged execution
- Special steel

Application range: Universal in the HGV sector, e.g. SCANIA, MB, MAN (e.g. 414 drag link), HINO, etc.

	mm	A mm	C mm	dim mm	kg	
450.0066	Tr.26	39.0	60.0	39	2.20	

Puller for drop arm 42mm, fork 42mm

- With 3/4“ square drive to DIN 3121 / ISO 1174
- Spindle suitable for impact wrenches
- High release force due to rotary shock pulse with impact wrench
- Cap with window for puller for drop arm with large reach
- Cast forged execution
- Special steel

Application range: e.g. MB Actros

3/4"

	A1 mm	A2 mm	D1 mm	D2 mm	H1 mm	H2 mm	L mm	kg	
450.0067	41.0	42.0	105.0	90.0	60.0	98.0	144.0	3.70	

Puller for drop arm

- With 3/4“ square drive to DIN 3121 / ISO 1174
- Spindle suitable for impact wrenches
- High release force due to rotary shock pulse with impact wrench
- Cap with window for puller for drop arm with large reach
- Cast forged execution
- Special steel

Application range: e.g. DAF / Scania and other european HGV

3/4"

	A1 mm	A2 mm	D1 mm	D2 mm	H1 mm	H2 mm	L mm	kg	
450.0330	50.0	58.0	137.0	115.0	70.0	115.0	162.0	5.72	

Impact ball joint puller

- Optimal positioning between suspension arm and axle casing
- Mouted spherical centering point
- Retrofit bar hydraulic pressure spindle
- Special steel

	A mm	C mm	mm	dim mm	kg	
450.0085	35	60	M27 x 130	24	3.37	

Carrier joint tool set

- For the dismantling and assembly of upper carrier joints without removing the wishbone
- Hardened spindle with ball lock for pressure pieces
- 3 pressure pieces adaptor for spindle
- 2 forks for installation with locking mechanism for basic unit
- Colour coding in dismantling and/or assembly tools
- In durable plastic storage case

Application: T4 bus / Multivan / California / pickup etc.

			kg	
700.1640	6 pcs	Carrier joint tool set	3.82	

consists of:

		g	
700.1641	Basic unit with window H=135mm	1930	
700.1642	Spindle TR24, SW24 L=110mm	350	
700.1643	Thrust piece installation, gold, Ø52xH41mm	260	
700.1644	Thrust piece removal no.1, black, Ø40xH30mm	185	
700.1645	Thrust piece removal no.2, black, Ø40xH30mm	195	
700.1646	Fork installation, black, 55.5mm	102	
700.1647	Fork installation, gold, 51mm	122	
700.1648	Retaining ring for spindle	2	

Universal ball joint separator

- For separating the ball plug in the extension of the ball joint
- Suitable for many vehicles
- Special steel

	A mm	C mm	max t	dim mm	mm	kg
670.0111	18-22	50	3,5	19	M14 x 1,5 x 48	0.90

Universal ball joint separator 4 stage adjustable

- Separator 4 stage adjustable
- Spindle hexagonal with additional drive point
- Forged
- Special steel
- Stage 1: 24 mm
- Stage 2: 30 mm
- Stage 3: 40 mm
- Stage 4: 45 mm

	A mm	C mm	mm	dim mm	kg
700.5630	20	24-45	M14 x 105	18	1.50

Universal ball joint separator

- For separating the ball plug in the extension of the ball joint
- Suitable for many vehicles
- Special steel

	A mm	C mm	max t	dim mm	mm	kg
670.0121	24	50	3,5	17	M16x1,5x70	1.40
670.0122	24	60-80	3,5	17	M16x1,5x90	1.80

Universal ball joint extractor

- Robust model for loosening the track heads and push pole heads
- Optimal positioning through compact design and slim fork piece
- Adjustment of the clamp by means of the spindle
- Special steel

	A mm	C mm	mm	dim mm	kg
450.0070	32	75	M22 x 90	30	2.49
450.0071	45	80	M22 x 90	30	2.61

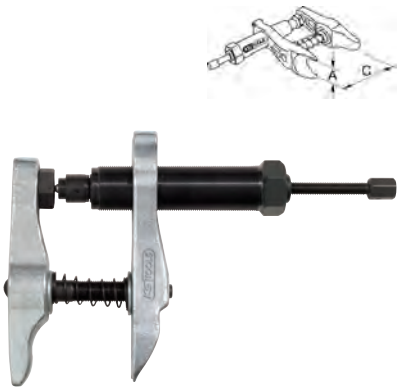
Universal ball joint separator

- For separating the ball plug in the extension of the ball joint
- Suitable for many vehicles + moderately heavy trucks
- Special steel

	A mm	C mm	max t	dim mm	mm	kg
670.0131	36	90	10	22	G1/2" x 14g x 110	3.70

Hydraulic universal ball joint separator

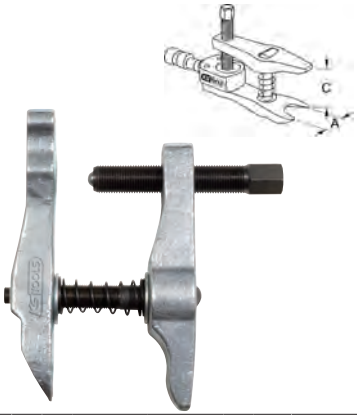
- For separating the ball plug in the extension of the ball joint
- Suitable for many vehicles + moderately heavy trucks
- For bolts Ø 27.0 - 36.0 mm
- Special steel



	A mm	C mm	max t	dim mm	mm	kg
670.0141	36	90	10	17	1.1/2"x16G	4.70

Universal ball joint separator

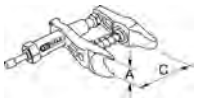
- For separating the ball plug in the extension of the ball joint
- Suitable for many vehicles + moderately heavy trucks
- For bolts Ø 27.0 - 36.0 mm
- Upgrade without hydraulic cylinder possible
- Special steel



	A mm	C mm	max t	Adjusting screw mm	Ambos spindle mm	dim mm	kg
670.0151	36	90	10	M18x1,5x120	G1/2"x14x110	22	3.50

Universal ball joint separator

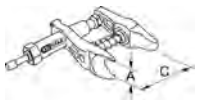
- For separating the ball plug in the extension of the ball joints
- Suitably for many heavy trucks, buses + low floor bus
- For bolts Ø 35.0 - 45.0 mm
- Special steel

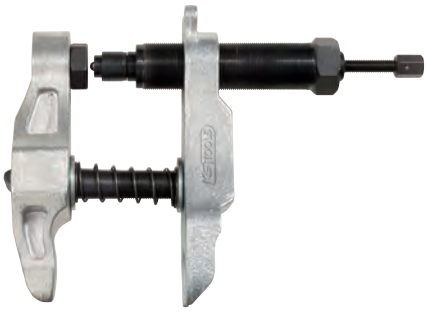


	A mm	C mm	max t	dim mm	mm	kg
670.0161	45	115	20	27	G3/4" x 14g x 125	6.40

Hydraulic universal ball joint separator

- For separating the ball plug in the extension of the ball joints
- Suitably for many heavy trucks, buses + low floor bus
- For bolts Ø 35.0 - 45.0 mm
- Special steel





	A mm	C mm	max t	dim mm	mm	kg
670.0171	45	115	20	17	M14 x 1,5 x 50	7.00

Universal ball joint separator without hydraulic cylinder

- For separating the ball plug in the extension of the ball joints
- Suitably for many heavy trucks, buses + low floor bus
- For bolts Ø 35.0 - 45.0 mm
- Special steel

	A mm	C mm	max t	dim mm	mm	kg
670.0181	45	115	20	27	G3/4" x 14g x 125	6.00

Flat hydraulic cylinder

- Simple working with spring withdrawal
- Maximum pressure power with slight power expense
- Special steel

	Connection thread mm	L mm	B mm	Stroke mm	Minimal oil volume cm³/t	max t	kg
640.0140	3/8" - 18 NPT	140	42	12	18/0,018	10	1.60
640.0150	3/8" - 18 NPT	170	51	11	32/0,032	20	2.80

Ball joint puller HGV, mechanical

- Massive execution for loosening the track heads and push pole heads
- Enormous power through lever transmission
- Special steel

	A mm	C mm	mm	dim mm	kg
450.0051	36	70	M24 x 3 x 160	36	4.34

Hydraulic universal ball joint extractor set

- Massive execution for loosening the track heads and push pole heads
- Enormous power through lever transmission
- Requires light expenditure of energy
- Special steel

			kg
450.0050	3 pcs	Hydraulic universal ball joint extractor set	6.55

consists of:

		kg
450.0051	Ball Joint Puller HGV, mechanical	4.34
450.0052	Adaptor M24 x 3 for Hydraulic Thrust bolt.	0.66
700.1400-1	Hydraulic spindle with centering point - Ag 1.1/2" x 16 G	0.21

Hydraulic universal ball joint ejector set

- For extracting the ball joints and ball plug at track rod ends, direct transmissions and suspension axles
- Revolving cylinder reception
- Compact construction
- Requires light expenditure of energy
- Special steel

			kg
450.0120	6 pcs	Hydraulic universal ball joint ejector set	9.57

consists of:

		kg
450.0121	Ball joint ejector	2.40
450.0122	Clevis, Ø max 25mm	1.35
450.0123	Clevis, Ø max 33mm	1.27
450.0124	Clevis, Ø max 47mm	1.21
450.0126	Hydraulic flat cylinder, 20 t	2.90
450.0127	Safety chain	0.44

Hydraulic hand pump

- For the dismantling and assembly of silent support, steering pin, track rod ends, wheel bearings, etc.
- Extremely high and uniform power construction
- Suitable for both pressure and train uses
- Ideally suited for commercial vehicles
- Supplied without without manometer and hydraulic tube
- Special steel

Technical data:

Connection thread:	3/8" NPT IG
Hand pump:	700 bar high pressure pump
Length:	410 x 150 x 135 mm

		kg
700.1792	Hydraulic hand pump	5.50

Accessories:

		kg
700.1793	Hydraulics tube, 2 m including connection	1.10

Vibro power system
Pneumatic hammer chisel

The ideal problem solver for loosening bolted connections and components.

Advantages:
- Efficient, gentle loosening - no shearing/breakage of the bolt even with severely corroded bolted connections.
- Precise, extremely powerful blow reliably loosens e.g. taper seat joints, bearings and bushes
- Outstanding for use also as a releasing aid in conjunction with commercially available pullers and silent bearing tools.

Set includes pressure plate adapter for driving out bearings, sleeves, bushes, etc.

515.3881 Pneumatic vibrating hammer

Vibro-Power system
= 1 hammer blow x 2200 strokes/min
= 37 hammer blow per sec.

Tool mounting =
10.2 mm

515.3885

515.3886

515.3887

515.3888

515.3887

515.3889

Loosening track rods

Driving out brake pad pin (e.g. VW T4)

Loosening brake calliper carrier screws

Cantilever arm attachment - use as a releasing aid

Application with pressure plate adapter

Loosening brake disc fixing screw

Vehicle body application
(chisel with twist lock)

515.3964

515.3965

515.3966

Pressure plate adapter with 700.1350 Universal bearing and bushing driver set

Application in exhaust area

515.3962 515.3963

Chassis application

515.3967

515.3968

515.3969

515.3961

VIBRO POWER

Vibro impact pneumatic chisel hammer set

- With non slip soft grip handle
- Air exhaust through the handle
- Ergonomic designed handle
- Ideal for industry
- Efficient, gentle loosening of screw fittings
- With stepless impact regulation
- Vibration dampened
- Cold insulated handle
- Includes 1/4" coupling connector
- Ultra light housing from two component plastic

			kg	
515.3880	6 pcs	Vibro impact pneumatic chisel hammer set	5.70	

consists of:

		kg	
515.3881	Pneumatic chisel hammer	2.17	
515.3882	Holder for pneumatic chisel hammer	1.55	
515.3886	Pneumatic chisel track rod loosener,110mm	0.14	
515.3887	Pneumatic chisel hammer,110mm	0.15	
515.3888	Pneumatic chisel loosening adapter,130mm	0.16	
515.3889	Pneumatic chisel loosening mandrel,100x25x12mm	0.19	

Vibro Power hammer chisel accessories

- As complement to Vibro-Power system 515.3880
- Universal use for bodywork and chassis repair
- Extension of the working range
- Utilisation of vibration and shock pulse of Vibro Power pneumatic hammer
- Robust chisel forged out of one piece

Application: Cutting exhausts, loosening of ball joint, extracting bolts and cutting metal sheets

		g	
515.3961	Vibro Power punch Ø6.5mm	95	
515.3962	Vibro Power exhaust slitting chisel for inner tube width 23mm	190	
515.3963	Vibro Power exhaust slitting chisel for outer tube width 23mm	190	
515.3964	Vibro Power slitting chisel with anti-twist protection width 20mm	160	
515.3965	Vibro Power flat chisel with anti-twist protection width 19mm	220	
515.3966	Vibro Power halfround chisel, anti-twist protection width 26mm	210	
515.3967	Vibro Power fork separator 20mm	300	
515.3968	Vibro Power fork separator 25mm	330	
515.3969	Vibro Power fork separator 32mm	590	

Special Vibro chisel set

- For loosening seized screw joints and loosening components
- Gentle peeling and driving
- Vibration is transmitted directly to the screw connections
- Impact mandrel attachment as ingenious aid to any removal operation
- For hexagonal and round 10 mm machine mountings
- Including pressure plate adapter for driving out bearings, sleeves, bushings

Caution: Use only in conjunction with a pneumatic hammer chisel!

			g	
515.3885	4 pcs	Special Vibro chisel set	774	

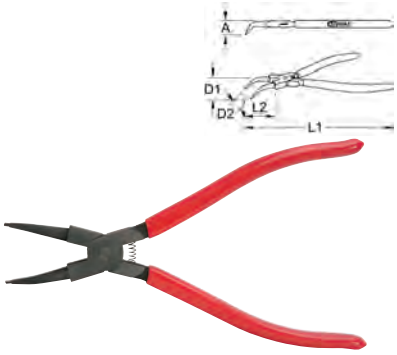
consists of:

		g	
515.3886	Tie rods loosening piece	138	
515.3887	Impact pin - chisel piece	148	
515.3888	Pressure plate - adapter piece	159	
515.3889	Screw remover- chisel piece 100x25x12 mm	190	

WHEEL BEARINGS

CLASSIC wheel bearing circlip pliers, angled

- Durable precision tips
- 45° angled tips
- Self opening
- With PVC dipped handle
- For the disassembly and assembly of wheel bearing retaining rings
- Can be used on the front and rear
- For all common wheel bearing retaining rings
- Chrome vanadium



	A mm	D1 mm	D2 mm	L1 mm	L2 mm	g	
500.1038	22.0	23.0	2.3	240.0	32.0	250	
500.1039	22.0	23.0	3.0	300.0	46.0	490	

Circlip plier set with ratchet function

- For inside and outside circlips
- With rubber grip
- Interchangeable tips
- 8 types of pliers by reversing the tips
- Includes disassembly and assembly heads
- Chrome vanadium

Internal circlips: 60,0 mm - 100,0 mm
External circlips: 40,0 mm - 85,0 mm

			kg	
500.1350	20 pcs	Circlip plier set with ratchet function	1.80	

Circlip plier set with ratchet function

- For inside and outside circlips
- With rubber grip
- Interchangeable tips
- 6 types of pliers by reversing the tips
- Includes disassembly and assembly heads
- Chrome vanadium

Internal circlips: 78,0 mm - 159,0 mm
External circlips: 89,0 mm - 159,0 mm

			kg	
500.1300	14 pcs	Circlip plier set with ratchet function	1.80	

Circlip pliers for internal circlips with 0° + 90° tips

- For internal circlips
- Interchangeable tips
- For circlips according to DIN 472 / DIN 984
- Black powder coating
- Chrome vanadium

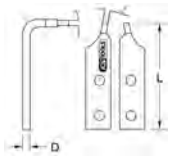
Application range: Trucks, land and construction machines, municipally and forestery technology, etc.

	D mm	L mm	○ mm	g	
500.1340	3.5	540.0	122,0 - 300,0	2005	

Circlip pliers for external circlips with 0° + 90° tips

- For external security rings
- Interchangeable tips
- For circlips according to DIN 472 / DIN 984
- Black powder coating
- Chrome vanadium

Application range: Trucks, land and construction machines, municipally and forestery technology, etc.



	D mm	L mm	mm	g	
500.1345	3.5	540.0	122,0 - 300,0	2015	

Spare parts:

		D mm	L mm	g	
500.1341	Replacement tips straight	3.5	65.0	90	
500.1342	Replacement tips 90°	3.5	74.0	125	

WHEEL HUB PULLERS

Universal wheel hub extractor set

- For bolt circle diameter up to 250 mm
- Clamp foot hole for bolts 14 mm, 18 mm + 22 mm
- Special steel

			kg	
670.0015	7 pcs	Universal wheel hub extractor set	4.60	

consists of:

		g	
610.2701	Spindle, 27mm, G3/4"x14Gx180mm	1000	
670.0017	Traverse bar for weehl hub extractor set	820	
670.0018	Puller leg +reception ring Ø14mm + Ø18mm	540	

Accessories:

		g	
670.0019	Reception ring Ø 14mm	22	
670.0020	Reception ring Ø 18mm	16	

Universal wheel hub extractor set and drive shaft ejector

- Ideal for transporter and commercial vehicle
- Variable use for bolt circle diameter up to 300 mm
- Universal use for bolts up to max. Ø 22 mm
- Impact spindle includes impact wrench
- Optionally upgradeable with hydraulic spindle or slide hammer
- Special steel

			kg	
450.0035	6 pcs	Universal wheel hub extractor set and drive shaft ejector	7.91	

consists of:

		g	
450.0037	Puller arm set, 3 pcs, 200mm	2727	
450.0036	Disc traverse, Ø 150mm	1740	
450.0038	Impact spindle, 340mm	838	

Universal slide hammer

- Extra heavy and solid execution
- For universal use for automobiles + trucks
- Enormous impact delivery of up to 11 tonnes
- With 6 kg impact weight
- Includes 3 kg additional weight
- With M 20 x 1.5 mm connection thread
- Additional weights can be screwed together
- Special steel

	L mm	kg	
700.1415	850.0	12.00	

Accessories:

		g	
700.1421	Adaptor ET UN 1.1/2" x IT M20 x 1.5	720	
700.1428	Adaptor ET UN 1.1/2" x IT M16 x 2.0	720	
700.1430	Adaptor ET UN 1.1/2" x IT M16 x 1,5	720	

Brake disc puller set for Ford Transit

- For damage free removal of the brake disc
- No damages to wheel bearing and ABS sensor
- Quick attachment - large working freedom
- Optimum release force thanks to axially guided impact
- Extra heavy and solid execution
- Enormous impact delivery of up to 11 t
- With 6 kg impact weight
- Includes 3 kg additional weight
- With M 20 x 1.5 mm connection thread
- Weights variably attachable and removable
- Special steel

Application range:
Ford Transit 2000.5 (01/200 - 05/2006)
Ford Transit 2006.5 (04/2006 -)
except vehicles with reinforced front axle (payload over 1850 kg)

	Bolt Ø mm	L mm	mm	kg	
700.1470	M10	1000.0	AG M20x1,5	14.50	

consists of:

		kg	
700.1415	Universal slide hammer 6+3kg, 850mm	12.00	
700.1471	Brake disc puller flange Ford Transit	2.00	
700.1472	Adaptor for slide hammer f.700.1471	0.50	

Universal wheel bearing puller for cars, vans + commercial vehicles

- Special tool for expressing the joint hubs or drawing-off of the wheel hub
- Easy installation and easy handling
- Shoulder screws with colour coding
- Special steel
- In durable plastic storage case

Application range:
For working on brake drums, wheel hubs, wheel bearings, HBU, hub unit bearings, drive flanges etc.
Working range Rim diameter Ø min 112 mm / max 205 mm

For removing the hubs with universal slide hammer KS 700.1415
Removing drive shaft with Vibro Power spindle (included in set) and/or with hydraulic spindle KS 700.1400-1 or 615.0001 (optional)

Suitable for
Passenger cars / LCV wheel hubs with 5 + 6er divisions and wheel screws with thread M14x1.5 + M12x1.5
e.g.: VW cars/ T4,T5 / LT, MB cars/ Sprinter, BMW etc.
wheel screws with thread M14x1.5 + M12x1.5
e.g.: FORD Transit, RENAULT Master, OPEL Movano etc.

			kg	
700.1480	28 pcs	Universal wheel bearing puller for cars, vans + commercial vehicles	12.30	

consists of:

		g	
700.1481	Universal wheel hub flange with interior threads UN1.1/2	6450	
700.1482	Puller screws with coil + cleaning nut M12x1.5, 5 pcs	550	
700.1483	Puller screws with coil + cleaning nut M14x1.5, 5 pcs	700	
700.1484	Spacer sleeve for wheel screws, 5 pcs	700	
700.1485	Adaptor f.wheel screws, inner thread M14 & M16x1.5, 5 pcs	950	
700.1486	Puller screws with coil + cleaning nut M14, 5 pcs	650	
700.1487	Threaded adaptor for slide hammer I: M20x1.5 A: UN1.1/2"	730	
700.1488	VIBRO IMPACT spindle TR20 with adaptor	1300	

Universal wheel hub extractor

- Variable use for bolt circle diameter up to 300 mm
- Universal use for bolts up to max. Ø 22 mm
- Impact spindle includes impact wrench
- Optionally upgradeable with hydraulic spindle or slide hammer
- Special steel

			kg	
450.0040	12 pcs	Universal wheel hub extractor	15.00	

consists of:

		g	
450.0041	Tapered thrust bolt Tr.30	1680	
450.0043	Traverse, 370 mm	8000	
450.0044	Extension and nut	800	
450.0045	Thread adaptor, M18 x 1,5	600	
450.0046	Thread adaptor, M20 x 1,5	600	
450.0055	Thread adaptor, M22 x 1,5	604	
450.0048	Locating thrust piece size1, 90 mm/65 mm, H 30 mm	1140	
450.0049	Locating thrust piece size2, 110 mm/85 mm, H 30 mm	1340	
450.0039	Thrust piece size 3, 70mm / 55mm	1000	

Universal wheel hub extractor for commercial vehicles

- Extracting the wheel hubs and/or housing over the grease cap thread
- Six sided drive enable unscrewing on the cap
- Robust execution
- Trapezoid thread spindle for high removal power drive SW 30
- Special steel

	Ø mm	mm	dim mm	kg	
450.0000	AG M115 x 1,5	Tr.30 x 260	30	3.74	
450.0001	AG M125 x 2,0	Tr.30 x 260	30	1.56	
450.0002	IG M135 x 2,0	Tr.30 x 260	30	2.19	
450.0003	IG M136 x 2,5	Tr.30 x 260	30	1.48	
450.0004	IG M155 x 3,0	Tr.30 x 260	30	0.71	

Thread chaser

- For recutting edges and cleaning of damaged outside threads
- No damage of the thread due to the soft holding guides
- Suitable for right and left handed threads
- Quick cutting jaw modification possible from the magazine
- Special steel

Replacement jaws metric: 1.0 - 1.25 - 1.5 - 1.75 - 2.0 - 2.5 - 3.0 - 3.5 mm
Replacement jaws imperial: 24 - 20 - 18 - 16 - 14 - 12 - 11,5 - 11 - 10 - 9 - 8 - 7.5 - 7 - 6 - 5 - 4 pitch/imperial

	Ø mm	Replacement jaws mm	Replacement jaws inch	kg	
150.1430	25,0 - 140,0	150.1431	150.1432	1.40	

Thread file, metric

- For the restoration of defective internal and external threads
- Suitable for right and left handed threads
- Two sided serviceable
- Special steel

Suitable for thread pitch: 0.8 - 3.0 mm

	L mm	g	
150.1340	230.0	130	

More tools for thread repair can be found in our general catalogue K11 or on our homepage: www.kstools.com

Thread file, imperial

- For the restoration of defective internal and external threads
- Suitable for right and left handed threads
- Two sided serviceable
- Special steel

Suitable for thread pitch: 24 - 10 pitch imperial

	L mm	g	
150.1345	230.0	130	

Universal car wheel bearing tool set

- For the dismantling and assembly of wheel housings and hub directly on the vehicle
- Extension of the suspension strut and axle joint is no longer required
- Correct and protective installation of the housings through the correct pressure point at the bearing outer ring
- Suited for axle tube and for axle with the housing adjoining at an alliance
- High time savings as reactive axle alignment is not necessarily required
- 300 mm gear pulling spindle
- Through enclosed bolts (M12 + M14) wheel hubs can be removed
- Pressure bearing protects against increased friction during the process
- Special steel
- In durable plastic storage case

Application range: VW, Audi, Opel, Mercedes Benz, Peugeot, Citroen, Renault, Ford, Honda, Mazda, Mitsubishi, Nissan, Toyota, Austin-Maestro, BMW

			kg	
150.2250	27 pcs	Universal car wheel bearing tool set	11.24	

consists of:

		g	
150.2092	Threaded bolt, f.150.2250, M12x1,5 3p	100	
150.2093	Threaded bolt, f.150.2250, M14x1,5 3p	120	
150.2251	Bearing plate #1 f.150.2250	525	
150.2252	Bearing plate #2 f.150.2250	458	
150.2253	Bearing plate #3 f.150.2250	432	
150.2254	Bearing plate #4 f.150.2250	386	
150.2255	Bearing plate #5 f.150.2250	358	
150.2256	Bearing plate #6 f.150.2250	340	
150.2257	Bearing plate #7 f.150.2250	304	
150.2258	Bearing plate #8 f.150.2250	344	
150.2259	Bearing plate #9 f.150.2250	304	
150.2260	Bearing plate #10 f.150.2250	282	
150.2261	Bearing plate #11 f.150.2250	247	
150.2262	Bearing plate #12 f.150.2250	200	
150.2263	Bearing plate #13 f.150.2250	217	
150.2264	Bearing plate #14 f.150.2250	203	
150.2265	Stepped plate, small f.150.2250,Ø77+68mm	608	
150.2266	Stepped plate, large f.150.2250,Ø92+81mm	879	
150.2267	Puller sleeve f.150.2250, 68mm	399	
150.2268	Puller sleeve f.150.2250, 77mm	552	
150.2269	Puller sleeve f.150.2250, 81mm	639	
150.2270	Puller sleeve f.150.2250, 92mm	707	
150.2271	Spindle sleeve f.150.2250	227	
150.2272	Thrust bolt f.150.2250	230	
150.2273	Washer f.150.2250	20	
150.2274	Spindle f.150.2250	911	
150.2275	Bearing f.150.2250	55	

Wheel bearing tool set

- Removal and installation of the compact wheel hubs / bearing unit
- Enables de -and assembly directly on the vehicle
- Minimum labour
- Safe and simple use
- Special steel
- In durable plastic storage case

Application range: VW T5 Transporter

			kg	
150.2350	13 pcs	Wheel bearing tool set	20.00	

consists of:

		kg	
150.2351	Cross member with threaded ring	2.60	
150.2352	Tie rod set, 2 pcs	1.10	
150.2353	Half cup mounting, 2 pcs	4.95	
150.2354	Half cup set, 2 pcs Removal	1.70	
150.2355	Half cup set, 2 pcs Installation	1.90	
150.2356	Thrust piece removal	0.55	
150.2357	Thrust piece installation	0.95	
150.2358	Trapezoidal threaded spindle with 2x thrust beating and nut	1.25	
980.1085	Special thread grease	0.02	

Separator set inclusive with yoke ø 30,0 - 220,0 mm

- For the removal of secure bearings and bushes
- Extremely robust spindle with inductively hardened thread
- Hydraulic thrust spindle available
- Special steel

			kg	
605.0005	3 pcs	Separator set inclusive with yoke ø 30,0 - 220,0 mm	29.00	

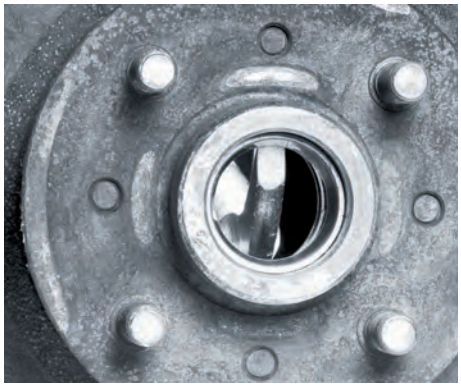
consists of:

		kg	
605.0505	Bearing separator, 30-220mm	12.00	
605.0115	Yoke for bearing separator tool, 100-360mm	8.80	
605.0405	Extension for pull rod, 100mm	0.70	

Bearing ring lever

- For removing tight fitting bearing housings
- Ideally suited for the external rings of the split cone roll bearings
- Conventional tools are no longer required
- Rimed handle for better control
- Universal applications
- Special steel

		L mm	kg	
450.0030	◯	300.0	1.13	
450.0031	⬡	500.0	1.89	



Bearing assembly and deassembly tool set

- Can be used manually with a hammer or workshop press
- Optimal placing through the pressure plates
- For easy and damage free assembly
- For the correct dismantling and assembly of bearings
- Suitable for commercial, agricultural engineering and construction machines
- Forged, robust execution
- Special steel
- In durable plastic storage case

			kg	
450.0080	5 pcs	Bearing assembly and deassembly tool set	6.45	

consists of:

		kg	
450.0082	Pressure plates (use with press)	0.51	
450.0083	Impact plates long (use with a hammer)	1.91	
450.0084	Special 6 point socket for mandral shaft	0.34	
450.0088	Universal 3 jaw thrust piece	0.20	
450.0087	Locking bolt for jaw spreading	2.07	

Universal bearing and bush driver set

- Universal applicable range
- Can be used manually with a hammer or workshop press
- Applications from 18.0 - 65.0 mm
- Pressure plates are for the two driving spindles
- Special steel
- In durable plastic storage case

			kg	
700.1350	51 pcs	Universal bearing and bush driver set	8.00	

consists of:

		g	
700.1348	Reception adaptor, 45mm	500	
700.1349	Impact drive knurled grip, 220mm	42	
700.1351	Pressure plate, 18mm	12	
700.1352	Pressure plate, 19mm	14	
700.1353	Pressure plate, 20mm	16	
700.1354	Pressure plate, 21mm	20	
700.1355	Pressure plate, 22mm	22	
700.1356	Pressure plate, 23mm	27	
700.1357	Pressure plate, 24mm	30	
700.1358	Pressure plate, 25mm	34	
700.1359	Pressure plate, 26mm	38	
700.1360	Pressure plate, 27mm	43	
700.1361	Pressure plate, 28mm	47	
700.1362	Pressure plate, 29mm	50	
700.1363	Pressure plate, 30mm	53	
700.1364	Pressure plate, 31mm	59	
700.1365	Pressure plate, 32mm	65	
700.1366	Pressure plate, 33mm	68	
700.1367	Pressure plate, 34mm	72	
700.1368	Pressure plate, 35mm	77	
700.1369	Pressure plate, 36mm	82	
700.1370	Pressure plate, 37mm	89	
700.1371	Pressure plate, 38mm	94	
700.1372	Pressure plate, 39mm	97	
700.1373	Pressure plate, 40mm	105	
700.1374	Pressure plate, 41mm	111	
700.1375	Pressure plate, 42mm	119	
700.1376	Pressure plate, 43mm	125	
700.1377	Pressure plate, 44mm	132	
700.1378	Pressure plate, 45mm	138	
700.1379	Pressure plate, 46mm	144	
700.1380	Pressure plate, 47mm	153	
700.1381	Pressure plate, 48mm	159	
700.1382	Pressure plate, 49mm	165	
700.1383	Pressure plate, 50mm	172	
700.1384	Pressure plate, 51mm	181	
700.1385	Pressure plate, 52mm	188	
700.1386	Pressure plate, 53mm	196	
700.1387	Pressure plate, 54mm	205	
700.1388	Pressure plate, 55mm	213	
700.1389	Pressure plate, 56mm	221	
700.1390	Pressure plate, 57mm	231	
700.1391	Pressure plate, 58mm	238	
700.1392	Pressure plate, 59mm	247	
700.1393	Pressure plate, 60mm	258	
700.1394	Pressure plate, 61mm	266	
700.1395	Pressure plate, 62mm	276	
700.1396	Pressure plate, 63mm	284	
700.1397	Pressure plate, 64mm	294	
700.1398	Pressure plate, 65mm	305	
700.1399	Support plate, 75mm	500	

PRESS AND PULL SLEEVE SET

Press and pull sleeve set

- For the disassembly and assembly of bearings
- Ideally for silent bearings, hydro bearings, bushings, ball bearing, simmerrings, etc
- Universal use for automobile, truck, municipally, country and forestery technology, etc.
- Outstanding to use also in connection with workshop press or hollow piston cylinder
- According to use application the sheaths individually can be reworked
- Pressure bearing protects against increased friction during the process
- In durable plastic storage case

			kg	
700.1700	36 pcs	Press and pull sleeve set	14.80	

consists of:

		g	
700.1701	Thrust bolt, M10 with bearing	120	
700.1702	Thrust bolt,M12	120	
700.1703	Thrust bolt, M14 with bearing	130	
700.1704	Thrust bolt,M16	130	
700.1706	Stepped plates,#1	350	
700.1707	Stepped plates,#2	390	
700.1708	Stepped plates,#3	420	
700.1709	Stepped plates,#4	450	
700.1710	Spindle, M10	170	
700.1711	Spindles,M12	250	
700.1712	Spindle, M14	350	
700.1713	Spindles,M16	470	
700.1714	Pull sleeve,internal Ø 34mm,external Ø 44mm	250	
700.1715	Pressure sleeve,int.Ø 36 mm,ext.Ø 46 mm	260	
700.1716	Pressure sleeve,int.Ø 38 mm,ext.Ø 48 mm	280	
700.1717	Pressure sleeve,int.Ø 40 mm,ext.Ø 50 mm	290	
700.1718	Pull sleeve,internal Ø 42mm,external Ø 52mm	300	
700.1719	Pull sleeve,internal Ø 44mm,external Ø 54mm	320	
700.1720	Pull sleeve,internal Ø 46mm,external Ø 56mm	330	
700.1721	Pressure sleeve,int.Ø 48 mm,ext.Ø 58 mm	340	
700.1722	Pressure sleeve,int.Ø 50 mm,ext.Ø 60 mm	350	
700.1723	Pull sleeve,internal Ø 52mm,external Ø 62mm	370	
700.1724	Pressure sleeve,int.Ø 54 mm,ext.Ø 64 mm	380	
700.1725	Pressure sleeve,int.Ø 56 mm,ext.Ø 66 mm	390	
700.1726	Pressure sleeve,int.Ø 58 mm,ext.Ø 68 mm	410	
700.1727	Pressure sleeve,int.Ø 60 mm,ext.Ø 70 mm	420	
700.1728	Pressure sleeve,int.Ø 62 mm,ext.Ø 72 mm	430	
700.1729	Pull sleeve,internal Ø 64mm,external Ø 74mm	440	
700.1730	Pressure sleeve,int.Ø 66 mm,ext.Ø 76 mm	460	
700.1731	Pressure sleeve,int.Ø 68 mm,ext.Ø 78 mm	470	
700.1732	Pull sleeve,internal Ø 70mm,external Ø 80mm	480	
700.1733	Pull sleeve,internal Ø 72mm,external Ø 82mm	490	

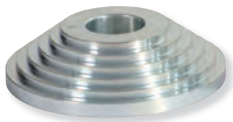
Spare parts for press and pull sleeve set

700.1701 - 700.1704

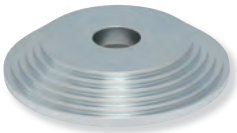
700.1800-19 - 700.1800-20

700.1800-10 - 700.1800-12

700.1706 - 700.1709



700.1800-13 - 700.1800-16



700.1800-9

700.1710 - 700.1713

700.1800-17 - 700.1800-18

700.1714 - 700.1732

980.1085 - 980.1090

item	description	700.1700 36 pcs	700.1760 20 pcs	700.1800 21 pcs, HGV Step 1	700.1805 14 pcs, HGV Step 2	700.1735 Spindle set, 12 pcs	700.1810 45 pcs, HGV-Master
	Thrust bolts						
700.1701	Thrust bolts M10, 2 pcs	1x				1x	1x
700.1702	Thrust bolts M12, 2 pcs	1x	1x			1x	1x
700.1703	Thrust bolts M14, 2 pcs	1x				1x	1x
700.1704	Thrust bolts M16, 2 pcs	1x	1x			1x	
700.1800-19	Thrust bolts TR20			2x			2x
700.1800-20	Thrust bolts big M16				2x		2x
700.1800-10	Check nut M10			1x			1x
700.1800-11	Check nut M12			1x			1x
700.1800-12	Check nut M14			1x			1x
	Step discs						
700.1706	Step discs, car1	1x	1x				
700.1707	Step discs, car2	1x	1x				
700.1708	Step discs, car3	1x	1x				
700.1709	Step discs, car4	1x	1x				
700.1800-13	Step discs, HGV1			1x			1x
700.1800-14	Step discs, HGV2			1x			1x
700.1800-15	Step discs, HGV3			1x			1x
700.1800-16	Step discs, HGV4			1x			1x
	Impact adaptor						
700.1800-9	Impact adaptor for step discs HGV			2x			2x
	Spindles						
700.1710	Spindle, M10	1x				1x	1x
700.1711	Spindle, M12	1x	1x			1x	1x
700.1712	Spindle, M14	1x				1x	1x
700.1713	Spindle, M16	1x	1x			1x	1x
700.1800-17	Spindle TR20, short with adaptor thread M10 / M12 / M14			1x			1x
700.1800-18	Spindle TR20, long with adaptor thread M10 / M12 / M14			1x			1x
	Pull sleeve						
700.1714	Pull sleeve, internal Ø 34 mm, external Ø 44 mm	1x	1x				
700.1715	Pull sleeve, internal Ø 36 mm, external Ø 46 mm	1x					
700.1716	Pull sleeve, internal Ø 38 mm, external Ø 48 mm	1x					
700.1717	Pull sleeve, internal Ø 40 mm, external Ø 50 mm	1x					
700.1718	Pull sleeve, internal Ø 42 mm, external Ø 52 mm	1x	1x				
700.1719	Pull sleeve, internal Ø 44 mm, external Ø 54 mm	1x	1x				
700.1720	Pull sleeve, internal Ø 46 mm, external Ø 56 mm	1x	1x				
700.1721	Pull sleeve, internal Ø 48 mm, external Ø 58 mm	1x					
700.1722	Pull sleeve, internal Ø 50 mm, external Ø 60 mm	1x					
700.1723	Pull sleeve, internal Ø 52 mm, external Ø 62 mm	1x	1x				
700.1724	Pull sleeve, internal Ø 54 mm, external Ø 64 mm	1x					
700.1725	Pull sleeve, internal Ø 56 mm, external Ø 66 mm	1x					
700.1726	Pull sleeve, internal Ø 58 mm, external Ø 68 mm	1x					
700.1727	Pull sleeve, internal Ø 60 mm, external Ø 70 mm	1x					
700.1728	Pull sleeve, internal Ø 62 mm, external Ø 72 mm	1x					
700.1729	Pull sleeve, internal Ø 64 mm, external Ø 74 mm	1x	1x				
700.1730	Pull sleeve, internal Ø 66 mm, external Ø 76 mm	1x					
700.1731	Pull sleeve, internal Ø 68 mm, external Ø 78 mm	1x					
700.1732	Pull sleeve, internal Ø 70 mm, external Ø 80 mm	1x	1x				
700.1733	Pull sleeve, internal Ø 72 mm, external Ø 82 mm	1x	1x				
700.1800-1	Pull sleeve, internal Ø 74 mm, external Ø 84 mm			1x			1x
700.1800-2	Pull sleeve, internal Ø 76 mm, external Ø 86 mm			1x			1x
700.1800-3	Pull sleeve, internal Ø 78 mm, external Ø 88 mm			1x			1x
700.1800-4	Pull sleeve, internal Ø 80 mm, external Ø 90 mm			1x			1x
700.1800-5	Pull sleeve, internal Ø 82 mm, external Ø 92 mm			1x			1x
700.1800-6	Pull sleeve, internal Ø 84 mm, external Ø 94 mm			1x			1x
700.1800-7	Pull sleeve, internal Ø 86 mm, external Ø 96 mm			1x			1x
700.1800-8	Pull sleeve, internal Ø 88 mm, external Ø 98 mm			1x			1x
700-1800-21	Pull sleeve, internal Ø 90 mm, external Ø 100 mm				1x		1x
700.1800-22	Pull sleeve, internal Ø 92 mm, external Ø 102 mm				1x		1x
700.1800-23	Pull sleeve, internal Ø 94 mm, external Ø 104 mm				1x		1x
700.1800-24	Pull sleeve, internal Ø 96 mm, external Ø 106 mm				1x		1x
700.1800-25	Pull sleeve, internal Ø 98 mm, external Ø 108 mm				1x		1x
700.1800-26	Pull sleeve, internal Ø 100 mm, external Ø 110 mm				1x		1x
700.1800-27	Pull sleeve, internal Ø 102 mm, external Ø 112 mm				1x		1x
700.1800-28	Pull sleeve, internal Ø 104 mm, external Ø 114 mm				1x		1x
700.1800-29	Pull sleeve, internal Ø 106 mm, external Ø 116 mm				1x		1x
700.1800-30	Pull sleeve, internal Ø 108 mm, external Ø 118 mm				1x		1x
700.1800-31	Pull sleeve, internal Ø 110 mm, external Ø 120 mm				1x		1x
700.1800-32	Pull sleeve, internal Ø 112 mm, external Ø 122 mm				1x		1x
	Thread grease						
980.1085	Special thread grease 10g			1x		1x	1x
980.1090	Special thread grease 5g		2x				

Press and pull sleeve modular system

700.1700 Car set, 36 pcs

Application: Car to transporter (complete set)

Working range: 34 mm ID to 82 mm OD (16 sleeves)

700.1760 Basic set, 20 pcs

Application: Car to transport (parts from 700.1700)

Working range: 34 mm ID to 82 mm OD (8 sleeves)

700.1810 HGV Master, 45 pcs

Application: Transporter to HGV (complete set)

Working range: 74 mm ID to 122 mm OD (8 sleeves)

System preconditions: none

700.1800 HGV Level 1, 21 pcs

(optimum addition to 700.1700)

Application: Transporter to HGV (parts from 700.1810)

Working range: 74 mm ID to 98 mm OD (8 sleeves)

System preconditions: 700.1700 or 700.1735

700.1735 Spindle set, 12 pcs

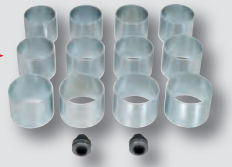
Application: Car to HGV (parts from 700.1700+700.1810)

Working range: M10 - M12 - M14 - M16 (4x spindle + 2x thrust nut each)

System preconditions: Universally applicable

700.1805 HGV Level 2, 14 pcs

(optimum addition to 700.1800)



Application: Transporter to HGV (parts from 700.1810)

Working range: 90 mm ID to 122 mm OD (12 sleeves)

System preconditions: 700.1800 + 700.1735

Wide range of applications in conjunction with:

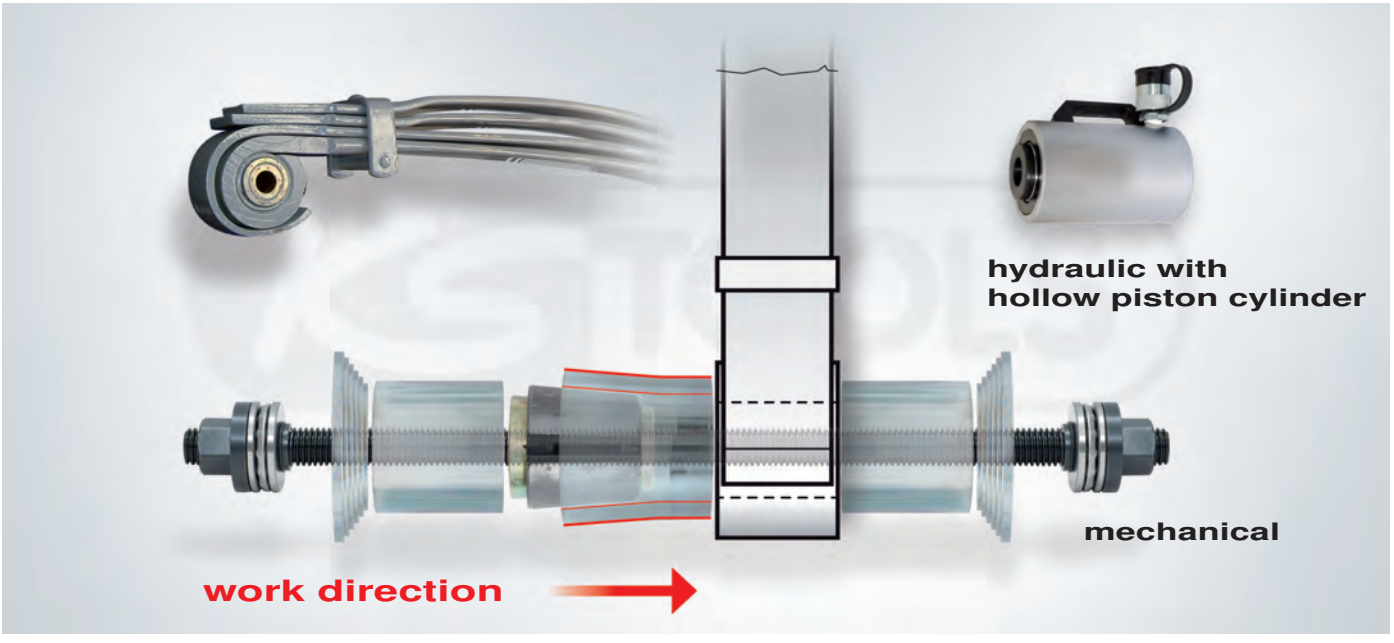
Mechanical directly at the vehicle

Press frame 700.1750

C bracket 700.1755

Hydraulic unit (hollow piston cylinder) (e.g.: KS 700.1790)

Workshop hydraulic press



Press and pull sleeve set BASIC

- For the disassembly and assembly of bearings
- Ideally for silent bearings, hydro bearings, bushings, ball bearing, simmerrings, etc
- Universal use for automobile, truck, municipally, country and forestery technology, etc.
- Outstanding to use also in connection with workshop press or hollow piston cylinder
- According to use application the sheaths individually can be reworked
- Pressure bearing protects against increased friction during the process
- In durable plastic storage case

			kg	
700.1760	20 pcs	Press and pull sleeve set BASIC	8.32	

consists of:

		g	
700.1702	Thrust bolt,M12	120	
700.1704	Thrust bolt,M16	130	
700.1706	Stepped plates,#1	350	
700.1707	Stepped plates,#2	390	
700.1708	Stepped plates,#3	420	
700.1709	Stepped plates,#4	450	
700.1711	Spindles,M12	250	
700.1713	Spindles,M16	470	
700.1714	Pull sleeve,internal Ø 34mm,external Ø 44mm	250	
700.1718	Pull sleeve,internal Ø 42mm,external Ø 52mm	300	
700.1719	Pull sleeve,internal Ø 44mm,external Ø 54mm	320	
700.1720	Pull sleeve,internal Ø 46mm,external Ø 56mm	330	
700.1723	Pull sleeve,internal Ø 52mm,external Ø 62mm	370	
700.1729	Pull sleeve,internal Ø 64mm,external Ø 74mm	440	
700.1732	Pull sleeve,internal Ø 70mm,external Ø 80mm	480	
700.1733	Pull sleeve,internal Ø 72mm,external Ø 82mm	490	

HGV Master press and pull sleeve set

- For the disassembly and assembly of bearings
- Ideally for silent bearings, hydro bearings, bushings, ball bearing, simmerrings, etc
- Universal use for construction machines, truck, municipally, country and forestery technology, etc.
- Outstanding to use also in connection with workshop press or hollow piston cylinder
- According to use application the sheaths individually can be reworked
- Pressure bearing protects against increased friction during the process
- In durable plastic storage case

			kg	
700.1810	46 pcs	HGV Master press and pull sleeve set	31.20	

consists of:

		g	
700.1701	Thrust bolt, M10 with bearing	120	
700.1702	Thrust bolt,M12	120	
700.1703	Thrust bolt, M14 with bearing	130	
700.1710	Spindle, M10	170	
700.1711	Spindles,M12	250	
700.1712	Spindle, M14	350	
700.1713	Spindles,M16	470	
700.1800-01	Pull sleeve internal Ø:74mm, external Ø:84mm	240	
700.1800-02	Pull sleeve internal Ø:76mm, external Ø:86mm	240	
700.1800-03	Pull sleeve internal Ø:78mm, external Ø:88mm	240	
700.1800-04	Pull sleeve internal Ø:80mm, external Ø:90mm	240	
700.1800-05	Pull sleeve internal Ø:82mm, external Ø:92mm	240	
700.1800-06	Pull sleeve internal Ø:84mm, external Ø:94mm	240	
700.1800-07	Pull sleeve internal Ø:86mm, external Ø:96mm	240	
700.1800-08	Pull sleeve internal Ø:88mm, external Ø:98mm	240	
700.1800-09	Impact adaptor for step discs 2 pcs	350	
700.1800-10	Check nut M 10	350	
700.1800-11	Check nut M 12	350	
700.1800-12	Check nut M 14	350	
700.1800-13	Stepped plate no 1	350	
700.1800-14	Stepped plate no 2	350	
700.1800-15	Stepped plate no 3	350	
700.1800-16	Stepped plate no 4	350	
700.1800-17	Spindle TR 20, short	350	
700.1800-18	Spindle TR 20, long	350	
700.1800-19	Thrust bolt TR 20 with bearing 2 pcs	350	
700.1800-20	Thrust bolt big, M16 with bearing	5	
700.1800-21	Pull sleeve L.90 x A.100mm	5	
700.1800-22	Pull sleeve L.92 x A.102mm	5	
700.1800-23	Pull sleeve L.94 x A.104mm	5	
700.1800-24	Pull sleeve L.96 x A.106mm	5	
700.1800-25	Pull sleeve L.98 x A.108mm	5	
700.1800-26	Pull sleeve L.100 x A.110mm	5	
700.1800-27	Pull sleeve L.102 x A.112mm	5	
700.1800-28	Pull sleeve L.104 x A.114mm	5	
700.1800-29	Pull sleeve L.106 x A.116mm	5	
700.1800-30	Pull sleeve L.108 x A.118mm	5	
700.1800-31	Pull sleeve L.110 x A.120mm	5	
700.1800-32	Pull sleeve L.112 x A.122mm	5	

Press and pull sleeve kit

- For the disassembly and assembly of bearings
- Ideally for silent bearings, hydro bearings, bushings, ball bearing, simmerrings, etc
- Universal use for construction machines, truck, municipally, country and forestery technology, etc.
- Outstanding to use also in connection with workshop press or hollow piston cylinder
- According to use application the sheaths individually can be reworked
- Pressure bearing protects against increased friction during the process
- In durable plastic storage case
- Supplement set for 700.1700 / 700.1735

			kg	
700.1800	22 pcs	Press and pull sleeve kit	16.60	

consists of:

		g	
700.1800-01	Pull sleeve internal Ø:74mm, external Ø:84mm	240	
700.1800-02	Pull sleeve internal Ø:76mm, external Ø:86mm	240	
700.1800-03	Pull sleeve internal Ø:78mm, external Ø:88mm	240	
700.1800-04	Pull sleeve internal Ø:80mm, external Ø:90mm	240	
700.1800-05	Pull sleeve internal Ø:82mm, external Ø:92mm	240	
700.1800-06	Pull sleeve internal Ø:84mm, external Ø:94mm	240	
700.1800-07	Pull sleeve internal Ø:86mm, external Ø:96mm	240	
700.1800-08	Pull sleeve internal Ø:88mm, external Ø:98mm	240	
700.1800-09	Impact adaptor for step discs 2 pcs	350	
700.1800-10	Check nut M 10	350	
700.1800-11	Check nut M 12	350	
700.1800-12	Check nut M 14	350	
700.1800-13	Stepped plate no 1	350	
700.1800-14	Stepped plate no 2	350	
700.1800-15	Stepped plate no 3	350	
700.1800-16	Stepped plate no 4	350	
700.1800-17	Spindle TR 20, short	350	
700.1800-18	Spindle TR 20, long	350	
700.1800-19	Thrust bolt TR 20 with bearing 2 pcs	350	
980.1085	Special thread grease	22	

Press and pull sleeve supplement set, HGV step 2

- For the disassembly and assembly of bearings
- Ideally for silent bearings, hydro bearings, bushings, ball bearing, simmerrings, etc
- Universal use for construction machines, truck, municipally, country and forestery technology, etc.
- Outstanding to use also in connection with workshop press or hollow piston cylinder
- According to use application the sheaths individually can be reworked
- Pressure bearing protects against increased friction during the process
- In durable plastic storage case
- Supplement set for 700.1700 + 700.1800 / 700.1735 + 700.1800

			kg	
700.1805	14 pcs	Press and pull sleeve supplement set, HGV step 2	16.40	

consists of:

		g	
700.1800-20	Thrust bolt big, M16 with bearing	5	
700.1800-21	Pull sleeve L.90 x A.100mm	5	
700.1800-22	Pull sleeve L.92 x A.102mm	5	
700.1800-23	Pull sleeve L.94 x A.104mm	5	
700.1800-24	Pull sleeve L.96 x A.106mm	5	
700.1800-25	Pull sleeve L.98 x A.108mm	5	
700.1800-26	Pull sleeve L.100 x A.110mm	5	
700.1800-27	Pull sleeve L.102 x A.112mm	5	
700.1800-28	Pull sleeve L.104 x A.114mm	5	
700.1800-29	Pull sleeve L.106 x A.116mm	5	
700.1800-30	Pull sleeve L.108 x A.118mm	5	
700.1800-31	Pull sleeve L.110 x A.120mm	5	
700.1800-32	Pull sleeve L.112 x A.122mm	5	

Spindle set for press and pull sleeve set

- With 4 spindles for KS press and pull sleeve set
- Thread pitch: 1,5
- Pressure bearing protects against increased friction during the process
- Incl. special thread grease
- Chrome molybdenum

			kg	
700.1735	13 pcs	Spindle set for press and pull sleeve set	2.20	

consists of:

		g	
700.1710	Spindle, M10	170	
700.1711	Spindles,M12	250	
700.1712	Spindle, M14	350	
700.1713	Spindles,M16	470	
700.1701	Thrust bolt, M10 with bearing	120	
700.1702	Thrust bolt,M12	120	
700.1703	Thrust bolt, M14 with bearing	130	
700.1704	Thrust bolt,M16	130	
980.1085	Special thread grease	22	

Special thread grease for puller and pusher spindles and nuts subjected high loads

- Lubricant for components subjected to high static loads, e.g. threaded spindles
- Prevents excessive wear and seizing
- Irregularities in the surface to be protected are completely filled
- Minimises the friction thanks to the closed surface
- Effective protection against corrosion
- Increases the service life of threaded spindles
- Ensures reliable function even at high temperatures up to max. 1200 °C

		g	
980.1085	Special thread grease	22	

Special thread grease for puller and pusher spindles

- Lubricant for components subjected to high static loads, e.g. threaded spindles
- Prevents excessive wear and seizing
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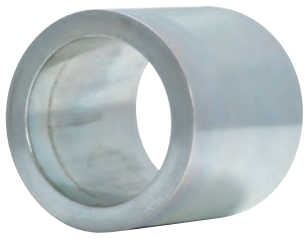
- Minimises the friction thanks to the closed surface
- Effective protection against corrosion
- Increases the service life of threaded spindles
- Ensures reliable function even at high temperatures up to max. 1200 °C

		g	
980.1090	Special thread grease	5	

Assembly sleeves for slotted silent bearings on commercial vehicles

- Allows the pretensioning of slotted silent bearings on commercial vehicles
- Adaptor for original dimension to intake bore size with conical sleeve
- Universal solution
- For use with hydraulic and / or mechanical press tools
- Press the sleeve directly on the intake of the vehicle is possible
- Contains a selection of the most common diameters
- Polished inside wall for optimum sliding
- Robust execution
- Low dimension

Application: Leaf spring, stabiliser, cab suspension etc.
Caution: This tool must be combined with parts of other sets (e.g. press and pull sleeve set)
Recommended mounting paste: e.g. MOLYKOTE G-Rapid Plus



	Size mm	Suitable for	L mm	kg	
700.1821	58 ➡ 55	e.g.Gi-metal bush Iveco Eurostar Stabi/leaf spring	85.0	1.60	
700.1823	63 ➡ 60	e.g.Gi-metal bush Iveco Eurostar Stabi/leaf spring	85.0	1.60	
700.1825	68 ➡ 63	e.g.DB stabilisator Actros, Atego	85.0	1.60	
700.1827	72 ➡ 68	e.g.MAN front rear	85.0	1.60	
700.1829	74 ➡ 70	e.g.bearing + studs, DB Actros Classic	85.0	1.60	
700.1831	89 ➡ 84	e.g.bearing + studs, DB Stabilisator Actros	85.0	1.60	

Universally press frame with hydraulic spindle

- For the use in connection with the pressure and pull sleeve set 700.1700 for pressing out and pressing on of silent bearings, hydro bearings, bushings, etc.
- Enables de- and assembly directly on the vehicle
- Through the long trailing arm also especially high housings release themselves without problem on and pressing out
- Extremely robust spindle with inductively hardened thread
- Special steel

			kg	
700.1750	6 pcs	Universally press frame with hydraulic spindle	9.80	

consists of:

		kg	
700.1400-1	Hydraulic spindle with centering point - Ag 1.1/2" x 16 G	0.21	
700.1751	Universally-press frame-set, 5 pcs without hydraulic spindle	8.90	

C-clamp and adaptor set

- Very robust execution
- Valuable supplement to the pressure set and hub sheath set 700.1700
- The drive can be used alternatively mechanically or hydraulically
- Suitable for impact wrenches
- Through use of trapezoid spindle and Impact screw maximum power can be tranferred (Hammer impact effect)
- Removeable spindle and clamping device with staged reception plate
- Silent bearings, sheaths, bushings etc. lets it incorporated itself in that or expanded condition on and compressed
- Trapezoid thread spindle Tr.27 with ball stored pressure tip
- Special steel

		L mm	Depth mm	kg
700.1755	5 pcs	309.0	95.0	9.00

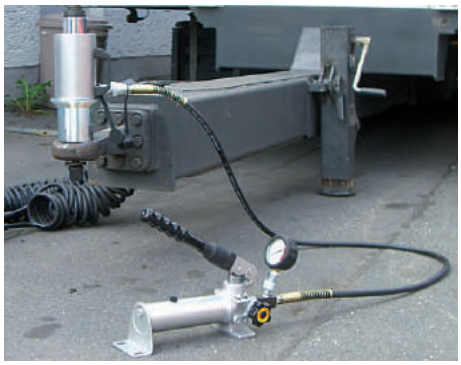
Hydraulic hollow piston spindle

- Simply working with spring withdrawal
- Nickel plated centre tube
- With low effort maximal pressure
- Special steel

Technical data:

Capacity:	20 t
Connection thread:	3/8“ NPT IG
Piston:	Industrial forged execution
Stroke:	52 mm
Bore Ø:	26 mm
Cylinder height:	164 mm

	L mm	D1 mm	D2 mm	kg
700.1791	155.0	55.0	100.0	7.30



Hydraulic hand pump

- For the dismantling and assembly of silent support, steering pin, track rod ends, wheel bearings, etc.
- Extremely high and uniform power construction
- Suitable for both pressure and train uses
- Ideally suited for commercial vehicles
- Supplied without without manometer and hydraulic tube
- Special steel

Technical data:

Connection thread:	3/8“ NPT IG
Hand pump:	700 bar high pressure pump
Length:	410 x 150 x 135 mm

		kg
700.1792	Hydraulic hand pump	5.50

Hydraulics tube, 2 m including connection

- Ideally suited for commercial vehicles

Technical data:

Connection thread:	3/8“ NPT AG x 3/8“ NPT AG
Length:	2000 mm

		kg
700.1793	Hydraulics tube, 2 m including connection	1.10

Feed shaft for hydraulic

- Including nuts and spherical washer

		kg
700.1796	Feed shaft for hydraulic	1.50

Hydraulic tension and pressure unit

- For the dismantling and assembly of silent support, steering pin, track rod ends, wheel bearings, etc.
- Extremely high and uniform power construction
- Industrial execution with forged piston
- Suitable for both pressure and train uses
- Ideally suited for commercial vehicles
- Special steel
- In durable plastic storage case

			kg
700.1790	4 pcs	Hydraulic tension and pressure unit	15.40

consists of:

		kg
700.1791	Hydraulic hollow piston cylinder, 20 t	7.30
700.1792	Hydraulic hand pump, 700 bar	5.50
700.1793	Hydraulic hose, 2 m	1.10
700.1796	Feed shaft for hydraulic M20 x 500 mm	1.50

STEERING

HGV and LCV suspension adjustment system

- Universal application, independently of hole spacing and number of bolts
- For repair work on steering and suspension components
- Restoring of the original wheel adjustment parameters such as toe-in and track width after a repair
- when replacing suspension parts, e.g.: Track rod end (ball joint)
- Independent of mains power supply and measuring location
- In durable plastic storage case

Application range: Use of transporters, trucks, buses, trailers and semi-trailers

			kg
150.1810	21 pcs	HGV and LCV suspension adjustment system	2.82

consists of:

		g
150.1811	Universal scissors holder, pack of 2	59
150.1812	Laser unit incl. batteries, pack of 2	190
150.1813	Nut with reducing collar M18, pack of 2	160
150.1814	Nut with reducing collar M20, pack of 2	135
150.1815	Roll Fixpoint labels, 300 labels	52
150.1816	Washer with reducing collar M14, pack of 2	50
150.1817	Washer with reducing collar M16, pack of 2	46

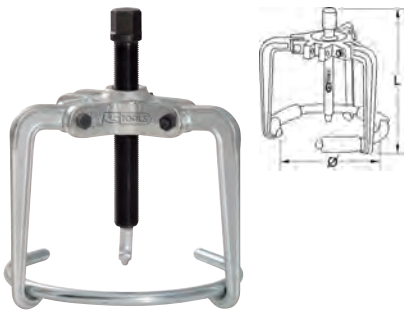
Steering readout scale

- For fast and accurate alignment of the steering wheel during the wheel alignment
- For optimal use in the assembly and disassembly of steering wheels
- Large clamping range
- Ideally suitable for passenger cars, vans and trucks
- Aluminium

	Operation range mm	L mm	g
515.3183	270-350	370.0	205

Universal steering wheel puller 3 arm

- For steering wheels with three or four spokes
- Tie rings with rubber sleeve for protection on the steering wheel
- Special steel



	Ø mm	L mm	max t	mm	dim mm	kg
670.0191	160	120	4	M14x1,5 x 130	17	1.90

Drive shaft socket set for spline (XZN®) screws

- For the dismantling and assembly of drive shaft screw joints
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Extra long execution
- With sandblasted insert bit
- Matt finish
- Chrome vanadium

Application range: VW, Audi, Seat, Skoda.

1/2"

			kg	
150.1740	4 pcs	M8 - M10 - M12 - M14	2.50	

consists of:

		g	
150.1720	Special drive shaft socket XZN,1/2"	580	
150.1725	Special drive shaft socket XZN,1/2"	580	
150.1730	Special drive shaft socket XZN,1/2"	580	
150.1735	Special drive shaft socket XZN,1/2"	580	

Special prop shaft impact socket set

- For loosening and tightening screws on drive shafts
- Internal square to DIN 3121 / ISO 1174 with ball reception
- Very robust execution
- Special steel
- Includes storage rail

1/2"

			kg	
150.1750	8 pcs	Special prop shaft impact socket set	4.20	

consists of:

		g	
150.1703	Special socket 12pt, 1/2", 27mm	350	
150.1704	Special socket 12pt, 1/2", 34mm	430	
150.1705	Special socket 12pt, 1/2", 30mm	450	
150.1706	Special socket 12pt, 1/2", 32mm	490	
150.1707	Special socket 12pt, 1/2", 36mm	520	
150.1708	Special bit socket hex, 1/2", 14mm	320	
150.1709	Special bit socket hex, 1/2", 17mm	340	
150.1710	Special bit socket hex, 1/2", 19mm	360	

Drive shaft special socket

- 6 point
- To operate the drive shaft center bolt
- Internal square to DIN 3120 / ISO 1174 with ball reception
- Very robust execution
- Special steel

Application range: Land Rover + Range Rover

1/2"

	mm	D mm	L mm	g	
150.1719	52,0	70.0	77.0	210	

12 point impact socket

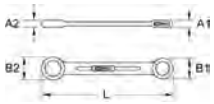
- 12 point
- Internal square drive to DIN 3121 / ISO 1174
- For machinery usage
- Phosphate finish
- Chrome molybdenum

1"

	mm	L mm	T mm	kg	
450.0404	50,0	70.0	36.0	1.02	
450.0405	55,0	75.0	40.0	1.23	
450.0407	65,0	75.0	38.0	1.34	

CHROME*plus*® double ring spanner set, extra long

- FlankTraction profile (12 point)
- Thin walled
- Mirror polished chrome
- Chrome vanadium



	mm	A1 mm	A2 mm	B1 mm	B2 mm	L mm	g	
518.0821	8x10	7.5	8.4	12.5	15.0	235.0	72	
518.0822	10x11	8.5	9.5	14.3	17.0	291.0	95	
518.0823	12x14	10.4	11.3	17.8	20.3	328.0	157	
518.0824	13x15	11.5	13.2	20.2	23.3	386.0	217	
518.0825	16x18	13.0	14.8	23.7	26.6	407.0	284	
518.0826	17x19	13.0	14.8	23.7	26.6	407.0	284	
518.0827	20x21	13.5	15.2	27.5	29.7	415.0	376	
518.0828	22x24	15.4	17.7	31.3	34.0	430.0	482	

Special socket for 8 point screws

- Special 8 point internal profile
- To the dismantling and assembly of the control switch for the differential lock
- Ideally suited also for various electric switches on the transmissions
- Chrome plated and mirror polished
- Special steel

Application range: MAN, Mercedes Benz LKW Actros, SK Baureihe, etc.

1/2"

	Profile	dim mm	Ø mm	L mm	g	
455.0100	8 point	27	34,0	57.0	200	

www.kstools.com

HOSE CLAMP & CV JOINT BOOT WORKING

Pneumatic assembly tool for CV joint boots

- Air exhaust through the handle rear end
- Suitable for all universal and original vehicle CV joint boots
- For CV joint boots diameter from 20 - 120 mm
- Expanding of the joint arms through compressed air
- Air pressure is regulated through a button
- No additional lubricant necessary
- Cold insulated handle
- Includes 1/4" coupling connector
- Ultra light robust housing from special plastic

Technical data:

Max. expansion diameter:	120 mm
Operating pressure:	max. 8 bar
Min. tube diameter:	3/8" - 10 mm
Connection thread:	1/4"PT

	B mm	L mm	kg	
515.3100	148.0	450.0	2.50	

Universal CV joint boot kit, small, crimping 23-30 mm, joint 70-105 mm

- For almost all car types
- Low storage costs and fast availability due to the versitility
- Quick and easy installation
- Exchange directly on the vehicle is possible without disassembling the prop shaft
- Can be used with mounting cones or pneumatic fitting tool 515.3100
- Neoprene joint boots with a longer life
- With a large grip area for wide clamps
- Includes stainless steel clamps and grease

Technical data:

Suitable for crimping:	23,0 - 30,0 mm
Suitable for joints	70,0 - 105,0 mm
Expansibility:	max. 600 %
Temperature constancy:	-40°C - +110°C

		g	
515.3115	Universal CV joint boot kit, small	240	

Universal CV joint boot kit, large, crimping 28-40 mm, joint 80-125 mm

- For almost all car types with larger diameter as vans
- Low storage costs and fast availability due to the versitility
- Quick and easy installation
- Exchange directly on the vehicle is possible without disassembling the prop shaft
- Can be used with mounting cones or pneumatic fitting tool 515.3100
- Neoprene joint boots with a longer life
- With a large grip area for wide clamps
- Includes stainless steel clamps and grease

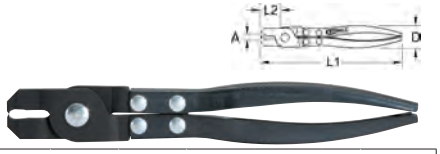
Technical data:

Suitable for crimping:	28,0 - 40,0 mm
Suitable for joints	80,0 - 125,0 mm
Expansibility:	max. 600 %
Temperature constancy:	-40 °C - +110 °C

		g
515.3120	Universal CV joint boot kit, large	360

Hose clamp pliers, ear type

- Knurled handle
- To the dismantling and assembly of "ear type" hose clamp
- For connections on axle boots, coolers and fuel hoses
- Universal usage
- Chrome molybdenum



	A mm	D mm	L1 mm	L2 mm	g
115.1039	0,0-60,0	36.0	230.0	25.0	320

Hose clamp pliers

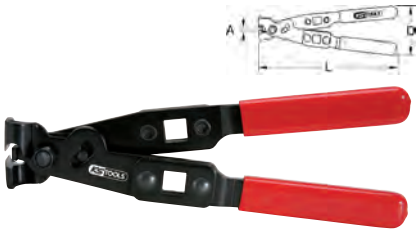
- Work side
- For compressing locking hose clips
- With PVC dipped handle
- Chrome vanadium

	L mm	g
115.1185	240.0	335

Hose clamp pliers

- With PVC dipped handle
- With 3/8" drive for use with a torque wrench
- For the fitting and clamping of ear clamps
- 1/2" 4 point recess in the handle for additional use with a torque wrench
- Chrome molybdenum

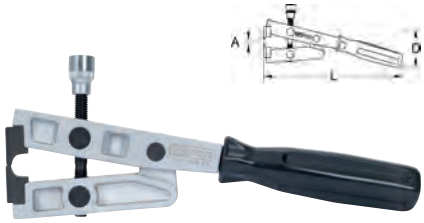
Ideally suitable for VW, Opel, Seat, GM, Ford, Nissan, Mercedes, Mazda, Honda, Chrysler, BMW and Audi.



	A mm	D mm	L mm	g
115.1053	0,0-17,0	45.0	240.0	540

Hose clamp pliers for torque wrench

- Black plastic handle
- 3/8" drive for use with a torque wrench
- Enables clamping and/or copressing of the hose clamps
- Suitable for the stainless steel hose clamps on drive shafts
- Robust cast steel construction



	A mm	D mm	L mm	g
115.1056	0,0-45,0	31.0	270.0	900

Clamping and cutting tool for tubing bands

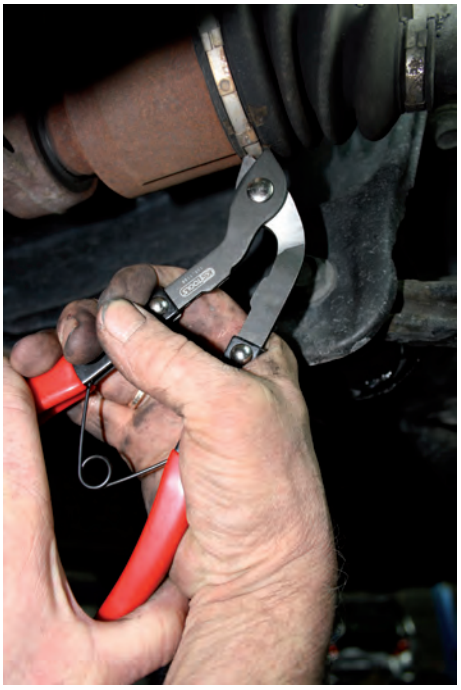
- Straps for attaching to CV joint boots
- Integrated clamping and cutting device
- Suitable for prefabricated and endless band clamps up to 9.5 mm
- Special steel

	L mm	g
115.1059	163.0	440

Hose strap cutter, angled

- To be sliced from earless hose clamps
- For connections on axle boots, coolers and fuel hoses
- Dipped covered handle
- Chrome vanadium

	L mm	g
115.1186	220.0	345



Drive shaft thread repair set

- For re-cutting and cleaning of external threads
- Hexagon drive without die holder
- 8 gang fine thread dimensions
- Colour coding for metric and imperial
- Special steel

Application range: Drive shaft thread, hub nuts etc. on cars/ transporter and HGV

			kg
150.4900	8 pcs	Drive shaft thread repair set	0.53

consists of:

		g
150.4901	Die M20 x 1.25	59
150.4902	Die M20 x 1.50	59
150.4903	Die M22 x 1.00	51
150.4904	Die M22 x 1.50	51
150.4905	Die M24 x 1.50	45
150.4906	Die M24 x 2.00	45
150.4907	Die 3/4" x 20 UNEF	51
150.4908	Die 13/16" x 20 UNEF	51

SUSPENSION- & SHOCK ABSORBER WORK

Suspension strut tool set

- For repairs and maintenance in the suspension strut area
- Applicable for all standard vehicles
- For clamping the piston rod when removing and installing the shock absorber
- For the shock absorber piston rods to suit the precise torque
- Bits hardened
- Chrome vanadium
- In durable plastic storage case

			kg	
150.9400	39 pcs	Suspension strut tool set	6.30	

consists of:

		g	
150.9401	Suspension strut entrainer socket, 10.5 mm, VW	60	
150.9402	Suspension strut entrainer socket, 12.5 mm, VW	50	
150.9403	Suspension strut entrainer socket, 14.5 mm, VAG	50	
150.9404	Suspension strut entrainer socket, 14.5 mm, Austin	50	
150.9405	Suspension strut entrainer socket, 14.0 mm, MB W203	60	
150.9414	Suspension strut socket, 14 mm	130	
150.9416	Suspension strut socket, 16 mm	140	
150.9417	Suspension strut socket, 17 mm	140	
150.9418	Suspension strut socket, 18 mm	180	
150.9419	Suspension strut socket, 19 mm	180	
150.9421	Suspension strut socket, 21 mm	200	
150.9422	Suspension strut socket, 22 mm	220	
150.9424	Suspension strut socket, 24 mm	250	
150.9427	Suspension strut socket, 27 mm	320	
150.9434	Suspension strut 10 mm-Bit, 4 mm, Nissan	90	
150.9435	Suspension strut 10 mm-Bit, 5.2 mm, VAG, Nissan	90	
150.9436	Suspension strut 10 mm-Bit, 6 mm, VAG, Renault	100	
150.9437	Suspension strut 10 mm-Bit, 6.3 mm, Nissan	100	
150.9438	Suspension strut 10 mm-Bit, 7 mm, VAG, Seat, Fiat	100	
150.9439	Suspension strut 10 mm-Bit, 8 mm, Seat, Fiat	100	
150.9440	Suspension strut 10 mm-Bit, 9 mm, div Japan	110	
150.9441	Suspension strut 10 mm-Bit, 10 mm, Seat, Fiat, Volvo	110	
150.9442	Suspension strut 10 mm-Bit, 12 mm, Seat, Fiat	110	
150.9445	Suspension strut 10 mm-Bit D-Profil, 5 mm, Nissan	90	
150.9450	Suspension strut 10 mm-Bit D-Profil, 10 mm, Nissan, Ford	110	
150.9458	Suspension strut 10 mm-Bit, 8 mm, BMW	90	
150.9459	Suspension strut 10 mm-Bit, 9 mm, Opel, Chrysler	90	
150.9460	Suspension strut 10 mm-Bit, 10 mm, Opel, Chrysler	90	
150.9461	Suspension strut 10 mm-Bit, 11 mm, div Japan	100	
150.9465	Suspension strut 10 mm-Bit, 5 mm, Honda	100	
150.9466	Suspension strut 10 mm-Bit, 6 mm, div Europe, Japan	100	
150.9467	Suspension strut 10 mm-Bit, 7 mm, div Europe	100	
150.9468	Suspension strut 10 mm-Bit, 8 mm, Mercedes	100	
150.9473	Suspension strut 10 mm-Bit, 3 mm, Mercedes	80	
150.9474	Suspension strut 10 mm-Bit, 3.5 mm, Chrysler, Ford	80	
150.9475	Suspension strut 10 mm-Bit, 4 mm, Peugeot, Citroen	80	
150.9481	Suspension strut 10 mm-Bit, Spline M12 Opel	100	
150.9482	Suspension strut 10 mm-Bit, TX T50, Ford	100	
150.9483	Suspension strut 10 mm-Bit, TX T60, Nissan, Ford	100	

Shock absorber basic tool set

- For repairs and maintenance in the suspension strut area
- For counter holding the piston rod and simultaneous loosening of the mounting nut on the piston rod
- Suitable for exact torque possible
- Chrome vanadium
- In durable plastic storage case

			kg	
150.9430	18 pcs	Shock absorber basic tool set	2.73	

consists of:

		g	
150.9416	Go-through hexagonal socket WAF24, 16mm	140	
150.9417	Go-through hexagonal socket WAF24, 17mm	140	
150.9418	Go-through hexagonal socket WAF24, 18mm	180	
150.9419	Go-through hexagonal socket WAF24, 19mm	180	
150.9421	Go-through hexagonal socket WAF24, 21mm	200	
150.9422	Go-through hexagonal socket WAF24, 22mm	220	
150.9435	10mm Shock absorber bit, 5.2mm VAG,Nissan	90	
150.9436	10mm Shock absorber bit, 6mm VAG,Renault	100	
150.9438	10mm Shock absorber bit, 7mm VAG,Seat,Fiat	100	
150.9466	10mm Shock absorber bit, 6mm var.Europe	100	
150.9467	10mm Shock absorber bit ,7mm var.Europe	100	
150.9468	10mm Shock absorber bit, 8mm Mercedes	100	
150.9481	10mm Shock absorber bit spline M12 Opel	100	
150.9482	10mm Shock absorber bit,TX T50 Ford	100	
150.9483	10mm Shock absorber bit,TX T60 Nissan,Ford	100	
503.4210	GEAR+ Combination spanner,10mm	50	
503.4219	GEAR+ Combination spanner,19mm	240	
503.4222	GEAR+ Combination spanner,22mm	340	

Special counter bracket for Volvo, profile flat/oval, 18 mm

- For the removal and installation of HGV cab shock absorbers
- For counter holding the piston rod and simultaneous turning of the screw cap
- Durable design
- For manual operation
- Special steel

Application: Volvo HGV cab shock absorbers

	A mm	B mm	C mm	L1 mm	L2 mm	g	
455.0090	7.2	10.0	18.0	150.0	100.0	710	

Universal coil spring compressor set

- For all standard vehicle springs in the cars and vans sector
- 2 standard jaw holders
- Robust execution
- Cost effective and robust alternative to conventional spring tensioner
- Also suitable for conical and ball springs
- Universal for 90% of all common types of vehicles
- Working spindle that can be used with an impact wrench
- Jaw holders plastic coated
- Can bear according to the TÜV approval extremely high loads, with a maximum load of 2600 kg
- A shear pin protects against overload
- Special steel
- Includes safety arrester rope

Technical data:

Spring force max:	2600 kg
Opening of jaws min:	50.0 mm
Jaw width max:	310.0 mm
Spring capacity:	80,0-195,0

			kg	
500.8700	5 pcs	Universal coil spring compressor set	13.50	

consists of:

		kg	
500.8701	Spring compressor based unit, max. 2,600kg	6.00	
500.8703	Safety pin set, 10 pcs 4-5mm	0.10	
500.8705	Spring holder pair,dbl.holding func.Ø80-160mm	3.50	
500.8706	Spring holder pair,dbl.holding func.Ø140-195mm	4.00	
500.8707	Safety arrester rope for 500.8700	0.20	

Special spring jaw for HGV Cab shock absorbers

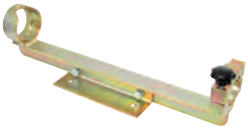
- For save clamping the springs of cab shock absorbers
- Extra slim and small execution
- Use in conjunction with spring compressor KS 500.8701
- Jaw holders coated
- Working range Ø 50 - 80 mm
- Special steel

Application range: Mercedes Actros, etc.

		kg	
500.8708	Special spring holder pair,f.HGV shock absorbers	1.13	

Spring compressor bracket

- Bracket specially designed for spring compressor 500.8700
- Makes working on suspension struts easy and safe
- Can be wall or vice mounted
- Special steel



	L mm	kg	
500.8704	500.0	1.50	

More Accessories for spring compressors can be found in our general catalogue K11!

