

# NEWS AND INNOVATIONS

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COUNTERSINKS  
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ATORN  
LED WORKSHOP LIGHTS  
PAGE 22



PROFESSIONAL LED WORKSHOP  
LIGHTS AND LED WORK LIGHTS

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WORKSHOP EQUIPMENT + MACHINES

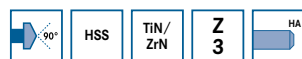
MACHINING + CLAMPING TECHNOLOGY

TOOLS



ATORN®

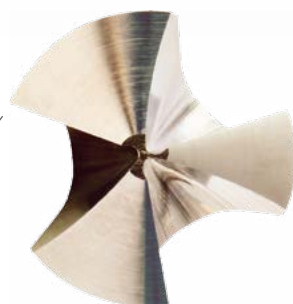
## HSS 90° CONICAL COUNTERSINK, TRIPLE CUTTER, EXTREMELY UNEVEN PITCH WITH 3-FACED SHANK



See catalogue from page 268



Three-faced polished section ensures optimum power transmission and prevents slipping

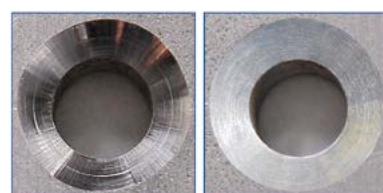


Radial relief ensures optimum chip breaking

Uneven pitch ensures excellent surfaces without chatter marks and minimisation of cutting forces

Standard countersink

Optimised countersinking



42CrMo,  $v_c = 15 \text{ m/min}$ ,  $f_z = 0.15$

ATORN countersink

### Application:

For producing 90° counterbores up to 1300 N/mm<sup>2</sup>.

### Design:

- Profile-ground triple-flute countersink with radial relief, with extremely uneven pitch.
- Three-faced shank for clamping in a drill chuck or cordless drill.

Conical countersinks also available as a set.



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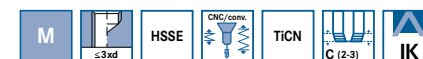
				Surface	TiN/ZrN
				f steel 700 (mm/U)	ES 11501... Ref. no.
mm	mm	mm	mm		
4.3	1.3	4	40	0.06	670
6	1.5	5	45	0.08	671
6.3	1.5	5	45	0.08	672
8	2	6	50	0.1	673
8.3	2	6	50	0.1	674
10	2.5	6	50	0.1	675
10.4	2.5	6	50	0.1	676
11.5	2.8	8	56	0.1	677
12.4	2.8	8	56	0.1	678
15	3.2	10	60	0.12	679
16.5	3.2	10	60	0.12	680
19	3.5	10	63	0.14	681
20.5	3.5	10	63	0.18	682
23	3.8	10	67	0.18	683
25	3.8	10	67	0.18	684
31	4.2	12	71	0.22	685

Composition of set	Number of pieces in assortment/set (pieces)	ATORN®
6.3/10.4/16.5/20.5/25	5	ES 11501... Ref. no. 686

Application	Steel (N/mm2)			Stainless steel		Aluminium		Brass		Bronze		Plastics	Graphite Fibre-glass reinforced plastic	Spherulitic graphite cast iron GJMW	Titanium alloy	Nickel alloy	Super alloy	Hardness Materials	
No.	<700	<1000	<1300	Marten-sitic	Auste-nitic	Short	Long	Short	Long	Short	Long							<55 HRC	<65 HRC
ES11501670-685	40	30	12	15	15	40	50	40	40	40	40	40	20	10			6		

ATORN®

## MACHINE THREAD FORMER HSSE TiCN TYPE UNI MAX



For universal serial use up to 1500 N/mm<sup>2</sup>

Application	Steel (N/mm²)			Stainless steel		Aluminium		Brass		Bronze		Plastics	Graphite Fibreglass reinforced plastic	Spherulitic graphite cast iron GJMW	Titanium alloy	Nickel alloy	Super alloy	Hardness Materials	
No.	<700	<1000	<1300	Marten-sitic	Auste-nitic	Short	Long	Short	Long	Short	Long							<55 HRC	<65 HRC
ES13392	28	12	10			30	40	30	40	25	35	30							

See catalogue from page 489

### Application:

For producing metric threads on CNC machines or conventional machines in through holes and blind holes in the material groups of **steel, stainless steel and non-ferrous metals up to a strength of 1500 N/mm<sup>2</sup>** with >10% material expansion.

### Design:

- With lubrication grooves, structural dimensions according to: DIN 371 = reinforced shank (up to M10), DIN 376 = protruding shank (from M12)

### Advantage:

- Innovative mould geometry optimised for machining high-strength materials.

												HSSE	HSSE
												TiCN	TiCN
												ISO 2X (6HX)	ISO 2X (6HX)
												C	C
												CNC   conventional	CNC   conventional
												External	Internal radial
												ES 13392... Ref. no.	ES 13395... Ref. no.
M1	0.25	0.9	40	2.5	2.1	371						210	-
M1.2	0.25	1.1	40	2.5	2.1	371						212	-
M1.4	0.3	1.27	40	2.5	2.1	371						214	-
M1.6	0.35	1.45	40	2.5	2.1	371						216	-
M2	0.4	1.85	45	2.8	2.1	371						220	-
M2.5	0.45	2.33	50	2.8	2.1	371						225	-
M3	0.5	2.8	56	3.5	2.7	371						230	-
M4	0.7	3.7	63	4.5	3.4	371						240	-
M5	0.8	4.65	70	6	4.9	371						250	-
M6	1	5.55	80	6	4.9	371						260	760
M8	1.25	7.4	90	8	6.2	371						280	780
M10	1.5	9.3	100	10	8	371						300	800
M12	1.75	11.2	110	9	7	376						320	820
M14	2	13	110	11	9	376						340	840
M16	2	15	110	12	9	376						360	860
M18	2.5	16.8	125	14	11	376						380	680
M20	2.5	18.8	140	16	12	376						400	700
M22	2.5	20.8	140	18	14.5	376						420	720
M24	3	22.5	160	18	14.5	376						440	740
M27	3	25.5	160	20	16	376						470	770
M30	3.5	28.2	180	22	18	376						500	801

ATORN®

## MACHINE THREAD FORMER HSSE TiN LUBRICATION GROOVES TYPE VA MAX



For series production in stainless steels

Application	Steel (N/mm2)			Stainless steel		Aluminium		Brass		Bronze		Plas- tics	Graphite Fibreglass reinforced plastic	Spherulitic graphite cast iron GJMW	Tita- nium alloy	Nickel alloy	Super alloy	Hardness Materials	
No.	<700	<1000	<1300	Marten- sitic	Auste- nitic	Short	Long	Short	Long	Short	Long							<55 HRC	<65 HRC
ES13395	25			18	20	40	60	25	40	20	30								

### Application:

For producing metric threads on CNC machines or conventional machines in through holes and blind holes in the material groups of **stainless steel and non-ferrous metals** with >10% material expansion.

### Design:

- With lubrication grooves, structural dimensions according to: DIN 371 = reinforced shank (up to M10), DIN 376 = protruding shank (from M12)

### Advantage:

- Innovative mould geometry for stainless steel machining ensures very high dimensional accuracy and process reliability.

												HSSE	HSSE
												TiN	TiN
												ISO 2X (6HX)	ISO 2X (6HX)
												C	C
												CNC conventional	CNC conventional
												External	Internal radial
												ES 13395... Ref. no.	ES 13395... Ref. no.
M2	0.4	1.83	45	2.8	2.1	371						120	-
M2.5	0.45	2.33	50	2.8	2.1	371						125	-
M3	0.5	2.8	56	3.5	2.7	371						130	-
M3.5	0.6	3.25	56	4	3	371						135	-
M4	0.7	3.7	63	4.5	3.4	371						140	-
M5	0.8	4.65	70	6	4.9	371						150	-
M6	1	5.55	80	6	4.9	371						160	560
M8	1.25	7.4	90	8	6.2	371						180	580
M10	1.5	9.3	100	10	8	371						200	600
M12	1.75	11.2	110	9	7	376						220	620
M14	2	13	110	11	9	376						240	640
M16	2	15	110	12	9	376						260	660

ATORN®

SOLID CARBIDE METAL CIRCULAR SAW BLADE, FINELY TOOTHED, TYPE A

Up to 1300 N/mm² in thin-walled workpieces and low cutting depths, CNC machines

Application:

For producing saw cuts in thin-walled workpieces and shallow cutting depths in the material groups of steel, stainless steel, cast iron and non-ferrous metals up to a strength of 1300 N/mm².

Design:

- Precision-ground metal circular saw blade with tooth type A, fine-toothed, hollow ground on side.

Advantage:

- Innovative cutting geometry for very high dimensional accuracy, process reliability and chip removal.
- High-quality cutting material for extremely demanding service life requirements
- Universal use in numerous applications

Technical data:

- Cutting diameter tolerance: j15
- Cutting thickness tolerance: j11
- Hole diameter tolerance: H6

TYPE A, fine-toothed

For full range, see catalogue from page 592

Application No.	Steel (N/mm2)			Stainless steel		Aluminium		Brass		Bronze		Plastics	Graphite Fibre-glass reinforced plastic	Spherulitic graphite cast iron GJMW	Titanium alloy	Nickel alloy	Super alloy	Hard materials	
	<700	<1000	<1300	Marten-sitic	Auste-nitic	Short	Long	Short	Long	Short	Long							<55 HRC	<65 HRC
14020020-331	135	95	45	50	60	600	900	350	350	250	300	300		120	50	50	40		

T (mm)	D (mm)	W (mm)	Tooth type Z (pieces)	A ES 14020... Ref. no.
15	0.1	5	64	020
15	0.15	5	64	021
15	0.2	5	64	022
15	0.25	5	64	023
15	0.3	5	64	024
15	0.35	5	64	025
15	0.4	5	64	026
15	0.5	5	48	027
15	0.6	5	48	028
15	0.7	5	48	029
15	0.8	5	40	030
15	0.9	5	40	031
15	1	5	40	032
15	1.1	5	40	033
15	1.2	5	40	034
15	1.3	5	40	035
15	1.4	5	40	036
15	1.5	5	40	037
15	1.6	5	40	038
15	1.7	5	40	039
15	1.8	5	40	040
15	1.9	5	40	041
15	2	5	40	042
15	2.5	5	40	043

T (mm)	D (mm)	W (mm)	Tooth type Z (pieces)	A ES 14020... Ref. no.
15	3	5	40	044
15	3.5	5	40	045
15	4	5	40	046
15	4.5	5	40	047
15	5	5	40	048
15	5.5	5	40	049
15	6	5	40	050
20	0.1	5	80	051
20	0.15	5	80	052
20	0.2	5	80	053
20	0.25	5	64	054
20	0.3	5	64	055
20	0.35	5	64	056
20	0.4	5	64	057
20	0.5	5	48	058
20	0.6	5	48	059
20	0.7	5	48	060
20	0.8	5	48	061
20	0.9	5	40	062
20	1	5	40	063
20	1.1	5	40	064
20	1.2	5	40	065
20	1.3	5	40	066
20	1.4	5	40	067
20	1.5	5	40	068

T (mm)	D (mm)	W (mm)	Tooth type Z (pieces)	A ES 14020... Ref. no.
20	1.6	5	40	069
20	1.7	5	40	070
20	1.8	5	32	071
20	1.9	5	32	072
20	2	5	32	073
20	2.5	5	32	074
20	3	5	32	075
20	3.5	5	24	076
20	4	5	24	077
20	4.5	5	24	078
20	5	5	24	079
20	5.5	5	24	080
20	6	5	24	081
25	0.1	8	80	082
25	0.15	8	80	083
25	0.2	8	80	084
25	0.25	8	80	085
25	0.3	8	80	086
25	0.35	8	64	087
25	0.4	8	64	088
25	0.5	8	64	089
25	0.6	8	64	090
25	0.7	8	48	091
25	0.8	8	48	092
25	0.9	8	48	093

T (mm)	D (mm)	W (mm)	Tooth type Z (pieces)	A ES 14020... Ref. no.
25	1	8	48	094
25	1.1	8	48	095
25	1.2	8	48	096
25	1.3	8	40	097
25	1.4	8	40	098
25	1.5	8	40	099
25	1.6	8	40	100
25	1.7	8	40	101
25	1.8	8	40	102
25	1.9	8	40	103
25	2	8	40	104
30	0.1	8	100	113
30	0.15	8	100	114
30	0.2	8	100	115
30	0.25	8	100	116
30	0.3	8	80	117
30	0.35	8	80	118
30	0.4	8	80	119
30	0.5	8	80	120
30	0.6	8	64	121
30	0.7	8	64	122
30	0.8	8	64	123
30	0.9	8	64	124
30	1	8	64	125
30	1.1	8	64	126
30	1.2	8	48	127
30	1.3	8	48	128
30	1.4	8	48	129
30	1.5	8	48	130
30	1.6	8	48	131
30	1.7	8	48	132
30	1.8	8	48	133
30	1.9	8	48	134
30	2	8	48	135
30	2.5	8	40	136
30	3	8	40	137
40	0.1	10	128	144
40	0.15	10	128	145
40	0.2	10	128	146
40	0.25	10	100	147
40	0.3	10	100	148
40	0.35	10	100	149
40	0.4	10	100	150
40	0.5	10	80	151
40	0.6	10	80	152
40	0.7	10	80	153
40	0.8	10	80	154
40	0.9	10	64	155
40	1	10	64	156
40	1.1	10	64	157
40	1.2	10	64	158
40	1.3	10	64	159
40	1.4	10	64	160
40	1.5	10	64	161
40	1.6	10	64	162
40	1.7	10	48	163
40	1.8	10	48	164
40	1.9	10	48	165

T (mm)	D (mm)	W (mm)	Tooth type Z (pieces)	A ES 14020... Ref. no.
40	2	10	48	166
40	2.5	10	48	167
40	3	10	48	168
50	0.1	13	128	175
50	0.15	13	128	176
50	0.2	13	128	177
50	0.25	13	128	178
50	0.3	13	128	179
50	0.35	13	100	180
50	0.4	13	100	181
50	0.5	13	100	182
50	0.6	13	100	183
50	0.7	13	80	184
50	0.8	13	80	185
50	0.9	13	80	186
50	1	13	80	187
50	1.1	13	80	188
50	1.2	13	80	189
50	1.3	13	64	190
50	1.4	13	64	191
50	1.5	13	64	192
50	1.6	13	64	193
50	1.7	13	64	194
50	1.8	13	64	195
50	1.9	13	64	196
50	2	13	64	197
50	2.5	13	64	198
50	3	13	48	199
63	0.2	16	160	206
63	0.25	16	160	207
63	0.3	16	128	208
63	0.35	16	128	209
63	0.4	16	128	210
63	0.5	16	128	211
63	0.6	16	100	212
63	0.7	16	100	213
63	0.8	16	100	214
63	0.9	16	100	215
63	1	16	100	216
63	1.1	16	80	217
63	1.2	16	80	218
63	1.3	16	80	220
63	1.4	16	80	221
63	1.5	16	80	222
63	1.6	16	80	223
63	1.7	16	80	224
63	1.8	16	80	225
63	1.9	16	80	226
63	2	16	80	227
63	2.5	16	64	228
63	3	16	64	229
63	6	16	48	235
80	0.3	22	160	236
80	0.35	22	160	237
80	0.4	22	160	238
80	0.5	22	128	239
80	0.6	22	128	240
80	0.7	22	128	241

T (mm)	D (mm)	W (mm)	Tooth type Z (pieces)	A ES 14020... Ref. no.
80	0.8	22	128	242
80	0.9	22	100	243
80	1	22	100	244
80	1.1	22	100	245
80	1.2	22	100	246
80	1.3	22	100	247
80	1.4	22	100	248
80	1.5	22	100	249
80	1.6	22	100	250
80	1.7	22	80	251
80	1.8	22	80	252
80	1.9	22	80	253
80	2	22	80	254
80	2.5	22	80	255
80	3	22	80	256
80	6	22	64	262
100	0.5	22	160	263
100	0.6	22	160	264
100	0.7	22	128	265
100	0.8	22	128	266
100	0.9	22	128	267
100	1	22	128	268
100	1.1	22	128	269
100	1.2	22	128	270
100	1.3	22	100	271
100	1.4	22	100	272
100	1.5	22	100	273
100	1.6	22	120	274
100	1.7	22	100	275
100	1.8	22	100	276
100	1.9	22	100	277
100	2	22	100	278
100	2.5	22	100	279
100	3	22	80	280
100	3.5	22	80	281
100	4	22	80	282
100	4.5	22	80	283
100	5	22	80	284
100	5.5	22	64	285
100	6	22	64	286
125	0.6	22	160	287
125	0.7	22	160	288
125	0.8	22	160	289
125	0.9	22	160	290
125	1	22	160	291
125	1.1	22	128	292
125	1.2	22	128	293
125	1.3	22	128	294
125	1.4	22	128	295
125	1.5	22	128	296
125	1.6	22	128	297
125	1.7	22	128	298
125	1.8	22	128	299
125	1.9	22	128	300
125	2	22	128	301
125	2.5	22	100	302
125	3	22	100	303



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ATORN®

SOLID CARBIDE METAL CIRCULAR SAW BLADE, COARSE-TOOTHED, TYPE B



Up to 1300 N/mm² large cross sections and cutting depths, on CNC machines

Application:

For creating saw cuts in large cross sections and for medium to large cutting depths in the material groups of steel, stainless steel, cast iron and non-ferrous metals up to a strength of 1300 N/mm².

Design:

- Precision-ground metal circular saw blade with tooth type B, fine-toothed, hollow ground on side.