Special axial joint wrench

- For removal and installation of axial joints on track rods
- For use on square, hexagonal, octagonal and round outside profile
- Gentle removal and installation without damaging the joint outer surface
- Positive connection
- For working in confined spaces
- Special steel

	dim mm	Ø mm	D mm	L mm	kg	
150.1600	30,0	35-45	120.0	420.0	1.82	

Eccentric clamping and turning device

- Universally applicable one sided opening
- To remove and turning the tie rod joints (steering and wheel end)
- Due to the knurled eccentric cam it allows from optimal grip even at the joints without drive (round)
- Square drive 1/2"
- For use on the workbench or directly on the vehicle
- Special steel

	Ø mm	Ø mm	g	
150.1635	1-50	1-42	300	

Grease nipple cleaner

- For cleaning clogged grease nipples, slides and guides
- Suitable for pressing out of old and hardened grease
- No changing of the grease nipple necessary
- Includes flexible extension
- In durable plastic storage case

		L mm	g	
980.1015	2 pcs	205.0	550	

consists of:

		g	
980.1016	Grease nipple cleaning press, L = 205 mm	365	
980.1017	Adaptor flexible, L = 125 mm , AG M10 x 1/ IG M10 x 1	65	

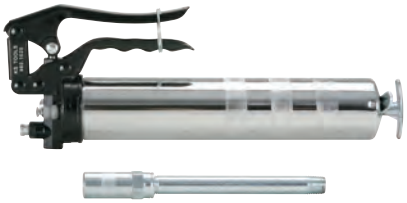
Manual lever grease gun with flexible tube

- For cartridges and buckets and/or also for loose grease
- Fill capacity 400 g
- Flexible tube
- Chrome plated and mirror polished

	D mm	L mm	kg	
980.1010	57.0	370.0	1.30	

Single handed grease gun with rigid grease tube

- Perfect single handed usage
- For cartridges and buckets and/or also for loose grease
- Fill capacity 400g
- Rigid grease tube
- Chrome plated and mirror polished



	D mm	L mm	kg	
980.1020	57.0	350.0	1.80	

Pneumatic grease gun

- Air exhaust through the handle
- For one handed operation with balanced ergonomic design
- For cartridges and bucket goods and/or also for loose grease
- Includes rigid and flexible filling tubes high pressure tube
- Cold insulated handle
- Includes 1/4" coupling connector

Technical data:

Output pressure:	260 bar
Hauling capacity:	288 cm³/min
Capacity:	400g
Air consumption:	170 l/min
Operating pressure:	6,3 bar (90 psi)
Connection thread:	1/4"PT

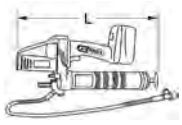
	B mm	L mm	kg	
515.3900	165.0	400.0	1.80	

Accessories:

		g	
980.1011	Flexible tube, short, 300 mm	60	
980.1012	Flexible tube, long, 500 mm	70	
980.1013	Filling nipple	30	
980.1014	Rigid filling tube with nipple, 160 mm	70	

400ml cordless grease gun

- Handy and ergonomic dual component housing
- For standard grease cartridges or direct filling
- Ideal for heavy greasing with counter pressure
- With flexible 750 mm filling tube
- Carbon brushes interchangeable
- With lithium ion high performance rechargeable battery
- With a rechargeable battery that can be process up to 15 cartridges
- Longer running time through higher load capacity
- Fast charging function (1 hour)
- Includes automatic turn off charging station
- In durable plastic storage case



Technical data:

Operating pressure:	420 bar / 42 MPa
NLGI class:	< 2
Grease filling:	75 g / min
Capacity of the unit:	600 ml
No load current:	3,0 A
Operating current:	2,0 ~ 5,5 A
Charging time:	1 hour
Rechargeable battery:	18 V - 3,0 Ah

	L mm	B mm	H mm	Spare carbon brushes set	Battery pack	number of Charger batteries		kg	
515.3559	237.0	80.0	487.0	515.3596	515.3599	0	0	5.40	
515.3560	237.0	80.0	487.0	515.3596	515.3599	1	1	6.70	
515.3561	237.0	80.0	487.0	515.3596	515.3599	2	1	7.50	

Grease gun adaptor set

- For standard hand, cordless and pneumatic grease guns
- Adaptor with sliding sleeve for break-proof connection
- Straight and angled grease nipple
- For grease nipples out of steel, brass and stainless steel

Application range: Cone, funnel, ball and flat grease nipples Trucks, land and construction machines and forestery technology, etc.

			kg	
980.1100	7 pcs	Grease gun adaptor set	1.90	

consists of:

		L mm	g	
980.1101	90° Lubricant adaptor	114.0	150	
980.1102	Tube extension, 300 mm	390.0	240	
980.1103	Straight extension	155.0	154	
980.1104	90° flat nipple adaptor	135.0	160	
980.1105	Rubber grease tip	155.0	150	
980.1106	Needle shaped tip	135.0	143	
980.1107	360° Adaptor, adjustable	185.0	265	

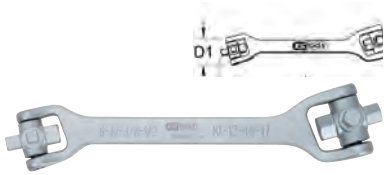
OIL SERVICE

8 in 1 Oil service wrench

- Special wrench for oil filler and drain plugs
- Profile change for turning and engaging the wrench head
- Matt chrome
- Special steel

Wrench sizes and profiles:
- 4 point WAF 8 - 10 - 3/8" - 1/2"
- 6 point WAF 10 - 12 - 14 - 17mm

Application range: Oil sump, transmission, differential



	L mm	D1 mm	D2 mm	g
150.9302	270.0	40.0	50.0	620

Oil drain plug key set

- For conical filing- and reduction screws on oil sumps, transmissions, differentials, etc.
- External drive hexagon socket SW 21
- Matt finish
- Chrome vanadium
- In durable steel storage case

			g
150.9390	6 pcs	Oil drain plug key set	800

consists of:

		g
150.9391	Oil drain plug hexagon-Socket 8 + 10 mm	110
150.9392	Oil drain plug socket hexagon 5/16" + 3/8"	110
150.9393	Oil drain plug socket square 8 mm + 3/8" (10 mm)	110
150.9394	Oil drain plug hexagon-Socket 12 mm + square 11 mm	110
150.9395	Oil drain plug hexagon-Socket 14 mm + square 13 mm	110
150.9396	Oil drain plug hexagon-Socket 17 mm + 1/2"	110

Oil sump plug repair set

- To the solid and fast repair of oil sump plug screw threads
- The damaged thread is cut to a lager thread by drilling with the next size drill
- Also suited for aluminum oil sumps
- Repair enables and avoids exchange of the oil sump
- Also suitable for oil sumps with damaged threads
- In durable plastic storage case

Application range: Audi, Citroen, BMW, Mercedes Benz, Ford, Fiat, Honda, Mazda, Mitsubishi, Nissan, Opel, Peugeot, Porsche, Renault, Saab, Seat, Skoda, Toyota, Volvo, VW, etc.

			g
150.1450	24 pcs	Oil sump plug repair set	950

consists of:

		g
150.1447	Drains plug f.150.1450, 10pcs, M13x1,5mm	300
150.1448	Al seals f.150.1450, 25pcs, M13	10
150.1449	Tap f.150.1450, M13x1,5mm	40
150.1451	Drains plug f.150.1450, 10pcs, M15x1,5mm	320
150.1452	Al seals f.150.1450, M15	10
150.1453	Tap f.150.1450, M15x1,5mm	50
150.1454	Drains plug f.150.1450, 10pcs, M17x1,5mm	360
150.1455	Al seals f.150.1450, 25pcs, M17	10
150.1456	Tap f.150.1450, M17x1,5mm	60
150.1457	Drains plug f.150.1450, 10pcs, M20x1,5mm	390
150.1459	Tap f.150.1450, M20x1,5mm	70

Oil sump plug repair set M15

- Sturdy and quick solution for the repair of defective oil drain plug threads
- No costly replacement of the oil sump
- Most common drain plug threads
- Universel suitable for cars and vans
- Special steel

			g
150.1460	21 pcs	Oil sump plug repair set M15	874

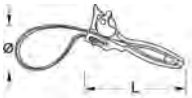
consists of:

		g
150.1451	Drains plug f.150.1450, 10pcs, M15x1,5mm	320
150.1452	Al seals f.150.1450, M15	10
150.1453	Tap f.150.1450, M15x1,5mm	50

More tools for thread repair can be found in our general catalogue K11!

Strap pipe pliers

- For hard to reach places
- Especially suited for plastic pipes
- Glass fibre reinforced handle
- Belt made of reinforced, non slip rubber



	Ø mm	L mm	g
114.0150	110,0	190.0	180

Filter strap wrench

- Robust and especially high quality webbing
- For loosening heavy duty oil and fuel filters
- Particularly large work area and light weight
- 1/2" square drive
- Little space required on the outer diameter of the filter
- Ideally suited to tighten round fittings
- Stable nylon strap

1/2"

	Ø mm	Ø	H mm	g
455.0055	150,0	6"	50.0	380

Oil filter wrench

- For installation and removal of filters and filter cartridges
- Ribbed steel band ensures a secure grip on the filter and allows positive loosening
- Adjustment to the filter diameter by turning the knob at the end of the handle
- Ergonomic handle

	Ø mm	Belt length mm	Handle length mm	g
155.5005	65,0-105,0	540,0	170,0	297

Steel strap filter wrench

- Extremely rugged steel strap wrench
- For loosening heavy duty oil and fuel filters
- Secure grip of the filter
- 1/2" square drive
- High performance guaranteed professional work
- Automatic adjustment in the specified diameter range
- Ideal for compressed air cartridges
- Special steel

1/2"

	Ø mm	Ø	H mm	g
455.0050	105 - 118	4.1/8" - 4.21/32"	75.0	930
455.0051	118 - 130	4.21/32" - 5.5/32"	75.0	950
455.0052	130 - 143	5.5/32" - 5.21/32"	75.0	990

Chain wrench

- For loosening oil filters and air dryer cartridges
- Double chain
- Extremely robust
- Dipped covered handle
- Chrome vanadium

1/2"

	Ø mm	g
150.9375	130,0	380
150.9376	165,0	380

Universal oil filter wrench

- With self tensioning effect
- Serrated jaws
- Works over the filter head
- Driven over external 6 point 22 mm or int
- Special steel

	mm	□	g	
700.5005	22	1/2"	500	
700.5006	22	1/2"	900	
700.5008	22	1/2"	1780	

Filter wrench 3 arm

- For oil filter and air dryer cartridges
- Forged execution
- 1/2" square drive
- Automatic adjustment in the specified diameter range
- For heavy workshop applications
- Special steel

1/2"

	Ø mm	g	
700.5001	80 - 120	630	
700.5002	95 - 165	1400	

Oil filter wrench set

- For loosening and tightening oil filter housing covers
- Torque specification embossed in the wrench
- 3/8" square drive + hexagon drive SW 21
- Painted surface
- In durable plastic case

3/8"

			kg	
150.9365	3 pcs	Oil filter wrench set	0.32	

consists of:

		g	
150.9366	Oil filter wrench 27 mm	60	
150.9367	Oil filter wrench 32 mm	70	
150.9368	Oil filter wrench 36 mm	80	

Oil filter wrench

- For loosening and tightening oil filter housing covers
- Torque specification embossed in the wrench
- 3/8" square drive + hexagon drive SW 21
- Painted surface

3/8"

	Suitable for	dim mm	Stages	Sides	g
150.9366	Mercedes Benz, Mazda	27	1	6	60
150.9367	VW, Audi, Opel	32	1	6	70
150.9368	Mercedes Benz, BMW, Ford, VW, Rover, Opel	36	1	6	80

Oil filter wrench set

- For loosening and tightening oil filter housing covers
- Use according to the manufacturer's specification for torque
- 3/8" square drive + hexagon drive SW 21
- Painted surface
- In durable plastic case

Application range: Alfa Romeo, Audi, BMW, Daihatsu, Fiat, Ford, GM, Honda, Lancia, Lexus, Mazda, Mercedes Benz, Mitsubishi, Nissan, Opel, Porsche, Renault, Saab, Subaru, Toyota, Volvo, VW, etc.

3/8"

			kg	
150.9350	30 pcs	Oil filter wrench set	6.67	

consists of:

	Suitable for	Stages	Grooves	Sides	g	
150.9340	SW 21				153	
150.9321	SW 65	1		14	150	
150.9322	SW 68	1		14	320	
150.9323	SW 73	1		14	150	
150.9324	SW 74/76	2		15	170	
150.9325	SW 76	1		14	150	
150.9326	SW 80	1		15	150	
150.9327	SW 93	1		15	150	
150.9329	SW 93	1	36		150	
150.9330	SW 65/67	2		14	150	
150.9331	SW 80/82	2		15	150	
150.9332	SW 90	1		15	150	
150.9333	SW 75/77	2		15	150	
150.9334	SW 76	1	30		150	
150.9335	SW 100	1		15	150	
150.9336	SW 66	1	6		190	
150.9337	SW 74	1		15	220	
150.9338	SW 76	1	12		190	
150.9339	SW 76	1		8	170	
150.9341	SW 78	1		15	170	
150.9342	SW 86	1	18		190	
150.9343	SW 86	1		16	180	
150.9344	SW 92	1		10	180	
150.9345	SW 93	1	45		180	
150.9346	SW 95	1		15	190	
150.9347	SW 96	1	18		190	
150.9348	SW 106	1		15	200	
150.9349	SW 108	1		15	220	
150.9351	SW 108	1	18		190	

Oil filter wrench

- For loosening and tightening oil filter housing covers
- Use according to the manufacturer's specification for torque
- 3/8" square drive
- Painted surface

3/8"

	Suitable for	dim mm	Stages	Grooves	Sides	g	
150.9319	Toyota, Nissan, Mazda	64	1		14	140	
150.9321	Daihatsu, Toyota, Nissan, Fiat	65	1		14	150	
150.9336	Fiat, Renault	66	1	6		190	
150.9330	Daihatsu, Toyota	65/67	2		14	150	
150.9322	Mazda, Ford, Subaru	68	1		14	320	
150.9323	Toyota, Lexus	73	1		14	150	
150.9337	Audi, Gm, Rover, Chrysler	74	1		15	220	
150.9324	Ford, Opel, VW, Audi, Mercedes Benz	74/76	2		15	170	
150.9333	VW, Audi, Ford, Isuzu, Mercedes Benz, Opel	75/77	2		15	150	
150.9338	Fiat, Renault, Mercedes Benz	76	1	12		190	
150.9325	VW, Mercedes Benz, Porsche, BMW, Audi, Opel	76	1		14	150	
150.9339	Fiat, Lancia	76	1		8	170	
150.9334	Ford	76	1	30		150	
150.9341	Nissan, Ford, Toyota	78	1		15	170	
150.9326	Nissan, Honda, Opel, Mazda	80	1		15	150	
150.9331	Subaru, Toyota, Honda, Mazda, Nissan	80/82	2		15	150	
150.9343	Volvo S40/S80	86	1		16	180	
150.9342	VW, Audi, Renault, Peugeot, Citröen	86	1	18		190	
150.9332	Honda, Mitsubishi, Isuzu	90	1		15	150	
150.9344	Fiat, Lancia	92	1		10	180	
150.9327	Mazda, Mitsubishi, Volvo, Nissan, Honda	93	1		15	150	
150.9329	Ford	93	1	36		150	
150.9345	VW, Audi	93	1	45		180	
150.9346	Toyota, Alfa, GM, Ford, Ford, Chrysler	95	1		15	190	
150.9347	VW, Audi, Renault	96	1	18		190	
150.9335	Isuzu, Mitsubishi	100	1		15	150	
150.9348	Fiat	106	1		15	200	
150.9349	Volvo	108	1		15	220	
150.9351	Renault	108	1	18		190	

Truck oil filter wrench, cup shaped

- Oil filter cup shaped
- Ideal in confined spaces
- For loosening and tightening oil filters
- Internal square or hexagon drive
- Special steel

3/8"

	Suitable for	dim mm	Stages	Grooves	Sides	g	
150.9291	Mercedes Benz, Scania	36,0	1		6	70	
150.9292	Mercedes Benz	74,0	1		14	140	
150.9293	MAN, Scania, Fiat, Iveco	106,0	1		15	200	
150.9294	Volvo, Iveco, Renault, Scania	107	1		15	360	
150.9295	Volvo, Iveco, Renault, Scania	108,0	1		15	210	
150.9296	Renault, Opel	108,0	1	18		210	
150.9297	MAN	135,0	1		18	510	

Truck oil filter wrench SW 107

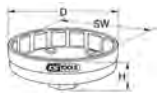
- For loosening and tightening oil filter housing covers
- With torque specification embossed in the wrench
- 1/2" square drive + hexagon drive SW 21
- Painted surface
- Durable die cast aluminium version

1/2"

	Suitable for	dim mm	Sides	Ø mm	H mm	g	
150.9294	Volvo, Iveco, Renault, Scania	107	15	118	40.0	360	

Truck oil filter wrench SW 92

- For loosening and tightening oil filter housing covers
- With torque specification embossed in the wrench
- 1/2" square drive + hexagon drive SW 27
- Durable die cast aluminium version



1/2"

	Suitable for	dim mm	Sides	Ø mm	H mm	g
150.9289	MAN (z.B. F2000)	92	15	100	42.0	125

Oil service wrench set for oil filter and filter housing covers

- For loosening and tightening oil filter housing covers
- Use according to the manufacturer's specification for torque
- 3/8" square drive
- Including oil filter clamping wrench for all standard oil filters
- Special steel
- In durable plastic storage case

Application range: Audi - BMW - Ford - Mazda - Toyota - Lexus - VW - Porsche - Kia - Mercedes - Opel - Volvo - Seat - Skoda - Mini - Hyundai etc.

3/8"

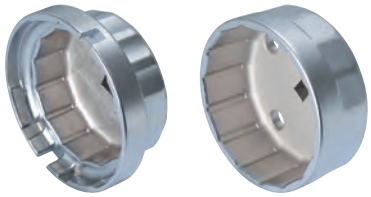
			kg
150.9210	9 pcs	Oil service wrench set for oil filter and filter housing covers	3.14

consists of:

	Suitable for	dim mm	Sides	g
150.9211	Allion, Auris, Corolla,Prius,Voxy,etc	64,5	14	169
150.9212	Toyota, Lexus 6 Zylinder	64,5	14	144
150.9213	Hyunday, KIA	88,8	15	289
150.9214	BMW 3+5+X, Volvo	86,6	16	293
150.9215	Audi, BMW, Ford, Toyota, VW,Porsche, MB	74,2	14	172
150.9216	universal	63-83		378
150.9217	Mercedes, Smart	27	6	118
150.9218	GM, Opel, Mercedes	32	6	146
150.9219	Mercedes Diesel, BMW, Mini, Ford	36	6	188

Oil filter wrench

- For loosening and tightening oil filter housing covers
- Use according to the manufacturer's specification for torque
- 3/8" square drive
- Special steel



	Suitable for	dim mm	Stages	Sides	g
150.9217	Mercedes, Smart	27		6	118
150.9218	GM, Opel, Mercedes	32		6	146
150.9219	Mercedes Diesel, BMW, Mini, Ford	36		6	188

Oil drain pan 7.5 litres

- With carrying handle
- Pouring spout enables clean emptying
- Suitable for oil, chemicals, petrol, acids and antifreeze

	Ø mm	H mm	g
150.9359	385,0	130.0	680

Oil drain pan 17 litres

- With carrying handle
- Pouring spout enables clean emptying
- Suitable for oil, chemicals, petrol, acids and antifreeze

	Ø mm	H mm	kg
150.9360	445,0	145.0	1.16

55 litre drain pan, extra flat

- Four carry handles
- 11 cm extra high flat edge
- Suitable for oil, chemicals, gasoline, acids and antifreeze
- Wrap around walls bent inwards to prevent spillage during transport
- Polythylene

	L mm	B mm	H mm	kg
150.9358	1030.0	724.0	110.0	6.80

Oil pressure testing equipment

- Quick safe and problem free testing of the oil pressure on the engine
- incl. 10 adaptors
- Colour coding: Black= metric / silver = imperial
- Adaption with oil pressure sensor thread
- Manometer Ø 80 mm with rubber safety cover
- Flexible tube (L=1.3 m) with anti-kink device, decompression valve and quick coupling
- Robust execution
- In durable plastic storage case

			kg
150.1920	12 pcs	Oil pressure testing equipment	1.89

		g
150.1921	Manometer with tube, 10 bar	735
150.1922	90° Adaptor angled	44
150.1920-1	Screw adaptor no 1, R1/8"	23
150.1920-2	Screw adaptor no 2, 1/8" x 27 NPT	24
150.1920-3	Screw adaptor no 3, 1/4" x 18 NPT	33
150.1920-4	Screw adaptor no 4, 3/8" x 20 UNF	23
150.1920-5	Screw adaptor no 5, 1/2" x 20 UNF	27
150.1920-6	Screw adaptor no 6, M10 x 1.0	24
150.1920-7	Screw adaptor no 7, M12 x 1.5	24
150.1920-8	Screw adaptor no 8, M14 x 1.5	29
150.1920-9	Screw adaptor no 9, M16 x 1.5	33
150.1920-10	Screw adaptor no 10, M18 x 1.5	34

Fluid transfer pump

- Effective transfer pump
- Allows pumping of liquids such as fuel, water, etc.
- Includes 2 x 1 m tubes and clamps
- Tube diameter ca. 8 mm
- PVC- Tube

	Ø Tube mm	g
150.1665	8,0	320

2 direction suction and filling hand pump

- Ideal for bleeding and filling of fluids
- With ball valve to select between suction and pressure
- Suck and press with every way
- Wear-resistant and temperature resistant
- For difficult to reach openings
- 2 x HQ tube
- Suction tube clear Ø I x E: 10x16 mm, length 600 mm
- Pressure tube fabric-reinforced Ø I x E: 16x21mm, length 600 mm
- For brake fluid, motor / transmission oil, petrol, diesel, fuel oils, spirit, petroleum, antifreeze etc.
- Robust aluminum piping

Application range: Vehicle/trucks workshops, land and construction machines, municipally and forestery technology, etc.

	Stroke mm	Content	L mm	Ø mm	g
150.9255	208 mm	256 ml	808.0	40	412
150.9256	255 mm	720 ml	855.0	60	630

Dispense hand pump PVC, 1,000 ml with tube

- For the controlled bleeding and filling of fluids
- Exact dosage per scale
- High suction
- For difficult to reach openings
- For brake fluid, motor / transmission oil, petrol, diesel, fuel oils, spirit, petroleum, antifreeze etc.
- Fabric-reinforced PVC tube
- PVC cylinder

Application range: Vehicle/trucks workshops, land and construction machines, municipally and forestery technology, etc.

Technical data:

Lift volume:	1,000 ml
Stroke:	420 mm
Scale division:	25 ml
Connection thread:	M15x1.5lG

	Ø mm	L mm	g
150.9250	60	465.0	768

PVC Tube

- Fabric-reinforced
- For 150.9250

	L mm	Inner Ø mm	Outer Ø mm	g
150.9253	600.0	10.0	16.0	110

PVC Tube with curved outlet pipe

- For difficult to reach openings
- With wing nut and sealing for locking
- With external thread M15 x 1.5
- Robust, curved aluminum piping
- Fabric-reinforced
- Ideal for use with KS dispense hand pump 150.9250

Application range: For brake fluid, motor / transmission oil, petrol, diesel, fuel oils, spirit, petroleum, antifreeze etc.

	L mm	Ø mm	Biegeradius	g
150.9252	750.0	10	120°	130

Metal pipe, flexible with outlet head

- For difficult to reach openings
- With wing nut and sealing for locking
- With external thread M15 x 1.5
- Durable, flexible steel pipe
- Ideal for use with KS dispense hand pump 150.9250

Application range: For brake fluid, motor / transmission oil, petrol, diesel, fuel oils, spirit, petroleum, antifreeze etc.

	L mm	Ø mm	g
150.9251	250.0	10	80

Diesel filter bleeding device

- For the fast, clean and problem free ventilating (filling) of diesel filters
- Suitable during the filter change, emptying of tanks, incorrectly refuelled etc.
- Applicably into incorporated condition - circumstantial filling outside of the vehicle not required
- By means of compressed air connection and activity of the hand lever a vacuum becomes in the diesel filter bleeding device produces (Venturi effect) and therefore fuel of the vehicle tank is sucked in
- Inclusive universal suitable tube assortment Ø 6-8-12 mm
- Capacity 2.0 lt

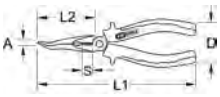
Application range: VW pump nozzle engines, diesel engine with direct injection e.g. Mercedes Benz CDI engines, Peugeot HDI, Renault, Fiat etc.

	H mm	kg
150.9355	300.0	1.60

Fuel pipe pliers

- Two component handle
- Cranked execution
- Integrated cutting edge
- For loosening and tightening on fuel lines that are difficult to reach
- No damage of the overflow pipe
- Matt chrome
- Chrome vanadium

Ideally usably in security ring at fuel directions and change valve on BMW motorcycles with 2 valve technology Suitable e.g. for VW/Audi, Mercedes Benz, Ford, Opel, Peugot, Volvo, Daihatsu, Mazda and Toyota.

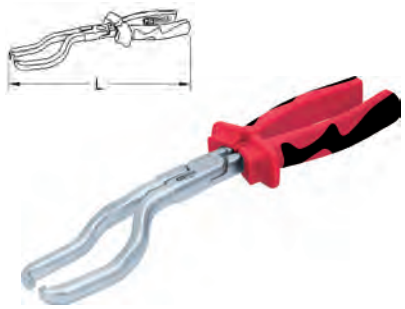


	A mm	D mm	L1 mm	L2 mm	S mm	g
115.1067	0,0-75,0	60.0	200.0	75.0	15,0	220

Fuel pipe connection plier

- For opening and closing the coupling on fuel pipe connections
- Is required for fuel filter changes and/or engine repairs
- With two component handle
- Chrome vanadium

Application range: VW Audi, Fiat, GM, Opel, Mercedes (e.g. M class petrol engine) etc.



	L mm	g
115.0900	230.0	310

2-Arm universal fuel gauge sender unit key

- 6 point drive
- For removal the plastic clasp ring on the tank sender unit in the fuel tank
- Adjustable
- Chrome plated and mirror polished
- Chrome vanadium

	dim mm	Ø mm	g
150.9384	24	80,0 - 120,0	400
150.9385	24	110,0 - 170,0	460

3-jaw universal fuel gauge sender unit key

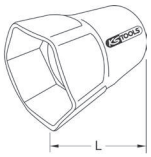
- With 6 point drive
- Ideal for releasing and tightening the fuel filter locking ring from the tank sender to the fuel tank
- Makes simple and time-saving work possible
- Adjustable
- Chrome plated and mirror polished
- Chrome vanadium

	mm	Ø mm	g
150.9386	24	75,0-160,0	570

Urea service key for AdBlue® filter and tanks

- For removal and fitting of the cover on the urea filter element
- Ideal for concealed filter element between urea tank and metering valve
- Permits precision torque tightening to 23 Nm
- Special steel

Application range: MB HGV, e.g. new Actros, Atego, Axor, Eonic
*AdBlue® is a registered trademark of the Verband der Automobilindustrie e.V (VDA).

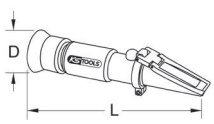


	■	mm	L mm	g
550.1289	3/8"	45,5	65.0	250

Refractometer - optical tester for battery fluid, antifreeze and AdBlue® additives

- For the quick and accurate testing of the acidity of the battery fluid, the antifreeze content and the AdBlue® additives
- Can also be used for coolant and windscreen wiper fluid
- Adjustable eye piece with rubber viewing rest
- With automatic temperature compensation (ATC)
- Also suitable in ambient temperatures of less than 10 °C
- Reading correction function by means of bimetallic measurement
- High quality design made from aluminium
- Good readability due to defined dividing lines
- Recalibration possible
- Includes calibration screwdriver and pipette
- In practical plastic case

*AdBlue® is a registered trademark of the Verband der Automobilindustrie e.V (VDA).



Technical data:

Battery acid:	acid density (measuring range 1.1 to 1.3 kg/l)
Coolant water Propylene:	temperature resistance (measuring range -25° to -50°C)
Coolant water Ethylene:	temperature resistance (measuring range -25° to -50°C)
Windscreen water:	antifreeze (measuring range -10° to -40° C)
for AdBlue® additives (VRA):	urea content (measuring range 30% - 35%)

	D mm	L mm	g
550.1285	40.0	160.0	630

Hose clamp plier set

- For clamping flexible hoses
- For hoses from 15 mm up to 60 mm
- No uncontrolled leaking out of fluids
- Variable adjustment
- With ratchet function
- Plastic

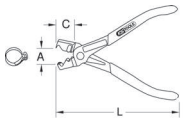
			g
115.5050	3 pcs	Hose clamp plier set	370

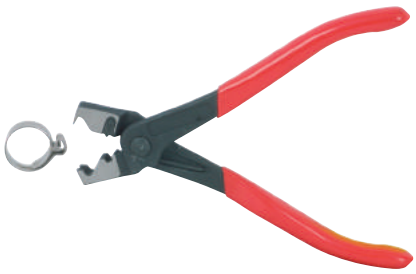
consists of:

		g
115.5052	Clamping pliers 150 mm for hoses up to Ø 15 mm	80
115.5053	Clamping pliers 180 mm for hoses up to Ø 30 mm	130
115.5054	Clamping pliers 250 mm for hoses up to Ø 60 mm	160

Click hose clamp pliers, forged

- Suitable for the correct assembly and disassembly of Click, Click-R and Cobra clamps
- Also suitable for self-tensioning hose clamps with flat 3 pinch ends
- Re-usable V2A-clamps
- With PVC dipped handle
- With self-opening mechanism
- Chrome molybdenum

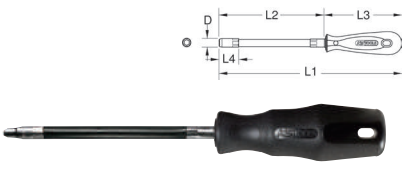




	A mm	C mm	L mm	g
115.1045	0-38	25.0	180.0	240

ERGOTORQUE® socket screwdriver

- 6 point
- Flexible
- Limited torque
- Double spiral shaft
- Plastic protective coating
- With hanging hole
- Chrome vanadium



	mm	D mm	L1 mm	L2 mm	L3 mm	L4 mm	g
911.1126	6	10.8	259.0	150.0	109.0	9.3	150
911.1127	7	11.7	259.0	150.0	109.0	10.0	200
911.1128	8	11.9	259.0	150.0	109.0	10.0	200
911.1125	10	12.5	279.0	170.0	109.0	14.3	250

ERGOTORQUE® screwdriver set

- Flexible blade with double spiral shaft
- Limited torque
- Plastic protective coating
- Two component handle
- With hanging hole
- Contains also the most current 1/4" bits and sockets
- In display box

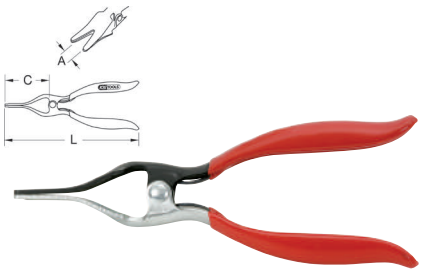
			kg
911.1180	16 pcs	ERGOTORQUE® screwdriver set	1.30

1 x	1/4“
1 x	1/4“
1 x	7 mm
3 x	5 - 6 - 8 mm
2 x	5.5 - 6.5 mm
2 x	PH1 - PH2
6 x	T10 - T15 - T20 - T25 - T27 - T30

Special hose pliers

- With PVC dipped handle
- Extra flat jaws to the end
- For dismantling and assembly
- For removing of hose connections from hose tails
- Special tool steel

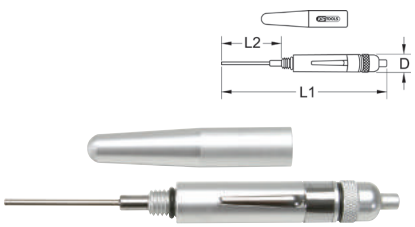
Ideally suited in e.g. fuel vacuum hoses, low pressure systems and water hoses.



	A mm	L mm	C mm	g
115.1044	0-30	195.0	70.0	190

Precision oiler

- In ball point pen form
- Practical pocket clip
- Protective cap
- Oil dosage through pushing a button
- Smallest angles and corners reached
- Suitable for a wide range of applications
- Light aluminium housing



	D mm	L1 mm	L2 mm	g
550.1035	15.0	140.0	50.0	50

ENGINE

Epoxy metal Quicksteel

- Optimal adhesive power
- Enables durable repair
- Mechanical preparation after the curing possible
- Firmly set after 15 minutes
- Cures after 60 minutes completely
- Also suitable for use under water
- Temperature resistant up to 260
- Approx three years use duration
- Resistant to oil, diesel, petrol and battery acid

Application range: Metal, glass, plastic, ceramics, wood, concrete optical fiber reinforced plastic, etc.

		g
500.1015	Epoxy metal Quicksteel	80

Screw grab screw assistance

- Increases the static friction by up to 400%
- Residue free washes off and non-toxic
- Immediate effect without waiting
- Applicable for all screw heads
- Unlimited storage

Application range: In rounded turned screw heads

	Content	g
500.1010	15 ml	250

Screw extractor set

- For screws from M3 - M18
- Enable the loosening of screws and bolts with turned off heads
- Conical tapered spiral
- In durable plastic storage case

			g
150.1330	6 pcs	M3-M6 - M6-M8 - M8-M11 - M11-M14 - M14-M18 - M18-M24	250

Stud extractor set

- Set contents for extensive applications
- For removing of threaded bolts, studding and screws
- No damage of the thread
- Only negligible enlarging of the threaded bolt through special profile extractor pin
- For screws and bolts M5 - M16
- Special steel
- In durable plastic storage case

			g
150.1305	25 pcs	Stud extractor set	650

Extractor:

	Size mm	Ø mm	Ø	Thread	L mm	Extractor pin incl thrust bolt	g
150.0521	1	3,2	1/8"	M5 - M6	60.0	150.0511S	150
150.0522	2	4,8	3/16"	M7 - M8	70.0	150.0512S	180
150.0523	3	6,4	1/4"	M9 - M10	78.0	150.0513S	230
150.0524	4	8,0	5/16"	M12	83.0	150.0514S	300
150.0525	5	8,7	11/32"	M14 - M16	94.0	150.0515S	350

Extractor nut:

	Size mm	Pin dim	dim mm	L mm	g
150.0511	1	1	10,0	16.0	130
150.0512	2	2	11,0	16.0	230
150.0513	3	3	13,0	16.0	350
150.0514	4	4	14,0	16.0	470
150.0515	5	5	17,0	16.0	590

Drill:

	Ø mm	Ø	Drill bush	L mm	g
150.1305-21	3,2	1/8"	1 - 4	65.0	20
150.1305-22	4,8	3/16"	5 - 7	86.0	20
150.1305-23	6,4	1/4"	8	101.0	20
150.1305-24	8,0	5/16"	9	117.0	20
150.1305-25	8,7	11/32"	10	125.0	20

Bushes:

	Size mm	Ø1 mm	Ø2 mm	Ø3 mm	Ø4 mm	Ø3	Ø4	L mm	g
150.0501	1	6.0	5.0	4.0	3.2	5/32"	1/8"	30.0	3
150.0502	2	8.0	6.0	4.8	3.2	3/16"	1/8"	30.0	8
150.0503	3	9.0	7.0	4.8	3.2	3/16"	1/8"	30.0	10
150.0504	4	10.0	8.0	4.8	3.2	3/16"	1/8"	30.0	14
150.0505	5	10.0	8.0	6.0	4.8		3/16"	30.0	12
150.0506	6	11.0	9.0	7.0	4.8	9/32"	3/16"	30.0	14
150.0507	7	12.0	10.0	7.0	4.8	9/32"	3/16"	30.0	18
150.0508	8	13.0	11.0	7.0	4.8	9/32"	3/16"	30.0	22
150.0509	9	13.0	11.0	9.0	6.5		1/4"	30.0	17
150.0510	10	14.0	12.0	9.5	6.5	3/8"	1/4"	30.0	21

Spiral screw and bolt extractor set

- Extra short execution
- With hexagon drive SW 13
- Slightly conical tapered spiral
- Applicable also for dismantled screws and stand bolt
- Counter effect motion guarantees easy extraction
- Special steel
- In durable plastic storage case

Application range: Hexagon head, brakes + water pumps, spline drives etc.

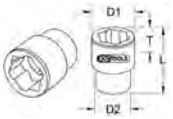
			g
150.1385	15 pcs	Spiral screw and bolt extractor set	520

consists of:

		g
150.1371	Extractor 1/8"	20
150.1373	Extractor 3/16"	20
150.1375	Extractor 1/4"	20
150.1379	Extractor 3/8"	20
150.1381	Extractor 1/2"	20
150.1386	Extractor 3 mm	20
150.1387	Extractor 4 mm	20
150.1388	Extractor 5 mm	20
150.1389	Extractor 5.5 mm	30
150.1390	Extractor 6 mm	30
150.1391	Extractor 8 mm	30
150.1392	Extractor 10 mm	30
150.1393	Extractor 11 mm	30
150.1394	Extractor 12 mm	40
150.1395	Extractor 14 mm	40

Rescue socket

- Rejuvenating special profile with aggressive spiral nut
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- For turning off of screws with rounded or turned heads
- Bites firmly to give a firm connection between stuck nut and head
- Matt finish
- Chrome molybdenum



3/8"

	mm	D1 mm	D2 mm	L mm	T mm	g
913.3822	10,0	18.0	17.0	28.0	8.0	35
913.3823	11,0	19.0	18.0	28.0	9.0	35
913.3824	12,0	20.0	17.0	28.0	10.0	40
913.3825	13,0	20.0	18.0	28.0	10.0	40
913.3826	14,0	22.0	18.0	28.0	10.0	40
913.3831	15,0	20.0	18.0	28.0	10.0	50
913.3827	16,0	25.0	21.0	28.0	10.0	60
913.3828	17,0	28.0	22.0	30.0	10.0	68
913.3829	18,0	28.0	23.0	30.0	10.0	75
913.3830	19,0	28.0	23.0	30.0	12.0	80

Rescue socket set

- Rejuvenating special profile with aggressive spiral nut
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- For turning off of screws with rounded or turned heads
- Bites firmly to give a firm connection between stuck nut and head
- Matt finish
- Chrome molybdenum
- Including storage rail

3/8"

			g	
913.3820	10 pcs	10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 mm	506	

Spiral profile socket nut set

- For loosening and unscrewing of fixed bolt and nuts with damaged "round turned" threads or heads
- Special, left handed cutting edge thread with 6 conical reducing cutting edges
- Very flat compact and robust execution
- The drive can be used alternatively with a socket ring or combination spanner
- In durable plastic case

			g	
913.3880	10 pcs	M9 - M10 - M11 - M12 - M13 - M14 - M15 - M16 - M17 - M19	300	

Spiral profile socket nut

- Very flat compact and robust execution
- Rejuvenating special profile with aggressive spiral nut
- Bites firmly to give a firm connection between stuck nut and head
- Can be used with a socket or ring spanner
- Phosphate finish
- Chrome molybdenum

		mm	g	
913.3881	M9	16,0	10	
913.3882	M10	16,0	10	
913.3883	M11	18,0	10	
913.3884	M12	19,0	10	
913.3885	M13	19,0	20	
913.3886	M14	21,0	20	
913.3887	M15	23,0	20	
913.3888	M16	24,0	30	
913.3889	M17	26,0	40	
913.3890	M19	27,0	40	

Spiral profile socket set

- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Rejuvenating special profile with aggressive spiral nut
- For turning off of screws with rounded or turned heads
- Bites firmly to give a firm connection between stuck nut and head
- Drive out pin
- Phosphate finish
- Chrome molybdenum
- In durable plastic case

1/4" 1/2"

			kg	
913.1460	15 pcs	Spiral profile socket set	1.10	

consists of:

		g	
913.1408	1/4" Spiral profile socket, 8 mm	40	
913.1410	1/4" Spiral profile socket, 10 mm	40	
913.1412	1/4" Spiral profile socket, 12 mm	40	
913.1461	1/2" Spiral-Profile-Socket, 27 mm	110	
913.1462	1/2" Spiral-Profile-Socket, 24 mm	110	
913.1463	1/2" Spiral-Profile-Socket, 21 mm	90	
913.1465	1/2" Spiral-Profile-Socket, 17 mm	70	
913.1466	1/2" Spiral-Profile-Socket, 15 mm	70	
913.1467	1/2" Spiral-Profile-Socket, 14 mm	70	
913.1468	1/2" Spiral-Profile-Socket, 13 mm	50	
913.1470	1/4" Spiral-Profile-Socket, 11 mm	40	
913.1473	1/4" Spiral-Profile-Socket, 6 mm	40	
913.1474	Extraction drive small	10	
913.1475	Extraction drive large	58	
913.1249	1/2" Spiral-Profile-Socket, 19 mm	90	

CLASSIC Bit set for tamperproof five star screws

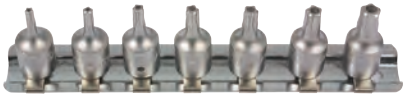
- Five star bit, tamperproof
- External hexagon drive to DIN 3126 / ISO 1173 - E 6,3
- Can be used by hand or with and electric screwdriver
- 1/4" Bit adaptor socket
- Ideally suited for fittings in trade and industry
- Nickel plated
- Special steel

1/4"

			g	
911.1480	8 pcs	TS10 - TS15 - TS20 - TS25 - TS27 - TS30 - TS40	50	

Bit socket set for tamperproof five star screws

- Five star bit, tamperproof
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- For manual operation
- Matt finish
- Chrome vanadium
- Includes storage rail



1/4"

			kg	
911.1470	7 pcs	TS10 - TS15 - TS20 - TS25 - TS27 - TS30 -TS40	0.16	

CLASSIC Bit set

- Ideal set compilation for RIBE® screws
- External hexagon drive to DIN 3126 / ISO 1173 form C 8
- Can be used by hand, electric screwdriver and impact drivers
- Ideally suited for fittings in trade and industry
- Reinforced execution
- Precise arrangement of the popular 5/16" RIBE® bits
- Phosphate finish
- Special steel
- In durable plastic storage case

5/16"

			kg	
911.4306	14 pcs	CLASSIC Bit set	0.82	

consists of:

		g	
911.5165	5/16" Special bits RIBE®, Length 38 mm, M5	10	
911.5166	5/16" Special bits RIBE®, Length 38 mm, M6	10	
911.5167	5/16" Special bits RIBE®, Length 38 mm, M7	10	
911.5168	5/16" Special bits RIBE®, Length 38 mm, M8	20	
911.5169	5/16" Special bits RIBE®, Length 38 mm, M10	20	
911.5170	5/16" Special bits RIBE®, Length 38 mm, M12	30	
911.5171	5/16" Special bits RIBE®, Length 100 mm, M7	40	
911.5172	5/16" Special bits RIBE®, Length 100 mm, M8	50	
911.5173	5/16" Special bits RIBE®, Length 100 mm, M9	60	
911.5174	5/16" Special bits RIBE®, Length 100 mm, M10	70	
911.5175	5/16" Special bits RIBE®, Length 100 mm, M12	80	
911.5176	5/16" Special bits RIBE®, Length 100 mm, M13	90	
911.5177	5/16" Special bits RIBE®, Length 100 mm, M14	100	
911.5178	1/2" Impact Bit adaptor for Bits 5/16"	60	

TX PLUS socket set

- Ideal set compilation for TX and TX PLUS screws
- With external hexagon drive to DIN 3126 / ISO 1173 Form C 6,3 and C 8
- Can be used by hand or with an electric screwdriver
- Ideally suited for fittings in trade and industry
- Reinforced execution
- Nickel plated
- Special steel
- In durable plastic storage box

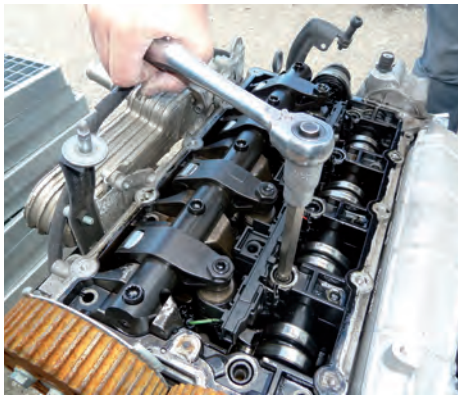
Applications for TX PLUS:
Opel (Corsa) / VW Passat / Fiat 1,3 / 1,4 / Toyota / Nissan / Renault / Subaru /GM / Ford etc.
e.g.: flywheel / timing belt housing cover / general engine / transmission

Applications for TX PLUS:
VW, Mercedes Benz (car+HGV Actros/Atego), Audi, Bosch, MAN, Ford, Opel, John Deere, etc.
e.g.: plug-in pumps of pump-line-nozzle systems, air mass meters, EWS3 immobiliser controller / injection pumps / alternators, etc.

			g	
911.3120	22 pcs	TX PLUS socket set	432	

consists of:

		g	
911.3101	1/4" 5 star tamperproof bit, TS10	10	
911.3102	1/4" 5 star tamperproof bit, TS15	10	
911.3103	1/4" 5 star tamperproof bit, TS20	10	
911.3104	1/4" 5 star tamperproof bit, TS25	10	
911.3106	1/4" 5 star tamperproof bit, TS30	10	
911.3121	10mm 5 star tamperproof bit, TS40	40	
911.3122	10mm 5 star tamperproof bit, TS45	40	
911.3123	10mm 5 star tamperproof bit, TS50	40	
911.3124	10mm 5 star tamperproof bit, TS55	40	
911.3125	10mm 5 star tamperproof bit, TS60	40	
911.3240	1/4" TORX PLUS bit, IP60	5	
911.3241	1/4" TORX PLUS bit, IP15	6	
911.3242	1/4" TORX PLUS bit, IP20	5	
911.3243	1/4" TORX PLUS bit, IP25	5	
911.3244	1/4" TORX PLUS bit, IP30	5	
911.3260	10 mm TORX PLUS bit, IP40	13	
911.3261	10 mm TORX PLUS bit, IP45	14	
911.3262	10 mm TORX PLUS bit, IP50	16	
911.3263	10 mm TORX PLUS bit, IP55	20	
911.3264	10 mm TORX PLUS bit, IP60	25	
911.4311	3/8" Bit adaptor socket w. clamp ring f. bits 10mm	30	
911.4327	1/4" Bit adaptor socket w.clamp ring	10	



Cylinder head bolt socket set

- Assortment of all standard inserts for cylinder head screws
- Quick and professional engine repair
- Chrome vanadiumIn durable plastic storage case

Application range: Audi = RIBE-like wedge-tooth profile M9/10 or Toyota/Corolla 1.4 75 hp from MY 96 = XZN M9, etc.

1/2"

			kg	
911.4460	11 pcs	Cylinder head bolt socket set	1.51	

consists of:

		g	
911.1940	1/2" Bit socket TX,L=140mm,T55	125	
911.1942	1/2" Bit socket TX,L=140mm,T70	125	
911.1359	1/2" Bit socket XZN,L=110mm,M9	180	
911.1970	1/2" Bit socket XZN,L=140mm,M10	125	
911.1972	1/2" Bit socket XZN,L=140mm,M12	125	
911.4452	1/2" TX-E socket,deep,E12	260	
911.4453	1/2" TX-E socket,deep,E14	260	
911.1395	1/2" Impact bit socket RIBE XL,M9/10	110	
911.1995	1/2" Bit socket RIBE,L=110mm,M12	175	
911.1996	1/2" Bit socket RIBE,L=110mm,M13	175	
911.1997	1/2" Bit socket RIBE,L=110mm,M14	175	

TX E socket set

- TX E
- For loosening and tightening TX E cylinder head screws
- With incorporated retaining ball for accurate removing of the bolt
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Long execution
- For manual operation
- Matt finish
- Chrome vanadium
- In durable plastic storage case

1/2"

			kg	
911.4450	6 pcs	TX E socket set	1.90	

TX E socket, deep

- TX E
- For loosening and tightening TX E cylinder head screws
- With incorporated retaining ball for accurate removing of the bolt
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Long execution
- For manual operation
- Matt finish
- Chrome vanadium

1/2"

		L mm	g	
911.4451	E10	150.0	260	
911.4452	E12	150.0	260	
911.4453	E14	150.0	260	
911.4454	E16	150.0	260	
911.4455	E18	150.0	260	
911.4456	E20	150.0	260	

Special 12 point socket, extra deep

- Extra slim design
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- To dismantling and assembly of cylinder head and injection pump bolts
- Special steel

Application range: Mercedes Benz, Mitsubishi, Toyota, Suzuki, etc.

3/8"

	mm	D mm	L mm	g	
455.0015	10	15.3	120.0	210	

12 Point impact socket set

- 12 point
- Internal square drive to DIN 3121 / ISO 1174
- Short execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum
- In durable plastic case

1/2"

			kg	
515.0900	13 pcs	10 - 12 - 13 - 14 - 15 - 16 - 17 - 19 - 20 - 21 - 22 - 23 - 24 mm	2.80	

Special impact 12-point socket, deep

- 12-point
- Internal square drive to DIN 3121 / ISO 1174
- Ideally for the dismantling and/or assembly of cylinder head screws in commercial vehicles
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

Application range: Mercedes Benz, MAN, etc.

3/4"

	mm	L mm	g	
455.0010	17,0	110.0	570	
455.0011	19,0	110.0	600	

Impact socket for TX screws, deep

- TX
- Internal square drive to DIN 3121 / ISO 1174
- Ideally for the dismantling and/or assembly of cylinder head screws in commercial vehicles
- Long execution
- For machinery usage
- Phosphate finish
- Chrome molybdenum

Application range: Mercedes Benz, MAN, etc.

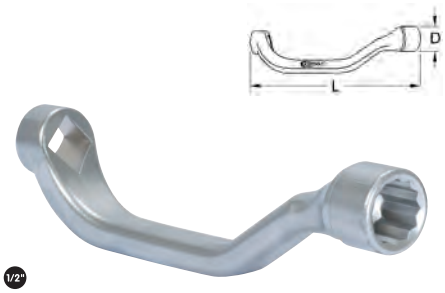
3/4"

		L mm	g	
455.0012	E18	110.0	620	
455.0013	E20	110.0	670	

Cylinder head spanner MB

- 12 point
- For loosening and fastening of cylinder head screws
- Removing of the injector no longer necessarily
- Ideally suited for commercial vehicles
- Special steel

Application range: MB, M 401, 404, 407-409, 421-424, 427, 428, 444, 447



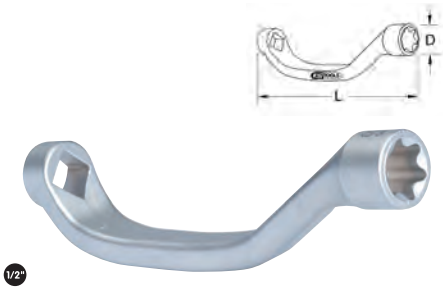
1/2"

	□	mm	L mm	D mm	g
455.0017	1/2"	17	165.0	26.0	270

TX E Cylinder head socket

- TX E
- For loosening and fastening of cylinder head screws
- Removing of the injector no longer necessarily
- Ideally suited for commercial vehicles
- Special steel

Application range: MAN Series F2000 / F90 / F8, MAN buses with D25 and D28 engines

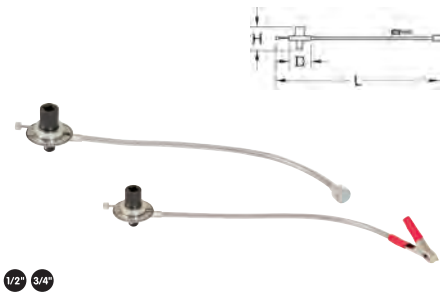


1/2"

	□		L mm	D mm	g
455.0016	1/2"	E20	165.0	24.0	150

Rotary angle disc

- For fastening screws at an angle
- Device for angle regulated fastening with a torque wrench
- Flexible arm
- Range 0° - 360°
- Square drive adaptor to DIN 3120 - ISO 1174 with ball lock
- Optionally with a magnetic arm or claw arm



1/2" 3/4"

	□	■	Arm	Pitch	D mm	H mm	L mm	g
516.1195	1/2"	1/2"	Magnet	2°	67.0	63.0	480.0	170
516.1196	1/2"	1/2"	Claw	2°	67.0	63.0	538.0	60
516.1197	3/4"	3/4"	Magnet	2°	87.0	87.0	624.0	170
516.1198	3/4"	3/4"	Claw	2°	87.0	87.0	698.0	60

Stud bolt puller

- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- External drive hexagon socket 21 mm
- Right and left hand clamping function
- Safe clamping due to 3 rollers
- Stud screws can be screwed in or out without using counter nuts on the bolt
- Also for extra long studs that will go through the through socket
- Chrome plated and mirror polished
- Chrome vanadium

		g
152.1005	M5	150
152.1006	M6	160
152.1007	M7	160
152.1008	M8	170
152.1010	M10	180
152.1012	M12	200
152.1014	M14	200

Screw bolt puller set

- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- External drive hexagon socket 21 mm
- Right and left hand clamping function
- Safe clamping due to 3 rollers
- Stud screws can be screwed in or out without using counter nuts on the bolt
- Also for extra long studs that will go through the through socket
- Chrome plated and mirror polished
- Chrome vanadium
- In durable plastic storage case

			kg
152.1100	4 pcs	M6 - M8 - M10 - M12	0.79

Screw bolt puller set

- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- External drive hexagon socket 21 mm
- Right and left hand clamping function
- Safe clamping due to 3 rollers
- Stud screws can be screwed in or out without using counter nuts on the bolt
- Also for extra long studs that will go through the through socket
- Chrome plated and mirror polished
- Chrome vanadium
- In durable plastic case

			kg
152.1101	7 pcs	M5 - M6 - M7 - M8 - M10 - M12 - M14	1.50

Stud bolt puller

- For screwing in or extracting out stud bolts
- Clockwise and anticlockwise clamping function
- Also suitable for extra long stud bolts
- Special steel

	Ø mm	max N·m	dim mm	g
670.0231	5 - 15	120	19	360
670.0232	10 - 19	120	19	400
670.0233	18 - 28	120	19	450

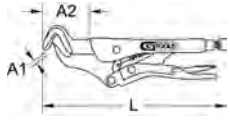
Stud bolt puller

- For screwing in or extracting out stud bolts
- Clockwise and anticlockwise clamping function
- Also suitable for extra long stud bolts
- Special steel

	Ø mm	max N·m	dim mm	g
670.0241	5 - 20	120	19	400

Automotive welding gripping pliers

- Forged gripping jaws
- Serrated execution
- Quick-release lever
- Easy locking action
- For flanged material
- To hold when welding
- Nickel plated
- Chrome molybdenum



	A1 mm	A2 mm	L mm	g
115.1068	0,0-40,0	60.0	200.0	400

THREADING TOOLS

THREADfix repair set M10 x 1.0 for glow plugs

- Unique assortment for the repair of worn or damaged threads
- Ideal for glow plugs
- Simple handling and correct repair
- Provides absolute firm and gas density seat for many uses
- Extremely thin walled with rustproofing protection
- Includes threaded tap and assembly tool
- Fast repair possibility without costly replacement of bearing housings and components
- In durable wooden case

			kg	
150.5040	15 pcs	THREADfix repair set M10 x 1.0 for glow plugs	0.81	

consists of:

		g	
150.5041	Threaded drill with guide pin M10 x 1,0	26	
150.5042	Threaded drill with guide pin M12 x 1.0	30	
150.5043	Reamer with guide pin	29	
150.5044	Screw for Bushes (S) L= 85 mm, M10 x 1.0, GL= 103 mm	175	
150.5047	Screw for Bushes L= 91 mm, M10 x 1.0, GL= 109 mm	180	
150.5048	Threaded bush+collar L12mm, IG= M10x1,0 / AG=M12x1,0 (5 per Pack)	20	
150.5049	Threaded bush+collar L19mm, IG= M10x1,0 / AG=M12x1,0 (5 per Pack)	20	

Accessories:

		g	
150.5045	Threaded bush+collarL12mm, IG= M10x1.0/AG=M12x1.0(10 per Pack)	37	
150.5046	Threaded bush+collarL19mm, IG= M10x1.0/AG=M12x1.0(10 per Pack)	51	

THREADfix repair set M14 x 1.25 for spark plugs

- Unique assortment for the repair of worn or damaged threads
- Ideal for spark plugs
- Simple handling and correct repair
- Provides absolute firm and gas density seat for many uses
- Extremely thin walled with rustproofing protection
- Includes threaded tap and assembly tool
- Fast repair possibility without costly replacement of bearing housings and components
- In durable wooden case

			kg	
150.5080	21 pcs	THREADfix repair set M14 x 1.25 for spark plugs	1.58	

consists of:

		g	
150.5081	Threaded tap M14 x 1.25 L=70 mm	59	
150.5082	Threaded tap M16 x 1,25 L= 70 mm	74	
150.5083	Reamer L= 70 mm	71	
150.5084	Screw for Bushes (S) L= 90 mm, M14 x 1.25, GL= 109 mm	343	
150.5088	Screw for Bushes (S) L= 90 mm, M14 x 1.25, GL= 117 mm	355	
150.5017	Threaded bush+collar L=12,2 mm, IG= M14x1,25 / AG=M16x1,25 (5 per Pack)	20	
150.5018	Threaded bush+collar L=17,5 mm, IG= M14x1,25 / AG=M16x1,25 (5 per Pack)	20	
150.5019	Threaded bush+cones L=17,5 mm, IG= M14x1,25 / AG=M16x1,25 (5 per Pack)	20	

Accessories:

		g	
150.5085	Threaded bush + collar f.150.5080, 10pcs	41	
150.5086	Threaded bush + collar f.150.5080, 10pcs	64	
150.5087	Threaded bush + cones f.150.5080, 10pcs	62	

THREADfix repair set M18 x 1.5 for lambda sensors

- Unique assortment for the repair of worn or damaged threads
- Ideal for lambda sensors
- Simple handling and correct repair
- Provides absolute firm and gas density seat for many uses
- Extremely thin walled with rustproofing protection
- Includes threaded tap and assembly tool
- Fast repair possibility without costly replacement of bearing housings and components
- In durable wooden case

			kg	
150.5090	10 pcs	THREADfix repair set M18 x 1.5 for lambda sensors	1.03	

consists of:

		g	
150.5091	Threaded tap M18 x 1.5 L=50 mm	75	
150.5092	Threaded tap M20 x 1.5 L=50 mm	77	
150.5093	Reamer L= 50 mm	76	
150.5094	Screw for Bushes L= 81 mm, M18 x 1.5, GL= 102 mm	443	
150.5096	Threaded bush L=9 mm, IG= M18x1,5 / AG=M20x1,5 (5 per Pack)	20	

Accessories:

		g	
150.5095	Threaded bush + collar f.150.5090, 10pcs	48	

Stainless steel thread repair set M5 x 0,8 x 6,7 mm

- Assortment of for repairing thread damaged or worn threads indispensably use of materials with light stability e.g. aluminum alloy or magnesium alloy
- Ideally for the mechanical engineering, vehicle technology, electro and medical technology
- Resistant to corrosion effects and temperature resistant thread uses
- Includes threaded tap and assembly tool
- Fast repair possibility without costly replacement of bearing housings and components
- Special stainless steel
- In durable steel storage case

			g	
150.6000	24 pcs	Stainless steel thread repair set M5 x 0,8 x 6,7 mm	131	

consists of:

		g	
150.6001	Thread insert set M5x0,8, VPE 10pcs. Length 6,7mm	14	
150.6002	Twist drill for M5, Ø 5,2mm	9	
150.6003	Threaded tap M5x0,8	12	
150.6004	Mounting tool for M5	20	
150.6005	Cone mill M5	9	

Stainless steel thread repair set M6 x 1.0 x 8 mm

- Assortment of for repairing thread damaged or worn threads indispensably use of materials with light stability e.g. aluminum alloy or magnesium alloy
- Ideally for the mechanical engineering, vehicle technology, electro and medical technology
- Resistant to corrosion effects and temperature resistant thread uses
- Includes threaded tap and assembly tool
- Fast repair possibility without costly replacement of bearing housings and components
- Special stainless steel
- In durable steel storage case

			g	
150.6010	24 pcs	Stainless steel thread repair set M6 x 1.0 x 8 mm	154	

consists of:

		g	
150.6011	Thread insert set M6 x 1,0, VPE 10 pcs.., L=8 mm	17	
150.6012	Twist drill for M6, Ø 6.3 mm	17	
150.6013	Thread tap M6 x 1,0	21	
150.6014	Mounting tool for M6	24	
150.6015	Cone mill M6	10	

Stainless steel thread repair set M7 x 1.0 x 9.5 mm

- Assortment of for repairing thread damaged or worn threads indispensably use of materials with light stability e.g. aluminum alloy or magnesium alloy
- Ideally for the mechanical engineering, vehicle technology, electro and medical technology
- Resistant to corrosion effects and temperature resistant thread uses
- Includes threaded tap and assembly tool
- Fast repair possibility without costly replacement of bearing housings and components
- Special stainless steel
- In durable steel storage case

			g	
150.6020	24 pcs	Stainless steel thread repair set M7 x 1.0 x 9.5 mm	234	

consists of:

		g	
150.6021	Thread insert M7 x 1,0, VPE 10 pcs.., L=9,5 mm	90	
150.6022	Twist drill for M7, Ø 7,3 mm	25	
150.6023	Thread tap M7 x 1,0	25	
150.6024	Mounting tool for M7	37	
150.6025	Cone mill M6 - M8	16	

Stainless steel thread repair set M8 x 1,00 x 11 mm

- Assortment of for repairing thread damaged or worn threads indispensably use of materials with light stability e.g. aluminum alloy or magnesium alloy
- Ideally for the mechanical engineering, vehicle technology, electro and medical technology
- Resistant to corrosion effects and temperature resistant thread uses
- Includes threaded tap and assembly tool
- Fast repair possibility without costly replacement of bearing housings and components
- Special stainless steel
- In durable steel storage case

150.6030	24 pcs	Stainless steel thread repair set M8 x 1,00 x 11 mm	268

consists of:

150.6031	Thread insert set M8 x 1,0, VPE 10 pcs.., L=11 mm	120
150.6032	Twist drill for M8, Ø 8.3 mm	34
150.6033	Threaded tap M8 x 1,0	36
150.6034	Mounting tool for M8	48
150.6025	Cone mill M6 - M8	16

Stainless steel thread repair set M9 x 1.25 x 12.3 mm

- Assortment of for repairing thread damaged or worn threads indispensably use of materials with light stability e.g. aluminum alloy or magnesium alloy
- Ideally for the mechanical engineering, vehicle technology, electro and medical technology
- Resistant to corrosion effects and temperature resistant thread uses
- Includes threaded tap and assembly tool
- Fast repair possibility without costly replacement of bearing housings and components
- Special stainless steel
- In durable steel storage case

150.6050	19 pcs	Stainless steel thread repair set M9 x 1.25 x 12.3 mm	294

consists of:

150.6051	Thread insert set M9 x 1.25, VPE 10 pcs.., L=12,3 mm	47
150.6052	Twist drill for M9 x 1.25, Ø 9.3 mm	45
150.6053	Thread tap M9 x 1.25	31
150.6054	Mounting tool for M9	52
150.6055	Cone mill M9	21

Stainless steel thread repair set M10 x 1.25 x 13.8 mm

- Assortment of for repairing thread damaged or worn threads indispensably use of materials with light stability e.g. aluminum alloy or magnesium alloy
- Ideally for the mechanical engineering, vehicle technology, electro and medical technology
- Resistant to corrosion effects and temperature resistant thread uses
- Includes threaded tap and assembly tool
- Fast repair possibility without costly replacement of bearing housings and components
- Special stainless steel
- In durable steel storage case

150.6070	19 pcs	Stainless steel thread repair set M10 x 1.25 x 13.8 mm	328

consists of:

150.6071	Thread insert set M10 x 1.25, VPE 5 pcs., L=13,8 mm	62
150.6062	Twist drill for M10, Ø 10,3 mm	58
150.6073	Threaded tap M10 x 1.25	33
150.6064	Mounting tool for M10	62
150.6065	Cone mill M10	26

Stainless steel thread repair set M8 x 1,25 x 10,8 mm

- Assortment of for repairing thread damaged or worn threads indispensably use of materials with light stability e.g. aluminum alloy or magnesium alloy
- Ideally for the mechanical engineering, vehicle technology, electro and medical technology
- Resistant to corrosion effects and temperature resistant thread uses
- Includes threaded tap and assembly tool
- Fast repair possibility without costly replacement of bearing housings and components
- Special stainless steel
- In durable steel storage case

150.6040	24 pcs	Stainless steel thread repair set M8 x 1,25 x 10,8 mm	277

consists of:

150.6041	Thread insert set M8 x 1.25, VPE 10 pcs.., L=10,8 mm	26
150.6032	Twist drill for M8, Ø 8.3 mm	34
150.6043	Threaded tap M8 x 1.25	36
150.6034	Mounting tool for M8	48
150.6025	Cone mill M6 - M8	16

Stainless steel thread repair set M10 x 1.0 x 14.0 mm

- Assortment of for repairing thread damaged or worn threads indispensably use of materials with light stability e.g. aluminum alloy or magnesium alloy
- Ideally for the mechanical engineering, vehicle technology, electro and medical technology
- Resistant to corrosion effects and temperature resistant thread uses
- Includes threaded tap and assembly tool
- Fast repair possibility without costly replacement of bearing housings and components
- Special stainless steel
- In durable steel storage case

150.6060	19 pcs	Stainless steel thread repair set M10 x 1.0 x 14.0 mm	318

consists of:

150.6061	Thread insert set, 150.6060,5pcs,M10x1.0	47
150.6062	Twist drill, M10,Ø 10.3mm	58
150.6063	Threaded tap f.150.6060, M10x1.0	33
150.6064	Mounting tool f.150.6060, M10	62
150.6065	Insertion pin breaker f.150.6060, M10	26

Stainless steel thread repair set M10 x 1.5 x 13.5 mm

- Assortment of for repairing thread damaged or worn threads indispensably use of materials with light stability e.g. aluminum alloy or magnesium alloy
- Ideally for the mechanical engineering, vehicle technology, electro and medical technology
- Resistant to corrosion effects and temperature resistant thread uses
- Includes threaded tap and assembly tool
- Fast repair possibility without costly replacement of bearing housings and components
- Special stainless steel
- In durable steel storage case

150.6080	19 pcs	Stainless steel thread repair set M10 x 1.5 x 13.5 mm	343

consists of:

150.6081	Thread insert set M10 x 1,5, VPE 5 pcs., Length 13,5 mm	24
150.6082	Twist drill for M10, Ø 10.4 mm	61
150.6083	Threaded tap M10 x 1.5	41
150.6064	Mounting tool for M10	62
150.6065	Cone mill M10	26

Stainless steel thread repair set M11 x 1.5 x 15 mm

- Assortment of for repairing thread damaged or worn threads indispensably use of materials with light stability e.g. aluminum alloy or magnesium alloy
- Ideally for the mechanical engineering, vehicle technology, electro and medical technology
- Resistant to corrosion effects and temperature resistant thread uses
- Includes threaded tap and assembly tool
- Fast repair possibility without costly replacement of bearing housings and components
- Special stainless steel
- In durable steel storage case

			g	
150.6090	14 pcs	Stainless steel thread repair set M11 x 1.5 x 15 mm	390	

consists of:

		g	
150.6091	Thread insert set M11 x 1,5, VPE 5 pcs., L=15 mm	85	
150.6092	Twist drill for M11, Ø 11.4 mm	74	
150.6093	Threaded tap M14 x 1,5	43	
150.6094	Mounting tool for M11	88	
150.6095	Cone mill M11	37	

Stainless steel thread repair set M12 x 1.25 x 16.8 mm

- Assortment of for repairing thread damaged or worn threads indispensably use for Materials with sight stability e.g. aluminum alloy or magnesium alloy
- Ideally for the mechanical engineering, vehicle technology, electro and medical technology
- Resistant to corrosion effects and temperature resistant thread uses
- Includes threaded tap and assembly tool
- Fast repair possibility without costly replacement of bearing housings and components
- Special stainless steel
- In durable steel storage case

			g	
150.6110	14 pcs	Stainless steel thread repair set M12 x 1.25 x 16.8 mm	453	

consists of:

		g	
150.6111	Thread insert set f.150.6110, 5pcs	85	
150.6102	Twist drill, M12, Ø 12.3mm	84	
150.6113	Threaded tap f.150.6110, M12x1.25	67	
150.6104	Mounting tool f.150.6100, M12	104	
150.6105	Insertion pin breaker f.150.6100, M12	46	

Stainless steel thread repair set M12 x 1.75 x 16.3 mm

- Assortment of for repairing thread damaged or worn threads indispensably use for Materials with sight stability e.g. aluminum alloy or magnesium alloy
- Ideally for the mechanical engineering, vehicle technology, electro and medical technology
- Resistant to corrosion effects and temperature resistant thread uses
- Includes threaded tap and assembly tool
- Fast repair possibility without costly replacement of bearing housings and components
- Special stainless steel
- In durable steel storage case

			g	
150.6130	14 pcs	Stainless steel thread repair set M12 x 1.75 x 16.3 mm	466	

consists of:

		g	
150.6131	Thread insert set f.150.6130, 5pcs	33	
150.6122	Twist drill, M12, Ø 12.4mm	88	
150.6133	Threaded tap f.150.6130, M12x1.75	68	
150.6104	Mounting tool f.150.6100, M12	104	
150.6105	Insertion pin breaker f.150.6100, M12	46	

Stainless steel thread repair set M12 x 1.0 x 17 mm

- Assortment of for repairing thread damaged or worn threads indispensably use for Materials with sight stability e.g. aluminum alloy or magnesium alloy
- Ideally for the mechanical engineering, vehicle technology, electro and medical technology
- Resistant to corrosion effects and temperature resistant thread uses
- Includes threaded tap and assembly tool
- Fast repair possibility without costly replacement of bearing housings and components
- Special stainless steel
- In durable steel storage case

			g	
150.6100	14 pcs	Stainless steel thread repair set M12 x 1.0 x 17 mm	445	

consists of:

		g	
150.6101	Thread insert set f.150.6100, 5pcs	67	
150.6102	Twist drill, M12, Ø 12.3mm	84	
150.6103	Threaded tap f.150.6100, M12x1.0	69	
150.6104	Mounting tool f.150.6100, M12	104	
150.6105	Insertion pin breaker f.150.6100, M12	46	

Stainless steel thread repair set M12 x 1.5 x 16.5 mm

- Assortment of for repairing thread damaged or worn threads indispensably use for Materials with sight stability e.g. aluminum alloy or magnesium alloy
- Ideally for the mechanical engineering, vehicle technology, electro and medical technology
- Resistant to corrosion effects and temperature resistant thread uses
- Includes threaded tap and assembly tool
- Fast repair possibility without costly replacement of bearing housings and components
- Special stainless steel
- In durable steel storage case

			g	
150.6120	14 pcs	Stainless steel thread repair set M12 x 1.5 x 16.5 mm	456	

consists of:

		g	
150.6104	Mounting tool f.150.6100, M12	104	
150.6105	Insertion pin breaker f.150.6100, M12	46	
150.6121	Thread insert set f.150.6120, 5pcs	100	
150.6122	Twist drill, M12, Ø 12.4mm	88	
150.6123	Threaded tap f.150.6120, M12x1.5	67	

Stainless steel thread repair set for spark plug threads M14 x 1,25 mm

- With thread use heights 8.4 + 12.4 + 16.4 mm for spark plug threads
- Assortment of for repairing thread damaged or worn threads indispensably use for Materials with sight stability e.g. aluminum alloy or magnesium alloy
- Ideally for the mechanical engineering, vehicle technology, electro and medical technology
- Resistant to corrosion effects and temperature resistant thread uses
- Includes threaded tap and assembly tool
- Fast repair possibility without costly replacement of bearing housings and components
- Special stainless steel
- In durable steel storage case

			g	
150.6140	17 pcs	Stainless steel thread repair set for spark plug threads M14 x 1,25 mm	457	

consists of:

		g	
150.6141	Thread insert set f.150.6140, 5pcs	16	
150.6142	Thread insert set f.150.6140, 5pcs	12	
150.6143	Thread insert set f.150.6140, 5pcs	7	
150.6144	Threaded tap f.150.6140, M14x1,25	72	
150.6145	Mounting tool f.150.6140, M14x1,25	80	

Stainless steel thread repair set M5 - M12

- Assortment of for repairing thread damaged or worn threads indispensably use for Materials with sight stability e.g. aluminum alloy or magnesium alloy
- Ideally for the mechanical engineering, vehicle technology, electro and medical technology
- Resistant to corrosion effects and temperature resistant thread uses
- Includes threaded tap and assembly tool
- Fast repair possibility without costly replacement of bearing housings and components
- Special stainless steel
- In durable steel storage case

			kg	
150.6150	130 pcs	Stainless steel thread repair set M5 - M12	2.05	

consists of:

		g	
150.6001	Thread insert set f.150.6000, 10pcs	14	
150.6002	Twist drill, M5, Ø 5.2mm	9	
150.6003	Threaded tap f.150.6000, M5x0,8	12	
150.6004	Mounting tool f.150.6000, M5	20	
150.6005	Insertion pin breaker f.150.6000, M5	9	
150.6011	Thread insert set f.150.6010, 10pcs	17	
150.6012	Twist drill, M6,Ø 6.3mm	17	
150.6013	Threaded tap f.150.6010, M6x1.0	21	
150.6014	Mounting tool f.150.6010, M6	24	
150.6015	Insertion pin breaker f.150.6010, M6	10	
150.6025	Insertion pin breaker f.150.6020, M7	16	
150.6032	Twist drill, M8,Ø 8.3mm	34	
150.6034	Mounting tool f.150.6030, M8	48	
150.6041	Thread insert set f.150.6040, 10pcs	26	
150.6043	Threaded tap f.150.6040, M8x1.25	36	
150.6064	Mounting tool f.150.6060, M10	62	
150.6065	Insertion pin breaker f.150.6060, M10	26	
150.6081	Thread insert set f.150.6080, 5pcs	24	
150.6082	Twist drill, M10, Ø 10.4mm	61	
150.6083	Threaded tap f.150.6080, M10x1.5	41	
150.6104	Mounting tool f.150.6100, M12	104	
150.6105	Insertion pin breaker f.150.6100, M12	46	
150.6122	Twist drill, M12, Ø 12.4mm	88	
150.6123	Threaded tap f.150.6120, M12x1.5	67	
150.6131	Thread insert set f.150.6130, 5pcs	33	

Stainless steel thread repair set M6 - M10

- Assortment of for repairing thread damaged or worn threads indispensably use for Materials with sight stability e.g. aluminum alloy or magnesium alloy
- Ideally for the mechanical engineering, vehicle technology, electro and medical technology
- Resistant to corrosion effects and temperature resistant thread uses
- Includes threaded tap and assembly tool
- Fast repair possibility without costly replacement of bearing housings and components
- Special stainless steel
- In durable steel storage case

			kg	
150.6155	87 pcs	Stainless steel thread repair set M6 - M10	1.53	

consists of:

		g	
150.6011	Thread insert set M6 x 1,0, VPE 10 pcs.., L=8 mm	17	
150.6012	Twist drill for M6, Ø 6.3 mm	17	
150.6013	Thread tap M6 x 1,0	21	
150.6014	Mounting tool for M6	24	
150.6015	Cone mill M6	10	
150.6025	Cone mill M6 - M8	16	
150.6032	Twist drill for M8, Ø 8.3 mm	34	
150.6034	Mounting tool for M8	48	
150.6041	Thread insert set M8 x 1.25, VPE 10 pcs.., L=10,8 mm	26	
150.6043	Threaded tap M8 x 1.25	36	
150.6064	Mounting tool for M10	62	
150.6065	Cone mill M10	26	
150.6081	Thread insert set M10 x 1,5, VPE 5 pcs., Length 13,5 mm	24	
150.6082	Twist drill for M10, Ø 10.4 mm	61	
150.6083	Threaded tap M10 x 1.5	41	

Stainless steel thread repair set M6 - M14

- Assortment of for repairing thread damaged or worn threads indispensably use for Materials with sight stability e.g. aluminum alloy or magnesium alloy
- Ideally for the mechanical engineering, vehicle technology, electro and medical technology
- Resistant to corrosion effects and temperature resistant thread uses
- Includes threaded tap and assembly tool
- Fast repair possibility without costly replacement of bearing housings and components
- Special stainless steel
- In durable steel storage case

			kg	
150.6160	113 pcs	Stainless steel thread repair set M6 - M14	2.52	

consists of:

		g	
150.6011	Thread insert set f.150.6010, 10pcs	17	
150.6012	Twist drill, M6,Ø 6.3mm	17	
150.6013	Threaded tap f.150.6010, M6x1.0	21	
150.6014	Mounting tool f.150.6010, M6	24	
150.6015	Insertion pin breaker f.150.6010, M6	10	
150.6025	Insertion pin breaker f.150.6020, M7	16	
150.6032	Twist drill, M8,Ø 8.3mm	34	
150.6041	Thread insert set f.150.6040, 10pcs	26	
150.6043	Threaded tap f.150.6040, M8x1.25	36	
150.6064	Mounting tool f.150.6060, M10	62	
150.6065	Insertion pin breaker f.150.6060, M10	26	
150.6081	Thread insert set f.150.6080, 5pcs	24	
150.6082	Twist drill, M10, Ø 10.4mm	61	
150.6083	Threaded tap f.150.6080, M10x1.5	41	
150.6104	Mounting tool f.150.6100, M12	104	
150.6105	Insertion pin breaker f.150.6100, M12	46	
150.6122	Twist drill, M12, Ø 12.4mm	88	
150.6131	Thread insert set f.150.6130, 5pcs	33	
150.6133	Threaded tap f.150.6130, M12x1.75	68	
150.6141	Thread insert set f.150.6140, 5pcs	16	
150.6142	Thread insert set f.150.6140, 5pcs	12	
150.6143	Thread insert set f.150.6140, 5pcs	7	
150.6144	Threaded tap f.150.6140, M14x1,25	72	
150.6145	Mounting tool f.150.6140, M14x1,25	80	

Common rail injector test assortment with 8 measurement pipes

- Professional test assortment to the misdiagnosis through measurement of the return stroke quantities of high pressure injectors
- Measurement of up to 8 high pressures Injectors simultaneously possible
- Ideal supplement to the engine diagnosis device
- Diesel sutible silicone tubes
- Tube end with coupling and original adapter for safe connection
- Double sealed brass connections in the test tube
- Stable acrylic test block with filling line scale
- Precise measurement result through 25 ml volumetric capacity in the test tube
- In durable plastic storage case

Application range: Mercedes, BMW, Ford, Renault, Opel, Vauxhall, Toyota, Nissan, Citroen, Volvo, Peugeot etc.

			kg	
150.1580	65 pcs	Common rail injector test assortment with 8 measurement pipes	3.16	

consists of:

		g	
150.1581	Acrylic-Block	800	
150.1582	Silicone tube 5,2 x 8,8 x 600 mm	40	
150.1583	O-Ring 16 x 1,3 mm	1	
150.1584	Adapter to acrylic block with O ring	24	
150.1594	Adaptor for Bosch	10	
150.1595	Adaptor for-Siemens	10	
150.1596	Adaptor for Denso	10	
150.1597	Adaptor for Delphi	10	
150.1598	Double nipple Adaptor for Bosch	30	
150.1599	Fast fastener coupling	30	

Injector testing equipment 600 bar

- For testing and setting of injectors
- Manometer Ø 105 mm with rubber safety cover
- Display 0-600 bar / 8700 Lbs/sq.inch
- Table mounting possible
- Robust execution for continuous operation
- Includes 2 connecting pipes M14xM14 + M14xM12
- Plastic test container with fine filter

Possible tests:
Nozzle free or blocked
Opening pressure
Nozzles - beam image - atomization
Lock - delay yield
Density of high pressure pipe between e pump and e nozzle

	H mm	kg	
455.0120	345.0	2.90	

Accessories:

		g	
455.0121	Connecting pipe M14xM14, L=210mm	80	
455.0122	Connecting pipe M14xM12, L=210mm	72	

Open box head spanner set

- 12 point
- Internal square to DIN 3120 / ISO 1174 with ball reception
- For loosening and fastening of screws and nuts
- For heavily accessible areas e.g. injection lines, etc.
- Ideally suited for commercial vehicles
- Special steel

1/2"

			kg	
913.1210	6 pcs	12 - 14 - 16 - 17 - 18 - 19 mm	1.13	

consists of:

		g	
913.1211	Open box head spanner, 10mm	122	
913.1212	Open box head spanner, 14mm	129	
913.1213	Open box head spanner, 16mm	146	
913.1214	Open box head spanner, 17mm	140	
913.1215	Open box head spanner, 18mm	145	
913.1216	Open box head spanner, 19mm	147	

CHROME*plus*® 12 point crawfoot wrench

- 12 point
- Internal square drive
- For manual operation
- Chrome plated and mirror polished
- Chrome vanadium
- Includes storage rail

3/8"

			kg	
913.3900	10 pcs	10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 19 - 22 mm	0.63	

Crawfoot wrench, hexagonal

- 6 point
- Internal square drive
- For manual operation
- Matt finish
- Chrome vanadium

3/8"

			kg	
913.3800	10 pcs	10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 mm	0.63	

Crowfeet pipe spanner set

- 12 point
- With internal square drive
- For loosening and tightening pipe spanners
- For manual operation
- Slim execution
- For difficult to access areas
- Burnished
- Special steel
- In durable plastic storage case

Application range: Trucks, land and construction machines, municipally and forestery technology, etc.

			kg	
913.1300	10 pcs	Crowfeet pipe spanner set	2.70	

consists of:

		g	
913.1301	3/8" Crowfeet pipe spanner 19mm	62	
913.1302	1/2" Crowfeet pipe spanner 21mm	94	
913.1303	1/2" Crowfeet pipe spanner 22mm	112	
913.1304	1/2" Crowfeet pipe spanner 24mm	120	
913.1305	1/2" Crowfeet pipe spanner 27mm	153	
913.1306	1/2" Crowfeet pipe spanner 30mm	170	
913.1307	1/2" Crowfeet pipe spanner 32mm	254	
913.1308	1/2" Crowfeet pipe spanner 36mm	337	
913.1309	1/2" Crowfeet pipe spanner 41mm	400	
913.1310	1/2" Crowfeet pipe spanner 46mm	632	

Sensor socket set

- For almost all current vehicle types
- For the dismantling and assembly of sensors and sensing devices
- For correct and damage free use
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Phosphate finish
- Chrome molybdenum
- In durable plastic storage case

3/8" 1/2"

			kg	
150.2100	7 pcs	Sensor socket set	2.16	

consists of:

		g	
150.2122	3/8" Oil pressure switch-Socket SW 1" + 1-1/16", (65 mm)	220	
150.2123	1/2" Thermostatic switch-Socket SW 29, L=90 mm	500	
150.2124	Injector nozzle-Socket SW 27 12 point, execution with window	220	
150.2125	1/2" Lambda sensor Socket SW 22, slotted, H=48 mm	170	
150.2126	3/8" Lambda sensor-Socket SW 22, extra flat execution	220	
150.2127	3/8" Lambda sensor-Socket SW 22, deep execution, slotted	260	
150.2128	3/8" Lambda sensor-Socket SW 22, wide slotted	240	

Lambda sensor socket joint lock

- For the simple dismantling and assembly of the firmly sitting lambda sensors
- For difficult to access areas
- Alternatively 6 and 12 edge drive side
- Joint 180° freely revolving
- Chrome vanadium

	mm	L mm	g	
150.2121	22,0	240.0	540	

Cleaning tool and repair tool for lambda sensor threads

- For recutting edges and cleaning of damaged outside threads on lambda sensor threads
- Especially short execution
- Ideal for confined spaces
- Special steel

		mm	□	L mm	g	
150.2129	M18x1,5	21,0	3/8"	50.0	95	

More tools for thread repair of Lambda sensors can be found in our general catalogue K11.

DIESEL INJECTORS

Diesel injector socket

- 12 point
- Special socket key for dismantling and assembly of injectors
- Correct easy and damage free usage
- Internal square to DIN 3120 / ISO 1174 with ball reception
- Ideally suited for commercial vehicles, light commercial, SUV, etc
- Black, tempered surface
- Special steel

Application range: Mercedes Benz Actros, Motor 457 / 541 / 542, Ford Maverik 2,7 TDI, Nissan Terrano TD 2,5L / 2,7L, Opel Corsa 1,5D / 1,7 TD, Isuzu

1/2"

	mm	L mm	g
455.0033	22	80.0	250

Diesel injector socket

- 6 point
- Special socket key for dismantling and assembly of injectors
- Correct easy and damage free usage
- Internal square to DIN 3120 / ISO 1174 with ball reception
- Ideally suited for commercial vehicles, light commercial, SUV, etc
- Black, tempered surface
- Special steel

Application range: Mercedes Benz, Motor 604 / 605 / 606

1/2"

	mm	L mm	g
455.0034	22	110.0	250

Diesel injector socket

- 12 point
- Special socket key for dismantling and assembly of injectors
- Correct easy and damage free usage
- Internal square to DIN 3120 / ISO 1174 with ball reception
- Ideally suited for commercial vehicles, light commercial, SUV, etc
- Black, tempered surface
- Special steel

Application range: Suitable for diesel engines from Fiat, Ford, Mercedes Benz and VW (vans and cars), MAN 2,5 TD

1/2"

	mm	L mm	g
455.0032	27	78.0	250

Diesel injector socket

- 12 point
- Special socket key for dismantling and assembly of injectors
- Correct easy and damage free usage
- Internal square to DIN 3120 / ISO 1174 with ball reception
- Ideally suited for commercial vehicles, light commercial, SUV, etc
- Black, tempered surface
- Special steel

Application range: MAN 6 cylinder in line D 0226, Chrysler Voyager, Jeep Cherokee, Opel Frontera VM 41 B, Rover, Landrover Discovery Motor VM 2,5L TD

1/2"

	mm	L mm	g
455.0031	28	78.0	250

Diesel injector socket set

- Special socket key for dismantling and assembly of injectors
- Correct easy and damage free usage
- Internal square to DIN 3120 / ISO 1174 with ball reception
- Ideally suited for commercial vehicles, light commercial, SUV, etc
- Black, tempered surface
- Special steel
- In durable plastic storage case

Application range: MAN, Mercedes Benz Transporter and commercial vehicles, Opel, Fiat, VW, Ford, Nissan, etc.

1/2"

			kg
455.0030	4 pcs	Diesel injector socket set	1.10

consists of:

		g
455.0031	Diesel injector socket SW 28, 12 point	250
455.0032	Diesel injector socket SW 27, 12 point	250
455.0033	Diesel injector socket SW 22, 12 point	250
455.0034	Diesel injector socket SW 22, 6 point	250

Thrust bolt spigot socket type 1

- For the disassembly and assembly of the pressure screw on the injector body
- 1/2" drive
- Ideally suited for commercial vehicles
- Special steel

Application range: Mercedes Benz and MAN commercial vehicles, etc.

1/2"

	■	Inner Ø mm	Outer Ø mm	L mm	Stud	g
455.0001	1/2"	22	28.5	72.0	4	150

Thrust bolt spigot socket type 2

- For the disassembly and assembly of the pressure screw on the injector body
- M14 fixing screw for non slip mounting
- Hexagon drive SW 22
- Ideally suited for commercial vehicles
- Special steel

Application range: Mercedes Benz and MAN commercial vehicles, etc.

	dim mm	Inner Ø mm	Outer Ø mm	L mm	Stud	g
455.0002	32	22	28.0	70.0	4	180

Thrust bolt spigot socket type 3

- For the disassembly and assembly of the pressure screw on the injector body
- Permeable and open form
- Possible to extract the cable from the needle motion sensors
- Hexagon drive
- Ideally suited for commercial vehicles
- Special steel

Application range: Mercedes Benz Euro 2 engines, MAN engines, etc.

	dim mm	Inner Ø mm	Outer Ø mm	L mm	Stud	g
455.0003	32	22	28.5	122.0	4	270

Thrust bolt spigot socket type 4

- For the disassembly and assembly of the pressure screw on the injector body
- 1/2" drive
- Ideally suited for commercial vehicles
- Special steel

Application range: Mercedes Benz and MAN commercial vehicles, etc.

1/2"

	■	Inner Ø mm	Outer Ø mm	L mm	Stud	g
455.0004	1/2"	23	30.0	121.0	3	160

Thrust bolt spigot socket set

- For the disassembly and assembly of the pressure screw on the injector body
- Assortment of the most important thrust spigot sockets
- Ideally suited for commercial vehicles
- In durable plastic storage case

Application range: Mercedes Benz and MAN commercial vehicles, etc.

			kg
455.0000	4 pcs	Thrust bolt spigot socket set	1.01

consists of:

		g
455.0001	Thrust bolt spigot socket Type 1	150
455.0002	Thrust bolt spigot socket Type 2	180
455.0003	Thrust bolt spigot socket Type 3	270
455.0004	Thrust bolt spigot socket Type 4	160

Special tooth socket for pre chamber

- Applicable for newer pre chamber nuts in Mercedes Benz diesel engines
- Internal square to DIN 3120 / ISO 1174 with ball reception
- 58 notched teeth
- Ideally suited for commercial vehicles
- Phosphate finish
- Special steel

1/2"

	No. teeth	L mm	g	
455.0005	58	60.0	215	

Injector socket

- 6 point
- Internal square to DIN 3120 / ISO 1174 with ball reception
- Ideal for dismantling and assembly of injectors
- Half opened execution
- For a correct and damage free use
- Black and steam tempered surface
- Special steel

Application range: Mercedes Benz A- and B-Class, Fiat 1.3 MJ

1/2"

	dim mm	L mm	g	
152.1058	29,0	78.0	274	

Injector extractor for 1.25 kg impact weight

- For Mercedes CDI Bosch common rail injectors
- For the extraction of the firmly burned injectors in the cylinder head
- Arched lever area on the handle hook for exact extraction
- Tilting and jamming of the injector is avoided
- Claw and impact weight can be used separately
- Includes impact weight
- Special steel

	Impact weight kg	Thread impact weight	L mm	Replacement claw	Replacement impact weight	kg	
152.1050	1.25	M10 x 1,5	410.0	152.1045	152.1040	1.45	

Diesel injector impact puller

- For manual use
- For the extraction of jammed injectors in the cylinder head
- Tilting and jamming of the injector is avoided
- Special steel

Supplied incl. 2 threaded adaptor size 1 = M8x075 AG size 2 = M12x1.5 / M14x1.5 IG

Application range: Volvo / Scania e.g. 113(320) / DAF / Fiat / Ford / Honda / Iveco / Land Rover / Leyland / MAN / Mercedes / Perkins / Renault / Rover / Vauxhall / York

	Impact weight kg	mm	L mm	g	
455.0095	0.62	M12 x 1.5	210.0	990	

Spare parts:

		g	
455.0096	Adaptor for 455.0095 size 1 M8	56	
455.0097	Adaptor for 455.0095 size 2 M12 x M14	79	

Injector extractor with 6 + 3 kg impact weight

- For Mercedes CDI Bosch common rail injectors
- Robust execution
- For the extraction of the firmly burned injectors in the cylinder head
- Enables short and intensive impact through impact weight
- Cylinder head does not work against the thrust bearing
- Tilting and jamming of the injector is avoided
- Claw and impact weight can be used separately
- Includes impact weight
- Special steel

			kg	
152.1055	3 pcs	Injector extractor with 6 + 3 kg impact weight	12.50	

consists of:

		kg	
700.1415	Universal slide hammer 6 + 3 kg, 850mm	12.00	
152.1056	Single screw adaptor AG M17 x 1	0.24	
152.1057	Hexagon socket, tamperproof 10 mm	0.10	

Injector density seat cleaning set

- Assortment to the cleaning of the density seat of the diesel injector
- Simple handling
- For a correct and damage free use
- In durable plastic storage case

Application range: Mercedes Benz CDI Engine, Bosch/Delphi Injectors, (BMW, Renault, Ford, Fiat, Iveco)

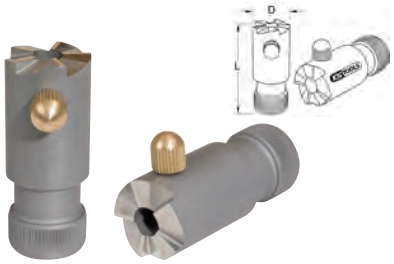
			kg	
152.1170	13 pcs	Injector density seat cleaning set	2.38	

consists of:

		g	
152.1171	Milling head pilot, 3/8"	185	
152.1172	T-handle key f.milling machine, 1/2"	240	
152.1173	Injector sealing ring, 260mm	425	
152.1174	Injector milling re-seating tool, 225mm	370	
152.1175	Injector gasket milling seat head15/19mm	550	
152.1176	Injector gasket milling seat head17/17mm	47	
152.1177	Injector gasket milling seat head17/19mm	58	
152.1178	Injector gasket milling seat head19/21mm	68	
152.1180	Cleaning brush	45	
152.1181	Milling head cleaning brush, nylon	13	

Injector sealing surface cleaner

- For cleaning injector sealing surfaces
- Special steel



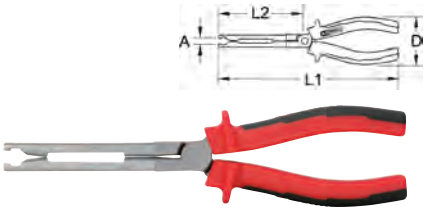
	D mm	L1 mm	L2 mm	g	
152.1179	20.0	49.0	30.0	95	

GLOW PLUGS REPAIR

Glow plug pliers

- With two component handle
- Specially milled pliers profile for positive holding
- Suitable for very firmly seated glow plugs
- For the expert installation and removal of glow plugs
- For difficult to access areas
- Special tool steel

Ideally suitable for glow plugs in the newer diesel engine generation e.g. Mercedes, BMW, VW and Audi.

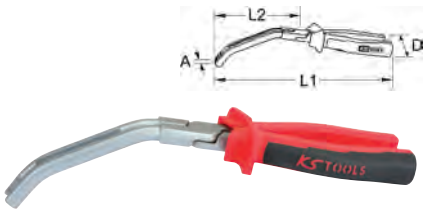


	A mm	D mm	L1 mm	L2 mm	g	
500.7330	0,0-125,0	76.0	265.0	95.0	400	

Glow plug pliers, angled

- With two component handle
- Angled head
- Specially milled plier profile for positive holding
- Suitable for very firmly seated glow plugs
- For the expert installation and removal of glow plugs
- For difficult to access areas
- Special tool steel

Ideally suitable for glow plugs in the newer diesel engine generation e.g. Mercedes, BMW, VW and Audi.



	A mm	D mm	L1 mm	L2 mm	g	
500.7310	0,0-105,0	55.0	235.0	120.0	400	

Glow plug T-handle ring ratchet wrench

- 6 point
- T-handle
- For extremely heavily deposited glow plugs
- Right or left handed usage through the turning of the head
- Special steel

Application range: dim. 8 for E cable nut in diesel motors (VW, Audi, Seat etc.) dim. 10 + 12 for glow plugs and hand brake adjustment

	dim mm	L mm	g	
500.7340	8,0	295.0	175	
500.7341	10,0	295.0	180	
500.7342	12,0	300.0	195	
500.7343	14,0	300.0	200	

Glow plug flexible socket

- 6 point
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Short execution
- For the safe disassembly and assembly of glow plugs
- For difficult to access areas
- Suitably for all current glow plugs
- Screwed universal joint
- Inclusive rubber rings for safe holding of the glow plug
- Matt finish
- Chrome vanadium

3/8"

	mm	L mm	g	
500.7301	8,0	75.0	70	
500.7302	9,0	75.0	70	
500.7303	10,0	75.0	70	
500.7304	12,0	75.0	70	
500.7305	14,0	80.0	80	
500.7306	16,0	80.0	100	

Glow plug flexible socket set

- 6 point
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Short execution
- For the safe disassembly and assembly of glow plugs
- For difficult to access areas
- Suitably for all current glow plugs
- Screwed universal joint
- Inclusive rubber rings for safe holding of the glow plug
- Matt finish
- Chrome vanadium

3/8"

			kg	
500.7300	6 pcs	Glow plug flexible socket set	0.61	

consists of:

		g	
500.7301	Glow plug-Flexible socket 3/8", SW 8, Length 75 mm	70	
500.7302	Glow plug-Flexible socket 3/8", SW 9, Length 75 mm	70	
500.7303	Glow plug-Flexible socket 3/8", SW 10, Length 75 mm	70	
500.7304	Glow plug-Flexible socket 3/8", SW 12, Length 75 mm	70	
500.7305	Glow plug-Flexible socket 3/8" , SW 14, Length 80 mm	80	
500.7306	Glow plug-Flexible socket 3/8" , SW 16, Length 80 mm	100	

Glow plug flexible socket, long

- 6 point
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Long execution
- For the safe disassembly and assembly of glow plugs
- For difficult to access areas
- Suitable for all current glow plugs
- Screwed universal joint
- Inclusive rubber rings for safe holding of the glow plug
- Matt finish
- Chrome vanadium

3/8"

	mm	L mm	g	
500.7311	8,0	150.0	190	
500.7312	9,0	150.0	190	
500.7313	10,0	150.0	190	
500.7314	12,0	150.0	190	
500.7315	14,0	160.0	190	
500.7316	16,0	160.0	190	

Glow plug swivel wrench set, long

- 6 point
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Long execution
- For the safe disassembly and assembly of glow plugs
- For difficult to access areas
- Suitable for all current glow plugs
- With screwed universal joint
- Inclusive rubber rings for safe holding of the glow plug
- Matt finish
- Chrome vanadium
- In durable plastic storage case

3/8"

			kg	
500.7320	6 pcs	Glow plug swivel wrench set, long	1.40	

consists of:

		g	
500.7311	3/8" Glow plug-Flexible socket, SW 8, Length 150 mm	190	
500.7312	3/8" Glow plug-Flexible socket, SW 9, Length 150 mm	190	
500.7313	3/8" Glow plug-Flexible socket, SW 10, Length 150 mm	190	
500.7314	3/8" Glow plug-Flexible socket, SW 12, Length 150 mm	190	
500.7315	3/8" Glow plug-Flexible socket, SW 14, Length 160 mm	190	
500.7316	3/8" Glow plug-Flexible socket, SW 16, Length 160 mm	190	

Glow plug vibro extractor set

- Ideal for loosening and extracting jammed glow plugs
- Especially suitable in glow plugs jammed by corrosion and/or soot coal
- Produces controlled vibration impulse
- Suitable for all current glow plugs
- Loosening torque in 4 stages in accordance with manufacturer guidelines
- Extensive cost intensive repairs can be avoided through dismantling glow plugs
- Includes 1/4" coupling connector
- In durable steel storage case

Application range: Common Rail diesel engines, glow plugs innovator style (dim. 8, 10, 12), sparks plugs in Ford and Alfa Romeo Twin Spark motors

Technical data:

Square drive:	1/4"
Max. tightening torque:	40 Nm
Max. loosening torque:	1 = 10 Nm 2 = 20 Nm 3 = 30 Nm 4 = 40 Nm
No load current:	7500 r.p.m.
Vibration:	< 2,69 ms²
Noise performance level:	104 dbA
Noise pressure level:	88 dbA
Recomended torque:	42 Nm
Air consumption:	128 l/min
Operating pressure:	max. 6,3 (90 psi)
Max. screw size:	M16
Min. tube diameter:	3/8" - 10 mm
Connection thread:	1/4"PT

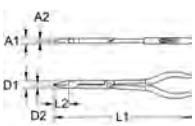
			kg	
152.1060	5 pcs	Glow plug vibro extractor set	1.80	

consists of:

		g	
152.1061	1/4" Vibro extractor 10-40 N•m	900	
152.1062	1/4" Impact wrench socket long 8 mm	30	
152.1063	1/4" Impact wrench socket long 10 mm	40	
152.1064	1/4" Impact wrench socket long 12 mm	50	
152.1065	1/4" Universal joint	40	

CLASSIC Double jointed telephone pliers, extra long

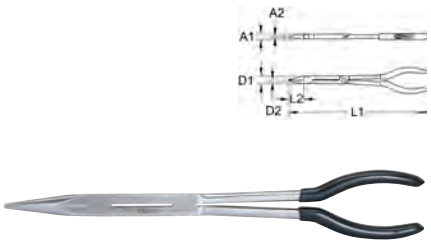
- Serrated execution
- With double joint
- Extremely narrow design
- With PVC dipped handle
- For difficult to access areas
- Matt chrome
- Special tool steel



	A1 mm	A2 mm	D1 mm	D2 mm	L1 mm	L2 mm	g	
500.7061	10.0	10.0	18.0	3.0	340.0	32.0	450	

CLASSIC Double jointed flat pliers, extra long

- Serrated execution
- With double joint
- Extremely narrow design
- For difficult to access areas
- With PVC dipped handle
- Matt chrome
- Special tool steel



	A1 mm	A2 mm	D1 mm	D2 mm	L1 mm	L2 mm	g
500.7062	11.0	3.0	18.0	5.0	300.0	65.0	450

Double jointed long nosed pliers 45° curved and extra long

- Serrated execution
- With double joint
- Extremely narrow design
- 45° curved jaws
- With PVC dipped handle
- For difficult to access areas
- Matt chrome
- Special tool steel

	A mm	D1 mm	D2 mm	L1 mm	L2 mm	g
500.7063	22.0	17.0	5.0	335.0	60.0	450

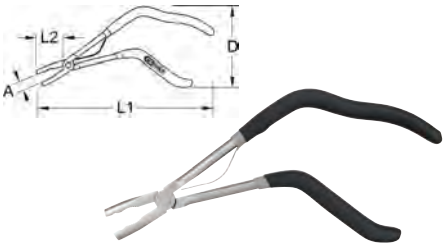
CLASSIC Double jointed plier set, extra long

- Serrated execution
- With double joint
- Extremely narrow design
- With PVC dipped handle
- For difficult to access areas
- Matt chrome
- Special tool steel

			kg
500.7060	3 pcs	300 - 335 - 340 mm	1.40

Glow plug dismantling pliers

- With rubber handle
- Serrated jaws
- Length wise mounted handle arranged at the plier jaw
- With self opening mechanism
- In order to pull out the glow plugs from the glow plug canal in the cylinder head
- Range also possible to extract incompleted glow plugs
- Optimum power transmission with rotary and train movements
- Special tool steel



	A mm	D mm	L1 mm	L2 mm	g
500.7335	0,0-35,0	55.0	260.0	40.0	280

Glow plug extractor for CDI engines

- For turning off and pulling out the glow plugs from the glow plug canal in the cylinder head
- Especially suitable in glow plugs jammed by corrosion and/ or soot coal
- Optimum power transmission with rotary and train movements
- Correct easy and damage free dismantling of the glow plug
- Chrome vanadium

Application range: Glow plug dim/10 mm, CDI engines.

	■	L mm	g
152.1080	3/8"	190.0	315

Glow plug service set

- For removing the glow plugs from the glow plug canal in the cylinder head
- For reaming and the cleaning of the glow plug canel in the cylinder head
- Deposits and carbonisation between glow plug and cylinder head is removes correctly
- Especially suitable in glow plugs jammed by corrosion and/ or soot coal
- In durable wooden case

Application range: Reamer M10 x 1,00: Mercedes Benz 4, 5 and 6 Cylinder CDI Engine, Smart CDI (660) Reamer M12 x 1.25: MB 4 valve-technology-motors (OM604 / 605 / 606) Glow plug-Extractor Glow plugs SW10 e.g. Mercedes Benz CDI (OM 611/612/613)

			kg
152.1095	3 pcs	Glow plug service set	0.80

consists of:

		g
152.1096	Glow plug extractor for dim. 10 mm	280
152.1097	Glow plug reamer M10 x 1,00:	50
152.1098	Glow plug reamer M12 x 1.25:	80

Universal glow plug drilling kit M8 x 1,0

- Universal repair system with innovative principle for dismantled glow plugs
- Simple and user friendly repair method
- Fast and economical solution of the dismantling problems of glow plugs
- Through use of a special to the left hand cutting 3 divided assembly drill stages for the application of drilling the housing is superior with other systems
- In durable metal case

Application range: VW, Audi, Seat, Skoda, Mitsubishi, Mercedes Benz, Fiat, Peugeot, Volvo, Ford, Mazda, Citroen, Opel

Application:
1. Centre electrode is sheared off
2. With left handed cutting stepped drill this is drilled out
3. Left thread M6 cut
4. Clean thread gears M8 x 1
5. Clear the remains of the glow plug with impact weight

			g
152.1020	8 pcs	Universal glow plug drilling kit M8 x 1,0	800

consists of:

		g
152.1021	Thread tap M8 x 1.0, TIN	20
152.1022	Remover-left threaded drive M6 x 1,0 120,0 mm	30
152.1023	Left Threaded drill M6 x 1.0, TIN	20
152.1024	Step drill left M 5 x7, with impact L=150,0 mm	90
152.1025	Extractor for Electrode Gr 2= 4,5 mm	20
152.1026	Extractor for Electrode Gr 1= 3,2 mm	20
152.1027	Extractor for Electrode Gr 3= 6,5 mm	30
152.1028	Adaptor for-Slide hammer	90

Accessories:

		kg
152.1040	Impact weight and guide rod	1.25

Universal glow plug drilling kit M10 x 1,0

- Universal repair system with innovative principle for dismantled glow plugs
- Simple and user friendly repair method
- Fast and economical solution of the dismantling problems of glow plugs
- Through use of a special to the left hand cutting 3 divided assembly drill stages for the application of drilling the housing is superior with other systems
- In durable metal case

Application range: VW, Audi, Seat, Skoda, Mitsubishi, Mercedes Benz, Fiat, Peugeot, Volvo, Ford, Mazda, Citroen, Opel

Application:
1. Centre electrode is sheared off
2. With left handed cutting stepped drill this is drilled out
3. Left thread M7 cut
4. Clean thread gears M10 x 1
5. Clear the remains of the glow plug with impact weight

			g
152.1030	8 pcs	Universal glow plug drilling kit M10 x 1,0	900

consists of:

		g
152.1031	Extractor for glow plug electrode Type 0, #1 = 3.5 mm	20
152.1032	Extractor for glow plug electrode Type 1, #2 = 4.5 mm	20
152.1033	Extractor for glow plug electrode Type 2, #3 = 8.25 mm	30
152.1034	TIN Threaded drill left M7 for universal glow plug drilling kit	30
152.1035	Extractor M7 x 120 left for universal glow plug drilling kit	40
152.1036	Stepped drill 9 mm x 180 mm left for glow plugs	120
152.1037	Impact adapator for universal glow plug drilling kit	70
152.1038	Threaded drill M10 x 1, for universal glow plug drilling kit	30

Impact weight and guide rod

	L mm	kg
152.1040	280.0	1.25

More tools for glow plugs thread repair can be found in our general catalogue K11.

Reamer for glow shaft canal

- For the cleaning of the complete glow plug canel in the cylinder head into the combustion chamber
- Cleans glow rod, density seat and glow plug chamber
- Deposits and carbonisation between glow plug and cylinder head is removes correctly
- Hexagon socket 15 mm with knurled grip
- Made out of one piece

Recommendation: Before use ensure the clamping nut on the reamer has been greased.

	mm	Ø mm	L mm	g
152.1015	15	M10x1	240.0	400

Steel wire spark plug wire brush 2 rowed

- 2 rowed
- For use with sparks plugs
- For surface preparation
- Steel wire

	H mm	L1 mm	L2 mm	g
201.2315	14.8	170.0	24.5	20

Brass wire spark plug wire brush 2 rowed

- 2 rowed
- For use with sparks plugs
- For surface preparation
- Brass wire

	H mm	L1 mm	L2 mm	g
201.2316	14.8	170.0	24.5	20

Glow plug service set

- For the controlled screwing of glow plugs
- Very high accuracy
- For difficult to access areas
- Suitable for all current glow plugs
- Torque wrench to comply with the breakage torque
- In durable plastic case

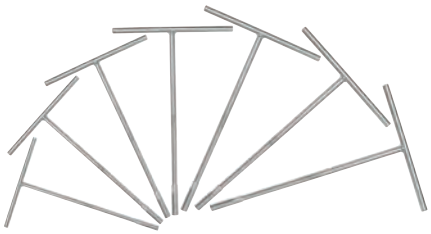
			kg
517.1165	11 pcs	Glow plug service set	5.35

consists of:

		g
500.7301	Glowplug socket, short, 3/8“, 8mm	70
500.7302	Glowplug socket, short, 3/8“, 9mm	70
500.7303	Glowplug socket, short, 3/8“, 10mm	70
500.7304	Glowplug socket, short, 3/8“, 12mm	70

T-handle box wrench set

- 6 point
- T-handle
- Matt finish
- Chrome vanadium



			g
517.1180	7 pcs	T-handle box wrench set	2500

consists of:

		g
517.1181	T-handle box wrench, 8mm	310
517.1182	T-handle box wrench, 9mm	300
517.1183	T-handle box wrench, 10mm	310
517.1184	T-handle box wrench, 11mm	320
517.1185	T-handle box wrench, 12mm	320
517.1186	T-handle box wrench, 13mm	330
517.1187	T-handle box wrench, 14mm	310

T-handle box wrench

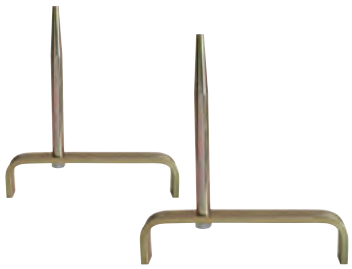
- 6 point
- T-handle
- Matt finish
- Chrome vanadium

	dim mm	L mm	B mm	g
517.1181	8,0	300.0	200.0	310
517.1182	9,0	300.0	200.0	300
517.1183	10,0	300.0	200.0	310
517.1184	11,0	300.0	200.0	320
517.1185	12,0	300.0	200.0	320
517.1186	13,0	300.0	200.0	330
517.1187	14,0	300.0	200.0	310

VALVE REPAIR

Cylinder head service pillar

- Suitable for all current cylinder heads
- Especially for engines with horizontal camshafts
- Damage free working on the cylinder head
- Special steel



	Replacement base	Replacement conus	kg
150.1170	150.1171	150.1172	4.20

Valve dismantling and assembly tool set

- Assortment for changing of defective sealings on the cylinder head
- Enormous time savings as the cylinder head does not need to be dismantled
- For a correct and damage free use
- In durable plastic storage case

			kg
150.1100	25 pcs	Valve dismantling and assembly tool set	4.20

consists of:

		g
115.1061	Valve shaft sealing Pliers	380
150.1101	Male coupling AG 1/4“, TSC 06	20
150.1103	Male coupling AG 1/4“, ORG 08	20
150.1104	Male coupling AG 1/4“, IRC 06	20
150.1105	Compressed air adaptor Ext.M14x1,25+M18x1,5 m	220
150.1106	Hold down	380
150.1107	Compressed air-Adaptor tube AG M14 x 1,25 + M18 x 1,5	80
150.1108	Valve wedge tool, with magnet	60
150.1109	Compressed air-Adaptor AG M24 x 2,0 + IG M14 x 1,25	150
150.1110	Valve spring plate Adaptor	130
150.1111	Connection shaft, 510 mm	710
150.1112	Valve shaft sealing Pliers, angled	330
150.1113	Assembly sleeve	120
150.1114	Impact arbor	310
150.1115	Screw and bolt set, 14 pcs for hold down	60
150.1116	Cheeks for bridge 2 pieces	260
150.1117	Assembly sleeve Gr.6 17 x 11	40
150.1118	Assembly sleeve Gr.5 15 x 10	40
150.1119	Assembly sleeve Gr.4 13 x 8	30
150.1120	Assembly sleeve Gr.3 12 x 7	30
150.1121	Assembly sleeve Gr.2 10 x 6	40
150.1122	Assembly sleeve Gr.1 10 x 5	40
150.1124	Screw set for cheeks, 8 pcs	100

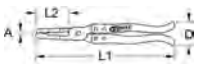
Valve spring tension

- Easy and quick change of the valve
- Expansion of the cylinder head is not necessary
- Use in conjunction with compressed air adapter 150.1105 / 150.1107
- Special steel

	L mm	g	
150.1210	130.0	442	

Valve shaft removal pliers

- Slim execution
- Plastic coated jaws
- Knurled handle
- With self opening mechanism
- Quick and easy removal of valves from the valve shaft
- For the extension of the valve spring lever
- Ideally suitable for engines with 4 valve technology
- Nickel plated execution
- Special tool steel



	A mm	D mm	L1 mm	L2 mm	g	
115.1061	0,0-125,0	45.0	255,0	100.0	380	

Valve seat grinding set

- With two sided sucker
- For the bow on the valve seat in the cylinder head
- Body made out of sealed hard wood
- Suckers made out of rubber

			kg	
150.1130	2 pcs	Valve seat grinding set	2.21	

consists of:

150.1131	Valve set grinder 19/22 mm, 245 mm long	300	
150.1132	Valve set grinder 22/32 mm, 255 mm long	300	

Valve grinding tool with 2 suction discs

- 8 mm bore reception
- For the grinding of the valve seats for repair work
- The detention of the device body is automatically generated via a transmission, the typical right left wing movement used in grinding
- Gives you convenient and rapid seat grinding with the drill between approx. 500-1.000 rpm

	L mm	Replacement plate Ø 22 mm	Replacement plate Ø 28 mm	g	
150.1165	130.0	150.1166	150.1167	442	

Chisel scraper

- Continuous stainless steel blade that can be re sharpened
- With reinforcement eyelet
- With hammer cap on the handle
- With ergonomic moulded two component handle

	A mm	S mm	L mm	g	
907.2211	32.0	1,2	190.0	160	
907.2213	25.0	1,2	165.0	100	
907.2212	32.0	2,5	190.0	160	
907.2214	25.0	2,5	165.0	110	

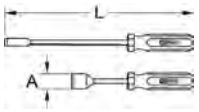
Chisel scraper set

- Continuous stainless steel blade that can be re sharpened
- With reinforcement eyelet
- With hammer cap on the handle
- With ergonomic moulded two component handle

				kg	
907.2210	4 pcs	32 x 1,2; 32 x 2,5; 25 x 1,2; 25 x 2,5 mm	0.58		

Gasket scraper

- Blades can be re sharpened
- Blade 10° angled
- Extra long execution for reaching inaccessible areas
- For removing extremely stubborn gaskets and seals
- With ergonomic moulded one component handle



	A mm	L mm	g	
907.2231	12.5	200.0	120	
907.2232	25.0	200.0	140	
907.2233	12.5	300.0	180	
907.2234	25.0	300.0	200	

Gasket scraper set

- Blades can be resharpened
- Blade 10° angled
- Extra long execution for reaching inaccessible areas
- For removing extremely stubborn gaskets and seals
- With ergonomic moulded one component handle

			kg	
907.2230	4 pcs	12,5 x 200; 25 x 200; 12,5 x 300; 25 x 300 mm	1.28	

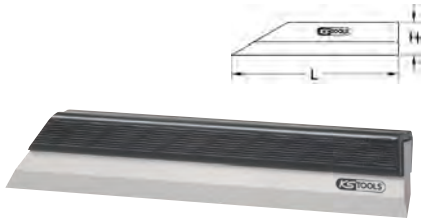
Precision straightedge

- For the inspection and the exact working on cylinder heads
- In accordance with DIN 874/1
- Double T profile rail with rear 5 hand slots
- On edge and flat sides examination process
- Hanging hole
- Steel

	L mm	H mm	S mm	kg	
152.1090	300.0	16.0	16,0	2.10	

Precision straightedge

- In accordance with DIN 874/00
- Hand warmth protection
- Test area precise and finely engineered
- Flatness tolerance for highest accuracy
- For controlled and test working in the light gap procedure
- Hardened
- Stainless steel



	L mm	H mm	g	
300.0630	50.0	25.0	40	
300.0631	75.0	25.0	60	
300.0632	100.0	25.0	80	
300.0633	125.0	25.0	100	
300.0634	150.0	25.0	120	
300.0635	200.0	25.0	160	
300.0636	300.0	25.0	240	
300.0637	400.0	25.0	320	
300.0638	500.0	25.0	400	
300.0639	600.0	25.0	480	

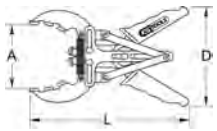
Piston ring pliers

- For the removal and replacement of piston rings
- Suitable for most cars and vans
- Plastic coated handle
- Self closing pliers
- Special steel

	L mm	g	
150.1179	221.0	210	

Piston ring pliers

- For the safe disassembly and assembly of piston rings
- Chrome plated
- With single component handle
- Special tool steel



	Ø mm	A mm	D mm	L mm	g	
150.1175	50,0-110,0	0,0-110,0	60.0	210.0	305	
150.1176	80,0-120,0	0,0-120,0	60.0	220.0	340	
150.1177	110,0-160,0	0,0-158,0	60.0	280.0	445	

Cylinder honing machine

- For honing / deburring of cylinders, bearings, bores, pipes, etc.
- Interchangeable honing
- Automatic spigot end and exact honing
- Flexible drive shaft for air or electric drills
- Special steel

Application range: Automotive brake and clutch cylinders, engine cylinders of motor cycles,lawn mowers, outboard motors, hydraulic cylinders, marine and industrial engines, etc.

	Ø mm	Arm	Honing stone set	kg	
150.1180	18 - 63	2	150.1181	0.90	
150.1185	19 - 69	3	150.1186	1.30	
150.1190	32 - 89	3	150.1191	1.40	
150.1195	51 - 177	3	150.1196	1.90	

Piston ring tension band set

- For the pretensioning of the piston rings when inserting the piston in the cylinder
- Self locking ratchet function
- Phosphate finish
- In durable plastic storage case

			kg	
150.1150	7 pcs	Piston ring tension band set	1.62	

consists of:

		g	
150.1151	Piston ring tension band plier	380	
150.1152	Tension band, Ø 73 - 79 (2.7/8" - 3.1/8")	90	
150.1153	Tension band, Ø 79 - 86 (3.1/8" - 3.3/8")	90	
150.1154	Tension band, Ø 86 - 92 (3.3/8" - 3.5/8")	100	
150.1155	Tension band, Ø 92 - 98 (3.5/8" - 3.7/8")	110	
150.1156	Tension band, Ø 98 - 105 (3.7/8" - 4.1/8")	110	
150.1157	Tension band, Ø 105 - 111 (3.7/8" - 4.3/8")	120	

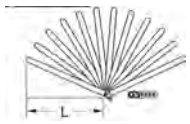
Piston ring tension band

- For the pretensioning of the piston rings when inserting the piston in the cylinder
- Continuous adjustment of operating tool
- Spring steel strip

	Ø mm	Ø	H mm	g	
150.1141	45 - 90	1.3/4" - 3.1/2"	50.0	158	
150.1142	57 - 125	2.1/4" - 5"	100.0	300	
150.1143	90 - 175	3.1/2" - 7"	100.0	340	
150.1144	90 - 175	3.1/2" - 7"	150.0	555	

Piston tolerance gauge

- For the testing of intervals, contact distances, etc.
- Feeler gauge cylindrical
- Blades fan shaped on a ring
- Leaves individually marked with size
- Blades made out of hardened spring steel



	Tooth pitch	Measuring range mm	L mm	g	
300.0614	8	0,05 - 0,1 - 0,15 - 0,2 - 0,25 - 0,3 - 0,4 - 0,5	150.0	30	
300.0617	8	0,05 - 0,1 - 0,15 - 0,2 - 0,25 - 0,3 - 0,4 - 0,5	200.0	50	
300.0615	13	0,05 - 0,1 - 0,15 - 0,2 - 0,25 - 0,3 - 0,4 - 0,5 - 0,6 - 0,7 - 0,8 - 0,9 - 1,0	150.0	80	
300.0618	13	0,05 - 0,1 - 0,15 - 0,2 - 0,25 - 0,3 - 0,4 - 0,5 - 0,6 - 0,7 - 0,8 - 0,9 - 1,0	200.0	150	
300.0616	20	0,05 - 0,1 - 0,15 - 0,2 - 0,25 - 0,3 - 0,35 - 0,4 - 0,45 - 0,5 - 0,55 - 0,6 - 0,65 - 0,7 - 0,75 - 0,8 - 0,85 - 0,9 - 0,95 - 1,0	150.0	150	

TX-E impact socket for Scania

- TX E
- Internal square drive to DIN 3121 / ISO 1174
- For loosening and tightening crank shaft bearing
- Long execution
- For machinery usage
- Phosphate
- Chrome molybdenum

Application: Scania (new Ti-Engine)

		L mm	D1 mm	D2 mm	T mm	g	
455.0081	E28	90.0	33.0	42.0	25.0	556	

Crank shaft simmerring installation tool, Scania

- Sealing ring installation aid
- For damage free mounting
- Knurling for positive holding while positioning
- Extremely versatile
- Special steel

Application: Scania 9L engines 310/320PS
Crank shaft simmering (no. 0366303-R)

3/4"

	D1 mm	D2 mm	T mm	L mm	kg
455.0075	159.0	130.0	30.0	60.0	2.68

Engine crank alignment type 1

- Allows the engine crank to be manually adjusted
- Allows pinpoint accuracy calibration
- 1/2" external square drive
- 1/2" drive can be used with a ratchet
- Adjusting screw in the clutch housing
- Ideal for adjustments to the engine
- Special steel

Application range: Mercedes Benz 6-/8- and 10-cylinder engines, MAN 12-cylinder engines, etc.

1/2"

	■	H mm	No. of gears		g
455.0020	1/2"	70.0	2	130.1000	450

Engine crank alignment type 2

- Allows the engine crank to be manually adjusted
- Allows pinpoint accuracy calibration
- 1/2" external square drive
- 1/2" drive can be used with a ratchet
- Adjusting screw in the clutch housing
- Ideal for adjustments to the engine
- Special steel

Application range: Mercedes Benz Actros and Atego, MAN 5-/6- and 8-cylinder engines - D25/28, etc.

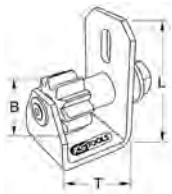
1/2"

	■	H mm	No. of gears		g
455.0021	1/2"	100.0	3	130.1000	790

Engine crank alignment DAF

- With 6 point drive SW24
- Allows the engine crank to be manually adjusted
- Allows pinpoint accuracy calibration
- Ideal for adjustments to the engine
- Special steel

Application range: e.g. 65CF, 75CF, 85CF, 95XF, CF75, CF85,F65, F75, F85, F95, XF95



	⬢	B mm	No. teeth	T mm	L mm	g
455.0105	24,0	40.0	11	55.0	90.0	650

Engine crank alignment DAF

- With 1/2" square drive
- Allows the engine crank to be manually adjusted
- Allows pinpoint accuracy calibration
- Ideal for adjustments to the engine
- Special steel

Application range: XF105 Euro5 etc.

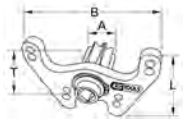
1/2"

	■	A mm	Tooth	B mm	L mm	g
455.0106	1/2"	33.0	9	27.0	81.0	250

Engine crank alignment Volvo

- 1/2" Internal square drive to DIN 3121 / ISO1174
- Allows the engine crank to be manually adjusted
- Allows pinpoint accuracy calibration
- Ideal for adjustments to the engine
- Adjusting screw in the clutch housing
- Special steel

Application range: Alternatively for 6 or 12 liter Volvo engines e.g. engine D9A, D12, D16C



1/2"

	■	A mm	No. teeth	B mm	T mm	L mm	g
455.0085	34.0	9	135.0	68.5	95.0	650	

Engine crank alignment Scania

- 1/2" Internal square drive to DIN 3121 / ISO1174
- Allows the engine crank to be manually adjusted
- Allows pinpoint accuracy calibration
- Ideal for adjustments to the engine
- Special steel

Application range: Scania after 1996 4th=old and after Bj.2003 R=new

1/2"

	A mm	B mm	No. teeth	L mm	g
455.0070	18.3	29.8	8	71.0	225

EXHAUST PIPES

Exhaust pipe former

- When using the exhaust pipe former, the original shape can be re-formed
- When the exhaust pipe former is inserted into the exhaust, the shaft drives into the flaring unit, expanding it to re-forming the exhaust pipe to its original shape

	Ø mm	L mm	g
150.1520	28,0-44,0	130.0	390
150.1525	38,0-62,0	160.0	720
150.1530	54,0-87,0	215.0	1510

Specially exhaust hook tool for exhaust rubber mountings

- T handle with plastic cover
- Hook has a 10° angle
- For the dismantling and assembly of exhaust rubber stop ring
- For vehicles with rubber ring mountings
- Chrome vanadium

Application range: VW, Opel, etc.

	Form	L mm	g
150.1241	90°	200.0	80

Specially exhaust hook tool for exhaust profile rubber mountings

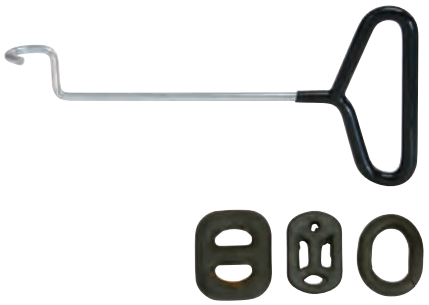
- T handle with plastic cover
- Hook has a 100° angle
- For the dismantling and assembly of exhaust rubber stop ring
- For vehicles with profile rubber mountings
- Chrome vanadium

Application range: Ford, BMW, etc.

	Form	L mm	g	
150.1242	100°	200.0	80	

Specially exhaust hook tool for exhaust rubbers

- T handle with plastic cover
- For the dismantling and assembly of exhaust rubber stop ring
- For all types of exhaust rubbers
- Grasps two rings and presses this towards the top
- Chrome vanadium



	L mm	g	
150.1240	200.0	230	

Grip exhaust chain pipe cutter

- With the possibility to adjust the tension through wing nut
- Small working angle through forward and backward movements
- Plastic coated handles
- Easily operated
- Special steel

	Ø mm	Chain length mm	Replacement chain	g	
150.1510	19,0-83,0	330.0	150.1501	800	

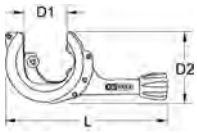
Grip exhaust chain pipe cutter for stainless steel pipes

- For stainless steel (Inox) of exhaust pipes
- With the possibility to adjust the tension through wing nut
- Small working angle through forward and backward movements
- Plastic coated handles
- Easily operated
- Special steel

	Ø mm	Chain length mm	Replacement chain	g	
150.1515	19,0-83,0	330.0	150.1502	800	

Ratchet pipe cutter

- For the fast and problem free cutting off of exhaust pipes with 2 support rolls and 3 blade ratchet mechanism
- Very good parallel cutting due to the width -acurate cutting is guaranteed
- Ideal for confined spaces
- Cutting depth max. 3 mm
- V²A Cutting edge wheel optional retrofit
- Robust ratchet mechanism
- With large operating knob
- Plastic housing
- Ratchet mechanism from special steel



	D1 mm	D2 mm	L mm	Metal	V²A	Plastic	g	
104.5050	28,0- 67,0	110.0	250.0	104.5052	104.5052	104.5051	1000	

WEDGE AND TIMING BELT

Pin wrench 3 mm, adjustable

- Universal usage
- For the operation of belt tensioner in VAG
- Phosphate finish
- Special steel

	Ø mm	L mm	g	
150.3018	9,0-45,0	150.0	100	

Pin lug key

- For tightening and relaxing the timing belt on VAG vehicles
- 180° adjustable handle
- For pin spacers with tappet tolerances
- Normal and extra flat ideal for hard to access areas

Application range: VAG 4 and 5 cylinder TDI-Model, T4 Servo pump

	Height of head mm	Pin key mm	Stud Ø mm	L mm	g	
500.4315	34.0	18.0	3.0	180.0	95	
150.3017	20.0	18.0	3.0	185.0	105	

Wedge and timing belt wrench set

- For relaxing the automatic clamping device
- Problem free changing of the belt
- For VAG in the service position for the cooling system
- For hard to reach places
- With plastic coated handle
- Chrome vanadium

Application range: Audi A4, VW Passat after 97 with TDI or Pump-Nozzle Engine Opel DOHC 4- / 6-Cylinder (e.g. Astra F with air conditioning), Saab V6-Engines, Mitsubishi

			kg	
150.1200	5 pcs	Wedge and timing belt wrench set	2.18	

consists of:

		g	
150.1201	Wedge and timing belt wrench, dim. 13, length 460 mm	320	
150.1202	Wedge and timing belt wrench, dim. 15, length 460 mm	320	
150.1203	Wedge and timing belt wrench, dim. 16, length 460 mm	320	
150.1204	Wedge and timing belt wrench, dim. 17, length 460 mm	320	
150.1205	Wedge and timing belt wrench, dim. 19, length 460 mm	320	

Universal timing belt holding device set

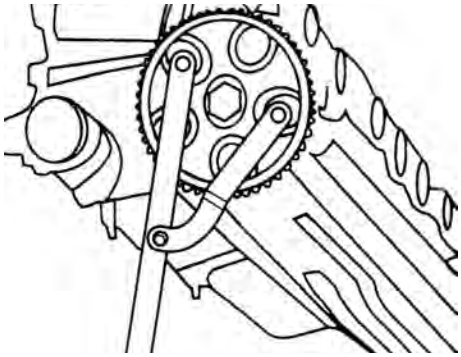
- Ideally suited for almost all vehicle types
- Universal usable tool for arresting, turning and fastening for stepped timing belts
- The overall length of 520 mm guarantees an optimal lever for loosening the timing belts reinforcement screws
- Stepless adjustment of Ø 40 - 220 mm - plug height: 35 mm
- Includes 4 pairs of screw on plugs
- Special steel

Application range: Timing belt wheels on camshafts and Injection pumps bleeding of wheels and couplings etc.

			kg	
150.3000	11 pcs	Universal timing belt holding device set	2.20	

consists of:

		g	
150.3001	Loosening lever 520 mm, adjustable	1120	
150.3002	Peg, Ø 6 - 10 mm	50	
150.3003	Peg, Ø 8 - 11 mm	50	
150.3004	Peg, Ø 10 - 12 mm	40	
150.3005	Peg, Ø 11 - 16 mm	40	
150.3006	Fixing nut for pegs, knurled	20	



Counter bracket for serpentine belt

- For holding up and fastening serpentine belt wheels

	L mm	Replacement belt	g	
150.3150	375.0	150.3151	542	

Counter bracket for serpentine belt wheels

- For holding up and fastening serpentine belt wheels

	L mm	Replacement belt	g	
150.3152	375.0	150.3153	506	

Chain pipe wrench

- Function is similar to a ratchet
- For hard to reach places
- Hardened teeth
- Drop-forged
- Chrome vanadium

	Ø mm	L mm	kg	
114.0040	110,0	390.0	1.36	

Impact spanner

- For the installation and extension of compensational corrugated discs without extension of the struts
- For loosening of stuck stop screws
- Especially suitable for narrow hard to access areas
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- Can be combined with every any 1/2" drive nut
- Optimal loosening moment through blow effect
- Hand protection grip
- Special steel

1/2"

	■	L mm	kg	
150.2090	1/2"	560.0	1.32	

Universal drive pulley puller set

- Suitable for 5 and 6 spoked camshaft wheels
- Suitable for many VAG models
- Special steel
- In durable plastic case

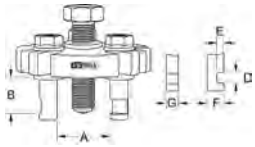
			kg	
150.3115	6 pcs	Universal drive pulley puller set	1.54	

consists of:

		g	
150.3116	Cross piece	360	
150.3117	Spindle M 14 x 1,5, L70 mm	80	
150.3118	Basic arm simply	130	
150.3119	Double arm, narrow	270	
150.3120	Double arm, wide	280	

Universal belt pulley puller 3 arm

- For the damage free drawing off of pulley belts
- Universal suitable for several diameters and different hole divisions
- Less space requirement through compact method of building
- Suited for working on and finishing engines
- Special steel



	A mm	B mm	mm	dim mm	D mm	E mm	F mm	G mm	kg	
150.3130	90	30	M16x1,5 x 75	24	10	6	11	12	0.90	

Uni flex belt tool set

- For the dismantling and assembly of wedge belt pulleys
- Large field of work through different dismantling and assembly tools
- No damages of the pulley wheel and the belt
- Minimal power expense
- Special steel

Application range: PSA + Ford engines, Fiat Doblo, Ford Fiesta, 1,4 / 1,6, Focus 1,6, Citroen C4, Peugeot 307, Dacia Logan, BMW, Smart, Mini, Chrysler, VAG, Alfa Romeo, Volvo, Mazda, Opel, etc.

			g	
150.3160	8 pcs	Uni flex belt tool set	400	

consists of:

		g	
150.3142	Uni flex belt installation tool	100	
150.3143	Uni flex belt installation tool	100	
150.3145	Self locking nut	20	
150.3146	Screw M8x65, Ø 5.6mm	30	
150.3147	Screw M8x65, Ø 5.6mm	30	
150.3148	Screw M8x40, Ø 5.7mm	20	
150.3149	Screw M8x25, Ø 5.9mm	20	
150.3144	Nut M8	5	

Timing belt tensions test instrument

- For inspection of the timing post tensioning
- For the timing belt on the combustion engine
- With mm scale
- 10N (~1kp corresponds a revolution)
- Special steel

Application range: Can be used everywhere there is the technical data for the allowable through bend of the timing belt in mm in a certain power in N or kp revolutions

Technical data:

Working range / Scale	0,0-20,0 mm
Scale division:	in mm
Measurement mode:	mechanical (spring)
Adjusting nut revolution around 360°	1.0
Adjusting nut pitch:	1,0/10,0 mm

	L mm	g	
150.3015	100.0	260	

COUPLING

Universal coupling tool master set

- For correct assembly of one-and two-disc couplings
- Incl. 10 adaptors for use with pilot bearing Ø 10 - 30 mm
- With additional biconical plate for couplings without pilot bearing
- Centering and fixing of plate and automat
- Robust execution
- Special steel

Application range: Cars, SUV, transporter up to 3.5t

			kg	
455.0170	19 pcs	Universal coupling tool master set	1.91	

		g	
455.0171	Spindle M16 x 1.5 L= 55mm	55	
455.0172	Spindle M16 x 1.5 L= 100mm	72	
455.0173	Spindle M16 x 1.5 L= 150mm	120	
455.0174	Expander for coupling disc hubs 15-19 mm	63	
455.0175	Expander for coupling disc hubs 19.5-26 mm	106	
455.0176	Cone IG M15 x 1.5 working range 19-30 mm	125	
455.0177	Cone IG M15 x 1.5 working range 26-35 mm	170	
455.0178	Biconical plate IG M15 x 1.5	380	
455.0179	Pilot adaptor set, 10 pcs	390	
455.0180	Pilot bearing extension, 20 mm	24	

SAC coupling tool set

- For almost all SAC (even adjusting) couplings with 3 and 4 hole divisions
- For the fast and correct dismantling and assembly of the SAC couplings
- Without this tool sentence the correct installation is almost impossible
- With centering possibility of the coupling and reseting of the adjust ring
- Prevents the distorting of the adjust ring in the coupling driving plate
- Ideally for damage-free working at the drivng plate
- Malfunction (bad separating, slipping or deforming) are avoided
- In durable plastic storage case

Application range
VW, Audi, BMW, Mercedes Benz, Opel, Renault, Volvo, etc.

			kg	
150.2160	32 pcs	SAC coupling tool set	2.10	

consists of:

		g	
150.2161	Aligning pin f.150.2160, 19mm	70	
150.2162	Aligning pin f.150.2160, 18mm	65	
150.2163	Aligning pin f.150.2160, 17mm	55	
150.2164	Aligning pin f.150.2160, 16mm	50	
150.2165	Aligning pin f.150.2160, 15mm	40	
150.2166	Aligning pin f.150.2160, 14mm	35	
150.2167	Aligning pin f.150.2160, 12mm	25	
150.2168	Forcing screw f.150.2160	20	
150.2169	Nut f.fixing bolt f.150.2160, 4pcs, M8	30	
150.2170	Aligning pin f.150.2160, 23mm,BMW	175	
150.2171	Aligning pin f.150.2160, 28mm,BMW	245	
150.2172	Aligning pin f.150.2160, 34mm,BMW	345	
150.2173	Pressure spindle	340	
150.2174	Resetting tool	106	
150.2175	4 Arm beam f.150.2160	1910	
150.2176	3 Arm beam f.150.2160	1520	
150.2177	Locking bolt f.150.2160	305	
150.2178	Fixing bolt f.150.2160, 4pcs, M6	45	
150.2179	Fixing bolt f.150.2160, 4pcs, M7	50	
150.2188	Fixing bolt f.150.2160, 4pcs, M8	50	
150.2189	Central plate f.150.2160	410	

HGV Clutch centering pin

- For centering of one-and two-disc couplings
- For hub sizes 1.1/2" (37.5 mm), 1.3/4" (43.5 mm), 2" (50 mm)
- 10-wedge profile
- Centering in the pilot bearing by 25 mm (1") or 30 mm and 1.1/4" stud
- Knurled handle
- Body made of fiberglass nylon

Application range
Size 1: universal
Size 2: MB, MAN, Volvo, Isuzu, Iveco (e.g. Eurocargo 7,5t), Ford, Chevrolet/GM
Size 3: Ford, Chevrolet/GM
Size 4: Volvo, Iveco (e.g. Stralis) Ford, Chevrolet/GM
Size 5: Volvo, MB, Isuzu, Iveco (e.g. Eurocargo 12t), Ford

	L mm		g	
455.0161	315.0	Coupling pin size 1, 1.1/2" O.D., pilot 30mm	205	
455.0162	315.0	Coupling pin size 1, 1.1/2" O.D., pilot 1"	205	
455.0163	315.0	Coupling pin size 3, 1.3/4" O.D., pilot 1.1/4"	240	
455.0164	315.0	Coupling pin size 4, 2" O.D., pilot 30mm	280	
455.0165	315.0	Coupling pin size 5, 1.3/4" O.D., pilot 1"	230	

Precision internal extractor set ø 10,0 - 37,0 mm

- Centering shaft
- For the removal of secure bearings and bushes
- Extremely robust spindle with inductively hardened thread
- Special steel

			kg	
660.0014	7 pcs	Precision internal extractor set ø 10,0 - 37,0 mm	3.30	

consists of:

		g	
660.0106	Internal extractor, 10-13mm	50	
660.0109	Internal extractor, 14-19mm	90	
660.0114	Internal extractor, 20-25mm	110	
660.0116	Internal extractor, 25-30mm	120	
660.0119	Internal extractor, 30-37mm	280	
660.0601	Double ended support, 35-75mm	700	
660.0501	Slide hammer, 170mm, M10	400	

Easy Valve bleeder with reception bottle

- With non-return valve, to avoid the backflow of old brake fluid or exhausted air
- Especially suited for clutch systems
- Old brake fluid is piped directly in the reception bottle and recycled
- One man operation
- Very short setup time - simple operation
- Universal usage
- No adaptors necessary
- Low priced in the acquirement

		kg	
150.2305	Easy Valve bleeder with reception bottle	1.18	

Bleeding and filling tool KS 4 HY

- For the fast and safe hydraulic oil change, on clutch systems directly on the vehicle
- Pulsatile liquid flow
- Stepless pressure regulator
- Automatic end switching off in empty container
- Best suited for mineral oil (incl. hydraulic system agricultural engineering)
- Container drive for all standard original containers
- Pressureless uncoupling on the vehicle
- For hydraulic couplings
- Low pressure test possible
- One-man-operation
- For mobile use as well as stationary
- Includes rubber cone set and euroadaptor E20

Application range: MAN-TGA / TGL / agricultural engineering
Caution: not suited for Mercedes Benz

Technical data:

Capacity:	10 l
Max. flow rate:	>45 l/h
Working pressure:	0,5-3,5 bar
Voltage:	230V / 50 Hz
Filling tube length:	3.5 m
Dimensions	400 x 200 x 205 mm

		kg	
160.0750	Bleeding and filling tool KS 4 HY	9.00	

Bleeding and filling tool KS 20 HY

- for the fast and safe hydraulic oil change, on clutch systems directly on the vehicle
- Pulsatile liquid flow
- Stepless pressure regulator
- Automatic end switching off in empty container
- Bleeding of the device after brake fluid change is not required
- Best suited for mineral oil (incl. hydraulic system agricultural engineering)
- Container drive for all standard original containers
- Pressureless uncoupling on the vehicle
- For hydraulic couplings
- Low pressure test possible
- One-man-operation
- For mobile use as well as stationary
- Includes rubber cone set and euroadaptor E20

Application range: MAN-TGA / TGL / agricultural engineering
Caution: not suited for Mercedes Benz

Technical data:

Capacity:	20 l
Max. flow rate:	>45 l/h
Working pressure:	0,5-3,8 bar
Voltage:	230V / 50 Hz
Filling tube length:	3.6 m
Dimensions	960 x 500 x 400 mm

		kg	
160.0755	Bleeding and filling tool KS 20 HY	28.00	

for MAN commercial vehicles:

		g	
160.0751	**Euroadaptor HY 20**	76	
160.0752	**Set for TGA** For vehicles with Kongsberg coupling, 1 adaptor with 2 l Reception bottle	53	
160.0753	**G45 HY for TGL** 1 Screw adaptor	70	

For Mercedes Benz commercial vehicles:

		g	
160.0756	**Hand pump for level adjustment**, no.A, connecting hoses B or C for level adjustment FGG, KGG & coupling with 2 connecting hoses	740	
160.0762	**Return hose front-end flap**, no.D With adaptor	490	
160.0763	**Return hose coupling 6 mm**, no.F length 2.5m with coupling	220	
160.0764	**Return hose coupling 8 mm**, no.F length 2.5m with coupling	250	
160.0765	**Return hose FGG for Secondary reservoir**, no.G with 2 CPC couplings and 4 CPC couplings single	820	
160.0766	**Collection container** , no.H 10 liter with rectus connection	410	
160.0767	**Hose (Y hose)**, no.I with quick coupling and inspection glass	500	
160.0768	**Y-adaptor for bleeding** , no.K With 2 connectors and coupling	125	
160.0769	**Adaptor for container**, no.L Coupling , RaAL 6001 anodized	115	

Automotive hose clamp plier set

- PVC dipped handle
- For opening and closing of cobra hose clamps
- Swivel pressed jaws
- Includes locking mechanism and ratchet function
- Self opening mechanism
- For the dismantling and assembly of hose clamps
- Includes bowden cable
- Chrome molybdenum

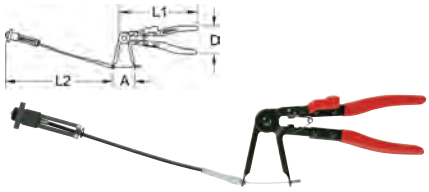
			kg	
115.1055	7 pcs	Automotive hose clamp plier set	4.00	

consists of:

		g	
115.1041	Hose clamp plier with bowden cable, 650 mm	470	
115.1042	Hose clamp plier, angled, 220mm	210	
115.1043	Hose clamp plier, lockable, with swivel jaw (crown profile)	240	
115.1044	Tube loosening plier	190	
115.1045	Click hose clamp plier, forged, 180mm	240	
115.1046	Hose clamp plier standard execution, lockable, straight	230	
115.1047	Hose clamp plier standard execution, lockable, straight	230	

Hose clamp pliers with bowden cable

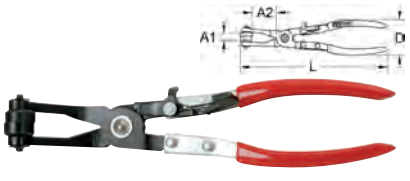
- PVC dipped handle
- For spring pipe clamps
- 650 mm bowden cable
- Includes locking mechanism
- Internal spring
- For difficult to reach clamps
- Chrome molybdenum



	A mm	D mm	L1 mm	L2 mm		g	
115.1041	0,0-60,0	70.0	200.0	650.0	115.1041-1	470	

Hose clamp pliers, angled

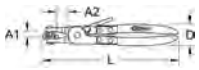
- 45° angled head
- With variable jaws
- For difficult to reach clamps
- Includes locking mechanism
- With PVC dipped handle
- Chrome molybdenum



	A1 mm	A2 mm	D mm	L mm	g	
115.1042	0,0-65,0	55.0	51.0	220.0	210	

Universal hose clamp pliers

- Universal crown profile
- For difficult to reach clamps
- With PVC dipped handle
- Includes locking mechanism
- Versitile usage
- Chrome molybdenum



	A1 mm	A2 mm	D mm	L mm	g	
115.1043	0,0-48,5	40.0	39.0	220.0	240	

Special hose pliers

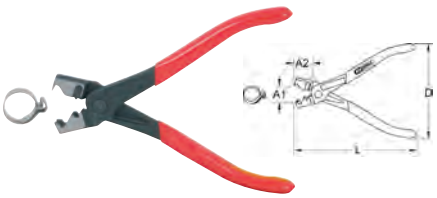
- With PVC dipped handle
- Extra flat jaws to the end
- For dismantling and assembly
- For removing of hose connections from hose tails
- Special tool steel

Ideally suited in e.g. fuel vacuum hoses, low pressure systems and water hoses.

	A mm	D mm	L1 mm	L2 mm	g	
115.1044	0,0-30,0	40.0	195.0	70.0	190	

Click hose clamp pliers, forged

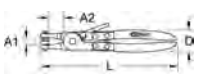
- For opening and closing of cobra hose clamps
- Clamps reusable V2A-clamps
- With PVC dipped handle
- With self opening mechanism
- Chrome molybdenum



	A1 mm	A2 mm	D mm	L mm	g	
115.1045	0,0-38,0	25.0	50.0	180.0	240	

Hose clamp pliers

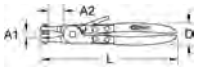
- PVC dipped handle
- For spring pipe clamps
- Includes locking mechanism and ratchet function
- Chrome molybdenum



	A1 mm	A2 mm	D mm	L mm	g	
115.1046	0,0-45,0	37.0	42.0	220.0	230	

Hose clamp pliers

- PVC dipped handle
- For spring pipe clamps
- Includes locking mechanism and ratchet function
- Chrome molybdenum

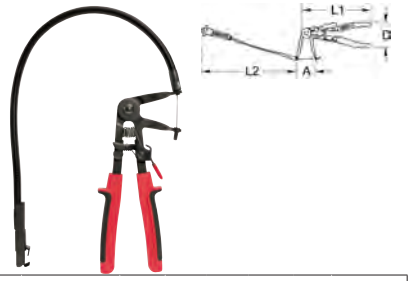


	A1 mm	A2 mm	D mm	L mm	g	
115.1047	0,0-45,0	37.0	42.0	220.0	230	

Spring band clamp wrench with gooseneck

- For actuation of self tensioning spring band clamps
- For cooling and heating systems
- Semi rigid, plastic coated gooseneck
- Convenient one handed operation in deep regions
- Fixing of the clamp by micro teeth
- Ideal for confined spaces
- Working head with raised grippers and wide opening
- Working head with slide guide and retraction spring
- With two component handle
- Chrome molybdenum

Application area: NORMA FBS, MUB FBS-STD, FBS-RSV, etc.



	Ø mm	A mm	D mm	L1 mm	L2 mm	g	
115.1190	18-54	45.0	100.0	220.0	660.0	620	

Circlip pliers set

- For inside and outside circlips
- With rubber grip
- 90° angled tips
- Durable, straight precision tips
- All outside circlips with opening spring
- Power version
- Chrome vanadium

			g	
119.2050	4 pcs	Circlip pliers set	455	

consists of:

		g	
119.2051	Circlip pliers for external circlips, 10-25 mm	80	
119.2052	Circlip pliers for external circlips, angled, 12-25 mm	80	
119.2053	Circlip pliers for internal circlips, 12-25 mm	80	
119.2054	Circlip pliers for internal circlips, angled, 12-25 mm	80	

Circlip pliers set

- For inside and outside circlips
- With rubber grip
- 90° angled tips
- Durable, straight precision tips
- All outside circlips with opening spring
- Power version
- Chrome vanadium

			g	
119.2055	4 pcs	Circlip pliers set	735	

consists of:

		g	
119.2056	Circlip pliers for external circlips, 19-60 mm	150	
119.2057	Circlip pliers for external circlips, angled, 19-60 mm	150	
119.2058	Circlip pliers for internal circlips, 19-60 mm	150	
119.2059	Circlip pliers for internal circlips, angled, 19-60 mm	150	

Circlip pliers set

- For inside and outside circlips
- With rubber grip
- 90° angled tips
- Durable, straight precision tips
- All outside circlips with opening spring
- Power version
- Chrome vanadium

			g	
119.2060	4 pcs	Circlip pliers set	1000	

consists of:

		g	
119.2061	Circlip pliers for external circlips, 40-10 mm	250	
119.2062	Circlip pliers for external circlips, angled, 40-10 mm	250	
119.2063	Circlip pliers for internal circlips, 40-10 mm	250	
119.2064	Circlip pliers for internal circlips, angled, 40-10 mm	250	

Line connector unlocking device set

- For different fastener couplings
- For opening of the direction couplings on air conditioning
- Suitable for all current vehicles
- In durable plastic storage case

Application range: Air-conditioning, fuel and air lines as well as hydraulics lines

			kg	
115.1260	22 pcs	Line connector unlocking device set	1.00	

consists of:

		g	
115.1261	Unlocking clip 1/4", plastic white	1	
115.1262	Unlocking clip 5/16", plastic white	1	
115.1263	Unlocking clip 3/8", plastic white	1	
115.1264	Unlocking clip 1/2", plastic white	5	
115.1265	Unlocking clip 5/8", plastic white	7	
115.1266	Unlocking clip 3/4", plastic white	8	
115.1267	Unlocking clip 7/8", plastic white	9	
115.1268	Unlocking clip open 5/16", steel black, hydraulic lines	37	
115.1269	Barrel-Unlocking with spring, red 3/4" Nominal size: 6er	12	
115.1270	Barrel-Unlocking with spring, blue 1/2" Nominal size: 8er	13	
115.1271	Barrel-Unlocking with spring, black 5/8" Nominal size: 10	12	
115.1272	Barrel-Unlocking with spring, white 3/4" Nominal size: 12	12	
115.1273	Double Unloking Ring, 5/16"x3/8"	54	
115.1274	Unlocking-Ring, 5/16", aluminum gold	35	
115.1275	Unlocking-Ring, 3/8", aluminum blue	36	
115.1276	Unlocking-Ring, 1/2", aluminum yellow	36	
115.1277	Unlocking-Ring, 5/8", aluminum green	41	
115.1278	Unlocking-Ring, 3/4", aluminum black	42	
115.1279	Unlocking-Ring, 7/8", aluminum red	43	
115.1280	Lever -Release open 5/16", Steel black	84	
115.1281	Fork plug-Unlocking, metal black	15	
115.1282	Replacement-Rubber ring-Set, 6- pcs for Unlocking-Rings	1	

AIR CONDITIONING AND FUEL SYSTEMS

Hose clip removal set

- For the repair on air conditioning and fuel systems
- Ideally suitable for passenger cars, trucks and buses
- Special plastic

Application range: Mitsubishi, Honda, Scania, Volvo, Nissan.

			g	
115.1095	6 pcs	Ø 6 - 8 - 10 - 12 - 15 - 16 mm	60	

4 in 1 Air conditioning ratchet, reversing

- According to DIN 3120 / ISO 1174
- For square 1/4" + 5/16" on the ratchet head with reversing switch
- For square 8.5, 3/8" + 13.0 mm on the ratchet handle
- For use with stop valves
- Clockwise and anticlockwise switch
- Special steel

	H1 mm	H2 mm	L mm	g	
130.0222	30.0	25.0	157.0	120	

4in1 Air conditioning ratchet spanner, reversing

- For 3/16", 1/4", 5/16" + 3/8"
- Clockwise and anticlockwise switch
- Special steel

	H1 mm	H2 mm	L mm	g	
130.0122	22.0	22.0	140.0	120	

Infared thermometer

- Laser pistol for non contact temperature measurement
- Ideally suited for the automotive sector, industrial, and construction usage Chemical and foodsuffs industry
- Laser measuring beam with a red measuring point
- Illuminating Display
- LCD Digital display
- Automatic swiching off
- Includes 9V block battery
- Stable plastic housing

Application range: In turning motors, difficult to access places, fluids, under current line directions, in heating appliances, gas and, air-conditioning, coolent systems, brake discs aggressive chemicals and groceries

Technical data:

Switchable:	°C / °F
Working range:	-50° - 550 °C
Emission factor:	adjust to 0.95
Power output max:	1mW
Power requirement:	9V Block Battery

		g	
150.3040	Infared thermometer	250	

Flexible UV inspection lamp

- LED UV lamp
- Flexible shaft
- Localizes leaks in air conditioning systems
- Clip for the breast pocket
- Approx. 60 hours lamp duration
- Includes 3 x AAAA batteries
- Impact proof housing

	L mm	D mm	Spare bulb	g	
550.1165	450.0	7.5	550.1167	150	

Refractometer - optical tester for antifreeze

- For quick and precise testing for antifreeze in the coolant
- Also suitable for coolant and windscreen washer water as well as battery acid
- Adjustable eye piece wit rubber viewing rest
- Automatic temperature compensation (ATC)
- Also suitable in ambient temperatures of less than 10°C
- Reading correction function by means of Bi metallic measurement
- High quality execution made from aluminium
- In practical case

Technical data:

Battery acid:	Acid density (measuring range 1.1 to 1.4 kg/l)
Coolant water Propylene:	Temperature resistance (measuring range 0° to -50°C)
Coolant water Ethylene:	Temperature resistance (measuring range 0° to -50°C)
Windscreen water:	Antifreeze (measuring range 0° to -40° C)

	D mm	L mm	g	
550.1290	40.0	149.0	630	

Oil drain pan 17 litres

- Carrying handle
- Pouring spout enables clean emptying
- Suitable for oil, chemicals, petrol, acids and antifreeze

	Ø mm	H mm	kg	
150.9361	445,0	145.0	1.16	

Condenser filling and relief adaptor, Scania/Volvo/Renault

- Ideally for the change of antifreeze
- Big aperture for fast draining
- Quick coupling made of stainless steel

Application: Scania 340/360 HGV and bus,Volvo/Renault

	A mm	B mm	L mm	g	
455.0076	15.0	9.8	78.0	150	

Cooling system testing equipment HGV

- For the diagnosis of leakages on coolent systems
- 7 adaptors ≈ 85% coverage of all commercial vehicles
- Optimal and safe seat like original cover
- Manometer with rubber safety cover
- Metall hand pump and flexible tube with decompression valve
- Robust execution
- Special steel

Application range: Trucks, land and construction machines, municipally and forestery technology, etc.

			kg	
455.0110	9 pcs	Cooling system testing equipment HGV	2.98	

consists of:

		g	
455.0111	Hand pump for cooling system testing equipment 2.5bar/36psi	474	
455.0112	Tube with pressure relief for hand pump 455.0111	156	
455.0113	Screw adaptor no 1 / M42x3.0	163	
455.0114	Screw adaptor no 2 / M45x3.0	138	
455.0115	Screw adaptor no 3 / M45x4.0	84	
455.0116	Screw adaptor no 4 / M52x3.0	112	
455.0117	Screw adaptor no 5 / M62x4.0	143	
455.0118	Screw adaptor no 6 / M72x4.0	214	
455.0119	Bayonet Adaptor Ø 60mm	104	

Cooling system testing adaptor

- For the diagnosis of leakages on coolent systems
- Can be used directly on condenser or compensator reservoir
- Firm seat due to expander function
- Simple handling
- Ideally suited in combination with test pump 455.0111
- Robust execution, POM (Polyoxymethylene)

Application range: Trucks, land and construction machines, municipally and forestery technology, etc.

	Ø mm	H mm	g	
455.0141	17,0 - 24,0	170.0	260	
455.0142	28,0 - 31,5	170.0	290	
455.0143	37,0 - 39,5	170.0	350	
455.0144	47,0 - 48,5	170.0	428	

Vacuum cooling system filling device

- Universally suitable for the filling of the cooling system of current vehicles
- Through production of a vacuum within the cooling system the new coolant becomes of an even density sucked into the system
- During the vacuum process the cooling system is tested simultaneously for density
- Bubble free filling prevents air inclusions in the cooling system
- A cleaning of the cool system is unnecessary
- Universally suitable through conical rubber connection piece
- In durable plastic storage case

Please note: Filling device does not empty automatically the old coolant!

Technical data:

Manometer:	bis max. -30 PSI / -1 Bar
Air pressure:	min. 550kPa - max. 690kPa
Air consumption:	max. 180l/min / 690kPa
Low pressure:	0,85 bar at 690kPa

			kg	
150.2070	4 pcs	Vacuum cooling system filling device	1.88	

consists of:

		g	
150.2070-1	Refill Gun	1280	
150.2070-28	Rubber cone small	60	
150.2070-29	Rubber cone, large	65	
150.2070-30	Tube 1,5m	200	

TEST EQUIPMENT

CO2 Cylinder head leak testing set

- For the locating of leaks on combustion engines
- Rational and dependable finding of cracks and Leakages
- Potential CO2 content in the coolant solution is detected
- Ideally suited for the cylinder head, cylinder head seals and engine block
- Leakages are visible through discoloration of the test fluid
- For all current vehicles with water cooled engines (Gas, Diesel and Petrol)
- Automatic regenerating reaction fluid for multiple use
- In durable plastic storage case

			kg	
150.1910	8 pcs	CO2 Cylinder head leak testing set	1.43	

consists of:

		g	
150.1911	Intake-squeeze bulb	30	
150.1912	Two way brass valve	120	
150.1913	Basic device with 2 Test chambers and cones	120	
150.1914	Reaction fluid, 250 ml	250	
150.1915	Empty container, 250 ml (for required fluid)	30	
150.1916	Bayonet Adaptor Gr 1	60	
150.1917	Bayonet Adaptor Gr 2	80	
150.1918	Bayonet Adaptor Gr 3	110	

Automotive pressure and vacuum pump set

- For ventilating of smaller brake parts and for inspection of different areas including Low pressure and pressure functions
- Suitable for almost all current vehicles
- Robust metal execution
- Compact pistol form, one man operation
- Shock proof pressure and low pressure manometer with double scale
- Includes extensive adaptor assortment
- Readable in bar or psi
- In durable plastic storage case

Application range: Brake bleeding, test of the low pressure attitude the fuel pressure regulator, turbo charger valve, exhaust gas return valve and brake servos

			kg	
150.1900	7 pcs	Automotive pressure and vacuum pump set	1.80	

consists of:

		g	
150.1901	Pressure and vacuum pump	730	
150.1902	Receiver /measuring beaker, 120ml, with double tube screw cap	44	
150.1903	Supply / measuring beaker, 120ml, with screw cap	44	
150.1904	Adaptor set, 14 pcs.	15	
150.1905	Connection hose and suction cap set, 5 pcs	23	
150.1906	Coupling nozzle set, 4 pcs (6x6 / 6x6 / 6x8 / 6x10)	9	
150.1907	Connection hose set, 2 pcs, L = 600 mm, Ø 6 x 9 mm	45	

Compression pressure test instrument for diesel engines

- Complete test tool set with or without direct injection
- Compact adaptor pieces with quick couplings
- Includes extensive adaptor assortment
- Very flexible tube for hard to access places
- In durable plastic storage case

Technical data:

Manometer:	0,0-70,0 bar
Tube length:	355.0
Manometer gauge:	bar, psi or KPA

		kg	
150.1680	13 pcs Compression pressure test instrument for diesel engines	2.56	

consists of:

		g	
150.1680-1	Manometer with tube	640	
150.1680-2	Glow plug adaptor, M10x1,25	40	
150.1680-3	Glow plug adaptor, M12x1,25	40	
150.1680-4	Glow plug adaptor, M14x1,25	70	
150.1680-5	Compression pressure test adaptor, 114mm	220	
150.1680-6	Compression pressure test adaptor, M24x2	160	
150.1680-7	Compression pressure test adaptor	60	
150.1680-8	Glow Plug Adaptor M 10 x 1,25	60	
150.1680-9	Glow plug adaptor, M10x1	45	
150.1680-10	Compression pressure test adaptor	145	
150.1680-11	Replacement sealings and washers	15	
150.1680-12	Angle connecting piece	50	
150.1680-13	Clamp arch	70	

Mechanics stethoscope

- Flexible
- Serves the acoustic test and judgment of a component under load
- Quick and precise mistake diagnosis over sounds

Application range:
Engine: Valves, baerings, piston pins
Alternator: Bearing sounds
Differential: Barrel sounds
Bodywork: Creak and squeak sounds

		L mm	g	
150.1645	1120.0	200		

Electronic professional stethoscope

- For the professional defect diagnosis
- Serves the acoustic test and judgment of a component under load
- Delivers fast, absolutely clear and unambiguous test results over sounds
- Contains 6 independent sensors that can mounted for example on the vehicle floor or in the engine compartment for ease
- Simple coordination of the defect source through colour coded cable and colour table on the box
- In durable plastic storage case

Application range:
Engine: Valves, baerings, piston pins
Alternator: Bearing sounds
Differential: Barrel sounds
Bodywork: Creak and squeak sounds

			kg	
150.1695	21 pcs	Electronic professional stethoscope	2.50	

consists of:

		g	
150.1695-1	Headset f.150.1695	350	
150.1695-2	Amplifier f.150.1695	115	
150.1695-3	Hand held stethoscope f.150.1695	165	
150.1695-4	Velcro strap f.150.1695, 8pcs	9	
150.1695-5	Sensor f.150.1695	10	
150.1695-6	Coulour coded cable f.150.1695, 6pcs	755	

Photoelectric rev counter, LED display/laser

- Portable laser measuring instrument, digital
- For touchless measuring of the rotating speed / number of revolutions
- LED display 18mm
- Automatic back up: last test result / maximum and minimum value
- Laser aim point to focus exactly on the measuring point
- Solid state RPM measurement by reflectors supplied

Application range: Trucks, land and construction machines, municipally and forestery technology, conveyor belts, machinery, revolution motor shafts etc.