Advantage:

- Innovative cutting geometry with large chip space ensures chip removal and universal application.
- High-quality cutting material for extremely demanding service life requirements
- Universal use in numerous applications

Technical data:

- Cutting diameter tolerance: j15
- Cutting thickness tolerance: j11
- Hole diameter tolerance: H6

TYPE B, coarse-toothed

For the full range, see catalogue from page 595

Application No.	Steel (N/mm2)			Stainless steel		Aluminium		Brass		Bronze		Plastics	Graphite Fibreglass reinforced plastic	Spherulitic graphite cast iron GJMW	Titanium alloy	Nickel alloy	Super alloy	Hard materials	
	<700	<1000	<1300	Martensitic	Austenitic	Short	Long	Short	Long	Short	Long							<55 HRC	<65 HRC
14020332-628	135	95	45	50	60	600	900	350	350	250	300	300		120	50	50	40		

T (mm)	D (mm)	W (mm)	Tooth type Z (pieces)	B ES 14020... Ref. no.
15	0.2	5	20	332
15	0.25	5	20	333
15	0.3	5	20	334
15	0.35	5	20	335
15	0.4	5	20	336
15	0.5	5	20	337
15	0.6	5	20	338
15	0.7	5	20	339
15	0.8	5	20	340
15	0.9	5	20	341
15	1	5	20	342
15	1.1	5	20	343
15	1.2	5	20	344
15	1.3	5	20	345
15	1.4	5	20	346
15	1.5	5	20	347
15	1.6	5	20	348
15	1.7	5	20	349
15	1.8	5	20	350
15	1.9	5	20	351
15	2	5	20	352
15	2.5	5	20	353
15	3	5	20	354
15	3.5	5	20	355
15	4	5	20	356

T (mm)	D (mm)	W (mm)	Tooth type Z (pieces)	B ES 14020... Ref. no.
15	4.5	5	20	357
15	5	5	20	358
15	5.5	5	20	359
15	6	5	20	360
20	0.2	5	20	361
20	0.25	5	20	362
20	0.3	5	20	363
20	0.35	5	20	364
20	0.4	5	20	365
20	0.5	5	20	366
20	0.6	5	20	367
20	0.7	5	20	368
20	0.8	5	20	369
20	0.9	5	20	370
20	1	5	20	371
20	1.1	5	20	372
20	1.2	5	20	373
20	1.3	5	20	374
20	1.4	5	20	375
20	1.5	5	20	376
20	1.6	5	20	377
20	1.7	5	20	378
20	1.8	5	20	379
20	1.9	5	20	380
20	2	5	20	381

T (mm)	D (mm)	W (mm)	Tooth type Z (pieces)	B ES 14020... Ref. no.
20	2.5	5	20	382
25	0.25	8	20	391
25	0.3	8	20	392
25	0.35	8	20	393
25	0.4	8	20	394
25	0.5	8	20	395
25	0.6	8	20	396
25	0.7	8	20	397
25	0.8	8	20	398
25	0.9	8	20	399
25	1	8	20	400
25	1.1	8	20	401
25	1.2	8	20	402
25	1.3	8	20	403
25	1.4	8	20	404
25	1.5	8	20	405
25	1.6	8	20	406
25	1.7	8	20	407
25	1.8	8	20	408
25	1.9	8	20	409
25	2	8	20	410
25	2.5	8	20	411
25	3	8	20	412
30	0.2	8	30	419
30	0.25	8	30	420

T (mm)	D (mm)	W (mm)	Tooth type Z (pieces)	B ES 14020... Ref. no.
30	0.3	8	30	421
30	0.35	8	30	422
30	0.4	8	30	423
30	0.5	8	30	424
30	0.6	8	30	425
30	0.7	8	30	426
30	0.8	8	24	427
30	0.9	8	24	428
30	1	8	24	429
30	1.1	8	24	430
30	1.2	8	24	431
30	1.3	8	24	432
30	1.4	8	24	433
30	1.5	8	24	434
30	1.6	8	24	435
30	1.7	8	24	436
30	1.8	8	24	437
30	1.9	8	24	438
30	2	8	24	439
30	2.5	8	24	440
30	3	8	24	441
40	0.2	10	40	448
40	0.25	10	40	449
40	0.3	10	40	450
40	0.35	10	40	451
40	0.4	10	40	452
40	0.5	10	40	453
40	0.6	10	40	454
40	0.7	10	40	455
40	0.8	10	32	456
40	0.9	10	32	457
40	1	10	32	458
40	1.1	10	32	459
40	1.2	10	32	460
40	1.3	10	32	461
40	1.4	10	32	462
40	1.5	10	32	463
40	1.6	10	32	464
40	1.7	10	32	465
40	1.8	10	32	466
40	1.9	10	32	467
40	2	10	32	468
40	2.5	10	32	469
40	3	10	32	470
50	0.2	13	48	477
50	0.25	13	48	478
50	0.3	13	48	479
50	0.35	13	48	480
50	0.4	13	48	481
50	0.5	13	48	482
50	0.6	13	48	483
50	0.7	13	40	484
50	0.8	13	40	485
50	0.9	13	40	486
50	1	13	40	487
50	1.1	13	40	488

T (mm)	D (mm)	W (mm)	Tooth type Z (pieces)	B ES 14020... Ref. no.
50	1.2	13	40	489
50	1.3	13	32	490
50	1.4	13	32	491
50	1.5	13	32	492
50	1.6	13	32	493
50	1.7	13	32	494
50	1.8	13	32	495
50	1.9	13	32	496
50	2	13	32	497
50	2.5	13	32	498
50	3	13	24	499
63	0.3	16	64	506
63	0.35	16	64	507
63	0.4	16	64	508
63	0.5	16	64	509
63	0.6	16	48	510
63	0.7	16	48	511
63	0.8	16	48	512
63	0.9	16	48	513
63	1	16	48	514
63	1.1	16	40	515
63	1.2	16	40	516
63	1.3	16	40	517
63	1.4	16	40	518
63	1.5	16	40	519
63	1.6	16	40	520
63	1.7	16	40	521
63	1.8	16	40	522
63	1.9	16	40	523
63	2	16	40	524
63	2.5	16	32	525
63	3	16	32	526
63	3.5	16	32	527
63	4	16	32	528
63	4.5	16	32	529
63	5	16	24	530
63	5.5	16	24	531
63	6	16	24	532
80	0.3	22	64	533
80	0.35	22	64	534
80	0.4	22	64	535
80	0.5	22	64	536
80	0.6	22	64	537
80	0.7	22	64	538
80	0.8	22	64	539
80	0.9	22	48	540
80	1	22	48	541
80	1.1	22	48	542
80	1.2	22	48	543
80	1.3	22	48	544
80	1.4	22	48	545
80	1.5	22	48	546
80	1.6	22	48	547
80	1.7	22	40	548
80	1.8	22	40	549

T (mm)	D (mm)	W (mm)	Tooth type Z (pieces)	B ES 14020... Ref. no.
80	1.9	22	40	550
80	2	22	40	551
80	2.5	22	40	552
80	3	22	40	553
80	3.5	22	32	554
80	4	22	32	555
80	4.5	22	32	556
80	5	22	32	557
80	5.5	22	32	558
80	6	22	32	559
100	0.5	22	80	560
100	0.6	22	80	561
100	0.7	22	80	562
100	0.8	22	64	563
100	0.9	22	64	564
100	1	22	64	565
100	1.1	22	64	566
100	1.2	22	64	567
100	1.3	22	48	568
100	1.4	22	48	569
100	1.5	22	48	570
100	1.6	22	48	571
100	1.7	22	48	572
100	1.8	22	48	573
100	1.9	22	48	574
100	2	22	48	575
100	2.5	22	48	576
100	3	22	40	577
100	3.5	22	40	578
100	4	22	40	579
100	4.5	22	40	580
100	5	22	40	581
100	5.5	22	32	582
100	6	22	32	583
125	0.6	22	80	584
125	0.7	22	80	585
125	0.8	22	80	586
125	0.9	22	80	587
125	1	22	80	588
125	1.1	22	64	589
125	1.2	22	64	590
125	1.3	22	64	591
125	1.4	22	64	592
125	1.5	22	64	593
125	1.6	22	64	594
125	1.7	22	64	595
125	1.8	22	64	596
125	1.9	22	64	597
125	2	22	64	598
125	2.5	22	48	599
125	3	22	48	600
125	3.5	22	48	601
125	4	22	48	602
125	4.5	22	40	603
125	5	22	40	604
125	5.5	22	40	605

THE MOST EFFICIENT ELECTRIC TOOLS FROM WELL-KNOWN MANUFACTURERS. WE HAVE WHAT IT TAKES.

ATORN®

## MARKING TOOL "MARKER PRO"

Universal use in a wide range of materials

Reduced throughput times of workpieces

External labelling is unnecessary

Efficiency of production is increased

For fast and efficient labelling.

See catalogue from page 650

Ref. no. 060

### Application:

The tool produces high-quality marking with a combination of material compaction and material displacement.

- Labelling possible both in dry and in wet state
- Labelling speed up to 200 m/min
- with clamping surface

### Design:

- Workpiece unevenness is compensated for up to 5 mm
- Possible to mark round surfaces

Type	External housing Ø (mm)	Needle Ø (mm)	Shank Ø	Total length (mm)	Composition of set	ES 16531... Ref. no.
Marker PRO12	14	3	12	80	1 x Marker PRO12, 1 x needle with radius 0.3 mm, 1 x needle with radius 0.5 mm	050
Marker PRO20	22	3	20	107	1 x Marker PRO20, 1 x needle with radius 0.5 mm, 1 x needle with radius 1 mm,	060

ATORN®

## SOLID CARBIDE HSC END MILL – COMPOSITE ROUTER

With drilling and milling tip, uncoated

### Application:

High-performance composite router with pyramid cross-toothing and drawing cut. For machining CFRP/GFRP materials and fibre plastics.

### Design:

- Solid carbide ultra-fine grain
- Uncoated
- Polished surface
- Straight shank in line with DIN 6535 HA

See catalogue page 727

					Type	Drill tip	Milling tip
					Tolerance of cutting Ø	h10	h10
					Tolerance of shank Ø	h6	h6
						ES 16658... Ref. no.	ES 16658... Ref. no.
4	16	64	4	0.076		700	760
6	19	76	6	0.13		710	770
6	25	76	6	0.13		720	780
8	25	76	8	0.14		730	790
10	25	76	10	0.15		740	800
12	25	76	12	0.18		750	810



You can find detailed information on the usage values of these tools in our online shop.



## CopyMax® die-sinking cutter – one insert – two missions

LMT Kieninger has specifically developed the CopyMax® copy milling system for die and mould making. With the indexable inserts, CopyMax®1 and CopyMax®2, you now have the choice, depending on the requirements of the component, to use the maximum savings potential to its full extent. The CopyMax®1 and CopyMax®2 demonstrate their strengths especially for rough machining and for the subsequent semi-finishing process. Both tools are manufactured in the patent-pending manufacturing process of HQS (high-quality sintering) and have precision-sintered cutting edges. For the first time, high-quality sintering makes it possible to completely press and sinter a ball-nose copy milling insert.

### CopyMax®2

- Identical geometry to the highly efficient WPR-AR copy milling insert.
- Most economical solution for approx. 70% of roughing and semi-finishing applications.
- Fully-functional second cutting edge

Complete ball copy-milling program for roughing and semi-finishing of Ø 12 mm to Ø 32 mm

Pre-pressed indexable insert (HQS) with absolutely stable cutting edge

Different shank versions are available

Cutting materials for ISO P, K, M and S

System compatible with CopyMax®1 and CopyMax®2

KIENINGER

## COPYMAX® DIE-SINKING CUTTER, CYLINDRICAL

For indexable milling inserts CMR .. SR/DR

### Design:

- Steel shank
- Cylindrical neck

See catalogue page 944

Cutting Ø (mm)	Clearance length (mm)	Clearance Ø (mm)	Total length (mm)	Shank Ø (mm)	Suitable for indexable inserts	CopyMax® die-sinking cutter, cylindrical Ref. no.
12	50	11	120	12	CMR 12 SR	ES 16123... 312
12	60	11	160	12	CMR 12 SR	313
16	55	14.5	140	16	CMR 16 SR/DR	316
16	80	14.5	200	16	CMR 16 SR/DR	317
20	60	18.5	140	20	CMR 20 SR/DR	320
20	80	18.5	200	20	CMR 20 SR/DR	321
25	75	23	140	25	CMR 25 SR/DR	325
25	75	23	200	25	CMR 25 SR/DR	326
32	70	29	140	32	CMR 32 DR	332
32	90	29	220	32	CMR 32 DR	333

KIENINGER

See catalogue page 945

## INDEXABLE MILLING INSERT CMR-DR

For KIENINGER CopyMax® die-sinking cutters

### Design:

- Precision-sintered indexable insert with 2 cutting edges
- Identical geometry to copy milling insert WPR-AR
- Compatible with both CopyMax® systems

### Delivery:

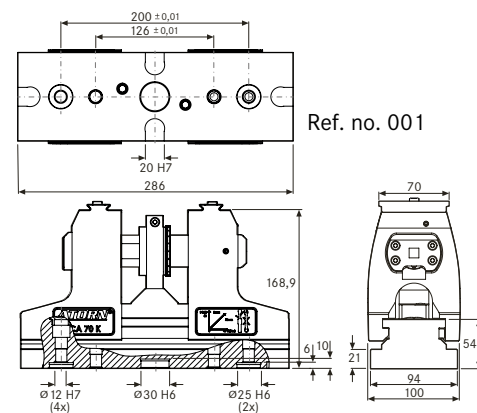
Packing unit: CMR DR = 5 units

					Surface	Nanomold gold	Uncoated
					Cemented carbide type	LCPK30M	LCPK30M
					Material to be processed	Steel   cast iron	Non-ferrous metal   cast iron   special alloy
ISO name	Designation	d (mm)	s (mm)	r (mm)		ES 16129... Ref. no.	ES 16129... Ref. no.
CMR 16 DR	CMR DR	16	3	8		010	-
CMR 20 DR	CMR DR	20	4	10		014	-
CMR 25 DR	CMR DR	25	5	12.5		018	-
CMR 32 DR	CMR DR	32	6	16		136	-
CMR 16 DR	CMR DR	16	3	8		-	012
CMR 20 DR	CMR DR	20	4	10		-	016
CMR 25 DR	CMR DR	25	5	12.5		-	020
CMR 32 DR	CMR DR	32	6	16		-	134

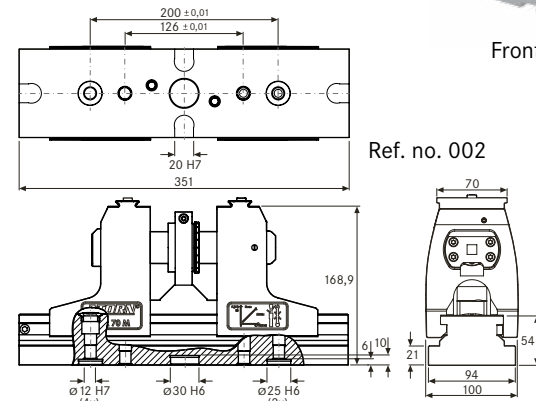


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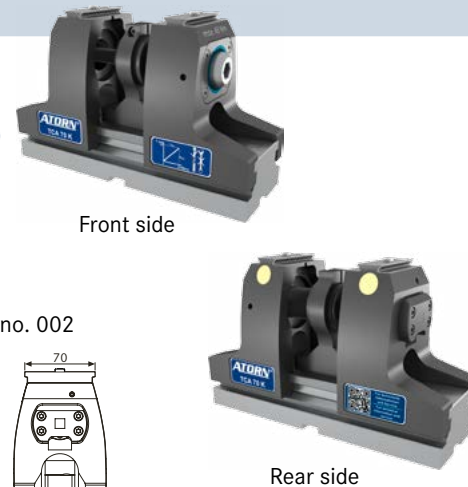
## TCA 5-AXIS CLAMP (CENTRE CLAMPING DEVICE)



Ref. no. 001



Ref. no. 002



Front side

Rear side

### Application:

Ideal for use on 5-axis machining centres, conventional clamping and grip clamping possible.

### Design:

- Central, simple programming without zero offset.
- Quick-change jaw system, tool-free jaw change with quick-release within 10 seconds per pair.
- Constant clamping force by means of low-maintenance telescopic spindle

### Advantage:

- Telescopic spindle, interference contour remains unchanged.
- Workpiece accessibility does not depend on clamping width.
- Symmetrical design = workpiece remains centred and parallel.
- Linear clamping force of 30 kN at 45 Nm.

### Delivery:

**Ref. no. 28761001:** 1 TeleCentric 70 M without jaws, 1 support plate for transporting, 1 T-handle wrench  
1 hand crank for pre-setting (please order

clamping jaws separately)

**Ref. no. 28761002:** 1 TeleCentric 70 K without jaws, 1 support plate for transporting, 1 T-handle wrench  
1 hand crank for pre-setting (please order clamping jaws separately)

### Note:

Torque wrench 20–120 Nm  
Ref. no. 55240120  
Screwdriver insert 1/2 inch hex  
Ref. no. 58682140

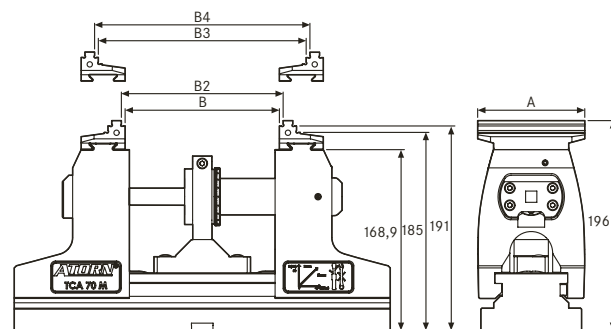
See catalogue page 1606

Jaw width A (mm)	Min./max. clamping width Stepped jaws b70	Min./max. clamping width Gripper jaws b70	Clamping height (mm)	Max. tightening torque (Nm)	Clamping force (kN)	Weight (kg)	ES 28761... Ref. no.
70	9–135 mm	9–134 mm	192	70	30	17.5	001
70	42–200 mm	49–139 mm	192	70	30	19.5	002

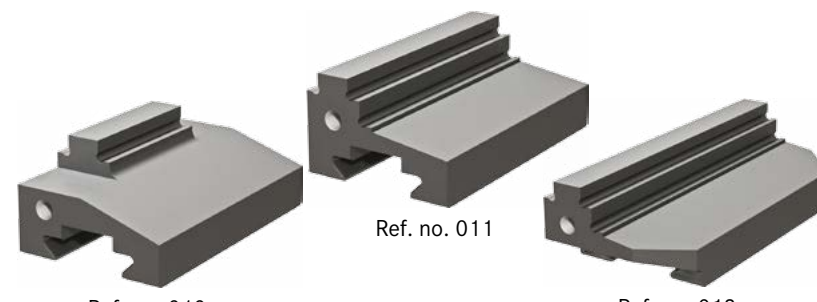
ATORN®

## CARBIDE-COATED STEPPED JAWS

Accessories for ref. no. 28761001-002



Ref. no. 010



Ref. no. 011

Ref. no. 012

### Application:

For clamping parallel pre-processed workpieces

### Design:

- Material: hardened steel
- Jaw quick-change system, no longer features screws
- Jaws can be clamped in two positions

### Advantage:

- Clamping surfaces (stepped) with additional carbide coating to ensure secure clamping.

- Increased holding force by min. factor of 2 compared to smooth clamping surfaces.