Technical data:

Working range:	2,5 bis 99,999 U/min
Measuring distance:	50-500 mm
Resolution:	0.1 RPM up to 999.9 , 1 RPM from 1000
Display accuracy:	0,05% +/- 1Stelle
Power requirement:	3x 1,5V AAA (not in the delivery)
Dimensions:	185x73x37mm
Working temperature:	0° / +40°C

		g	
455.0130	Photoelectric rev counter, LED display/laser	415	

Accessories:

		g	
455.0131	Reflective tape stripes 3 pcs L 200 x W 12 mm	1	

Test lamp 6 - 24 V

- Test tip protected through a cap
- With shielded crocodile clamp
- Brass

	L mm	g	
550.1504	125.0	30	

Voltage tester 3 - 48 V

- Universal test instrument for motor vehicle electrics and electronics
- Two light-emitting diodes indicate voltage as well as polarity
- Test tip with push mechanics to tap into the cable
- With shielded crocodile clamp

	L mm	g	
550.1503	140.0	70	

Test probe 6-24V DC with 25 meter cable

- Ideal standard lamp with many test functions
- High speed functional testing without removal of components
- Via toggle switches can be plus or minus given to the probe
- Built in bi metal short circuit protection
- No protection wear for troubleshooting
- Version with replaceable probe and alligator clip
- For continuity test, self test and fault diagnosis
- Immediate polarity determination by LED display

Application area: 6-24V DC
Cable length: 25 m
Test probe diameter: Ø 4 mm

	Application area	Replacement tip	kg	
150.1655	6 - 24 V DC	150.1671	1.26	

TESTTRONIC

The perfect complement to your vehicle measuring accessories.

CE-certified
Designed for current and future
applications in vehicle electrics and electronics!

Connection = 4 mm dia. banana plug
compatible with commercially available testing and measuring technology

KS TOOLS TESTTRONIC

At KS TOOLS the name „TESTTRONIC“ stands for exceptionally high-quality measuring accessories.
The product range represents a selection of service tools developed specially to meet the demands of automobile manufacturers, workshops, service and training centres and the automotive industry accessories wholesale trade.

In short:
By experts -
For experts!

It meets all the demands on state-of-the-art automotive measuring technology and also contains a large number of important problem solvers for day-to-day work with measurement and test instruments. All components are compatible with one another.

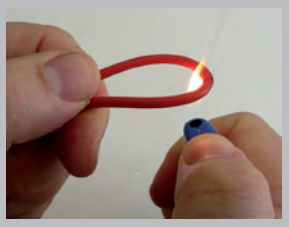
Needle-shaped fine test tips
Flexible spring steel 0.7 mm dia.
For low voltages in the on-board electronics up to 32 V

Angled needle-shaped fine test tips
Flexible spring steel 0.7 mm dia.
For measurements in confined spaces
Setting up of a permanent measuring point
For low voltages in the on-board electronics up to 32 V

Needle-shaped test tips
of flexible spring steel, 1 mm dia.
High breakage resistance
Use e.g. on cable inlet side
For measurements up to 20 A

Silicone measuring cables
Double insulation with white underlayer
Early warning of insulation damage
Highly flexible even when cold
High heat resistance (briefly up to 220 °C)
Extreme flexibility - approx. 250 individual wires
Avoidance of measuring errors due to faulty measuring leads (breakage of individual wires)
Lengths: 1.2 m / 6.0 m / 30.0 m

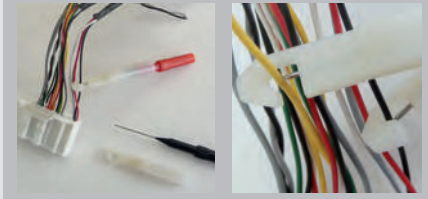
-10 °C to +150 °C



Cable piercer
Quick access even without open contact
Piercer needle of beryllium-copper
Very good conductivity
Needle can be bent to any desired shape
Low risk of breakage

Crocodile clamps
Fully insulated
Extra large jaw opening max. 26 mm (suitable also for battery terminals)
Secure clamping - high spring force - good contact
Progressive clamp teeth - also for delicate parts

Test tip and cable piercer
2 in 1 = Fine test tip and cable piercer
Flexible spring steel 0.7 mm dia.
For cables with dia. 1.0 - 2.5 mm
Piercer for access even without open contact
Use cable tip on cable inlet side



Test probe 6-24V DC with 5 meter cable

- Ideal standard lamp with many test functions
- High-speed functional testing without removal of components
- Via toggle switches can be plus or minus given to the probe
- Built in bi-metal short circuit protection
- No protection wear for troubleshooting
- Version with replaceable probe and alligator clip
- For continuity test, self test and fault diagnosis
- Immediate polarity determination by LED display

Technical data:

Cable length: 5 m
Test probe diameter: 4 mm

	Application area	Replacement test tip	g	
150.1670	6 - 24 V DC	150.1671	500	

Automotive current tester

- For the diagnosis of faults in motor vehicle electrics
- Ideal to the fast current that is sought through the fuse connector
- With large 75 mm LCD display
- Connector with side outlet insures strong reception

	Connecter type	L mm	Volt max	Ampere max	g	
150.3096	Mini	900.0	48	20	70	
150.3095	Standard	900.0	48	20	100	

Motor vehicle multimeter

- Specially developed multimeter for working in the motor vehicle area
- Double display (digital and bar chart display)
- 4 test leads for current with test tip / crocodile clip
- Central rotary switch
- Large display
- With integrated safety fuse for the protection of the circuits
- With fold out adjustable foot in protective rubber holster
- Sturdy plastic housing

Functions:

- Continuity test (with acoustic signal)
- Transistor tester
- Diode test (with acoustic signal)
- Capacity
- Frequency measurement
- Data hold function
- Automatic measuring range selection

	B mm	L mm	T mm	g	
150.1480	100.0	200.0	45.0	600	

Automotive multimeter with inductive clamp

- Specially developed multimeter for working in the motor vehicle area
- As well standard functions also ideal for a number of revolution measurements
- Double display (digital and bar chart display)
- 2 test leads for current with test tip / crocodile clip
- 1 test lead for temperature testing
- Ignition timing ascertainment up to 8-cylinder engines possible (Dwell function)
- Digital and bar chart display
- With integrated safety fuse for the protection of the circuits
- In shock-proof rubber protection cover

Functions:

- DC and AC current
- DC and AC voltage
- Dwell
- Resistance
- Frequency
- Diode test
- RPM
- Temperature-automatic shutdown
- Battery condition indicator

	B mm	L mm	g	
150.2040	100.0	200.0	500	

Probe and test adaptor set

- For use with test probe 150.1665 + 150.1655
- High quality testing and test accessories
- For use in conjunction with test probe
- Flexible silicon cable
- Extra thin test probe
- Bi colour test leads for polarity indication

			g	
150.1675	15 pcs	Probe and test adaptor set	300	

consists of:

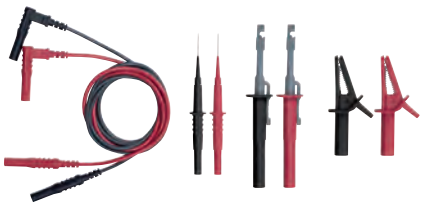
		g	
150.1667	Inspection and test equipment, cable 1m, red	30	
150.1668	Inspection and test equipment, cable 1m, black	30	
150.1669	Inspection and testing equipment, injection probe	30	
150.1672	Inspection and test equipment, LED test leads	10	
150.1673	Inspection and test equipment, needle test leads, black	10	
150.1674	Inspection and test equipment, needle test leads, red	10	
150.1676	Inspection and test equipment, probe, black	10	
150.1677	Inspection and test equipment, probe, red	10	
150.1678	Inspection and test equipment, clamps, red	20	
150.1679	Inspection and test equipment, clamps, black	20	

TESTTRONIC

Testtronic automotiv measuring set

- Connection with Ø 4 mm banana plug
- Silicone measuring leads with double insulation
- extremely flexible
- Temperature resistant from -10° to + 150°C
- Fully insulated crocodile clamps with wide opening
- For connection to pole contacts of car batteries + standard plug connectors
- Cable piercer for quick access
- Needle shaped spring steel test tips, for insertion from the rear

Application range: Citroen C5 / C6 (mandatory for removal of the rear window), Opel Astra, DC A class, etc.



			g	
150.0900	8 pcs	Testtronic automotiv measuring set	170	

consists of:

		g	
150.0901	Silicone measuring lead straight/ 90°, angled, red	33	
150.0902	Silicone measuring lead straight/ 90°, angled, black	33	
150.0903	Fully insulated crocodile clamp, red	13	
150.0904	Fully insulated crocodile clamp, black	13	
150.0905	Cable piercer, short, red	10	
150.0906	Cable piercer, short, black	10	
150.0907	Needle shaped mini test tip, Ø 0.7 mm, red	12	
150.0908	Needle shaped mini test tip, Ø 0.7 mm, black	12	

Testtronic universal plug test kit

- For testing plug connector in automotive electrics
- Connection with Ø 4 mm banana plug
- Silicone measuring leads with double insulation, 1200 mm
- Extremely flexible
- Temperature resistant from -10° to + 150°C
- Needle shaped spring steel test tips, for insertion from the rear
- Angled test needles for measurements at confined measurement points

Application range: Compact plugs / control systems / sensor plugs

150.0910	6 pcs	Testtronic universal plug test kit	230

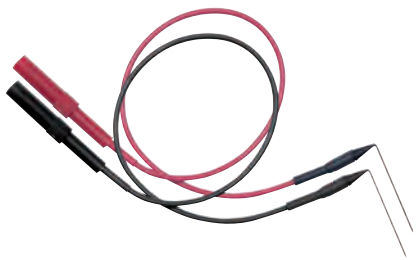
consists of:

150.0901	Silicone measuring lead straight/ 90°, angled, red	33
150.0902	Silicone measuring lead straight/ 90°, angled, black	33
150.0911	Needle shaped mini test tip, Ø 0.7 mm, red	5
150.0912	Needle shaped mini test tip, Ø 0.7 mm, black	5
150.0916	Angled test needle, Ø 0.7 mm, red	5
150.0917	Angled test needle, Ø 0.7 mm, black	5

Testtronic test needle, angled

- For measurement on plug connectors in areas with difficult access
- Connection with Ø 4 mm banana plug
- Silicone measuring leads with double insulation
- extremely flexible
- Temperature resistant from -10° to + 150°C
- Needle shaped spring steel test tips, for insertion from the rear
- Flexible mini test tips (needle Ø 0.7 mm) of spring steel

Application range: Compact plugs / control systems / sensor plugs



150.0915	2 pcs	Testtronic test needle, angled	30

consists of:

150.0916	Angled test needle, Ø 0.7 mm, red	5
150.0917	Angled test needle, Ø 0.7 mm, black	5

Testtronic mini test tip with piercer

- Test tip and cable piercer
- Connection with Ø 4 mm banana plug
- Quick access, even when no "open" contact is available
- Needle shaped spring steel test tips (needle dia. 0.7 mm), for insertion from the rear
- Flexible mini test tips (needle Ø 0.7 mm) of spring steel
- suitable for cables with dia. 1.0 - 2.5 mm

150.0920	2 pcs	Testtronic mini test tip with piercer	30

consists of:

150.0921	Mini test tip with piercer dia. 0.7 mm, red	2
150.0922	Mini test tip with piercer dia. 0.7 mm, black	2

Test leads extension set

- Practical and compact lead magazines
- Easy winding in and out
- With safety banana plug Ø 4mm straight and angled
- Extremely flexible even in the cold
- Temperature resistant from -10° to + 150°C
- Compatible with commercially available inspection and measuring technic
- Silicone measuring leads with double insulation

150.0930	Test leads extension set	330

consists of:

150.0932	Test lead extension 6m, red Ø = 143mm	165
150.0931	Test lead extension 6m, black Ø = 143mm	165

Testronic Testing cable reel, 30 m

- Drum with two sided handle
- Quick and easy winding
- Two connections
- 1 x Banana plug Ø 4mm angled on the cable head
- 1 x Bush for connection of measuring accessories on the housing
- Compatible with commercially available inspection and measuring technic
- Ideally usably as extension
- Extremely flexible even in the cold
- Temperature resistant from -10° to + 150°C
- Silicone measuring leads with double insulation

	H mm	B mm	T mm	kg
150.0935	260.0	195.0	115.0	1.51

ELECTRONICS

Professional truck terminal extractor tool

- Professional and non destructive release of contacts
- Opening of secondary locks
- Maximum coverage
- For all common models
- With two steps of removal
- In durable plastic storage case

150.0800	10 pcs	Professional truck terminal extractor tool	350

consists of:

150.0832	Terminal extractor tool, Tyco Ø 1.5	36
150.0833	Terminal extractor tool, Tyco Ø 2.5; Lear VKS	54
150.0834	Terminal extractor tool, Ø 4.0 ABS	75
150.0837	Terminal extractor tool, 2.8 for secondary locking	25
150.0839	Terminal extractor tool, Tyco MT II + III 1.6	24
150.0841	Terminal extractor tool, Tyco JPT 2.8	25
150.0845	Terminal extractor tool, Lear MKR / MKS Ø 1.5	29
150.0846	Terminal extractor tool, Lear VKR Ø 2.5	36
150.0847	Terminal extractor tool, hook big	26
150.0848	Assembly sleeve ABS for 150.0834	6

Professional truck terminal extractor tool

- Professional and non destructive release of contacts
- Opening of secondary locks
- Maximum coverage
- For all common models
- With two steps of removal
- In durable plastic storage case

150.0805	4 pcs	Professional truck terminal extractor tool	170

consists of:

150.0831	Terminal extractor tool, Tyco Ø 1.5 (slotted sleeve)	50
150.0835	Terminal extractor tool, german size 16, Ø 1.6	22
150.0836	Terminal extractor tool, Kostal MLK 1.2	24
150.0838	Terminal extractor tool, Bosch BMK	26

Professional truck terminal extractor tool

- Professional and non destructive release of contacts
- Opening of secondary locks
- Maximum coverage
- For all common models
- With two steps of removal
- In durable plastic storage case

			g	
150.0810	4 pcs	Professional truck terminal extractor tool	170	

consists of:

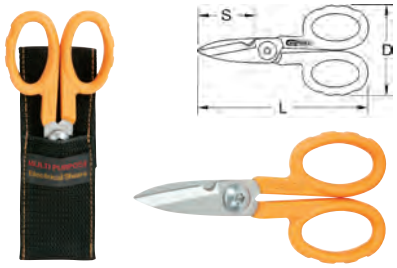
		g	
150.0840	Terminal extractor tool, Kostal SLK 2.8 without SV	28	
150.0842	Terminal extractor tool, Tyco SPT 4.8; 5.8; 6.3	27	
150.0843	Terminal extractor tool, Tyco MCP 2.8	27	
150.0844	Terminal extractor tool, Kostal LSK 8	36	

Application:

		g	
150.0831	Iveco, Scania	50	
150.0832	DAF, Iveco, MAN, Scania, Volvo	36	
150.0833	DAF, Daimler-Benz, Iveco, Scania, Volvo	54	
150.0834	DAF, Daimler-Benz, Iveco, MAN, Volvo	75	
150.0835	Scania	22	
150.0836	Daimler-Benz	24	
150.0837	DAF, Daimler-Benz, Iveco, MAN, Scania, Volvo	25	
150.0838	Iveco	26	
150.0839	DAF, Daimler-Benz, Iveco, MAN, Volvo	24	
150.0840	Daimler-Benz	28	
150.0841	Daimler-Benz, Iveco, MAN, Scania, Volvo	25	
150.0842	DAF, MAN	27	
150.0843	Scania	27	
150.0844	Daimler-Benz	36	
150.0845	DAF, MAN, Scania, Volvo	29	
150.0846	DAF, MAN, Scania, Volvo	36	
150.0847	DAF, Daimler-Benz, Iveco, MAN, Scania, Volvo	26	
150.0848	DAF, Daimler-Benz, Iveco, MAN, Volvo	6	

Universal workshop shear

- Robust short shears
- Various applications
- With cable cutter
- Includes belt pouch



	D mm	L mm	S mm	g	
118.0060	75.0	140.0	42,0	170	

Electricians pen knife

- Blade folds away
- Sickle blade
- Moulded handle made out of wood
- Rust proof
- Stainless steel

	D mm	L1 mm	L2 mm	g	
907.2185	37.0	185.0	70.0	60	

Electricians pen knife

- Blade folds away
- Straight- and sickle blades
- Moulded handle made out of wood
- Rust proof
- Stainless steel

	D mm	L1 mm	L2 mm	g	
907.2186	37.0	185.0	70.0	90	

Electricians pen knife

- Blade folds away
- Single blade and stripping function
- Moulded handle made out of wood
- Rust proof
- Stainless steel

	D mm	L1 mm	L2 mm	g	
907.2187	15.0	195.0	85.0	60	

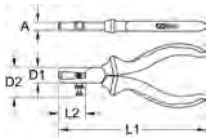
Electricians pen knife

- Blade folds away
- Straight and extra narrow pointed blade
- Moulded handle made out of wood
- Rust proof
- Stainless steel

	D mm	L1 mm	L2 mm	g	
907.2188	19.0	198.0	90.0	60	

ERGOTORQUE® wire stripper

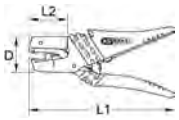
- In accordance to DIN / ISO 5232
- Locking jaw opening
- Adjusting screw and spring
- Two component handle
- For wires from 0,5 - 4.0 mm²
- Matt Chrome
- Special tool steel

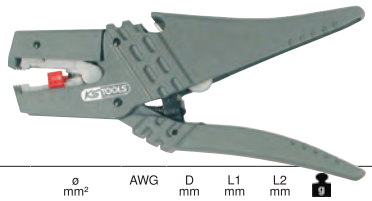


	A mm	D1 mm	D2 mm	L1 mm	L2 mm	g	
115.1014	9.0	20.5	33.0	179.0	39.0	220	

Self regulating wire stripper

- Suitable for single and multi core Cable with current standing type insulation
- Cutting function
- Light weight
- For damage free stripping
- Length stop for 3,0 - 22,0 mm
- Smooth running mechanics





	ø mm²	AWG	D mm	L1 mm	L2 mm	g	
115.1240	0,5-4,0	20-12	43.0	185.0	50.0	140	

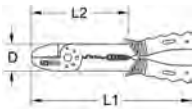
Self regulating wire stripper

- Easily interchangeable knife modules
- Cutting function
- Light weight
- Exact adjustment possible for safe stripping
- For damage free stripping
- Length stop for 0,02 - 10,0 mm
- Smooth running mechanics

	ø mm²	AWG	D mm	L1 mm	L2 mm	Replacement blades	g	
115.1244	0,1-4	28-12	48.0	190.0	73.0	115.1247	130	
115.1245	0,02-10	34-8	48.0	190.0	73.0	115.1246	130	
115.1249	4-16	12-6	48.0	190.0	73.0	115.1248	130	

Crimp plier für not insulated, opened cable connector

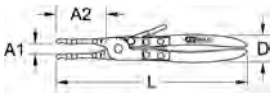
- Ideally suited for converting not insulated contacts
- For stripping of wires from 0.5 - 6.0 mm²
- Cut wires up to 6.0 mm²
- For crimping blade terminals 2.8 / 4.8 / 6.3 mm and other contacts with open crimp sleeve
- Handle dip insulated
- Plier body from special steel
- Material strength 3 mm



	D mm	L1 mm	L2 mm	g
115.1235	38.0	220.0	120.0	190

Soldering wire pliers

- With PVC dipped handle
- For the safe fixing of braded wire
- With self opening internal spring
- Includes locking mechanism
- Chrome molybdenum



	A1 mm	A2 mm	D mm	L mm	g
115.1052	78.0	65.0	36.0	245.0	260

Crimping pliers for non insulated terminals

- Extremely robust and reliable
- Safety lock
- Inserts lock and to they click to prevent possible misuse
- Optimal crimping through precision profile
- Ratchet function
- Adjustment of the crimping pressure
- Easy to change the crimp heads through quick locking device
- Two component handle
- Burnished
- Pliers body made of flat steel

	ø mm²	AWG	D1 mm	D2 mm	L1 mm	L2 mm		g
115.1425	0,5-1,0 / 1,5-2,5 / 4,0-6,0	22-18 / 16-14 / 12-10	52.0	34.0	220.0	50.0	115.1415	491

Multifunction crimping plier set

- For insulated and un-insulated cable terminals
- Includes 270 pcs consumables
- For cable cutting and stripping wires from 0,75 - 6,0 mm²
- For crimping cable terminals and connectors from 1,5 - 6,0 mm²
- Cutting function
- Two component handle
- Pliers body made of flat steel
- In durable plastic storage case

			g
115.1230	270 pcs	Multifunction crimping plier set	560

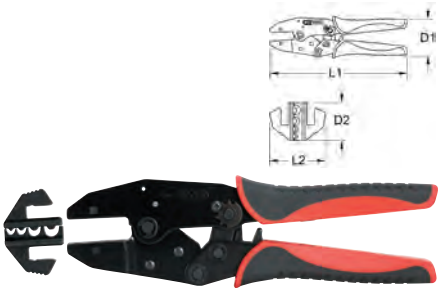
Universal crimping tool set with automatic wire stripper

- Extremely robust and reliable crimping plier
- Safety lock
- Inserts lock and to they click to prevent possible misuse
- Optimal crimping through precision profile
- Ratchet function
- Adjustment of the crimping pressure
- Easy to change the crimp heads through quick locking device
- In durable plastic storage case
- Two component handle
- Burnished
- Pliers body made of flat steel
- Includes self-closing and damage free automatic wire stripper

			kg
115.1400	8 pcs	Universal crimping tool set with automatic wire stripper	2.37
1 x		220 mm	
1 x		Ø 0,5 - 4,0 mm, H	
1 x		Ø 1,5 - 10,0 mm, B	
1 x		Ø 0,5 - 6,0 mm, C	
1 x		Ø 0,5 - 4,0 mm, D	
1 x		RG 58 - RG 71, E	
1 x		1,0 - 3,2 mm	
1 x			

Crimping pliers for insulated terminals

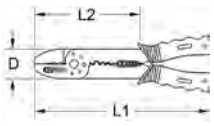
- Extremely robust and reliable
- Safety lock
- Inserts lock and to they click to prevent possible misuse
- Optimal crimping through precision profile
- Ratchet function
- Adjustment of the crimping pressure
- Easy to change the crimp heads through quick locking device
- Two component handle
- Burnished
- Pliers body made of flat steel



	ø mm²	AWG	D1 mm	D2 mm	L1 mm	L2 mm		g
115.1430	1,5/2,5/ 6,0/10,0	20-18/16-14/12-10/8	52.0	34.0	220.0	50.0	115.1416	487

Multifunction pliers for insulated and non insulated cable terminals

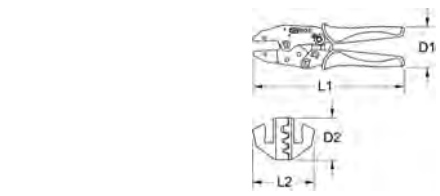
- For cable cutting and stripping of wires from 0,75 - 6,0 mm²
- For crimping cable lugs and connectors of 1,5 - 6,0 mm²
- Cutting function
- Two component handle
- Pliers body made of flat steel



	D mm	L1 mm	L2 mm	g
115.1231	40.0	220.0	130.0	230

Crimping pliers for spade terminals

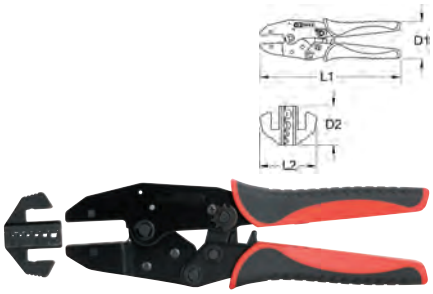
- Extremely robust and reliable
- Safety lock
- Inserts lock and to they click to prevent possible misuse
- Optimal crimping through precision profile
- Ratchet function
- Adjustment of the crimping pressure
- Easy to change the crimp heads through quick locking device
- Two component handle
- Burnished
- Pliers body made of flat steel



	ø mm²	AWG	D1 mm	D2 mm	L1 mm	L2 mm		g
115.1435	0,5-1,0/ 1,5-2,5 /4,0-6,0	20-18/ 16-14/ 12-10	52.0	34.0	220.0	50.0	115.1417	499
115.1455	2,5 / 0,5 / 8,0 / 10,0	14-22/8-6	52.0	34.0	220.0	50.0	115.1421	505

Crimping pliers for pin terminals

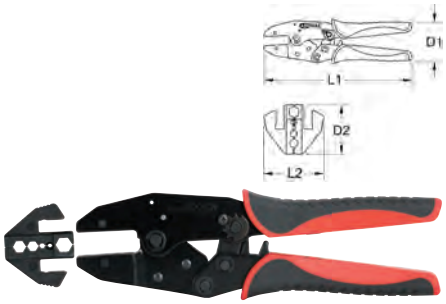
- Extremely robust and reliable
- Safety lock
- Inserts lock and to they click to prevent possible misuse
- Optimal crimping through Precision profile
- Ratchet function
- Adjustment of the crimping pressure
- Easy to change the crimp heads through quick locking device
- Two component handle
- Burnished
- Pliers body made of flat steel



	ø mm²	AWG	D1 mm	D2 mm	L1 mm	L2 mm		g	
115.1440	0,5 / 0,75 / 1,0 / 1,5 / 2,5 / 4,0	22 / 20 / 18 / 16-14 / 12-10	52.0	34.0	220.0	50.0	115.1418	499	
115.1450	6,0 / 10,0 / 16,0	10 / 8 / 6	52.0	34.0	220.0	50.0	115.1420	499	

Crimping pliers for coaxial terminals

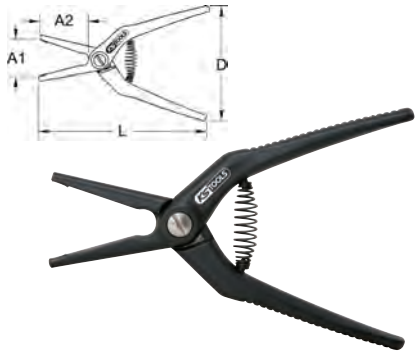
- Extremely robust and reliable
- Safety lock
- Inserts lock and to they click to prevent possible misuse
- Optimal crimping through precision profile
- Ratchet function
- Adjustment of the crimping pressure
- Easy to change the crimp heads through quick locking device
- Two component handle
- Burnished
- Pliers body made of flat steel



	ø mm²	AWG	D1 mm	D2 mm	L1 mm	L2 mm		g	
115.1445	1,72 / 2,50 / 5,40 / 6,48 / 8,23	RG58, RG59, RG62	52.0	34.0	220.0	50.0	115.1419	491	

Incandescent bulbs plier

- With protecting foam material
- For the removal and replacement of incandescent bulbs
- With internal spring
- Plier jaws with foam protection material
- Suited for glass socket lamps of 4,0 mm until 6,0 mm
- Special plastic



	A1 mm	A2 mm	D mm	L mm	g	
115.1054	0,0-32,0	45.0	43.0	160.0	70	

Mini gas burner

- Gas operated soldering device up to 1,300° / 2,450° F
- Compact design with integrated piezo ignition
- Filled with standard lighter gas / ISO butan gas
- For melting, brazing, minor soldering work
- With child protection device and cut out protection
- Supplied with safety cap

	L1 mm	L2 mm	H mm	g	
960.1215	75.0	50.0	110.0	80	

Small soldering torch with flame reflector

- For fine soldering
- Shrink / flame reflector
- Table stand
- Up to 1300° C

	L mm	g	
960.1210	140.0	350	

Micro terminal set

- Gas operated micro soldering device up to 1,300° / 2,450° F
- With piezo ignition
- Optimal for fine working
- Gas supply totally adjustable
- Filled with standard lighter gas / ISO butan gas
- Includes different attachments soldering wire and soldering sponge
- In durable plastic storage box

			g	
960.1160	10 pcs	Micro terminal set	370	

consists of:

		g	
960.1161	Soldering iron with piezo ignition	80	
960.1162	Soldering head for screw solder tips	9	
960.1163	Soldering tip 3.5 mm, chisel	3	
960.1164	Soldering tip 4.5mm, diagonal	3	
960.1165	Soldering tip knife	3	
960.1166	Shrink hose attachment	3	
960.1167	Soldering sponge	12	
960.1168	Soldering wire spool	25	
960.1169	Protective cap	14	

Micro terminal assortment

- Gas operated micro soldering device up to 1300°
- Optimal for fine working
- Gas supply totally adjustable
- Filled with standard lighter gas
- Includes different attachments soldering wire and soldering sponge
- In durable plastic storage case

			g	
960.1150	13 pcs	Micro terminal assortment	200	

consists of:

		g	
960.1151	Gas soldering iron	110	
960.1152	Bunsen burner nozzle head	20	
960.1153	Soldering head including. 6 different on screw solder tips	30	
960.1154	Flat attachment f.flame protection f.bunsen burner nozzle head	10	
960.1155	Attachment for Bunsen burner nozzle head	10	
960.1156	Soldering sponge	6	
960.1157	Soldering wire spool	24	

PVC insulation tape set

- Good resistance to abrasion and corrosion and/or moisture
- High di-electric strength and good mechanical protection
- Excellent ability to adapt to different forms
- Conforms to BS3924
- Temperature resistance of 0° C to +90°
- Multicoloured assortment

			g	
141.6010	8 pcs	PVC insulation tape set, 8 pcs	150	

Self welding repair tape

- Excellent weather resistance
- Easy to apply due to high elasticity
- Insulates air and water tight, due to self welding characteristics
- Temperature resistance of -40° C to +90° C
- With a tape thickness of 0,5 mm
- Made from Polyisobutylene tape
- For a range of applications in electrical, plumbing and automotive

	Colour code	B mm	D mm	L mm	g	
141.6000	●	18.0	27.0	95.0	100	
141.6001	●	38.0	27.0	95.0	210	

Battery holding device

- Practical installation aid for all batteries
- With clamping cheeks rubber coated
- Size adjustable
- Rubber grip

	⌀ mm	g	
700.1196	120 - 190	560	

6 + 12V Battery tester

- Suitable for 6 and 12 Volt
- For the quick and simple determining of the battery efficiency
- Examination function for alternator and starter motor
- Rocker switch
- Analogue display 0-16 Volt
- Clamping fixture on the device

		g
550.1690	6 + 12V Battery tester	500

Battery tester for 12V batteries from 30 ah

- Suitable for 6 Volt
- For the quick and simple determining of the battery efficiency
- Examination function for alternator and starter motor
- Measurement of the battery capacity under load
- Automatic control of the complete test process
- Cold start current value for the exact analysis
- Result of the measurement is indicated after 10 seconds
- Avoiding of an overload of the battery through too long testing duration
- Digital LCD display

		g
550.1685	Battery tester for 12V batteries from 30 ah	500

Battery acid tester

- For inspection of the acidity of the battery fluid
- Hydrometer

	L mm	g
550.1680	280.0	107

Battery plug turner

- For screwing in and turning off battery plugs
- Special profile for cable battery plugs
- Universal use also in short in height
- Chrome plated and mirror polished
- Chrome vanadium

	mm	L mm	g
550.1681	14,5 x 1,795	95.0	72

Battery pole clamp cleaner

- For the removing of contact corrosion on vehicle batteries
- Conical mill for battery pole clamps
- Milling head made out of steel
- Cast metal body

		g
700.1195	Battery pole clamp cleaner	150

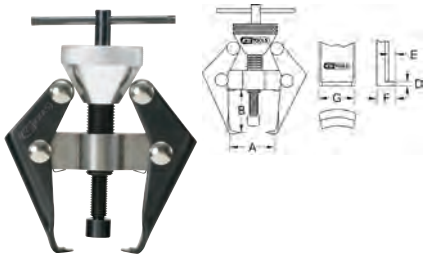
Battery pole and clamp cleaning brush

- For the removing of contact corrosion on batteries
- Inside and outside brush
- Plastic housing

	L mm	g
700.1197	120.0	64

Battery clamp and wiper arm puller 2 arm

- Ideally suited for drawing-off small parts
- T-handle drive
- Independent pressure of the hooks
- Extremely robust spindle with inductively hardened thread
- Special steel



	A mm	B mm	max t	mm	D mm	E mm	F mm	G mm	kg
700.1190	15	32	1,2	M8 x 50	2,5	9	10,5	11	0.30

Pole clamp 2 arm puller

- Ideally suited for drawing off small parts
- Independent pressure of the hooks
- Extremely robust spindle with inductively hardened thread
- Special steel

	A mm	B mm	max t	mm	dim mm	D mm	E mm	F mm	G mm	g
620.3101	10-60	40	1	M8x85	10	1	5	12	8	160
620.3102	10-70	44/74	1,2	M8x85	10	1	5	12	8	200
620.3103	10-90	84	2	M10x105	12	1,8	10	20	12	300

Suction and filling bottle

- Ideal remedy for the drop free bleeding off of brake fluid out of that reservoir (bottle)
- Special plastic

		g
160.0738	Suction and filling bottle	92

Automatic control battery filling bottle 2 litre

- Stops automatically if the filling state optimal is reached
- Automatic clasp and influx stop device
- Acid and oil resistant
- Special plastic

		g
550.1683	2	300

Battery maintenance set

- For service and maintenance of vehicle batteries
- Clear and tidy arrangement
- With carrying handle
- In durable sheet steel case

		L mm	B mm	H mm	kg
550.1700	17 pcs	265.0	255.0	170.0	7.70

consists of:

		g
141.6010	PVC insulation tape set, 8 pcs	150
160.0738	Suction filling bottle	92
517.0610	Combination spanner,offset,10mm	40
517.0611	Combination spanner,offset,11mm	50
517.0612	Combination spanner,offset,12mm	60
517.0613	Combination spanner,offset,13mm	70
517.0614	Combination spanner,offset,14mm	80
550.1680	Battery acid tester, 280 mm	107
550.1681	Battery plug twister, 95 mm	72
700.1190	Pole terminal wiper arm puller, 2 arm, 15 mm	300
700.1195	Battery pole clamp cleaner	150
700.1196	Battery carrying clamp,120-190 mm	560
700.1197	Battery pole terminal cleaning brush, 120mm	64
907.2187	Electricians pen knife,1 straight blade	60

consists of:

550.1046	Hook tool 120mm blade, straight version	27
550.1047	Hook tool 120mm blade, 45° angled version	27
550.1048	Hook tool 120mm blade, 90° angled version	27
550.1049	Hook tool 120mm blade, 135° angled version	27
550.1071	Hook tool large, straight, Length 215 mm	91
550.1072	Hook tool large, 90°, Length 240 mm	105
550.1073	Hook tool large, sickle form, Length 185 mm	88
550.1074	T-handle hook tool, S-form small, length 120 mm	42
550.1075	T-handle hook tool, S-form big, length 165 mm	96

CHROME*plus*® half moon - and manifold spanner set

- FlankTraction profile
- Especially suitable for narrow hard to access areas
- Chrome plated and mirror polished
- Chrome vanadium

518.0850	5 pcs	10x12 - 11x13 - 14x17 - 16x18 - 19x22 mm	860

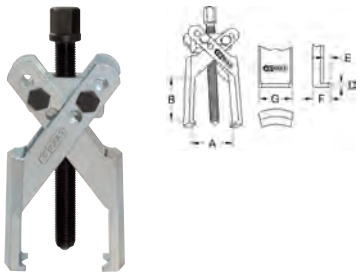
Draw off lining

- For drawing off the shoulder housings interior ring of light machines, motor parts and other machine parts
- Special steel

	Ø mm	L mm	max N·m	mm	dim mm	
670.0221	5-32	135	60	M14x1,5 x 130	17	1.40

Universal 2 arm puller

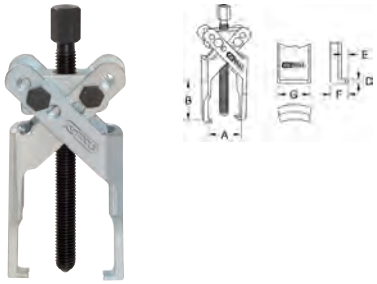
- Legs are adjustable in the working depth
- Independent pressure of the hooks
- Extremely robust spindle with inductively hardened thread
- Special steel



	A mm	B mm	max t	mm	dim mm	D mm	E mm	F mm	G mm	
620.5201	6-100	70/85	1,5	M10x105	12	2,5	4,5	8,5	23	0.40
620.5202	10-140	85/120	3,5	M14x1,5x130	17	3,5	5	10	31	0.90
620.5203	15-140	125/155	4,5	M14x1,5x200	17	3,5	5	10	31	1.10

Universal 2 arm puller set with narrow legs

- Legs are adjustable in the working depth
- Ideal for confined spaces
- Independent pressure of the hooks
- Extremely robust spindle with inductively hardened thread
- Special steel



	A mm	B mm	max t	mm	dim mm	D mm	E mm	F mm	G mm	
620.5301	6-100	70/85	1	M10x105	12	2,5	4,5	8,5	11	0.40
620.5302	15-140	125/155	2	M14x1,5x200	17	3,5	5	11	12	1.00

Alternator combination key set

- For the disassembly and assembly of free running pulleys when changing the alternator or belt pulley
- Allows the dissolution and attaching the central nut at the same time countertensioning the pulley shaft
- Suitable for a wide range of applications
- The development of additional spare parts such as condenser
- In durable plastic storage case

Application range: Bosch and Magneti Marelli alternators, Audi, BMW, Fiat, Ford, Mercedes, Opel, Porsche, Renault, Peugeot, Sear, Skoda, VW, etc.

150.3100	13 pcs	Alternator combination key set	1.20

consists of:

150.3101	Combination wrench 1/2", TX 50 x 33 teeth, l = 110 mm	170
150.3102	Combination wrench 1/2", XZN® M10 x 33 teeth , l = 110 mm	170
150.3103	Multi tooth usage SW 22 x 33 tooth, bored	50
150.3104	Multi tooth usage SW 15 x 33 tooth, bored	30
150.3105	Adaptor for Belt Pulley wrench, SW 22, l = 30 mm, bored	70
150.3106	Special adaptor SW 17 with 4 lugs Ø4mm, bored	120
150.3107	Special 10 mm hexagon socket 8 mm, l = 75 mm	60
150.3108	Special 10 mm hexagon socket 10 mm, l = 75 mm	60
150.3109	Special bit 10 mm, XZN® M8, l = 75 mm	60
150.3110	Special bit 10 mm, XZN® M10, l = 75 mm	60
150.3111	Special Bit 10 mm, TX 40, l = 75 mm	60
150.3112	Special Bit 10 mm, TX 50, l = 75 mm	60
918.1271	1/2" CHROME+ Bit-Adapter-Socket,clamping ring, 1/2" x 10 mm	40

Alternator combination key set-Renault

- For the disassembly and assembly of free-running pulleys when changing the alternator or pulley
- Allows the dissolution and attaching the central nut at the same time countertensioning the pulley shaft
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Suitable for a wide range of applications
- The development of additional spare parts such as condenser

Application range: Renault Megane, Scenic, Kangoo

1/2"

150.3135	3 pcs	Alternator combination key set-Renault	300

consists of:

150.3136	Belt Pulley-Wrench, 6 point, SW 28	105
150.3137	Special Bit XZN® M10	50
150.3138	Bit-socket XZN® M10	130

Uni flex belt tool set

- For the dismantling and assembly of wedge belt pulleys
- Fast and correct belt change
- Large field of work through different dismantling and assembly tools
- No damages of the pulley wheel and the belt
- Minimal power expense
- In durable plastic case

150.3140	9 pcs	Uni flex belt tool set	1.54

consists of:

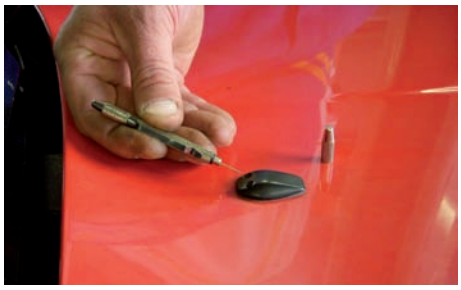
150.3141	Uni flex belt disassembly tool	100
150.3142	Uni flex belt installation tool	100
150.3143	Uni flex belt installation tool	100
150.3144	Nut M8	5
150.3145	Self locking nut	20
150.3146	Screw M8x65, Ø 5.6mm	30
150.3147	Screw M8x65, Ø 5.6mm	30
150.3148	Screw M8x40, Ø 5.7mm	20
150.3149	Screw M8x25, Ø 5.9mm	20

INSPECTION

Washer jet cleaning and adjusting tool

- For the cleaning and adjusting of washer jet nozzles
- Clip for the breast pocket
- Aluminium

	L mm	g	
550.1022	95.0	40	



MAGNETIC LIFTER

2 in 1 Telescopic magnetic holder

- Load capacity to 0.5 kg
- Extendable telescopic function
- Cleaning needle
- Clip for the breast pocket
- Ideal for adjusting of wiper nozzles
- Aluminium

	Head Ø mm	L mm	g	
550.1001	8.0	150,0 - 675,0	500	

Telescopic magnetic lifter

- Load capacity to 2.5 kg
- With flexible magnetic head
- With an extendable telescopic function
- Includes cleaning needle for washer jet nozzles
- Clip for the breast pocket
- Aluminium

	Head Ø mm	L mm	g	
550.1023	11.0	150,0 - 590,0	60	

Telescopic magnetic lifter

- Load capacity to 5 kg
- With rotary head
- With an extendable telescopic function
- Clip for the breast pocket
- Magnet power raised 35% due to energy safety cap
- Stainless steel

	Head Ø mm	L mm	g	
550.1003	18.0	130,0-860,0	90	

Telescopic magnetic lifter

- Magnet power raised 35% due to energy safety cap
- Stainless steel

	Head Ø mm	L mm	g	
550.1004	13.0	178,0-860,0	70	

Flexible magnet

- One component handle
- Flexible shaft
- 200 g capacity magnet
- 4 mm with a very thin magnetic seat
- Ideal for picking up screws and small parts

	L mm	g	
550.1032	400.0	20	

Flexible magnet lifter

- Load capacity to 1 kg
- Flexible shaft
- Two component handle
- Special steel

	Head Ø mm	L mm	g	
550.1025	15.0	510.0	30	

Flexible magnet lifter

- Load capacity to 2 kg
- Flexible shaft
- Two component handle
- Special steel

	Head Ø mm	L mm	g	
550.1026	17.0	510.0	30	

Flexible magnet lifter

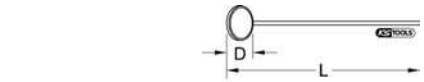
- Load capacity to 3 kg
- Flexible shaft
- Two component handle
- Special steel

	Head Ø mm	L mm	g	
550.1027	19.0	510.0	30	

MIRRORS & MAGNIFYING GLASS

Mechanics mirror

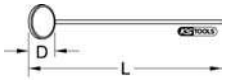
- For visual monitoring and troubleshooting
- Ideal for difficult to access areas
- Special steel



	D mm	L mm	g	
118.0086	12.0	130.0	4	
118.0087	21.0	130.0	9	
118.0088	27.0	130.0	16	

Telescopic mechanics mirror

- Extendable telescopic function
- For visual monitoring and troubleshooting
- Double ball joint
- Head swiveling in all directions
- Clip for the breast pocket
- Ideal for difficult to access areas
- Special steel



	D mm	L mm	g	
550.1030	32.0	178,0 - 530,0	40	

Telescopic inspection mirror

- Extendable telescopic function
- For visual monitoring and troubleshooting
- With single ball joint
- Head swivels in all directions
- Impact resistant mirror
- Stainless steel

	B mm	H mm	L mm	g	
550.1007	45.0	63.0	178,0-860,0	100	

Telescopic set TK 1000

- Extendable telescopic function
- Telescopic-Magnet up to 5 kg
- Magnet power raised 35% due to energy safety cap
- Telescopic-Inspection mirror, 45.0 x 63.0 mm
- Length 178,0-860,0 mm
- Special steel
- In durable plastic storage case

			g	
550.1102	2 pcs	Telescopic set TK 1000	280	

consists of:

		g	
550.1007	Telescopic-Inspection mirror, 178 - 860 mm	100	
550.1002	Telescopic-Magnet holder up to 5,0 kg, 178 - 860 mm	80	

Telescopic set TK 6000

- With an extendable telescopic function
- Telescopic-Magnet from 1,5 up to 5 kg
- Magnet power raised 35% due to energy safety cap
- Telescopic-Inspection mirror, Flat 44.0 x 63.0 mm
- Telescopic-Magnifying glass, Flat 44.0 x 63.0 mm
- Telescopic holder with quick release coupling, max. Length 880.0 mm
- Special steel
- In durable plastic storage case

			g	
550.1106	5 pcs	Telescopic set TK 6000	260	

consists of:

		g	
550.1120	Telescopic holder, max. Length 880 mm	70	
550.1135	Telescopic inspection mirror, length 178 - 860 mm	20	
550.1140	Telescopic magnifying glass, length 178 - 860 mm	20	
550.1141	Magnet 1,5 kg	10	
550.1142	Magnet 5 kg	40	

HOOK & PICK TOOLS

Flexible pick up tool

- Flexible
- Circular diameter max. 20.0 mm
- Stainless steel

	L mm	g	
550.1301	600.0	150	

Magnet lifting and claw type gripper set

- Ideal for picking up screws and small parts
- Flexible and slim execution
- For confined and deep working areas
- 200 g capacity magnet
- Claw type grippers of stainless steel

			g	
550.1050	2 pcs	Magnet lifting and claw type gripper set	180	

consists of:

		g	
550.1301	Flexible claw type grippers, 600mm	150	
550.1032	Flexible magnet, 400mm	20	

Master hook tool set

- Ideal for removing and use of O rings and seals
- With hanging hole
- Special steel

			g	
550.1070	9 pcs	Master hook tool set	680	

consists of:

		g	
550.1046	Hook tool 120mm blade, straight version	27	
550.1047	Hook tool 120mm blade, 45° angled version	27	
550.1048	Hook tool 120mm blade, 90° angled version	27	
550.1049	Hook tool 120mm blade, 135° angled version	27	
550.1071	Hook tool large, straight, Length 215 mm	91	
550.1072	Hook tool large, 90°, Length 240 mm	105	
550.1073	Hook tool large, sickle form, Length 185 mm	88	
550.1074	T-handle hook tool, S-form small, length 120 mm	42	
550.1075	T-handle hook tool, S-form big, length 165 mm	96	

Jump-start booster

Master switch
Terminals are connected power-free, thus avoiding short-circuits. Power flows through the cable clamps only when the master switch is turned on.

Pole reversal protection
Acoustic warning if polarity is reversed

Electronics protection
Integrated protection circuits minimise the risk of damage to the vehicle electronics.

Clamps
Wide opening cable clamps (1000 A)
Copper clamping jaws and cable strands ensure the best possible voltage flow
Strong springs for secure clamping
Complete insulation as protection against short-circuits

Batteries
High-quality battery technology ensures long service life with maximum power output

Chargers
Optimally dimensioned automatic chargers ensure high battery power with short charging times.

Charge indicator
Convenient display at the press of a button via voltmeter with colour coding

Cables
High-quality, flexible copper cables dia. 35 mm²
length 1.60 m - convenient connection
Storage directly on the housing

Housing
Impact-resistant housing of recyclable plastic
Additional rubberised base area
Light and small tools - Good handling

Booster 12V
1 x battery 22Ah

Booster 12/24 V
2 x battery 22 Ah

Automatic-chargers
12VDC / 4A

BOOSTER

12 V battery booster - mobile starting aid 700 A

- Ideal for IC and diesel engines from cars to transporters
- Fully insulated terminal clamps (1000 A)
- Integrated electronics protection
- Charge control indicator at press of button
- Acoustic warning if polarity is reversed
- 1.6 m cable length
- with sturdy 35 mm² cable diameter
- Master switch, power-free connection to the vehicle battery
- Charger and cable set included in scope of supply
- Cable can be conveniently stored on the housing
- Impact-resistant housing with rubberised base area

Technical data:

Battery:	12 Volt / 22 Ah
Starting current:	700 A
Peak voltage:	2200 A
Cable diameter:	35 mm²
Battery charger:	12V DC / 4 A

	L mm	B mm	H mm	Charger spare	Cable kit, spare	kg
550.1710	405.0	380.0	120.0	550.1711	550.1712	10.00

12 V + 24 V battery booster - mobile starting aid 1400 A

- Ideal for IC and diesel engines from cars to HGV > 12 t
- Fully insulated terminal clamps (1000 A)
- Fully insulated terminal clamps (1000 A)
- Integrated electronics protection
- Charge control indicator at press of button
- Acoustic warning if polarity is reversed
- 1.6 m cable length
- with sturdy 35 mm² cable diameter
- Master switch, power-free connection to the vehicle battery
- Automatic mains charger and cable set included in scope of supply
- Cable can be conveniently stored on the housing
- Impact-resistant housing with rubberised base area

Technical data:

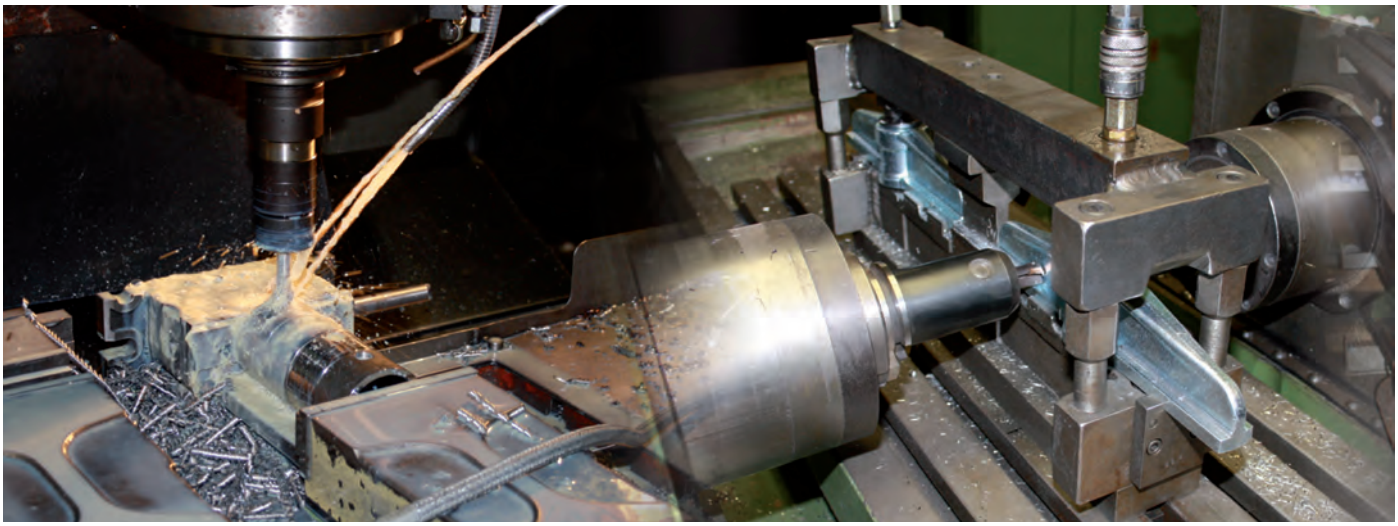
Battery:	2 x 12 Volt / 22 Ah
Starting current:	1400 / 700 A
Peak voltage:	4400 / 2200 A
Cable diameter:	35 mm²
Battery charger:	12V DC / 4 A

	L mm	B mm	H mm	Charger spare	Cable kit, spare	kg
550.1720	405.0	380.0	180.0	550.1721	550.1722	18.00

SAFETY AND USAGE INSTRUCTIONS

Removing components may require very high forces. The use of a puller involves risks that should not be underestimated.
Therefore great care must be observed and attention given to safety during each pulling process.

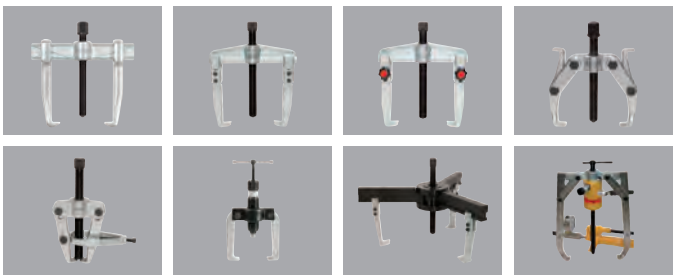
- Prior to commissioning, read through the operating instructions thoroughly and obtain advice from the manufacturer‘s application consultancy service if anything is unclear.
- Before use, learn about the correct employment of the tool to be used, taking into account the safety measures required.
- Apply pullers securely and monitor the forces that occur during the pulling procedure. If there are signs of overloading for example stiffness - break off pulling procedure immediately and use a larger puller or if necessary another puller model.
- Check the application of force on spindle drives with a torque wrench and on pump-driven, hydraulic puller tools using a pressure gauge. Never exceed the torque and load information on manufacturers‘ nameplates, in operating instructions or tables.
- Do not use electrical or pneumatic force or impact wrenches to operate pulling tools.
- The use of an extension to increase the transferred torque on the active tool can lead to overload and thus to breakage.
- **Caution:** The load and torque details are to be determined in the laboratory with new pullers and pulling equipment under normal conditions of use. Wear and tear caused by use and unfavourable usage circumstances can negatively influence the values.
- **Important:** The performance capacity of a combination piece of equipment, such as a puller with a hydraulics system, always depends on the weakest element.
- During the pulling procedure, always cover the danger zone, puller/part to be pulled, with an accident protection tarpaulin, in order to avoid injuries.
- Warming up the component is one method of positively influencing the pulling procedure.
  Caution: In the process, the puller should never be warmed, as otherwise its strength characteristics can be negatively influenced.
- Check state of the puller tool prior to any use and immediately replace damaged, manipulated or worn parts.
- Keep spindle threads or traverses clean and well-oiled.
- Regular maintenance lengthens the lifespan of the equipment, protects against accidents and ensures that the puller tool is ready for use.
- Make no alterations whatsoever to the puller tools. Any alteration may lead to dangerous consequences for the operator and automatically results in the expiry of the guarantee claim.
- In accordance with the UVV (Accident Prevention Regulations) or country-specific legislation, always wear prescribed personal protective equipment such as safety shoes, helmet, protective goggles, gloves, etc.

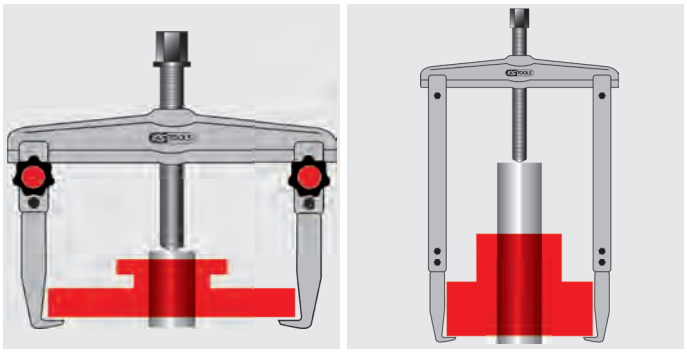


BASIC PULLER VARIANTS AND AREAS OF APPLICATION

External pulling

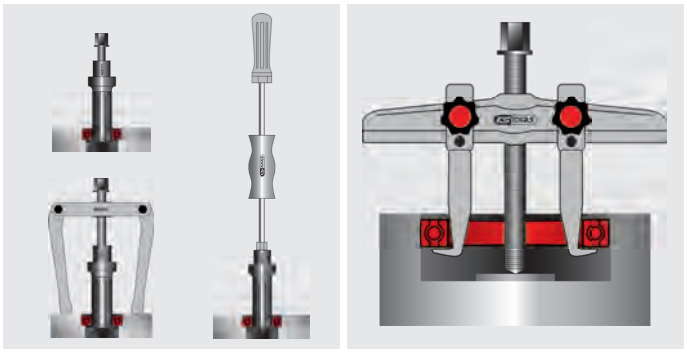
Pulling component of a shaft or axle
e.g.: Ball bearing, tapered roller bearing, gear wheels, belt pulleys, etc.





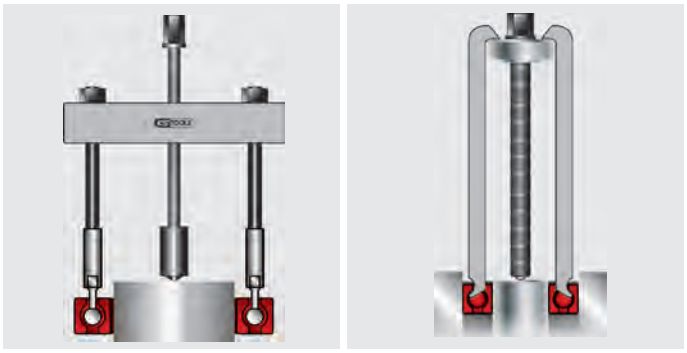
Internal pulling

Component is in a housing (hole)
e.g.: Ball bearing, needle bearing, outer bearing ring, bushes, sleeves, etc.



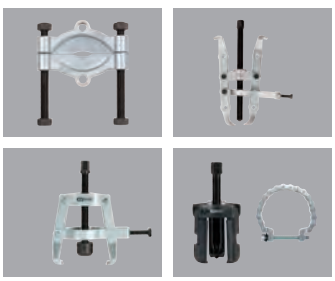
Extraction and pulling from housings

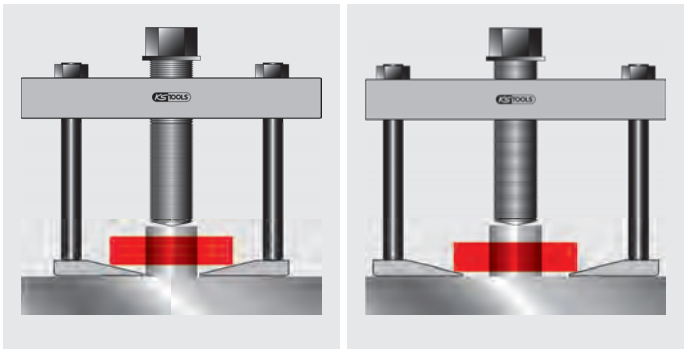
Component is in the housing and on a shaft or axle
e.g.: Ball-bearing



Separator puller

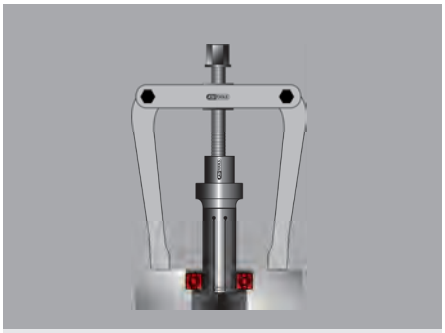
Pull component from a shaft or axle - back is tight or flush on
e.g.: Ball bearing, roller bearing, gear wheels, bushes, sleeves, etc.



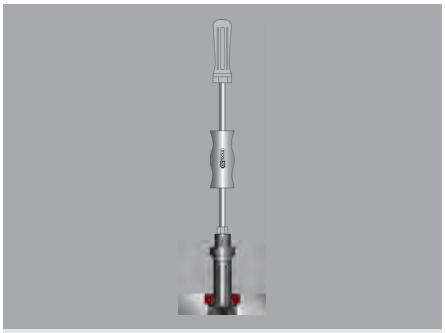


PRECISION INTERNAL EXTRACTOR

Strut adapter



Strut adapter with bridge



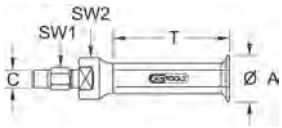
Strut adapter with hammer

660.0601
660.0602
660.0603
660.0604

660.0605

660.0501
660.0502

660.0503
660.0504
660.0505

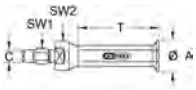


Item	Ø A mm min. - max.	T mm	Internal extractors need as removing tool suitable: double ended support	Internal extractors need as removing tool suitable: slide hammer	adaptor thread C	SW1 mm	SW2 mm	max. torque with double ended support: max Nm	max. torque with double ended support: double ended support
660.0101	5-7	30	660.0601	660.0501 / 660.0502	M10	10	13	3	660.0601
660.0102	6-8	30	660.0601	660.0501 / 660.0502	M10	10	13	3	660.0601
660.0103	7-9	30	660.0601	660.0501 / 660.0502	M10	10	13	7	660.0601
660.0104	8-10	30	660.0601	660.0501 / 660.0502	M10	10	13	7	660.0601
660.0105	9-12	30	660.0601	660.0501 / 660.0502	M10	10	13	12	660.0601
660.0106	10-13	30	660.0601	660.0501 / 660.0502	M10	10	13	15	660.0601
660.0107	12-15	30	660.0601	660.0501 / 660.0502	M10	10	13	15	660.0601
660.0108	13-17	50	660.0601	660.0501 / 660.0502	M10	10	13	24	660.0601
660.0109	14-19	60	660.0601	660.0501 / 660.0502	M10	10	13	28	660.0601
660.0111	15-20	60	660.0601	660.0501 / 660.0502	M10	10	13	28	660.0601
660.0112	16-21	60	660.0601	660.0501 / 660.0502	M10	10	13	32	660.0601
660.0113	18-23	60	660.0601	660.0502 / 660.0503 / 660.0504	M10	10	17	40	660.0601
660.0114	20-25	60	660.0601	660.0502 / 660.0503 / 660.0504	M10	10	17	40	660.0601
660.0115	22-27	60	660.0601	660.0502 / 660.0503 / 660.0504	M10	10	17	40	660.0601
660.0116	25-30	60	660.0601	660.0502 / 660.0503 / 660.0504	M10	10	17	40	660.0601
660.0117	25-40	45	660.0602	660.0501	M10	13	19	45	660.0601
660.0118	28-35	60	660.0601	660.0502 / 660.0503 / 660.0504	M10	10	17	45	660.0601
660.0119	30-37	70	660.0601	660.0502 / 660.0503 / 660.0504	M10	17	22	45	660.0601
660.0121	35-42	70	660.0601	660.0502 / 660.0503 / 660.0504	M10	17	22	45	660.0601
660.0122	38-45	70	660.0601	660.0502 / 660.0503 / 660.0504	M10	17	22	45	660.0601
660.0123	40-47	70	660.0601	660.0502 / 660.0503 / 660.0504	M10	17	22	45	660.0601
660.0124	43-50	70	660.0601	660.0502 / 660.0503 / 660.0504	M10	17	22	45	660.0601
660.0125	40-75	100	660.0603	660.0604 / 660.0605	G 3/8"	17	27	45	660.0602
660.0126	45-55	100	660.0602	660.0604 / 660.0605 / 660.0504 / 660.0605	G 3/8"	19	27	45	660.0602
660.0127	50-60	100	660.0602	660.0604 / 660.0605 / 660.0504 / 660.0605	G 3/8"	19	27	45	660.0602
660.0128	70-115	100	660.0602	660.0604 / 660.0605 / 660.0504 / 660.0605	G 3/8"	19	27	45	660.0602

INTERNAL EXTRACTORS

Precision internal extractor

- Centering shaft
- For the accurate fittingl of bearings and bushes
- Special steel



	A mm	C mm	SW1 mm	SW2 mm	T mm	max N·m	g
660.0101	5-7	M10	10	13	30.0	3	50
660.0102	6-8	M10	10	13	30.0	3	50
660.0103	7-9	M10	10	13	30.0	7	50
660.0104	8-10	M10	10	13	30.0	7	50
660.0105	9-12	M10	10	13	30.0	12	50
660.0106	10-13	M10	10	13	30.0	15	50
660.0107	12-15	M10	10	13	30.0	15	50
660.0108	13-17	M10	10	13	50.0	24	70
660.0109	14-19	M10	10	13	60.0	28	90
660.0111	15-20	M10	10	13	60.0	28	90
660.0112	16-21	M10	10	13	60.0	32	90
660.0113	18-23	M10	10	17	60.0	40	110
660.0114	20-25	M10	10	17	60.0	40	110
660.0115	22-27	M10	10	17	60.0	40	110
660.0116	25-30	M10	10	17	60.0	40	120
660.0117	25-40	M10	13	19	45.0	45	260
660.0118	28-35	M10	10	17	60.0	45	280
660.0119	30-37	M10	17	22	70.0	45	280
660.0121	35-42	M10	17	22	70.0	45	280
660.0122	38-45	M10	17	22	70.0	45	290
660.0123	40-47	M10	17	22	70.0	45	300
660.0124	43-50	M10	17	22	70.0	45	310
660.0125	40-75	G 3/8"	17	27	100.0	45	760
660.0126	45-55	G 3/8"	19	27	100.0	45	650
660.0127	50-60	G 3/8"	19	27	100.0	45	680
660.0128	70-115	G 3/8"	19	27	130.0	45	1400

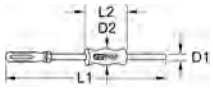
Double ended support for internal extractor

- Extremely robust spindle with inductively hardened thread
- Special steel

	A mm	max N·m	dim mm	Internal extractors	mm	kg
660.0601	35-75	30	12	M10	M16x1,5 x 136	0.70
660.0602	60-130	60	19	M10xG3/8"	M24x1,5 x 160	1.60
660.0603	60-130	60	19	G3/8"	M24x1,5 x 160	1.50
660.0604	60-210	70	19	G3/8"	M24x1,5 x 160	3.70
660.0605	55-205	100	22	G3/8"	G1/2"x14g x 210	3.80

Slide hammer

- Suitable for small ball bearings
- Ideal for limited access areas
- Special steel



	L1 mm	L2 mm	D1 mm	D2 mm	IG	kg
660.0501	170	40.0	10	30.0	M10	0.40
660.0502	170	80.0	10	50.0	M10	0.90
660.0503	250	100.0	16	45.0	M10	1.30
660.0504	250	100.0	16	45.0	M10+G3/8"	1.40
660.0505	250	100.0	16	60.0	G3/8"	2.60

Precision internal extractor set ø 10,0 - 45,0 mm

- Centering shaft
- For the removal of secure bearings and bushes
- Extremely robust spindle with inductively hardened thread
- Special steel

			kg
660.0011	7 pcs	Precision internal extractor set ø 10,0 - 45,0 mm	3.20

consists of:

		g
660.0106	Internal extractor, 10-13mm	50
660.0109	Internal extractor, 14-19mm	90
660.0114	Internal extractor, 20-25mm	110
660.0116	Internal extractor, 25-30mm	120
660.0119	Internal extractor, 30-37mm	280
660.0122	Internal extractor, 38-45mm	290
660.0601	Double ended support, 35-75mm	700

Precision internal extractor set ø 10,0 - 115,0 mm

- Centering shaft
- For the removal of secure bearings and bushes
- Extremely robust spindle with inductively hardened thread
- Special steel

			kg
660.0013	10 pcs	Precision internal extractor set ø 10,0 - 115,0 mm	12.00

consists of:

		g
660.0106	Internal extractor, 10-13mm	50
660.0109	Internal extractor, 14-19mm	90
660.0114	Internal extractor, 20-25mm	110
660.0116	Internal extractor, 25-30mm	120
660.0119	Internal extractor, 30-37mm	280
660.0122	Internal extractor, 38-45mm	290
660.0125	Internal extractor, 40-75mm	760
660.0128	Internal extractor, 70-115mm	1400
660.0601	Double ended support, 35-75mm	700
660.0604	Double ended support, 60-210mm	3700

Precision internal extractor set ø 10,0 - 37,0 mm

- Centering shaft
- For the removal of secure bearings and bushes
- Extremely robust spindle with inductively hardened thread
- Special steel

			kg
660.0014	7 pcs	Precision internal extractor set ø 10,0 - 37,0 mm	3.30

consists of:

		g
660.0106	Internal extractor, 10-13mm	50
660.0109	Internal extractor, 14-19mm	90
660.0114	Internal extractor, 20-25mm	110
660.0116	Internal extractor, 25-30mm	120
660.0119	Internal extractor, 30-37mm	280
660.0601	Double ended support, 35-75mm	700
660.0501	Slide hammer, 170mm, M10	400

Precision internal extractor and puller set 10 - 115 mm

- Through reversing the arms internal and external applications are possible
- Wide range of arms and hydraulic spindles available
- Centering shaft
- For the removal of secure bearings and bushes
- Extremely robust spindle with inductively hardened thread
- Special steel

			kg	
660.0021	14 pcs	Precision internal extractor and puller set 10 - 115 mm	20.00	

consists of:

		g	
660.0106	Internal extractor, 10-13mm	50	
660.0109	Internal extractor, 14-19mm	90	
660.0114	Internal extractor, 20-25mm	110	
660.0116	Internal extractor, 25-30mm	120	
660.0119	Internal extractor, 30-37mm	280	
660.0122	Internal extractor, 38-45mm	290	
660.0125	Internal extractor, 40-75mm	760	
660.0128	Internal extractor, 70-115mm	1400	
660.0601	Double ended support, 35-75mm	700	
660.0605	Double ended support, 55-205mm	3800	
620.0101	2 leg puller, 20-90mm	1000	
620.0103	2 leg puller, 50-160mm	3000	
620.3101	Pole clamp 2 leg puller, 10-60mm	160	
670.0221	Shaft ring puller, Ø 5-32mm	1400	

BALL BEARING EXTRACTORS

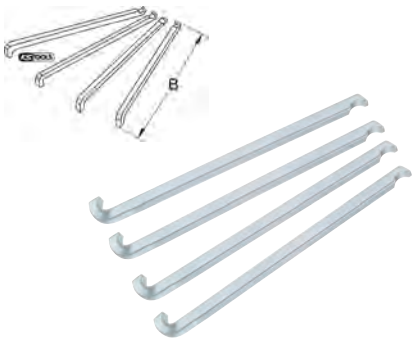
Ball bearing extractor without legs

- Consists of adaptor and spindle
- For ball bearings in waves or housings
- Extremely robust spindle with inductively hardened thread
- Special steel

	Ø mm	mm	dim mm	kg	
650.0011	26	M10 x 150	12	0.30	
650.0012	34	M12 x 199	14	0.40	
650.0013	41	M14x1,5 x 200	17	0.50	
650.0014	49	M18x1,5 x 240	19	0.90	
650.0015	63	G1/2"x14g x 230	22	1.20	

Adaptor legs for ball bearing extractor, 4 pcs

- Can be used with adaptor legs and spindles available separately
- For ball bearings in waves or housings
- Special steel



	B mm	Suitable for ISO bearing	kg	
655.0011	120	6000, 6001, 6002, 6003, 6200	0.10	
655.0012	120	6004, 6005, 6201, 6202	0.10	
655.0013	130	6006, 6203, 6300	0.20	
655.0014	130	6007, 6008, 6204, 6205, 6301, 6302	0.20	
655.0015	150	6009, 6010, 6206, 6303, 6304	0.30	
655.0016	150	6011, 6012, 6207, 6305	0.40	
655.0017	190	6208, 6306	0.60	
655.0018	190	6209- 6212, 6307- 6310, 6403- 6406, 6410	0.80	

Universal ball bearing extractor set

- Less risk of slipage due to the automatically closing draw off arms
- 13 puller variants possible
- Extremely robust spindle with inductively hardened thread
- Excellent power transfer
- Special steel
- Supplied in a durable plastic case

			kg	
650.0010	37 pcs	Universal ball bearing extractor set	8.00	

consists of:

		g	
650.0011	Ball bearing extractor without legs,26mm	300	
650.0012	Ball bearing extractor without legs,34mm	400	
650.0013	Ball bearing extractor without legs,41mm	500	
650.0014	Ball bearing extractor without legs,49mm	900	
650.0015	Ball bearing extractor without legs,63mm	1200	
655.0011	Adaptor legs, 4pcs, 120mm	100	
655.0012	Adaptor legs, 4pcs, 120mm	100	
655.0013	Adaptor legs, 4pcs, 130mm	200	
655.0014	Adaptor legs, 4pcs, 130mm	200	
655.0015	Adaptor legs, 4pcs, 150mm	300	
655.0016	Adaptor legs, 4pcs, 150mm	400	
655.0017	Adaptor legs, 4pcs, 190mm	600	
655.0018	Adaptor legs, 4pcs, 190mm	800	

Universal ball bearing puller set

- For simple and fast removing of ball bearings without removal of the shaft
- Pulling power influences uniformly on the interior and outside ring
- Special steel
- In durable plastic storage case
- Suited for ISO bearings: 6004-6010, 6201-6206, 6300-6304

Ideal for use in SKF, FAG, Timken, NTN bearings, etc.
Adaptor diameter: 5.5 - 6 - 8 mm

			kg	
700.1500	21 pcs	Universal ball bearing puller set	0.82	

consists of:

		g	
700.1501	Extension set long, 2 pcs	110	
700.1502	Centre point	30	
700.1503	Tie rod set, 2 pcs	60	
700.1504	Ball head bearing adaptor set, 2 pcs, Ø 5.5 mm	24	
700.1505	Ball head bearing adaptor set, 2 pcs, Ø 6.0 mm	24	
700.1506	Ball head bearing adaptor set, 2 pcs, Ø 8.0 mm	26	
700.1507	Extension set short, 2 pcs	30	
700.1508	U disc set for tie rod, 4 pcs	10	
700.1509	Spindle	164	
700.1510	Traverse	202	
700.1511	Nut set for tie rod, 2 pcs	10	

Universal ball bearing puller set

- For simple and fast removing of ball bearings without removal of the shaft
- Pulling power influences uniformly on the interior and outside ring
- Special steel
- In durable plastic storage case
- Suited for ISO bearings: 6207-6211, 6205-6208, 6403-6305

Ideal for use in SKF, FAG, Timken, NTN bearings, etc.
Adaptor diameter: 11 - 12.5 - 15 mm

			kg	
700.1600	21 pcs	Universal ball bearing puller set	1.69	

consists of:

		g	
700.1601	Extension set long, 2 pcs	204	
700.1602	Centre point	50	
700.1603	Tie rod set, 2 pcs	178	
700.1604	Ball head bearing adaptor set, 2 pcs, Ø 11.0 mm	88	
700.1605	Ball head bearing adaptor set, 2 pcs, Ø 12.5 mm	96	
700.1606	Ball head bearing adaptor set, 2 pcs, Ø 15.0 mm	110	
700.1607	Extension set short, 2 pcs	88	
700.1608	U disc set for tie rod, 4 pcs	10	
700.1609	Spindle	130	
700.1610	Traverse	345	
700.1611	Nut set for tie rod, 2 pcs	10	

SPECIAL PULLER

Ball bearing extractor

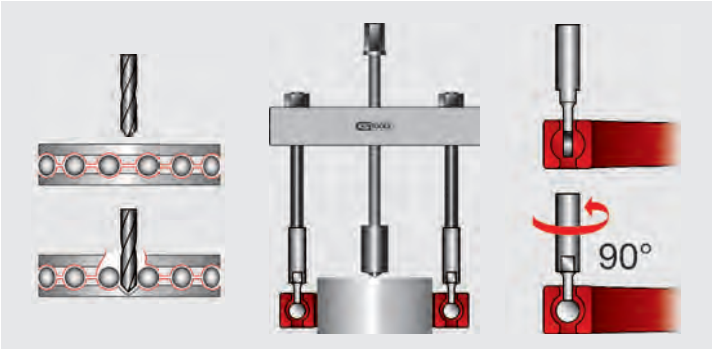
Application areas:

These special pullers are always used when the ball bearing sits on a shaft and at the same time in a housing and cannot be gripped through the hole either from outside or from inside. Thanks to the slim design lower-lying bearings can also be extracted or pulled.

Ball bearing extractor (hemisphere)

Work steps:

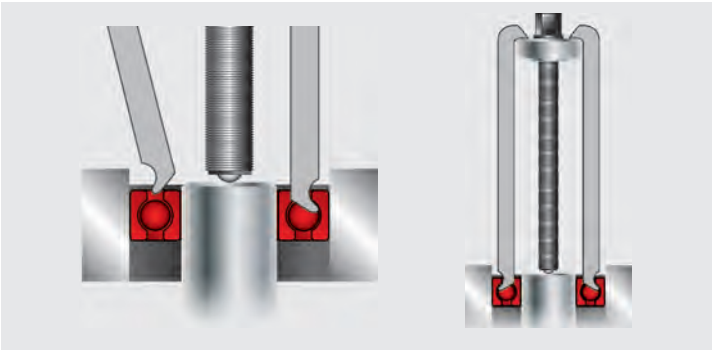
1.) Drill bearing cage at two opposite points in each case between two balls
2.) Bend cage plate and create space for the hemisphere adapter
3.) Position puller with the spindle on the shaft spigot
4.) Place appropriate hemisphere into the bearing (ball groove) and turn by 90°
5.) By activating the spindle bring the hooks to the pull and extract earing.



Ball bearing extractor (claws)

Work steps:

1.) Determine the number of ball bearings to be pulled
2.) Using the application table (see below) select the right puller with the appropriate claws.
Tip: If the number of ball bearings to be pulled cannot be defined, the distance between the outer and inner bearing ring is to be measured. When this measurement is rounded to the nearest millimetre, the result is usually the shaft strength of the hook required.
3.) Place the hooks as symmetrically as possible after one another with the claws between the balls in the external bearing ring.
4.) Position spindle on the shaft spigot of the shaft end and hang hooks on the traverse.
5.) By activating the spindle bring the hooks to the pull and extract bearing.