See catalogue page 1607

Jaw width A (mm)	70 K min./max. B/B2	70 K min./max. B3/B4	70 M min./max. B/B2	70 M min./max. B3/B4	ES 28761... Ref. no.
38	9–85 mm	59–135 mm	42–150 mm	92–200 mm	010
70	9–85 mm	59–135 mm	42–150 mm	92–200 mm	011
100	9–85 mm	59–135 mm	42–150 mm	92–200 mm	012

ATORN®

## T-GROOVE ALIGNMENT AND FIXING KIT

### Application:

For aligning (positioning) and mounting the clamp onto pallets and machine tables

### Design:

- Size according to T-groove or thread in machine table

See catalogue page 1611

Thread dimension	Suitable for groove width	ES 28761... Ref. no.
M10	12	060
M12	14	061
M14	16	062
M16	18	063
M16	22	064

ATORN®

## ADJUSTABLE CLAMPS (PAIR)



### Application:

For mounting the clamp on the machine table

### Delivery:

Scope of delivery includes 2 pieces

See catalogue page 1610

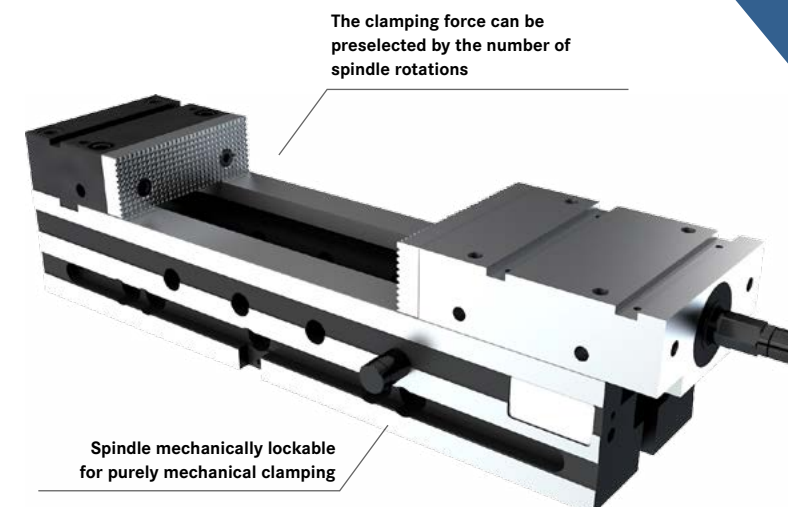
ES 28761... Ref. no.

045

ATORN®

## HIGH PRESSURE VICE MH-S 125

Mechanical/hydraulic



The clamping force can be preselected by the number of spindle rotations

Spindle mechanically lockable for purely mechanical clamping

With pre-selected clamping forces, a workpiece positioning repetition accuracy of  $\leq 0.01$  mm can be achieved.

### Application:

Vice for precision clamping, with a sliding clamp against a fixed jaw with mechanical-hydraulic power transmission of up to 40 kN.

### Design:

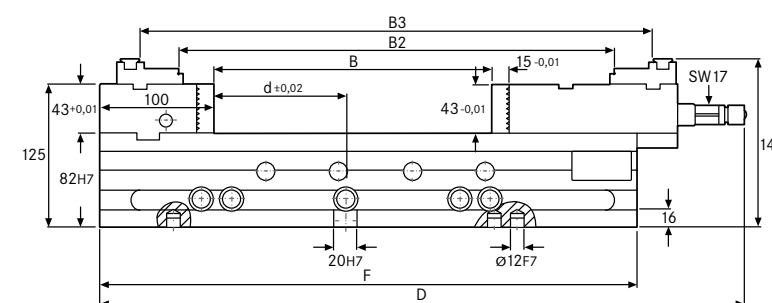
- Spindle made of high-strength special steel
- Body and all jaws made of case-hardened steel, hardened on all sides.
- Transverse grooves for fast positioning and alignment
- 470-mm bed length can be laterally inverted
- Side mounting holes for bed length 470 mm

### Advantage:

- Fast presetting, rigging pin for fast prepositioning of clamping width.

### Delivery:

With 2 reversible screw jaws (1 side with longitudinal and transverse grooves, 1 side smooth), hand crank, hexagonal, two-piece

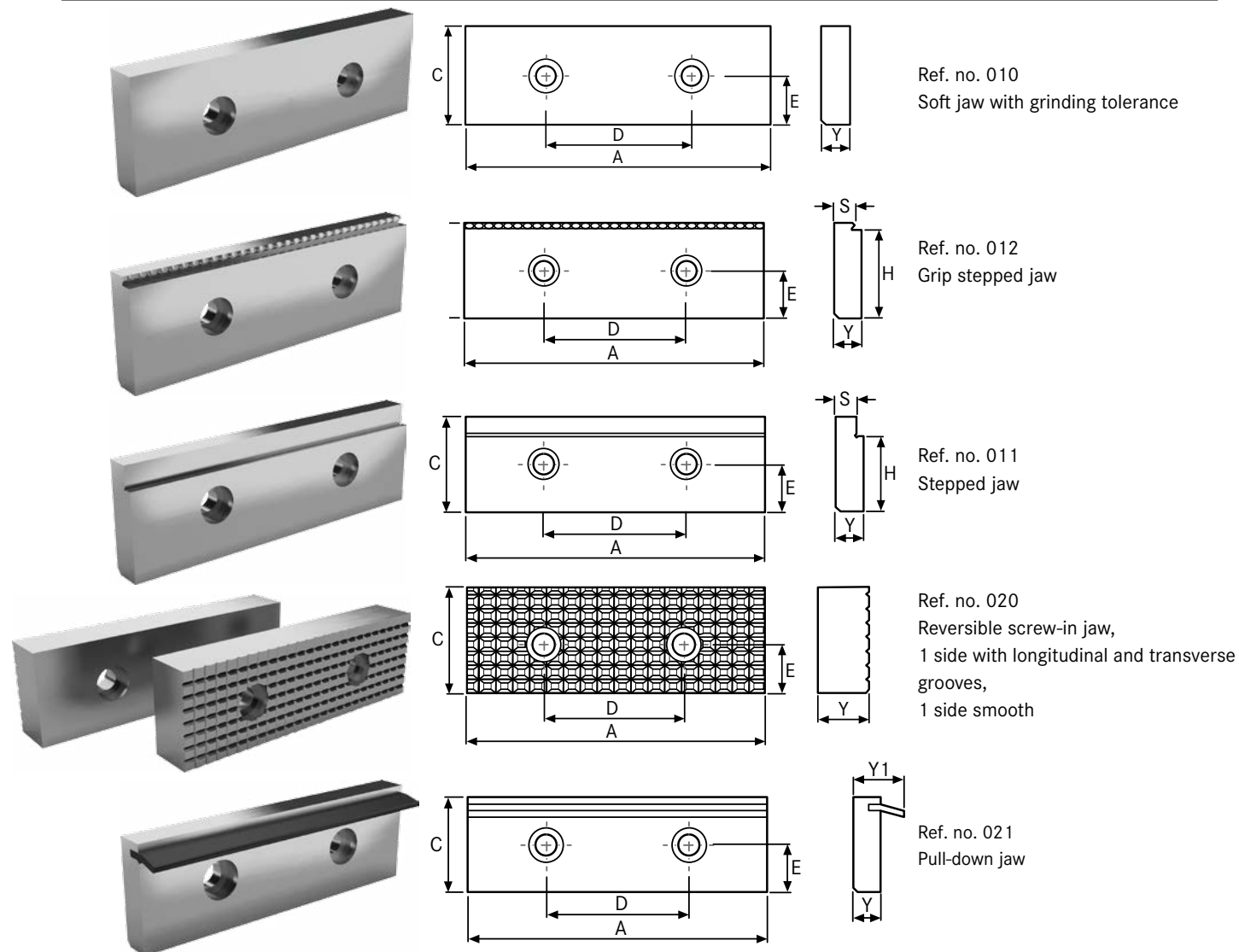


Jaw width (mm)	Clamping width B	Clamping width B2 (mm)	Clamping width B3 (mm)	F (mm)	D (mm)	Offset (mm)	Weight (kg)	ES 28858... Ref. no.
125	0–239 mm	377	445	470	564	16	37.6	001
125	0–303 mm	441	509	534	628	16	41.7	002
125	0–367 mm	505	573	598	692	16	45.1	003

Prod. gr. 280

ATORN®

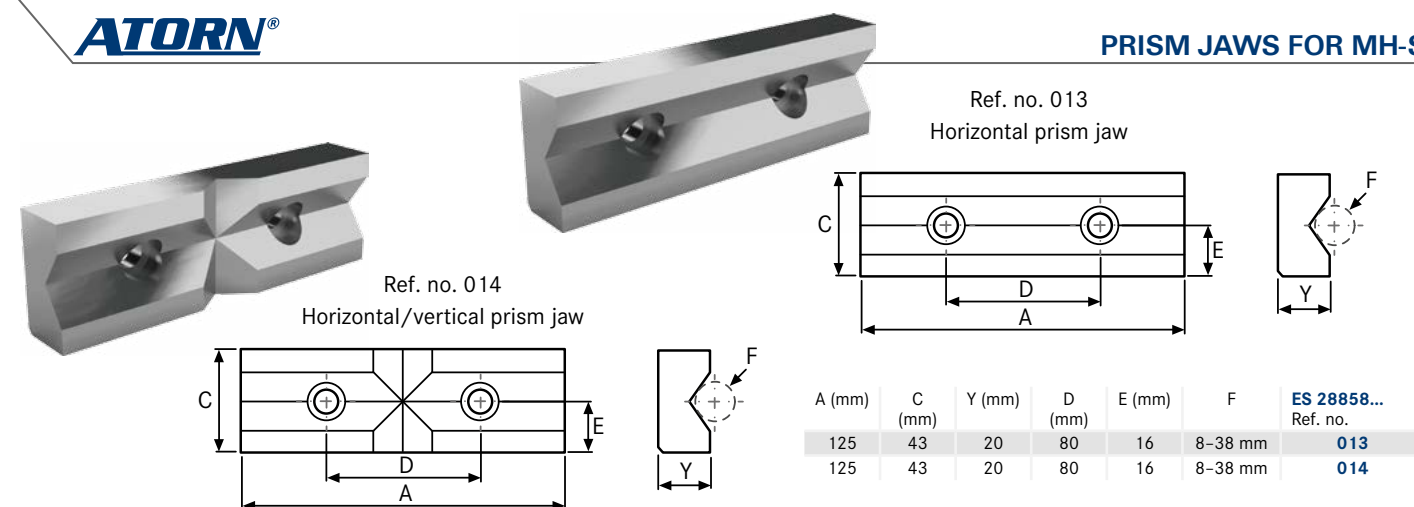
### SCREW-IN JAWS FOR MH-S



A (mm)	C (mm)	Y (mm)	Y1 (mm)	D (mm)	E (mm)	H (mm)	S (mm)	ES 28858... Ref. no.
125	43.4	15.4	-	80	16	-	-	010
125	43	11.5	-	80	16	35	8.5	011
125	43	11.5	-	80	16	40	8.5	012
125	43	15	-	80	16	-	-	020
125	43	11.5	21.5	-	-	-	-	021

ATORN®

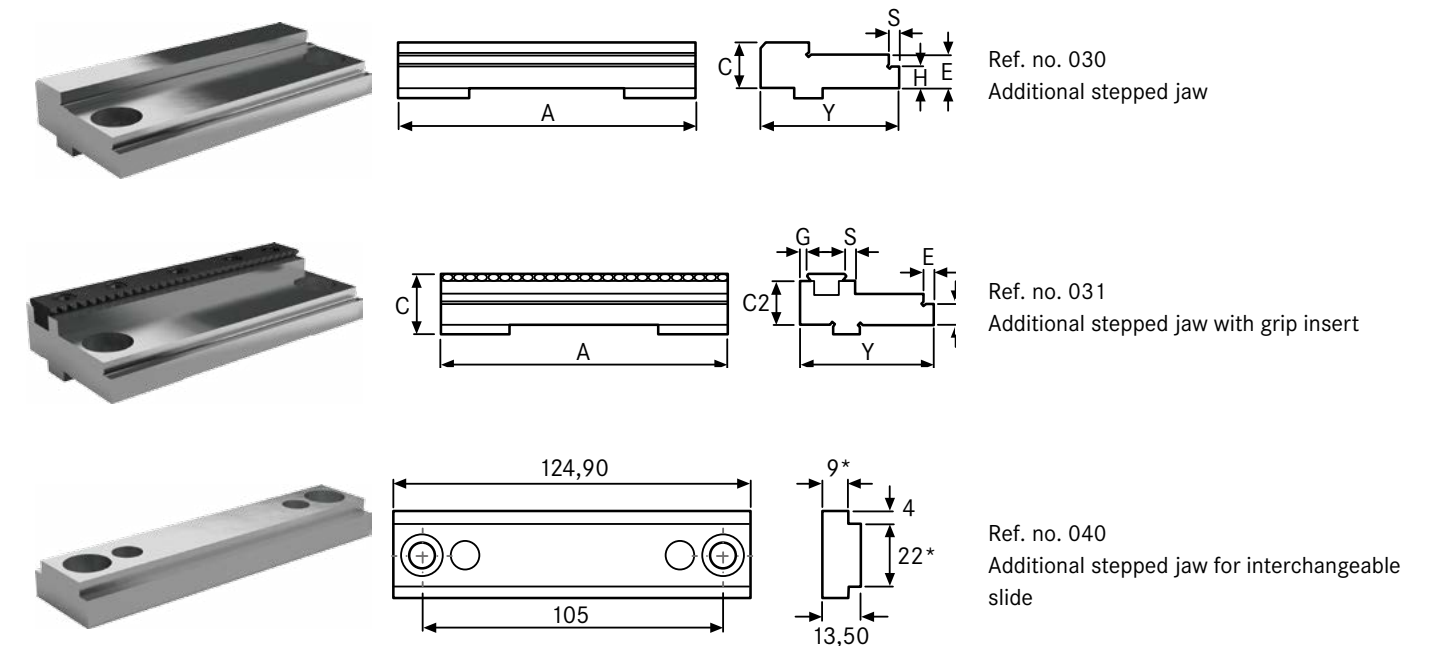
### PRISM JAWS FOR MH-S



A (mm)	C (mm)	Y (mm)	D (mm)	E (mm)	F	ES 28858... Ref. no.
125	43	20	80	16	8-38 mm	013
125	43	20	80	16	8-38 mm	014

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### STEPPED JAWS ATTACHMENT FOR MH-S

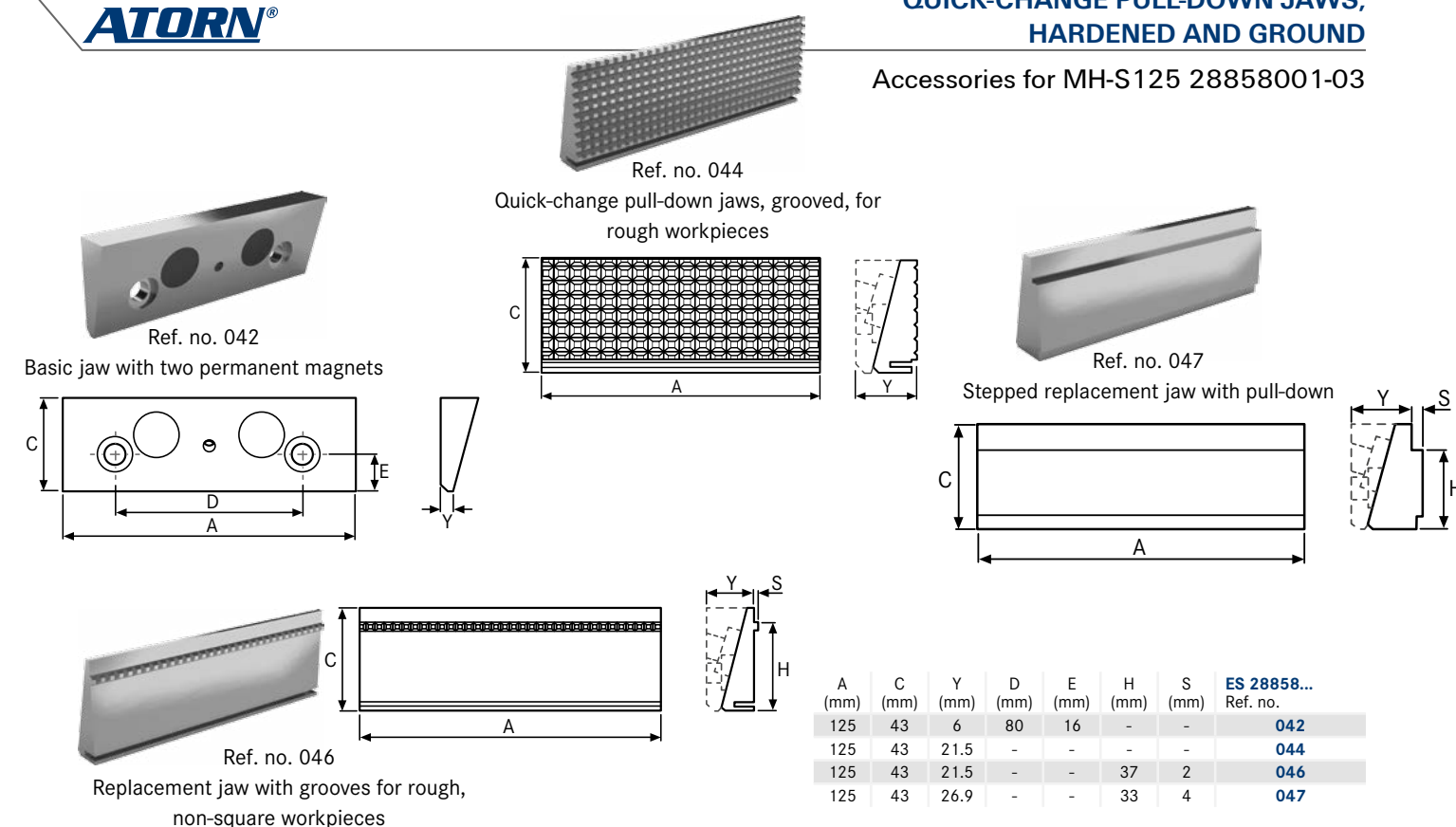


A (mm)	Y (mm)	C (mm)	H (mm)	E (mm)	S (mm)	G (mm)	ES 28858... Ref. no.
125	58	19	9	14	4	-	030
125	58	26.1	9	4	4	3	031

ATORN®

### QUICK-CHANGE PULL-DOWN JAWS, HARDENED AND GROUND

Accessories for MH-S125 28858001-03



A (mm)	C (mm)	Y (mm)	D (mm)	E (mm)	H (mm)	S (mm)	ES 28858... Ref. no.
125	43	6	80	16	-	-	042
125	43	21.5	-	-	-	-	044
125	43	21.5	-	-	37	2	046
125	43	26.9	-	-	33	4	047





## CAPTIS COLLET CHUCK SIZE 65 (CLAMPING HEADS)

### Design:

- Clamping range of  $\pm 0.5$  mm
- Hardened and ground steel segments for excellent wear resistance

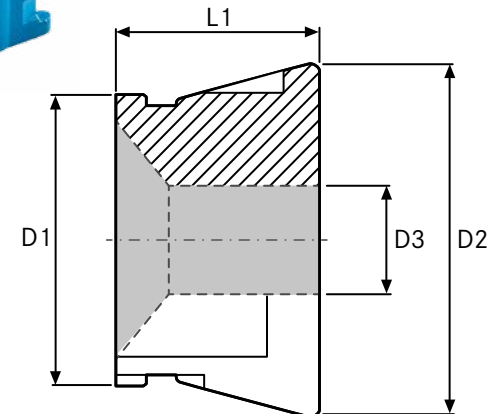
Note: Can be ordered from the catalogue in sizes 52 to 80.