Application table for 650.0010

Extractor no.	Hook set no.	for ISO ball bearing no.			
650.0011	655.0011	6000	6200		
		6001			
		6002			
		6003			
	655.0012	6004	6201		
		6005	6202		
650.0012	655.0013	6006	6203	6300	
	655.0014	6007	6204	6301	
		6008	6205	6302	
	655.0015			6303	
				6304	
650.0013	655.0014				

Extractor no.	Hook set no.	for ISO ball bearing no.			
650.0013	655.0015		6206		
	655.0016		6207	6305	
650.0014	655.0015	6009			
	655.0017		6208	6306	
650.0015	655.0015	6010			
	655.0016	6011			
		6012			
	655.0018		6209	6307	6403
			6210	6308*	6404*
			6211*	6309*	6405*
			6212*	6310*	6406*
					6410*

Ball bearing nos. with (*) are held and pulled with the spacer plates screwed on to the hook base (655.0018). Using 12 screwed-on, folding spacer plates each, the distance between the inner bearing ring and hook base is variably balanced out. Unlisted bearings or special sizes are available on demand.

UNIVERSAL 2 ARM PULLER

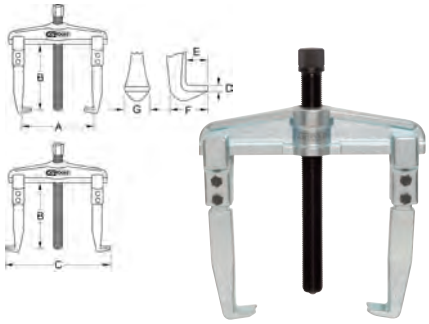
Safety covering foil

- Two ply welded
- High tearing resistance
- Variable adjustment
- UV resistant
- Temperature range of -25°C to +50°C

	A mm	B mm	max t	kg
610.0100	915	510	18	3.90

Universal 2 arm puller

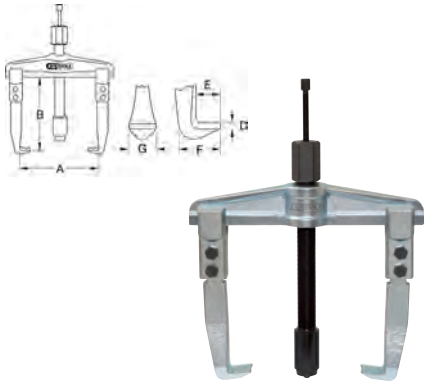
- Through reversing the arms internal and external applications are possible
- Hydraulic spindles available for thread G1/2" / G3/4" / G1"
- Extremely robust spindle with inductively hardened thread
- Special steel



	A mm	B mm	C mm	max t	mm	dim mm	D mm	E mm	F mm	G mm	kg
620.0101	20-90	100	70-130	4,5	M14x1,5 x 140	17	3	13	25	20	1.00
620.0102	25-130	100	25-130	4,5	M14x1,5 x 140	17	3	13	25	20	1.20
620.0103	50-160	150	50-160	6,5	G1/2"x14g x 210	22	4	16	35	25	3.00
620.0104	60-200	150	60-200	6,5	G1/2"x14g x 210	22	4	16	35	25	3.30
620.0105	80-250	200	80-250	11	G3/4"x14g x 280	27	5	25	54	35	7.40
620.0106	80-350	200	80-350	11	G3/4"x14g x 280	27	5	25	54	35	8.50
620.0107	110-520	200	110-520	13	G3/4"x14g x 280	27	5	25	54	35	13.00
620.0108	170-640	225	170-640	18	G1"x11g x 310	36	10	33	55	50	23.70

Hydraulic universal 2 arm puller

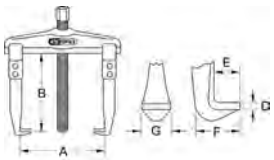
- Quickly modified for internal or external applications
- Different leg varients available
- Includes hydraulic thrust spindle
- Excellent power transfer
- Special steel



	A mm	B mm	max t	Hydraulic spindle	dim mm	D mm	E mm	F mm	G mm	kg
620.0301	50-160	145	12	615.0002	13/32	4	16	35	25	3.40
620.0302	50-200	145	12	615.0002	13/32	4	16	35	25	3.80
620.0303	80-250	125	12	615.0003	13/36	5	25	54	35	8.00
620.0304	80-350	125	12	615.0003	13/36	5	25	54	35	9.00
620.0305	110-520	125	12	615.0003	13/36	5	25	54	35	13.50
620.0306	170-640	125	12	615.0003	13/36	5	25	54	35	21.00
620.0307	170-640	210	15	615.0004	17/41	10	33	55	50	27.00

Universal 2 arm puller set with extended legs

- Through reversing the arms internal and external applications are possible
- Hydraulic spindles available for thread G1/2" / G3/4"
- Extremely robust spindle with inductively hardened thread
- Special steel



	A mm	B mm	max t	mm	dim mm	D mm	E mm	F mm	G mm	kg
620.0501	20-90	200	4,5	M14x1,5x140	17	3	13	25	20	1.50
620.0502	25-130	200	4,5	M14x1,5x140	17	3	13	25	20	1.70
620.0503	50-160	300	6,5	G1/2"x14gx210	22	4	16	35	25	4.00
620.0504	60-200	300	6,5	G1/2"x14gx210	22	4	16	35	25	4.30
620.0505	80-250	300	11	G3/4"x14gx280	27	5	25	54	35	9.20
620.0506	80-350	300	11	G3/4"x14gx280	27	5	25	54	35	10.30
620.0507	110-520	300	13	G3/4"x11gx310	27	5	25	54	35	14.80
620.0508	80-250	400	11	G3/4"x14gx280	27	5	25	54	35	10.50
620.0509	80-350	400	11	G3/4"x14gx280	27	5	25	54	35	11.60
620.0510	110-520	400	13	G3/4"x11gx310	27	5	25	54	35	16.10
620.0511	80-250	500	11	G3/4"x14gx280	27	5	25	54	35	11.90
620.0512	80-350	500	11	G3/4"x14gx280	27	5	25	54	35	13.00
620.0513	110-520	500	13	G3/4"x11gx310	27	5	25	54	35	17.50

Quick release universal 2 arm puller

- Quick release function
- Through reversing the arms internal and external applications are possible
- Hydraulic spindles available for thread G1/2" / G3/4"
- Extremely robust spindle with inductively hardened thread
- Special steel

	A mm	B mm	C mm	max t	mm	dim mm	D mm	E mm	F mm	G mm	kg
620.1701	20-90	100	70-130	4,5	M14x1,5x130	17	3	13	25	20	1.00
620.1702	25-130	100	80-180	4,5	M14x1,5x130	17	3	13	25	20	1.20
620.1703	50-160	150	108-220	6,5	G1/2"x14gx210	22	4	16	35	25	3.00
620.1704	60-200	150	120-270	6,5	G1/2"x14gx210	22	4	16	35	25	3.30
620.1705	80-250	200	160-330	11	G3/4"x14gx280	27	5	25	54	35	7.40
620.1706	80-350	200	160-420	11	G3/4"x14gx280	27	5	25	54	35	8.50

Quick adjustment universal puller set

- With quick release fuction
- Ideal for confined spaces
- Through reconnecting the hooks internal and external applications are suitable
- Different hook variants and hydraulic spindles can be retrofitted
- Extremely robust spindle with inductively hardened thread
- Special steel
- In durable plastic storage case

		A mm	B mm	mm	max t	kg
625.1701	7 pcs	20 - 90	100	M14 x 1,5	5,5	2.30

consists of:

		kg
620.1701	Quick release universal 2 arm puller, 20-90mm	1.00
630.1701	Quick release 3 arm puller, 20-90mm	1.30
980.1090	Special thread grease, tube	0.01

Quick adjustment universal puller set

- With quick release fuction
- Ideal for confined spaces
- Through reconnecting the hooks internal and external applications are suitable
- Different hook variants and hydraulic spindles can be retrofitted
- Extremely robust spindle with inductively hardened thread
- Special steel
- In durable plastic storage case

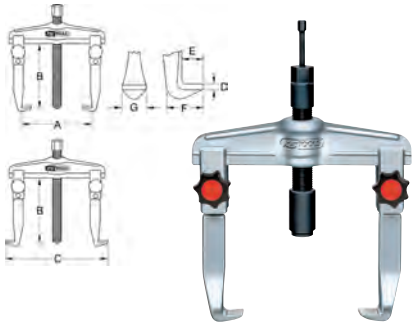
		A mm	B mm	mm	max t	kg
625.1703	7 pcs	50 - 160	150	G1/2"x14Gg	7	6.50

consists of:

		kg
620.1703	Quick release universal 2 arm puller, 50-160mm	3.00
630.1703	Quick release 3 arm puller, 50-160mm	3.50
980.1090	Special thread grease, tube	0.01

Hydraulic quick release universal 2 arm puller

- Quick release function
- Through reversing the arms internal and external applications are possible
- Different leg variants available
- Includes hydraulic thrust spindle
- Excellent power transfer
- Special steel



	A mm	B mm	C mm	max t	Hydraulic spindle	dim mm	D mm	E mm	F mm	G mm	kg
620.1901	50-160	145	105-220	12	615.0003	13/32	4	16	35	25	3.40
620.1902	50-200	145	120-270	12	615.0003	13/32	4	16	35	25	3.80
620.1903	80-250	125	160-330	12	615.0004	13/32	5	25	54	35	8.00
620.1904	80-350	125	160-420	12	615.0004	13/32	5	25	54	35	9.00

Universal 2 arm puller set with narrow legs

- Best suited for limited access areas
- Uniform load distribution and self centered
- Through reversing the arms internal and external applications are possible
- Supplied with different leg variants and hydraulic thrust spindle
- Extremely robust spindle with inductively hardened thread
- Special steel

	A mm	B mm	max t	mm	dim mm	D mm	E mm	F mm	G mm	kg
620.0901	20-90	100	4,5	M14x1,5x140	17	3,6	6	13	27	1.00
620.0902	25-130	100	4,5	M14x1,5x140	17	3,6	6	13	27	1.20
620.0903	50-160	150	6,5	G1/2x14gx210	22	5	8	17	40	3.00
620.0904	60-200	150	6,5	G1/2x14gx210	22	5	8	17	40	3.30

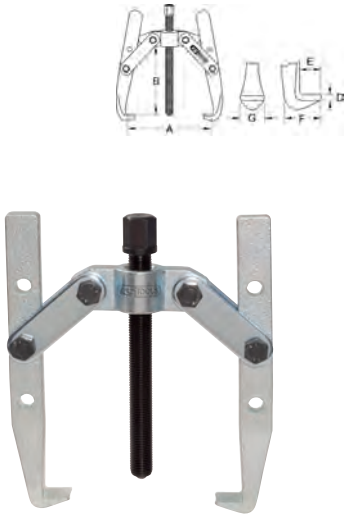
Quick release universal 2 arm puller set with narrow legs

- Quick release function
- Best suited for limited access areas
- Through reversing the arms internal and external applications are possible
- Hydraulic spindles available for thread G1/2"
- Extremely robust spindle with inductively hardened thread
- Special steel

	A mm	B mm	max t	mm	dim mm	D mm	E mm	F mm	G mm	kg
620.1101	20-90	100	4,5	M14x1,5x140	17	3,6	6	13	27	1.00
620.1102	25-130	100	4,5	M14x1,5x140	17	3,6	6	13	27	1.20
620.1103	50-160	150	6,5	G1/2"x14gx210	22	5	8	17	40	3.00
620.1104	60-200	150	6,5	G1/2"x14gx210	22	5	8	17	40	3.30

Universal 2 arm puller

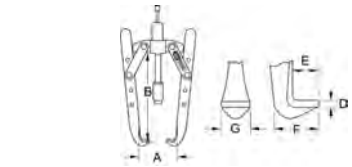
- Legs are adjustable in the working depth
- Through reversing the arms internal and external applications are possible
- Hydraulic spindles available for thread G1/2"
- Extremely robust spindle with inductively hardened thread
- Special steel



	A mm	B mm	max t	mm	dim mm	D mm	E mm	F mm	G mm	kg
620.3601	18-100	85	2,5	M10x105	12	2	10	20	14	0.40
620.3602	20-200	150	3,5	M14x1,5x130	17	3	14	25	18	1.20
620.3603	35-250	220	4	M18x1,5x240	19	4	20	35	25	2.80
620.3604	50-300	250	6	G1/2"x14gx270	22	5	25	48	30	5.40
620.3605	50-350	350	6	G1/2"x14gx270	22	5	25	48	30	6.10
620.3606	50-400	400	6	G1/2"x14gx270	22	5	25	48	30	6.40
620.3607	50-450	450	6	G1/2"x14gx270	22	5	25	48	30	6.90
620.3608	50-500	500	6	G1/2"x14gx270	22	5	25	48	30	7.00
620.3609	50-500	650	6	G1/2"x14gx270	22	5	25	48	30	8.40
620.3610	50-500	1000	6	G1/2"x14gx270	22	5	25	48	30	11.00

Hydraulic universal 2 arm puller

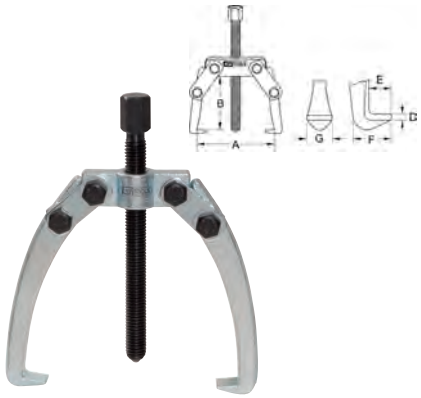
- Legs are adjustable in the working depth
- Different leg variants available
- Includes hydraulic thrust spindle
- Excellent power transfer
- Special steel



	A mm	B mm	max t	Hydraulic spindle	dim mm	D mm	E mm	F mm	G mm	kg
620.3801	50-300	175	12	615.0002	13/32	5	25	48	30	5.70
620.3802	50-350	275	12	615.0002	13/32	5	25	48	30	6.40
620.3803	50-400	325	12	615.0002	13/32	5	25	48	30	6.70
620.3804	50-450	375	12	615.0002	13/32	5	25	48	30	7.20
620.3805	50-500	425	12	615.0002	13/32	5	25	48	30	7.30
620.3806	50-500	575	12	615.0002	13/32	5	25	48	30	8.70

Pole clamp 2 arm puller

- Ideally suited for drawing off small parts
- Independent pressure of the hooks
- Extremely robust spindle with inductively hardened thread
- Special steel



	A mm	B mm	max t	mm	dim mm	D mm	E mm	F mm	G mm	g
620.3101	10-60	40	1	M8x85	10	1	5	12	8	160
620.3102	10-70	44/74	1,2	M8x85	10	1	5	12	8	200
620.3103	10-90	84	2	M10x105	12	1,8	10	20	12	300

Universal 2 arm puller

- Locking handle
- Extremely robust spindle with inductively hardened thread
- Special steel

	A mm	B mm	max t	mm	dim mm	D mm	E mm	F mm	G mm	kg
620.4101	10-60	45	2,5	M10x1x90	12	2	9	18	10	0.27
620.4102	10-70	65	3	M10x1x110	12	2	9	18	10	0.30
620.4103	10-100	80	3,5	M12x1,25x140	14	2,3	12	25	13	0.61

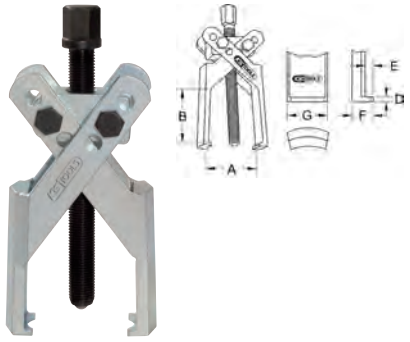
Basic universal 2 arm puller

- Extremely robust spindle with inductively hardened thread
- Special steel

	A mm	B mm	max t	mm	dim mm	D mm	E mm	F mm	G mm	kg
620.4301	10-100	80	2,5	M12x1,25x162	14	4	12	26	13	0.68
620.4302	10-120	120	3	M14x1,5x193	17	5	14	30	16	1.14
620.4303	20-160	160	3,5	M18x1,5x243	19	6	18	36	20	2.00
620.4304	20-200	200	4	M22x2x293	24	7	22	40	24	3.50

Universal 2 arm puller

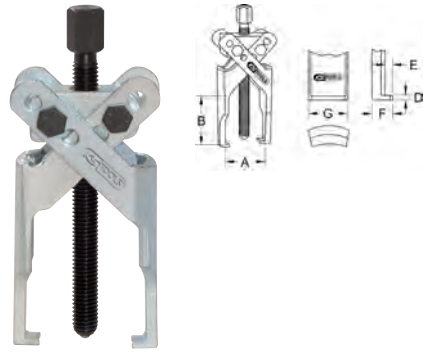
- Legs are adjustable in the working depth
- Independent pressure of the hooks
- Extremely robust spindle with inductively hardened thread
- Special steel



	A mm	B mm	max t	mm	dim mm	D mm	E mm	F mm	G mm	kg
620.5201	6-100	70/85	1,5	M10x105	12	2,5	4,5	8,5	23	0.40
620.5202	10-140	85/120	3,5	M14x1,5x130	17	3,5	5	10	31	0.90
620.5203	15-140	125/155	4,5	M14x1,5x200	17	3,5	5	10	31	1.10

Universal 2 arm puller set with narrow legs

- Legs are adjustable in the working depth
- Ideal for confined spaces
- Independent pressure of the hooks
- Extremely robust spindle with inductively hardened thread
- Special steel



	A mm	B mm	max t	mm	dim mm	D mm	E mm	F mm	G mm	kg
620.5301	6-100	70/85	1	M10x105	12	2,5	4,5	8,5	11	0.40
620.5302	15-140	125/155	2	M14x1,5x200	17	3,5	5	11	12	1.00

UNIVERSAL 3 ARM PULLER

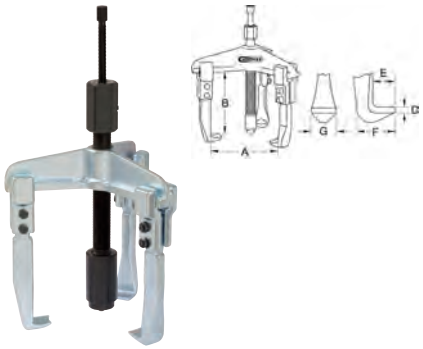
Universal 3 arm puller

- Uniform load distribution and self centered
- Through reversing the arms internal and external applications are possible
- Hydraulic spindles available for thread G1/2"
- Excellent power transfer
- Special steel

	A mm	B mm	max t	mm	dim mm	D mm	E mm	F mm	G mm	kg
630.0101	20-90	100	5,5	M14x1,5x130	17	3	13	25	20	1.30
630.0102	25-130	100	5,5	M14x1,5x130	17	3	13	25	20	1.50
630.0103	50-160	150	7	G1/2"x14gx210	22	4	16	35	25	3.50
630.0104	50-200	150	7	G1/2"x14gx210	22	4	16	35	25	4.00

Hydraulic universal 3 arm puller

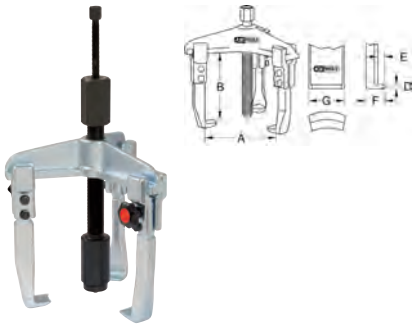
- Uniform load distribution and self centered
- Through reversing the arms internal and external applications are possible
- Different leg variants available
- Includes hydraulic thrust spindle
- Excellent power transfer
- Special steel



	A mm	B mm	max t	Hydraulic spindle	dim mm	D mm	E mm	F mm	G mm	kg
630.0301	50-160	145	12	615.0003	13/32	4	16	35	25	4.00
630.0302	60-200	145	12	615.0003	13/32	4	16	35	25	4.40

Hydraulic quick release universal 3 arm puller

- Quick release function
- Uniform load distribution and self centered
- Through reversing the arms internal and external applications are possible
- Different leg variants available
- Includes hydraulic thrust spindle
- Excellent power transfer
- Special steel



	A mm	B mm	max t	Hydraulic spindle	dim mm	D mm	E mm	F mm	G mm	kg
630.1901	50-100	145	12	615.0002	13/32	4	16	35	25	4.00
630.1902	50-200	145	12	615.0002	13/32	4	16	35	25	4.40

Universal 3 arm puller set with narrow legs

- Best suited for limited access areas
- Uniform load distribution and self centered
- Through reversing the arms internal and external applications are possible
- Hydraulic spindles available for thread G1/2"
- Extremely robust spindle with inductively hardened thread
- Special steel

	A mm	B mm	max t	mm	dim mm	D mm	E mm	F mm	G mm	kg
630.0901	20-90	100	5	M14x1,5x130	17	3,6	6	13	27	1.30
630.0902	25-130	100	5	M14x1,5x130	17	3,6	6	13	27	1.50
630.0903	50-160	150	6,5	G1/2"x14gx210	22	5	8	17	40	3.50
630.0904	60-200	150	6,5	G1/2"x14gx210	22	5	8	17	40	4.00

Quick release 3 arm puller set with narrow legs

- Quick release
- Best suited for limited access areas
- Uniform load distribution and self centered
- Through reversing the arms internal and external applications are possible
- Hydraulic spindles available for thread G1/2"
- Extremely robust spindle with inductively hardened thread
- Special steel

	A mm	B mm	max t	mm	dim mm	D mm	E mm	F mm	G mm	kg
630.1101	20-90	100	5	M14x1,5x130	17	3,6	6	13	27	1.30
630.1102	25-130	100	5	M14x1,5x130	17	3,6	6	13	27	1.50
630.1103	50-160	150	6,5	G1/2"x14gx210	22	5	8	17	40	3.50
630.1104	60-200	150	6,5	G1/2"x14gx210	22	5	8	17	40	4.00

Quick release 3 arm puller

- Quick release
- Best suited for limited access areas
- Uniform load distribution and self centered
- Through reversing the arms internal and external applications are possible
- Hydraulic spindles available for thread G1/2"
- Extremely robust spindle with inductively hardened thread
- Special steel

	A mm	B mm	max t	mm	dim mm	D mm	E mm	F mm	G mm	kg
630.1701	20-90	100	5,5	M14x1,5x130	17	3	13	25	20	1.30
630.1702	25-130	100	5,5	M14x1,5x130	17	3	13	25	20	1.50
630.1703	50-160	150	7	G1/2"x14gx210	22	4	16	35	25	3.50
630.1704	60-200	150	7	G1/2"x14gx210	22	4	16	35	25	4.00

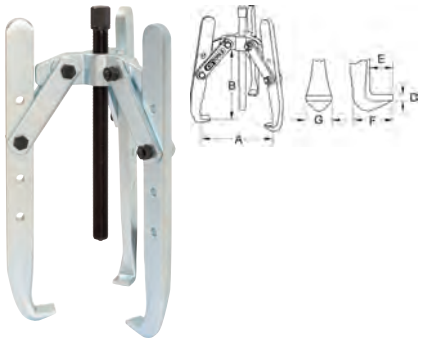
Universal 3 arm puller

- Uniform load distribution and self centered
- Through reversing the arms internal and external applications are possible
- Draw off arms radial revolving
- Wide range of arms and hydraulic spindles available
- Extremely robust spindle with inductively hardened thread
- Special steel

	A mm	B mm	max t	mm	dim mm	D mm	E mm	F mm	G mm	kg
630.2301	150- 700	200	15	G1"x11gx370	36	10	33	55	50	42.50

Universal 3 arm puller

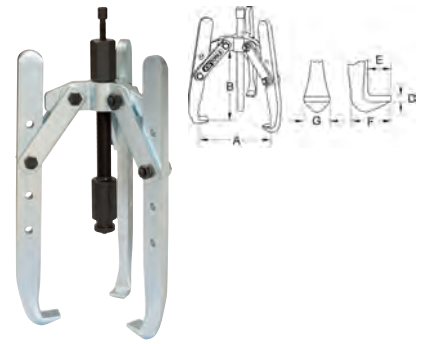
- Legs are adjustable in the working depth
- Uniform load distribution and self centered
- Through reversing the arms internal and external applications are possible
- Hydraulic spindles available for thread G1/2"
- Extremely robust spindle with inductively hardened thread
- Special steel



	A mm	B mm	max t	mm	dim mm	D mm	E mm	F mm	G mm	kg	
630.3601	18-100	85	3	M10x105	12	2	10	20	14	0.50	
630.3602	20-200	150	4	M14x1,5x130	17	3	14	25	18	1.70	
630.3603	35-250	220	4,5	M18x1,5x240	19	4	20	36	25	3.90	
630.3604	50-300	250	12	G1/2"x14gx270	22	5	25	48	30	7.30	
630.3605	50-350	350	12	G1/2"x14gx270	22	5	25	48	30	8.30	
630.3606	50-400	400	12	G1/2"x14gx270	22	5	25	48	30	8.80	
630.3607	50-450	450	12	G1/2"x14gx270	22	5	25	48	30	9.40	
630.3608	50-500	500	12	G1/2"x14gx270	22	5	25	48	30	10.00	
630.3609	50-500	650	12	G1/2"x14gx270	22	5	25	48	30	11.60	
630.3610	50-500	1000	12	G1/2"x14gx270	22	5	25	48	30	16.00	

Hydraulic universal 3 arm puller

- Legs are adjustable in the working depth
- Uniform load distribution and self centered
- Through reversing the arms internal and external applications are possible
- Different leg variants available
- Includes hydraulic thrust spindle
- Excellent power transfer
- Special steel



	A mm	B mm	max t	mm	dim mm	D mm	E mm	F mm	G mm	kg	
630.3801	50-300	250	12	M14x1,5x100	17	5	25	48	30	12.50	
630.3802	50-350	350	12	M14x1,5x100	17	5	25	48	30	13.50	
630.3803	50-400	400	12	M14x1,5x100	17	5	25	48	30	14.00	
630.3804	50-450	450	12	M14x1,5x100	17	5	25	48	30	14.50	
630.3805	50-500	500	12	M14x1,5x100	17	5	25	48	30	15.00	
630.3806	50-500	650	12	M14x1,5x100	17	5	25	48	30	16.60	
630.3807	50-500	1000	12	M14x1,5x100	17	5	25	48	30	21.50	

Universal puller set

- Slim hooks
- Ideal for confined spaces
- Uniform load distribution and centered tightening
- Through reconnecting the hooks internal and external applications are suitable
- Different hook variants and hydraulic spindles can be retrofitted
- Extremely robust spindle with inductively hardened thread
- Requires light expenditure of energy
- Special steel

			kg	
700.1300	12 pcs	Universal puller set	6.69	

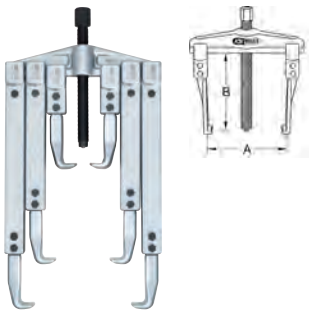
consists of:

		g	
700.1311	Spindle, M14x1,5	180	
700.1312	Two armed traverse	485	
700.1313	Three armed traverse	675	
700.1314	Puller arm, 100mm	250	
700.1315	Puller arm, 210mm	530	
700.1316	Puller arm, 260mm	640	

Universal puller set

- Through reconnecting the hooks internal and external applications are suitable
- Two armed traverse for 2 or 3 hooks
- Different hook variants and hydraulic spindles can be retrofitted
- Extremely robust spindle with inductively hardened thread
- Special steel

Application range: Gear wheels, bearings, pinions, synchroniser hubs, etc.



		A mm	B mm	max t	max N·m	mm	L mm	dim mm	kg	
700.1320	8 pcs	120	260	4,5	80	M14x1,5x150	150.0	17	3.54	

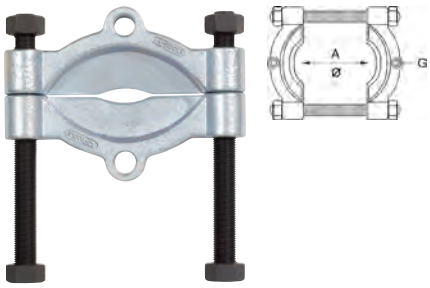
consists of:

		g	
700.1311	Spindle, M14x1,5	180	
700.1312	Two armed traverse	485	
700.1314	Puller arm, 100mm	250	
700.1315	Puller arm, 210mm	530	
700.1316	Puller arm, 260mm	640	

SEPARATOR PULLER TOOL

Separator puller tool

- To be used with separately available separator device
- For the removal of secure bearings and bushes
- Extremely robust spindle with inductively hardened thread
- Special steel



	A mm	G mm	mm	dim mm	kg	
605.0501	5-60	M12	M10 x 120	17	0.40	
605.0502	12-75	M12	M12 x 140	19	0.70	
605.0503	22-115	M16	M16x1,5 x 180	24	1.90	
605.0504	25-155	M20x1,5	M20x1,5 x 250	30	4.20	
605.0505	30-220	M20x1,5	M24x1,5 x 410	36	12.00	
605.0506	40-280	M24x1,5	M28x1,5 x 410	41	15.80	

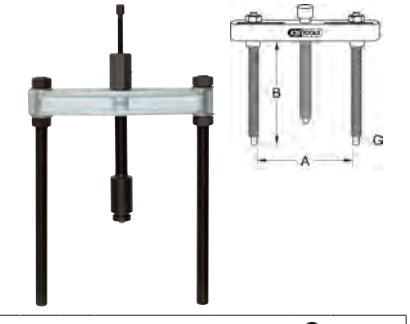
Yoke for bearing separator tool

- For use with the separator
- The train bolts are screwed into the threads of the separator
- Extremely robust spindle with inductively hardened thread
- Hydraulic thrust spindle available
- Special steel

	A mm	B mm	G mm	max t	mm	dim mm	kg	
605.0111	40-115	150	M12	2	M14x1,5x130	17	0.80	
605.0112	45-140	150	M12	2,5	M14x1,5x130	17	1.10	
605.0113	55-205	210	M16	4	G1/2"x14gx210	22	2.70	
605.0114	90-260	315	M20x1,5	5	G1/2"x14gx210	22	5.20	
605.0115	100-360	305	M20x1,5	7	G3/4"x14gx280	27	8.80	
605.0116	140-435	320	M24x1,5	13	G1"x11gx370	36	16.70	

Hydraulic thrust bolt with yoke for bearing separator tool

- For use with the separator
- The train bolts are screwed into the threads of the separator
- Includes hydraulic thrust spindle
- Excellent power transfer
- Special steel



	A mm	B mm	G mm	max t	mm	Hydraulic spindle	dim mm	kg	
605.0301	55-205	135	M16	4	M16x280	615.0002	13/32	3.20	
605.0302	90-260	240	M20x1,5	5	M20x1,5x370	615.0002	13/32	5.70	
605.0303	100-360	230	M20x1,5	7	M20x1,5x370	615.0003	13/36	9.10	
605.0304	140-435	230	M24x1,5	13	M24x1,5x460	615.0004	17/41	17.60	

Separator set inclusive with yoke ø 12,0 - 75,0 mm

- For the removal of secure bearings and bushes
- Extremely robust spindle with inductively hardened thread
- Special steel

			kg	
605.0002	3 pcs	Separator set inclusive with yoke ø 12,0 - 75,0 mm	3.00	

consists of:

		g	
605.0502	Bearing separator, 12-75mm	700	
605.0112	Yoke for bearing separator tool, 45-140mm	1100	
605.0402	Extension for pull rod, 100mm	200	

Separator set inclusive with yoke ø 22,0 - 115,0 mm

- For the removal of secure bearings and bushes
- Extremely robust spindle with inductively hardened thread
- Hydraulic thrust spindle available
- Special steel

			kg	
605.0004	3 pcs	Separator set inclusive with yoke ø 22,0 - 115,0 mm	13.30	

consists of:

		g	
605.0504	Bearing separator, 25-155mm	4200	
605.0114	Yoke for bearing separator tool, 90-260mm	5200	
605.0404	Extension for pull rod, 100mm	700	

ACCESSORIES

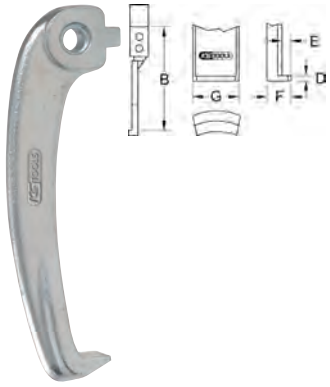
Universal clamping yoke

- For universal 2 arm puller
- Clamping yoke compresses the legs firmly
- Prevents slipping
- Special steel

	A mm	g	
615.5101	10-130	800	

Puller legs, forged ground steel

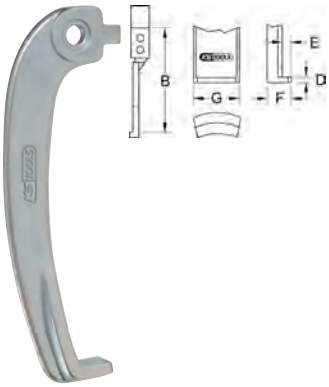
- For 2 arm and 3 arm basic universal puller
- Special steel



	B mm	For pullers	D mm	E mm	F mm	G mm	g	
615.4101	45	620.4101+630.4101	2	9	18	10	40	
615.4102	65	620.4102+630.4102	2	9	18	10	50	
615.4103	80	620.4103+630.4103	2,3	12	25	13	100	

Puller legs, forged ground steel

- For 2 arm and 3 arm basic universal puller
- Special steel

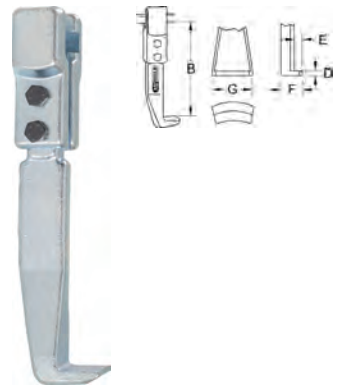


	B mm	For pullers	D mm	E mm	F mm	G mm	g	
615.4301	80	620.4301+630.4301	4	12	26	13	130	
615.4302	120	620.4302+630.4302	5	14	30	16	210	
615.4303	160	620.4303+630.4303	6	18	35	20	350	
615.4304	200	620.4304+630.4304	7	22	40	24	600	

More pullers can be found in our general catalogue K11.

Puller legs

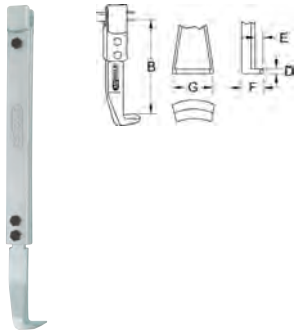
- For 2 arm and 3 arm pullers
- Special steel



	B mm	max t	D mm	E mm	F mm	G mm	g	
615.0101	100	4,5	3	13	25	20	250	
615.0102	150	6,5	4	16	35	25	650	
615.0103	200	11,0	5	25	54	35	1650	
615.0104	225	11,0	10	33	50	55	2150	

Puller legs, extra long design

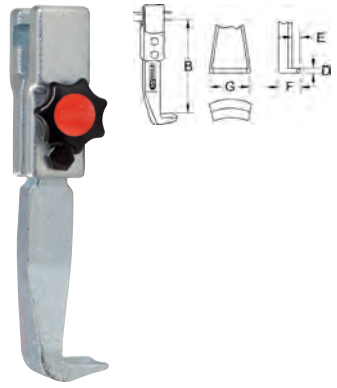
- For 2 arm and 3 arm pullers
- Special steel



	B mm	D mm	E mm	F mm	G mm	kg	
615.0501	200	3	13	25	20	0.50	
615.0502	300	4	16	35	25	1.10	
615.0503	300	5	25	54	35	2.50	
615.0504	400	5	25	54	35	3.20	
615.0505	500	5	25	54	35	3.90	
615.0506	300	10	33	55	50	3.00	
615.0507	400	10	33	55	50	3.70	
615.0508	500	10	33	55	50	4.40	

Quick adjustment puller legs

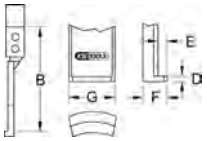
- Quick release function
- For 2 arm and 3 arm pullers
- Special steel



	B mm	D mm	E mm	F mm	G mm	g	
615.1101	100	3	13	25	20	200	
615.1102	150	4	16	35	25	700	
615.1103	200	3	13	25	20	500	

Puller legs, narrow design

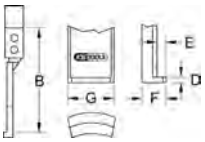
- Best suited for limited access areas
- For 2 arm and 3 arm pullers
- Special steel



	B mm	D mm	E mm	F mm	G mm	g
615.0901	100	3,6	6	13	27	200
615.0902	200	3,6	6	13	27	500
615.0903	250	3,6	6	13	27	600
615.0904	100	2	6	13	27	200
615.0905	200	2	6	13	27	500
615.0906	250	2	6	13	27	1100
615.0907	150	5	8	17	40	600
615.0908	220	5	8	17	40	800
615.0909	300	5	8	17	40	1800

Pair of puller legs, narrow design

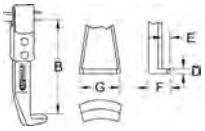
- Legs are adjustable in the working depth
- Best suited for limited access areas
- Special steel



	B mm	For pullers	D mm	E mm	F mm	G mm	g
615.5301	70-85	620.5301	2,5	4,5	8,5	11	150
615.5302	85-120	620.5302	3,5	5	11	12	500

Puller legs double ended usable

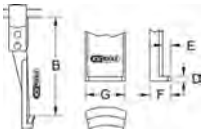
- Legs double ended usable
- Special steel



	B mm	For pullers	D mm	E mm	F mm	G mm	g
615.3001	85	620.3001+630.3001	2	9	21	12	100
615.3002	130	620.3002+630.3002	4	11	25	21	320

Quick adjustment puller legs, narrow design

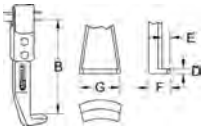
- Quick release function
- Best suited for limited access areas
- For 2 arm and 3 arm pullers
- Special steel



	B mm	D mm	E mm	F mm	G mm	g
615.1001	100	3,6	6	13	27	250
615.1002	200	3,6	6	13	27	500
615.1003	250	3,6	6	13	27	600
615.1004	100	2,0	6	13	27	250
615.1005	200	2,0	6	13	27	500
615.1006	250	2,0	6	13	27	600
615.1007	150	5,0	8	17	40	650
615.1008	220	5,0	8	17	40	900
615.1009	300	5,0	8	17	40	1100

Puller legs with clamping yoke

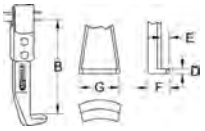
- For puller legs with quick adjustment
- Clamping yoke compresses the legs firmly
- Prevents slipping
- Special steel



	B mm	For pullers	D mm	E mm	F mm	G mm	g
615.5401	90	620.5401	3	12	26	24	260
615.5402	110	620.5402	3	14	25	24	320
615.5403	150	620.5403	3	14	25	24	420

Puller legs

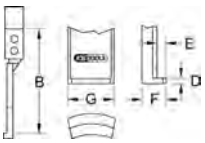
- Legs are adjustable in the working depth
- Special steel



	B mm	For pullers	D mm	E mm	F mm	G mm	g
615.3601	85	620.3601+ 630.3601	3	14	25	18	100
615.3602	150	620.3602+ 630.3602	4	20	36	25	260
615.3603	220	620.3603+ 630.3603	5	25	48	30	650
615.3604	250	620.3604+ 630.3604	5	25	48	30	1200
615.3605	350	620.3605+ 630.3605	5	25	48	30	1600
615.3606	400	620.3606+ 630.3606	5	25	48	30	1800
615.3607	450	620.3607+ 630.3607	5	25	48	30	2000
615.3608	500	620.3608+ 630.3608	5	25	48	30	2200
615.3609	650	620.3609+ 630.3609	5	25	48	30	2800
615.3610	1000	620.3610+ 630.3610	5	25	48	30	4200

Pair of puller legs

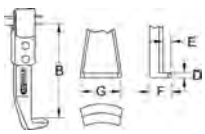
- Legs are adjustable in the working depth
- Special steel



	B mm	For pullers	D mm	E mm	F mm	G mm	g
615.5201	70-85	620.5201	2,5	4,5	8,5	23	180
615.5202	85-120	620.5202	3,5	5	10	31	450
615.5203	125-155	620.5203	3,5	5	10	31	550

Puller legs with clamping yoke

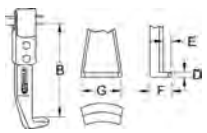
- For 2 arm pullers with quick adjustment
- Legs are adjustable in the working depth
- Legs double ended usable
- Clamping yoke compresses the legs firmly
- Extremely robust spindle with inductively hardened thread
- Special steel



	B mm	For pullers	D mm	E mm	F mm	G mm	g
615.5501	170	620.5501	3	12	25	24	530
615.5502	270	620.5502	3	14	25	24	800
615.5503	330	620.5503	3	14	25	24	850

Puller legs

- Legs are adjustable in the working depth
- Special steel

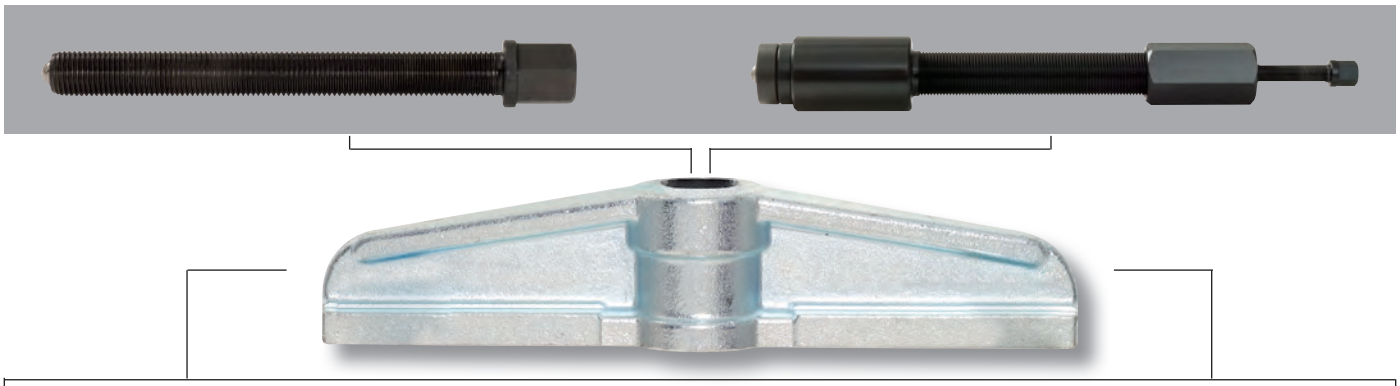


	B mm	For pullers	D mm	E mm	F mm	G mm	g
615.3401	130	620.3401+630.3401	2	11	23	16	150
615.3402	200	620.3402+630.3402	4,5	16	33	20	400

COMBINATION OPTIONS FOR STANDARD / BAR PULLER

Mechanical spindle

Hydraulic spindle



Hooks with quick-clamping device

Standard

615.1101-03

Slim design

615.1004-06
Hook base
2 mm

615.1001-03
Hook base
3.6 mm

615.1007-09
Hook base
5 mm

Hooks with two-screw clamping device

Slim design

615.0907-09
Hook base
2 mm

615.0901-03
Hook base
3.6 mm

615.0904-06
Hook base
5 mm

Standard length

615.0501

Standard

615.0101-04

Quick-clamping hooks

No. hooks	for puller
615.1001	620.1101 / 620.1102 630.1101 / 630.1102
615.1002	620.1101 / 620.1102 630.1101 / 630.1102
615.1003	620.1101 / 620.1102 630.1101 / 630.1102
615.1004	620.1101 / 620.1102 630.1101 / 630.1102
615.1005	620.1101 / 620.1102 630.1101 / 630.1102
615.1006	620.1101 / 620.1102 630.1101 / 630.1102
615.1007	620.1103 / 620.1104 630.1103 / 630.1104
615.1008	620.1103 / 620.1104 630.1103 / 630.1104
615.1009	620.1103 / 620.1104 630.1103 / 630.1104
615.1101	620.1701 / 620.1702 630.1701 / 630.1702
615.1102	620.1703 / 620.1704 630.1703 / 630.1704
615.1103	620.1705 / 620.1706 630.1903 / 630.1904

Caution: The hooks marked in red are not the original hooks relating to the pullers indicated, but can be used in these.

Two-screw clamp hooks

No. hooks	for puller	No. hooks	for puller	No. hooks	for puller
615.0101	620.0101 / 620.0102 630.0101 / 630.0102	615.0503	620.0105 / 620.0106 620.0107 620.0505 / 620.0506 620.0507 620.0703 / 620.0704 620.0705	615.0508	620.0108 630.2301 640.0210 / 640.0215 640.0217 640.2315 / 640.2317
615.0102	620.0103 / 620.0104 630.0103 / 630.0104			615.0901	620.0901 / 620.0902 630.0901 / 630.0902
615.0103	620.0105 / 620.0106 620.0107 620.0303 / 620.0304 620.0305 / 620.0306	615.0504	620.0105 / 620.0106 620.0107 620.0508 / 620.0509 620.0510 620.0706 / 620.0707 620.0708	615.0902	620.0901 / 620.0902 630.0901 / 630.0902
615.0104	620.0108 620.0307 630.2301 640.0210 / 640.0215 640.0217 640.2315 /640.2317			615.0903	620.0901 / 620.0902 630.0901 / 630.0902
615.0501	620.0101 / 620.0102 620.0103 / 620.0104 620.0301 / 620.0302 620.0501 / 620.0502 630.0101 / 630.0102 630.0103 / 630.0104 630.0301 /630.0302	615.0505	620.0105 / 620.0106 620.0107 620.0511 / 620.0512 620.0513 620.0709 / 620.0710 620.0711	615.0904	620.0103 / 620.0104 620.0903 / 620.0904 630.0903 / 630.0904
				615.0905	620.0103 / 620.0104 620.0903 / 620.0904 630.0903 / 630.0904
		615.0506	620.0108 630.2301 640.0210 / 640.0215 640.0217 640.2315 / 640.2317	615.0906	620.0103 / 620.0104 620.0903 / 620.0904 630.0903 / 630.0904
				615.0907	620.0101 / 620.0102 620.0901 / 620.0902 630.0901 / 630.0902
615.0502	620.0103 / 620.0104 620.0503 / 620.0504 620.0701 / 620.0702 630.0103 / 630.0104 630.0301 / 630.0302	615.0507	620.0108 630.2301 640.0210 / 640.0215 640.0217 640.2315 / 640.2317	615.0908	620.0101 / 620.0102 620.0901 / 620.0902 630.0901 / 630.0902
				615.0909	620.0101 / 620.0102 620.0901 / 620.0902 630.0901 / 630.0902

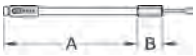
Spindle

- Extremely robust spindle with inductively hardened thread
- Special steel

	dim mm	A mm	B mm	Ø mm	mm	g
610.1401	12	150	15	10	M10	100
610.1402	14	190	20	12	M12	200
610.1701	17	60	21	14	M14 x 1,5	100
610.1702	17	130	21	14	M14 x 1,5	200
610.1703	17	200	21	14	M14 x 1,5	300
610.1704	17	250	21	14	M14 x 1,5	550
610.1705	17	60	20	16	M16 x 1,5	100
610.1706	17	70	20	16	M16 x 1,5	100
610.1707	17	90	20	16	M16 x 1,5	200
610.1901	19	70	20	18	M18 x 1,5	200
610.1902	19	130	20	18	M18 x 1,5	300
610.1903	19	170	22	18	M18 x 1,5	400
610.1904	19	240	22	18	M18 x 1,5	500
610.2201	22	110	23	21	G1/2"x14g	300
610.2202	22	160	23	21	G1/2"x14g	400
610.2203	22	175	23	21	G1/2"x14g	500
610.2204	22	210	23	21	G1/2"x14g	600
610.2205	22	235	23	21	G1/2"x14g	700
610.2206	22	270	23	21	G1/2"x14g	800
610.2701	27	180	35	26	G3/4"x14g	1000
610.2702	27	280	35	26	G3/4"x14g	1300
610.2703	27	360	35	26	G3/4"x14g	1700
610.3601	36	310	45	33	G1"x11g	2300
610.3602	36	360	45	33	G1"x11g	2650
610.3603	36	455	45	33	G1"x11g	3100

Hydraulic compression spindle

- With low effort maximal pressure
- Special steel



	A mm	B mm	max t	Ø Body mm	Body mm	Pressure spindle mm	dim mm	kg
615.0001	260	23	12	41	UN1.1/2"x16	M11x85	17	1.60
615.0002	410	55	12	32	G1/2"x14	M10x90	13	1.10
615.0003	410	55	12	36	G3/4"x14	M10x90	13	1.60
615.0004	460	80	15	41	G1"x11	M11x1,5x100	17	3.50

Guide on switching to a grease hydraulic spindle long

- Loosen stud
- screw off whole cap (SW large)
- screw spindle body into puller
- screw cap back on up to limit stop
- place stud on again and secure by tightening

Working method:
- place on puller
- pre-tension mechanically with large width across flats
- secure puller position sichern
- screw pressure spindle into the press
  Caution: Power wrench prohibited
- If the piston stroke is not sufficient for loosening, the work step must be repeated. Turn pressure spindle back, pre-tension again mechanically and screw pressure spindle in again

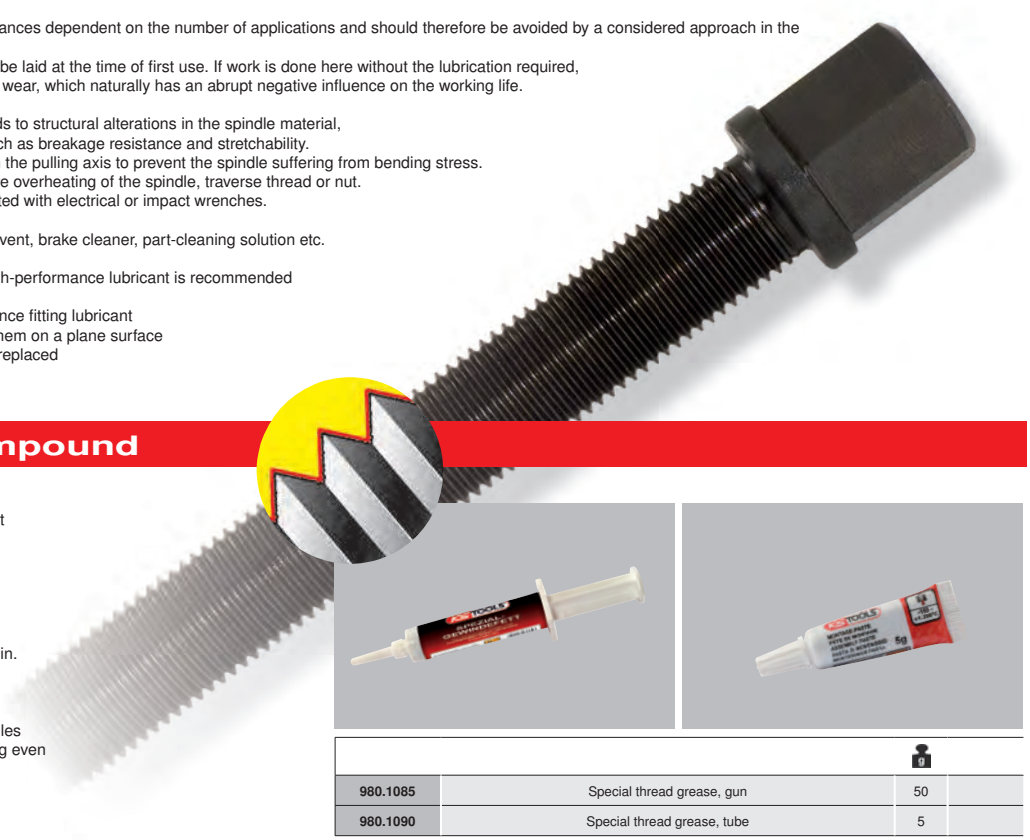
Safety note:
- Tighten all screw connections before pulling, as otherwise there is a danger of slipping

Handling puller spindles

The overloading of a spindle is under no circumstances dependent on the number of applications and should therefore be avoided by a considered approach in the selection (e.g. dimension) or use.
The foundation for a long working life will already be laid at the time of first use. If work is done here without the lubrication required, it leads quickly to overheating and thus to spindle wear, which naturally has an abrupt negative influence on the working life.

To avoid this:
- Excessive heating, e.g. with a welding torch leads to structural alterations in the spindle material, which will adversely influence characteristics such as breakage resistance and stretchability.
- Ensure that the spindle is precisely positioned in the pulling axis to prevent the spindle suffering from bending stress.
- Introduce work breaks in order to avoid excessive overheating of the spindle, traverse thread or nut.
- Under no circumstances may spindles be operated with electrical or impact wrenches.

Maintenance and care:
- regular cleaning of the spindle with cleaner's solvent, brake cleaner, part-cleaning solution etc.
- After cleaning, lubricate spindle with machine oil
- For conditions of extreme stress the use of a high-performance lubricant is recommended on the stressed spindle parts
- suitable lubricants: See below for high-performance fitting lubricant
- Check spindles regularly for bending by rolling them on a plane surface
- spindles showing significant bending should be replaced



Special thread compound

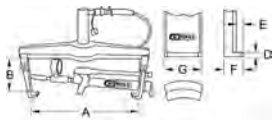
This special compound is an outstanding lubricant for static highly-stressed components such as, for example, thread spindles. Influence factors, e.g. moisture or friction, lead as a rule to increased wear and jamming. Thanks to its special composition and the solids it contains the surface roughness of the surface to be protected is completely filled in. In this way a fully enclosed surface is formed, which significantly reduces friction and offers an effective protection from corrosion. This increases the working life of the thread spindles substantially and ensures problem-free functioning even at intense heating of up to max. 1200 °C.

		g
980.1085	Special thread grease, gun	50
980.1090	Special thread grease, tube	5

XXL PULLER

Universal 2 arm puller for using with hydraulic cylinder

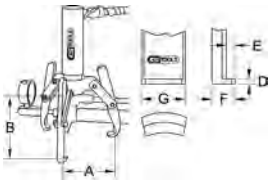
- Consists of traverse and legs
- Through reversing the arms internal and external applications are possible
- Without hydraulic compression spindle / without hydraulic cylinder
- Without hydraulic pump
- Special steel



	A mm	B mm	max t	D mm	E mm	F mm	G mm	kg
640.0210	640	225	10	10	33	55	50	20.00
640.0215	640	225	15	10	33	55	50	20.00
640.0217	640	225	17	10	33	55	50	21.50

Universal 3 arm puller for using with hydraulic cylinder

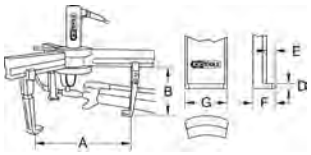
- Consists of traverse and legs
- Legs are adjustable in the working depth
- Traverse arm radial revolving and interchangeable
- Without hydraulic compression spindle / without hydraulic cylinder
- Without hydraulic pump
- Special steel



	A mm	B mm	max t	mm	D mm	E mm	F mm	G mm	kg
640.0310	350	250	10	UNC2.1/4"x14	5	25	48	30	9.50
640.0315	350	250	15	M68x2	5	25	48	30	7.50
640.0317	350	250	17	G 1"x11g	5	25	48	30	8.50

Universal 3 arm puller for using with hydraulic cylinder

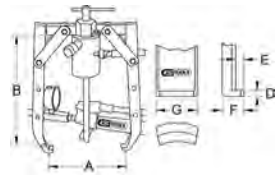
- Consists of traverse and legs
- Legs are adjustable in the working depth
- Traverse arm radial revolving and interchangeable
- Without hydraulic compression spindle / without hydraulic cylinder
- Without hydraulic pump
- Special steel

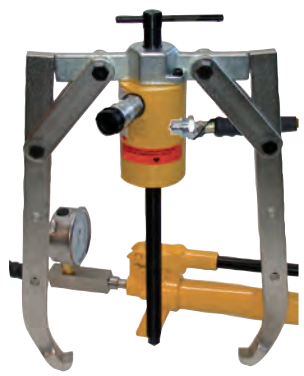


	A mm	B mm	max t	mm	D mm	E mm	F mm	G mm	kg
640.2315	150-700	200	15	10	M68x2	33	55	50	38.00
640.2317	150-700	200	17	10	G1"x11g	33	55	50	40.00

Universal 2 arm puller for using with hydraulic cylinder

- Consists of traverse and legs
- Through reversing the arms internal and external applications are possible
- Without hydraulic compression spindle / without hydraulic cylinder
- Without hydraulic pump
- Special steel

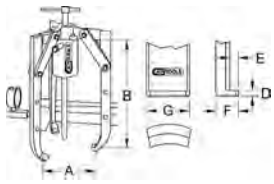


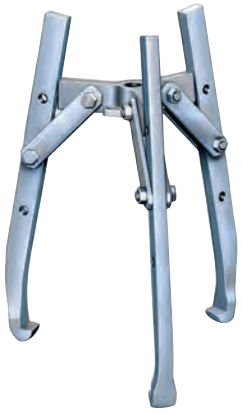


	A mm	B mm	max t	D mm	E mm	F mm	G mm	kg
640.0220	420	290	20	17	16	32	32	11.50
640.0230	700	400	30	24	23	48	40	20.00
640.0250	1000	700	50	35	42	87	50	50.00

Universal 3 arm puller for using with hydraulic cylinder

- Consists of traverse and legs
- Legs are adjustable in the working depth
- Traverse arm radial revolving and interchangeable
- Without hydraulic compression spindle / without hydraulic cylinder
- Without hydraulic pump
- Special steel

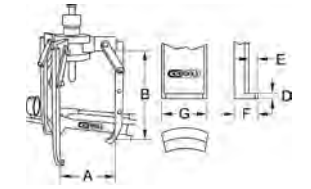




	A mm	B mm	max t	D mm	E mm	F mm	G mm	kg
640.0320	420	290	20	17	16	32	32	17.00
640.0330	700	400	30	24	23	48	40	30.00
640.0350	1000	700	50	35	42	87	50	70.00

Hydraulic universal 3 arm puller

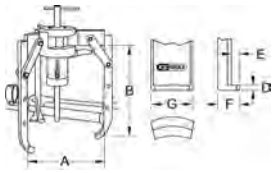
- Consists of traverse and legs
- Legs are adjustable in the working depth
- Traverse arm radial revolving and interchangeable
- Uniform load distribution and centered tigthening
- Without hydraulic compression spindle / without hydraulic cylinder
- Without hydraulic pump
- Special steel



	A mm	B mm	max t	mm	D mm	E mm	F mm	G mm	kg
640.2415	500	440	15	M68x2	17	16	32	32	22.00
640.2417	500	440	17	G1"x11g	17	16	32	32	24.00

Universal 3 arm puller for using with hydraulic cylinder

- Consists of traverse and legs
- Legs are adjustable in the working depth
- Traverse arm radial revolving and interchangeable
- Uniform load distribution and centered tigthening
- Without hydraulic compression spindle / without hydraulic cylinder
- Without hydraulic pump
- Special steel



	A mm	B mm	max t	D mm	E mm	F mm	G mm	kg	
640.2420	500	270	20	17	16	32	32	27.00	
640.2430	750	310	30	24	23	48	40	26.00	
640.2450	1000	660	50	35	42	87	50	106.00	

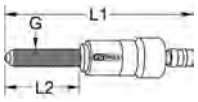
Hydraulic press

- For mechanical pullers
- Power increase with the normal pressure spindle
- Maximum pressure power with slight power expense
- Special steel

	L mm	H mm	max t	Hydraulic lift mm	mm	kg	
640.0160	150	75	8	8	M14x1,5 x 60	0.80	
640.0165	180	90	15	12	M14x1,5 x 85	1.80	

Spindle hydraulic cylinder

- Simply working with spring withdrawal
- Necessary minimal oil volume 120 cm³ = 0,12 l
- Maximum pressure power with slight power expense
- Special steel



	Connection thread mm	L1 mm	L2 mm	Stroke mm	G mm	max t	kg	
640.0130	3/8" - 18 NPT	403	150.0	156	G1"x11g	17	4.50	

Flat hydraulic cylinder

- Simple working with spring withdrawal
- Maximum pressure power with slight power expense
- Special steel

	Connection thread mm	L mm	B mm	Stroke mm	Minimal oil volume cm^3	max t	kg	
640.0140	3/8" - 18 NPT	140	42	12	18/0,018	10	1.60	
640.0150	3/8" - 18 NPT	170	51	11	32/0,032	20	2.80	

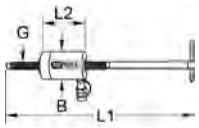
Single screw hydraulic cylinder

- Simply working with spring withdrawal
- Interchangeable pressure piece
- Low effort maximal pressure
- Special steel

	Connection thread mm	L mm	B mm	Stroke mm	G mm	max t	kg	
640.0110	3/8" - 18 NPT	403	247	156	UNC2.1/4x14	10	4.00	
640.0120	3/8" - 18 NPT	423	271	152	M68x2	15	7.00	

Hollow piston hydraulic cylinder with spindle

- Simply working with spring withdrawal
- Nickel plated appliance pipe
- Maximum pressure power with slight power expense
- Special steel



	Connection thread mm	L1 mm	L2 mm	B mm	Stroke mm	G mm	max t	kg	
640.0170	3/8" - 18 NPT	670	162.0	98	49	UNC1"-8	20	10.60	
640.0180	3/8" - 18 NPT	790	178.0	114	64	UNC1.1/4"-7	30	15.20	
640.0190	3/8" - 18 NPT	975	247.0	159	76	UNC1.5/8"-5.1/2"	50	40.50	

Hydraulic hand pump

- Single stage
- Reverse valve for advance and return stroke
- Safety valve for overload protection
- Includes pressure tube 1.8 meters
- Operating pressure max. 700 bar

	Connection thread mm	L mm	B mm	H mm	Flow rate per hub cm³	kg	
640.0010	3/8" - 18 NPT	585	133	119	2.62	9.00	

Pneumatic hydraulic pump

- Compressed air working
- For simply agent press cylinders
- Safety valve for overload protection
- Includes pressure tube 1.8 meters
- Operating pressure max. 700 bar
- Output per stroke:
- 0.8 l/min up to 200 bar
- 0.1 l/min up to 700 bar

	Connection thread mm	L mm	B mm	H mm	kg	
640.0020	3/8" - 18 NPT	255	130	200	11.00	

Electric hydraulic pump

- Two stepped for simply agent press cylinders
- Safety valve for overload protection
- Useful tank volume 1900 cm³ = 1.9l
- Includes pressure tube 1.8 meters
- Motor specification 0.37kW - 220/230 V - 50/60 hertz, single phase (3.2 amps)
- 1st Step: max. 13 bar
- 2nd. Step: max. 700 bar
- Output per stroke:
- 1. Steps 3.31 l/min
- 2. Step: 0.32 l/ min

	Connection thread mm	L mm	B mm	H mm	kg	
640.0030	3/8" - 18 NPT	244	244	362	14.00	

Hydraulic tension and pressure unit

- For the dismantling and assembly of silent support, steering pin, track rod ends, wheel bearings, etc.
- Extremely high and uniform power construction
- Industrial execution with forged piston
- Suitable for both pressure and train uses
- Ideally suited for commercial vehicles
- Special steel
- In durable plastic storage case

Technical data:

Hand pump:

Connection thread:	3/8" NPT IG
Hand pump:	700 bar high pressure pump
Manometer:	Ø 80 mm
Length:	410 x 150 x 135 mm
Weight:	5500g

Hollow piston cylinder:

Capacity:	20 t
Connection thread:	3/8" NPT IG
Piston:	Industrial forged execution
Stroke:	52 mm
Piston outside Ø:	55 mm
Bore Ø:	26 mm
Cylinder outside Ø:	98 mm
Cylinder height:	164 mm
Weight:	7300g

Hydraulic hose:

Connection thread:	3/8" NPT AG x 3/8" NPT AG
Length:	2000 mm
Weight:	1100g

Feed shaft:

Length:	500 mm
Thread:	M 20 x 2,5
Flat collar nut:	SW 30
Spherical washer :	Ø 36 mm
U-Washer:	Ø 51 x 7,5 mm, with central cone

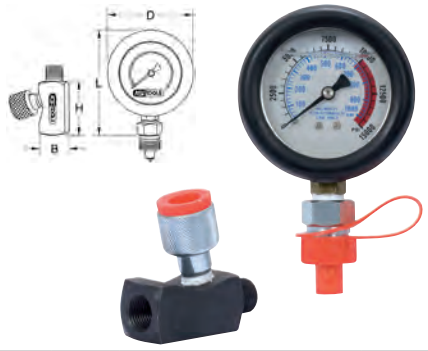
			kg	
700.1790	4 pcs	Hydraulic tension and pressure unit	15.40	

consists of:

		kg	
700.1791	Hydraulic hollow piston cylinder, 20 t	7.30	
700.1792	Hydraulic hand pump, 700 bar	5.50	
700.1793	Hydraulic hose, 2 m	1.10	
700.1796	Feed shaft for hydraulic M20 x 500 mm	1.50	

Manometer

- Max. 12 bar
- 1/2" Internal and external threaded connector
- Special steel



	L mm	D mm	H mm	B mm	g	
700.1790-2	95.0	80.0	50.0	25.0	600	

Hydraulic universal puller set 2 arm and 3 arm

- Less risk of slipage due to automatically closing pulling arm
- 8 length positions possible
- Extremely robust spindle with inductively hardened thread
- Requires light expenditure of energy
- Special steel
- In durable plastic storage case

			kg	
700.1200	22 pcs	Hydraulic universal puller set 2 arm and 3 arm	16.40	

consists of:

		g	
700.1202	Draw-off arms, with precise beveled cutting draw-off clamp, 4"	410	
700.1203	Draw-off arms, with precise beveled cutting draw-off clamp, 6"	600	
700.1204	Draw-off arms, with precise beveled cutting draw-off clamp, 8"	840	
700.1205	Traverse for 2 arms, quick conversion	300	
700.1206	Traverse for 3 arms, quick conversion	760	
700.1207	Spindle extension, 20 mm with centering pin	50	
700.1208	Thrust bolt extension, 35 mm	130	
700.1209	Thrust bolt extension, 85 mm	320	
700.1210	Pull ring for Hydraulic spindle, ➞ 700.1201	290	
700.1221	Traverse for bearing separating tool	1480	
700.1222	Extension for bearing separating tool, 185 mm Length	1060	
700.1223	Tie rod for bearing separating tool, 235 mm	1110	

Universal impact drive spindle

- Suitable with a multitude of pullers
- Particularly high loosening torque due to pin point impact power
- Extremely robust spindle with inductively hardened thread
- Special steel

			kg	
700.1405	2 pcs	Universal impact drive spindle	3.00	

1 x		30 mm
1 x		1.1/2" x 16Gg x 285 mm

Flange extractor set

- In order to separate the flanges in pipes to enable gasket changing or maintenance works
- For screws M16 - M24
- Special steel

		Ø mm	mm	dim mm	kg	
670.0251	2 pcs	80-250	M24x1,5 x 110	24	5.60	

OIL HYDRAULICS

Advantages

- Highest-performance drive form for the use of 10t/100KN up to max. 50t/100KN
- As screw-in / spindle / flat-topped and trunk piston cylinder
- Hydraulic pumps optionally as manual / pneumatic or electrical variant
- Hydraulic units work very conveniently and with low application of force
- The advantages lie in the long work path (stroke) of the pistons and the extremely high pressure force

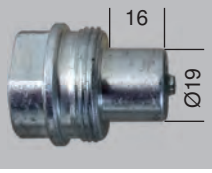
Combination options oil hydraulics with puller

Spindle hydraulics cylinder			Flat hydraulics cylinder		Screw-in hydraulics cylinder			Trunk piston hydraulics cylinder			
Hydraulics cylinder	**640.0130**		**640.0140**	**640.0150**	**640.0110**	**640.0120**		**640.0170**	**640.0180**	**640.0190**	
Driver thread	G1“ x 11g		2xthread M6 depth gauge 36,6	2xbore hole M10 depth gauge 36,6	UNC 2.1/4“x14	M68x2		UNC 1“ -8	UNC 1.1/4“ -7	UNS 1.5/8“-5.1/2“	
Max. power	17t / 170KN		10t / 100KN	20t / 200KN	10t / 100KN	15t / 150KN		20t / 200KN	30t / 300KN	50t / 500KN	
		Arms/ Mod.					Arms/ Mod.				Arms/ Mod.
Use with puller	**620.0108** **640.0217** **640.0317** **640.2317** **640.2417**	2 B 2 B 3 L 3 BRS 3 LRS	**670.0151** **670.0181**	**670.0181**	**640.0210** **640.0310**	**640.0215** **640.0315** **640.2315** **640.2415**	2 B 3 L 3 BRS 3 LRS	**640.0220** **640.0320** **640.2420**	**640.0230** **640.0330** **640.2430**	**640.0250** **640.0350** **640.2450**	2 L 3 L 3 LRS
Use with puller leg	**645.0217** **645.0317** **645.2317** **645.2417**	3 L 3 BRS 3 LRS			**645.0210** **645.0310**	**645.0215** **645.0315** **645.2315** **645.2415**	3 L 3 BRS 3 LRS	**645.0220** **645.0320** **645.2420**	**645.0230** **645.0330** **645.2430**	**645.0250** **645.0350** **645.2450**	3 L 3 LRS

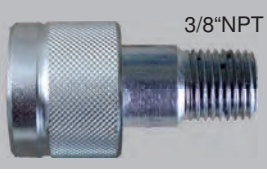
KS Standard hydraulics coupling appropriate for typical systems in the market such as Celette, Enerpac, Sun, etc.

All oil hydraulics cylinders can be combined or operated with the following pumps:

Loose half - tube side



Fixed half - cylinder side

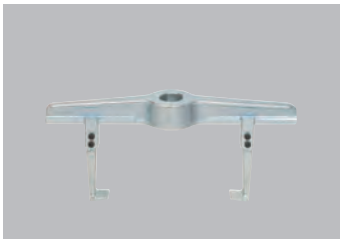


640.0010

640.0020

640.0030

B = Standard/ bar puller



L = side plate puller

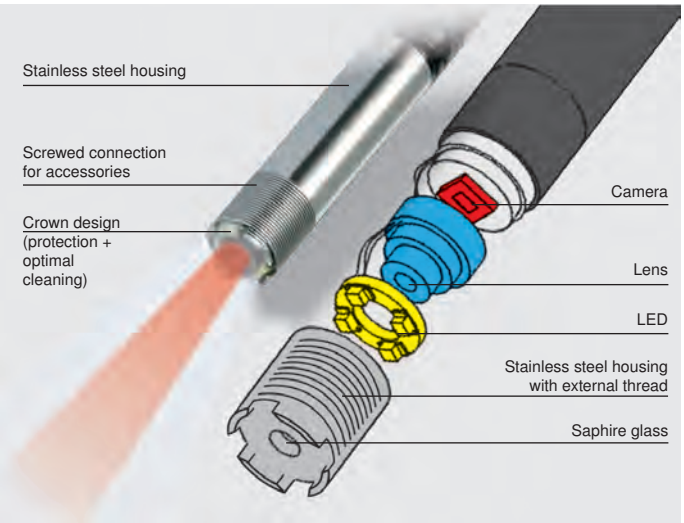
BRS = Standard/ bar puller

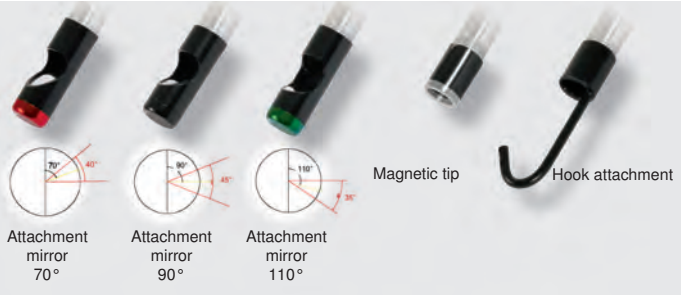
with radially swivelling arms

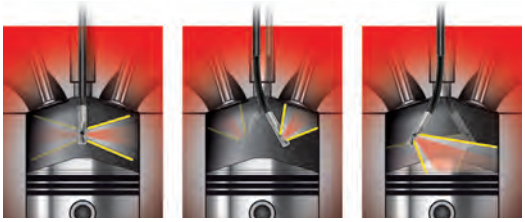
LRS = side plate puller

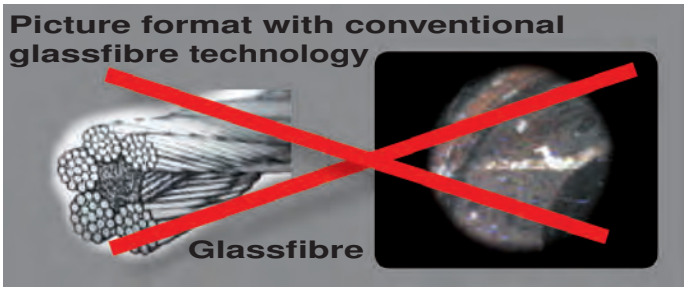
with radially swivelling arms

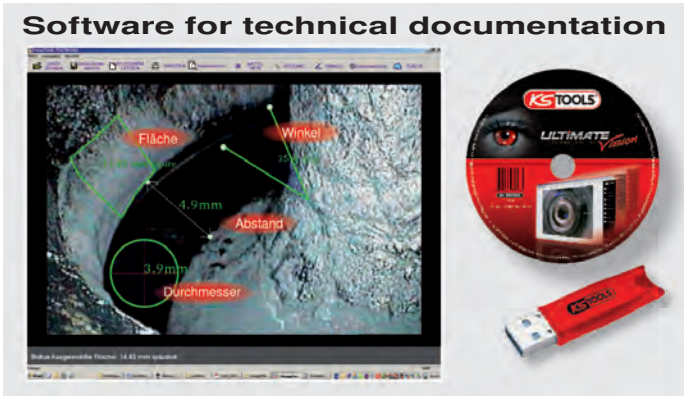
VIDEOSCOPE TECHNOLOGY Accessories

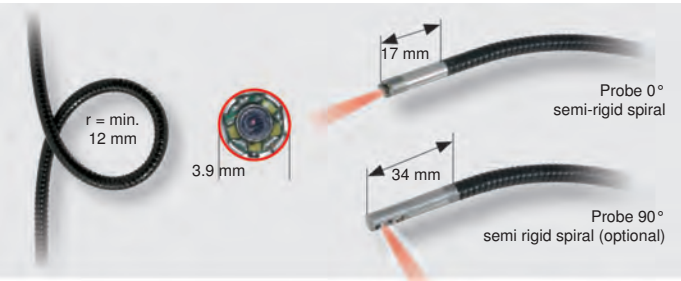


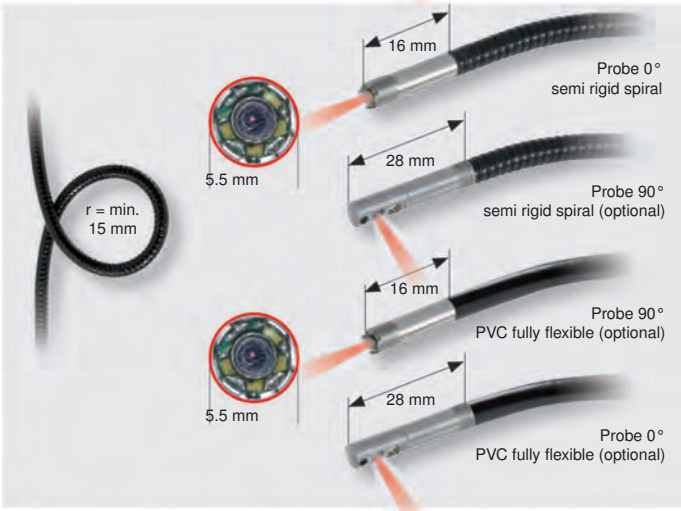


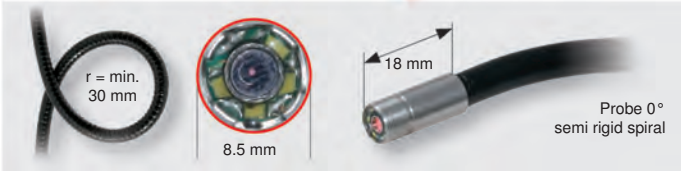












ULTIMATE*vision* BASIC

ULTIMATE*vision* BASIC Videoscope set, 7 pcs.

- 6 adjustable Mini LED Lamps
- Mobile and network independent system
- Probes substantially stronger and less breakage, there no glass fiber cable
- Working temperature of + 0 °C to + +60 °C
- Excellent picture quality and viewing through special camera in the probe head
- Good picture quality
- Zoom function
- Horizontal picture reflection function
- View on a TV monitor with AV cable possible
- Versitile usage
- 4 x AA batteries
- Simple operation
- In durable plastic storage case

Contents:
Basic unit
Mirror attachment
Magnetic attachment
Hook attachment
AV cable
Batteries
Selected probe

* These probes include 3 mirror attachments (70° + 90° + 110°)!
** These probes include 1 mirror attachment (flexible 70° to 110°)!