See catalogue page 1516

Size	65
Profile type	Round with transverse grooves
D1 (mm)	80
D2 (mm)	99.5
L1 (mm)	58
D3 (mm)	ES 23358... Ref. no.
8	590
8.5	591
9	592
9.5	593
10	594



Replaceable rubber segments made of an innovative rubber mixture for maximum service life.



Size	65
Profile type	Round with longitudinal and transverse grooves
D1 (mm)	80
D2 (mm)	99.5
L1 (mm)	58
D3 (mm)	ES 23358... Ref. no.
11	595
11.5	596
12	597
12.5	598
13	599
13.5	600
14	601
14.5	602
15	603
15.5	604
16	605
16.5	606
17	607
17.5	608
18	609
18.5	610
19	611
19.5	612
20	613
20.5	614
21	615
21.5	616
22	617
22.5	618
23	619
23.5	620
24	621
24.5	622
25	623
25.5	624

Size	65
Profile type	Round with longitudinal and transverse grooves
D1 (mm)	80
D2 (mm)	99.5
L1 (mm)	58
D3 (mm)	ES 23358... Ref. no.
26	625
26.5	626
27	627
27.5	628
28	629
28.5	630
29	631
29.5	632
30	633
30.5	634
31	635
31.5	636
32	637
32.5	638
33	639
33.5	640
34	641
34.5	642
35	643
35.5	644
36	645
36.5	646
37	647
37.5	648
38	649
38.5	650
39	651
39.5	652
40	653
40.5	654

Size	65
Profile type	Round with longitudinal and transverse grooves
D1 (mm)	80
D2 (mm)	99.5
L1 (mm)	58
D3 (mm)	ES 23358... Ref. no.
41	655
41.5	656
42	657
42.5	658
44.5	662
45	663
45.5	664
49	671
49.5	672
50	673
50.5	674
51	675
51.5	676
52	677
52.5	678
55	683
55.5	684
56	685
60	693
60.5	694
61	695
61.5	696
62	697
62.5	698
63	699
63.5	700
64	701
64.5	702
65	703



## HORIZONTAL CLAMP WITH VARIABLE CLAMPING HEIGHT

with open clamping arm and horizontal base

See catalogue page 1557

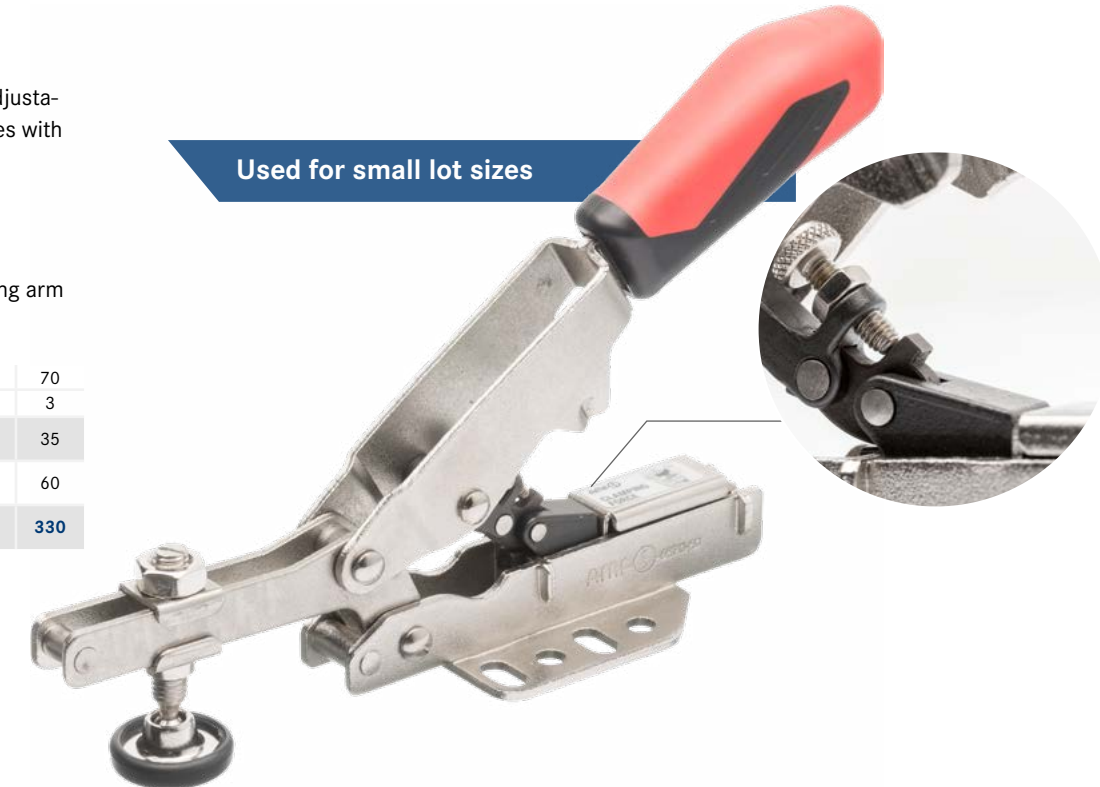
### Application:

Quick-action clamp with infinitely adjustable balancing function for workpieces with different clamping widths.

### Advantage:

- Ergonomic 2-component handle
- Protection against loss on clamping arm

Size	20	50	70
F1 (kN)	2	3	3
Automatic height compensation S (mm)	20	35	35
Maximum height compensation (mm)	35	40	60
ES 26215... Ref. no.	310	320	330



Used for small lot sizes

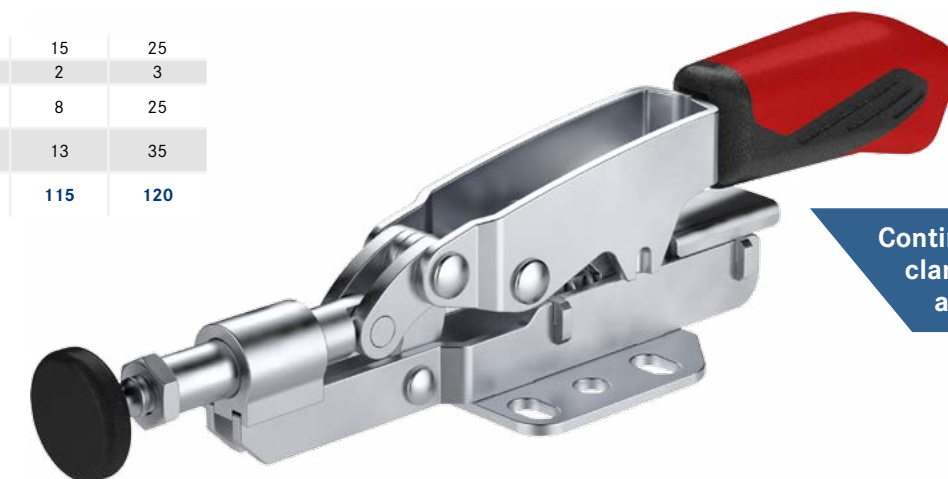


## PUSH ROD CLAMP WITH VARIABLE CLAMPING HEIGHT

with horizontal base

See catalogue page 1563

Size	15	25
F1 (kN)	2	3
Automatic height compensation S (mm)	8	25
Maximum height compensation (mm)	13	35
ES 26215... Ref. no.	115	120



Continuously adjustable clamping force with adjusting screw.

FIND THE COMPLETE RANGE OF **ATORN** QUALITY PRODUCTS. WE HAVE WHAT IT TAKES.

For a complete range of products that meets the toughest demands, visit [www.hahn-kolb.com](http://www.hahn-kolb.com)

ORION®

## WORKSHOP VERNIER CALLIPERS

With blade tips in lightweight design

Internal double Vee block guide for optimum guidance and sliding properties.

**Application:**  
For measuring external and internal dimensions.

**Design:**

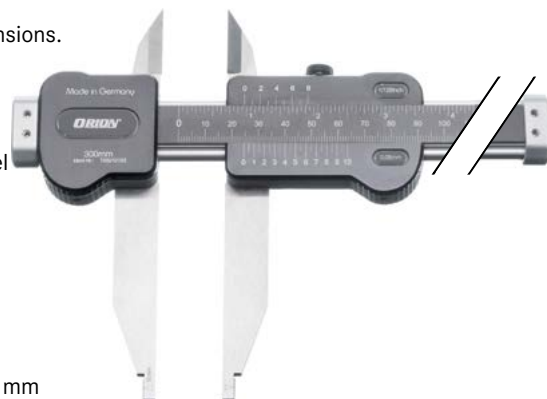
- Parallax-free reading
- Measuring arms made of hardened steel

**Delivery:**  
In a plastic case

**Technical data:**

- Jaw length: 90 mm
- Internal measurement attachments: 10 mm
- Vernier scale: 0.05 mm

See catalogue page 36



Min./max. length measuring range	ES 31115... Ref. no.
0-200 mm	402
0-300 mm	403
0-500 mm	405
0-700 mm	407
0-900 mm	409

ORION®

## DIGITAL GONIOMETER

**Application:**  
For measuring and transfer of angles on workpieces

**Design:**

- hold function
- zero setting (RESET) possible at any position
- 1-mm pitch
- easy to read display

**Technical data:**

- Rail length: 200 mm

See catalogue page 199

ES 38235...  
Ref. no.  
100



ORION®

## SCRIBER

with sturdy cast iron base

**Application:**  
For marking scale lines on workpiece surfaces.

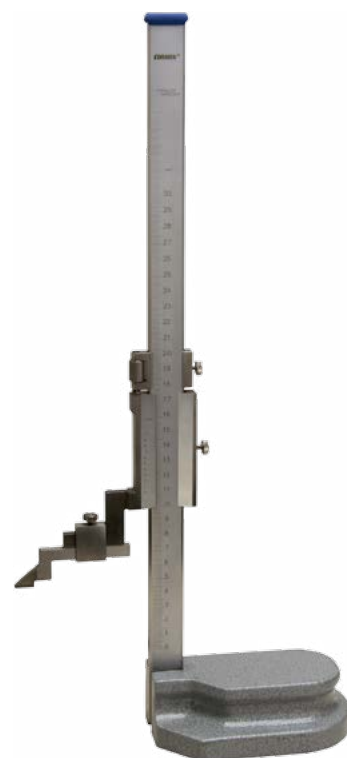
**Design:**

- Fine adjustment
- Carbide-tipped marking needle
- Ergonomically designed cast-iron base

See catalogue page 144

**Technical data:**

- Vernier scale: 0.05 mm



Max. length measuring range (mm)	Base length x base width	ES 35060... Ref. no.
300	136 x 91 mm	031
600	180 x 120 mm	061

ORION®

## FEELER GAUGE TAPES STAINLESS STEEL

Dimensions 13 mm x 5 m

**Application:**  
Ideal as an underlay or to balance workpieces and tools

**Design:**

- Stainless steel
- Suitable for feeler gauge assortment in wall holder

**Technical data:**

- Length: 5 m
- Width: 13 mm

See catalogue page 181

Nominal thickness (mm)	ES 36225... Ref. no.
0.01	101
0.02	102
0.03	103
0.04	104
0.05	105
0.06	106
0.07	107
0.08	108
0.09	109
0.1	110
0.12	112
0.15	115
0.18	118
0.2	120
0.25	125



Ref. no. 110

ORION®

## STAINLESS STEEL FEELER GAUGE ASSORTMENT

in wall holder

**Application:**  
For use in various areas of mechanical engineering, e.g. measuring dimensional tolerance between 2 components, as alignment references etc.

**Design:**

- Practical holder for clamping sections of feeler gauge strip
- 15 feeler gauge cans 13 mm x 5 m STAINLESS STEEL
- Wall-mounted holder made of sheet steel, paint: RAL 7035, light grey

See catalogue page 181

**Technical data:**

- Min./max. length of application area: 0.01-0.25 mm
- Nominal sizes in assortment: 0.01-0.1 mm in 0.01 mm increments | 0.12 mm | 0.15 mm | 0.18 mm | 0.2 mm | 0.25 mm
- Length x width x height: 330 x 100 x 110 mm

ES 36225...  
Ref. no.  
420



ORION®

## DIGITAL HAND-HELD REFRACTOMETER

For liquid coolants and lubricants

**Application:**  
the ORION digital hand-held refractometer enables a quick check of emulsion concentrations in coolants and lubricants. the concentration can be read from the hand-held refractometer display.

**Design:**

- TFT colour display
- Brix measuring range: 0-45%
- Brix division: 0.1%
- IP65 protection class

**Advantage:**

- Quick and safe concentration testing
- Prevents rust caused by insufficient concentration

- Factory-calibrated, for immediate use
- Integrated temperature display for reliable determination of the measured value
- Long battery life approx. 3,750 measurements

**Delivery:**  
incl. calibration solution, pipette, storage case, 2x AAA batteries, leather case, screw-driver and cleaning cloth

**Technical data:**

- Measuring accuracy in %: 0.2%

Quick and safe testing of emulsion concentration.



ES 41580...  
Ref. no.  
100

See catalogue page 1290



Mahr



See catalogue page 56

## ELECTRONIC MICROMETER

Micromar IP65



Ref. no. 015

### Application:

For measuring e. g. shaft diameters, external dimensions of workpieces etc.

### Design:

- Carbide-tipped measuring surfaces
- RESET (resetting the display)
- ABS (display can be set to zero without losing the reference to the ORIGIN)
- mm/inch

- ORIGIN (measurement pre-setting)
- LOCK function (keypad lock)
- TOL (input of tolerances and warning limits)
- DATA (in connection with data connection cable)
- HOLD (measured value storage)

### Delivery:

Operating instructions, battery, setting gauge (from a measuring range of 25–50 mm), travel case

### Technical data:

- Digit increments: 0.001 mm
- Measuring surface diameter: 6.5 mm
- Measuring spindle increments: 0.5 mm

Min./max. length measuring range	ES 31403... Ref. no.
0–25 mm	015
25–50 mm	035
50–75 mm	060
75–100 mm	085

KERN

## COMPACT SCALES

Type FCB



Second display on the rear side.

Very good mobility due to low tare weight.

### Design:

- Robust ABS housing with stainless steel weighing tray
- Backlit LCD display with 15 mm digit size
- PRE-TARE function for manually subtracting known container weights beforehand
- Can be battery operated

### Technical data:

- Plate length x plate width: 252 x 228 mm
- With unit counting: yes
- Data transmission type: RS232
- Housing dimensions (LxWxH): 345 x 270 x 106 mm

See catalogue page 297

Type description	Max. weight measuring range (kg)	Digit increment, weight (g)	Min. item weight (g)	Reproducibility (g)	Linearity (g)	ES 44605... Ref. no.
FCB 12K1 N	12	1	2	1	3	100
FCB 24K2 N	24	2	4	2	6	101
FCB 30K1	30	1	2	1	3	102
FCB 3K0.1	3	0.1	0.2	0.1	0.3	103
FCB 6K0.5	6	0.5	1	0.5	1.5	104
FCB 8K0.1	8	0.1	0.2	0.1	0.3	105

KERN

## PLATFORM SCALES

Type IOC



See catalogue page 299

### Design:

- Piece counting, percent determination, summing function
- Display unit (IP65 protection class) with 1.5-m cable
- USB, Bluetooth, WiFi interfaces can be retrofitted
- Backlit LCD display with 24-mm digit size

### Advantage:

- Versatile positioning of display unit, free-standing or bolted to scales

### Technical data:

- With unit counting: yes
- Data transmission type: RS232

Type description	Max. weight measuring range (kg)	Max. weight measuring range 2 (kg)	Digit increment, weight (g)	Digit increment 2, weight (g)	Plate length x plate width	Min. item weight (g)	ES 44605... Ref. no.
IOC 100K-2LM	60	150	20	50	500 x 650 mm	400	109
IOC 100K-2M	60	150	20	50	400 x 500 mm	400	111
IOC 10K-3LM	6	15	2	5	300 x 400 mm	40	113
IOC 10K-3M	6	15	2	5	300 x 300 mm	40	115
IOC 300K-2M	150	300	50	100	500 x 650 mm	1000	117
IOC 30K-3M	15	30	5	10	300 x 400 mm	100	119
IOC 600K-1M	300	600	100	200	600 x 800 mm	2000	121
IOC 60K-2LM	30	60	10	20	400 x 500 mm	200	123
IOC 60K-2M	30	60	10	20	300 x 400 mm	200	125
IOC 6K-3M	3	6	1	2	300 x 300 mm	20	127

Hofmann.  
Intelligent Balancing Solutions

See catalogue page 306

### Application:

MC 1100 is suitable for measuring vibrations on machines and plants, assessing the condition of the roller bearing, controlling the machine speed, detecting critical operating ranges and for early damage detection. With optional accessories, also for measuring temperature and belt tension.

### Design:

- Robust plastic housing
- High-contrast, backlit LCD display (122 x 32 pixels)
- 1x BNC measuring input for vibration sensors
- 1x mounting socket, 5-pin for frequency/temperature sensors
- Incl. acceleration sensor HMA 1140 (100mV/g) with cable length of 1.5 m
- Device dimensions (WxHxD): 80 x 160 x 40 mm

## MULTI-FUNCTION VIBRATION MEASURING DEVICE MC 1100

for measuring vibration, rotation speed, temperature and belt tension

### Advantage:

- Ideal for assessing the vibration condition of rotating machines according to ISO 10816 - 1 to 6.
- Easy-to-understand, reliable user guidance

### Delivery:

Measuring instrument, acceleration sensor HMA 1140, sensor tip, magnetic base, charger and transport case

### Technical data:

- Min./max. measuring range of total vibration value (eff): 0–999.9 mm/s
- Min./max. measuring range of roller bearing condition (SP): 0–999.9 g
- Min./max. measuring range of rotation speed: 30–200000 rpm
- Frequency range, total vibration value: 1–1000 Hz | 10–1000 Hz | 10–10000 Hz

Perfect for maintenance and servicing of machines and plants.



- Min./max. frequency range, roller bearing condition: 5–50 kHz
- Min./max. belt frequency: 10–1000 Hz
- Width x height x depth: 80 x 160 x 40 mm

ES 48601...  
Ref. no.  
010

Hofmann.  
Intelligent Balancing Solutions

## VIBRATION AND BALANCING MACHINE EASYBALANCER EB 3100

For direct balancing of the sanding disc on the grinding machine

### Application:

EasyBalancer EB 3100 is specially designed for balancing sanding discs and grinding spindles. The positions of the sliding weights for correcting the unbalance are determined automatically. Ideal for field balancing of sanding discs or spindles, evaluation of balancing quality, measurement of the overall vibration, evaluation of the machine and plant status, vibration measurement of bearing and machine housings, speed measurement.

### Design:

- Robust plastic housing
- High-contrast LCD display, 70 x 40 mm (128 x 64 pixels)
- ICP sensor interface
- Display range 0–2000 (mm/s) eff or µm
- Resolution 0.01 (mm/s) eff or µm
- Device dimensions (WxHxD): 106 x 224 x 41 mm

### Advantage:

- Easy-to-understand, reliable user guidance
- Portable and quick to use
- Saves measured data and configurations for up to 30 balancing objects.
- Measurement of speed-synchronous unbalancing vibrations and overall vibration in the range of 10 Hz to 1 kHz.