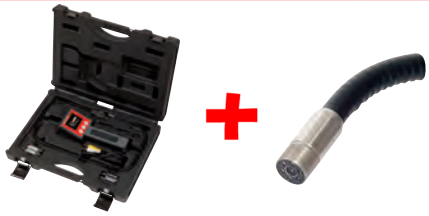
Technical data hand held unit:

Weight:	430g
Screen:	2,36“ (TFT LCD)
Output format:	NTSC
AV output:	magnification max. 10“
Frames per second:	~ 30 bps
Monitor:	16.7 Million colors
Power:	4 x AA battery (not in the delivery)
Operating temperature:	+0 °C to +55 °C

Technical data probe head:

Format:	Semi rigid
Bend radius:	max. 30 mm
Lens type:	spherical
Camera resolution:	320 (H) x 240 (V) = 76,800 Pixel
Protection class:	IP 67
Aperture angle:	horizontal 46° - vertical 34° - diagonal 56°
Focused depth of field:	10 ~ ∞ mm
AV Magnification:	is up to 10“ over cinch
Resistance:	Waterproof to a max. of 1m, oil and petrol resistant probe
Mirror attachment:	line of vision 90° - aperture angle 36°
Light source:	6 dimmable white mini LED lamps
Brightness:	0 ~ 420 LUX / 4 cm

ULTIMATE*vision* Videoscope set, 7 pcs.
with 0°, semi rigid spiral shaft front camera probe



Ø	0,75 m	1 m	2 m	3 m	5 m
4,5 mm	550.5345		550.5645	550.5745	
5,5 mm*		550.5355	550.5655	550.5755	
8,5 mm**			550.5680	550.5780	

ULTIMATE*vision* BASIC*plus* videoscope set

- Alternatively with flexible PVC or semi rigid spiral shaft
- 4 adjustable mini LED lamps
- Mobile and network independent system
- Probes substantially stronger and less breakage, there no glass fiber cable
- Working temperature of -10 °C to +60 °C
- Excellent picture quality and viewing through special camera in the probe head
- Extensive probe accessories and mirror attachments
- Simple probe exchange through standardized adapter system
- Very good picture and video quality
- Picture reception in JPEG format
- Video records in MPEG4-format
- View on large monitor with AV cable
- Data transfer directly through USB cable possible
- Multi lingual menu (14 languages)
- Versitile usage
- Includes Li-polymer rechargeable battery 3.7 V
- 2 Component housing protects against light impacts
- With high quality foam protection material
- In durable plastic storage case

Contents:
Basic unit
Probe 0°
Mirror attachment 90°
Network charger
1 GB SD card
Alcohol cleaning set

Technical data hand held unit:

Screen:	3,5“ (TFT LCD)
Output format:	NTSC and PAL
Picture storage format:	JPEG (640 x 480)
Frames per second:	- 30 bps
Compression format:	MPEG4
Storage medium:	SD card up to a max. 2 GB
Monitor:	16.7 Million colors
Power requirement:	DC 5,5 - 1,8 A
Rechargeable battery:	Li-Polymer 3,7 V (AC 100-240V / 50-60Hz)
Operating time:	ca. 4 h rechargeable battery
Operating temperature:	-10 °C to +60 °C
Language manual:	DE, EN, FR, ES, IT, DA, ZH, RU, NL, AR, JA, PL, BG

Technical data probe:

Bend radius:	min. 15 mm
Lens type:	spherical
Camera protection:	Designed out of sapphire glasse Camera sheath made out of stainless steel
Protection class:	IP 67
Operating temperature:	0 °C to 75 °C
Camera resolution:	320 (H) x 240 (V) = 76,800 Pixel
Focused depth of field:	1 cm - 6 cm
AV Magnification:	is up to 15“ over cinch
Resistance:	Waterproof to a max. of 1m, oil and petrol resistant probe
Mirror attachment:	Line of vision 70° - Aperture angle 40° Line of vision 90° - Aperture angle 36° Line of vision 110° - Aperture angle 32°
Light source:	4 dimmable white mini LED lamps
Brightness:	0 ~ 275 LUX / 4cm

		kg
550.5410	6 pcs ULTIMATE*vision* BASIC*plus* videoscope set	1.20

consists of:

		g
550.5400	BASIC+ basic unit,screen 3,5“	340
550.5020	0° Front camera probe,semi rigid ,Ø5.5mm,L=1m	140
550.5012	Mirror attachment,Ø5.5mm,90°	20
550.5004	Mains charger 110V/220V	90
550.5008	1 GB SD card	10
550.5009	Alcohol cleaning set 3 pcs	15

ULTIMATE*vision* BASIC*plus* videoscope set

- Alternatively with flexible PVC or semi rigid spiral shaft
- 4 adjustable mini LED lamps
- Mobile and network independent system
- Probes substantially stronger and less breakage, there no glass fiber cable
- Working temperature of -10 °C to +60 °C
- Excellent picture quality and viewing through special camera in the probe head
- Extensive probe accessories and mirror attachments
- Simple probe exchange through standardized adapter system
- Very good picture and video quality
- Picture reception in JPEG format
- Video records in MPEG4-format
- View on large monitor with AV cable
- Data transfer directly through USB cable possible
- Multi lingual menu (14 languages)
- Versitile usage
- Includes Li-polymer rechargeable battery 3.7 V
- 2 Component housing protects against light impacts
- With high quality foam protection material
- In durable plastic storage case

Contents:
Basic unit
Probe flexible, 90°
Network charger
1 GB SD card
Alcohol cleaning set

Technical data hand held unit:

Screen:	3,5“ (TFT LCD)
Output format:	NTSC and PAL
Picture storage format:	JPEG (640 x 480)
Frames per second:	- 30 bps
Compression format:	MPEG4
Storage medium:	SD card up to a max. 2 GB
Monitor:	16.7 Million colors
Power requirement:	DC 5,5 - 1,8 A
Rechargeable battery:	Li-Polymer 3,7 V (AC 100-240V / 50-60Hz)
Operating time:	ca. 4 h rechargeable battery
Operating temperature:	-10 °C to +60 °C
Language manual:	DE, EN, FR, ES, IT, DA, ZH, RU, NL, AR, JA, PL, BG

Technical data probe:

Bend radius:	min. 15 mm
Lens type:	spherical
Camera protection:	Designed out of sapphire glasse Camera sheath made out of stainless steel
Protection class:	IP 67
Operating temperature:	0 °C to 75 °C
Camera resolution:	320 (H) x 240 (V) = 76,800 Pixel
Focused depth of field:	1 cm - 6 cm
AV Magnification:	is up to 15“ over cinch
Resistance:	Waterproof to a max. of 1m, oil and petrol resistant probe
Light source:	4 dimmable white mini LED lamps
Brightness:	0 ~ 275 LUX / 4cm

		kg
550.5415	5 pcs ULTIMATE*vision* BASIC*plus* videoscope set	2.25

consists of:

		g
550.5400	BASIC+ basic unit,screen 3,5“	340
550.5050	90° Front camera probe,flexible ,Ø5.5mm,L=1m	140
550.5004	Mains charger 110V/220V	90
550.5008	1 GB SD card	10
550.5009	Alcohol cleaning set 3 pcs	15

ULTIMATE*vision* BASIC*plus* videoscope set

- With 2 step bending
- View direction of the camera head stepless in two directions to 150° adjustable through adjusting knob
- Adjustable function for the angle of vision through the one way sending device
- Through steerable probe head mounting of mirror attachment
- 4 adjustable mini LED lamps
- Mobile and network independent system
- Optimal handling through network or independent working
- Probes substantially stronger and less breakage, there no glass fiber cable
- Working temperature of 0°C to +60°C
- Excellent picture quality and viewing through special camera in the probe head
- Probe not interchangeable
- Very good picture and video quality
- Picture reception in JPEG format
- Video records in MPEG4-format
- View on a TV monitor with AV cable possible
- Multi lingual menu (14 languages)
- Versitile usage
- Includes Li-polymer rechargeable battery 3.7 V
- 2 component housing protects against light impacts
- Including alcohol cleaning set
- With high quality foam protection material
- In durable plastic storage case

Contents:
Basic unit
Probe with flexible probe head 150°
Network charger
1 GB SD card
Alcohol cleaning set

Technical data hand held unit:

Screen:	3,5“ (TFT LCD)
Output format:	NTSC and PAL
Picture storage format:	JPEG (640 x 480)
Frames per second:	- 30 bps
Compression format:	MPEG4
Storage medium:	SD card up to a max. 2 GB
Monitor:	16.7 Million colors
Power requirement:	DC 5,5 - 1,8 A
Rechargeable battery:	Li-Polymer 3,7 V (AC 100-240V / 50-60Hz)
Operating time:	ca. 4 h rechargeable battery
Operating temperature:	-10°C to +60°C
Language manual:	DE, EN, FR, ES, IT, DA, ZH, RU, NL, AR, JA, PL, BG

Technical data probe:

Format:	flexible PVC casing
Bend radius:	min. 15 mm
Lens type:	spherical
Camera protection:	Designed out of sapphire glasse Camera sheath made out of stainless steel
Operating temperature:	+0°C to +55°C
Aperture angle:	horizontal 46° - vertical 34° - diagonal 56°
Camera resolution:	320 (H) x 240 (V) = 76,800 Pixel
Focused depth of field:	1 cm - 6 cm
AV Magnification:	is up to 15“ over cinch
Light source:	4 dimmable white mini LED lamps
Brightness:	0 ~ 275 LUX / 4cm

550.5090	5 pcs ULTIMATE*vision* BASIC*plus* videoscope set	1.30	

consists of:

550.5400	BASIC+ basic unit,screen 3,5“	340	
550.6005	PVC shaft front camera probe,Ø6mm,L=1m,flexible 150°	140	
550.5004	Mains charger 110V/220V	90	
550.5008	1 GB SD card	10	
550.5009	Alcohol cleaning set 3 pcs	15	

ULTIMATE*vision* BASIC*plus* basic unit

- Mobile and network independent system
- Working temperature of -10° to +60°
- Simple probe exchange through standardized adapter system
- Very good picture and video quality
- Picture reception in JPEG format
- Video records in MPEG4-format
- View on large monitor with AV cable
- Data transfer directly through USB cable possible
- Multi lingual menu (14 languages)
- Versitile usage
- Includes Li-polymer rechargeable battery 3.7 V
- 2 Component housing protects against light impacts

Technical data hand held unit:

Weight:	340g
Screen:	3,5“ (TFT LCD QVGA)
Output format:	NTSC and PAL
Picture storage format:	JPEG (640 x 480)
Frames per second:	~ 30 bps
Compression format:	MPEG4
Storage medium:	SD card up to a max. 2 GB
Monitor:	16.7 Million colors
Rechargeable battery:	Li-Polymer 3,7 V (AC 100-240V / 50-60Hz)
Power requirement:	DC 5,5 - 1,8 A
Operating time:	ca. 4 h rechargeable battery
Operating temperature:	-10°C to +60°C
Language manual:	DE, EN, FR, ES, IT, DA, ZH, RU, NL, AR, JA, PL, BG

550.5400	ULTIMATE*vision* BASIC*plus* basic unit	0.34

Accessories:

550.6005	Front camera 0°, PVC shaft, 1 meter	140g

ULTIMATE*vision* Camera probe reversible, 0° and 90°

- Contains 2 cameras and 2 independent light sources
- Bend radius max. 15 mm
- semi rigid spiral shaft
- The tip of the probe's head is threaded for convenient attachment of different accessories (mirror / hook / magnet)
- Compatible with KS Tools Basicplus and PREMIUMwireless videoscope

Technical data probe:

Format:	Semi rigid
Bend radius:	min. 15 mm
Lens type:	spherical
Camera protection:	Designed out of sapphire glasse Camera sheath made out of stainless steel
Protection class:	IP 67
Aperture angle:	horizontal 46° - vertical 34° - diagonal 56°
Camera resolution:	640 (H) x 480 (V) = 307,200 Pixel
Focused depth of field:	1 cm - 6 cm
Operating temperature:	+0°C to +60°C
Resistance:	Waterproof to a max. of 1m Oil and petrol resistant probe
Light source:	3 dimmable white mini LED lamps

	L m	Head Ø mm		
550.5260	1.0	4.9	105	

ULTIMATE*vision* PREMIUM*wireless* Camera probes

- 4 adjustable mini LED lamps
- Bend radius max. 15 mm
- Suitable for connection to ULTIMATE*vision* BASIC*plus* and PREMIUM*wireless* videoscope

Technical data probe:

Bend radius:	min. 15 mm
Lens type:	spherical
Camera protection:	designed out of sapphire glasse, camera sheath made out of stainless steel
Protection class:	IP 67
Aperture angle:	horizontal 46° - vertical 34° - diagonal 56°
Camera resolution:	320 (H) x 240 (V) = 76,800 Pixel
Focused depth of field:	1 cm - 6 cm
Operating temperature:	0°C to 75°C
AV Magnification:	is up to 15“ over cinch
Resistance:	Waterproof to a max. of 1m, oil and petrol resistant probe
Mirror attachment:	Line of vision 70° - Aperture angle 40° Line of vision 90° - Aperture angle 36° Line of vision 110° - Aperture angle 32°
Light source:	4 dimmable white mini LED lamps
Brightness:	0 ~ 275 LUX / 4cm
Mirror attachment:	Line of vision 70° - Aperture angle 40°

0° front camera probe flexible PVC shaft

Ø	0,75 m	1 m	2 m	3 m	5 m	10 m	20 m	30 m
3,9 mm	550.5040							
4,5 mm								
5,5 mm		550.5041	550.5042	550.5043	550.5044	550.5045	550.5046	550.5140

0° front camera probe semi rigid spiral shaft

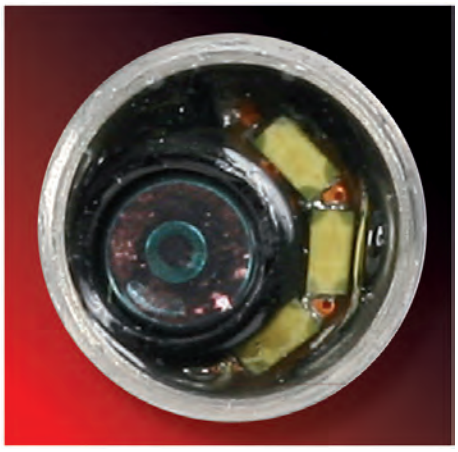
Ø	0,75 m	1 m	2 m	3 m	5 m	10 m	20 m	30 m
3,9 mm	550.5060							
4,5 mm	550.5420							
5,5 mm		550.5020	550.5021	550.5022				

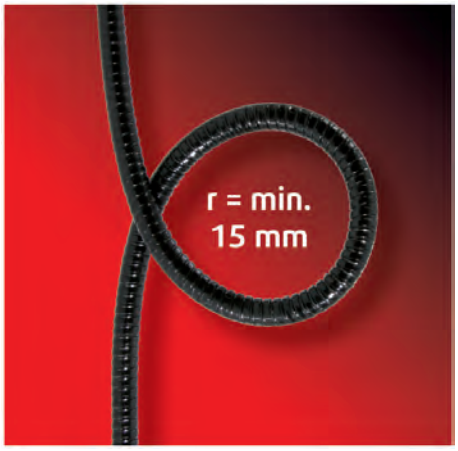
90° front camera probe flexible PVC shaft

Ø	0,75 m	1 m	2 m	3 m	5 m	10 m	20 m	30 m
3,9 mm								
4,5 mm								
5,5 mm		550.5050	550.5051	550.5052	550.5053	550.5054	550.5055	550.5056

90° front camera probe semi rigid spiral shaft

Ø	0,75 m	1 m	2 m	3 m	5 m	10 m	20 m	30 m
3,9 mm	550.5070							
4,5 mm								
5,5 mm		550.5030	550.5031	550.5032				





ULTIMATE*vision* Accessories

Mirror attachment

Ø	70°	90°	110°	70 - 110°
3,9 mm				
4,5 mm	550.4531	550.4532	550.4533	
5,5 mm	550.5011	550.5012	550.5013	
8,5 mm				550.5302

Hook attachments and magnet sleeves

Ø		
3,9 mm		
4,5 mm		
5,5 mm	550.5016	550.5017
8,5 mm	550.5303	550.5304

Alcohol cleaning set

- Suitable for all ULTIMATE*vision* Videoscopes

		g	
550.5009	3 pcs	15	

Accessories:

		g	
550.5003	AV cable, 2m	55g	
550.5004	Mains charger 110V/220V	90g	
550.5008	1 GB SD card	10g	
550.5018	USB cable	22g	

ULTIMATE*vision* System adaptor

- For Basicplus and Wireless probes
- This increases the range of applications of the ULTIMATE BASIC scope
- To use accessories such as mirrors, hooks and magnets

Application range: Upgrading from a 5.5 mm to a 3.9 mm probe would allow inspection of modern diesel vehicles engines and allows upgrading older videoscopes to be compatible with switching or swiveling probes

	L mm	D mm	g	
550.5025	55.0	20.0	30	

PNEUMATIC Composition

Advantages

- Particularly low air consumption
- Cold insolation handle
- Low vibration
- Adjustable air supply
- Long life time
- Supplied incl. pressed air connection

Our pneumatic tools correspond to the demands of the following standards:

Standards 2006/42/EC
EN ISO 12100-1+A1:2009
EN ISO 12100-2+A1:2009
EN ISO 14121-1:2007, EN 792-6+A1:2008
EN ISO 15744:2008, EN ISO 8662-7:1997

The complete pneumatic product range can be found in our general catalogue K11 or on our homepage www.kstools.com

Pneumatic profile

TYPHON power

- The high performance pneumatic tools for the perfect job
- Ergonomic design, perfect weight distribution
- Low vibration for fatigue free working
- Less air consumption
- Low sound level

BOXER power

- The high performance pneumatic tools for the hardest applications
- Ergonomic design, perfect weight distribution
- Low vibration for fatigue free working
- Less air consumption
- Low sound level

Striking mechanisms

Single hammer striking mechanisms

- Traditional approved construction
- Grease lubrication

Pin clutch

- Reliable construction
- Low vibration
- Fast torque progression
- Oil lubrication

Twin hammer striking mechanisms / cluch

- Excellent power to weight ratio
- Low sensitivity to air pressure fluctuations
- Constant impact with continuous torque progression
- Suitable for heavey and light duty
- Grease lubrication
- Industrial striking mechanisms e.g 515.1215

Range of application e.g.:

- Automotive repair and service
- Light duty

- Automotive repair and service
- Light duty

- Automotive repair and service
- Heavy duty

IMPACT WRENCHES

Mini pneumatic impact wrench 407 N•m

- Very quiet thanks to integrated exhaust air hose
- Handy and compact impact driver
- Air exhaust through the handle
- With practical clockwise and anticlockwise switch
- Easy operation
- Low vibration
- Double hammer industrial mechanism
- Long service life
- Cold insulated handle
- Includes 1/4" coupling connector
- Impact resistant composite housing

1/2"

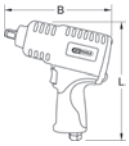
Technical data:

Square drive:	1/2“
Max. tightening torque:	90 - 130 N•m (66 - 96 fb-lbs) 2 = 130 N•m
Max. loosening torque:	407 N•m (300ft-lbs)
No load current:	12000 r.p.m.
Vibration:	3,1 ms²
Noise performance level:	89 dbA
Noise pressure level:	83 dbA
Air consumption:	113 l/min
Operating pressure:	6,3 bar (90 psi)
Min. tube diameter:	3/8“ - 10 mm
Max. screw size:	M13
Connection thread:	1/4“PT

	B mm	L mm	kg	
515.1200	195.0	155.0	1.22	

Pneumatic impact wrench 677 N•m

- With ergonomic soft grip handle
- Air exhaust through the handle
- With practical clockwise and anticlockwise switch
- Easy operation
- 3 stage torque adjustment
- Low vibration
- High performance pin hammer mechanism
- Long service life
- Cold insulated handle
- Includes 1/4" coupling connector
- Light aluminium housing



1/2"

Technical data:

Square drive:	1/2“
Max. tightening torque:	1 = 474 N•m 2 = 609 N•m 3 = 677 N•m
Max. loosening torque:	677 N•m
No load current:	7000 r.p.m.
Vibration:	< 1,13 ms²
Noise performance level:	106.1 dbA
Noise pressure level:	95.4 dbA
Recomended torque:	493 N•m
Air consumption:	128 l/min
Operating pressure:	max. 6,3 bar (90 psi)
Max. screw size:	M16
Min. tube diameter:	3/8“ - 10 mm
Connection thread:	1/4“PT

	B mm	L mm	kg	
515.1290	180.0	187.6	2.50	

Pneumatic impact wrench 810 N•m

- With non slip soft grip handle
- Air exhaust through the handle
- With practical clockwise and anticlockwise switch
- Easy operation
- 3 stage torque adjustment
- Low vibration
- High performance double hammer mechanism
- Long service life
- Cold insulated handle
- Includes 1/4" coupling connector
- Ultra light magnesium housing

1/2"

Technical data:

Square drive:	1/2“
Max. tightening torque:	1 = 444 N•m 2 = 592 N•m 3 = 740 N•m
Max. loosening torque:	740 Nm
No load current:	7500 r.p.m.
Vibration:	< 2,69 ms²
Noise performance level:	104 dbA
Noise pressure level:	88 dbA
Recomended torque:	542 N•m
Air consumption:	128 l/min
Operating pressure:	6.3 bar
Max. screw size:	M 16
Ø Tube	3/8“ - 10 mm
Connection thread:	1/4“PT

	B mm	L mm	kg
515.1215	190.0	205.0	2.86

Pneumatic impact wrench set

- With non slip soft grip handle
- Air exhaust through the handle
- With practical clockwise and anticlockwise switch
- Easy operation
- 3 stage torque adjustment
- Low vibration
- High performance double hammer mechanism
- Long service life
- Cold insulated handle
- Includes 1/4" coupling connector
- In durable plastic storage case
- Ultra light magnesium housing

1/2"

			kg
515.1220	17 pcs	Pneumatic impact wrench set	6.32

1 x		740 Nm
10 x		12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 21 - 22 mm
3 x		17 - 19 - 21 mm
1 x		1/4“
1 x		125 mm
1 x		68 mm

Pneumatic impact wrench 1490 N•m

- With non slip soft grip handle
- Air exhaust through the handle
- With practical clockwise and anticlockwise switch
- Easy operation
- 3 stage torque adjustment
- Low vibration
- High performance double hammer mechanism
- Long service life
- Cold insulated handle
- Includes 3/8" coupling connector
- Ultra light magnesium housing

3/4"

Technical data:

Square drive:	3/4“
Max. tightening torque:	1 = 969 N•m 2 = 1267 N•m 3 = 1490 N•m
Max. loosening torque:	1490 N•m
No load current:	5500 r.p.m.
Vibration:	< 2,64 ms²
Noise performance level:	106.3 dbA
Noise pressure level:	95.3 dbA
Recomended torque:	1084 N•m
Air consumption:	204 l/min
Operating pressure:	6,3 bar (90 psi)
Max. screw size:	M 30
Min. tube diameter:	1/2“ - 19 mm
Connection thread:	3/8“PT

	B mm	L mm	kg	
515.3735	197.0	227.0	5.70	

Pneumatic impact wrench 3/4“, 1,898 Nm

- Air exhaust through the handle (exhaust hose optional)
- One handed switching above the draw-off
- With 3 stages torque control for loosening and tightening
- Low vibration
- Low sound level
- High performance double hammer mechanism
- Drive with mit spring ring, bore for locking pin
- Long service life
- Includes 3/8" coupling connector

3/4"

Technical data:

Square drive:	3/4“
Max. tightening torque:	1627 Nm
Max. loosening torque:	1898 Nm
Vibration:	10,2 ms²
No load current:	5500 r.p.m.
Noise performance level:	84 dbA
Noise pressure level:	90 dbA
Operating pressure:	max. 6,3 bar (90 psi)
Air consumption:	198 l/min
Min. tube diameter:	1/2“ - 13 mm
Max. screw size:	M 27
Connection thread:	3/8“PT

	H mm	L mm	kg	
515.3740	250.0	215.0	3.40	

Accessories:

		g	
515.3741	Exhaust air hose with fastening clamp	390	

Pneumatic impact wrench 1490 N•m

- With non slip soft grip handle
- Air exhaust through the handle
- With practical clockwise and anticlockwise switch
- Easy operation
- 3 stage torque adjustment
- Low vibration
- High performance double hammer mechanism
- Long service life
- Cold insulated handle
- Includes 3/8" coupling connector
- Ultra light magnesium housing

3/8"

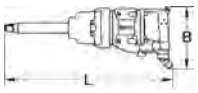
Technical data:

Square drive:	1“
Max. tightening torque:	1 = 969 N•m 2 = 1267 N•m 3 = 1490 N•m
Max. loosening torque:	1490 N•m
No load current:	5500 r.p.m.
Vibration:	< 2,64 ms²
Noise performance level:	106.3 dbA
Noise pressure level:	95.3 dbA
Recomended torque:	1089 N•m
Air consumption:	204 l/min
Operating pressure:	max. 6,3 bar (90 psi)
Max. screw size:	M 30
Min. tube diameter:	1/2“ - 19 mm
Connection thread:	3/8“PT

	B mm	L mm	kg
515.3750	230.0	227.0	5.75

Pneumatic impact wrench 2,441 N•m

- With non-slip handle
- Air exhaust through the handle sidewards
- With 3 stages torque control for loosening and tightening
- Draw-off is integrated in the handle
- Low vibration
- Low sound level
- With rubber housing
- High performance double hammer mechanism
- With bore for locking pin
- Long service life
- Includes 1/2" coupling connector
- Ultra light housing from aluminium



1"

Technical data:

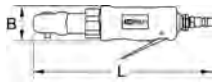
Square drive:	1“
Max. tightening torque:	2033 Nm
Max. loosening torque:	2441 Nm
Vibration:	> 12,5 ms²
No load current:	6000 r.p.m.
Noise performance level:	86 dbA
Noise pressure level:	96 dbA
Operating pressure:	max. 6,3 bar (90 psi)
Air consumption:	282 l/min
Min. tube diameter:	1/2“ - 13 mm
Max. screw size:	M 38
Connection thread:	1/2“PT

	B mm	L mm	kg
515.3745	170.0	467.0	7.30

REVERSIBLE RATCHET

Mini pneumatic reversing ratchet 40,6 N•m

- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- Air exhaust through the handle rear end
- With ratchet head reversing lever (clockwise and anticlockwise)
- Easy operation
- Triple teeth
- With stepless speed regulation
- Number of revolutions adjustable through regulating screw
- Vibration dampened
- Cold insulated handle
- Includes 1/4" coupling connector
- Ultra light robust housing special plastic



1/4"

Technical data:

Square drive:	1/4“
Max. tightening torque:	40,6 N•m
Max. loosening torque:	40,6 N•m
No load current:	250 r.p.m.
Vibration:	< 4,4 ms²
Noise performance level:	97 dbA
Noise pressure level:	87 dbA
Recomended torque:	30 N•m
Air consumption:	90 l/min
Operating pressure:	max. 6,3 bar (90 psi)
Min. tube diameter:	1/4“ - 6,35 mm
Connection thread:	1/4“PT

	B mm	L mm	kg
515.3080	41.0	180.0	0.60

Pneumatic impact wrench 2169 N•m

- With non slip handle
- Air exhaust through the handle rear end
- With practical clockwise and anticlockwise switch
- Easy operation
- 3 stage torque adjustment
- Low vibration
- High performance double hammer mechanism
- Long service life
- Cold insulated handle
- Includes 1/2" coupling connector
- Ultra light magnesium housing

1"

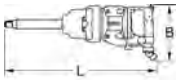
Technical data:

Square drive:	1“
Max. tightening torque:	1 = 651 N•m 2 = 1085 N•m 3 = 1518 N•m 4 = 2169 N•m
Max. loosening torque:	2169 N•m
No load current:	4500 r.p.m.
Vibration:	< 3,0 ms²
Noise performance level:	123.6 dbA
Noise pressure level:	111.3 dbA
Recomended torque:	1590 N•m
Air consumption:	266 l/min
Operating pressure:	max. 6,3 bar (90 psi)
Max. screw size:	M 33
Min. tube diameter:	3/4“ - 19 mm
Connection thread:	1/2“PT

	B mm	L mm	kg
515.3770	230.0	334.0	9.74

Pneumatic impact wrench 3388 N•m

- With non slip handle
- Air exhaust through the handle rear end
- With practical clockwise and anticlockwise switch
- Easy operation
- 4 stage torque adjustment
- Low vibration
- High performance double hammer mechanism
- Long service life
- Includes 1/2" coupling connector
- Ultra light magnesium housing



1"

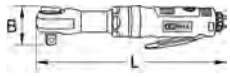
Technical data:

Square drive:	1“
Max. tightening torque:	1 = 1016 N•m 2 = 1694 N•m 3 = 2372 N•m 4 = 3388 N•m
Max. loosening torque:	3388 N•m
No load current:	4200 r.p.m.
Vibration:	< 3,32 ms²
Noise performance level:	114.7 dbA
Noise pressure level:	103.8 dbA
Recomended torque:	2481 N•m
Air consumption:	283 l/min
Operating pressure:	max. 6,3 bar (90 psi)
Max. screw size:	M 50
Min. tube diameter:	3/4“ - 19 mm
Connection thread:	1/2“PT

	B mm	L mm	kg
515.3765	230.0	630.0	16.20

Pneumatic reversing ratchet 68 N•m

- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- Air exhaust through the handle rear end
- With ratchet head reversing lever (clockwise and anticlockwise)
- Easy operation
- Triple teeth
- With stepless speed regulation
- Number of revolutions adjustable through regulating screw
- Vibration dampened
- Cold insulated handle
- Includes 1/4" coupling connector
- Ultra light robust housing from special plastic



1/2"

Technical data:

Square drive:	1/2“
Max. tightening torque:	68 N•m
Max. loosening torque:	68 N•m
No load current:	175 r.p.m.
Vibration:	< 1,0 ms²
Noise performance level:	97 dbA
Noise pressure level:	85 dbA
Air consumption:	85 l/min
Recomended torque:	50 Nm
Operating pressure:	max. 6,3 bar (90 psi)
Min. tube diameter:	3/8“ - 10 mm
Connection thread:	1/4“PT

	B mm	L mm	kg
515.3090	52.0	265.0	1.40

DRILLS

Pneumatic pistol grip drill

- Low rotation speed
- Non slip soft grip handle
- Ultra light robust housing from special plastic
- Air exhaust through the handle
- Quick release chuck capacity 0 - 13 mm
- Practical clockwise and anticlockwise switch
- Suitable for continuous duty
- Ideally suited for working with hard to machine materials
- For spot weld drills, polishing and grinding wheels, erasing rubbers etc.
- Very substaintial guide
- Stepless speed regulation
- Vibration dampened
- Handle for 2 hand operation 360° revolving and lockable
- Cold insulated handle
- Includes 1/4" coupling connector

Technical data:

Chuck capacity:	1,5 - 13 mm
Chuck thread reception:	3/8“ x 24 Gang
Capacity:	330 Watt
No load current:	450 r.p.m.
Vibration:	< 0,15 ms²
Noise performance level:	95 dbA
Noise pressure level:	87 dbA
Air consumption:	113 l/min
Operating pressure:	max. 6,3 bar (90 psi)
Min. tube diameter:	3/8“ - 10 mm
Connection thread:	1/4“NPT

	B mm	D1 mm	L1 mm	kg	
515.3035	200.0	43.0	230.0	1.60	

Pneumatic angle drill

- Angled version
- With planetary gearing
- Air exhaust through the handle rear end
- For one handed operation with ergonomic design
- Not reversing
- With gear rim drill chuck width 0 - 10 mm
- For hard to reach places
- Ideally suited for car body work
- With stepless speed regulation
- Number of revolutions adjustable through regulating screw
- Vibration dampened through double bearing guides
- Cold insulated handle
- Includes 1/4" coupling connector
- Ultra light robust housing from special plastic

Technical data:

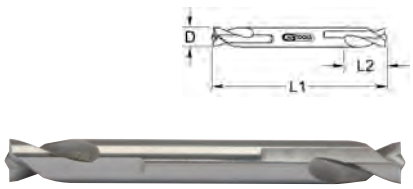
Chuck capacity:	1 - 10
Chuck thread reception:	3/8“ x 24 UNF
Capacity:	330 Watt
No load current:	1800 r.p.m.
Vibration:	< 0,15 ms²
Noise performance level:	95 dbA
Noise pressure level:	87 dbA
Air consumption:	85 l/min
Operating pressure:	6,3 bar (90 psi)
Min. tube diameter:	3/8“ - 10 mm
Connection thread:	1/4“NPT

	B mm	L1 mm	L2 mm	kg	
515.1265	40.0	200.0	100.0	1.15	

HSSE Double ended spot weld drill

- Right hand cutting
- Relieved cone has a ground point
- Cutting edge has thinning point
- 135° pointed angle
- Double ended usage
- Extra short and durable
- For thin walled materials
- Surface without discolouration
- High performance steel

Ideally suitable in steel, cast steel and high and low alloyed steel up to 900 N/mm² tensile, bronze, brass, brushed aluminum alloy, graphite, nickel silver, sintered iron, pressure-, malleable- and cast iron



	D mm	L1 mm	L2 mm	Content		
332.0908	8.0	70.0	16.3	1	20	

HSS Double ended spot weld drill set

- Stackable for storage
- With integral clasp
- High strength hinge
- Right hand cutting
- Relieved cone has a ground point
- Cutting edge has thinning point
- 135° pointed angle
- Double ended usage
- Extra short and durable
- For thin walled materials
- Surface without discolouration
- High performance steel

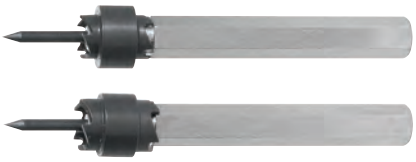
Ideally suitable in steel, cast steel and high and low alloyed steel up to 900 N/mm² tensile, bronze, brass, brushed aluminum alloy, graphite, nickel silver, sintered iron, pressure-, malleable- and cast iron

332.0938	3 pcs	3 x 332.0908	20	

HSS Spot weld cutter set

- Right hand cutting
- Interchangeable crowns
- Milling machine depth adjustable
- For efficient and fast working
- For loosening of spot welds
- No deformation of the sheet metal
- Special high performance steel

Ideally suitable with compressed air drill, electric drill and rechargeable battery drill.

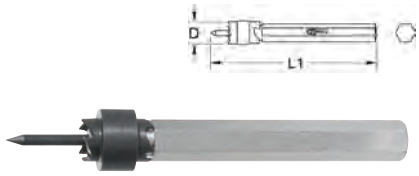


332.0950	2 pcs	8 - 10 mm	100

HSS Spot weld cutter

- Right hand cutting
- Interchangeable crowns
- Milling machine depth adjustable
- For efficient and fast working
- For loosening of spot welds
- No deformation of the sheet metal
- Special high performance steel

Ideally suitable with compressed air drill, electric drill and rechargeable battery drill.

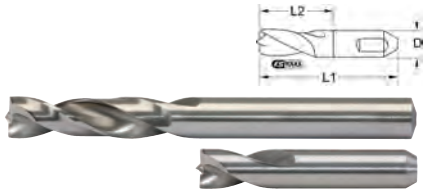


	D mm	D	L mm	Replacement crowns	Center point	Content		
332.0951	8.0	5/16“	72.0	332.0952	332.0955	1	30	
332.0953	10.0	3/8“	72.0	332.0954	332.0955	1	30	

HSSE Spot weld drill

- Right hand cutting
- Centre tip has a ground point
- Accurate polished
- For burr free drilling without using a centre punch
- For the drilling of welding points
- Surface without discolouration
- High performance steel

Ideally suited in a hand drilling machine.
For drilling of plastic sheet, copper, zinc, aluminum, brass and steel sheet.

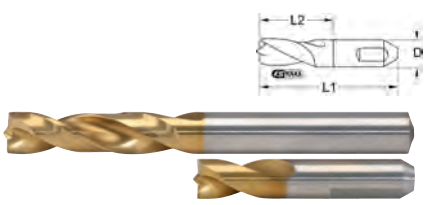


	D mm	L1 mm	L2 mm	Content		
332.0106	6.0	70.0	25.0	1	10	
332.0108	8.0	80.0	30.0	1	20	
332.0110	10.0	90.0	35.0	1	40	

HSSE TIN Spot weld drill

- Right hand cutting
- Centre tip has a ground point
- Accurate polished
- For burr free drilling without using a centre punch
- For the drilling of welding points
- TIN coated surface
- High performance steel

Ideally suited in a hand drilling machine.
For drilling of plastic sheet, copper, zinc, aluminum, brass and steel sheet.

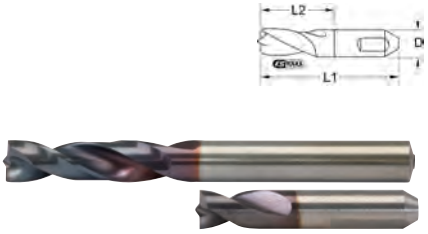


	D mm	L1 mm	L2 mm	Content		
332.0206	6.0	70.0	25.0	1	10	
332.0208	8.0	80.0	30.0	1	20	
332.0210	10.0	90.0	35.0	1	40	

HSSE TICN Spot weld drill

- Right hand cutting
- Centre tip has a ground point
- Accurate polished
- For burr free drilling without using a centre punch
- For the drilling of welding points
- TICN coated surface
- High performance steel

Ideally suited in a hand drilling machine.
For drilling of plastic sheet, copper, zinc, aluminum, brass and steel sheet.



	D mm	L1 mm	L2 mm	Content	g	
332.0308	8.0	80.0	30.0	1	20	
332.0310	10.0	90.0	35.0	1	40	

Fastdrill pneumatic spot weld drill set

- Special gearbox for high torque
- With non slip soft grip handle
- Air exhaust through the handle
- Suitable for continuous duty
- Ideally suited for internal and external spot welds
- For carbide spot weld drills
- Very substaintial guide
- With revolving and removable frame on the fixation on the object
- Feed achievement through Pneumatic-cylinder
- With stepless speed regulation
- Cold insulated handle
- Includes 1/4" coupling connector
- Robust machined housing

Technical data:

Receiver in mm	8 mm
Capacity:	280 Watt
No load current:	1000 r.p.m.
Vibration:	< 0,233 ms²
Noise performance level:	95.4 dbA
Noise pressure level:	82.4 dbA
Air consumption:	340 l/min
Operating pressure:	6 bar
Min. tube diameter:	3/8“ - 10 mm
Connection thread:	1/4“PT

			kg	
515.1310	3 pcs	Fastdrill pneumatic spot weld drill set	2.40	

consists of:

		kg	
515.1311	Fastdrill pneumatic spot weld drill	1.85	
515.1312	Bracket, small, for Fastdrill	0.55	
515.1314	T-handle wrench	0.04	

Accessories:

		kg	
515.1313	Bracket, big, for Fastdrill	0.80	

Bracket, small, for Fastdrill

- As complement to Fastdrill 515.1310
- Large reach of the bracket for deeper welding point
- Bracket can be replaced without the use of tools
- Can be rotated on the machine shaft

	H mm	L mm	g	
515.1312	55.0	150.0	550	

Bracket, big, for Fastdrill

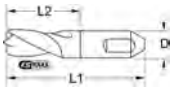
- As complement to Fastdrill 515.1310
- Large reach of the bracket for deeper welding point
- Bracket can be replaced without the use of tools
- Can be rotated on the machine shaft

	H mm	L mm	g	
515.1313	130.0	206.0	800	

HSS Spot weld cutter

- Right hand cutting
- Centre tip has a ground point
- Accurate polished
- For burr free drilling without using a centre punch
- For the drilling of welding points
- TICN coated surface
- High performance steel

Ideally suited in a compressed air drill and vario milling machine.

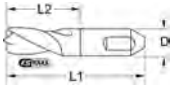


	D mm	L1 mm	L2 mm	Content	g	
332.0408	6.5	44.0	15.0	1	10	
332.0708	8.0	44.0	15.0	1	10	

HSSE TiN Spot weld cutter

- Right hand cutting
- Centre tip has a ground point
- Accurate polished
- For burr free drilling without using a centre punch
- For the drilling of welding points
- TIN coated surface
- High performance steel

Ideally suited in a compressed air drill and vario milling machine.

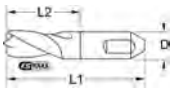


	D mm	L1 mm	L2 mm	Content	g	
332.0508	6.5	44.0	15.0	1	10	
332.0808	8.0	44.0	15.0	1	10	

HSSE TiN Spot weld cutter

- Right hand cutting
- Centre tip has a ground point
- Accurate polished
- For burr free drilling without using a centre punch
- For the drilling of welding points
- TIN coated surface
- High strength steel

Ideally suited in a compressed air drill and vario milling machine

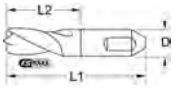


	D mm	L1 mm	L2 mm	Content	g	
332.0809	8.0	44.0	23.0	10	100	

HSSE TiCN Spot weld cutter

- Right hand cutting
- Centre tip has a ground point
- Accurate polished
- For burr free drilling without using a centre punch
- For the drilling of welding points
- TICN coated surface
- High performance steel

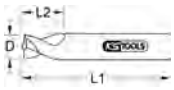
Ideally suited in a compressed air drill and vario milling machine.



	D mm	L1 mm	L2 mm	Content	g	
332.0608	8.0	44.0	15.0	1	10	

Carbide spot weld drill

- Right hand cutting
- Highest stability under load
- Double edged
- Welded carbide head
- Especially temperature resistance up to max. 1100°C
- High performance carbide
- Suitable for high strength car body panels



	D mm	L1 mm	L2 mm	Content	g	
515.1305	8.0	44.0	11.0	1	22	
515.1308	10.0	44.0	11.0	1	22	

GRINDING TOOLS

Pneumatic pencil grinder, 70.000 rpm

- Straight design
- Air exhaust through the used air tube
- Ideal for carbide, corundum and tungsten carbide burrs
- For working in hard to access areas
- Very handy and compact construction
- Suitable for different repair works
- With stepless speed regulation
- Vibration dampened
- Cold insulated handle
- Includes 1/4" coupling connector and chuck wrench
- Aluminium housing

Technical data:

Tube length:	1 m
Tube diameter:	5 mm
Chuck capacity:	3 mm
Capacity:	150 KW
No load current:	70000 r.p.m.
Vibration:	< 2,5 ms²
Noise performance level:	86 dbA
Noise pressure level:	74 dbA
Air consumption:	140 l/min
Operating pressure:	max. 6,3 bar (90 psi)
Min. tube diameter:	1/4“ - 6,35 mm
Connection thread:	1/4“PT

	D mm	L mm	g
515.3198	16.0	132.0	330

Mini pneumatic die grinder, straight

- Straight design
- Air exhaust through the handle rear end
- For one handed operation with ergonomic design
- For HM mills, mini cutting discs and grinding heads with a 6 mm shaft
- Ideal for grinding, polishing and engraving work
- For working in hard to access areas
- Very handy and compact construction
- Secure operation lever with locking device
- With stepless speed regulation
- Number of revolutions adjustable through regulating screw
- Vibration dampened
- Cold insulated handle
- Includes 1/4" coupling connector
- Ultra light robust housing from special plastic

Technical data:

Chuck:	6 mm
Capacity:	250 Watt
No load current:	25000 r.p.m.
Vibration:	< 0,1 ms²
Noise performance level:	95 dbA
Noise pressure level:	82 dbA
Air consumption:	85 l/min
Operating pressure:	max. 6,3 bar (90 psi)
Min. tube diameter:	3/8“ - 10 mm
Connection thread:	1/4“PT

	B mm	L mm	g
515.3005	365.0	155.0	920

Pneumatic angled die grinder

- 90° offset execution
- Air exhaust through the handle rear end
- For one handed operation with ergonomic design
- For HM mills, mini cutting discs and grinding heads with a 6 mm shaft
- Ideal for grinding, polishing and engraving work
- For working in hard to access areas
- Secure operation lever with locking device
- With stepless speed regulation
- Number of revolutions adjustable through regulating screw
- Vibration dampened
- Cold insulated handle
- Includes 1/4" coupling connector
- Ultra light robust housing from special plastic
- Grease nipple for maintenance on striking mechanism ensures long life (KS grease gun 980.1070)

Technical data:

Angle size:	80 mm
Chuck:	6 mm
Capacity:	330 Watt
No load current:	18000 r.p.m.
Vibration:	< 0,1 ms²
Noise performance level:	95 dbA
Noise pressure level:	82 dbA
Air consumption:	85 l/min
Operating pressure:	max. 6,3 bar (90 psi)
Min. tube diameter:	3/8“ - 10 mm
Connection thread:	1/4“PT

	B mm	L mm	kg
515.3020	80.0	180.0	0.92

HM milling burr set in steel case

- High strength hinge
- 3 mm shank diameter
- Highest cutting edge stability
- Improved cutting performance due to staggered tooth system
- Surface without discolouration
- High performances steel with hard metal

To that filleted, edges break, plasters, welded seams and area preparation.
Usably in high alloyed, steel rustproof, acid and heat resistant, cast and plastics.

			g
515.3207	7 pcs	HM milling burr set in steel case	590
1 x		3 mm	
1 x		3 mm	
1 x		3 mm	
1 x		3 mm	
1 x		3 mm	
1 x		3 mm	
1 x		3 mm	

Pneumatic die grinder

- Straight design
- Air exhaust through the handle rear end
- For one handed operation with ergonomic design
- For HM mills, mini cutting discs and grinding heads with a 6 mm shaft
- Ideal for grinding, polishing and engraving work
- For working in hard to access areas
- Very handy and compact construction
- Secure operation lever with locking device
- Number of revolutions adjustable through regulating screw
- Vibration dampened
- Cold insulated handle
- Includes 1/4" coupling connector
- Ultra light robust housing special plastic

Technical data:

Chuck:	6 mm
Capacity:	330 Watt
No load current:	21000 r.p.m.
Vibration:	< 0,1 ms²
Noise performance level:	95 dbA
Noise pressure level:	82 dbA
Air consumption:	85 l/min
Operating pressure:	6,3 bar (90 psi)
Min. tube diameter:	3/8“ - 10 mm
Connection thread:	1/4“PT

	B mm	L mm	g
515.3010	44.0	175.0	920

Long shaft die grinder

- Straight design
- Air exhaust through the handle rear end
- For one handed operation with ergonomic design
- For HM mills, mini cutting discs and grinding heads with a 6 mm shaft
- Ideal for grinding, polishing and engraving work
- For working in deep lying areas
- Secure operation lever with locking device
- With stepless speed regulation
- Number of revolutions adjustable through regulating screw
- Vibration dampened
- Cold insulated handle
- Includes 1/4" coupling connector
- Ultra light robust housing special plastic

Technical data:

Chuck:	6 mm
Capacity:	330 Watt
No load current:	22000 r.p.m.
Vibration:	< 0,1 ms²
Noise performance level:	95 dbA
Noise pressure level:	82 dbA
Air consumption:	85 l/min
Operating pressure:	max. 6,3 bar (90 psi)
Min. tube diameter:	3/8“ - 10 mm
Connection thread:	1/4“PT

	B mm	L mm	kg
515.3015	26.5	280.0	1.08

Long shaft die grinder set

- With 25x mini grinding wheels and mounting mandrel
- Straight design
- Air exhaust through the handle rear end
- For one handed operation with ergonomic design
- For HM mills, mini cutting discs and grindstone with 6 mm shaft
- Ideal for grinding, polishing and engraving work
- For working in deep lying areas
- Secure operation lever with locking device
- With stepless speed regulation
- Number of revolutions adjustable through regulating screw
- Vibration dampened
- Cold insulated handle
- Includes 1/4" coupling connector
- Ultra light robust housing from special plastic

Technical data:

Chuck:	6 mm
Capacity:	330 Watt
No load current:	22000 r.p.m.
Vibration:	< 0,1 ms²
Noise performance level:	95 dbA
Noise pressure level:	82 dbA
Air consumption:	85 l/min
Operating pressure:	max. 6,3 bar (90 psi)
Min. tube diameter:	3/8“ - 10 mm
Connection thread:	1/4“PT

	B mm	L mm	kg	
515.3016	26.5	280.0	1.25	

consists of:

		kg	
515.3015	Long shaft die grinder, 22,000 r.p.m.	1.08	
337.2005	High performances thin disk,1mm,pack of 25	0.10	
515.3017	Clamping mandrel M6 f. thin cutting disk	0.07	

HM cylinder rotary burr form A with spur gearing

- Highest cutting edge stability
- Improved cutting performance due to staggered tooth system
- With face gearing
- Suitable for a wide range of applications
- Surface without discolouration
- High performances steel with hard metal

To that filleted, edges break, plasters, welded seams and area preparation.
Usably in high alloyed, steel rustproof, acid and heat resistant, cast and plastics.

	D1 mm	D2 mm	L1 mm	L2 mm	Content	g	
515.3231	3.0	3.0	38.0	14.0	1	3	
515.3232	6.0	6.0	58.0	18.0	1	16	
515.3233	8.0	6.0	60.0	18.0	1	21	
515.3234	10.0	6.0	60.0	20.0	1	30	
515.3235	12.0	6.0	65.0	25.0	1	57	
515.3236	16.0	6.0	65.0	25.0	1	81	

HM round arch rotary burr form F

- Highest cutting edge stability
- Improved cutting performance due to staggered tooth system
- Suitable for a wide range of applications
- Surface without discolouration
- High performances steel with hard metal

To that filleted, edges break, plasters, welded seams and area preparation.
Usably in high alloyed, steel rustproof, acid and heat resistant, cast and plastics.

	D1 mm	D2 mm	L1 mm	L2 mm	Content	g	
515.3261	3.0	3.0	38.0	13.0	1	3	
515.3262	6.0	6.0	58.0	18.0	1	15	
515.3263	8.0	6.0	60.0	18.0	1	20	
515.3264	10.0	6.0	60.0	20.0	1	24	
515.3265	12.0	6.0	65.0	25.0	1	32	
515.3266	16.0	6.0	70.0	25.0	1	52	

HM round milling rotary burr form C

- Highest cutting edge stability
- Improved cutting performance due to staggered tooth system
- Suitable for a wide range of applications
- Surface without discolouration
- High performances steel with hard metal

To that filleted, edges break, plasters, welded seams and area preparation.
Usably in high alloyed, steel rustproof, acid and heat resistant, cast and plastics.

	D1 mm	D2 mm	L1 mm	L2 mm	Content	g	
515.3241	3.0	3.0	38.0	14.0	1	3	
515.3242	6.0	6.0	58.0	18.0	1	16	
515.3243	8.0	6.0	60.0	18.0	1	22	
515.3244	10.0	6.0	60.0	20.0	1	28	
515.3245	12.0	6.0	65.0	25.0	1	40	
515.3246	16.0	6.0	65.0	25.0	1	60	

HM tip cone milling burr form M

- Highest cutting edge stability
- Improved cutting performance due to staggered tooth system
- Suitable for a wide range of applications
- Surface without discolouration
- High performances steel with hard metal

To that filleted, edges break, plasters, welded seams and area preparation.
Usably in high alloyed, steel rustproof, acid and heat resistant, cast and plastics.

	D1 mm	D2 mm	L1 mm	L2 mm	Content	g	
515.3271	3.0	3.0	38.0	11.0	1	3	
515.3272	6.0	6.0	58.0	18.0	1	12	
515.3273	8.0	6.0	60.0	18.0	1	15	
515.3274	10.0	6.0	60.0	20.0	1	18	
515.3275	12.0	6.0	65.0	25.0	1	26	
515.3276	16.0	6.0	70.0	25.0	1	37	

HM cylinder rotary burr form A without spur gearing

- Highest cutting edge stability
- Improved cutting performance due to staggered tooth system
- Without spur gearing
- Surface without discolouration
- High performances steel with hard metal

To that filleted, edges break, plasters, welded seams and area preparation.
Usably in high alloyed, steel rustproof, acid and heat resistant, cast and plastics.

	D1 mm	D2 mm	L1 mm	L2 mm	Content	g	
515.3221	3.0	3.0	38.0	14.0	1	3	
515.3222	6.0	6.0	58.0	18.0	1	16	
515.3223	8.0	6.0	60.0	18.0	1	21	
515.3224	10.0	6.0	60.0	20.0	1	30	
515.3225	12.0	6.0	65.0	25.0	1	57	
515.3226	16.0	6.0	65.0	25.0	1	81	

HM pointed arch rotary burr form G

- Highest cutting edge stability
- Improved cutting performance due to staggered tooth system
- Suitable for a wide range of applications
- Surface without discolouration
- High performances steel with hard metal

To that filleted, edges break, plasters, welded seams and area preparation.
Usably in high alloyed, steel rustproof, acid and heat resistant, cast and plastics.

	D1 mm	D2 mm	L1 mm	L2 mm	Content	g	
515.3251	3.0	3.0	38.0	13.0	1	3	
515.3252	6.0	6.0	58.0	18.0	1	13	
515.3253	8.0	6.0	60.0	18.0	1	19	
515.3254	10.0	6.0	60.0	20.0	1	22	
515.3255	12.0	6.0	65.0	25.0	1	33	
515.3256	16.0	6.0	65.0	25.0	1	47	

HM ball milling burr form D

- Highest cutting edge stability
- Improved cutting performance due to staggered tooth system
- Suitable for a wide range of applications
- Surface without discolouration
- High performances steel with hard metal

To that filleted, edges break, plasters, welded seams and area preparation.
Usably in high alloyed, steel rustproof, acid and heat resistant, cast and plastics.

	D1 mm	D2 mm	L1 mm	L2 mm	Content	g	
515.3281	3.0	3.0	38.0	2.7	1	3	
515.3282	6.0	6.0	56.0	5.0	1	11	
515.3283	8.0	6.0	47.0	7.0	1	12	
515.3284	10.0	6.0	49.0	9.0	1	16	
515.3285	12.0	6.0	51.0	11.0	1	24	
515.3286	16.0	6.0	54.0	15.0	1	59	

HM milling burr set in steel case

- High strength hinge
- 6 mm shank diameter
- Highest cutting edge stability
- Improved cutting performance due to staggered tooth system
- Surface without discolouration
- High performances steel with hard metal

To that filleted, edges break, plasters, welded seams and area preparation.
Usably in high alloyed, steel rustproof, acid and heat resistant, cast and plastics.

515.3203	3 pcs	HM milling burr set in steel case	590

1 x		10 mm
1 x		10 mm
1 x		10 mm

HM milling burr set in steel case

- High strength hinge
- 6 mm shank diameter
- Highest cutting edge stability
- Improved cutting performance due to staggered tooth system
- Surface without discolouration
- High performances steel with hard metal

To that filleted, edges break, plasters, welded seams and area preparation.
Usably in high alloyed, steel rustproof, acid and heat resistant, cast and plastics.

515.3210	10 pcs	HM milling burr set in steel case	590

2 x		10 - 12 mm
2 x		10 - 12 mm
2 x		10 - 12 mm
2 x		10 - 12 mm
1 x		12 mm
1 x		12 mm

Milling burr set

- Minimal material adhesion
- Long life time
- Big removal rates and high cutting performance
- For cutting speed up to max 1100 m/min (max. speed 16.000 - 30.000 r.p.m.)
- Smooth running

To that filleted, edges break, plasters, welded seams and area preparation

Suitable for Aluminum alloys, hard Aluminum alloys (high SI portion), brass, copper, zinc, bronze, titanium, fiber-reinforced plastics GFK/CFK, thermoplastics, hard rubber

515.3290	3 pcs	Milling burr set	240

consists of:

		H mm	
515.3291	Milling burr, round cone design, long	30.0	22
515.3293	Cylinder rotary burr with spur gearing	25.0	35
515.3294	Ball milling burr	10.0	17

Accessories:

		H mm	
515.3293	Cylinder rotary burr with spur gearing	25.0	35
515.3295	Milling burr, round cone design, short	25.0	25
515.3296	Cylinder rotary burr	25.0	35

HM milling burr set in plastic case

- Stackable for storage
- With integral clasp
- High strength hinge
- 6 mm shank diameter
- Highest cutting edge stability
- Improved cutting performance due to staggered tooth system
- Surface without discolouration
- High performances steel with hard metal

To that filleted, edges break, plasters, welded seams and area preparation.
Usably in high alloyed, steel rustproof, acid and heat resistant, cast and plastics.

515.3220	10 pcs	HM milling burr set in plastic case	590

2 x		10 - 12 mm
2 x		10 - 12 mm
2 x		10 - 12 mm
2 x		10 - 12 mm
1 x		12 mm
1 x		12 mm

Steel wire jar brush 0,3 mm

- With 6 mm mandril
- To enable with high rotary speed
- Long durability through compact border
- For use with drill machine
- For surface preparation
- Crimped steel wire

	RPM max	A mm	D1 mm	D2 mm	H mm	L mm	
340.0001	8000	10.0	38.0	6.0	20.0	55.0	50
340.0002	10500	10.0	50.0	6.0	20.0	70.0	60
340.0003	4500	10.0	63.0	6.0	20.0	88.0	70
340.0004	4500	15.0	75.0	6.0	25.0	105.0	80
340.0005	4500	15.0	80.0	6.0	25.0	112.0	90

Rust free steel jar brush 0,3 mm

- With 6 mm mandril
- To enable with high rotary speed
- Long durability through compact border
- For use with drill machine
- For surface preparation
- Curled and rust free steel wire

	RPM max	A mm	D1 mm	D2 mm	H mm	L mm	
340.0011	8000	10.0	38.0	6.0	20.0	55.0	50
340.0012	10500	10.0	50.0	6.0	20.0	70.0	60
340.0013	4500	10.0	63.0	6.0	20.0	88.0	70
340.0014	4500	15.0	75.0	6.0	25.0	105.0	80
340.0015	4500	15.0	80.0	6.0	25.0	112.0	90

Steel wire brush 0,3 mm

- With 6 mm mandril
- For use with drill machine
- For difficult to access areas
- For surface preparation
- Crimped steel wire

	RPM max	D1 mm	D2 mm	D3 mm	H mm	L mm	
340.0016	20000	17.0	16.0	6.0	22.0	65.0	30
340.0017	18000	23.0	22.0	6.0	25.0	68.0	40
340.0018	18000	30.0	29.0	6.0	25.0	68.0	50

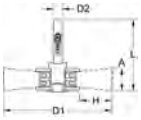
Paint brush steel wire brush 0,5 mm

- With 6 mm mandril
- For use with drill machine
- For difficult to access areas
- For surface preparation
- Crimped steel wire

	RPM max	D1 mm	D2 mm	D3 mm	H mm	L mm	g
340.0019	20000	17.0	16.0	6.0	22.0	65.0	30
340.0020	18000	23.0	22.0	6.0	25.0	68.0	40
340.0021	18000	30.0	29.0	6.0	25.0	68.0	40

Steel wire brush disc 0,3 mm

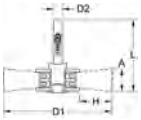
- With 6 mm mandril
- Especially longlife industry version
- For use with drill machine
- For surface preparation
- Curled steel wire



	RPM max	A mm	D1 mm	D2 mm	H mm	L mm	g
340.0028	20000	9.0	30.0	6.0	6.0	45.0	40
340.0029	15000	14.0	50.0	6.0	12.0	45.0	40
340.0030	15000	14.0	60.0	6.0	17.0	45.0	60
340.0031	15000	16.0	70.0	6.0	19.0	45.0	80
340.0032	15000	18.0	80.0	6.0	20.0	45.0	100

Rust free steel wire brush disc 0,3 mm

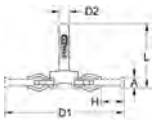
- With 6 mm mandril
- Especially longlife industry version
- For use with drill machine
- For surface preparation
- Curled and rust free steel wire



	RPM max	A mm	D1 mm	D2 mm	H mm	L mm	g
340.0033	20000	9.0	30.0	6.0	6.0	45.0	40
340.0034	15000	14.0	50.0	6.0	12.0	45.0	40
340.0035	15000	14.0	60.0	6.0	17.0	45.0	60
340.0036	15000	16.0	70.0	6.0	19.0	45.0	80
340.0037	15000	18.0	80.0	6.0	20.0	45.0	100

Steel wire circular brush 0,3 mm

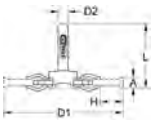
- Braided design
- With 12 mm mandril
- Especially longlife industry version
- For use in with drill machine
- For removing of underbody coating
- For surface preparation
- Flat steel wire



	RPM max	A mm	D1 mm	D2 mm	H mm	L mm	g
340.0038	25000	12.0	75.0	6.0	15.0	43.0	100

Steel wire circular brush 0,5 mm

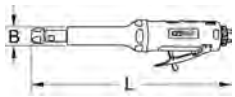
- Braided design
- With 12 mm mandril
- Especially longlife industry version
- For use in with drill machine
- For removing of underbody coating
- For surface preparation
- Flat steel wire



	RPM max	A mm	D1 mm	D2 mm	H mm	L mm	g
340.0039	25000	12.0	75.0	6.0	15.0	43.0	100

Pneumatic reciprocating saw

- Light but sturdy saw for most vehicle body operations
- Versatile application of vehicle body / sheet metal working / plastics and composite materials
- Saw operates extremely quietly / including exhaust air hose
- Precise working possible even with tight sawing radii
- Adjustable bracket for cutting depth adjustment
- Powerful, suitable also for double wall sheet metal work
- Secure operation lever with locking device
- Vibration dampened
- Gentle on user and machine
- Including coupling plug 7.2 mm and 1 x sheet 24 teeth
- Aluminium housing with powder coating
- Meets the requirements of Vibration Directive 2002/44/EC of July 2002



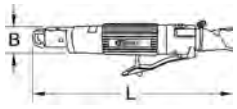
Technical data:

Stroke:	10 mm
Cutting strokes:	10,000 strokes/min
Vibration:	< 3,0 ms²
Noise pressure level:	80.0 dbA
Air consumption:	48 l/min
Operating pressure:	6,3 bar (90 psi)
Min. tube diameter:	3/8“ - 10 mm
Connection thread:	1/4“PT

	B mm	L mm		kg
515.3200	38.0	215.0	129.3740-46	0.55

Pneumatic reciprocating bodywork saw, low vibration

- Air exhaust through the used air tube to the rear
- For one handed operation with ergonomic design
- For works in car body panels, beams and profile
- Secure operation lever with locking device
- Suitable for small sawing radius
- Stepless speed regulation
- Number of revolutions adjustable through regulating screw
- Vibration dampened
- Cold insulated handle
- Includes 1/4" coupling connector
- Robust metal housing



Technical data:

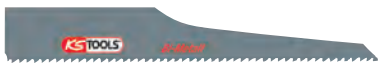
Stroke:	10 mm
Cutting strokes:	5760 strokes/min
Vibration:	< 9,1 ms²
Noise pressure level:	69.2 dbA
Noise performance level:	81.0 dbA
Air consumption:	196 l/min
Operating pressure:	max. 6,3 bar (90 psi)
Min. tube diameter:	3/8“ - 10 mm
Connection thread:	1/4“PT

	B mm	L mm		kg
515.3000	45.0	790.0	129.3740-46	0.80

Jigsaw blades

- Flexible and shatter proof
- Suitable for:
- Non ferrous metal and stainless steel
- Steel sheet and car body panels
- Compression moulded material and formica

Suitable for: Ober, KS, Pneutec, CP, KS 515.3000 und 515.3200



	No. teeth	TPI	D mm	L mm	Content	g
129.3740	80	32	1.0	100.0	5	30
129.3742	60	24	1.0	100.0	5	30
129.3744	45	18	1.0	100.0	5	30
129.3746	35	14	2.0	100.0	5	30

Jigsaw blades

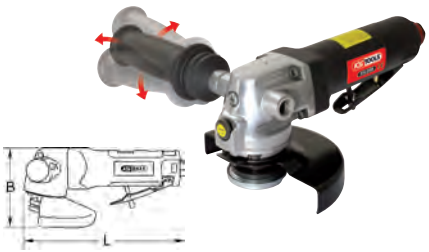
- Flexible and shatter proof
- Suitable for:
- Non ferrous metal and stainless steel
- Steel sheet and car body panels
- Compression moulded material and formica

Suitable for: SIG und Flex

	No. teeth	TPI	D mm	L mm	Content	g
129.3750	80	32	0.7	100.0	5	20
129.3752	60	24	1.0	100.0	5	20
129.3754	45	18	1.4	100.0	5	20
129.3756	35	14	1.8	100.0	5	20

Pneumatic angle grinder

- Air exhaust through the handle rear end
- For cutting wheels Ø 125mm x 6mm x 22mm
- Special flexible handle can be fitted on right or left
- Adjustable sparkguard
- For working in inaccessible places
- Long service life
- Secure operation lever with locking device
- With stepless speed regulation
- Vibration dampened
- Cold insulated handle
- Includes 1/4" coupling connector
- Die cast aluminium gearbox end
- Robust housing from special plastic
- Grease nipple for maintenance of hammer mechanism ensures long service life (KS grease gun 980.1070)



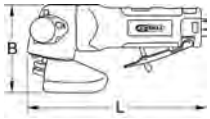
Technical data:

Tool holder:	M14x2,0
Capacity:	700 Watt
No load current:	10000 r.p.m.
Vibration:	< 0,2 ms²
Noise performance level:	103 dbA
Noise pressure level:	83 dbA
Air consumption:	113 l/min
Operating pressure:	max. 6,3 bar (90 psi)
Min. tube diameter:	3/8“ - 10 mm
Connection thread:	1/4“PT

	B mm	L mm	kg
515.3105	100.0	238.0	2.21

Pneumatic disc cutter

- Air exhaust through the handle rear end
- For grinding wheels up to Ø 125 mm x 22 mm
- With safety cover
- For grinding metal sheet and steel
- Secure operation lever with locking device
- With detachable second handle
- With stepless speed regulation
- Vibration dampened
- Cold insulated handle
- Includes 1/4" coupling connector
- Ultra light robust housing from special plastic



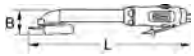
Technical data:

Tool holder:	5/8“ - 11 Gang
No load current:	10000 r.p.m.
Capacity:	700 Watt
Vibration:	< 0,2 ms²
Noise performance level:	103 dbA
Noise pressure level:	90 dbA
Air consumption:	142 l/min
Operating pressure:	max. 6,3 bar (90 psi)
Min. tube diameter:	3/8“ - 10 mm
Connection thread:	1/4“PT

	B mm	L mm	kg
515.3045	95.0	210.0	1.75

Long disc cutter

- Air exhaust through the handle rear end
- With practical clockwise and anticlockwise switch
- For cutting wheels up to Ø 100 x 1,0 x 10 mm
- Ideal for loosening worn down and/or rusted connections
- Adjustable sparkguard
- For working in inaccessible places
- Long service life
- Secure operation lever with locking device
- With stepless speed regulation
- Number of revolutions adjustable through regulating wheel
- Vibration dampened
- Cold insulated handle
- Includes 1/4" coupling connector
- Ultra light robust housing special plastic
- Grease nipple for maintenance on striking mechanism ensures long life (KS grease gun 980.1070)



Technical data:

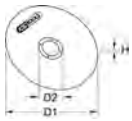
No load current:	12000 r.p.m.
Vibration:	< 2,0 ms²
Noise performance level:	100 dbA
Noise pressure level:	90 dbA
Air consumption:	142 l/min
Operating pressure:	max. 6,3 bar (90 psi)
Receiver:	16 mm / M10 x 1,0 mm
Min. tube diameter:	3/8“ - 10 mm
Connection thread:	1/4“PT

	B mm	L mm	Replacement cut off wheels	kg
515.3075	60.0	380.0	337.2010	1.30

High performances thin disk

- Exact and clean cut
- No deburring necessary
- Very short cutting times
- Machine load reduced
- Inox stainless steel

Ideal for use in very thin materials until 2.5 mm, tool steel, sheet metal, thin walled pipes and profiles all type suited for locksmiths, car body building, sanitary and heating fitting, plumbing, sheet metal processing, carpentry, joinery, roofing, metal processing and all motor vehicles businesses.

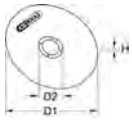


	RPM max	D1 mm	D2 mm	H mm	Content	g
337.2010	15250	100,0	16,0	1.6	25	1200
337.2015	13300	115,0	22,2	1.0	25	730
337.2025	12200	125,0	22,2	1.0	25	800

Allround flapwheel, curved

- For universal usage
- Zirconium aluminum oxide on a glassfibre plate
- Fan like and radial arrangement of the multi purpose disc
- High level of flexibilty
- Consistent high cutting power

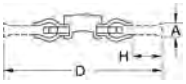
Ideal for use in metal, stainless steel, wood and plastic.

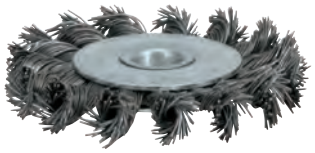


	RPM max	D1 mm	D2 mm	Grain	H mm	Content	g
337.2050	13300	115,0	22,2	40	7.2	10	730
337.2055	13300	115,0	22,2	60	7.2	10	730
337.2060	13300	115,0	22,2	80	7.2	10	730
337.2065	12200	125,0	22,2	40	7.2	10	800
337.2070	12200	125,0	22,2	60	7.2	10	800
337.2075	12200	125,0	22,2	80	7.2	10	800

Steel wire circular brush 0,5 mm

- Braided design
- With 22,2 mm bore reception
- Longlife industry version
- For use in one hand angle grinder
- For removing of rubber, grate and lacquer residue
- For surface preparation
- Flat steel wire

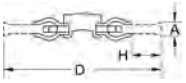


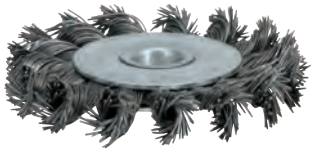


	RPM max	A mm	D mm	H mm	No. plaits	g
340.0040	12500	11.0	75.0	16.0	15	90
340.0041	12500	11.0	100.0	20.5	18	120
340.0042	12500	11.0	115.0	23.5	20	140
340.0043	12500	11.0	125.0	24.5	22	150

Stainless steel and brushed steel 0,5 mm

- Braided design
- With 22,2 mm bore reception
- Longlife industry version
- For use in one hand angle grinder
- For removing of rubber, grate and lacquer residue
- For surface preparation
- Flat and grate free steel wire

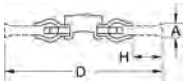




	RPM max	A mm	D mm	H mm	No. plaits	g
340.0044	12500	11.0	75.0	16.0	15	90
340.0045	12500	11.0	100.0	20.5	18	120
340.0046	12500	11.0	115.0	23.5	20	140
340.0047	12500	11.0	125.0	24.5	22	150

Cone design steel wire circular brush 0,5 mm

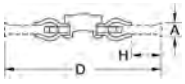
- Braided design
- With thread arbor
- Especially longlife industry version
- For use in one hand angle grinder
- For hard to reach places
- For surface preparation
- Flat steel wire



	RPM max	mm	A mm	D mm	H mm	No. plaits	g
340.0048	12500	M 14 x 2,0	12.0	100.0	20.0	18	190
340.0049	15000	M 14 x 2,0	12.0	115.0	24.0	20	210

Rust free cone design steel wire circular brush 0,5 mm

- Braided design
- With thread arbor
- Especially longlife industry version
- For use in one hand angle grinder
- For hard to reach places
- For surface preparation
- Flat and grate free steel wire



	RPM max	mm	A mm	D mm	H mm	No. plaits	g
340.0050	12500	M 14 x 2,0	12.0	100.0	20.0	18	190
340.0051	15000	M 14 x 2,0	12.0	115.0	24.0	20	210

Steel wire jar brush 0,5 mm

- Braided design
- With thread arbor
- For use in one hand angle grinder
- Ideal for heavy brush works
- For surface preparation
- Crimped steel wire

	RPM max	mm	D mm	H mm	L mm	No. plaits	g
340.0022	12500	M14 x 2,0	65.0	20.0	55.0	18	160
340.0023	11500	M14 x 2,0	80.0	22.0	68.0	20	200
340.0024	11500	M14 x 2,0	90.0	22.0	77.0	20	240

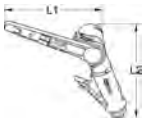
Rust free stainless steel wire jar brush 0,5 mm

- Braided design
- With thread arbor
- For use in one hand angle grinder
- Ideal for heavy brush works
- For surface preparation
- Curled and rust free steel wire

	RPM max	mm	D mm	H mm	L mm	No. plaits	g
340.0025	12500	M14 x 2,0	65.0	20.0	55.0	18	160
340.0026	11500	M14 x 2,0	80.0	22.0	68.0	20	200
340.0027	11500	M14 x 2,0	90.0	22.0	77.0	20	240

Belt sander

- With non slip soft grip handle
- Air exhaust through the handle rear end
- Working head is 360° ajustable
- Adjustable for quick sanding belt change
- Ideal for narrow areas (10 mm belt width)
- Secure operation lever with locking device
- With stepless speed regulation
- Number of revolutions adjustable through regulating screw
- Vibration dampened
- Cold insulated handle
- Includes 1/4" coupling connector
- Light aluminium housing



Technical data:

Belt speed:	1188 m/min
No load current:	18000 r.p.m.
Vibration:	< 2,0 ms²
Noise performance level:	81 dbA
Noise pressure level:	73 dbA
Air consumption:	142 l/min
Operating pressure:	max. 6,3 bar (90 psi)
Min. tube diameter:	3/8" - 10 mm
Connection thread:	1/4"PT

	L1 mm	L2 mm	g
515.3549	150.0	170.0	800

Sanding belt for belt sander

- Sanding belt for belt sander 515.3549

	Grain	Content	g
515.3551	80	10	60
515.3552	100	10	80
515.3553	120	10	100

CHISEL HAMMER

Pneumatic chisel set

- Non slip soft grip handle
- Air exhaust through the handle
- Ultra light housing from two component plastic
- Ergonomic designed handle
- For ripping out car body sheet metal with compressed air
- Ideal for industry
- Also suitable for loosening firmly rusted fittings
- Stepless impact regulation
- Vibration dampened
- Cold insulated handle
- Includes 1/4" coupling connector
- In durable plastic case

Technical data:

Chisel holder:	10 mm
Number of blows:	3000 blows/min
No load current:	3200 r.p.m.
Vibration:	8,5 ms²
Noise performance level:	99.2 dbA
Noise pressure level:	110.9 dbA
Air consumption:	270 l/min
Operating pressure:	max. 6,3 bar (90 psi)
Min. tube diameter:	3/8"
Connection thread:	1/4"PT

			kg
515.3810	7 pcs	Pneumatic chisel set	1.70

Accessories:

		g
515.3810-01	Spring for air chisel set	100
515.3815	Holder for air chisel set	126
515.3847	Quick change retainer	100

Vibro impact pneumatic chisel hammer set

- With non slip soft grip handle
- Air exhaust through the handle
- Ergonomic designed handle
- Ideal for industry
- Efficient, gentle loosening of screw fittings
- With stepless impact regulation
- Vibration dampened
- Cold insulated handle
- Includes 1/4" coupling connector
- Ultra light housing from two component plastic

			kg
515.3880	6 pcs	Vibro impact pneumatic chisel hammer set	5.70

consists of:

		kg
515.3881	Pneumatic chisel hammer	2.17
515.3882	Holder for pneumatic chisel hammer	1.55
515.3886	Pneumatic chisel track rod loosener,110mm	0.14
515.3887	Pneumatic chisel hammer,110mm	0.15
515.3888	Pneumatic chisel loosening adapter,130mm	0.16
515.3889	Pneumatic chisel loosening mandrel,100x25x12mm	0.19

Special Vibro chisel set

- For loosening seized screw joints and loosening components
- Gentle peeling and driving
- Vibration is transmitted directly to the screw connections
- Impact mandrel attachment as ingenious aid to any removal operation
- For hexagonal and round 10 mm machine mountings
- Including pressure plate adapter for driving out bearings, sleeves, bushings

Caution: Use only in conjunction with a pneumatic hammer chisel!

			g
515.3885	4 pcs	Special Vibro chisel set	774

consists of:

		g
515.3886	Tie rods loosening piece	138
515.3887	Impact pin - chisel piece	148
515.3888	Pressure plate - adapter piece	159
515.3889	Screw remover- chisel piece 100x25x12 mm	190

Vibro Power hammer chisel accessories

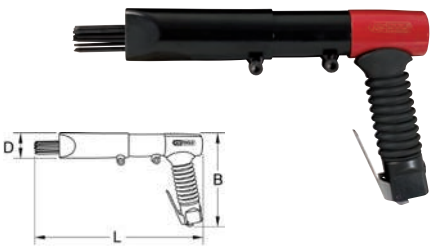
- As complement to Vibro-Power system 515.3880
- Universal use for bodywork and chassis repair
- Extension of the working range
- Utilisation of vibration and shock pulse of Vibro Power pneumatic hammer
- Robust chisel forged out of one piece

Application: Cutting exhausts, loosening of ball joint, extracting bolts and cutting metal sheets

		g
515.3961	Vibro Power punch Ø6.5mm	95
515.3962	Vibro Power exhaust slitting chisel for inner tube width 23mm	190
515.3963	Vibro Power exhaust slitting chisel for outer tube width 23mm	190
515.3964	Vibro Power slitting chisel with anti-twist protection width 20mm	160
515.3965	Vibro Power flat chisel with anti-twist protection width 19mm	220
515.3966	Vibro Power halfround chisel with anti-twist protection w. 26mm	210
515.3967	Vibro Power fork separator 20mm	300
515.3968	Vibro Power fork separator 25mm	330
515.3969	Vibro Power fork separator 32mm	590

Pneumatic needle scaler

- In handy pistol design
- Air exhaust through the handle
- For removing and/or derusting of coatings and solid metal parts
- Is coarser than a sand balsting and finer than rust hammers
- Equipped with 19 needles of 3 mm a piece
- With adjustable needle cover
- Cold insulated handle
- Includes 1/4" coupling connector
- Robust steel housing



Technical data:

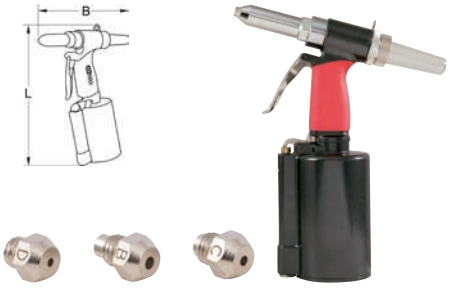
Needle amount:	19 pcs. à 3 mm
Number of blows:	3200 blows/min
Vibration:	13,9 ms²
Noise performance level:	110 dbA
Noise pressure level:	97 dbA
Air consumption:	170 l/min
Operating pressure:	max. 6,3 bar (90 psi)
Min. tube diameter:	3/8“ - 10 mm
Connection thread:	1/4“PT

	B mm	D mm	L mm	Replacement needle pack	kg
515.3070	205.0	45.0	330.0	515.3071	2.60

RIVETING TOOLS PISTOL

Pneumatic riveting tool pistol

- Air exhaust through the handle rear end
- For one handed operation with ergonomic design
- For pop rivet working
- With swivel joint at the coupling connector for flexible use
- Cold insulated
- Includes 1/4" coupling connector
- Robust aluminium housing



Technical data:

Rivet sizes:	2,4 - 3,2 - 4,0 - 4,8 mm
Stroke length:	14 mm
Driving power:	8677,5 N
Vibration:	< 2,5 ms²
Noise performance level:	98.6 dbA
Noise pressure level:	85 dbA
Air consumption:	1 l/Hub
Operating pressure:	max. 6,3 bar (90 psi)
Min. tube diameter:	3/8“ - 10 mm
Connection thread:	1/4“PT

	B mm	L mm	kg
515.3102	195.0	290.0	1.50

Pneumatic riveting tool pistol

- Air exhaust through the handle rear end
- For one handed operation with ergonomic design
- For professional riveting, continuous operation
- For steel, aluminium, stainless steel or copper riveting up to 6,4 mm
- With 6 mouth pieces, 4,8 mm is pre assembled
- Especially low noise level
- Swivel joint at the connection thread for flexible use
- Cold insulated
- Includes 1/4" coupling connector
- Robust aluminium housing

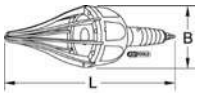
Technical data:

Rivet sizes:	3,2 - 4,0 - 4,8 - 6,4 mm
Stroke length:	19 mm
Driving power:	13839,5 N
Vibration:	< 2,5 ms²
Noise performance level:	85 dbA
Noise pressure level:	73.3 dbA
Air consumption:	1,8 l/Hub
Operating pressure:	max. 6,3 bar (90 psi)
Min. tube diameter:	3/8“ - 10 mm
Connection thread:	1/4“PT

	B mm	L mm	kg
515.3101	210.0	340.0	2.00

Pneumatic assembly tool for CV joint boots

- Air exhaust through the handle rear end
- Suitable for all universal and original vehicle CV joint boots
- For CV joint boots diameter from 20 - 120 mm
- Expanding of the joint arms through compressed air
- Air pressure is regulated through a button
- No additional lubricant necessary
- Cold insulated handle
- Includes 1/4" coupling connector
- Ultra light robust housing from special plastic



Technical data:

Max. expansion diameter:	120 mm
Operating pressure:	max. 8 bar
Min. tube diameter:	3/8“ - 10 mm
Connection thread:	1/4“PT

	B mm	L mm	kg
515.3100	148.0	450.0	2.50

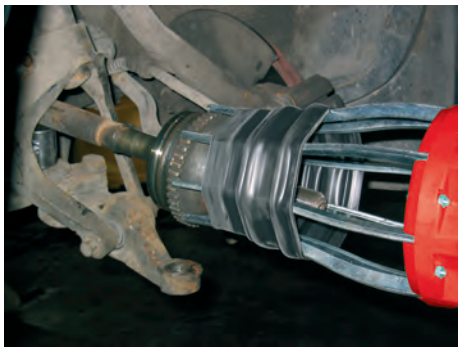
Universal CV joint boot kit, small, crimping 23-30 mm, joint 70-105 mm

- For almost all car types
- Low storage costs and fast availability due to the versitility
- Quick and easy installation
- Exchange directly on the vehicle is possible without disassembling the prop shaft
- Can be used with mounting cones or pneumatic fitting tool 515.3100
- Neoprene joint boots with a longer life
- With a large grip area for wide clamps
- Includes stainless steel clamps and grease

Technical data:

Suitable for crimping:	23,0 - 30,0 mm
Suitable for joints	70,0 - 105,0 mm
Expansibility:	max. 600 %
Temperature constancy:	-40°C - +110°C

		g
515.3115	small, crimping 23-30 mm, joint 70-105 mm	240



Universal CV joint boot set

- For almost all car types
- Low storage costs and fast availability due to the versitility
- Quick and easy installation
- Exchange directly on the vehicle is possible without disassembling the prop shaft
- Can be used with mounting cones or pneumatic fitting tool 515.3100
- Neoprene joint boots with a longer life
- With a large grip area for wide clamps
- Includes stainless steel clamps and grease

			kg
515.3110	12 pcs	Universal CV joint boot set	2.88

Universal CV joint boot kit, large, crimping 28-40 mm, joint 80-125 mm

- For almost all car types with larger diameter as vans
- Low storage costs and fast availability due to the versitility
- Quick and easy installation
- Exchange directly on the vehicle is possible without disassembling the prop shaft
- Can be used with mounting cones or pneumatic fitting tool 515.3100
- Neoprene joint boots with a longer life
- With a large grip area for wide clamps
- Includes stainless steel clamps and grease