### Delivery:

EasyBalancer, network and charging adapter, vibration pick-up, holding magnet, speed sensor with magnetic tripod, reflection band 0.5 m, case

### Note:

The overall vibration is the basis for assessing the condition of machines and plants in accordance with DIN ISO 10816\_3

### Technical data:

- Min./max. frequency bandwidth: 3–1000 Hz
- Min./max. rotation speed: 180–60000 rpm
- Data transmission type: RS232

ES 48601...  
Ref. no.  
100

Dynamic balancing and vibration measurement directly on the grinding machine



## ATORN®

### LED PROFESSIONAL WORKSHOP LAMP

Battery-powered



#### Design:

- Robust, splash-proof housing with rubberised gripping surface
- 2 folding hooks that can be rotated through 360°
- 2 holding magnets on the back, 1 magnet on the bottom
- Switch functions: 1. front auxiliary light, 2. 100% main light, 3. 50% main light, 4. off
- Lamp base can be rotated by 180° and locked in eight positions
- with battery status and remaining charge indicator
- 3.7-V/2600-mAh Li-ion battery, charged via a 5-V micro USB socket

Effective light duration 6 hrs.,  
charging duration 4 hrs.

See catalogue page 793

Length (mm)	Luminous flux (lm)	Length x width x height	IP protection class	ES 56829... Ref. no.
266	440	266 x 48 x 32 mm	IP54	025



## ATORN®

### LED PROFESSIONAL FOLDING LAMP

Cordless



Effective light duration 10 hours,  
charging time 4.5 hrs.

#### Design:

- Robust, splash-proof plastic housing with rubberised gripping surface
- Belt clip on the bottom with retractable hook that can be rotated through 360°
- Holding magnet on the bottom
- Switch functions: 1. 100% main light, 2. 50% main light, 3. off
- Flexible joint can be rotated through 340° and locked in 12 positions
- with battery status indicator
- 3.7-V/1550-mAh Li-ion battery, charged via a 5-V micro USB socket
- Effective lighting duration of 10 hours, charging time 4.5 hours

#### Technical data:

- Length: 131 mm
- Luminous flux: 220 lm
- Length x width x height: 131 x 66 x 28 mm
- IP protection class: IP54

ES 56829...  
Ref. no.

035



## ATORN®

### HIGH-PERFORMANCE LED HAND LAMPS

Can operate on batteries or rechargeable batteries

#### Design:

- **Ref. no. 005:** Rubberised push-button switch at the lamp end
- **Ref. no. 005-007:**
  - Light beam can be focused using infinite adjustment by moving the lamp head
  - Sturdy aluminium lamp, steel retaining clip
- **Ref. no. 007:**
  - Push button at the lamp end, with simultaneous strong magnetic function
  - 3 switchable light modes
  - The micro-USB charging input is protected by a sliding cover
  - Small LED at the side to indicate the charging status

#### Delivery:

**Ref. no. 005:** Including 2 x AAA batteries

**Ref. no. 007:** Includes battery and USB charging cable



Ref. no. 005

Ref. no. 007

See catalogue page 803

Length (mm)	Luminous flux (lm)	Light width (m)	Type of rechargeable battery/battery	Number of rechargeable batteries/batteries	Rechargeable battery/battery designation	ES 56801... Ref. no.
140	20	30	Alkali	2	1.5 V Micro AAA	005
126	110	80	Li-ion	-	-	007

## ATORN®

### HEAD LIGHTS

Can operate on batteries or rechargeable batteries

#### Design:

- **Ref. no. 300:**
  - Rubberised push switch at the lamp head
  - 2 switchable light modes, battery compartment in the lamp head
  - Textile headband and additional interchangeable rubber headband for the helmet insert
  - Housing made of robust ABS plastic
- **Ref. no. 310:**
  - Robust aluminium housing, push switch on the lamp head
  - 4 light modes (high, medium, low, strobe)
  - Textile headband, adjustable for optimum comfort

- Battery at the back of the head in robust ABS housing with additional red signal lamp
- With battery status display via LEDs and overload protection
- 3.7-V rechargeable battery with 2600 Ah

#### Delivery:

**Ref. no. 300:** Incl. 3 x AAA batteries and 2 head bands

**Ref. no. 310:** incl. USB charging cable



Ref. no. 310



Ref. no. 300

See catalogue page 805

Luminous flux (lm)	Light width (m)	Type of rechargeable battery/battery	Number of rechargeable batteries/batteries	Rechargeable battery/battery designation	ES 56808... Ref. no.
100	50	Alkali	3	1.5 V Micro AAA	300
350	80	Li-ion	-	-	310

## ATORN®

### LED INSPECTION LAMP

Cordless

#### Design:

- Light chip with light output of 150 lumen, additional LED at the head end
- Retaining magnet on a rotatable retaining clip at the side
- Charge level display

#### Technical data:

- Length: 185 mm
- 1.2 V NiMH AAA rechargeable battery

See catalogue page 806

ES 56808...  
Ref. no.

215





## ATORN®

### VDE SLOTTED SCREWDRIVERS



#### Application:

For working on live components

#### Design:

- Protective insulation according to DIN EN 60900, sprayed directly onto the blade
- Slim design: Insulating layer in the front part is flush with the tip
- Multi-component handle provides optimum power transmission
- Screw symbols on the grip cap
- Roll-off protection integrated in the handle

See catalogue page 528

Cutting width (mm)	Cutting thickness (mm)	Blade length (mm)	Length (mm)	ES 52725... Ref. no.
3.5	0.6	100	197	335
4.0	0.8	100	207	340
5.5	1.0	125	244	355
6.5	1.2	125	269	365



With slim blade

## ATORN®

### VDE CROSS-HEAD SCREWDRIVERS



See catalogue page 528

Tip	Blade length (mm)	Length (mm)	ES 52725... Ref. no.
PH1	80	187	401
PH2	100	219	402
PZ1	80	187	411
PZ2	100	219	412
PZ1 + slot	80	187	421
PZ2 + slot	100	219	422



Ref. no. 402

With slim blade/PH,  
PZ and PZS

## ATORN®

### TORXSCREWDRIVER, VDE

See catalogue page 528

Tip	Blade length (mm)	Length (mm)	ES 52725... Ref. no.
TX15	100	207	515
TX20	125	244	520
TX25	125	244	525



Ref. no. 520

With slim blade

## ATORN®

### VDE SETS

See catalogue page 528

- 6-piece sets with slot sizes: 3.5 / 4.0 / 5.5 and 6.5 mm, optionally PH or PZ



Ref. no. 601

Also available as a set:  
VDE screwdriver set  
with slim blade

Tip	ES 52725... Ref. no.
PH1   PH2	600
PZ1   PZ2	610

## ATORN®

### HEXAGONAL SCREWDRIVER WITH T-HANDLE



See catalogue page 493

#### Design:

- Easy-grip soft coating for optimum power transmission
- Matt chrome-plated blade with black tip

- Hard core for lasting blade/handle connection even under the highest loads
- Blade made of CrV and CrMV (special alloy)

- Optimum performance data up to 100% above the DIN values

#### Technical data:

- Surface: Chromium-plated

Width across flats	Blade length (mm)	ES 52139... Ref. no.	Width across flats	Blade length (mm)	ES 52139... Ref. no.
2 mm	100	700	5 mm	150	742
2.5 mm	100	710	5 mm	200	744
3 mm	50	720	6 mm	100	750
3 mm	100	722	6 mm	150	752
3 mm	150	724	6 mm	200	754
3 mm	200	726	8 mm	100	760
4 mm	100	730	8 mm	150	762
4 mm	150	732	8 mm	200	764
4 mm	200	734	10 mm	100	770
5 mm	100	740	10 mm	200	772



Ref. no. 722

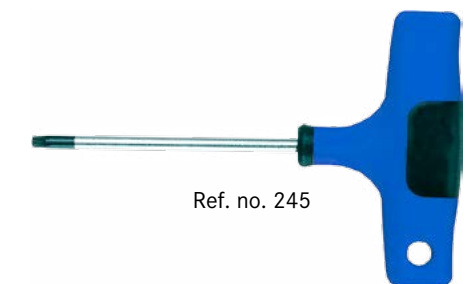
## ATORN®

### TX SCREWDRIVER WITH T-HANDLE



See catalogue page 508

Tip	Blade length (mm)	ES 52147... Ref. no.
TX8	100	208
TX9	100	209
TX10	100	210
TX15	100	215
TX20	100	220
TX25	100	225
TX27	100	227
TX30	100	230
TX40	100	240
TX45	140	245



Ref. no. 245

## ATORN®

### HEXAGONAL SOCKET WRENCH WITH T-HANDLE



See catalogue page 554

Width across flats	Blade length (mm)	Handle material	Surface	ES 52167... Ref. no.
7 mm	125	2-component plastic	Chromium-plated	410
8 mm	125	2-component plastic	Chromium-plated	420
8 mm	230	2-component plastic	Chromium-plated	422
8 mm	350	2-component plastic	Chromium-plated	424
9 mm	125	2-component plastic	Chromium-plated	430
9 mm	230	2-component plastic	Chromium-plated	432
10 mm	125	2-component plastic	Chromium-plated	440
10 mm	230	2-component plastic	Chromium-plated	442
10 mm	350	2-component plastic	Chromium-plated	444
11 mm	125	2-component plastic	Chromium-plated	450
11 mm	230	2-component plastic	Chromium-plated	452
12 mm	125	2-component plastic	Chromium-plated	460
12 mm	230	2-component plastic	Chromium-plated	462
13 mm	125	2-component plastic	Chromium-plated	470
13 mm	230	2-component plastic	Chromium-plated	472
13 mm	350	2-component plastic	Chromium-plated	474
14 mm	125	2-component plastic	Chromium-plated	480
15 mm	125	2-component plastic	Chromium-plated	490
16 mm	125	2-component plastic	Chromium-plated	500
17 mm	125	2-component plastic	Chromium-plated	510



ref. no. 424



ref. no. 490



## SpeedE MINI CORDLESS SCREWDRIVER, SET 1

### Application:

Electric screwdriving with protective function

### Design:

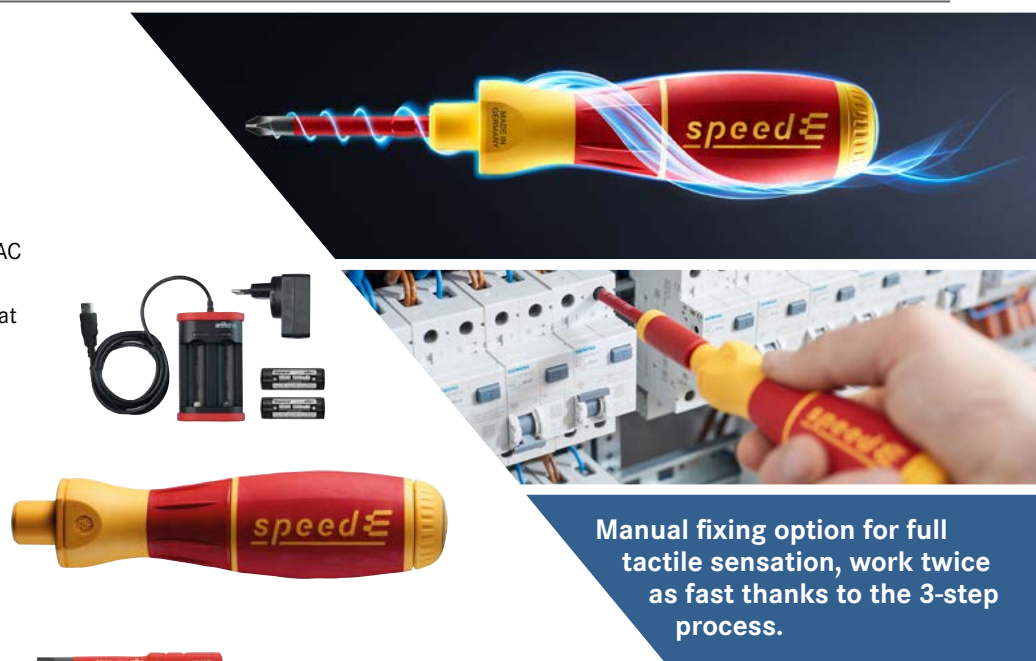
- Full protection: slimBits tested at 10,000 V AC and approved for 1000 V AC
- Fast, electric inserting of screws
- Automatic material protection function at 0.4 Nm

### Delivery:

Screwdriver in mini L-Boxx, battery and charger  
Slim bits in slot size 3.5 and 5.5  
Phillips PH 1 and PH 2  
SL/PZ 1 and SL/PZ 2

### Technical data:

- Length: 200 mm
- Tip: 1/4 inch
- Handle material: 3-component plastic
- Number of pieces in assortment/set: 10



ES 52729...  
Ref. no.  
700



## SpeedE MINI CORDLESS SCREWDRIVER, SET 2

### Delivery:

Screwdriver in mini L-Boxx, battery and charger  
Slim bits in slot size 3.5 and 5.5  
Cross-head PH 1 and PH 2, PZ 1 and PZ 2  
SL/PZ 1 and SL/PZ 2  
2.8 Nm torque limiter

### Technical data:

- Length: 200 mm
- Tip: 1/4 inch
- Handle material: 3-component plastic
- Number of pieces in assortment/set: 15



ES 52729...  
Ref. no.  
710



## ERGOSTAR HEXAGONAL ANGLED SCREWDRIVER SET

Long version, coloured paint

### Design:

- Hexagonal ball end on the long wrench side
- Chromium-vanadium steel
- fully hardened

See catalogue page 498

### Advantage:

- Ball head enables screws to be tightened at angles of up to 25°
- Colour paint ensures instant identification of the wrench size
- Wrench is easy to remove



Width across flats	Surface	Design	Long
1.5 mm   2 mm   2.5 mm   3 mm   4 mm   5 mm   6 mm   8 mm   10 mm	Painted		ES 52140... Ref. no. 690



## CLICK TORQUE WRENCH WITH RATCHET

With calibration certificate, for clockwise tightening

### Design:

- Setting: audible and perceptible click when scale values are reached
- Release mechanism: audible and perceptible click signal when the set torque is reached
- Dual Nm and lbf-ft scale
- Fine adjustment scale in Nm – ensures precise and safe operation
- Ergonomically-shaped 2-component handle
- Locking button on end of handle with silicone padding – protection against unintentional adjustment
- **Ref. no. 210:** With direct-mount bit holder



### Delivery:

In robust plastic rotating box

See catalogue page 576

Tip	Min./max. torque measuring range	Scale interval (nm)	Length (mm)	With scale	Error limit (%) (%)	ES 52261... Ref. no.
1/4 inch	2.5–25 Nm	0.10	290	yes	4	200
1/4 inch	2.5–25 Nm	0.10	291	yes	4	210
3/8 inch	10–50 Nm	0.25	360	yes	3	220
3/8 inch	20–100 Nm	0.50	405	yes	3	230
1/2 inch	10–50 Nm	0.25	360	yes	3	240
1/2 inch	20–100 Nm	0.50	405	yes	3	260
1/2 inch	40–200 Nm	1.0	510	yes	3	270
1/2 inch	60–300 Nm	1.0	595	yes	3	280



## MULTI-PURPOSE PLIERS STRAIGHT AND CURVED

**Application:** Cutting, stripping, crimping, gripping, bending

### Design:

- With cable cutter up to 12 mm
- Stripping station 1.5 / 2 / and 2.5 mm<sup>2</sup>
- Crimp profile for wire end ferrules
- Serrated gripping surfaces
- **Ref. no. 210:** VDE insulated handles up to 1000 V according to EN 60900

### Technical data:

- Length: 200 mm
- Surface: Chromium-plated
- Material of the handle: 2-component plastic



Ref. no. 200



Ref. no. 210

See catalogue page 598

	Design	Straight	Curved
VDE-certified		ES 53586... Ref. no.	ES 53586... Ref. no.
no		200	-
yes		-	210



## SOCKET WRENCH SET FOR USE ON MACHINES

With 1/4-inch square tip

### Design:

- High-strength forged individual parts for machine applications
- short version – 46 pieces
- angled extension
- 2 bit adapters

### Delivery:

In sturdy plastic box with soft foam insert

### Technical data:

- Drive: 1/4 inch
- Hex inserts in size: 6, 7, 8, 9, 10, 11, 12, 13, 14 mm
- Hex socket inserts in size: 3, 4, 5, 6, 7, 8 mm

See catalogue page 476

ES 52414...  
Ref. no.  
010







## TWISTOR 16 CRIMPING PLIERS

### Design:

- self-adjusting crimping tool for wire end ferrules
- crimping head freely rotatable to 360°, with 8 locking positions
- square crimp profile, high capacity range

### Advantage:

- Error-free, precise work — an opening for all cross-sections
- Consistently high crimping quality thanks to force stop function (can be unlocked)

### Technical data:

- Length: 200 mm
- Suitable for min./max. diameter: 0.14–16 mm
- Material of the handle: 2-component plastic

See catalogue page 663

ES 53115...  
Ref. no.

200

New and patented! Very large range of cross sections



## ASSORTMENT BOXES WITH WIRE END FERRULES

insulated or bare

### Design:

- Practical, clear shaker with swivel lid and opening for removal.
- **Ref. no. 100:** Insulated wire end ferrules with DIN colour coding, 30 pieces of each 0.25/0.34/0.5 and 1.0 mm<sup>2</sup>
- **Ref. no. 110:** Insulated wire end ferrules with DIN colour coding, 50 pieces of each 0.5 and 2.5 mm<sup>2</sup>, 100 pieces of each 0.75/1.0/1.5 mm<sup>2</sup>
- **Ref. no. 120:** Insulated wire end ferrules with DIN colour coding, 50 pieces 4 mm<sup>2</sup>, 20 pieces of each 6 and 10 mm<sup>2</sup>, 10 pieces 16 mm<sup>2</sup>

- **Ref. no. 130:** Insulated twin wire end ferrules with DIN colour coding, 50 pieces of each 2 x 0.75/1.0/1.5/2.5 mm<sup>2</sup>
- **Ref. no. 140:** Insulated twin wire end ferrules with DIN colour coding, 20 pieces 2 x 4, 10 pieces of each 2 x 6, 2 x 10, 5 pieces 2 x 16 mm<sup>2</sup>
- **Ref. no. 150:** Non-insulated wire end ferrules, 500 pieces 0.5 and 0.75/400 pieces 1.0/300 pieces 1.5/200 pieces 2.5 mm<sup>2</sup>
- **Ref. no. 160:** Non-insulated wire end ferrules, 150 pieces 4 mm<sup>2</sup>, 75 pieces of each 6 and 10 mm<sup>2</sup>, 50 pieces 16 mm<sup>2</sup>

Filled with quality wire end ferrules - Made in Germany



Ref. no. 110

See catalogue page 666

Insulated wire end ferrules 0.25–1.0 mm <sup>2</sup>	Insulated wire end ferrules 0.5–2.5 mm <sup>2</sup>	Insulated wire end ferrules 4–16 mm <sup>2</sup>	Twin insulated wire end ferrules 0.75–2.5 mm <sup>2</sup>	Twin insulated cable end ferrules 4–16 mm <sup>2</sup>	Non-insulated cable end ferrules 0.5–2.5 mm <sup>2</sup>	Non-insulated cable end ferrules 4–16 mm <sup>2</sup>
ES 53119... Ref. no.	ES 53119... Ref. no.	ES 53119... Ref. no.	ES 53119... Ref. no.	ES 53119... Ref. no.	ES 53119... Ref. no.	ES 53119... Ref. no.
100	110	120	130	140	150	160

intercable

## OUTER SHEATH STRIPPER

### Application:

For removing all insulation layers from cables above 25-mm diameter

### Design:

- Cutting depth can be adjusted from 0–5 mm
- Double blade (reversible) suitable for lengthwise and circular cutting
- Steel knurling wheel ensures maximum stability and optimum grip on the cable sheath

### Technical data:

- Length: 240 mm
- Min./max. cable diameter: 25–200 mm
- Handle material: Fibreglass-reinforced plastic

ES 53539...  
Ref. no.