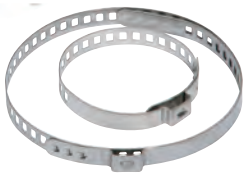
Technical data:

Suitable for crimping:	28,0 - 40,0 mm
Suitable for joints	80,0 - 125,0 mm
Expansibility:	max. 600 %
Temperature constancy:	-40°C - +110°C

		g
515.3120	large, crimping 28-40 mm, joint 80-125 mm	360

Stainless steel band

- For CV joint boots
- Sizes adjustable
- Stainless steel

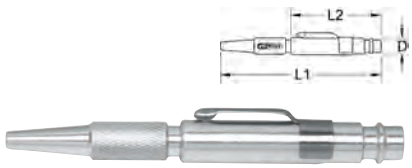


	Ø mm	Content	g
515.3170	19,0-50,0	100	600
515.3175	40,0-120,0	100	1200

AIR BLOW OUT TOOLS

Compressed blow out pen

- In ball point pen form
- With practical pocket clip
- Controllable air volume
- With 2,5 mm nozzle
- With Euro connection
- Direct air coupling suitable for connection
- Light aluminium housing



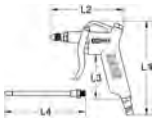
Technical data:

Input pressure:	max. 12 bar
Operating pressure:	max. 6,3 bar (90 psi)
Max. flow rate:	360 l/min
Noise pressure level:	90 dbA
Connection thread:	1/4“PT

	D mm	L1 mm	L2 mm	g
515.1908	10.0	110.0	70.0	150

Compressed air blow out pistol with extension

- Ergonomic handle
- Controllable air volume
- With 2,5 mm nozzle
- Direct air coupling suitable for connection
- Easily operated
- With hanging hole
- Includes 1/4" coupling connector
- Solid metal base body
- Robust metal housing



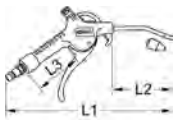
Technical data:

Input pressure:	max. 15 bar
Operating pressure:	max. 6,3 bar (90 psi)
Max. flow rate:	130 l/min
Noise pressure level:	90 dbA
Min. tube diameter:	3/8“ - 10 mm
Connection thread:	1/4“PT

	L1 mm	L2 mm	L3 mm	L4 mm	g
515.1930	125.0	110.0	75.0	125.0	180

Compressed air blow out pistol with flow regulation

- With universal mouth piece
- Ideal for cleaning and removing of foreign objects
- Ergonomic handle
- Controllable air volume
- With hanging function
- Direct air coupling suitable for connection
- Easily operated
- Slip proof handle
- Includes 1/4" coupling connector
- Ultra light robust housing from special plastic



Technical data:

Input pressure:	max. 15 bar
Operating pressure:	max. 6,3 bar (90 psi)
Max. flow rate:	300 l/min
Noise pressure level:	90 dbA
Connection thread:	1/4“PT

	L1 mm	L2 mm	L3 mm	g
515.1901	235.0	100.0	75.0	150

Compressed air blow out pistol set

- Ideal for cleaning and removing of foreign objects
- Ergonomic handle
- Controllable air volume
- With hanging function
- Direct air coupling suitable for connection
- Easily operated
- Slip proof handle
- Includes 1/4" coupling connector
- Ultra light robust housing from special plastic

			g
515.1921	3 pcs	Compressed air blow out pistol set	690
1 x		100 mm	
1 x		330 mm	
1 x		490 mm	

Universal compressed air blow out pistol

- Ideal for cleaning and removing of foreign objects
- Ergonomic handle
- Controllable air volume
- With hanging function
- Direct air coupling suitable for connection
- Easily operated
- Slip proof handle
- Includes 1/4" coupling connector
- Ultra light robust housing from special plastic

Technical data:

Input pressure:	max. 15 bar
Operating pressure:	max. 6,3 bar (90 psi)
Max. flow rate:	300 l/min
Noise pressure level:	90 dbA
Connection thread:	1/4"PT

	L1 mm	L2 mm	L3 mm	g
515.1902	235.0	95.0	75.0	170
515.1903	470.0	325.0	75.0	240
515.1904	650.0	500.0	75.0	280

Telescopic compressed air blow out pistol

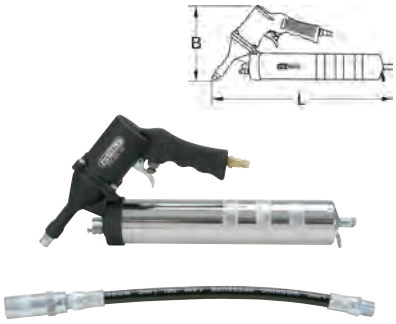
- With stepless extendable nozzle
- Telescopic blast pipe in length and angle adjustable 65 - 280 mm / 360°
- Ideal for cleaning and removing of foreign objects
- Ergonomic handle
- Controllable air volume
- With hanging function
- Direct air coupling suitable for connection
- Easily operated
- Slip proof handle
- Includes 1/4" coupling connector

	L1 mm	L2 mm	L3 mm	g
515.1907	140.0	110.0	55.0	230

GREASE GUN

Pneumatic grease gun

- Air exhaust through the handle
- For one handed operation with balanced ergonomic design
- For cartridges and bucket goods and/or also for loose grease
- Includes rigid and flexible filling tubes high pressure tube
- Cold insulated handle
- Includes 1/4" coupling connector



Technical data:

Output pressure:	260 bar
Hauling capacity:	288 cm³/min
Capacity:	400g
Air consumption:	170 l/min
Operating pressure:	6,3 bar (90 psi)
Connection thread:	1/4"PT

	B mm	L mm	kg
515.3900	165.0	400.0	1.80

Spare parts:

		g
515.3901	Flexilble nylon tube for 515.3900	69

Grease gun adaptor set

- For standard hand, cordless and pneumatic grease guns
- Adaptor with sliding sleeve for break-proof connection
- Straight and angled grease nipple
- For grease nipples out of steel, brass and stainless steel

Application range: Cone, funnel, ball and flat grease nipples Trucks, land and construction machines and forestery technology, etc.

		kg
980.1100	7 pcs Grease gun adaptor set	1.90

consists of:

		L mm	g
980.1101	90° Lubricant adaptor	114.0	150
980.1102	Tube extension, 300 mm	390.0	240
980.1103	Straight extension	155.0	154
980.1104	90° flat nipple adaptor	135.0	160
980.1105	Rubber grease tip	155.0	150
980.1106	Needle shaped tip	135.0	143
980.1107	360° Adaptor, adjustable	185.0	265

WHEEL FILLING GAUGE

Tyre filling gauge

- For one hand operation
- Rubber coated manometer
- Manometer with bar and psi scale
- Filling lever and pressure release button
- Tube with integrated locking male nipple
- Robust rubber coated housing

Technical data:

Working range:	0 - 11 bar
	9 - 160 psi
Tube length:	500 mm
Operating pressure:	max 6,3 bar (90 psi)
Connection thread:	1/4"PT

	L mm	g
515.1950	535.0	600

Calibrated tyre filling gauge

- For one handed operation with ergonomic design
- Rubber coated manometer
- Manometer with bar scale
- With filling lever and pressure release button
- Tube with integrated locking male nipple
- Hanging hole
- Includes 1/4" coupling connector
- Robust rubber coated housing

Technical data:

Working range:	0 - 10 bar
Tube length:	500 mm
Operating pressure:	max. 6,3 bar (90 psi)
Connection thread:	1/4"PT

	L mm	g
515.1960	540.0	450

COMPRESSED AIR HOSE

PU compressed air spiral coiled tube

- Flexible, crush resistant polyurethane hose
- Tube ends with anti kink device
- Rotating fitting
- Flexible in cold
- Oil and petrol resistant

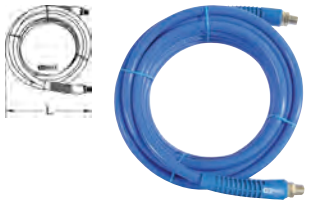
Technical data:

Max. pressure: 12 bar

	Tube inner Ø mm	L m	kg
515.3330	6	8.0	0.60
515.3335	8	15.0	1.20
515.3340	10	15.0	1.80

PU compressed air hose

- High quality compressed air hose
- Suitable for compressed air and water
- Light and crush free material
- Suitable accessories
- Long service life
- Oil and petrol resistant



Technical data:

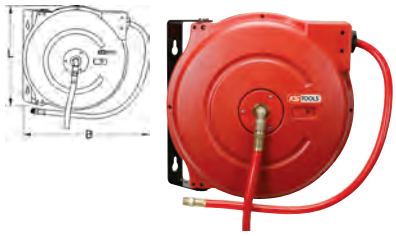
Temperature constancy: -40°C - +70°C

Max. pressure: 15 bar

	D mm	L m	kg
515.3344	6 x 9	20.0	1.00
515.3345	8 x 12	20.0	1.80
515.3346	12 x 16	20.0	2.00

Automatic compressed air hose reel Ø 10 mm x 15 m

- With wall mounting bracket
- For compressed air and water
- Drum 180° freely tiltable by means of wall mounting
- Flexible, crush resistant polyurethane hose
- Automatic hose return
- Multi gearlock per rotation
- Device adjusting lock
- Include 1 m connecting hose
- Impact resistant plastic housing



Technical data:

Tube diameter: 10 mm

Hose external diameter: 16 mm

Tube length: 15 + 1,5 m

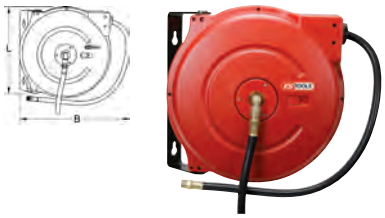
Max. pressure: 20,0 bar bar

Connection thread: 3/8“ - 10 mm

	B mm	L mm	kg
515.3315	440.0	400.0	12.50

Automatic compressed air hose reel Ø 12 mm x 15 m

- With wall mounting bracket
- For compressed air and water
- Drum 180° freely tiltable by means of wall mounting
- Flexible, crush resistant polyurethane hose
- Automatic hose return
- Multi gearlock per rotation
- Device adjusting lock
- Include 1 m connecting hose
- Impact resistant plastic housing



Technical data:

Tube diameter: 12 mm

Hose external diameter: 16 mm

Tube length: 15 + 1 m

Max. pressure: 12,0 bar

Connection thread: 1/2“ - 13 mm

	B mm	L mm	kg
515.3320	440.0	400.0	12.50

ACCESSORIES

Compressed air water trap

- For separating condensation
- Assembly directly in the access direction
- Made out of sitered metal

	D1 mm	D2 mm	dim mm	L mm	g
515.3370	G1/4“AG	G1/4“IG	14	88.0	140

Compressed air side oiler

- For automatic oiling of compressed air tools
- To test oil state through transparent visibility glass
- Compact execution
- Usably in most compressed air tool
- Extends the service life of compressed air tools
- Refillable
- Assembly directly in the access direction

	D1 mm	D2 mm	dim mm	L mm	g
515.3360	G1/4“AG	G1/4“IG	17	54.0	110

Metal swivel joint

- For compressed air tools 1/4"
- Prevents damages of the compressed air tube
- Execution with compressed air regulator
- Body made out of metal

	D1 mm	D2 mm	dim mm	L mm	g
515.3396	G1/4“AG	G1/4“IG	16	39.0	80

Metal ball joint fitting nipple

- Prevents damages of the compressed air tube
- 360 ° rotating head and 30° angled
- For compressed air tools 1/4" AG
- Ideal for use with paint sprayers
- Body made out of metal

	D1 mm	dim mm	L mm	g
515.3395	G1/4“AG	21	56.0	50

Metal ball joint fitting nipple

- Prevents damage of the compressed air tube
- Joint takes rotatable movements on the paint sprayer
- 360° rotating head and 30° angled
- For compressed air tools 1/4" IG
- Ideal for use with paint sprayers
- Body made out of metal

	D2 mm	dim mm	L mm	g
515.3394	G1/4“IG	16	46.0	30

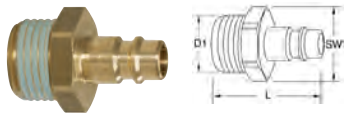
Coupling with male thread

- With one handed operation
- Self sealing on the coupling
- Size 22
- Body made of brass

	D1 mm	dim mm	L mm	g
515.3480	G1/4“AG	22	40.0	70
515.3481	G3/8“AG	22	41.0	90
515.3482	G1/2“AG	22	43.0	90

Male coupling with male thread

- Size 17, 19 and 24
- Body made of brass



	D1 mm	dim mm	L mm	g
515.3489	G1/4“AG	17	33.0	20
515.3490	G3/8“AG	19	33.0	25
515.3491	G1/2“AG	24	35.0	41

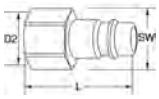
Brass coupling with female thread

- Self sealing on the coupling
- Unilaterally closing off
- Size 22 and 24
- Body made of brass

	D2 mm	dim mm	L mm	g
515.3483	G1/4“IG	22	41.0	80
515.3484	G3/8“IG	22	41.0	85
515.3485	G1/2“IG	24	43.0	90

Brass male coupling with female thread

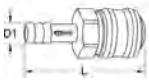
- Size 17, 19 and 24
- Body made of brass



	D2 mm	dim mm	L mm	g
515.3492	G1/4"IG	17	33.0	24
515.3493	G3/8"IG	19	33.0	22
515.3494	G1/2"IG	24	35.0	40

Brass Coupling with hose connector

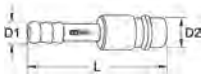
- With one handed operation
- Roller latch
- Non return valve
- Size 21
- Body made of brass



	D1 mm	L mm	g
515.3486	Ø 6mm	55.0	70
515.3487	Ø 9mm	55.0	80
515.3488	Ø 13mm	55.0	90

Male coupling with hose connector

- Body made of brass



	D1 mm	D2 mm	L mm	g
515.3495	Ø 6mm	7.2	44.0	10
515.3496	Ø 9mm	7.2	44.0	20
515.3497	Ø 13mm	7.2	46.0	25

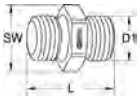
Brass reducing nipple

- Size 19 and 24
- Body made of brass

	D1 mm	D2 mm	dim mm	L mm	g
515.3383	G3/8"AG	G1/4"IG	19	14.0	10
515.3384	G1/2"AG	G3/8"IG	24	26.0	30
515.3385	G3/8"AG	G1/2"IG	24	26.0	50
515.3386	G1/4"AG	G3/8"IG	19	18.0	60

Brass reducing nipple

- Size 17, 19 and 24
- Body made of brass

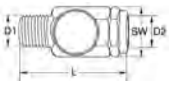


	D1 mm	dim mm	L mm	g
515.3380	G1/4"AG	17	23.0	20
515.3381	G3/8"AG	19	23.0	30
515.3382	G1/2"AG	24	30.0	50

Brass compressed air regulator

- With regulation wheel
- For regulating the air flow volume
- Assembly directly in the access direction
- Completely lockable
- Body made of brass

1/4"

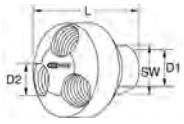


	D1 mm	D2 mm	dim mm	L mm	g
515.3365	G1/4"AG	G1/4"IG	18	43.0	80

Brass compressed air 3 way separator

- Connection of 3 departure directions 1/4" IG at each access point
- Body made of soild brass

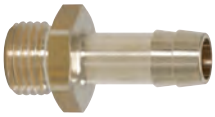
1/4"



	D1 mm	D2 mm	dim mm	L mm	g
515.3375	G1/4"IG	3xG1/4"IG	19	32.0	160

Brass hose nipple with male thread

- Size 17, 19 and 24
- Inner cone 45°
- Body made of brass



	D1 mm	D2 mm	dim mm	L mm	g
515.3387	G1/4"AG	Ø 6mm	17	35.0	20
515.3388	G1/4"AG	Ø 9mm	17	35.0	20
515.3389	G3/8"AG	Ø 9mm	19	36.0	30
515.3390	G3/8"AG	Ø 13mm	19	42.0	30
515.3391	G1/2"AG	Ø 9mm	24	40.0	50
515.3392	G1/2"AG	Ø 13mm	24	46.0	50

Pneumatic tool oil

- For the lubrication of compressed air tools
- With lockable nozzle
- Contents 100 ml

	B mm	L mm	g
515.3361	60.0	148.0	250

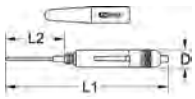
Mini lube grease pump

- Lubricateing device for maintenance works on impact mechanisms and/or angle transmissions etc.
- Exact dosage per pressure button with return spring
- With rigid grease tube
- Tube contents 100 g

	Replacement tube	g
980.1070	980.1075	100

Precision oiler

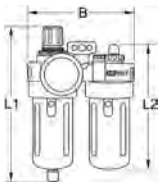
- In ball point pen form
- Practical pocket clip
- Protective cap
- Oil dosage through pushing a button
- Smallest angles and corners reached
- Suitable for a wide range of applications
- Light aluminium housing



	D mm	L1 mm	L2 mm	g
550.1035	15.0	140.0	50.0	50

Air service unit

- Suitable for wall mounting
- Consists of filter pressure reducer, oil regulator and manometer
- Inspection glass for fluid inspection
- For the assembly of compressed air tools
- Output pressure regulates independent of the input pressure
- Filters dirt particles and condensation
- With adjustable oil regulator
- With integrated wall mouting bracket



Technical data:

Max. pressure:	16 bar
Max. working pressure:	12 bar
Pressure gauge:	0,5 - 12 bar
Allowable temparture range:	-10° - +55°C
Air pressure up to 6,3 bar:	1/4" = 1800 l/min
	3/8" = 5000 l/min
	1/2" = 5000 l/min
Filter pressure more inferior:	1/4" = 30 ml
	3/8" = 50 ml
	1/2" = 50 ml
Oil trap:	1/4" = 40 ml
	3/8" = 170 ml
	1/2" = 170 ml

	Connection	B mm	L1 mm	L2 mm	kg
515.3355	1/4"	140.0	200.0	135.0	0.43
515.3350	3/8"	140.0	200.0	135.0	1.14
515.3356	1/2"	140.0	200.0	135.0	1.30

CORDLESS TOOLS

Lithium Ion technology

THUNDER Line LI-ION

- The high performance cordless tools for the perfect job
- Working without cables with Lithium ion technology
- Ergonomic design, perfect weight distribution
- Low vibration for fatigue free working

Advantages

- Extremely durable and longlife industry version
- Carbon brushes interchangeable
- Almost no self discharge
- Includes automatic turn off charging station
- Fast charging function
- No memory effect
- Handy and ergonomic dual component housing
- Blow mould plastic housing
- 30% less weight than conventional rechargeable batteries

All 18 V batteries are suitable for fast charging and have a condition status Display by pushing a button

Capacity:	25%	50%	75%	100%
LED:				

The complete cordless tool product range can be found in our general catalogue K11 or on our homepage www.kstools.com

CORDLESS REVERSIBLE RATCHETS

Cordless reversible ratchet

- Light weight
- Handy and ergonomic dual component housing
- Square drive adaptor to DIN 3120 / ISO 1174
- With practical clockwise and anticlockwise reversing function
- Carbon brushes interchangeable
- With lithium ion high performance rechargeable battery
- Longer running time through higher load capacity
- Fast charging function (1 hour)
- Includes automatic turn off charging station
- Blow mould plastic housing

Technical data:

Drive:	1/4“
Capacity:	10,8 V
Speed:	220 r.p.m.
Torque max.	34 Nm
No load current:	5 A
Charging time:	1 hour
Rechargeable battery:	10,8 V - 1,5 Ah
Weight (basic unit + battery):	905 g

	L1 mm	L2 mm	B mm	H mm	Spare carbon brushes set	Battery pack	number of Charger batteries		kg
515.3499	275.0	60.0	30.0	35.0	515.3595	515.3592	0	0	1.00
515.3500	275.0	60.0	30.0	35.0	515.3595	515.3592	1	1	1.90
515.3501	275.0	60.0	30.0	35.0	515.3595	515.3592	2	1	2.10

Cordless reversible ratchet

- Light weight
- Handy and ergonomic dual component housing
- Square drive adaptor to DIN 3120
- With practical clockwise and anticlockwise reversing function
- With torque control
- Carbon brushes interchangeable
- With lithium ion high performance rechargeable battery
- Longer running time through higher load capacity
- Fast charging function (1 hour)
- Includes automatic turn off charging station
- Blow mould plastic housing

Technical data:

Drive:	1/2“
Capacity:	10,8 V
Speed:	180 rpm
Torque max.	62 Nm
No load current:	5 A
Charging time:	1 hour
Rechargeable battery:	10,8 V - 1,5 Ah
Weight (basic unit + battery):	1,30 kg

	L1 mm	L2 mm	B mm	H mm	Spare carbon brushes set	Battery pack	number of Charger batteries		kg
515.3509	300.0	80.0	40.0	45.0	515.3595	515.3592	0	0	1.20
515.3510	300.0	80.0	40.0	45.0	515.3595	515.3592	1	1	2.10
515.3511	300.0	80.0	40.0	45.0	515.3595	515.3592	2	1	2.30

CORDLESS IMPACT WRENCH

Cordless impact wrench

- Handy and ergonomic dual component housing
- Square drive adaptor to DIN 3120
- With practical clockwise and anticlockwise switch
- Stepless controllable motor speed through electronic switch
- With industrial hammer mechanism
- Carbon brushes interchangeable
- With lithium ion high performance rechargeable battery
- Longer running time through higher load capacity
- Fast charging function (1 hour)
- Includes automatic turn off charging station
- Blow mould plastic housing
- In durable plastic storage case

Technical data:

Drive:	1/2“
Capacity:	18 V
Speed:	0 - 2000 rpm
Torque max.	402 Nm
No load current:	3,5 A
Charging time:	1 hour
Rechargeable battery:	18 V - 3,0 Ah

	L mm	B mm	H mm	Spare carbon brushes set	Battery pack	number of Charger batteries		kg
515.3519	240.8	80.0	273.0	515.3596	515.3599	0	0	2.30
515.3520	240.8	80.0	273.0	515.3596	515.3599	1	1	3.60
515.3521	240.8	80.0	273.0	515.3596	515.3599	2	1	4.40

Cordless impact wrench with torque control

- Handy and ergonomic dual component housing
- Square drive adaptor to DIN 3120
- With practical clockwise and anticlockwise reversing function
- With 6 torque-stages
- With industrial hammer mechanism
- Carbon brushes interchangeable
- With lithium ion high performance rechargeable battery
- Longer running time through higher load capacity
- Fast charging function (1 hour)
- Includes automatic turn off charging station
- Blow mould plastic housing
- In durable plastic storage case

Technical data:

Drive:	1/2“
Capacity:	18 V
Speed:	0 - 1800 rpm
Torque max.	539 Nm
Torque stages:	6 stages
No load current:	3,5 A
Charging time:	1 hour
Rechargeable battery:	18 V - 3,0 Ah

	L mm	B mm	H mm	Spare carbon brushes set	Battery pack	number of Charger batteries		kg
515.3524	256.0	80.0	273.0	515.3596	515.3599	0	0	2.50
515.3525	256.0	80.0	273.0	515.3596	515.3599	1	1	3.80
515.3526	256.0	80.0	273.0	515.3596	515.3599	2	1	4.60

CORDLESS DRILL MACHINES

Cordless screwdriver

- Light weight
- Handy and ergonomic dual component housing
- Tool holder female hexagon 6 point to DIN 3126 - E6,3
- With practical clockwise and anticlockwise reversing function
- Stepless controllable motor speed through electronic switch
- With torque control
- Carbon brushes interchangeable
- With lithium ion high performance rechargeable battery
- Longer running time through higher load capacity
- Fast charging function (1 hour)
- Includes automatic turn off charging station
- Blow mould plastic housing
- In durable plastic storage case

Technical data:

Drive:	1/4“
Capacity:	10,8 V
Speed:	0 - 400 rpm
Torque max.	24 Nm
Torque stages:	1 - 16 stages
No load current:	2,9 A
Charging time:	1 hour
Rechargeable battery:	10,8 V - 1,5 Ah

	L mm	B mm	H mm	Spare carbon brushes set	Battery pack	number of Charger batteries		kg
515.3529	135.0	55.0	190.0	515.3595	515.3592	0	0	1.50
515.3530	135.0	55.0	190.0	515.3595	515.3592	1	1	2.40
515.3531	135.0	55.0	190.0	515.3595	515.3592	2	1	2.60

Cordless drill machine

- Light weight
- Handy and ergonomic dual component housing
- Universal use through robust quick release chuck
- With practical clockwise and anticlockwise reversing function
- Stepless controllable motor speed through electronic switch
- With torque control
- Carbon brushes interchangeable
- With lithium ion high performance rechargeable battery
- Longer running time through higher load capacity
- Fast charging function (1 hour)
- Includes automatic turn off charging station
- Blow mould plastic housing
- In durable plastic storage case

Technical data:

Chuck capacity:	1 - 6 mm
Capacity:	10,8 V
Speed:	0 - 1870 rpm
Torque max.	24 Nm
No load current:	3,5 A
Charging time:	1 hour
Rechargeable battery:	10,8 V - 1,5 Ah

	L mm	B mm	H mm	Spare carbon brushes set	Battery pack	number of Charger batteries		kg
515.3534	190.0	55.0	200.0	515.3595	515.3592	0	0	1.60
515.3535	190.0	55.0	200.0	515.3595	515.3592	1	1	2.50
515.3536	190.0	55.0	200.0	515.3595	515.3592	2	1	2.70

RIVETING TOOLS PISTOL

Cordless riveting tool pistol

- Handy and ergonomic dual component housing
- Universal use for aluminium and steel rivets Ø 2.4/3.2/4.0/4.8 mm
- Approx. 220 rivets per battery
- With practical clockwise and anticlockwise reversing function
- Very short setup time
- Fast change of rivets
- Short processing time
- Stepless controllable motor speed through electronic switch
- 40% extended lifespan due to changeable special carbon brush conductors
- With lithium-ion high performance rechargeable battery
- Includes automatic turn off charging station
- Fast charging function (1 hour)
- Blow mould plastic housing
- In durable plastic storage case

Technical data:

Rivet sizes:	2,4 / 3,2 / 4,0 / 4,8 mm
Stroke length:	15 mm
Vibration:	3,2 ms²
Noise performance level:	86,9 dbA
Noise pressure level:	75.9 dbA
Driving power:	4.900 Nm
Capacity:	10,8 V
Rechargeable battery:	10,8 V - 1,5 Ah

	L mm	B mm	H mm	Spare carbon brushes set	Battery pack	number of Charger batteries		kg
515.4104	235.0	55.0	200.0	515.3595	515.3592	0	0	1.15
515.4105	235.0	55.0	200.0	515.3595	515.3592	1	1	2.69
515.4106	235.0	55.0	200.0	515.3595	515.3592	2	1	3.07

CORDLESS POLISHER

Cordless polisher

- Handy and ergonomic dual component housing
- Polishing with a fast and excellent work result
- Carbon brushes interchangeable
- With lithium ion high performance rechargeable battery
- Longer running time through higher load capacity
- Fast charging function (1 hour)
- Includes automatic turn off charging station
- Blow mould plastic housing
- With lambswool bonnet
- In durable plastic storage case

Technical data:

Capacity:	18 V
Speed:	1600 - 2300 rpm
Polishing sponge diameter:	Ø 125 mm / 5“
No load current:	3 A
Charging time:	1 hour
Rechargeable battery:	18 V - 3,0 Ah
Weight (basic unit + battery):	2,5 kg

	L mm	B mm	H mm	Replacement pads	Lambswool bonnet	Spare carbon brushes set	Battery pack	number of Charger batteries		kg
515.3554	420.0	60.0	100.0	515.3556	515.3557	515.3596	515.3599	0	0	4.00
515.3555	420.0	60.0	100.0	515.3556	515.3557	515.3596	515.3599	1	1	5.30
515.3756	360.0	60.0	100.0	515.3556	515.3557	515.3596	515.3599	2	1	6.10

CORDLESS GREASE GUN

400ml cordless grease gun

- Handy and ergonomic dual component housing
- For standard grease cartridges or direct filling
- Ideal for heavy greasing with counter pressure
- With flexible 750 mm filling tube
- Carbon brushes interchangeable
- With lithium ion high performance rechargeable battery
- With a rechargeable battery that can be process up to 15 cartridges
- Longer running time through higher load capacity
- Fast charging function (1 hour)
- Includes automatic turn off charging station
- In durable plastic storage case

Technical data:

Operating pressure:	420 bar / 42 MPa
NLGI class:	< 2
Grease filling:	75 g / min
Capacity of the unit:	600 ml
No load current:	3,0 A
Operating current:	2,0 ~ 5,5 A
Charging time:	1 hour
Rechargeable battery:	18 V - 3,0 Ah

	L mm	B mm	H mm	Spare carbon brushes set	Battery pack	number of Charger batteries		kg
515.3559	237.0	80.0	487.0	515.3596	515.3599	0	0	5.40
515.3560	237.0	80.0	487.0	515.3596	515.3599	1	1	6.70
515.3561	237.0	80.0	487.0	515.3596	515.3599	2	1	7.50

Grease gun adaptor set

- For standard hand, cordless and pneumatic grease guns
- Adaptor with sliding sleeve for break-proof connection
- Straight and angled grease nipple
- For grease nipples out of steel, brass and stainless steel

Application range: Cone, funnel, ball and flat grease nipples Trucks, land and construction machines and forestery technology, etc.

			kg
980.1100	7 pcs	Grease gun adaptor set	1.90

consists of:

		L mm	g
980.1101	90° Lubricant adaptor	114.0	150
980.1102	Tube extension, 300 mm	390.0	240
980.1103	Straight extension	155.0	154
980.1104	90° flat nipple adaptor	135.0	160
980.1105	Rubber grease tip	155.0	150
980.1106	Needle shaped tip	135.0	143
980.1107	360° Adaptor, adjustable	185.0	265

CORDLESS CARTRIDGE GUN

380 ml cordless cartridge gun

- Handy and ergonomic dual component housing
- Ideal for glue cartridges or epoxy resin based + 2 component mortar
- Drop free mechanism
- Carbon brushes interchangeable
- With lithium ion high performance rechargeable battery
- Processing quantity per rechargeable battery load at room temparture 20°C is up to 15 cartridges
- Longer running time through higher load capacity
- Fast charging function (1 hour)
- Includes automatic turn off charging station
- In durable plastic storage case

Technical data:

Capacity:	10,8 V
Capacity of the unit:	380 ml
Propulsion without load:	min. 2 mm / sec max. 4 mm / sec
Output pressure:	539 kgf
Charging time:	1 hour
Rechargeable battery:	10,8 V - 1,5 Ah

	L mm	B mm	H mm	Spare carbon brushes set	Battery pack	number of Charger batteries		kg
515.3564	390.0	140.0	270.0	515.3596	515.3597	0	0	4.00
515.3565	390.0	140.0	270.0	515.3596	515.3597	1	1	5.25
515.3566	390.0	140.0	270.0	515.3596	515.3597	2	1	5.50

Cordless cartridge gun 310 ml

- Handy and ergonomic dual component housing
- Ideal for glue, silicone or acrylic based cartridges
- Drop free mechanism
- Stepless controllable feed
- Carbon brushes interchangeable
- With lithium ion high performance rechargeable battery
- Processing quantity per rechargeable battery load at room temparture 20°C is up to 15 cartridges
- Longer running time through higher load capacity
- Fast charging function (1 hour)
- Includes automatic turn off charging station
- In durable plastic storage case

Technical data:

Capacity:	10,8 V
Capacity of the unit:	310 ml
Propulsion without load:	6,1 mm / sec
Output pressure:	392 kgf
Charging time:	1 hour
Rechargeable battery:	10,8 V - 1,5 Ah

	L mm	B mm	H mm	Spare carbon brushes set	Battery pack	number of Charger batteries		kg
515.3569	410.0	138.0	245.0	515.3596	515.3592	0	0	3.60
515.3570	410.0	138.0	245.0	515.3596	515.3592	1	1	4.50
515.3571	410.0	138.0	245.0	515.3596	515.3592	2	1	4.70

Cordless cartridge gun 400 ml

- Handy and ergonomic dual component housing
- Ideal for glue, silicone or acrylic based cartridges
- Drop free mechanism
- Stepless controllable feed
- Carbon brushes interchangeable
- Lithium ion high performance rechargeable battery
- Processing quantity per rechargeable battery load at room temparture 20°C is up to 15 cartridges
- Longer running time through higher load capacity
- Fast charging function (1 hour)
- Includes automatic turn off charging station
- In durable plastic storage case

Technical data:

Capacity:	10,8 V
Capacity of the unit:	400 ml
Propulsion without load:	6,1 mm / sec
Output pressure:	392 kgf
Charging time:	1 hour
Rechargeable battery:	10,8 V - 1,5 Ah

	L mm	B mm	H mm	Spare carbon brushes set	Battery pack	number of Charger batteries		kg
515.3574	450.0	138.0	245.0	515.3596	515.3592	0	0	3.70
515.3575	450.0	138.0	245.0	515.3596	515.3592	1	1	4.60
515.3576	450.0	138.0	245.0	515.3596	515.3592	2	1	4.80

Cordless cartridge gun 600 ml

- Handy and ergonomic dual component housing
- Ideal for glue, silicone or acrylic based cartridges
- Drop free mechanism
- Stepless controllable feed
- Carbon brushes interchangeable
- Lithium ion high performance rechargeable battery
- Processing quantity per rechargeable battery load at room temparture 20°C is up to 15 cartridges
- Longer running time through higher load capacity
- Fast charging function (1 hour)
- Includes automatic turn off charging station
- In durable plastic storage case

Technical data:

Capacity:	10,8 V
Capacity of the unit:	600 ml
Propulsion without load:	6,1 mm / sec
Output pressure:	392 kgf
Charging time:	1 hour
Rechargeable battery:	10,8 V - 1,5 Ah

	L mm	B mm	H mm	Spare carbon brushes set	Battery pack	number of Charger batteries		kg
515.3579	560.0	138.0	245.0	515.3596	515.3592	0	0	4.10
515.3580	560.0	138.0	245.0	515.3596	515.3592	1	1	5.00
515.3581	560.0	138.0	245.0	515.3596	515.3592	2	1	5.20

RECHARGEABLE BATTERIES AND CHARGERS

Universal fast charger

- Suitable for 10,8 V - 18,0 V Ah lithium ion high performance rechargeable battery
- Integrated automatic safety switching off
- Impact resistant polyethylene housing

Technical data:

Battery type:	10,8 V - 18,0 V
Charging time:	1 hour
Charging voltage:	AC 100 - 240 V ~ 50 / 60 Hz
Working temperature:	-5° / +45°

	L mm	B mm	H mm	g
515.3590	145.0	100.0	55.0	500

Universal fast charger

- Suitable for 10,8 V Ah lithium ion high performance rechargeable battery
- Integrated automatic safety switching off
- Impact resistant polyethylene housing

Technical data:

Battery type:	10,8 V
Charging time:	1 hour
Charging voltage:	AC 100 - 240 V ~ 50 / 60 Hz
Working temperature:	-5° / +45°

	L mm	B mm	H mm	g
515.3591	175.0	115.0	65.0	700

Universal spare batteries

- Lithium ion high performance rechargeable battery
- Impact resistant polyethylene housing

Technical data:

Battery type:	Lithium-ion high
Charging time:	1 hour
Working temperature:	-5° / +45°

	V	Ah	L mm	B mm	H mm	g
515.3592	10,8	1,5	60.5	54.0	84.8	200

Universal push in batteries

- Lithium ion high performance rechargeable battery
- Integrated automatic safety switching off
- With control LED to discharge
- Impact resistant polyethylene housing
- ca. 1 hour charge time

	V	Ah	L mm	B mm	H mm	g
515.3597	10,8	1,5	73.0	80.0	109.6	300
515.3599	18,0	3,0	73.0	80.0	129.8	800

INSPECTION LAMPS

Flexible inspection set

- Halogen lamp
- Flexible shaft
- Includes flexible fibreglass attachment
- Clip for the breast pocket
- Includes single lamp bulb
- Approx. 60 hours lamp duration
- Includes 2 x LR 03 button cell + 2 x 1,5 V AAA batteries
- Impact proof housing

	L mm	B mm	H mm	Spare bulb	g	
550.1160	210.0	150.0	25.0	550.1161	230	

LED FLASHLIGHT

LEDMAX CREE-Power LED torch

- Ideal for smock and shirt pockets
- 1 Watt CREE Chip LED
- 85 Lumens luminous flux
- 25 m headlight range
- Ingress protection according to IPX3
- Clip for the breast pocket
- 5 - 10 hours lamp duration
- Includes 2 x AA 1,5 V batteries
- Ultra light and impact resistant aluminium housing

Technical data:

Headlight range:	25.0 m
Luminosity:	1 W

	L mm	D mm	g	
550.1207	140.0	15.0	50	

LEDMAX CREE Power LED torch with focus

- 3 Watt CREE Chip Power LED
- Luminous flux 130 Lumen
- Headlight range of up to 100 meters
- Zoom from spot to flood light
- Multifunctional-button with 4 modes: On/Off / 5W / 3W / Blink
- Weatherproof protection IPX3
- 3 hours lamp duration
- Includes 3 x AAA 1,5V batteries
- With hand strap
- Ultra light and impact resistant aluminium housing

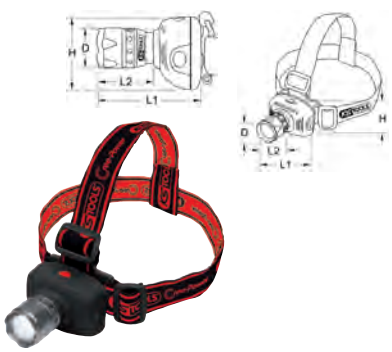
Technical data:

Headlight range:	max. 100,0 m
Luminosity:	3 W

	L mm	D mm	g	
550.1237	160.0	35.0	135	

LEDMAX CREE Power LED headlamp with fokus

- 3 Watt CREE Chip Power LED
- Luminous flux 130 Lumen
- Headlight range of up to 100 meters
- Zoom from spot to flood light
- Multifunctional-button with 4 modes: On/Off / 5W / 3W / Blink
- Very good wear comfort and secure hold in movement by adjustable front and head band
- Lamp can be additionally tilted in 5 click stops
- Weatherproof protection IPX3
- 3 hours lamp duration
- Includes 3 x AAA 1,5V batteries



Technical data:

Headlight range:	max. 100,0 m
Luminosity:	3 W

	D mm	H mm	L1 mm	L2 mm	g	
550.1238	30.0	40.0	65.0	30.0	80	

LED-HAND LAMPS

LEDMAX 12/24 V + 110/220 V rechargeable battery work lamp S10

- 30 Power Chip LED's
- Industrial quality
- Also for mobile use (12/24 V)
- Ideal for very long network independent working
- Housing body covered with high quality rubber
- Ingress protection according to IP64
- Durable blow mould
- Revolving hooks for suspending
- With control LED to discharge
- Includes automatic turn off charging station
- 5 - 6 hours charging time
- 9 - 10 hours lamp duration
- Polycarbonate housing

Technical data:

Battery:	3,7 V / 1800 mAh
Rechargeable battery:	Li-polymer
Capacity:	2,8 Watt
Charging voltage:	AC 100-240 V ~ 50 / 60 Hz DC 12-28 V
Working temperature:	-5° / +45°

	L mm	g	
150.4235	340.0	900	

LEDMAX 110/220 V Cordless work lamp

- Ideal for very long network independent working
- 30 Power Chip LEDs
- Housing body covered with high quality rubber
- Weatherproof protection IP54
- Shock and impact resistant
- Revolving hooks for suspending
- With control LED to discharge
- Includes automatic turn off charging station
- 2 hours charging time
- 4 hours lamp duration
- Impact resistant Polycarbonate housing

Technical data:

Battery:	3.7 V / 1800 mAh
Rechargeable battery:	Li-polymer
Capacity:	2,4 Watt
Charging voltage:	AC 100-240 V ~ 50 / 60 Hz
Working temperature:	-5° / +45°

	L mm	g	
150.4240	340.0	900	

LEDMAX 220 V Cordless work lamp

- Ideal for very long network independent working
- 30 Power Chip LEDs
- Housing body covered with high quality rubber
- Weatherproof protection IP54
- Shock and impact resistant
- Revolving hooks for suspending
- With control LED to discharge
- Including mains charger with battery charge indicator light
- 5 hours charging time
- 5 hours lamp duration
- Impact resistant Polycarbonate housing

Technical data:

Battery:	3,7 V / 1800 mAh
Rechargeable battery:	Li-polymer
Capacity:	2,3 Watt
Charging voltage:	AC 230V 60/50Hz
Working temperature:	-5°C up to +50°C
Storage temperature:	-20° up tp +70°C

		g
150.4245	LEDMAX 220 V Cordless work lamp	700

LEDMAX Super Brigth Lampe

- 3 Super Bright LEDs (225 Lumen)
- Compact and robust working lamp
- Constant brightness for the entire lighting period
- Industrial quality
- Ideal for very long network independent working
- 100 % waterproof/dustproof
- Weatherproof protection IP68
- Revolving hooks for suspending
- Includes automatic turn off charging station
- A loading indicator light shows when the battery will be flat in about 30 min
- 5 hours charging time
- 4 hours lamp duration
- Impact resistant Polymer Lithium housing
- Can be used indoors and out of doors

Technical data:

Battery:	3,7 V / 2400 mAh
Rechargeable battery:	Li-polymer
Capacity:	3 Watt / 1600 Lux
Charging voltage:	AC 230 V ~ 50 Hz
Working temperature:	0° / +40°C

	L mm	g
150.4300	280.0	725

LEDMAX POWER LED 12/24 V + 110/220 V Cordless working lamp, foldable

- 6 Watt Citizen Power LED with excellent lighting capacity
- Compact and robust working lamp
- Industrial quality
- Housing 180° foldable - Optimal orientation of the lighting sphere
- Also for mobile use (12/24 V)
- Ideal for very long network independent working
- Housing body covered with high quality rubber
- Weatherproof protection IP64
- Shock and impact resistant
- Revolving hooks for suspending
- Magnetic feet for fixing
- Includes automatic turn off charging station
- 3 hours charging time
- 3 hours lamp duration
- Impact resistant Polycarbonate housing

Technical data:

Battery:	3,6 V / 3600 mAh
Rechargeable battery:	Li-polymer
Charging voltage:	AC 100-240 V ~ 50 / 60 Hz DC 12-28 V
Working temperature:	-5° / +45°

	L mm	D mm	g
150.4310	290.0	56.0	500

Work lamps

Basic workshop inspection hand lamp 8 watts

- Standard quality
- Plastic protection pipe
- Shock proof
- Plastic hand grip casing
- Revolving hooks for suspending
- Lamp extension tube not interchangeable
- Includes lamp

Technical data:

Luminosity:	8 W
Lamp length:	400 mm
Connection cable length:	4 m
Operational voltage:	230 V
Protection class:	-
Weatherproof protection:	-

	L mm	g
150.4205	400.0	390

Pro workshop inspection hand lamp 8 watts

- Industrial quality
- Protection pipe out of polycarbonate
- Impact resistant impact strength IK09
- High quality rubber hand grip casing
- Revolving hooks for suspending
- With contour connector according to CEE 7/17
- Ingress protection according to IP54
- Integrated connector
- Lamp extension tube interchangeable
- Includes lamp

Technical data:

Luminosity:	8 W
Lamp length:	490 mm
Connection cable length:	5 m
Operational voltage:	230 V
Protection class:	II
Weatherproof protection:	IP54

	L mm	Spare bulb	g
150.4208	490.0	150.4209	720

Pro workshop inspection hand lamp 11 watts

- Industrial quality
- Protection pipe out of polycarbonate
- Impact resistant impact strength IK09
- High quality rubber hand grip casing
- Revolving hooks for suspending with shaped plug according to CEE 7/17
- Ingress protection according to IP54
- Integrated connector
- Lamp extension tube interchangeable
- Includes lamp

Technical data:

Luminosity:	11 W
Lamp length:	395 mm
Connection cable length:	5 m
Operational voltage:	230 V
Protection class:	II
Weatherproof protection:	IP54

	L mm	Spare bulb	g
150.4210	395.0	150.4211	720

Professional XXL bonnet lighting with expander holder

- Optimum illumination of the complete engine compartment
- Self-locking and fixable
- Adjustable to bonnet widths from 1335 to 1800 mm
- Large, adjustable and rubber coated hooks
- Integrated connector
- Illuminant is easy and quickly changed
- Including illuminant
- Protection pipe out of polycarbonate

Technical data:

Luminosity:	30 W
Adjusatbel length:	1.335-1.800 mm
Connection cable length:	5 m
Operational voltage:	AC220-240V
Protection class:	II
Weatherproof protection:	IP64
Ø Handle and head:	74.0 mm

		kg
150.4305	Professional XXL bonnet lighting with expander holder	2.60

WORK LAMPS

Pro workshop inspection hand lamp 36 watt

- Industrial quality
- 2.900 lumens luminous flux
- Polycarbonate protection glass
- Housing cover also rubber
- Impact resistant impact strength IK10
- Hooks for double sided applications and with contour connector according to CEE 7/17
- Ingress protection according to IP54
- Integrated connector
- Lamp extension tube interchangeable
- Includes lamp
- Blow mould plastic housing

Technical data:

Luminosity:	36 W
Connection cable length:	5 m
Operational voltage:	230 V
Accessory outlet:	-
Protection class:	II
Weatherproof protection:	IP54

	H mm	B mm	T mm	Spare bulb	kg	
150.4255	230.0	340.0	110.0	150.4256	2.36	

Pro workshop inspection hand lamp 108 watt

- Industrial quality
- 8.700 lumens luminous flux
- With 1 x 230 V isolated outlet on the back
- Polycarbonate protection glass
- Housing cover also rubber
- Impact resistant impact strength IK10
- Hooks for double sided applications and pedestal with contour connector according to CEE 7/17
- Ingress protection according to IP44
- Integrated connector
- Lamp extension tube interchangeable
- Includes lamp
- Blow mould plastic housing

Technical data:

Luminosity:	108 W
Connection cable length:	5 m
Operational voltage:	230 V
Accessory outlet:	1 x 230 V Schuko
Protection class:	II
Weatherproof protection:	IP44

	H mm	B mm	T mm	Spare bulb	kg	
150.4265	290.0	500.0	110.0	150.4261	5.82	

Extending tripod for work lamps

- Universal tripod for work lamps
- Expandable through optional extensions
- Optimal illuminating guaranteed
- Secure stand
- Extremely compact transportation size
- On fold away tripod foot part
- Fully adjustable through 2 wing screws
- Work height 1,0 to 2,7 m
- With cable holder device
- Galvanised steel pipe

	H mm	Castor wheel set	kg	
150.4267	1000 - 2700	150.4268	5.92	

Pro workshop inspection hand lamp 72 watt

- Industrial quality
- 5.800 lumens luminous flux
- With 2 x 230 V isolated outlet on the back
- Polycarbonate protection glass
- Housing cover also rubber
- Impact resistant impact strength IK10
- Hooks for double sided applications and pedestal with contour connector according to CEE 7/17
- Ingress protection according to IP44
- Integrated connector
- Lamp extension tube interchangeable
- Includes lamp
- Blow mould plastic housing

Technical data:

Luminosity:	72 W
Connection cable length:	5 m
Operational voltage:	230 V
Accessory outlet:	2 x 230 V Schuko
Protection class:	II
Weatherproof protection:	IP44

	H mm	B mm	T mm	Spare bulb	kg	
150.4260	285.0	495.0	110.0	150.4261	5.02	

ACCESSORIES

Workshop cable reel

- Practical and space saving
- Extra strong, automatic return mechanism
- With endstopper
- 180° freely revolving
- Cable working length 15 m
- Connection cable 1,5 m
- Metal wall reinforcement rail 270 mm

Technical data:

Work cable length m:	15 m
Connection cable length:	1,5 m
Voltage:	230 V

		kg	
150.4220	Workshop cable reel	7.00	

Castor wheel sets for 150.4267

- 3 castor wheels with special rubber tyre
- Includes reinforcement screw
- With backing plate on every castor

			kg	
150.4268	3 pcs	Castor wheel sets for 150.4267	1.00	

Scaffolding clamp for work lamps

- Universal scaffolding clamp for cold light work lamps
- For all current scaffoldings and pipes up to 50 mm
- Heavy and robust execution
- Galvanised steel

	Ø mm	kg	
150.4269	50,0	1.06	

TOOL CABINETS

4 colours, 4 drawer configurations, 3 tool cabinet ranges = 48 tool cabinet variants!

The tool cabinets of BASICLine and ULTIMATELine series and more accessories can be found in our general catalogue K11

Tool cabinets MASTERLine

MASTER Line

- Very stable steel construction with 0.9 mm sheet steel - distortion resistant
- High level of stability
- Recessed rear and side walls with metal peg board for mounting different accessories
- Ball bearing drawer runners
- Drawers are 100% extendable
- Drawers with non slip rubber mat
- Cabinet top has a 10 mm durable foam insert mat
- With full width polyurethane coated metal handle
- 2 fixed wheels Ø 125 mm
- 2 castor wheels Ø 125 mm with rolling and turning brake
- Side mounted handle
- Electrostatic powder coating

2 stage locking mechanism

- Central locking system on all drawers through the cylinder lock
- Handle locking system prevents unintentional opening

	BASIC Line	MASTER Line	ULTIMATE Line
Optimal accessories	-	**	*****
Safety chamfered	-	-	✓
Aluminium edge structure	-	-	✓
Square punching in side drawers and back wall	-	✓	✓
Drawers with automatic entry	-	-	✓
Plate thickness	0.8 mm	0.9 mm	1.0 mm
Load capacity of each drawer	30 kg	40 kg	45 kg
Total load capacity	350 kg	450 kg	600 kg
Wheel diameter	100 mm	125 mm	125 mm

MASTER*line* TOOL CABINETS

MASTER*line* GRAY/SILVER tool cabinet with 2-stage locking concept

- Very stable steel construction with 0,9 mm sheet steel - distortion resistant
- High level of stability
- Rear and side walls with metal peg board for mounting different accessories
- Handle locking system prevents unintentional opening
- Central locking system on all drawers through the cylinder lock
- Ball bearing drawer runners
- Drawers are 100% extendable
- Drawers with non-slip rubber mat
- Cabinet top has a 10 mm durable foam insert mat
- Full width polyurethane coated metal handle
- Two fixed wheels Ø 125 mm
- Two castor wheels Ø 125 mm with rolling and turning brake
- Side mounted handle
- Electrostatic powder coating
- Combination with inserts

Total capacity:	B 727 x H 1005 x T 460 mm
Drawer internal dimensions	565 x 395 mm
Total load capacity:	450 kg
Load capacity of each drawer:	40 kg

		no	75 mm	150 mm	kg	
875.0004		4	4	-	57.00	
875.0005		5	1	4	61.00	
875.0007		7	5	2	68.00	
875.0009		9	9	-	68.00	

MASTER*line* BLACK/RED tool cabinet with 2-stage locking concept

- Very stable steel construction with 0,9 mm sheet steel - distortion resistant
- High level of stability
- Rear and side walls with metal peg board for mounting different accessories
- Handle locking system prevents unintentional opening
- Central locking system on all drawers through the cylinder lock
- Ball bearing drawer runners
- Drawers are 100% extendable
- Drawers with non-slip rubber mat
- Cabinet top has a 10 mm durable foam insert mat
- Full width polyurethane coated metal handle
- Two fixed wheels Ø 125 mm
- Two castor wheels Ø 125 mm with rolling and turning brake
- Side mounted handle
- Electrostatic powder coating
- Combination with inserts

Total capacity:	B 727 x H 1005 x T 460 mm
Drawer internal dimensions	565 x 395 mm
Total load capacity:	450 kg
Load capacity of each drawer:	40 kg

		no	75 mm	150 mm	kg	
876.0004		4	4	-	57.00	
876.0005		5	1	4	61.00	
876.0007		7	5	2	68.00	
876.0009		9	9	-	68.00	

MASTER*line* BLUE/SILVER tool cabinet with 2-stage locking concept

- Very stable steel construction with 0,9 mm sheet steel - distortion resistant
- High level of stability
- Rear and side walls with metal peg board for mounting different accessories
- Handle locking system prevents unintentional opening
- Central locking system on all drawers through the cylinder lock
- Ball bearing drawer runners
- Drawers are 100% extendable
- Drawers with non-slip rubber mat
- Cabinet top has a 10 mm durable foam insert mat
- Full width polyurethane coated metal handle
- Two fixed wheels Ø 125 mm
- Two castor wheels Ø 125 mm with rolling and turning brake
- Side mounted handle
- Electrostatic powder coating
- Combination with inserts

Total capacity:	B 727 x H 1005 x T 460 mm
Drawer internal dimensions	565 x 395 mm
Total load capacity:	450 kg
Load capacity of each drawer:	40 kg

		no	75 mm	150 mm	kg	
877.0004		4	4	-	57.00	
877.0005		5	1	4	61.00	
877.0007		7	5	2	68.00	
877.0009		9	9	-	68.00	

MASTER*line* GRAY/SILVER tool cabinet top chest with 2-stage locking concept

- Very stable steel construction with 0.9 mm sheet steel - distortion resistant
- High level of stability
- Rear and side walls with metal peg board for mounting different accessories
- Handle locking system prevents unintentional opening
- Central locking system on all drawers through the cylinder lock
- Ball bearing drawer runners
- Drawers are 100% extendable
- Drawers with non-slip rubber mat
- Cabinet top has a 10 mm durable foam insert mat
- Side mounted handle
- Electrostatic powder coating
- Combination with tool cabinet

Total capacity:	B 727 x H 451 x T 460 mm
Drawer internal dimensions	565 x 395 mm
Total load capacity:	250 kg
Load capacity of each drawer:	40 kg

		no	75 mm	150 mm	kg	
875.0014		4	4	-	24.00	

MASTER*line* BLACK/RED tool cabinet top chest with 2-stage locking concept

- Very stable steel construction with 0.9 mm sheet steel - distortion resistant
- High level of stability
- Rear and side walls with metal peg board for mounting different accessories
- Handle locking system prevents unintentional opening
- Central locking system on all drawers through the cylinder lock
- Ball bearing drawer runners
- Drawers are 100% extendable
- Drawers with non-slip rubber mat
- Cabinet top has a 10 mm durable foam insert mat
- Side mounted handle
- Electrostatic powder coating
- Combination with tool cabinet

Total capacity:	B 727 x H 451 x T 460 mm
Drawer internal dimensions	565 x 395 mm
Total load capacity:	250 kg
Load capacity of each drawer:	40 kg

		no	75 mm	150 mm	kg	
876.0014		4	4	-	24.00	

MASTER*line* BLUE/SILVER tool cabinet top chest with 2-stage locking concept

- Very stable steel construction with 0.9 mm sheet steel - distortion resistant
- High level of stability
- Rear and side walls with metal peg board for mounting different accessories
- Handle locking system prevents unintentional opening
- Central locking system on all drawers through the cylinder lock
- Ball bearing drawer runners
- Drawers are 100% extendable
- Drawers with non-slip rubber mat
- Cabinet top has a 10 mm durable foam insert mat
- Side mounted handle
- Electrostatic powder coating
- Combination with tool cabinet

Total capacity:	B 727 x H 451 x T 460 mm
Drawer internal dimensions	565 x 395 mm
Total load capacity:	250 kg
Load capacity of each drawer:	40 kg

		no	75 mm	150 mm	kg	
877.0014		4	4	-	24.00	

MASTER*line* BLACK/SILVER tool cabinet with 2-stage locking concept

- Very stable steel construction with 0,9 mm sheet steel - distortion resistant
- High level of stability
- Rear and side walls with metal peg board for mounting different accessories
- Handle locking system prevents unintentional opening
- Central locking system on all drawers through the cylinder lock
- Ball bearing drawer runners
- Drawers are 100% extendable
- Drawers with non-slip rubber mat
- Cabinet top has a 10 mm durable foam insert mat
- Full width polyurethane coated metal handle
- Two fixed wheels Ø 125 mm
- Two castor wheels Ø 125 mm with rolling and turning brake
- Side mounted handle
- Electrostatic powder coating
- Combination with inserts

Total capacity: B 727 x H 1005 x T 460 mm
Drawer internal dimensions 565 x 395 mm
Total load capacity: 450 kg
Load capacity of each drawer: 40 kg

		no	75 mm	150 mm	kg	
878.0004		4	4	-	57.00	
878.0005		5	1	4	61.00	
878.0007		7	5	2	68.00	
878.0009		9	9	-	68.00	

MASTER*line* BLACK/SILVER tool cabinet top chest with 2-stage locking concept

- Very stable steel construction with 0.9 mm sheet steel - distortion resistant
- High level of stability
- Rear and side walls with metal peg board for mounting different accessories
- Handle locking system prevents unintentional opening
- Central locking system on all drawers through the cylinder lock
- Ball bearing drawer runners
- Drawers are 100% extendable
- Drawers with non-slip rubber mat
- Cabinet top has a 10 mm durable foam insert mat
- Side mounted handle
- Electrostatic powder coating
- Combination with tool cabinet

Total capacity: B 727 x H 451 x T 460 mm
Drawer internal dimensions 565 x 395 mm
Total load capacity: 250 kg
Load capacity of each drawer: 40 kg

		no	75 mm	150 mm	kg	
878.0014		4	4	-	24.00	

MASTER*line* large tool cabinet with 2 stage locking concept

- Very stable steel construction with 0.9 mm sheet steel - distortion resistant
- High level of stability
- Rear and side walls with metal peg board for mounting different accessories
- Ball bearing drawer runners
- Drawers are 100% extendable
- Drawers with non slip rubber mat
- Cabinet top has a 10 mm durable foam insert mat
- With full width polyurethane coated metal handle
- With two fixed wheels Ø 132 mm
- With two castor wheels Ø 132 mm with rolling and turning brake
- Side mounted handle
- Electrostatic powder coating
- Combination with inserts
- 2 stage locking mechanism
- Handle lockind system prevents unintentional opening
- Central locking system on all drawers through the cylinder lock

Total capacity: W 1157.5 x H 1000 x D 481 mm
Drawer internal dimensions 7 x 375 x 398 x 75 mm
7 x 569 x 398 x 75 mm
1 x 375 x 398 x 154 mm
1 x 569 x 398 x 154 mm
Total load capacity: 800 kg
Load capacity of each drawer: 40 kg

		no	75 mm	150 mm	kg
875.0016		16	14	2	124.00
876.0016		16	14	2	124.00
877.0016		16	14	2	124.00
878.0016		16	14	2	124.00

MASTER*line* large tool cabinet with 2 stage locking concept

- Very stable steel construction with 0.9 mm sheet steel - distortion resistant
- High level of stability
- Rear and side walls with metal peg board for mounting different accessories
- Ball bearing drawer runners
- Drawers are 100% extendable
- Drawers with non slip rubber mat
- Cabinet top has a 10 mm durable foam insert mat
- Side mounted handle
- Electrostatic powder coating
- Combination with tool cabinet
- two folding carrying handles each
- 2 stage locking mechanism
- Handle lockind system prevents unintentional opening
- Central locking system on all drawers through the cylinder lock

Total capacity: W 1157.5 x H 454.5 x D 481 mm
Drawer internal dimensions 4 x 375 x 398 x 75 mm
4 x 569 x 398 x 75 mm
Total load capacity: 400 kg
Load capacity of each drawer: 40 kg

		no	75 mm	150 mm	kg
875.0018		8	8	-	61.00
876.0018		8	8	-	61.00
877.0018		8	8	-	61.00
878.0018		8	8	-	61.00

MASTER*line* ACCESSORIES

MASTER*line* wooden worktop

- Can be used instead of the rubber mat
- Multiplex Beech Plywood
- Joint free
- Resistant to warping
- Glued plywood
- Protective coating
- Smooth work surface

	L mm	B mm	H mm	kg	
875.9915	460.0	727.0	30.0	5.00	

MASTER*line* alu grooved top

- Can be used instead of the rubber mat
- Easy to maintain
- Surface is lightly corrugated
- Ideal for use as a work surface

	L mm	B mm	H mm	kg	
875.9920	460.0	727.0	2.0	2.50	

MASTER*line* storage tray insert

- Storage tray for small parts
- Suitable for use in the tool cabinet drawer
- Smooth surface

	Colour code	L mm	B mm	H mm	kg	
875.9925		570.0	153.0	10.0	0.95	
875.9926		570.0	153.0	10.0	0.95	

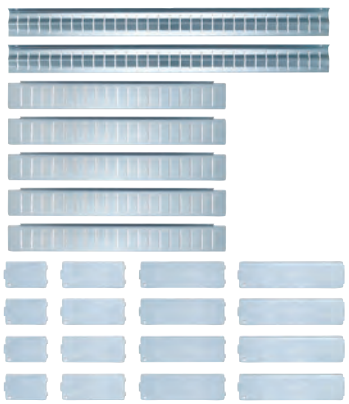
220 V Cable reel

- Clamping device
- Ideal for heavy use on construction sites, in the workshop and industrial areas
- 10 Meter cable length
- Drum body out of special plastic
- 4 Protected socket outlets
- Overheating protection
- Control lamp for overheating and overload
- 4 x Safety plugs

	B mm	H mm	kg	
875.9930	238.0	290.0	1.20	

Drawer divider set

- For use only in drawers with inside dimensions 565 x 395 mm
- Partitioning possibilities for various utensils
- Individually adjustable
- Sheet steel



			kg	
875.9940	23 pcs	Drawer divider set	3.00	

consists of:

			kg	
875.9941	Mounting for part system, slotted, 565x50x1.5 mm		0.53	
875.9942	Coarse divider, slotted, 393x50x1.5 mm		1.20	
875.9943	Fine divider, non slotted, 188x50x1.5 mm		0.45	
875.9944	Fine divider, non slotted, 150x50x1.5 mm		0.35	
875.9945	Fine divider, non slotted, 112x50x1.5 mm		0.27	
875.9946	Fine divider, non slotted, 74x50x1.5 mm		0.18	

MASTER*line* TOOL CABINET SETS

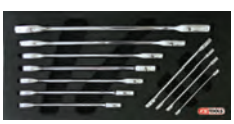
MASTER*line* STARTER tool cabinet set, 125 pcs

- Tool storage system includes 7 system inserts
- 4 colour coded inserts for easy system assembly
- Available with different drawer configurations
- Very stable steel construction with 0,9 mm sheet steel - distortion resistant
- High level of stability
- Rear and side walls with metal peg board for mounting different accessories
- Handle locking system prevents unintentional opening
- Central locking system on all drawers through the cylinder lock
- Ball bearing drawer runners
- Drawers are 100% extendable
- Drawers with non-slip rubber mat
- Cabinet top has a 10 mm durable foam insert mat
- Full width polyurethane coated metal handle
- Two fixed wheels Ø 125 mm
- Two castor wheels Ø 125 mm with rolling and turning brake
- Side mounted handle
- Electrostatic powder coating
- Combination with inserts

Total capacity:	B 727 x H 1005 x T 460 mm
Drawer internal dimensions	565 x 395 mm
Total load capacity:	450 kg
Load capacity of each drawer:	40 kg

	4 x	5 x	7 x	9 x
	875.4125	875.5125	875.7125	875.9125
	876.4125	876.5125	876.7125	876.9125
	877.4125	877.5125	877.7125	877.9125
	878.4125	878.5125	878.7125	878.9125

consists of:

815.1301		Pin punch and hammerset, 13 pcs, in 1/3 foam system insert
815.2351		Plier set, 6 pcs, in 2/3 foam system insert
818.1301		1/4" CHROME*plus*® socket set, 46 pcs, in 1/3 foam system insert
818.1303		1/2" CHROME*plus*® socket set, 24 pcs, in 1/3 foam system insert
818.1321		CHROME*plus*® combination spanner set, 14 pcs, in 1/3 foam system insert
818.1324		CHROME*plus*® double open ended spanner set, 11 pcs, in 1/3 foam system insert

818.2331	ERGOTORQUEplus® Screwdriver and plier set, 11 pcs, in 2/3 foam system insert

MASTER*line* STARTER*plus* tool cabinet set

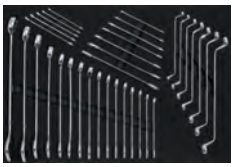
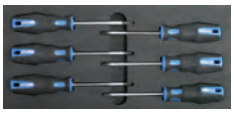
- Tool storage system includes 6 system inserts
- Very stable steel construction with 0.9mm sheet steel - distortion resistant
- High level of stability
- Receased rear and side walls with metal peg board for mounting
- Different accessories
- Handle lockind system prevents unintentional opening
- Central locking system on all drawers through the cylinder lock
- Ball bearing drawer runners
- Drawers are 100% extendable
- Drawers with non slip rubber mat
- Cabinet top has a 10 mm durable foam insert mat
- With full width polyurethane coated metal handle
- 2 fixed wheels Ø 125 mm
- With two castor wheels 125 mm with rolling and turning brake
- Side mounted handle
- Electrostatic powder coating
- Combination with inserts

Technical data:

Total capacity:	B 727 x H 1005 x T 460 mm
Drawer internal dimensions	565 x 395 mm
Total load capacity:	450 kg
Load capacity of each drawer:	40 kg

		kg
878.7176	176 pcs MASTER*line* STARTER*plus* tool cabinet set	75.60

815.1301	Pin punch and hammerset, 13 pcs, in 1/3 foam system insert
815.2351	Plier set, 6 pcs, in 2/3 foam system insert

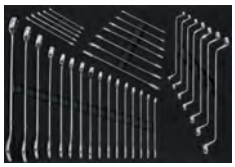
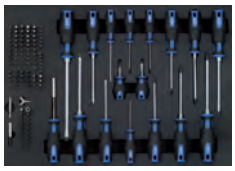
815.1130		CLASSIC Spanner set, 35 pcs, in 1/1 foam system insert
818.1335		ERGOTORQUEplus® Screwdriver set for tamperproof TX, 6 pcs, in 1/3 foam system insert
818.2331		ERGOTORQUEplus® Screwdriver and plier set, 11 pcs, in 2/3 foam system insert
818.1185		1/4"+3/8"+1/2" CHOMEplus® socket set with torque wrench, 105 pcs, in 1/1 foam system insert

MASTERline Tool trolley, 364 pcs

- Very stable steel construction with 0.9mm sheet steel - distortion resistant
- High level of stability
- Rear and side walls with metal peg board for mounting different accessories
- Handle lockind system prevents unintentional opening
- Central locking system on all drawers through the cylinder lock
- Ball bearing drawer runners
- Drawers are 100% extendable
- Drawers with non slip rubber mat
- Cabinet top has a 10 mm durable foam insert mat
- With full width polyurethane coated metal handle
- 2 fixed wheels Ø 125 mm
- With two castor wheels 125 mm with rolling and turning brake
- Side mounted handle
- Electrostatic powder coating
- Combination with inserts

Total capacity:	B 727 x H 1005 x T 460 mm
Drawer internal dimensions	565 x 395 mm
Total load capacity:	450 kg
Load capacity of each drawer:	40 kg
No of drawers:	7

			kg
878.7364	364 pcs	MASTERline Tool trolley, 364 pcs	89.63

815.1130		CLASSIC Spanner set, 35 pcs, in 1/1 foam system insert
815.2351		Plier set, 6 pcs, in 2/3 foam system insert
815.1301		Pin punch and hammerset, 13 pcs, in 1/3 foam system insert
815.1171		1/4"+3/8"+1/2" CHROME+ Socket set 171pcs, 1/1 system insert
815.1110		Screwdriver bit set,139pcs, 1/1 system insert

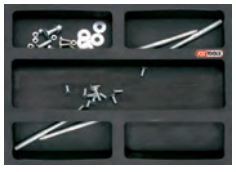
MASTERline IMPERIAL+SAE tool cabinet set, 311 pcs

- Tool storage system includes 9 system inserts
- 4 colour coded inserts for easy system assembly
- Available with different drawer configurations
- Very stable steel construction with 0,9 mm sheet steel - distortion resistant
- High level of stability
- Rear and side walls with metal peg board for mounting different accessories
- Handle locking system prevents unintentional opening
- Central locking system on all drawers through the cylinder lock
- Ball bearing drawer runners
- Drawers are 100% extendable
- Drawers with non-slip rubber mat
- Cabinet top has a 10mm durable foam insert mat
- Full width polyurethane coated metal handle
- Two fixed wheels Ø 125 mm
- Two castor wheels Ø 125 mm with rolling and turning brake
- Side mounted handle
- Electrostatic powder coating
- Combination with inserts

Total capacity:	B 727 x H 1005 x T 460 mm
Drawer internal dimensions	565 x 395 mm
Total load capacity:	450 kg
Load capacity of each drawer:	40 kg

		875.5311	875.7311	875.9311
		876.5311	876.7311	876.9311
		877.5311	877.7311	877.9311
		878.5311	878.7311	878.9311

consists of:

818.1308	3/8" CHROME-*plus*® socket set, 46 pcs, in 1/3 foam system insert
818.1307	1/4" CHROME-*plus*® socket set, 47 pcs, in 1/3 foam system insert
815.1300	Universal system insert for tool or small parts (empty), in 1/3 foam system insert
815.1125	Spanner and hammer set, 31 pcs, metric in 1/1 foam system insert
815.1343	GEAR*plus*® ratchet combination spanner set, includes adaptors 12 pcs, in 1/3 foam system insert
815.2340	1/4" GEAR*plus*® ratchet screwdriver and bit set, 103 pcs, in 2/3 foam system insert
815.1150	Screwdriver and plier set, 27 pcs, in 1/1 foam system insert
818.1309	1/2" CHROME-*plus*® socket set, 30 pcs, in 1/2 foam system insert
815.1200	 Universal system insert for tool or small parts (empty), in 1/2 foam system insert

Our complete inlay range can be found in our general catalogue K11.

MODULE SYSTEM

Our complete inlay range can be found in our general catalogue K11 or on our homepage: www.kstools.com

create "your own" tool cabinet....

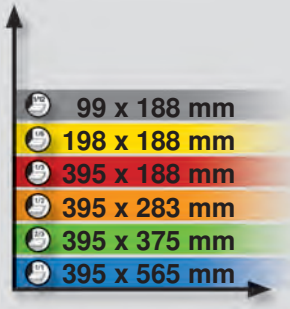
With our unique system inlay configuration you can design your tool cabinet to your exact requirements.
Due to our user friendly foam inlays, you can simply configure each drawer by category (tool type) with a neat and tidy presentation.
It is ideal when you want to work away from your tool cabinet as you can take each inlay individually, meaning you have the right tool for the job.

The benefits:

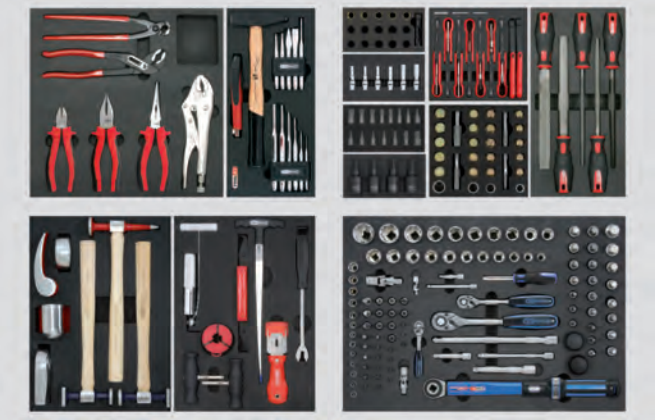
- Individual combination, total flexibility
- No mess or damaged tools
- Perfect tool organisation
- Correct fixing of inlays due to the different sizes available
- Oil resistant
- Easy to clean

create "your own" system case...