010



See catalogue page 656



See catalogue page 929

### Design:

- Patented mechanism that separates the handle from the spindle and positions it around the track.
- Secure hold of round, pointed and sharp-edged parts due to cross-over Vee block at the top.
- Fibreglass-reinforced polyamide clamping parts as well as tempered steel in the hollow profile track.
- 2-component plastic turning handle for safe handling.

## GEARKLAMP GK GEAR CLAMP

for use in confined spaces

- Quick-action slide button on the sliding bar and swivelling pressure plate.
- Clamping forces up to 2000 N

### Advantage:

- Extremely flexible, can be used even in tight spaces.

### Technical data:

- Overhang: 60 mm
- Rail cross-section L x W: 12 x 25 mm



New and patented!

Max. clamping width (mm) ES 51110...  
Ref. no.

150	515
300	530
450	545
600	560

ORION®



### Application:

The ideal tool for gently opening sensitive components

### Design:

- **Ref. no. 100:**
  - Delicate, slim design — flexible and strong at the same time

- Three lever surfaces with different material thicknesses
- Ideal for loosening e.g. switches, lights or similar elements

### Ref. no. 110:

- Slim design — flexible and strong at the same time, made of fibreglass-reinforced polyamide
- Conductive ESD material protects against electrostatic discharge
- Does not scratch delicate surfaces
- Steel insert on the handle side, e.g. for prying open paint cans

See catalogue page 773



Ref. no. 110



Ref. no. 100

The problem solver!

Width (mm)	32	32
Handle material	Polyamide	Fibreglass-reinforced plastic
Length (mm)	ES 56549... Ref. no.	ES 56549... Ref. no.
178	100	-
180	-	110



See catalogue page 796

### Design:

- Light colour temperature 5000 K, neutral white
- Housing made of die-cast aluminium, painted black

Waldmann W

- 3-mm thick safety glass
- Rubber-coated flexible hose arm
- Switch on lamp head
- **Ref. no. 010** with 10° beam angle (optical) / 4520 to 26130 lux
- **Ref. no. 020** with 30° beam angle (optical) / 2969 to 5298 lux

## LED MACHINE LIGHTS SLF 500/750

Voltage 100–240 V, 50/60 Hz

### Delivery:

With 3-m connection line and power supply, screw-on foot

### Technical data:

- Output: 6.0 W
- Arm length: 600 mm
- IP protection class: IP67

Beam angle	ES 56883... Ref. no.
10°	010
30°	020



uvex



## SAFETY SHOES, UVEX 1 SPORT

low-cut shoes S1

### Design:

- Modern, particularly lightweight and flexible shoe
- Outstanding comfort with breathable materials, optimised for temperature control

See catalogue page 894

Size	Model	low-cut shoes S1
		ES 55989... Ref. no.
36		036
37		037
38		038
39		039
40		040
41		041
42		042
43		043
44		044
45		045
46		046
47		047
48		048

Soft padded flap and collar



100% metal-free  
Uvex xenova protective toe caps

Removable comfort footbed  
with climatic and anti-static properties,  
moisture-wicking system

Sole free of silicone and softeners,  
ergonomically designed



## PRO CAP D! ROCK HARD HAT FOR WORKING AT HEIGHTS

### Design:

- Modern, lightweight hard hat with integrated chin strap
- Extremely comfortable with 6-point textile strap configuration – highly tear-resistant
- Easy adjustment to head circumference owing to ratchet closure system
- Ideal climatic properties thanks to ventilation system and vents at the top (chimney effect)
- Headlamp can be attached, 30-mm pockets to accommodate all popular helmet ear protectors and visor brackets

### Technical data:

- Min./max. size: 51 cm–62 cm
- Weight: 490 g
- EN standard: 397

See catalogue page 887

Colour	ES 55811... Ref. no.
White	210
Black	220
Orange	230



Ref. no. 220

## DISPENSER FOR EARPLUGS

Suitable for all loose-packaged ear plugs

### Design:

- Sturdy and convenient
- The plugs are dispensed hygienically with a simple turn of the knob.
- Dispenser is filled with 400 pairs of BILSOM 303 L earplugs
- Ref. no. 310: Frame version for wall mounting

- Ref. no. 320: Standing version for placement on workbench

See catalogue page 882

For wall mounting	Standing version
ES 55782... Ref. no.	ES 55782... Ref. no.
310	320



Ref. no. 320

ATORN®

## SAFETY GLASSES WITH FRAME

With two-lens design

### Design:

- Very comfortable with 2-component sidepieces
- Perfect fit, can be ideally combined with ear protection
- Lenses: mist-free inside coating and extremely scratch-resistant outside coating
- Colour of sidepieces and frame: Blue/grey

### Technical data:

- Colour of lens: Clear
- EN standard: 166

See catalogue page 871

ES 55600...  
Ref. no.

600



See catalogue page 872

## SAFETY GLASSES WITH SIDE PIECES AND TINTED LENS

modern shape

### Design:

- Individually adjustable side-piece angle (inclination) – adapts to the shape of any head.

- Soft nose pads and soft inserts in the forehead area make it comfortable to wear.
- Tinted polycarbonate lens



Model	Colour of lens	EN standard	ES 55656... Ref. no.
Puma Plus	Dark brown	166	250



## PROTECTIVE ASSEMBLY GLOVES

partially coated EN 388

### Application:

For assembly activities in dry, oily and dirty work environments

### Design:

- Very good grip
- High breathability
- High mechanical load-bearing capacity

See catalogue page 845

Ref. no. 207-210:

Backing material: Polyamide (grey)  
Coating material:  
Nitrile foam (black) EN 388: 4131



Ref. no. 107-110:

Backing material: Polyamide (white)  
Coating material: Polyurethane (grey)  
EN 388: 3131



Ref. no. 007-010:

Backing material: Polyamide (white)  
Coating material: Polyurethane (white)  
EN 388: 3131

Model	Camapur Comfort 616+	Camapur Comfort 619+	FlexMech 663
Size	ES 55589... Ref. no.	ES 55589... Ref. no.	ES 55589... Ref. no.
7	007	107	207
8	008	108	208
9	009	109	209
10	010	110	210





## DRAWER CABINET, SYSTEM 700 S WITH 6 DRAWERS

depth 700 mm, width 722 mm

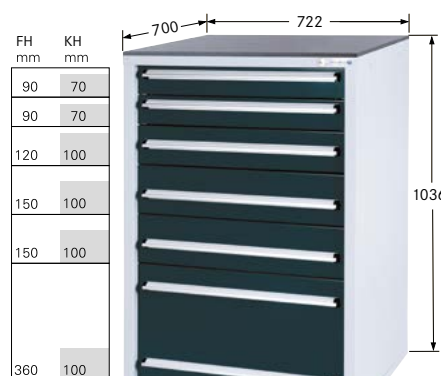
### Design:

- Robust welded sheet steel design, powder-coated
- Tilt-proof due to built-in single drawer extension lock
- The drawers have high-quality Delrin rollers which means that they run quietly
- Drawers with all-round slot
- Drawers with perforated plate steel base (25-mm pitch)
- Aluminium grip handles with paper and cellophane strips and lateral cover caps

### Technical data:

- Draw width (inner dimension): 600 mm
- Drawer depth (inner dimension): 600 mm
- Pullout type: Partial extension
- Load-bearing capacity per drawer: 100 kg

- Drawer surface: 0.36 m<sup>2</sup>
- Lock type: DOM® locking system
- Material of the cover panel: plastic



Ref. no. 046



Ref. no. 049



See catalogue page 57

Design	Number of drawers (units)	Height (mm)	Width (mm)	Depth (mm)	Body colour	Front colour	ES 50300... Ref. no.
					Light grey RAL 7035	Anthracite grey RAL 7016	
Without forklift-compatible base	6	1036	722	700			046
With forklift-compatible base	6	1166	722	700			049



## TOOL TROLLEY WITH INDIVIDUAL DRAWER EXTENSION LOCK

With fully extending drawers

See catalogue from page 413

### Design:

- Sturdy sheet-steel construction with ABS plastic worktop with integrated small-part trays
- Rubberised edge protection profiles on the corners protect the trolley against damage
- Custom mounting options via rectangular perforated grid, 10 x 10 mm
- Ergonomic moving and steering handle made of aluminium
- Individual locking of drawers integrated into drawer fascia panel

- Central locking by cylinder lock incl. 2 articulated wrenches
- 2 large ball-bearing wheels, diameter 140 mm, 2 guide rollers, diameter 100 mm, one of which with parking brake

### Technical data:

- With individual-locking drawers: yes
- Load-bearing capacity: 300 kg
- Wheel material: Solid rubber
- Surface: Powder-coated



Secured against tipping via extension lock.

Number of drawers (units)	Drawer front height	Drawer front height (inner dimensions) (mm)	Drawer depth (inner dimensions) (mm)	Load-bearing capacity per drawer (kg)	Height (mm)	Width (mm)	Depth (mm)	Body colour	Front colour	ES 50278... Ref. no.
								Light grey RAL 7035	Anthracite grey RAL 7016	
5	2 x 65 mm   2 x 140 mm   1 x 215 mm	475	345	25	925	645	425			820



See catalogue page 241

## WGS SERIES WORKBENCHES WITH UNDERCOUNTER CABINET

6 drawers with option of partial or full extension

### Design:

- Left: Undercounter cabinet with drawers
- Right: Base made of square-section steel tube 40 x 40 x 2 mm, with level compensation
- Delivered fully assembled

### Technical data:

- Worktop material: Solid beech
- Panel depth: 700 mm
- Panel thickness: 50 mm
- Working height: 850 mm
- Drawer front height: 2 x 90 mm | 2 x 120 mm | 2 x 150 mm
- Draw width (inner dimension): 450 mm
- Drawer depth (inner dimension): 600 mm
- Drawer surface: 0.27 m<sup>2</sup>
- Base frame material: Sheet steel
- With individual drawer extension lock: yes
- Levelling: yes
- Load-bearing capacity: 800 kg
- Central locking: yes
- Lock type: DOM® locking system
- Surface: Powder-coated

			Body colour	Light grey RAL 7035
			Front colour	Anthracite grey RAL 7016
Board length (mm)	Pullout type	Load-bearing capacity per drawer (kg)	ES 50212... Ref. no.	
1500	Partial extension	100	016	
1500	Full extension	70	018	
2000	Partial extension	100	116	
2000	Full extension	70	118	



Robustly welded sheet steel construction.



## SERIES V 1500 WORKBENCHES – DRAWERS WITH 100% FULL EXTENSION

Worktop length 1500 mm – equipped with 5 drawers

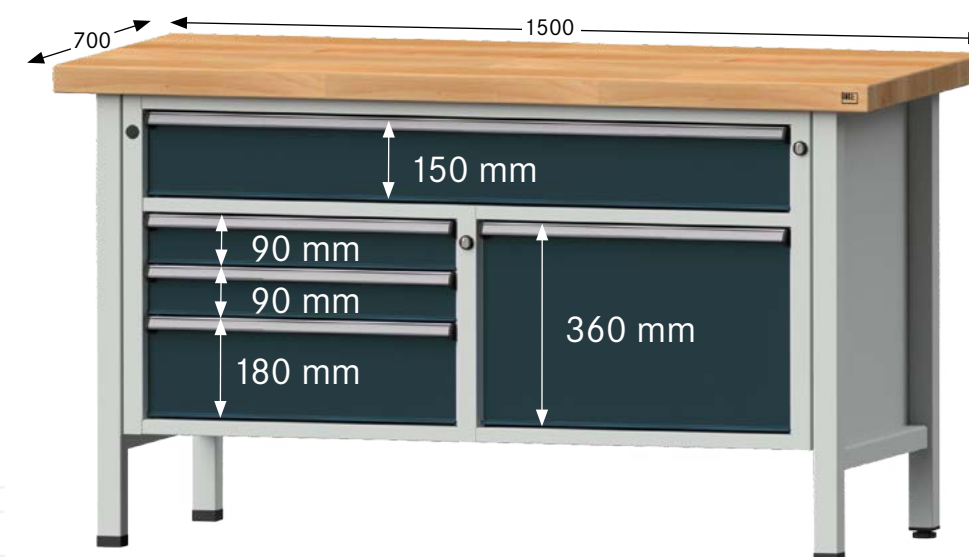
### Design:

- Robust welded sheet steel construction, powder-coated
- Frame made of square steel tube 45 x 45 x 2 mm, with level compensation

### Technical data:

- Worktop material: Solid beech
- Panel thickness: 50 mm
- Draw width (inner dimension): 500/1110
- Drawer depth (inner dimension): 540 mm
- Load-bearing capacity per drawer: 100 kg
- With individual drawer extension lock: yes
- Load-bearing capacity: 1500 kg
- Lock type: DOM® locking system

Body colour	Light grey RAL 7035
Front colour	Anthracite grey RAL 7016
Working height (mm)	ES 50221... Ref. no.
850	825
900	827



bimos



## NEXXIT SWIVEL WORK CHAIR

the strong companion at work – robust and modern

### Application:

Nexxit combines first-class industrial ergonomics with minimum adjustment effort. Its synchronous technology with automatic weight adjustment is unique in the industrial environment. Operation is intuitive and requires only one lever. The backrest pressure adjusts fully automatically to body weight, providing ideal body, application and movement-oriented support.

### Technical data:

- Load-bearing capacity: 120 kg

- ① Ideal backrest tilt can be preset in three stages
- ② Height-adjustable lumbar support
- ③ Large gripping areas through tapered backrest
- ④ Comfortable, ergonomically-designed cushion
- ⑤ Seat tilt adjustment – even forwards
- ⑥ Seat depth adjustment
- ⑦ Intuitive single-lever operation
- ⑧ Automatic weight adjustment



See catalogue page 540

Base frame design	Five-star base with rollers	Five-star base with glides
Min. seat height (mm)	450	570
Max. seat height (mm)	600	820
With foot ring	No	Yes
On castors	Yes	No

	Seat/backrest material	Handle colour		
ES 50128...	Material	Anthracite	304	404
ES 50128...	Material	Blue	306	406
ES 50128...	Faux leather	Anthracite	314	414
ES 50128...	Faux leather	Blue	316	416
ES 50128...	PU foam	Anthracite	324	424
ES 50128...	PU foam	Blue	326	426
ES 50128...	Supertec	Anthracite	334	434
ES 50128...	Supertec	Blue	336	436



Ref. no. 334



Ref. no. 426

## MULTI-FUNCTIONAL ARMREST, BLACK, FOR NEXXIT

Arm rests available as an accessory.

ES 50128...  
Ref. no.

200



ergolastec soft footing.



See catalogue page 564

### Application:

Ergolastec ESD mat that meets the special requirements for electronics and micro-electronics workstations.

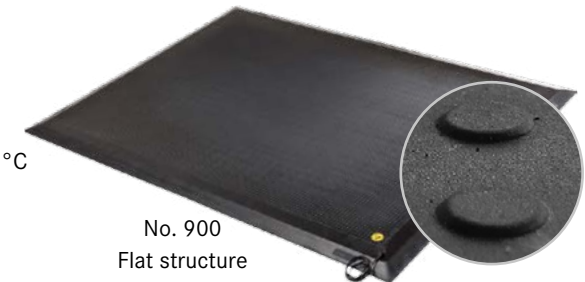
### Design:

- The mat is electrically conductive in accordance with EN 61340-4-1
- Surface resistance < 105 Ω (ohms)
- Fire protection class in accordance with DIN EN 13501-1

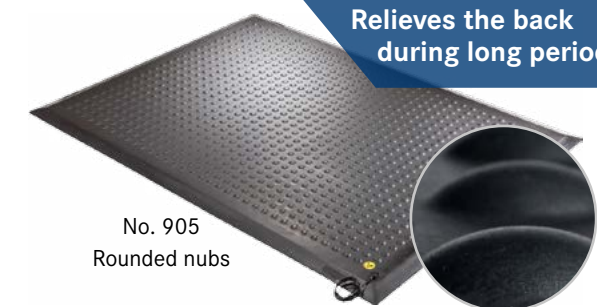
		Surface structure	Flat/closed	Nubs/closed
		Material thickness (mm)	16	20
		Colour	Black	Black
Length (mm)	Width (mm)	ES 50225... Ref. no.	ES 50225... Ref. no.	ES 50225... Ref. no.
1350	1000	900	905	905

## WORKPLACE MAT BASED ON SBR, ESD DESIGN

with textured structure and with cushioning half nubs on the underside



No. 900  
Flat structure



No. 905  
Rounded nubs

Relieves the back during long periods of standing.



Ref. no. 523



### Design:

- Extra-large standing platform
- Central platform with small gap – for carrying without crushing fingers
- Wide and deep aluminium steps
- Steps and struts are made from aluminium extruded sections and have a torsion-resistant connection
- Non-slip plastic feet

### Technical data:

- Platform dimension: 61 x 39 cm
- Load capacity: 150 kg
- EN standard: 14183

See catalogue page 576

Number of steps (incl. platform)	Standing height (m)	Working height (m)	Reach height (m)	Length (m)	Width (bottom)/width (top)	Step length (m)	Weight (kg)	ES 50259... Ref. no.
2 x 2	0.37	1.87	2.37	0.52	0.65/0.61 m	0.71	7.2	522
2 x 3	0.56	2.06	2.56	0.71	0.67/0.61 m	0.88	9.2	523
2 x 4	0.74	2.24	2.74	0.91	0.69/0.61 m	1.04	11.3	524
2 x 5	0.93	2.43	2.93	1.11	0.71/0.61 m	1.20	13.3	525

## ALUMINIUM SERVICE PLATFORM

Rigid



Ref. no. 403



See catalogue page 577

### Design:

- Robust, welded tubular structure
- 240-mm deep steps made from aluminium checker plate ensure safe ascent and descent
- Upper platform 520 x 305 mm
- Non-slip foot caps

### Technical data:

- EN standard: 14183

				Accessibility	One-sided
Number of levels (incl. platform)	Platform height (m)	Surface area	Working height (m)	Weight (kg)	ES 50259... Ref. no.
1 x 1	0.2	0.36 x 0.59 m	2.2	2.4	401
1 x 2	0.4	0.68 x 0.63 m	2.4	5.0	402
1 x 3	0.6	0.73 x 0.88 m	2.6	7.0	403
1 x 4	0.8	0.77 x 1.14 m	2.8	9.8	404
1 x 5	1.0	0.81 x 1.40 m	3.0	12.0	405





## BASE ALUMINIUM MEDIA COLUMN

INDUSTRY PRICING 2016

See catalogue page 504

### Application:

The eepos base media columns bring power, data, compressed air, light etc. to every workplace and are freely configurable for any application.

### Design:

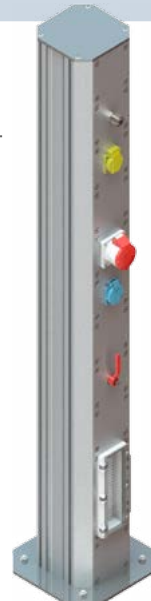
- Lines can be fed from above and below
- Module inserts, removable from the front
- Removable cover profiles
- Item-compatible grooves on the inside and outside of the columns allow for customised additions and attachments
- Spacious interior design for cables and hose routing



Model XS2



Model S4



Model M2+



Model L2+

Model	Column height Cross-section LxW	500 mm	1000 mm	1500 mm	2000 mm*
		ES 50243... Ref. no.	ES 50243... Ref. no.	ES 50243... Ref. no.	ES 50243... Ref. no.
XS2	175 x 130 mm	000	001	002	003
S4	175 x 175 mm	010	011	012	013
M2+	190 x 190 mm	-	100	101	102
L2+	250 x 250 mm	-	110	111	112

\*Heights of 2500 and 3000 mm can be found in our workshop equipment catalogue, workplace chapter



## INTEGRATED MODULES FOR BASE MEDIA COLUMN

For individual design – on demand

See catalogue page 505

Suitable for model ...	Ref. no. Unit price, EUR	Ref. no. Unit price, EUR
	XS2   S4	M2+   L2+
ES 50243... Industrial socket 230 V/16 A	050	150
ES 50243... Industrial socket 400 V/16 A	051	151
ES 50243... Industrial socket 400 V/32 A	052	152
ES 50243... dual Ethernet	057	157
ES 50243... Framework for circuit breaker 4 TE	058	158
ES 50243... Compressed air coupling Ø 12 mm; DN 7.2	061	161
ES 50243... Compressed air shut-off valve	062	162
ES 50243... Compressed air coupling Ø 12 mm; DN 7.2	063	163
ES 50243... Dummy cover 125 mm	064	164
ES 50243... Dummy cover 250 mm	065	165
ES 50243... Dummy cover 375 mm	066	166



The modern way to supply media

## MATERIAL STAND/ROLLER BRACKET

Ideal for round material

See catalogue page 867

### Application:

Round, flat or long materials can be supplied to the machine or the workplace by means of steel/support wheels or ball bar.

### Design:

- Infinitely height adjustable
- with 4 steel ball rollers
- For pipes and rods from 3/4 inch to 16 inch
- Robust steel construction, black

Load-bearing capacity (kg)	Min./max. height	ES 50261... Ref. no.
100	715–1060 mm	301



Saves space  
Collapsible



Ref. no. 540–541

## TABLE TROLLEY WITH 2 OR 3 WOODEN LOADING PLATFORMS

Load-bearing capacity 250 kg

### Design:

- Welded steel tube and profile steel, bolted construction
- Shelves in steel frame, edge 15 mm
- Raised push handle with soft hose cover, blue
- Elegant HK design
- 2 steering and 2 fixed TPE wheels Ø 125 mm; steering wheels with locking devices

- Load capacity of top loading platforms: 80 kg
- Powder-coated surface anthracite grey RAL 7016

Delivery: Disassembled

See catalogue page 839

Number of loading platforms (units)	Size of loading platform	Length x width x height	Height of loading platform	ES 50269... Ref. no.
2	835 x 490 mm	975 x 525 x 1010 mm	215 mm   835 mm	540
2	985 x 590 mm	1125 x 625 x 1010 mm	215 mm   835 mm	541
3	835 x 490 mm	975 x 525 x 1010 mm	215 mm   525 mm   835 mm	542
3	985 x 590 mm	1125 x 625 x 1010 mm	215 mm   525 mm   835 mm	543



See catalogue from page 820

## PALLET TROLLEY

Load-bearing capacity: up to 1200 kg

### Design:

- Secure holding and transporting of pallets and crates thanks to welded corner braces
- Durable thanks to robust design
- 2 steering rollers and 2 fixed castors Ø 200 mm; steering rollers with wheel lock

- Loading platform dimensions 1210 x 810 mm
- Loading platform height: 282 mm
- Powder-coated surface anthracite grey RAL 7016

Material of the wheel	Load-bearing capacity (kg)	Wheel width (mm)	ES 50257... Ref. no.
TPE	750	40	146
Polyamide	1050	50	148
Elastic solid rubber	1200	50	150





**DURABLE**

**DURALINE STRONG FLOOR MARKING TAPES**

**Application:**

Self-adhesive floor marking tape for indoor use. For resilient, long-term marking of footpaths and driveways in the warehouse and operations. Extruded material for abrasion-resistance and durability.

**Advantage:**

- Suitable for forklifts: except steering and turning movements
- Strong holding power
- Abrasion-resistant and durable
- Tape width x tape length: 50 mm x 30 m

**Ref. no. 503-505:**

- In accordance with ASR A1.5/1.2 "Floors" as per DIN 51130 slip prevention (R group) R9

**Ref. no. 500-502:**

- In accordance with ASR A1.5/1.2 "Floors" as per DIN 51130 slip prevention (R group) R10
- Bevelled edges provide even stronger adhesive force

See catalogue page 814



Ref. no. 500-502

Ref. no. 503-505

**LONG-LASTING AND SECURE MARKING.**

Thickness (mm)	Colour	ES 50173... Ref. no.
1.2	Signal yellow RAL 1003	<b>500</b>
1.2	Signal red RAL 3001	<b>501</b>
1.2	Signal green RAL 6032	<b>502</b>
0.7	Yellow/black	<b>503</b>
0.7	Red/white	<b>504</b>
0.7	Green/white	<b>505</b>

**DURABLE**

**REGISTERED SAFETY IDENTIFIERS**

**Application:**

For labelling hazardous areas, parking spaces, walkways, etc.

**Design:**

- Complies with ASR A1.3 and DIN EN ISO 7010
- Slip-resistance according to DIN 51130 (R group) R9
- Abrasion-resistant and durable
- Dimensions: Ø 430 mm, thickness 0.4 mm

See catalogue page 815



Shape	Text on the sign	ES 50173... Ref. no.
Round	No smoking	<b>510</b>
Round	Use ear protection	<b>511</b>
Round	Access prohibited	<b>512</b>
Round	Use the pedestrian walkway	<b>513</b>
Round	Pedestrians prohibited	<b>514</b>
Round	Use foot protection	<b>515</b>
Triangle	Warning of industrial trucks	<b>516</b>
Round	Wear reflective safety vest	<b>517</b>

**2 BOLLARDS WITH RETRACTABLE BELT STRAP**

Robust variant with rubber weight

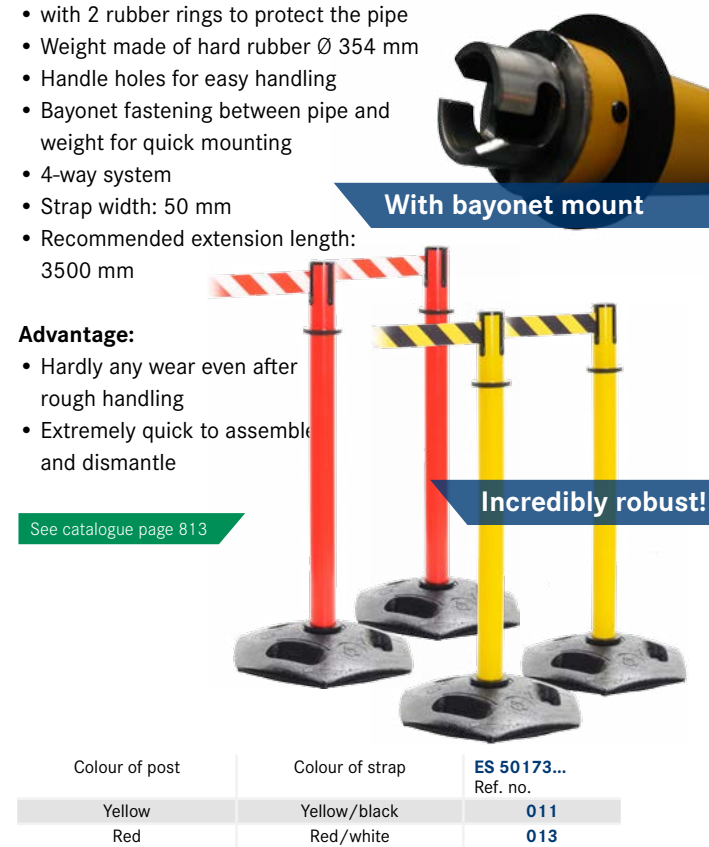
**Design:**

- Post pipe made of sturdy plastic Ø 64 mm
- with 2 rubber rings to protect the pipe
- Weight made of hard rubber Ø 354 mm
- Handle holes for easy handling
- Bayonet fastening between pipe and weight for quick mounting
- 4-way system
- Strap width: 50 mm
- Recommended extension length: 3500 mm

**Advantage:**

- Hardly any wear even after rough handling
- Extremely quick to assemble and dismantle

See catalogue page 813



With bayonet mount

**Incredibly robust!**

Colour of post	Colour of strap	ES 50173... Ref. no.
Yellow	Yellow/black	<b>011</b>
Red	Red/white	<b>013</b>

**Design:**

- Suitable for secure lifting of loads according to Machinery Directive 2006/42/EC
- Constructed, tested and certified according to GS-OA 15-04 - EN 1677
- DGV certification
- Magnaflux crack tested to 100%

**LOAD BLOCK, QUALITY CLASS 10**

**Advantage:**

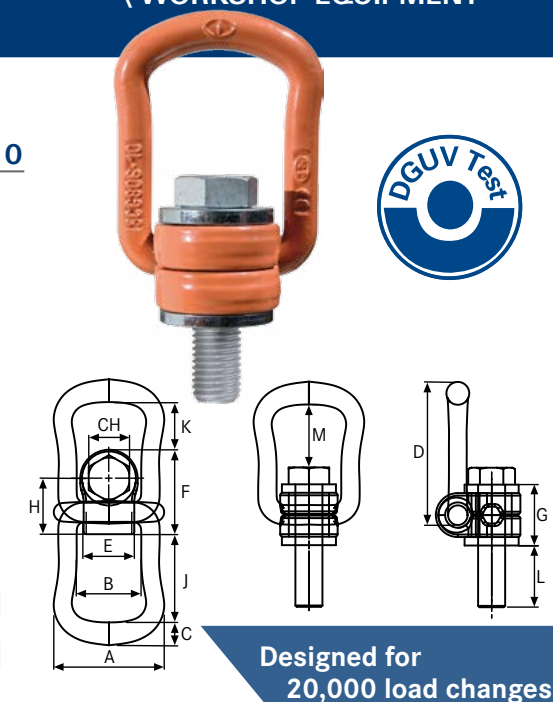
- Load direction 90°, with minimal space requirement
- Durable corrosion protection of screw

**Note:**

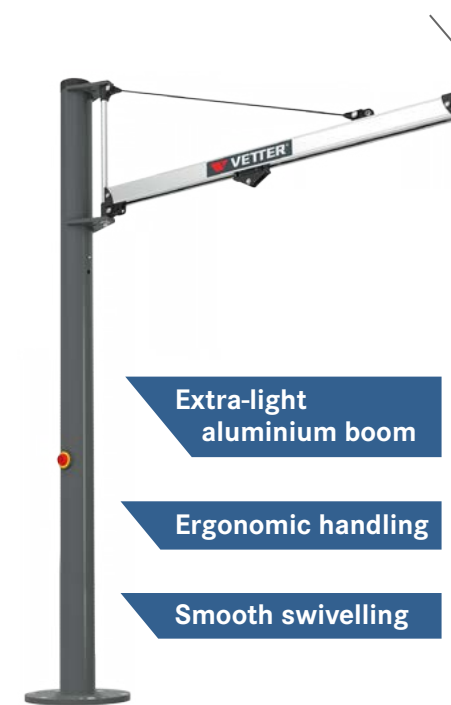
Caution: Attachment point not suitable for rotating under load!

See catalogue page 955

Thread size	L (mm)	W.L.L. (t)	A (mm)	B (mm)	I (mm)	C (mm)	D (mm)	Width across flats	ES 77239... Ref. no.
M8	15	0.3	57	34	25	10	78	13 mm	<b>108</b>
M10	15	0.63	57	34	25	10	78	17 mm	<b>110</b>
M12	23	1	66	38	32	13.5	85	19 mm	<b>112</b>
M16	24	1.5	66	38	32	13.5	85	24 mm	<b>116</b>



Designed for 20,000 load changes.



Extra-light aluminium boom

Ergonomic handling

Smooth swivelling

VETTER KRANTECHNIK

See catalogue page 929

**Application:**

for moving small loads up to 100 kg easily, quickly and securely. ideal in combination with hose lifters, block and tackle, spring balances and balancers.

**Design:**

- Extremely low tare weight of aluminium profile boom
- Inner smooth running chassis
- Pivot range: nominal 270°

**Advantage:**

- Very good rolling properties of chassis
- Compound anchor system for ease of installation

**PILLAR SLEWING CRANE**

Pillar slewing crane UNILIFT LIGHT

**Technical data:**

- Load-bearing capacity: 100 kg
- Construction height: 3803 mm
- Colour: Anthracite grey RAL 7016

Overhang (mm)	Weight (kg)	ES 77111... Ref. no.
2000	155	<b>800</b>
2500	158	<b>802</b>
3000	160	<b>804</b>

VETTER KRANTECHNIK

See catalogue page 933

**Application:**

Classification according to EN 13001 HC2 S2 HD2 for light industrial use

**Design:**

- lockable isolating switch
- power supply with round trailing cable
- Including filler and manual trolley for crane (3-wheel version)
- Operating voltage: 400 V/ 50 Hz control voltage: 24 V
- Electric chain hoist with manual sliding chassis (DC-ComA)
- Infinite swivel range (360°)

**MOBILE CRANE**

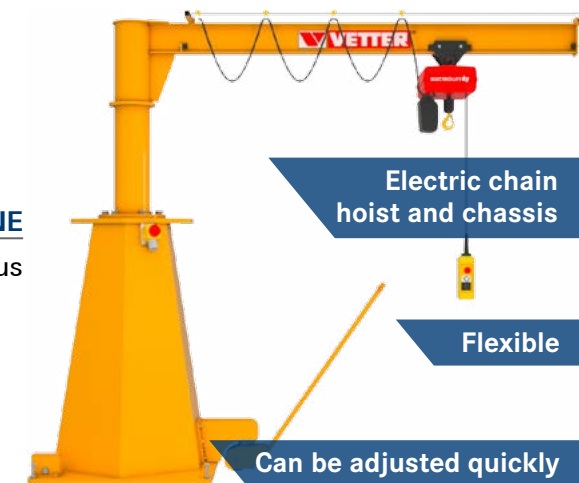
Mobilus

**Advantage:**

- Integrated foundation in the crane base
- Can be moved easily with a forklift or a bridge crane
- Ideal for rented halls, conversions or in the case of underfloor heating

**Technical data:**

- Load-bearing capacity: 250 kg
- Overhang: 3000 mm
- Construction height: 2730 mm
- Lower edge of crane boom: 2500 mm
- Design of lifting device: DC-Com 2-250 V6/1.5



Electric chain hoist and chassis

Flexible

Can be adjusted quickly

- Max. lift height: 2084 mm
- Colour: Daffodil yellow RAL 1007
- Weight: 2846 kg

ES 77138...  
Ref. no. **000**



## ATORN®

See catalogue page 938

with zirconia alumina, tool carrier made of fibreglass, for steel/stainless steel

### ABRASIVE FLAP DISCS

#### Application:

Slanted shape for deburring, removing rust, fettling and for preparatory and finishing work on weld seams.  
Straight shape for smoothing, removing rust, grinding and similar surface applications.

#### Advantage:

- Excellent cutting performance for more material removal
- With OSA approval – greater safety due to regular independent product testing

#### Technical data:

- Drill hole diameter: 22.23 mm
- Number of pieces per packet: 10 pieces

Ref. no. 641



High quality and for universal use

NEW LOOK AND IMPROVED PROPERTIES.

Ref. no. 937



For stainless steel/steel

#### Design:

- Free from iron and sulphur

Disc Ø (mm)	Max. rotation speed (rpm)	Shape	Grain size	Diagonal ES 76084... Ref. no.	Straight ES 76084... Ref. no.
115	13285		40	541	546
115	13285		60	561	566
115	13285		80	581	586
125	13285		40	641	646
125	12250		50	651	656
125	12250		60	661	666
125	12250		80	681	686

## ORION®

See catalogue page 941

with zirconia alumina, tool carrier made of fibre glass

### ABRASIVE FLAP DISCS

#### Application:

for deburring, removing rust, fettling and for preparatory and finishing work on weld seams.

#### Advantage:

- Attractively-priced abrasive flap disc with good cutting performance
- With OSA approval – greater safety due to regular independent product testing

#### Technical data:

- Number of pieces per packet: 10

Disc Ø (mm)	Grain size	ES 76084... Ref. no.
115	40	915
115	60	917
115	80	919
125	40	935
125	60	937
125	80	939

## 3M

See catalogue page 935

### SCOTCH-BRITE™ BD-ZB BRISTLE DISC FOR ANGLE GRINDERS

Specially designed for flat surfaces

#### Application:

For rust removal, paint removal, removing adhesive residues or other surface contaminants. Specially designed for flat surfaces. Can be used on angle grinders without accessories.

#### Advantage:

- Integrated M14 thread makes additional accessories unnecessary

Grain size	Colour	ES 76098... Ref. no.
50	Green	010
80	Yellow	021
120	White	031

#### Technical data:

- Head diameter: 115 mm
- Bristle length: 19 mm
- Max. speed: 12200 rpm
- Abrasive material: Cubitron ceramic core

Works without pressure with a very long service life.



Ref. no. 021

Ref. no. 010

Ref. no. 031

## WEICON®

### CRACK DETECTOR PRODUCT

For non-destructive material testing using the dye penetration method



#### Application:

**Ref. no. 100:** For cleaning/degreasing surfaces as well as removing excess diffusion agent during material testing.

#### Note:

suitable for metals, many plastics, ceramic materials, glass, etc. compatibility with plastics should be checked beforehand.