Inlay size



The right combination:



WORKBENCHES

Workbench with 3 drawers and 1 door

- Robust and stable steel construction with 1,0 mm sheet steel distortion resistant
- High level of stability
- General construction from robust steel square type tube
- Laminated wooden board
- Waterproof and resistant to chemicals
- Metal protective edge
- High stability due to all metal parts being welded
- Lockable door
- Central locking system on all drawers through the cylinder lock
- Ball bearing drawer runners
- Drawers are 100% extendable
- Side mounted handle
- Electrostatic powder coating

Technical data:

Drawer dimensions:	2 x H 85 x B 430 x T 520 mm
	1 x H 165 x B 430 x T 520 mm
Door dimensions:	H 425 x B 430 x T555 mm
Total load capacity:	400,0 kg
Load capacity of each drawer:	35,0 kg

	L mm	B mm	H mm	kg
865.0003	1200.0	600.0	850.0	86.00

Mobile workbench with 3 drawers and 1 door

- Robust and stable steel construction with 1,0 mm sheet steel distortion resistant
- High level of stability
- General construction from robust steel square type tube
- Laminated wooden board
- Waterproof and resistant to chemicals
- Metal protective edge
- High stability due to all metal parts being welded
- Lockable door
- Central locking system on all drawers through the cylinder lock
- Ball bearing drawer runners
- Drawers are 100% extendable
- With two castor wheels 125 mm with rolling and turning brake
- Drawers with non slip rubber mat
- Side mounted handle
- Electrostatic powder coating

Technical data:

Drawer dimensions:	2 x H 85 x B 430 x T 520 mm
	1 x H 165 x B 430 x T 520 mm
Door dimensions:	H 425 x B 430 x T555 mm
Total load capacity:	400 kg
Load capacity of each drawer:	35 kg

	L mm	B mm	H mm	kg
865.0101	1200.0	600.0	850.0	71.00

Workbench with top tool cabinet and lower cupboard

- Robust and stable steel construction with 1,0 mm sheet steel distortion resistant
- High level of stability
- Central locking system on all drawers through the cylinder lock
- Ball bearing drawer runners
- Drawers are 100% extendable
- Includes built in cupboard and lower cupboard
- Top tool cupboard with roller shutter
- Back wall system with system hole wall for the optimal storage of the tools
- Suitable for hole measurements 10 x 10 mm hole distance 38 mm
- Height adjustable feet (rotary plate)
- Drawers with non slip rubber mat
- Side mounted handle
- Electrostatic powder coating

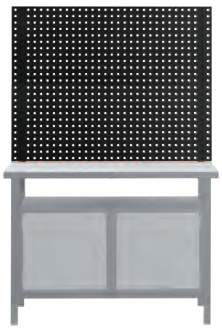
Technical data:

Drawer dimensions:	2 x H 85 x B 430 x T 520 mm
Total load capacity:	450 kg
Load capacity of each drawer:	35 kg

	L mm	B mm	H mm	kg
999.0615	1565.0	705.0	1510.0	119.75

Extension back wall system for workbenches

- 2 x posts
- 2 x hole wall
- For the accommodation of additional tools
- For organising and fastening tools
- Steel sheet construction



	H mm	kg
865.0008	710.0	8.00

Workbench with 6 drawers

- Robust and stable steel construction with 1,0 mm sheet steel - distortion resistant
- High level of stability
- General construction from robust steel - square type tube
- Laminated wooden board
- Waterproof and resistant to chemicals
- With metal protective edge
- High stability due to all metal parts being welded
- Central locking system on all drawers through the cylinder lock
- Ball bearing drawer runners
- Drawers are 100% extendable
- Drawers with non-slip rubber mat
- Side mounted handle
- Electrostatic powder coating

Technical data:

Drawer dimensions:	4 x H 85 x B 430 x T520 mm
	2 x H 165 x B 430 x T 520 mm
Total load capacity:	400,0 kg
Load capacity of each drawer:	35,0 kg

	L mm	B mm	H mm	kg
865.0004	1200.0	600.0	850.0	86.00

XXL workbench with 3 drawers and 1 door

- Robust and stable steel construction with 1,0 mm sheet steel distortion resistant
- High level of stability
- General construction from robust steel square type tube
- Laminated wooden board
- Waterproof and resistant to chemicals
- Metal protective edge
- High stability due to all metal parts being welded
- Lockable door
- Central locking system on all drawers through the cylinder lock
- Ball bearing drawer runners
- Drawers are 100% extendable
- With two castor wheels 125 mm with rolling and turning brake
- Drawers with non slip rubber mat
- Side mounted handle
- Electrostatic powder coating

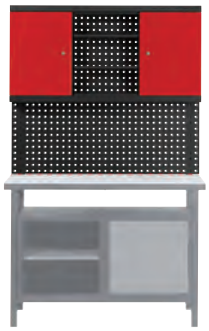
Technical data:

Drawer dimensions:	2 x H 85 x B 430 x T 520 mm
	1 x H 165 x B 430 x T 520 mm
Door dimensions:	H 425 x B 430 x T555 mm
Total load capacity:	400 kg
Load capacity of each drawer:	35 kg

	L mm	B mm	H mm	kg
865.0201	2000.0	680.0	850.0	86.00

Extension back wall system for workbenches with cupboard

- 2 x posts
- 1 x hole wall
- 1 x high level cupboard system, lockable
- For the accommodation of additional tools
- For organising and fastening tools
- Steel sheet construction



	H mm	kg
865.0009	710.0	38.00

Tool cabinet with 2 doors

- Robust and stable steel construction with 1,0 mm sheet steel distortion resistant
- High level of stability
- Central locking system on all doors through the cylinder lock
- Cupboard back wall with hole system
- Suitable for hole measurements 10 x 10 mm hole distance 38 mm
- 2 mounting rails with 4 connection holes
- Continuous opening without stop
- Electrostatic powder coating

Technical data:

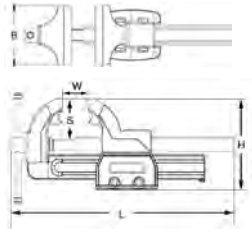
Door dimensions: H 425 x B 430 x T555 mm
Usable depth: 164.0 mm

	L mm	B mm	H mm	kg	
865.0205	970.0	470.0	200.0	22.00	

BENCH VICES

Bench vice

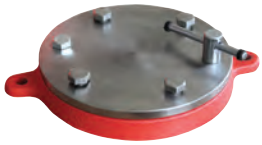
- With adjusting screw and pipe clamps
- Forged front and rear jaws
- Extra high possible clamping jaws shaped by large embossed casting
- Durable prismatic guide
- With mounting screws for turntable
- Induction hardened jaws and anvil
- Double start trapezoidal thread for quick opening and closing
- Vise forward opening
- Ground jaws, anvil plate and slide corners
- Special steel



	B mm	Clamping range mm	S mm	H mm	L mm	Cudgel ø mm	kg	
914.0026	100.0	125,0	70,0	140.0	320.0	12.0	5.00	
914.0031	125.0	155,0	80,0	180.0	395.0	14.0	11.00	
914.0036	150.0	180,0	98,0	220.0	485.0	16.0	20.00	
914.0041	175.0	205,0	110,0	240.0	550.0	18.0	29.00	

Turntable for bench vice

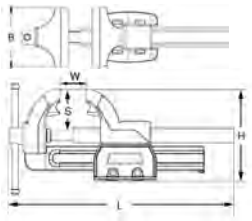
- Ideal supplement for KS-vices 914.0027 - 914.0041
- Enables accurate positioning of the workpiece
- 360° freely rotatable
- Safe and quick locking via handle
- Flat and stable construction
- Inclusive fastening screws for vice



		B mm	kg	
914.0027	914.0026	100.0	1.40	
914.0032	914.0031	125.0	2.80	
914.0037	914.0036	150.0	3.75	
914.0042	914.0041	175.0	4.85	

Bench vice with turntable

- With adjusting screw and pipe clamps
- Forged front and rear jaws
- Extra high possible clamping jaws shaped by large embossed casting
- Durable prismatic guide
- With mounting screws for turntable
- Induction hardened jaws and anvil
- Double start trapezoidal thread for quick opening and closing
- Vise forward opening
- Ground jaws, anvil plate and slide corners
- Special steel



		B mm	kg	
914.0025	Bench vice with turntable	100.0	6.40	
914.0030	Bench vice with turntable	125.0	13.80	
914.0035	Bench vice with turntable	150.0	23.75	
914.0040	Bench vice with turntable	175.0	33.85	

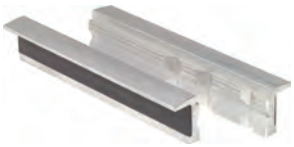
Aluminium bench vice protective jaws with textured surface

- Suitable for all bench vices
- The profile is right angled and level parallel
- Integrated special magnet hold the protective jaws safely on the vice
- For material protection and non slip grip on sensitive materials
- For coarse to medium fine work pieces
- Fine textured
- Aluminium

	Protective jaws mm	g	
914.0080	100.0	170	
914.0081	120.0	210	
914.0082	140.0	240	
914.0083	160.0	270	
914.0084	175.0	290	

Aluminium bench vice protective jaws with trapezoid notches

- Suitable for all bench vices
- The profile is right angled and level parallel
- Integrated special magnet hold the protective jaws safely on the vice
- For material protection and non slip grip on sensitive materials
- For different shaped materials
- For trapezoid use
- Aluminium



	Protective jaws mm	g	
914.0085	100.0	140	
914.0086	120.0	190	
914.0087	140.0	210	
914.0088	160.0	240	
914.0089	175.0	260	

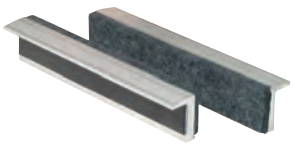
Aluminium bench vice protective jaws with rubber insert

- Suitable for all bench vices
- The profile is right angled and level parallel
- Integrated special magnet hold the protective jaws safely on the vice
- For material protection and non slip grip on sensitive materials
- For thin walled wood and plastic parts
- Smooth
- Aluminium / rubber

	Protective jaws mm	g	
914.0090	100.0	160	
914.0091	120.0	200	
914.0092	140.0	240	
914.0093	140.0	260	
914.0094	175.0	290	

Aluminium bench vice protective jaws with felt insert

- Suitable for all bench vices
- The profile is right angled and level parallel
- Integrated special magnet hold the protective jaws safely on the vice
- For material protection and non slip grip on sensitive materials
- For work pieces with fine milled, beveled or polished surfaces
- Smooth
- Aluminium / felt



	Protective jaws mm	g	
914.0095	100.0	150	
914.0096	120.0	190	
914.0097	140.0	210	
914.0098	160.0	240	
914.0099	175.0	260	

SERVICE TROLLEYS

Workshop service trolley

- Made from robust sheet steel construction
- Non slip foam insert on the upper working surface
- Lower shelf with high retaining border
- 2 castor wheels 100 mm
- 2 castor wheels with brake 100 mm
- High level of stability

Technical data:

Total load capacity:	200 kg

	L mm	B mm	H mm	kg
890.0002	697.0	489.0	836.0	19.10

Aluminium work platform

- Skid proof profile on the platform stage
- Chequer plate profile on the steps
- Double sided usage
- Large platform for safe standing
- Safety clips for added security
- Beams and step made from aluminium
- Easy to store as the unit is fully collapsible
- The gripped plastic feet protect the surface and add stability
- Substaitial aluminium construction

Technical data:

Platform dimensions:	1000 x 300 mm
Standing height:	470.0 mm
Max. load:	150 kg

	L mm	B mm	H mm	kg
800.0960	1345.0	405.0	480.0	7.40

Telescopic sack trolley with pneumatic wheels

- Steel tubular structure with deep welded joints
- Light and agile transportation for use in smallest space
- Effortless receiving and transporting of packages, carton and all other objects
- From round tubes welded together manufactured and solid
- Fold away shovel base
- High quality telescopic pole
- Equiped with 2 fixed wheels with pneumatic tyres
- Safety handles and slip protection
- Perfectly suitable in industry and business

Technical data:

Tyre size:	Ø 260 x 80 mm
Shovel/base dimensions:	B 300 x T 350 mm
Min. dimensions:	810.0 mm
Max. dimensions:	1140.0 mm

	Max load kg	L mm	B mm	H mm	kg
160.0224	200.0 kg	630.0	480.0	1140.0	10.00

Platform trolley for stores and workshops

- Solid construction of steel sheet
- Firmly fixed grasping handle made from steel tube
- Grasping handle is hinged and locked with safety security catches without any tools
- In minimal time
- Rubbber surrounding edges protect the trolley and surroundings from damage
- For ball baering rubber wheels
- Load area has a plastic covering

Technical data:

Rubber impeller:	100.0 mm
Max. load:	150 kg

	L mm	B mm	H mm	kg
800.0015	740.0	480.0	810.0	9.20

Safety assembly step

- No tipping over through obliquely placed standing feet
- Anti slip, hot dip galvanised, with the frame riveted lattice rustproof
- Step to DIN 50976
- Massive and distortion stiff steel tube construction
- Base frame plastic coated
- The gripped plastic feet protect the surface and add stability
- Applicable e.g. panel assembly, engine compartment works, roof works truck pit working
- Universal suitable in very high vehicles e.g.: motor homes, small vehicles, truck and buses, terrain vehicles

Technical data:

Height 2nd step:	450.0 mm
Surface area:	690 x 620 mm
Steel grating:	590 x 290 mm
Max. load:	300 kg

		kg
450.0960	Safety assembly step	14.00

Transport sack trolley with pneumatic wheels

- Steel tubular structure with deep welded joints
- Light and agile transportation for use in smallest space
- Effortless receiving and transporting of packages, carton and all other objects
- From round tubes welded together manufactured and solid
- Very wide shovel base
- Equiped with 2 fixed wheels with pneumatic tyres
- Safety handles and slip protection
- Perfectly suitable in industry and business

Technical data:

Tyre size:	260 x 85 mm
Shovel/base dimensions:	B 170 x T 420 mm

	Max load kg	L mm	B mm	H mm	kg
160.0225	300.0 kg	620.0	420.0	1100.0	10.00

Universal telescopic multi purpose trolley

- Ideally for the car body restoration, panel spraying area or for windshields
- Universal application the all rounder both height and width adjustable
- After use space saving folding away
- Rubber underside to prevent damage to the paintwork and other panels
- 4 substaintial wheels, 2 with locking brakes
- Simple handling
- Capacity up to 100 kg
- Robust construction made from square tube

	B mm	H mm	kg
500.8100	257,0-1380,0	845,0-1320,0	23.50

Bodywork protector with internal magnets

- Outer and under side made from high quality nylon
- Grips on car body sheet metals due to the magnet sewn in
- Ideally for the use as the wing protection
- Also as protection against tools for example windscreen replacement

	L mm	B mm	kg
500.8050	1070.0	600.0	900

Workshop creeper and folding seat

- For the use of lying and sitting
- Interlocking mechanism against accidental loosening
- Padded execution for fatigue free working
- Tool storage tray in the foot well
- Washable cushion
- Shallow depth for comfortable working under the vehicle
- Adjustable head rest
- Seven low sound, oil and acid resistant solid rubber direct wheels
- Black powder coated metal frame

	L mm	B mm	H mm	kg
500.8000	1200.0	460.0	145.0	12.40

VEHICLE PROTECTION

Workshop order pocket DIN A4 with key pocket

- Made out of transparent film with protection entry cover
- High quality meaning the document stay clean and are in closed storage with all working papers
- Key has a special compartment with hook and loop fastener
- The front made out of clear plastic means the working papers are readable without removal
- The reinforced back can be used simultaneously as a letter document
- Stable execution with hanging cord serves also as a letter document

	Colour code	L mm	B mm	g
500.8095		34.0	24,0	190
500.8096		34.0	24,0	190
500.8097		34.0	24,0	190
500.8098		34.0	24,0	190
500.8099		34.0	24,0	190

Bodywork protector with anti slip matting

- Outer side made from high quality nylon
- Under side made from a special anti slip matting
- Grips on car body sheet metals
- Ideally for the use as the wing protection
- Also as protection against tools for example windscreen replacement

	L mm	B mm	kg
500.8055	90.0	50.0	0.31
500.8060	120.0	50.0	2.05

Mechanics protection mat

- Helps the mechanic to work easier and safer whilst working in the lower area of vehicles on uneven surfaces
- Moisture and dirt resistant
- Work garments and knees stay dry, clean and protected
- 3 layered padded construction from soft material
- Integrated hand grip
- Petrol and oil resistant
- Universal use in workshops, service and breakdown service vehicles

	L mm	B mm	H mm	g
500.8040	480.0	320.0	36.0	200
500.8045	1150.0	550.0	36.0	760

Workshop creeper

- Padded head support
- Shaped arm areas for optimal movement freedom
- Includes safe tool recesses
- Six low sound, oil and acid resistant solid rubber direct wheels
- Easy to clean
- Ideal for comfortable working under the vehicle
- Maximum capacity up to 120 kg
- Solid construction made from plastic

	L mm	B mm	H mm	kg
500.8090	1030.0	480.0	115.0	5.00

Mobile and height adjustable workshop stool

- Robust and mobile stool
- Storage area for the protection of tools and small parts
- Washable cushion
- Hydraulic height adjustment
- Five ball bearing solid rubber wheels
- Maximum capacity up to 120 kg
- Durable metal construction

	B mm	H mm	kg
500.8030	370.0	540.0	4.00

LIFTING TOOLS

Aluminium axle stand set

- Especially light and stabile
- High level of stability due to the diameter of the base plate
- Safety locking bolt with chain
- Suits itself especially well in combination with jack for the safe bracing of a load
- Aluminium

	Max load t	Stroke way mm	Min total height mm	Max total height mm	kg
160.0315	3,0	140.0	260.0	400.0	2.20

Steel axle stands with quick adjustment

- 4 feet on each stand
- Solid construction
- For heavy vehicles weights
- High level of stability due to the diameter of the base plate
- Lifting bar made from cast steel
- Quick adjustment (in pairs)
- Height adjustment has 13 stages
- Suits itself especially well in combination with jack for the safe bracing of a load
- Made from solid steel

	Max load t	Stroke way mm	Min total height mm	Max total height mm	kg	
160.0370	3,0	130.0	295.0	425.0	8.00	
160.0371	6,0	205.0	400.0	605.0	15.00	
160.0372	12,0	250.0	480.0	730.0	26.00	

Hydraulic bottle jack 2 - 50 t

- Security valve against overload
- Telescopic piston pole
- Additional spindle for extension (not in 30 and 50 t executions)
- Two piece lever arms
- For heavy vehicles weights
- Especially suitable for narrow hard to access areas
- High level of stability
- Ideally suited in combination with jack for the neutralizing and bracing of a load
- Heavy steel construction

	Max load t	Min total height mm	Max total height mm	Hydraulic lift mm	Screw extension mm	Dimension of base plate mm	kg	
160.0350	2,0	181.0	345.0	116.0	48,0	88 x 92	2.90	
160.0351	3,0	194.0	372.0	118.0	60,0	92 x 100	3.80	
160.0352	5,0	216.0	413.0	127.0	70,0	96 x 112	5.10	
160.0354	10,0	230.0	460.0	150.0	80,0	110 x 127	7.10	
160.0356	15,0	230.0	460.0	150.0	80,0	113 x 136	9.30	
160.0358	20,0	242.0	452.0	150.0	60,0	144 x 155	11.90	
160.0359	30,0	285.0	465.0	180.0	-	190 x 155	21.70	
160.0360	50,0	300.0	480.0	180.0	-	218 x 176	30.70	

Hydraulic aluminium trolley jack 3 t

- Especially light aluminum jack
- Shallow depth for comfortable working under the vehicle
- Large base for safe standing
- Controlled releasing through the turning of the pump lever
- Raising with small pump lifts to the maximum height
- Good maneuverability through two oil and acid resistant full steel direct castors
- Intergrated screw tray
- The lower area of the pump lever is coated with foam material
- Lifting plate diameter 120 mm
- Problem free movement due to lightweight and secure handling
- Ideally suited for the use in service vehicles and workshop use
- Extremely heavy aluminium construction

	Max capacity t	Stroke way mm	Min total height mm	Max total height mm	Total length mm	Spare lifting plate	kg	
160.0305	3,0	360.0	105.0	465.0	680.0	160.0317	33.00	

Hydraulic steel trolley jack 3 t

- Large base for safe standing
- Controlled releasing through the turning of the pump lever
- Raising with small pump lifts to the maximum height
- Good maneuverability through two oil and acid resistant nylon direct castors
- Integrated screw tray
- The lower area of the pump lever is coated with foam material
- Lifting plate diameter 140 mm
- Overload protection through pressure relief valve
- Ideally suited for daily workshop use
- Heavy steel construction

	Max capacity t	Stroke way mm	Min total height mm	Max total height mm	Total length mm	Spare lifting plate	kg	
160.0366	3,0	410.0	125.0	535.0	720.0	160.0362	43.00	

Hydraulic steel trolley jack 2 t

- Very shallow depth for comfortable working under the vehicle
- Large base for safe standing
- Raising with the pump lever and foot lever is possible
- Foot pedal for the bridging of the empty stroke
- Controlled releasing through the turning of the pump lever
- Raising with small pump lifts to the maximum height
- Good maneuverability through two oil and acid resistant nylon direct castors
- Integrated screw tray
- The lower area of the pump lever is coated with foam material
- Lifting plate diameter 120 mm
- Overload protection through pressure relief valve
- Ideally suited for daily workshop use
- Heavy steel construction

	Max capacity t	Stroke way mm	Min total height mm	Max total height mm	Total length mm	Spare lifting plate	kg	
160.0367	2,0	420.0	70.0	490.0	700.0	160.0363	43.00	
160.0368	3,0	440.0	90.0	530.0	800.0	160.0363	54.00	

Jack for forklifts, hydraulic 4 - 5 t

- Specially developed for forklifts, agricultural and industrial vehicles
- Combination lifting jack with scissor action
- Scissor capacity of 4 tons and cylinder capacity of 5 tons
- Steal wheels

	Max capacity t	Stroke way mm	Min total height mm	Max total height mm	Total length mm	kg	
160.0716	5,0	350.0	65.0	415.0	700.0	47.00	

Pneumatic hydraulic jack 22 - 55 t

- Hydraulic jack for vehicles up to max. 50 t
- Large lifting base for safe standing
- Short and compact design
- Overload protection through overload pressure valve
- Maximum lift is reached using one of the three adaptors included
- Automatic piston withdrawal through two outside lying springs
- Easy running oil and acid resistant solid rubber wheels
- Especially suitable for narrow hard to access areas
- Ideally suited for daily workshop use
- Durable steel construction

	Max capacity t	A mm	B mm	C mm	D mm	kg
160.0730	22,0	207.0	112.0	113.0	432.0	39.00
160.0731	35,0	258.0	147.0	133.0	538.0	47.00
160.0732	50,0	296.0	142.0	137.0	575.0	64.00

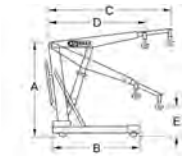
Hydraulic transmission jack

- Foot pedal activity for lifting
- Hand wheel for controlled releasing
- Includes overload valve
- Integrated safety stop handle
- High stability due to wide wheel spacing
- Good maneuverability through four oil and acid resistant nylon direct castors
- Robust metal construction

	Max load kg	Min height mm	Max height mm	Width mm	kg
160.0324	500	1200.0	2040.0	610.0	34.00
160.0329	1000	1200.0	2040.0	610.0	48.00

Workshop crane with fixed chassis

- Hand lever pump for lifting
- Finely controllable reduction valve
- Made out of rectangle pipe, welded frame
- Stable construction
- Safety load hooks
- Telescopic crane jib with 4 sided adjustment of the length
- 2 fixed and 2 controllable castors (due to this there is problem-free positioning over the load to be lifted)
- Flat feet enable a simple access under low vehicles
- Good maneuverability due to the ball bearing metal castors
- Adjustable load capacity
- Chassis in slightly splayed form and can be folded away
- Ideal for lifting works in the motor vehicle workshop
- For the removal and replacemen engines
- Raising of motorcycles in special works



	Max load kg	A mm	B mm	C mm	D mm	E mm	kg
160.0011	1000	1750.0	1550.0	1250.0	620.0	2520.0	100.00

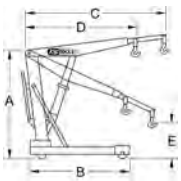
Pneumatic hydraulic trolley jack 22 t

- Hydraulic jack for vehicles up to max. 22 t
- Large lifting base for safe standing
- Short and compact design
- Extremely light weight ideal for the mobile usage
- Overload protection through overload pressure valve
- Maximum lift is reached using one of the two adaptors included
- Very short and transportable design
- Easy running oil and acid resistant solid rubber wheels
- Especially suitable for narrow hard to access areas
- Ideally suited for daily workshop use
- Durable steel construction

	Max capacity t	Stroke way mm	Min total height mm	Max total height mm	Max total length mm	kg
160.0720	22,0	240.0	210.0	450.0	540.0	25.00

Folding workshop crane

- Hand lever pump for lifting
- Finely controllable reduction valve
- Made out of rectangle pipe, welded frame
- Stable construction
- Safety load hooks
- Telescopic crane jib with 4 sided adjustment of the length
- 2 fixed and 2 controllable castors (due to this there is problem free positioning over the load to be lifted)
- Flat feet enable a simple access under low vehicles
- Good maneuverability due to the ball bearing metal castors
- Adjustable load capacity
- Chassis in slightly splayed form and can be folded away
- Ideal for lifting works in the motor vehicle workshop
- For the removal and replacement of engines
- Raising of motorcycles in special works



	Max load kg	A mm	B mm	C mm	D mm	E mm	kg
160.0015	1000	1440.0	1550.0	1330.0	1006.0	95.0	71.00

Engine assembly jig

- The 2 spindles are on specially stored also under load are movable and detectable
- Fast adaptation on the desired engine compartment width due to the adjustable support feet
- Conformity to the strong engine compartment inclination through revolving electro galvanized support feet
- Quick safe and problem free positioning of the engine take off and installation of the transmission without additional exclusion from below
- Locking screw
- Electrostatic powder coating

	Max load kg	Max width mm	kg
160.0145	400	1610.0	15.20

TWIST DRILLS

HSS-R Twist drill set in plastic case

- Stackable for storage
- Integral clasp
- High strength hinge
- DIN 388 Typ N
- Right hand cutting
- Relieved cone has a ground point
- 118° pointed angle
- 20 - 30° spiral angle
- Black, tempered surface
- High performance steel

Ideally suitable in steel, cast steel and high and low alloyed steel up to 900 N/mm² tensile, bronze, brass, brushed aluminum alloy, graphite, nickel silver, sintered iron, malleable tempered and cast iron.

			kg	
330.1620	19 pcs	1,0 - 1,5 - 2,0 - 2,5 - 3,0 - 3,5 - 4,0 - 4,5 - 5,0 - 5,5 - 6,0 - 6,5 - 7,0 - 7,5 - 8,0 - 8,5 - 9,0 - 9,5 - 10,0 mm	0.60	

HSS-R Twist drill set in plastic case

- Stackable for storage
- With integral clasp
- High strength hinge
- DIN 388 Typ N
- Right hand cutting
- Relieved cone has a ground point
- 118° pointed angle
- 20 - 30° spiral angle
- Black, tempered surface
- High performance steel

Ideally suitable in steel, cast steel and high and low alloyed steel up to 900 N/mm² tensile, bronze, brass, brushed aluminum alloy, graphite, nickel silver, sintered iron, malleable tempered and cast iron.

			kg	
330.1623	25 pcs	1,0 - 1,5 - 2,0 - 2,5 - 3,0 - 3,5 - 4,0 - 4,5 - 5,0 - 5,5 - 6,0 - 6,5 - 7,0 - 7,5 - 8,0 - 8,5 - 9,0 - 9,5 - 10,0 - 10,5 - 11,0 - 11,5 - 12,0 - 12,5 - 13,0 mm	3.35	

HSS-R Twist drill set in metal case

- Integral clasp
- High strength hinge
- DIN 388 Typ N
- Right hand cutting
- Relieved cone has a ground point
- 118° pointed angle
- 20 - 30° spiral angle
- Black, tempered surface
- High performance steel

Ideally suitable in steel, cast steel and high and low alloyed steel up to 900 N/mm² tensile, bronze, brass, brushed aluminum alloy, graphite, nickel silver, sintered iron, malleable tempered and cast iron.

			kg	
330.1650	230 pcs	per 10 x: 1,0 - 1,5 - 2,0 - 2,5 - 3,0 - 3,2 - 3,5 - 4,0 - 4,2 - 4,5 - 5,0 - 5,5 - 6,0 - 6,5 - 6,8 - 7,0 - 7,5 - 8,0 per 5 x: 8,5 - 9,0 - 9,5 - 10,0 - 10,5 - 11,0 - 11,5 - 12,0 - 12,5 - 13,0 mm	7.40	

HSS-G Twist drill set in plastic case

- Stackable for storage
- Integral clasp
- High strength hinge
- DIN 338 Typ N
- Right hand cutting
- Relieved cone has a ground point
- Cutting edge has thinning point
- 118° pointed angle
- 20 - 30° spiral angle
- High concentricity accuracy
- Surface without discolouration
- High performance steel

Ideally suitable in steel, cast steel and high and low alloyed steel up to 900 N/mm² tensile, bronze, brass, brushed aluminum alloy, graphite, nickel silver, sintered iron, malleable tempered and cast iron.

			kg	
330.2620	19 pcs	1,0 - 1,5 - 2,0 - 2,5 - 3,0 - 3,5 - 4,0 - 4,5 - 5,0 - 5,5 - 6,0 - 6,5 - 7,0 - 7,5 - 8,0 - 8,5 - 9,0 - 9,5 - 10,0 mm	0.60	

HSS-G Twist drill set in plastic case

- Stackable for storage
- Integral clasp
- High strength hinge
- DIN 338 Typ N
- Right hand cutting
- Relieved cone has a ground point
- Cutting edge has thinning point
- 118° pointed angle
- 20 - 30° spiral angle
- High concentricity accuracy
- Surface without discolouration
- High performance steel

Ideally suitable in steel, cast steel and high and low alloyed steel up to 900 N/mm² tensile, bronze, brass, brushed aluminum alloy, graphite, nickel silver, sintered iron, malleable tempered and cast iron.

			kg	
330.2623	25 pcs	1,0 - 1,5 - 2,0 - 2,5 - 3,0 - 3,5 - 4,0 - 4,5 - 5,0 - 5,5 - 6,0 - 6,5 - 7,0 - 7,5 - 8,0 - 8,5 - 9,0 - 9,5 - 10,0 - 10,5 - 11,0 - 11,5 - 12,0 - 12,5 - 13,0 mm	1.30	

HSS-G Twist drill set in metal case

- Integral clasp
- High strength hinge
- DIN 338 Typ N
- Right hand cutting
- Relieved cone has a ground point
- Cutting edge has thinning point
- 118° pointed angle
- 20 - 30° spiral angle
- High concentricity accuracy
- Surface without discolouration
- High performance steel

Ideally suitable in steel, cast steel and high and low alloyed steel up to 900 N/mm² tensile, bronze, brass, brushed aluminum alloy, graphite, nickel silver, sintered iron, malleable tempered and cast iron.

			kg	
330.2650	230 pcs	per 10 x: 1,0 - 1,5 - 2,0 - 2,5 - 3,0 - 3,2 - 3,5 - 4,0 - 4,2 - 4,5 - 5,0 - 5,5 - 6,0 - 6,5 - 6,8 - 7,0 - 7,5 - 8,0 per 5 x: 8,5 - 9,0 - 9,5 - 10,0 - 10,5 - 11,0 - 11,5 - 12,0 - 12,5 - 13,0 mm	7.40	

HSS-G Co 5 Twist drill set in plastic case

- Stackable for storage
- Integral clasp
- High strength hinge
- DIN 338 Typ N
- Right hand cutting
- Relieved cone has a ground point
- Cutting edge has thinning point
- 130° pointed angle
- 20 - 30° spiral angle
- High heat hardness constancy
- For heavy loading
- Gold coated surface
- High performance cobalt steel

Ideally usably in high and low alloyed steel up to 1,100 N/mm² tensile, compensation steel and stainless steel, rustproof and acid steady steel and warm and cold forged steel

			kg	
330.3620	19 pcs	1,0 - 1,5 - 2,0 - 2,5 - 3,0 - 3,5 - 4,0 - 4,5 - 5,0 - 5,5 - 6,0 - 6,5 - 7,0 - 7,5 - 8,0 - 8,5 - 9,0 - 9,5 - 10,0 mm	0.60	

HSS-G Co 5 Twist Drill Set in steel storage case

- Stackable for storage
- Integral clasp
- High strength hinge
- DIN 338 Typ N
- Right hand cutting
- Relieved cone has a ground point
- Cutting edge has thinning point
- 130° pointed angle
- 20 - 30° spiral angle
- High heat hardness constancy
- For heavy loading
- Gold coated surface
- High performance cobalt steel

Ideally usably in high and low alloyed steel up to 1,100 N/mm² tensile, compensation steel and stainless steel, rustproof and acid steady steel and warm and cold forged steel

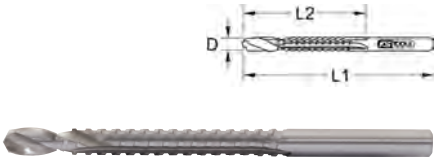
			kg	
330.3623	25 pcs	1,0 - 1,5 - 2,0 - 2,5 - 3,0 - 3,5 - 4,0 - 4,5 - 5,0 - 5,5 - 6,0 - 6,5 - 7,0 - 7,5 - 8,0 - 8,5 - 9,0 - 9,5 - 10,0 - 10,5 - 11,0 - 11,5 - 12,0 - 12,5 - 13,0 mm	1.30	

SPECIAL DRILLS

HSS Milling drill

- Right hand cutting
- Relieved cone has a ground point
- 118° pointed angle
- Suitable for thin walled material
- Surface without discolouration
- Special high performance steel

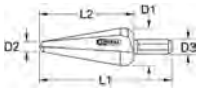
Ideally suitable for boring and milling machines thin walled materials, plastic, wood and sheet metal.



	D mm	L1 mm	L2 mm	Content	g
332.0330	6.0	90.0	35.0	1	25
332.0331	8.0	90.0	35.0	1	30

HSS Cone cutter

- Point thinning according to DIN 1412 C
- Cutting edge has thinning point
- Right hand cutting
- 118° pointed angle
- 20 - 30° cone angle
- Absolute smooth operation
- High cutting achievement
- Surface without discolouration
- High performance steel



	Ø mm	D1 mm	D2 mm	D3 mm	L1 mm	L2 mm	Content	g
336.0001	3,0 - 14,0	14.0	3.0	6.0	58.0	38.0	1	20
336.0002	5,0 - 20,0	20.0	5.0	8.0	71.0	51.0	1	50
336.0003	16,0 - 30,5	30.5	16.0	9.0	76.0	54.0	1	120
336.0004	24,0 - 40,0	40.0	24.0	10.0	89.0	65.0	1	270
336.0005	36,0 - 50,0	50.0	36.0	12.0	97.0	71.0	1	490
336.0006	40,0 - 61,0	61.0	40.0	13.0	103.0	73.0	1	510
336.0007	5,0 - 25,4	25.4	5.0	10.0	87.0	67.0	1	100
336.0008	4,0 - 30,0	30.0	4.0	9.0	103.0	83.0	1	150
336.0009	5,0 - 22,5	22.5	5.0	8.0	79.0	59.0	1	90

HSS Cone cutter set in plastic case

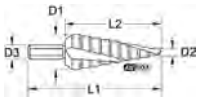
- Stackable for storage
- With integral clasp
- High strength hinge
- Point thinning according to DIN 1412 C
- Cutting edge has thinning point
- Right hand cutting
- 118° pointed angle
- 20 - 30° cone angle
- Absolute smooth operation
- High cutting achievement
- Surface without discolouration
- High performance steel

			g
336.0533	4 pcs	3 - 14 mm - 5 - 20 mm - 16 - 30,5 mm	590

HSS Stepped drill bit

- Point thinning according to DIN 1412 C
- Cutting edge has thinning point
- Right hand cutting
- Spiral grooved
- 118° pointed angle
- 90° stepped angle
- Absolute smooth operation
- High cutting achievement
- Surface without discolouration
- High performance steel

The cone simplifies the retracting through bored sheet metals. Higher feed especially in NE metals possible due to the slim cutting edge.



	Ø mm	D1 mm	D2 mm	D3 mm	L1 mm	L2 mm	No. stages	Content	g
330.2301	4 - 12	12.0	4.0	6.0	65.0	45.0	9	1	22
330.2302	4 - 20	20.0	4.0	8.0	75.0	55.0	9	1	60
330.2303	4 - 30	30.0	4.0	10.0	100.0	78.0	14	1	185
330.2304	6 - 30	30.0	6.0	10.0	95.0	73.0	13	1	205
330.2305	6 - 37	37.0	6.0	10.0	100.0	76.0	12	1	245
330.2306	6 - 38	38.0	6.0	10.0	100.0	76.0	12	1	260
330.2307	4 - 39	39.0	4.0	10.0	107.0	83.0	13	1	312
330.2308	6 - 40	40.0	6.0	13.0	105.0	81.0	16	1	455
330.2309	6 - 20	20.0	6.0	9.0	71.0	51.0	8	1	100
330.2310	4 - 22	22.0	4.0	10.0	76.0	56.0	10	1	85
330.2311	6 - 27,8	26.8	6.0	10.0	75.0	53.0	8	1	110
330.2312	6 - 32	32.0	6.0	10.0	75.0	53.0	8	1	102
330.2313	6 - 32	32.0	6.0	10.0	76.0	53.0	9	1	108
330.2314	5 - 28	28.0	5.0	9.0	69.0	53.0	7	1	86
330.2315	6 - 25	25.0	6.0	10.0	65.0	47.0	7	1	135
330.2316	6 - 30,5	30.5	6.0	10.0	80.0	57.0	9	1	150
330.2317	6,5 - 40,5	40.5	6.5	10.0	96.0	72.0	11	1	265
330.2318	6 - 36	36.0	6.0	10.0	82.0	57.0	11	1	255
330.2319	7 - 40,5	40.5	7.0	12.0	95.0	70.0	13	1	275
330.2320	4,8 - 10,7	10.7	4.8	6.0	54.0	34.0	5	1	27
330.2321	7 - 32,5	32.5	7.0	12.0	96.0	71.0	11	1	220

HSS Stepped drill set in plastic case

- Stackable for storage
- With integral clasp
- Point thinning according to DIN 1412 C
- Cutting edge has thinning point
- Right hand cutting
- Spiral grooved
- 118° pointed angle
- 90° stepped angle
- Absolute smooth operation
- High cutting achievement
- Surface without discolouration
- High performance steel

The cone simplifies the retracting through bored sheet metals. Higher feed especially in NE metals possible due to the slim cutting edge.

330.2404	3 pcs	4 - 12 mm - 4 - 20 mm - 6 - 30 mm	610

HSS Cone and deburrer set 90° in plastic case

- Stackable for storage
- With integral clasp
- High strength hinge
- DIN 335 form C
- Right hand cutting
- 90° Countersink angle
- Three cutting edges
- Cylindrical shaft
- Deep ground flutes
- Surface without discolouration
- High performance steel

Ideally suitable for deburring and countersinking in steel, non ferrous metals and light metals as well as chatter free countersinking.

336.0446	6 pcs	6,3 - 8,3 - 10,4 - 12,4 - 16,5 - 20,5 mm	530

HSS hand drill tap set M in plastic case

- Stackable for storage
- With integral clasp
- High strength hinge
- DIN 352
- Tolerance according to ISO 2 / 6H
- Right hand cutting
- Includes second and bottom tap
- For running and blind hole threads
- With hard metal centre
- Surface without discolouration
- High performance high speed steel
- Each size includes 1x second and bottom tap

Ideally usably in high and low alloyed steel up to 800 N/mm² stability, cast iron and NE metals.

Taper tap:	ca. 5 - 6 cutting gears
Second tap:	ca. 4 - 5 cutting gears
Bottom tap:	ca. 2 - 3 cutting gears

336.0641	21 pcs	M3 - M4 - M5 - M6 - M8 - M10 - M12	620

THREAD CUTTING TOOLS

HSS tap and die set in metal case

- Universal set
- Straight forward hand thread cutting
- With adjustable tap wrench and die holder
- Includes thread gauge and screwdriver
- High performance steel

331.0632	32 pcs	HSS tap and die set in metal case	1.32
21 x		M3 - M4 - M5 - M6 - M8 - M10 - M12	
7 x		M3 - M4 - M5 - M6 - M8 - M10 - M12	
1 x		M7 - M9	
1 x		M1 - M12	
1 x			
1 x			

HSS tap and die set in metal case

- Universal set
- Straight forward hand thread cutting
- With adjustable tap wrench and die holder
- Includes tamperproof drill, thread gauge and screwdriver
- High performance steel

331.0644	44 pcs	HSS tap and die set in metal case	3.93
21 x		M3 - M4 - M5 - M6 - M8 - M10 - M12	
7 x		2,5 - 3,3 - 4,2 - 5 - 6,8 - 8,5 - 10,2 mm	
7 x		M3 - M4 - M5 - M6 - M8 - M10 - M12	
5 x		M3-M4 - M4,5-M6 - M7-M9 - M10-M11 - M12-M14	
2 x		M1-M10 - M3-M12	
1 x			
1 x			

HSS tap and die set in metal case

- Straight forward hand thread cutting
- With adjustable tap wrench and die holder
- Includes thread gauge and screwdriver
- High performance steel

331.0654	54 pcs	HSS tap and die set in metal case	8.30
33 x		M3 - M4 - M5 - M6 - M8 - M10 - M12 - M14 - M15 - M18 - M20	
11 x		M3 - M4 - M5 - M6 - M8 - M10 - M12 - M14 - M15 - M18 - M20	
6 x		M3-M4 - M4,5-M6 - M7-M9 - M10-M11 - M12-M14 - M16-M20	
2 x		M1-M10 - M5-M20	
1 x			
1 x			

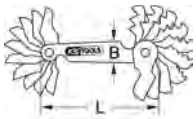
Cooling lubricant stick

- Suitable for working with centre bits, countersinks and stepped drills
- Contents 18g
- To prolong the service life

	Volumen g	g	
390.0190	18	50	

Thread gauge

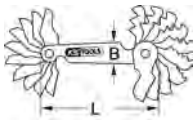
- For controlling and increasing the interior thread and outside thread
- Metric sizes
- Cylindrical tapered
- Leaves fan shaped arrangement
- Leaves individually marked with size
- Out of hardened spring steel



	Tooth pitch		g	
301.0095	20	0,40; 0,45; 0,50; 0,60; 0,70; 0,75; 0,80; 1,00; 1,25; 1,50; 1,75; 2,00; 2,50; 3,00; 3,50; 4,00; 4,50; 5,00; 5,50; 6,00;	40	

Thread gauge

- For controlling and increasing the interior thread and outside thread
- Imperial sizes
- Cylindrical tapered
- Leaves fan shaped arrangement
- Leaves individually marked with size
- Out of hardened spring steel



	Tooth pitch		g	
301.0090	22	4 - 4,5 - 5 - 6 - 7 - 8 - 9 - 10 - 11 12 - 13 - 14 - 16 - 18 - 20 - 22 - 24 - 32 - 40 - 48 - 56 - 64	40	

Die holder with exact gearing reversible ratchet head

- Clockwise and anticlockwise action with positive adjustment
- With two jaw collet chuck
- With movable drive handle
- Ideal to the thread cutting edge
- For difficult to access areas
- Chrome plated and mirror polished
- Special steel

		L mm	Content	g	
331.0660	M3 - M10	85.0	1	190	
331.0665	M5 - M12	100.0	1	320	
331.0670	M3 - M10	250.0	1	250	
331.0675	M5 - M12	300.0	1	440	

Thread drilling extension

- DIN 377
- Hardened and ground execution
- Square shaft according to DIN 10
- For the extension of the hand threading tap
- High performance steel

	■ mm		D mm	L mm	Content	g	
331.0241	2.1	M1 - M2,6	2.5	60.0	1	10	
331.0242	2.7	M3	3.7	80.0	1	15	
331.0243	3.4	M4	4.5	95.0	1	40	
331.0244	4.9	M5 - M8	6.5	110.0	1	44	
331.0245	5.5	M9 - M10	7.0	115.0	1	55	
331.0246	7.0	M12	9.0	125.0	1	120	
331.0247	9.0	M13 - M16	12.0	135.0	1	135	
331.0248	11.0	M18	14.0	150.0	1	150	
331.0249	12.0	M20	16.0	155.0	1	175	

Threading die adaptor set

- Universal use for round cutting dies according to DIN E 22568 form B
- Slim design
- Ideal for difficult to access areas
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Includes extension and locking knob
- Special steel
- In durable plastic storage case

			kg	
331.0620	8 pcs	Threading die adaptor set	1.94	

consists of:

		g	
331.0621	Die adaptor SW 24 / M3 - M6	60	
331.0622	Die adaptor SW 24 / M7 - M8	50	
331.0623	Die adaptor SW 24 / M9 - M10	90	
331.0624	Die adaptor SW 41 / M11 - M14	230	
331.0625	Die adaptor SW 41 / M18 - M20	360	
331.0626	Die adaptor SW 41 / M22 - M24	430	
331.0627	Locking bolt for extension	120	
331.0628	1/2" Extension adaptor for cutting die	250	

Thread file, metric

- For the restoration of defective internal and external threads
- Suitable for right and left handed threads
- Two sided serviceable
- Special steel

Suitable for thread pitch: 0.8 - 3.0 mm

	L mm	g	
150.1340	230.0	130	

Thread file, imperial

- For the restoration of defective internal and external threads
- Suitable for right and left handed threads
- Two sided serviceable
- Special steel

Suitable for thread pitch: 24 - 10 pitch imperial

	L mm	g	
150.1345	230.0	130	

Thread chaser

- For recutting edges and cleaning of damaged outside threads
- No damage of the thread due to the soft holding guides
- Suitable for right and left handed threads
- Quick cutting jaw modification possible from the magazine
- Special steel

Replacement jaws metric: 1.0 - 1.25 - 1.5 - 1.75 - 2.0 - 2.5 - 3.0 - 3.5 mm
Replacement jaws imperial: 24 - 20 - 18 - 16 - 14 - 12 - 11,5 - 11 - 10 - 9 - 8 - 7.5 - 7 - 6 - 5 - 4 pitch/imperial

	Ø mm	Replacement jaws mm	Replacement jaws inch	kg	
150.1430	25,0 - 140,0	150.1431	150.1432	1.40	

ROTARY BURRS

HM milling burr set in steel case

- High strength hinge
- 3 mm shank diameter
- Highest cutting edge stability
- Improved cutting performance due to staggered tooth system
- Surface without discolouration
- High performances steel with hard metal

To that filleted, edges break, plasters, welded seams and area preparation.
Usably in high alloyed, steel rustproof, acid and heat resistant, cast and plastics.

515.3207	7 pcs	HM milling burr set in steel case	590

1 x		3 mm
1 x		3 mm
1 x		3 mm
1 x		3 mm
1 x		3 mm
1 x		3 mm
1 x		3 mm

HM milling burr set in steel case

- High strength hinge
- 6 mm shank diameter
- Highest cutting edge stability
- Improved cutting performance due to staggered tooth system
- Surface without discolouration
- High performances steel with hard metal

To that filleted, edges break, plasters, welded seams and area preparation.
Usably in high alloyed, steel rustproof, acid and heat resistant, cast and plastics.

515.3203	3 pcs	HM milling burr set in steel case	590

1 x		10 mm
1 x		10 mm
1 x		10 mm

HM milling burr set in steel case

- High strength hinge
- 6 mm shank diameter
- Highest cutting edge stability
- Improved cutting performance due to staggered tooth system
- Surface without discolouration
- High performances steel with hard metal

To that filleted, edges break, plasters, welded seams and area preparation.
Usably in high alloyed, steel rustproof, acid and heat resistant, cast and plastics.

515.3210	10 pcs	HM milling burr set in steel case	590

2 x		10 - 12 mm
2 x		10 - 12 mm
2 x		10 - 12 mm
2 x		10 - 12 mm
1 x		12 mm
1 x		12 mm

Milling burr set

- Minimal material adhesion
- Long life time
- Big removal rates and high cutting performance
- For cutting speed up to max 1100 m/min (max. speed 16.000 - 30.000 r.p.m.)
- Smooth running

To that filleted, edges break, plasters, welded seams and area preparation

Suitable for Aluminum alloys, hard Aluminum alloys (high SI portion), brass, copper, zinc, bronze, titanium, fiber-reinforced plastics GFK/CFK, thermoplastics, hard rubber

515.3290	3 pcs	Milling burr set	240

consists of:

		H mm	
515.3291	Milling burr, round cone design, long	30.0	22
515.3293	Cylinder rotary burr with spur gearing	25.0	35
515.3294	Ball milling burr	10.0	17

Accessories:

		H mm	
515.3293	Cylinder rotary burr with spur gearing	25.0	35
515.3295	Milling burr, round cone design, short	25.0	25
515.3296	Cylinder rotary burr	25.0	35

Universal hole saw set in plastic box

- Inclusive hole saw arbor and extension
- With integral clasp
- High strength hinge
- Variable tooth pitch
- Right hand cutting
- High concentricity accuracy
- Good chip removal
- HSS Bi metal

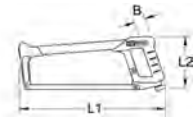
Suitable for high and low alloyed steel up to 700 N/mm² stability, plaster, light construction, MDF and chipboard as well as wood processing, non ferrous metal and light alloy.
For the use in the areas electric, sanitary, plumbing building and heating.

129.5580	15 pcs	Universal hole saw set in plastic box	3.49	

12 x		19 - 22 - 25 - 29 - 32 - 35 - 38 - 44 51 - 57 - 64 - 68 mm
1 x		14 - 30 mm
1 x		32 - 152 mm
1 x		300 mm

Hack saw frame

- Easy usage
- With hand protection and thumb support
- Includes magazine for saw blades
- With jigsaw function
- Saw blade can be set at 45° or 90°
- Includes HSS Bi metal sawblade



	B mm	L1 mm	L2 mm		
907.2100	35.0	300.0	130.0	129.6620-24	270

FILES

Workshop file set, 5 pcs

- DIN 7261 form B, C, D, E, F
- Second cut
- 200 mm long
- With two component handle
- With hanging hole
- Special steel

Includes one flat, halfround, round, square and triangular file with a length of 200 mm and second cut

			g
140.3000	5 pcs	Workshop file set, 5 pcs	900

1 x		200 mm
1 x		200 mm
1 x		200 mm
1 x		200 mm
1 x		200 mm

KNIVES

Universal snap off blade knife

- For right handed use
- With reinforcement eyelet
- Blade 9 x 80 mm
- With 0.4 mm strong snap off blades
- Blade guide out of metal
- Housing made out of plastic
- With two component handle

	L mm		g
907.2120	140.0	907.2168	40

Universal snap off blade knife

- For right handed use
- With reinforcement eyelet
- Blade 18 x 100 mm
- With 0.5 mm strong snap off blades
- Blade guide out of metal
- Housing made out of plastic
- With two component handle

	L mm		g
907.2135	140.0	907.2166	81

Comfort snap off blade knife

- For right handed use
- With reinforcement eyelet
- Blade 18 x 100 mm
- With 6 snap off blades 0.5 mm thick
- Blade guide out of metal
- With integrated blade magazine
- Housing made out of plastic
- With two component handle

	L mm		g
907.2175	180.0	907.2196	150

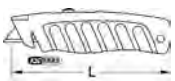
Folding knife with detent

- Teflon coated blade
- Blade fixator folded out
- Non slip handle with finer recesses
- Ideal for mechanics

	B mm	L1 mm	L2 mm	g
907.2105	25.0	193.0	78.0	100

Professional universal knife

- For right and left handed use
- With reinforcement eyelet
- Trapezoid blade
- With 0,5 mm strong trapezoid blades
- With integrated foil and paper cutter
- Housing made from aluminium
- With two component handle

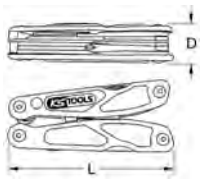


	L mm		g
907.2145	145.0	907.2206	100

Multifunction tool with belt pouch

- With large gripper head
- Blades engage fully and reliably
- 2 component handle
- Surfaces polished
- Rust free stainless steel
- With nylon belt pocket
- 13 Functions

Functions: Pliers with wire cutter, LED lamp, knife, blade length: 40 mm, can opener, cross-head screwdriver PH, slothead screwdriver 2.5 mm, slot-head screwdriver 5.0 mm, slothead screwdriver 6.5 mm, bottle opener, shear length: 65 mm, sawblade 65 mm, fishing hook remover + file, awl 35 mm

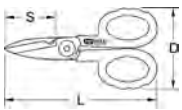


	L mm	D mm	g
907.2199	100.0	20.0	310

SHEARS

Universal workshop shear

- Robust short shears
- Various applications
- With cable cutter
- Includes belt pouch



	D mm	L mm	S mm	g
118.0060	75.0	140.0	42,0	170

SCRAPERS

Pinch weld scraper set

- Ideal for removing of stickers, seal and glue residues
- Simple blade change by loosening the knurled thumb screw on the chuck
- With 10 straight scraper blades 16 mm
- Scraper with two component handle

907.2215	11 pcs	Pinch weld scraper set	100
1 x			
10 x		16 mm	

Interchangeable blades:

	Width mm	Form	Content	
907.2202	12.0	straight	10	20
907.2204	16.0	53° angled	10	20
907.2203	16.0	straight	10	20
907.2205	20.0	straight	10	40

Knife scraper set

- Ideal for removing of stickers, seal and glue residues
- Simple blade change by loosening the knurled thumb screw on the chuck
- Practical storage system for changeable blades
- Suitable for many different application due to the wide range of blades
- Scraper with two component handle
- Professional universal knife with aluminium housing
- In durable plastic case

907.2200	27 pcs	Knife scraper set	0.60
1 x			
1 x			
5 x			
5 x		12 mm	
5 x		16 mm	
5 x		20 mm	
5 x		16 mm	

Scraper

- With easily interchangeable blades
- With reinforcement eyelet
- Soft grip handle

	A mm	L mm		
911.8126	38.0	160.0	911.8127	90

Chisel scraper set

- Continuous stainless steel blade that can be re sharpened
- With reinforcement eyelet
- With hammer cap on the handle
- With ergonomic moulded two component handle

907.2210	4 pcs	32 x 1,2; 32 x 2,5; 25 x 1,2; 25 x 2,5 mm	0.58

Gasket scraper set

- Blades can be resharpened
- Blade 10° angled
- Extra long execution for reaching inaccessible areas
- For removing extremely stubborn gaskets and seals
- With ergonomic moulded one component handle

907.2230	4 pcs	12,5 x 200; 25 x 200; 12,5 x 300; 25 x 300 mm	1.28

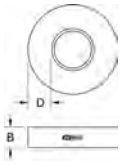
PVC insulation tape set

- Good resistance to abrasion and corrosion and/or moisture
- High di-electric strength and good mechanical protection
- Excellent ability to adapt to different forms
- Conforms to BS3924
- Temperature resistance of 0 °C to +90 °
- Multicoloured assortment

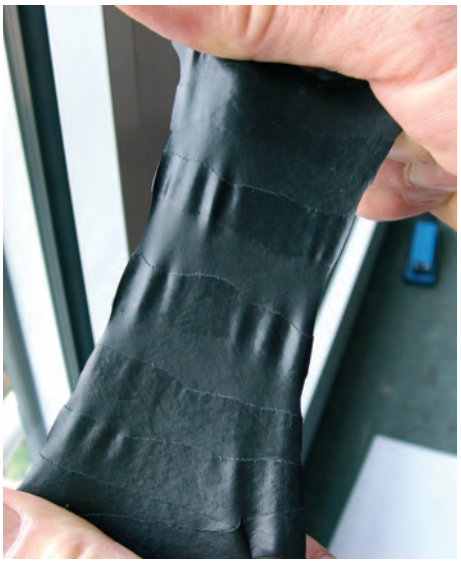
141.6010	8 pcs	PVC insulation tape set	150

Self welding repair tape

- Excellent weather resistance
- Easy to apply due to high elasticity
- Insulates air and water tight, due to self welding characteristics
- Temperature resistance of -40 °C to +90 °C
- With a tape thickness of 0,5 mm
- Made from Polyisobutylene tape
- For a range of applications in electrical, plumbing and automotive

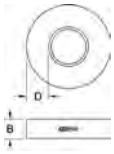


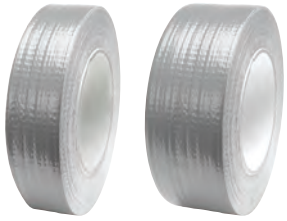
	Colour code	B mm	D mm	L mm	
141.6000	●	18.0	27.0	95.0	100
141.6001	●	38.0	27.0	95.0	210



Fabric adhesive tape, silver

- Laminated polyester/cotton fabric
- Sturdy, heat resistant and water repellent
- Rubber based adhesive





	Colour code	B mm	D mm	L m	g
141.5000		50.0	20.0	50.0	370
141.5001		40.0	25.0	50.0	320

CHEMICALS

Repair set

- For binding a wide range of materials
- Reacts to pressure
- Cures in ambient humidity
- Lasting resistance to heat and ageing
- Consists of super glue and filler

Materials: Plastics, elastomers, stone, glass, rubber, metal, etc.

Application: Machine and housing parts, tanks and pipework, vessels, pumps, hoses, plastic brackets, etc.

			g
390.0219	2 pcs	Repair set	136

Special thread grease for puller and pusher spindles

- Lubricant for components subjected to high static loads, e.g. threaded spindles
- Prevents excessive wear and seizing
- Irregularities in the surface to be protected are completely filled
- Minimises the friction thanks to the closed surface
- Effective protection against corrosion
- Increases the service life of threaded spindles
- Ensures reliable function even at high temperatures up to max. 1200 °C

		g
980.1090	Special thread grease	5

Special thread grease for puller and pusher spindles and nuts subjected high loads

- Lubricant for components subjected to high static loads, e.g. threaded spindles
- Prevents excessive wear and seizing
- Irregularities in the surface to be protected are completely filled
- Minimises the friction thanks to the closed surface
- Effective protection against corrosion
- Increases the service life of threaded spindles
- Ensures reliable function even at high temperatures up to max. 1200 °C

		g
980.1085	Special thread grease	22

Fast Orange® hand cleanser

- Without chemical additives
- Biologically degradable, contains no water and free from mineral based solvents
- With hand brush and pumice stone

Application range: Removal of resins, oils, lubricants, tar, dirt, printing ink, epoxy resins, paints, adhesives, rubber cement, sealants, wallpaper adhesives, etc.

	Content	g
390.0209	440 ml	550

Fast Orange® hand cleanser

- Without chemical additives
- Biologically degradable, contains no water and free from mineral based solvents

Application range: Removal of resins, oils, lubricants, tar, dirt, printing ink, epoxy resins, paints, adhesives, rubber cement, sealants, wallpaper adhesives, etc.

		kg
390.0210	3.8 l	4.10

Screw grab screw assistance

- Increases the static friction by up to 400%
- Residue free washes off and non-toxic
- Immediate effect without waiting
- Applicable for all screw heads
- Unlimited storage

Application range: In rounded turned screw heads

	Content	g
500.1010	15 ml	250

Epoxy metal Quicksteel

- Optimal adhesive power
- Enables durable repair
- Mechanical preparation after the curing possible
- Firmly set after 15 minutes
- Cures after 60 minutes completely
- Also suitable for use under water
- Temperature resistant up to 260
- Approx three years use duration
- Resistant to oil, diesel, petrol and battery acid

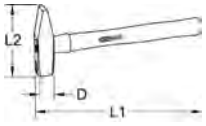
Application range: Metal, glass, plastic, ceramics, wood, concrete optical fiber reinforced plastic, etc.

		g
500.1015	Epoxy metal Quicksteel	80

HAMMER

Fitters hammer

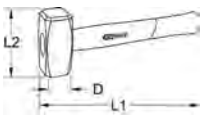
- DIN 1041
- With ash handle
- Forged execution
- Impact area surfaces inductively hardened
- Head and edge areas polished ground
- Rounded edges
- Head coating made from structured powder baked laquer
- Hammer head made out of high quality special steel



	g	D mm	L1 mm	L2 mm	handle,spare		kg
142.1310	100	15.0	260.0	82.0	142.5305	140.5405	180
142.1320	200	19.0	280.0	95.0	142.5306	140.5405	283
142.1330	300	23.0	300.0	105.0	142.5307	140.5405	350
142.1350	500	27.0	320.0	118.0	142.5308	140.5406	590
142.1380	800	33.0	350.0	130.0	142.5309	140.5406	920
142.1400	1000	36.0	360.0	135.0	142.5310	140.5406	1268

Club hammer

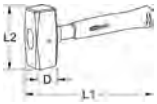
- DIN 6475
- With lacquered ash handle
- Forged execution
- Impact area surfaces inductively hardened
- Surfaces polished ground
- Rounded edges
- Head coating made from structured powder baked laquer
- Hammer head made out of high quality special steel



	g	D mm	L1 mm	L2 mm	handle,spare		kg
142.5100	1000	40.0	260.0	95.0	142.5316	140.5405	1.10
142.5125	1250	43.0	260.0	100.0	142.5317	140.5405	1.36
142.5150	1500	45.0	280.0	110.0	142.5318	140.5406	1.60

Club hammer

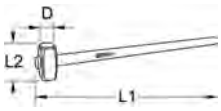
- DIN 6475
- With fiberglass handle
- Forged execution
- Impact area surfaces inductively hardened
- Surfaces polished ground
- Rounded edges
- Head coating made from structured powder baked laquer
- Hammer head made out of high quality special steel



	g	D mm	L1 mm	L2 mm	handle,spare		kg
142.5154	1000	40.0	260.0	95.0	-	-	1.19
142.5155	1250	43.0	260.0	100.0	-	-	1.41
142.5156	1500	45.0	280.0	110.0	-	-	1.73
142.5157	2000	50.0	300.0	120.0	-	-	2.24
142.5158	3000	57.0	600.0	140.0	-	-	3.46
142.5159	4000	62.0	700.0	150.0	-	-	5.05
142.5160	5000	68.0	800.0	160.0	-	-	6.10
142.5161	6000	72.0	800.0	170.0	-	-	7.10

Sledge hammer

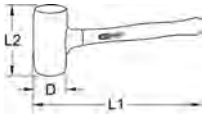
- Forged execution
- With tapered inserted ash handle
- Impact area surfaces inductively hardened
- Surfaces polished ground
- Rounded edges
- Head coating made from structured powder baked lacquer
- Hammer head made out of high quality special steel



	g	D mm	L1 mm	L2 mm	handle,spare		kg
142.6300	3000	58.0	800.0	138.0	140.5330	-	3.44
142.6400	4000	64.0	800.0	148.0	140.5330	-	4.44
142.6500	5000	70.0	800.0	158.0	140.5330	-	5.44

Dead blow hammer

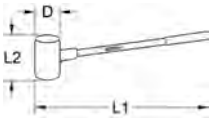
- With polyurethane glassfiber composite handle
- Shock absorbing effect through steel shot in the hammer head
- Substantially higher impact effect than standard conventional hammers
- For safer working with less recoil



	g	D mm	L1 mm	L2 mm	handle,spare		kg
140.5252	350	30.0	275.0	90.0	-	-	360
140.5254	690	35.0	311.0	100.0	-	-	700
140.5255	940	45.0	340.0	100.0	-	-	950
140.5256	1170	50.0	346.0	110.0	-	-	1180
140.5257	1400	55.0	355.0	120.0	-	-	1410
140.5258	1540	60.0	380.0	130.0	-	-	1550

Dead blow hammer, extra large

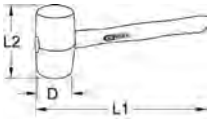
- Fiberglass handle
- Special absorbing effect through steel shot in the hammer head
- Substantially higher impact effect than standard conventional hammers
- Polyurethane glassfiber composite
- For safer working with less recoil



	g	D mm	L1 mm	L2 mm	handle,spare		kg
140.5259	4500	80.0	890.0	180.0	-	-	4.76
140.5260	5000	105.0	900.0	200.0	-	-	5.26

Rubber hammer

- DIN 5128
- With ash handle
- Hammer head made out of hard rubber

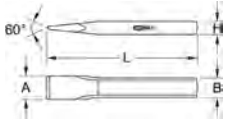


	g	D mm	L1 mm	L2 mm	handle,spare		kg
140.5221	300	54.0	300.0	85.0	140.5304	140.5404	360
140.5222	500	67.0	310.0	100.0	140.5305	140.5405	560
140.5223	700	74.0	330.0	120.0	140.5306	140.5405	760

CHISELS

Flat chisel

- Flat oval form
- Quenched and tempered
- Blade can be resharpened
- Shaft with powder coated lacquer
- Chrome molybdenum



	L mm	A mm	B mm	H mm		kg
156.0585	150.0	15.0	15.0	9.0	-	180
156.0586	200.0	25.0	23.0	13.0	162.0442	320
156.0587	250.0	25.0	23.0	13.0	162.0442	500
156.0588	300.0	25.0	23.0	13.0	162.0442	600

Flat chisel set

- Flat oval form
- Blade can be resharpened
- Quenched and tempered
- Highly polished
- Chrome molybdenum

156.0690	4 pcs	125x19 - 150x21 - 200x27 - 250x31 mm	970

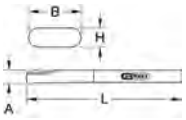
Flat chisel set, heavy duty

- Heavy execution
- Dimensionally stable 25 mm six point shaft
- For the preparation of truck rivets and welds
- Ideal for preparation working
- Chiseling of rusted bolts and nuts is possible
- Ideally suited for commercial vehicles
- Special steel

450.0025	2 pcs	400 - 600 mm	3.97

Bodywork slitting chisel

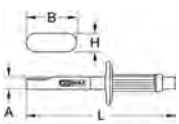
- DIN 7255
- Flat oval form
- Blade can be resharpened
- Extra flat
- Burnished
- Chrome vanadium



	L mm	A mm	B mm	H mm		
140.2162	300.0	21.0	25.0	6.0	-	450

Bodywork slitting chisel with hand grip

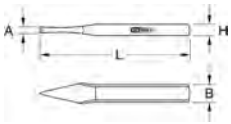
- DIN 7255
- Flat oval form
- Blade can be resharpened
- Extra flat
- Burnished
- Chrome vanadium



	L mm	A mm	B mm	H mm	
140.2165	300.0	21.0	25.0	6.0	550

Cross chisel

- Flat oval form
- Quenched and tempered
- Tip can be resharpened
- Black lacquer
- Chrome vanadium

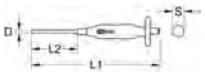


	L mm	A mm	B mm	H mm		
156.0326	200.0	10.0	20.0	10.0	-	330
156.0327	250.0	8.0	23.0	15.0	-	450

PIN PUNCHES

Pin punches with hand grip

- Round
- Quenched and tempered
- Tip can be resharpened
- Burnished
- Chrome vanadium



	L1 mm	L2 mm	D mm	S mm	
156.0026	270.0	110.0	6.0	10,0	130
156.0028	300.0	130.0	8.0	12,0	220
156.0030	300.0	140.0	10.0	12,0	250
156.0032	300.0	140.0	12.0	14,0	340
156.0034	300.0	140.0	14.0	16,0	450

Pin punch set with hand protection grip

- Quenched and tempered
- Tip can be resharpened
- Burnished
- Chrome vanadium
- In metal stand with the possibility of wall hanging

156.0020	5 pcs	270x6 - 300x8 - 300x10 - 300x12 - 300x14 mm	2.70

Truck punch

- Conical tapered point
- Universal use
- For extracting cotter pins, bolts, bearing rings, etc.
- Ideally suited for daily workshop use
- High quality and substaintial construction
- Premium tempered and hardened steel
- Special steel

	Ø mm	L mm	
450.0091	6,4	300.0	390
450.0092	6,4	380.0	730
450.0093	8,0	300.0	410
450.0094	13,0	460.0	1310

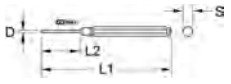
Punch set for trucks

- Conical tapered point
- Universal use
- For extracting cotter pins, bolts, bearing rings, etc.
- Ideally suited for daily workshop use
- High quality and substaintial construction
- Premium tempered and hardened steel
- Special steel

450.0090	4 pcs	6,4 - 6,4 - 8,0 - 13,0 mm	2.91

Pin punch

- DIN 6450 form C
- 8 point
- Tip can be resharpened
- Quenched and tempered
- Shaft with gold coated lacquer
- Highly polished
- Chrome molybdenum air hardened steel



	L1 mm	L2 mm	D mm	S mm		
162.0371	150.0	35.0	2.0	10,0	-	60
162.0372	150.0	40.0	2.5	10,0	-	60
162.0373	150.0	40.0	3.0	10,0	-	60
162.0374	150.0	40.0	3.5	10,0	-	65
162.0375	150.0	50.0	4.0	10,0	-	65
162.0376	150.0	50.0	4.5	10,0	-	65
162.0377	150.0	50.0	5.0	10,0	-	65
162.0378	150.0	50.0	6.0	10,0	-	70
162.0379	150.0	55.0	7.0	12,0	-	95
162.0380	150.0	55.0	8.0	12,0	-	100
162.0381	150.0	55.0	9.0	12,0	-	110
162.0382	150.0	55.0	10.0	12,0	-	115
162.0383	150.0	55.0	12.0	16,0	-	170

Pin punch set

- Quenched and tempered
- Tip can be resharpened
- Shaft with gold coated lacquer
- Highly polished
- Chrome molybdenum
- In metal storage box

162.0370	6 pcs	150x10x3 - 150x10x4 - 150x10x5 - 150x10x6 - 150x12x8 - 150x12x10mm	750

Pin punches with hand grip

- Round
- Quenched and tempered
- With two component handle
- Tip can be re-sharpened
- Tip polished, shaft burnished
- Chrome vanadium

	D mm	L1 mm	L2 mm	S mm	g
156.0211	2.0	150.0	30.0	10,0	100
156.0212	3.0	150.0	40.0	10,0	100
156.0213	4.0	150.0	55.0	10,0	100
156.0214	5.0	150.0	60.0	10,0	100
156.0215	6.0	150.0	60.0	10,0	100
156.0216	7.0	150.0	60.0	12,0	110
156.0217	8.0	150.0	60.0	12,0	110
156.0218	9.0	150.0	60.0	12,0	110
156.0219	10.0	150.0	60.0	12,0	130

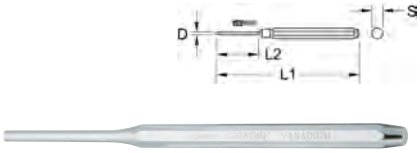
Pin punch set with hand protection grip

- Round
- Quenched and tempered
- With two component handle
- Tip can be re-sharpened
- Tip polished, shaft burnished
- Chrome vanadium

156.0220	5 pcs	3 - 4 - 5 - 6 - 8 mm	800

Pin punch

- 8 point
- Quenched and tempered
- Chrome plated and mirror polished
- Highly polished
- Chrome vanadium



	L1 mm	L2 mm	D mm	S mm		g
156.0111	115.0	30.0	2.0	8,0	-	40
156.0112	125.0	40.0	3.0	8,0	-	40
156.0113	150.0	50.0	4.0	9,5	-	60
156.0114	165.0	50.0	5.0	9,5	-	70
156.0115	180.0	55.0	6.0	12,7	-	140
156.0116	180.0	55.0	8.0	12,7	-	150

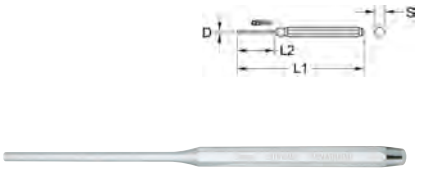
Pin punch set

- Quenched and tempered
- Chrome plated and mirror polished
- Highly polished
- Chrome vanadium
- In plastic support bracket

156.0150	6 pcs	115x2 - 125x3 - 150x4 - 165x5 - 180x6 - 180x8 mm	520

Pin punch, extra long

- 8 point
- Quenched and tempered
- chrome plated and mirror polished
- Highly polished
- Chrome vanadium



	L1 mm	L2 mm	D mm	S mm		g
156.0121	200.0	80.0	3.0	9,5	-	70
156.0122	200.0	85.0	4.0	9,5	-	70
156.0123	200.0	90.0	5.0	9,5	-	80
156.0124	200.0	93.0	6.0	9,5	-	80
156.0125	200.0	93.0	8.0	12,7	-	150
156.0126	200.0	93.0	10.0	12,7	-	170

Combi tool set

- Quenched and tempered
- Chrome plated and mirror polished
- Highly polished
- Chrome vanadium
- In plastic support bracket

			kg	
156.0160	5 pcs	Combi tool set	0.36	

consists of:

		g	
156.0113	Punch, octagonal, mirror polished, Ø 4mm	60	
156.0131	Punch, mirror polished, Ø 3mm	60	
156.0175	Center punch, octagonal, mirror polished, Ø 5mm	60	
156.0162	Flat chisel, octagonal, mirror polished, 130mm	70	
156.0161	Cross chisel, mirror polished, 130mm	60	

Pin punch set

- 8 point
- Quenched and tempered
- Chrome plated and mirror polished
- Highly polished
- Chrome vanadium
- In metal stand with the possibility of wall hanging

			kg	
156.0180	17 pcs	Pin punch set	1.00	

consists of:

		g	
156.0111	Punch, octagonal, mirror polished, Ø 2mm	40	
156.0112	Punch, octagonal, mirror polished, Ø 3mm	40	
156.0113	Punch, octagonal, mirror polished, Ø 4mm	60	
156.0114	Punch, octagonal, mirror polished, Ø 5mm	70	
156.0115	Punch, octagonal, mirror polished, Ø 6mm	140	
156.0116	Punch, octagonal, mirror polished, Ø 8mm	150	
156.0121	Punch, extra long, octagonal, mirror polished, Ø 3mm	70	
156.0122	Punch, extra long, octagonal, mirror polished, Ø 4mm	70	
156.0123	Punch, extra long, octagonal, mirror polished, Ø 5mm	80	
156.0124	Punch, extra long, octagonal, mirror polished, Ø 6mm	80	
156.0125	Punch, extra long, octagonal, mirror polished, Ø 8mm	150	
156.0126	Punch, extra long, octagonal, mirror polished, Ø 10mm	170	
156.0130	Punch, mirror polished, Ø 2mm	60	
156.0131	Punch, mirror polished, Ø 3mm	60	
156.0132	Punch, mirror polished, Ø 4mm	60	
156.0133	Punch, mirror polished, Ø 5mm	60	
156.0134	Punch, mirror polished, Ø 6mm	60	

Centre punch

- Round
- Quenched and tempered
- Burnished
- Chrome vanadium

	L mm	D mm	S mm		g
156.0404	100.0	4.0	10,0	-	30
156.0406	115.0	6.0	10,0	-	60
156.0408	120.0	8.0	12,0	-	120
156.0410	130.0	10.0	14,0	-	135

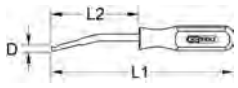
Centre punch

- Round
- Quenched and tempered
- Tip can be resharpened
- Black surface finish
- Chrome vanadium

	L mm	D mm	S mm		g
156.0340	150.0	5.0	10,0	-	70
156.0342	150.0	6.0	12,0	-	120
156.0344	210.0	7.0	14,0	-	170
156.0346	215.0	8.0	16,0	-	230
156.0348	220.0	9.0	18,0	-	310
156.0350	220.0	10.0	20,0	-	410
156.0352	220.0	11.0	22,0	-	510
156.0354	250.0	12.0	24,0	-	640

Gasket ring dismantling tool

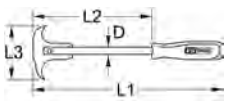
- Burnished
- Chrome vanadium



	L1 mm	L2 mm	D mm	g
550.1055	230.0	110.0	8.0	160

Gasket ring dismantling tool

- Burnished
- Chrome vanadium



	L1 mm	L2 mm	L3 mm	D mm	g
550.1060	300.0	195.0	85.0	12.0	380

Hole punch set

- For punching out rings and for making discs and holes
- Punches can also be used in pairs
- Chrome vanadium
- In durable plastic storage case

Suitable for: foam rubber, cardboard, leather, rubberfibrous materials, plastics and lead

			kg
129.0100	16 pcs	Hole punch set	1.10
1 x			
5 x		Ø 3 - 4 - 6 - 8 - 10 mm	
5 x		Ø 12 - 14 - 16 - 18 - 20 mm	
5 x		Ø 22 - 24 - 26 - 28 - 30 mm	

Sanitary & construction tools can be found in our general catalogue K11 or on our homepage.

EYE PROTECTION

Glasses - blue

- Blue shading for comfortable and relaxed viewing
- Suitable for long duration usage
- With UV protection
- Sporting design
- Extremely substantial frame
- Offer protection in maching operations
- Optimal design
- Polycarbonate lens

		g
310.0160	Glasses - blue	30

Glasses - yellow

- Yellow shading to increase contrast
- With UV protection
- Sporting design
- Extremely substantial frame
- Offer protection in maching operations
- Optimal design
- Polycarbonate lens

		g
310.0165	Glasses - yellow	30

Glasses - black

- Glasses grey tinted
- With UV protection
- Sporting design
- Extremely substantial frame
- Offer protection in maching operations
- Optimal design
- Polycarbonate lens

		g
310.0170	Glasses - black	30

Glasses - transparent

- Glasses clear
- With UV protection
- Sporting design
- Extremely substantial frame
- Offer protection in maching operations
- Optimal design
- Polycarbonate lens

		g	
310.0175	Glasses - transparent	30	

Glasses - transparent

- EN 166
- Practical for spectacle wearers
- With ventilation holes for clear visibility
- With firm frame
- With ear clip
- Polycarbonate lens

		g	
310.0110	Glasses - transparent	45	

Goggles with elastic headband - transparent

- EN 166
- Practical for spectacle wearers
- With ventilation holes for clear visibility
- With adjustable headband
- With soft PVC frame
- Polycarbonate lens

		g	
310.0120	Goggles with elastic headband - transparent	75	

EAR PROTECTION

Padded ear defenders with headband - red

- CE / EN 352-1
- With adjustable and padded ear shells for comfortable wear
- Ear shells with stepless fast adjustment
- Sound level reduction: 19 dB

		g	
310.0130	Padded ear defenders with headband - red	200	

Padded ear defenders with headband - blue

- CE / EN 352-1
- With adjustable and padded ear shells for comfortable wear
- Ear shells with stepless fast adjustment
- Sound level reduction: 25 dB

		g	
310.0131	Padded ear defenders with headband - blue	200	

Electronic padded ear protection with headband - black

- With integrated microphone
- Protects against duration noise and impulse sounds over 85 dB
- Perception of warning signals through microphone possible
- Volumes regulation through adjusting button

		g	
310.0135	Electronic padded ear protection with headband - black	250	

SECURITY VEST

Safety vest - warning yellow

- DIN EN 471
- All edges with stay tape border for durability
- With reflection strip all around
- Size
- Printed logo
- Material:
  80% Polyester
  20% Cotton

	D1 mm	D2 mm	L mm	g	
985.0007	390.0	590.0	670.0	120	

Safety vest - warning orange

- DIN EN 471
- All edges with stay tape border for durability
- With reflection strip all around
- Size
- Printed logo
- Material:
  80% Polyester
  20% Cotton

	D1 mm	D2 mm	L mm	g	
985.0008	390.0	590.0	670.0	120	

GLOVES

Micro fine woven gloves - black

- CE / EN 388 [1131]
- Very comfortable design and fit
- Especially breatheable fabric
- With PU reinforced gripping palm
- Ideal for working with small parts
- Printed logo

		Content	g	
310.0470	L	12 pair	420	
310.0475	XL	12 pair	430	
310.0480	XXL	12 pair	445	

Micro fine woven gloves - white

- CE / EN 388 [1131]
- Very comfortable design and fit
- Especially breathe able fabric
- With PU reinforced gripping palm
- Ideal for working with small parts
- Printed logo

		Content	g	
310.0450	L	12 pair	385	
310.0455	XL	12 pair	435	
310.0460	XXL	12 pair	482	

Leather mechanic glove

- CE / EN 388 [2112]
- Universal use for work and leisure
- Ideal for working with small parts secure grip
- Inner palm - synthetic material leather
- With anti-vibration protection
- With elasticated wrists
- With hook and loop fastener

		g	
310.0250	L	95	
310.0255	XL	95	
310.0260	XXL	100	

Leather mechanic gloves displays

- CE / EN 388 [2112]
- Universal use for work and leisure
- Ideal for working with small parts secure grip
- With anti-vibration protection
- With elasticated wrists
- With hook and loop fastener

	Content L	Content XL	Content XXL	kg	
310.0250D	20			2.67	
310.0255D		20		2.72	
310.0260D			20	2.73	
310.0240D	10	10	10	3.99	

Mechanic gloves

- CE / EN 388 [2112]
- Universal use for work and leisure
- Ideal for working with small parts secure grip
- With silicone gel padding in the palm area
- With elasticated wrists
- With hook and loop fastener

		g	
310.0350	L	85	
310.0355	XL	90	
310.0360	XXL	95	

Mechanic gloves displays

- CE / EN 388 [2112]
- Universal use for work and leisure
- Ideal for working with small parts secure grip
- With silicone gel padding in the palm area
- With elasticated wrists
- With hook and loop fastener

	Content L	Content XL	Content XXL	kg	
310.0350D	20			2.49	
310.0355D		20		2.36	
310.0360D			20	2.64	
310.0340D	10	10	10	3.73	

Item	page
1	
100.4005	86
100.4020	86
100.4045	86
100.4050	86
100.5050	85
101.1000	100
101.5000	101
103.5000	101
104.5050	147
105.1000	101
105.2000	101
105.3010	100
111.3100	55, 93
111.3200	55, 93
111.3300	55, 93
111.3500	55, 93
111.3505	55, 93
111.3510	55, 93
111.3515	55, 93
111.3520	55, 93
111.3525	55, 93
111.3530	55, 93
111.3535	55, 93
113.0500	55
113.1000	55
113.1500	55
113.2000	55
113.2100	55
113.3000	55
114.0040	55, 148
114.0050	99
114.0051	99
114.0150	55, 125
115.0900	128
115.0991	54
115.0992	54
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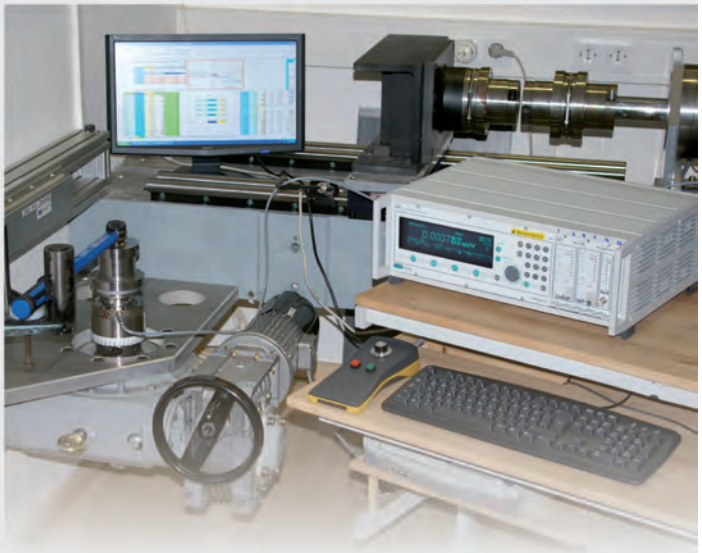
SERVICE CENTRE

The KS SERVICE CENTRE is your direct contact and co-ordinator for all kind of service related to all our products.

We guarantee short reaction times and economical repairs in our specially established SERVICE CENTRE.



The KS Service Centre offers the following benefits:

- Repair, adjustment, calibration and certification of KS Tools torque wrenches
- Monitoring service for testing tools for torque wrenches
- Our economical calibration service and torque testing laboratory provides certificates in accordance to all existing norms and standards as per DIN EN ISO 9000 ff.

The following products can be serviced and repaired:

- Torque wrenches
- Pneumatic tools
- Cordless tools
- Tool cabinets

Further more we offer examination and economical repairs for our entire catalogue range.

QUALITY / GUARANTEE

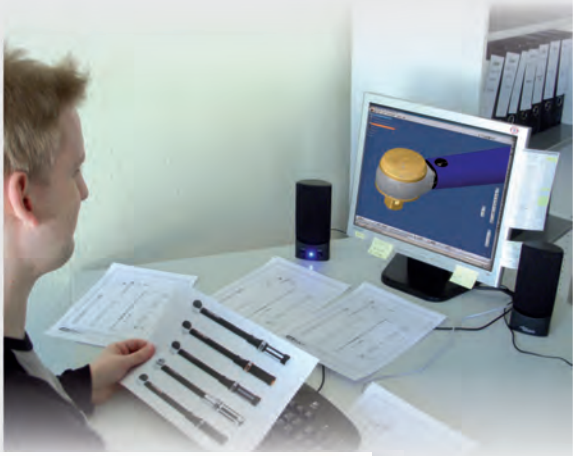
Quality guaranteed through systematic quality assurance in accordance to DIN EN ISO 9001:2008

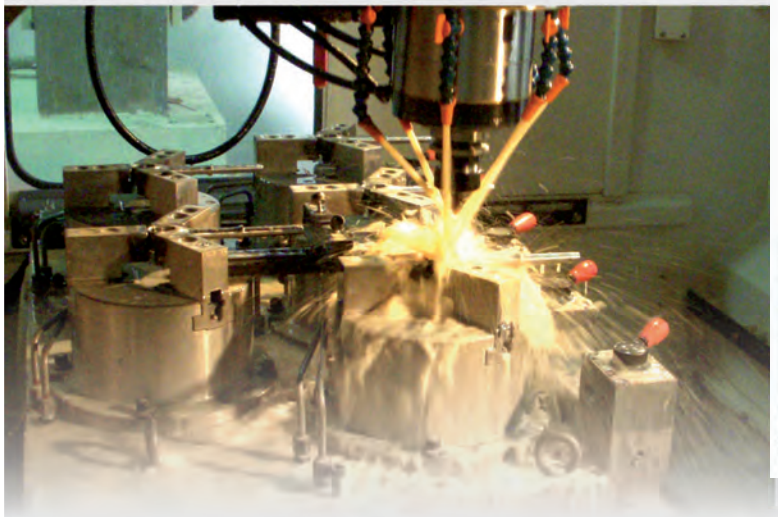
Our company is certified in accordance to ISO 9001:2008 and is subject to permanent monitoring by TÜV Rheinland GmbH. Our constant drive for innovate products and the increased quality awareness of our customers demand for continuous improvement of the product quality and productivity.

All employees of our company are committed to exercise the maximum possible diligence and permanent controls and checks at all levels in order to ensure the highest level of quality.

This means for our customers:

Guaranteed quality and controlled safety at the highest stage!





Certificate

Standard: ISO 9001:2008

Certificate Regist. No.: 01 100 054054

TÜV Rheinland Cert GmbH certifies:

Certificate Holder:

KS TOOLS
Werkzeuge-Maschinen GmbH
Seligenstädter Grund 10-12
D - 63150 Heusenstamm

Scope: Import, export and distribution of all kind of tools

An audit was performed, Report No. 054054. Proof has been furnished that the requirements according to ISO 9001:2008 are fulfilled.
The due date for all future audits is 15-12 (dd.mm).

Validity: The certificate is valid from 2012-02-09 until 2015-02-08.
First certification 2006

2012-01-26

TÜVRheinland
Precisely Right.

KS Tools equipment is manufactured to the highest quality standards and from the very best material.

However if any of our products show a lack of quality due to material failure or manufacturing fault we guarantee free replacement.

That we guarantee!

20th anniversary

KSTOOLS®

1992 - 2012

Werkzeuge-Maschinen GmbH

Seligenstädter Grund 10 - 12
D- 63150 Heusenstamm

GERMANY

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