**Ref. no. 150:** For surface colouration during material testing.

#### Technical data:

- Min./max. temperature resistance: 0 to 50°C

**Ref. no. 200:** For indicating material defects during material testing.



Ref. no. 100

Ref. no. 150

Ref. no. 200

See catalogue page 1042

Type	Cleaner	Diffusion agent	Developer
Colour	Colourless	Red	Developer
Container	Aerosol can	Aerosol can	Aerosol can
Contents (ml)	500	500	500
ES 69700... Ref. no.	ES 69700... Ref. no.	ES 69700... Ref. no.	ES 69700... Ref. no.
100	150	200	

## WD-40

See catalogue page 1008

### DRILLING AND CUTTING OIL

#### Application:

For drills, cutters, all forms of machining processes on metals and much more.

#### Advantage:

- Improves machining processes for all metals
- Reduces heat and limits wear
- Extends the service life of cutters and drills

#### Technical data:

- Container: Smart-straw aerosol
- Contents: 400 ml
- Colour: Brown

ES 69666...  
Ref. no.

380



### MARKER DYE

See catalogue page 1042

#### Application:

Contrast agent for processing of workpieces and for application of coloured markings.

#### Note:

we recommend that you request the safety data sheet with your first order.

Type	Marker dye
Colour	Blue
Container	Aerosol can
Contents (ml)	400
Number of pieces per packet	1
Viscosity/consistency	Liquid
ES 69792... Ref. no.	ES 69792... Ref. no.
	020





metabo

## CORDLESS COMBINATION HAMMERS – LIHD 18 VOLT

with dust extraction

### Design:

- Combi hammer with 3 functions: hammer drilling, drilling and chiselling
- With Vario-Constamatic (VC) electronics for drilling at material-appropriate speeds, which remain almost constant under load
- With high-performance striking tool

### Advantage:

- Dust-free drilling with compact dust extraction ISA 18 LTX 24
- Twice as safe due to electronic and mechanical safety cut-out
- Extremely lightweight and handy for working with little fatigue

### Delivery:

ISA 18 LTX 24 integrated dust extraction, hammer chuck, quick-action drill chuck, extra handle, drilling depth stop, 2x 18-V LiHD batteries (3.5 Ah, 5.5 Ah), ASC 30-36 V AIR COOLED charger, in plastic case

### Technical data:

- Model: KHA 18 LTX BL 24 Quick Set ISA
- Manufacturer article number: 600211910
- Motor design: brushless motor
- Rechargeable battery/battery capacity: 5.5 Ah
- Max. impact energy: 2.2 J
- Max. impact rate: 4500 rpm
- Drill Ø in wood, max.: 25 mm
- Drill Ø in steel, max.: 13 mm
- Recommended max. drillØ in concrete: 24 mm
- Max drill Ø in masonry: 68 mm



Replacement suction head

- Min./max. idle speed: 0–1200 rpm
- Suitable for tool chuck: SDS-plus
- Weight: 4.5 kg
- With work illumination: yes
- With speed control: yes

See catalogue page 1076

ES 70142...  
Ref. no.  
155

## BOSCH CORDLESS DRILL SCREWDRIVER – LITHIUM-ION 18 VOLT

for light to medium-duty screwing and drilling applications

### Delivery:

**Ref. no. 830:** GSR 18 V-60 FC, 2x 5.0 battery pack, GAL 1880 CV charger, drill chuck adapter GFA 18-M, L-BOXX size 2  
**Ref. no. 835:** GSR 18 V-60 FC, 2x 5.0 battery pack, GAL 1880 CV charger, drill chuck set: GFA 18-M, GFA 18-E, GFA 18-H, GFA 18-W, L-BOXX size 1  
**Ref. no. 840:** GSR 18 V-60 FC, drill chuck adapter GFA 18-M, L-BOXX size 2 without battery

See catalogue page 1059



Ref. no. 835

Ref. no. 840

Model	Rechargeable battery/battery capacity (Ah)	Drill Ø in steel, max. (mm)	Drill Ø in wood, max. (mm)	Idle speed in first gear min./max.	Idle speed in second gear min./max.	Max. hard/soft torque	Screw Ø, max. (mm)	Min./max. drill chuck span width	ES 71026... Ref. no.
GSR 18 V-60 FC + GFA 18 M	5.0	12.7	38.1	0–600 rpm	0–1900 rpm	60/31 Nm	9.9	1.5–13 mm	830
GSR 18 V-60 FC + GFA 18 E/H/W	5.0	12.7	38.1	0–600 rpm	0–1900 rpm	60/31 Nm	9.9	1.5–13 mm	835
GSR 18 V-60 FC + GFA 18 M	5.0	12.7	38.1	0–600 rpm	0–1900 rpm	60/31 Nm	9.9	1.5–13 mm	840

BOSCH

## SPARE BATTERY PACK, 18 V

Suitable for cordless electric tools from BOSCH

### Design:

- Approximately 90 percent more power than the previous 18-volt battery with 6.0 Ah
- About 30 percent smaller than comparable high-performance batteries
- Optimal performance and long service life thanks to CoolPack technology

### Note:

Caution: hazardous goods

Battery capacity (Ah)	Weight (g)	ES 71026... Ref. no.
7.0	810	681



7.0 Ah

Makita

## CORDLESS HAND-HELD CIRCULAR SAW – LITHIUM-ION, 18 VOLT

2x 18-volt drive

See catalogue page 1089

### Application:

Ideal for working on roofs and interior construction.

### Design:

- Die cast aluminium base plate
- Continuously adjustable angle from 0–45°
- Can be connected to external dust extraction
- With motor brake

### Delivery:

Without battery, without charger, HW saw blade 165 x 1.5 x 20 mm, parallel stop, 5-mm T-handle hex wrench, in box

Blower for a clean interface.



Model	Battery voltage (V)	Max. idle speed (rpm)	Cutting depth at 0 degrees max. (mm)	Cutting depth at 45 degrees max. (mm)	Saw blade Ø (mm)	Saw blade hole (mm)	Weight (kg)	With work illumination	ES 71029... Ref. no.
DHS630Z	–	3100	66	46	165	20	3.5	yes	301

FLEX

## L12518.0-EC/5.0 SET CORDLESS ANGLE GRINDER

lithium-ion 18 volt, 5 Ah

See catalogue page 1079

### Design:

- Electronic management system (EMS) to protect the machine and increase durability and efficiency
- Motor coil with 3-way protection against dust to extend motor service life
- Protective hood adjustable without tools
- Spindle lock
- Handle can be mounted on the left or right

### Delivery:

1 protective hood, 1 handle, 1 face wrench, 1 clamping flange, 1 clamping nut, 2 batteries 5.0 Ah AP 18.0/5.0, 1 charger CA 10.8/18, 1 transport case, 1 case insert

### Technical data:

- Model: L 12518.0-EC/5.0
- Manufacturer article number: 417947
- Motor design: brushless motor
- Disc diameter: 125 mm
- Idling speed: 8500 rpm
- Thread dimension of spindle: M14
- Weight: 1.75 kg
- With restart protection: yes
- With soft start: yes
- With overload protection: yes
- With speed preselection: yes

ES 70379...  
Ref. no.

025



Supplied with two rechargeable batteries.

Yem

See catalogue page 1134

## HAND-HELD BELT SANDER GRIT GHB 15-50 INOX

for stainless steel processing

### Application:

Hand-guided alternative to an angle grinder for craft and industry.

### Design:

- Stationary use possible with table bracket
- Infinitely adjustable motor attachment
- Anti-vibration handle

### Delivery:

1 sanding belt 50 x 1000 mm K 36

### Technical data:

- Model: GHB 15-50, stainless steel
- Manufacturer article number: 79030200232
- Power consumption: 1.5 kW
- Belt width x belt length: 50 mm x 1000 mm
- Weight: 5.6 kg

ES 70375...  
Ref. no.

010

Patented tool-free belt tensioning system.





Makita

See catalogue page 108

#### Design:

- Automatic torque drive technology for speed control, depending on the application
- With motor brake
- Surrounding metal frame protects the batteries from damage
- Dust extraction possible

#### Delivery:

Supplied in transport case EZYNUT M14, without battery, without charger.

#### Technical data:

- Motor design: brushless motor
- Type of rechargeable battery/battery: Li-ion
- Disc diameter: 230 mm
- Idling speed: 6000 rpm
- Thread dimension of spindle: M14
- Weight: 8.0 kg
- With restart protection: yes
- With soft start: yes
- With overload protection: yes
- With anti-recoil shut-off: yes
- With disc brake: yes

### CORDLESS ANGLE GRINDER DGA900ZKX2

with 2x18 V drive – for even greater performance

ES 70378...  
Ref. no.

105



Less vibration due to decoupled handle.

Nilfisk

Easy to control thanks to large wheels.

See catalogue page 1204

#### Application:

Ideal choice for cleaning small production facilities, car parks, shopping centres, schools, workshops, bus and railway stations as well as in outdoor areas of office buildings.

#### Design:

- With 2 side brooms
- Main sweeping roller is equipped with a two-sided gear drive and the side brush is driven via a belt
- With soft, adjustable handle

### SWEEPING MACHINE

for interior and exterior cleaning

- With dust filter for clean exhaust air while sweeping
- Working width 480 mm, not including side brooms

#### Advantage:

- Cleaning is up to 6 times faster than when using a normal broom.
- Virtually maintenance-free: a simple mechanical construction. no motor and no battery.

#### Delivery:

Main sweeping roller, 2 side brooms, folding handle

Model	Tank contents (l)	Max. surface coverage per hour	Weight (kg)	ES 75730... Ref. no.
SW 250 920	38	1840	20	187



Small and handy.

Nilfisk  
ALTO

See catalogue page 1205

#### Application:

Dry vacuum cleaner for picking up dust and dry dirt.

#### Design:

- With parking clip
- With cable rewind

- Variable suction control
- EPA 10 filter

#### Delivery:

PVC hose, floor nozzle, brush nozzle, upholstery nozzle, air outlet filter, filter, dust bag, telescopic tube

### DRY VACUUM CLEANER NEO SI10P05A EU

Ideal when working in a confined space

Model	Power consumption (W)	Sound pressure level (dB)	Dustbag capacity (L)	Cable length (m)	Length x width x height	Energy efficiency class	Colour	Weight (kg)	ES 75519... Ref. no.
DVC864LZ	750	76	2.1	5	360 x 280 x 260 mm	A	Silver	5	013

HAZET

See catalogue page 1157

#### Application:

For heavy-duty screwdriving tasks in poorly accessible spots.

#### Design:

- Lever can be rotated 360°
- Extremely flat head without interfering edges due to reversing lever
- Left/right switching via adjusting ring on the handle
- Quiet mode: selector switch for noise reduction

### PNEUMATIC HIGH-PERFORMANCE RATCHET SCREWDRIVER 9022-360

The robust workshop equipment

#### Advantage:

- -Long service life and device capacity

#### Technical data:

- Air consumption: 107.6 l/min
- Tool chuck: 1/2-inch external square
- Inner hose diameter: 10 mm
- Sound pressure level: 91.2
- Length: 285 mm
- Weight: 1.55 kg
- With clockwise and anti-clockwise rotation: yes



More pleasant working due to 30% less noise level.

ES 75053...  
Ref. no.

430

HAZET

#### Application:

Ideal for bodywork and industry

#### Design:

- exhaust air routed through handle
- handle insulated against cold
- With quick-action drill chuck

### PNEUMATIC DRILLS

#### Delivery:

incl. coupling connector: Nominal width 7.2

Suitable for continuous operation.

See catalogue page 1153

Model	Max. idle speed (rpm)	Power output (W)	Air consumption (L/min)	Threaded connection	Min./max. drill chuck span width	Internal hose diameter (mm)	Weight (kg)	With clockwise and anti-clockwise rotation	ES 75032... Ref. no.
9030N-1	2000	375	113	G 1/4 inch	1-10 mm	10	1	yes	211

### PNEUMATIC SHEET METAL SHEARS 9036N-5

Also suitable for cutting plastic.

#### Delivery:

incl. coupling connector nominal width 7.2

#### Technical data:

- Air consumption: 104 l/min
- operating pressure: 6.3 bar
- Inner hose diameter: 10 mm
- Max. cutting capacity of steel: 1.2 mm
- Max. cutting capacity of aluminium: 1.6 mm
- Cutting width: 4.5 mm
- Length: 185 mm
- Weight: 1 kg
- Max. sound-pressure-level: 80 dB



#### Application:

Ideal for cuts with small radii (min. 4.5 mm).

#### Design:

- Continuous speed control via a rotary knob on the rear of the handle
- Cold-insulating handle

See catalogue page 1167



ES 75033...  
Ref. no.

200



## PNEUMATIC CHIPPING HAMMER SET CP7111HK (BODYWORK/METAL)



### Application:

Chipping hammer suitable for a wide variety of applications and accessories.

### Design:

- With sturdy metal housing

### Advantage:

- Easily replaced bracket for quick replacement

### Delivery:

incl. line oilers, plug-in nipple, retaining spring and 5 different chisels for metal finishing and bodywork.

### Technical data:

- Model: CP7111HK
- Impact energy: 7.2
- Max. impact rate: 3000 rpm
- Air consumption: 11.8 L/s
- Tool chuck: 10.2 mm HEX
- connecting thread: 1/4 inch
- Inner hose diameter: 10 mm
- Sound pressure level: 100
- Weight: 1.60 kg

See catalogue page 1154

ES 75032...

Ref. no.

150



Handy, light and ergonomic

Plus 5 different chisels

## PNEUMATIC ANGLE GRINDER

Disc diameter 125–180 mm

### Design:

#### Ref. no. 125:

- Powerful angle grinder with:
- High-quality spindle gear and controlled motor
- Sturdy composite housing
- 1000-hour service interval
- Air inlet rotatable through 360 degrees
- Air vented to the rear

#### Ref. no. 180:

- Large, powerful angle grinder for 180-mm discs with depressed centre, with:
- 1.12 HP (850 W) high-performance motor
- Aluminium alloy housing
- Ergonomic left- and right-side handle
- Rubber handle insert

### Advantage:

#### Ref. no. 125:

- Excellent operating convenience thanks to steel protection hood that can be adjusted without the need for tools as well as composite handle that can be used on the left and right
- User protection against the cold due to composite material

#### Ref. no. 180:

- Excellent operating convenience thanks to protective hood, which can be adjusted without tools, rotating exhaust air deflector and side handle, which can be used on the left or right

### Technical data:

- connecting thread: 1/4 inch

See catalogue page 1166



Ref. no. 125

Ref. no. 180

### Application:

Ref. no. 125: For a variety of applications, such as grinding with flaps, washers and rough grinding discs

Ref. no. 180: Ideal for weld preparation and smoothing, rust removal, deburring and insertion of steel, cast iron and aluminium.

Model	Disc Ø (mm)	Max. idle speed (rpm)	Power output (W)	Air consumption (L/sec)	Thread dimension of spindle	Sound pressure level	Weight (kg)	ES 75031... Ref. no.
CP9123	180	7500	850	11.3	5/8 inch - 11	93	3.4	180
CP7550-A	125	12000	840	18.9	M14	85	1.6	125

## ORION ROUGH GRINDING DISCS FOR STEEL/CAST IRON

Type A 24 P-BF 130

### Application:

for deburring, chamfering, fettling and pre/post-machining of welded seams.

### Technical data:

- Disc thickness: 7.0 mm
- Drill hole diameter: 22.23 mm
- Design: hard
- Shape: depressed centre

- Free from iron and sulphur: no
- Number of pieces per packet: 25 pieces

See catalogue page 914

Disc Ø (mm)	Max. rotation speed (rpm)	ES 76101... Ref. no.
125	12200	225
180	8600	280

Suitable for angle grinders:

Ref. no. 225



Ref. no. 280



### incl. special accessories:

LED lighting and connection package (5-m 16-A cable, 5-m air line, 25-kg blast cleaning agent)

MEBA

## JET SYSTEM SMG 50 KP



The SMG 50 jet system is an industry-proven, typical workshop jet system suitable for all common jet applications. its height allows precise and convenient processing of even mid-height components.

### work area:

Each 1100 x 660 x 816 mm (W x D x H)

### Blasting chamber:

Dustproof vacuum cabin in robust sheet steel structure

### Work gloves:

Special rubber, wear-resistant, cotton inside, with tight connection to the cabin to prevent dust escape

### Operation:

ON/OFF switch for extraction and lighting, pressure control, manometer and foot switch

### Viewing panels:

Safety glass, each 500 x 320 mm, replaceable without special tools

### MHG blast guns:

Heavy-duty MHG-system blast guns with optimum efficiency, actuated by foot pedal, can be supplied with nozzles in various sizes and materials

See catalogue page 1010

Type	Working space WxDxH:	ES 77773... Ref. no.
SMG 50 KP	1100 x 660 x 816 mm	944

## DOUBLE COLUMN BAND SAW MEBAMAT

Fully-automatic version

### Application:

The MEBAmat is designed for cost-effective use in industry and in the steel trade. The 90-degree machine separates solid materials effortlessly, even those made from difficult-to-machine materials.

### Design:

- Power sawing of solid material, tubes and profiles, suitable for cemented carbide
- Maximum productivity with process reliability in continuous operation,
- single- or multi-shift operation
- Safe material transport thanks to closed roller path
- Saw feed and material feed with servo drive via electric, frequency-controlled ball bearing spindle
- Minimal residual lengths thanks to newly developed clamping system for smooth material transport
- Ergonomic touchscreen control
- Hydraulic band saw tensioning with full lifting cylinder
- Constant, hydraulic band saw tensioning
- Hydraulic band saw tensioning with full lifting cylinder

See catalogue page 1006

Model	Max. machining cross-section, round, at 90° (mm)	Max. machining cross-section, rectangular at 90°	Min. Ø (mm)	Saw band dimensions	Min./max. cutting speed	Length x width x height	Motor output (kW)	Weight (kg)	ES 77774... Ref. no.
MEBAmat 330	330	350 x 330 mm	10	4900 x 34 x 1.1 mm	15–200 m/min	1700 x 2400 x 2200 mm	3.9	2600	039



Image with options

Fully covered, high-performance band saw machine for safe, clean and quiet operation.





## WING DOOR CABINET WITH SOLID SHEET-METAL DOORS, HEIGHT 1000 MM

See catalogue from page 149

With drawer and shelves

### Application:

For clear and secure storage of tools, accessories and other parts.

### Design:

- Cabinet housing made of sheet steel with 3-sided anti-roll-off edging, 25 mm high
- Shelves galvanised, height-adjustable
- Doors with grip handles, lockable with cylinder security lock, incl. 2 keys

### Technical data:

- Load capacity per shelf: 50 kg
- Shelf width: 425 mm
- Shelf depth: 430 mm
- Drawer front height: 1 x 90 mm
- Draw width (inner dimension): 380 mm
- Drawer depth (inner dimension): 445 mm
- Drawer capacity: 40 kg
- Pullout type: Full extension
- Load-bearing capacity: 200 kg
- Lock type: Twist-grip lock with three-point fastening



					Door design	Full-sheet panel
					Front colour	Anthracite grey RAL 7016
					Body colour	Light grey RAL 7035
Height (mm)	Width (mm)	Depth (mm)	Number of shelves (units)	Number of drawers (units)	ES 50132...	Ref. no.
1000	500	500	2	1		003

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GROUP



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