

OUR NEW PRODUCTS

THE LATEST PRODUCT HIGHLIGHTS FROM HAHN+KOLB



HAHN+KOLB
GROUP



LET'S WORK TOGETHER.

**MORE THAN 60,000 PRODUCTS
FOR MAXIMUM INNOVATION.**

WE HAVE WHAT IT TAKES.

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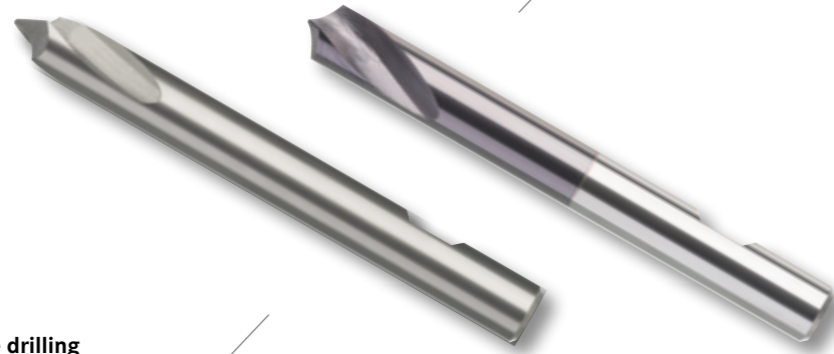
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For spot drilling and countersinking in one step

Broad range of uses and long service life in series production



Form-true and reliable drilling due to short design with precise point geometry and chisel edge

Short design with precise point geometry and chisel edge



Solid carbide 90° NC spotting drill for universal use up to 1300 N/mm²

FOR SPOT DRILLING AND COUNTERSINKING IN ONE STEP

For universal use up to 1300 N/mm²



Application:
For NC spot drilling on CNC machines.

Design:
Spiral-fluted design with relief grinding

- Advantages:**
- Short design with precise point geometry and chisel edge ensure form-true and reliable spot drilling
 - Solid carbide cutting material for a broad range of uses and long service life in series production
 - 90° NC spotting drill for spot drilling and countersinking in a single action

Note:
Diameter < 6 mm with HA shank

			Surface	Uncoated	TiAlN plus
			steel feed 1300 mm/r	Ref. no.	Ref. no.
	mm	mm	mm		
3	12	46	0.03	030	530
4	12	55	0.04	040	540
5	14	62	0.05	050	550
6	20	66	0.06	061	561
8	25	79	0.06	081	581
10	25	89	0.07	101	601
12	30	102	0.08	121	621
16	35	115	0.09	161	661
20	40	131	0.09	201	701

Application No.	Steel (N/mm ²)			Stainless steel		Aluminium		Brass		Bronze		Plastics	Graphite/G(C)FK	GG(G)GJMW	Titanium alloy	Nickel alloy	Super alloy	Hard material	
	<700	<1000	<1300	Martensitic	Austenitic	Short	Long	Short	Long	Short	Long							<55 HRC	<65 HRC
11018	70	60	40	30	25	180	200	150	130	80	70	50	20	70	20	20			

MACHINE TAP BLACK RING

FOR UNIVERSAL USE UP TO 1000 N/mm²



Application:
Machine tap for universal application up to 1000 N/mm² both on modern CNC machines and on conventional machines.



Machine tap, HSSE, vaporised and TiN

UNIVERSAL USE IN STEEL, VA, ALUMINIUM AND CAST IRON



Application:
For producing metric threads on CNC or conventional machines up to 1000 N/mm²

Design:
Structural dimensions in accordance with:
DIN 371 = reinforced shank (up to M10),
DIN 376 = protruding shank (from M12)

- Advantages:**
- Universal use for maximum flexibility of application
 - Innovative cutter geometry ensures high process reliability even in difficult machining conditions



							HSSE	HSSE	HSSE	HSSE	
							Surface Vaporised	Surface Vaporised	Surface TiN	Surface TiN	
							Notch shape B	Notch shape C	Notch shape B	Notch shape C	
							Twist angle 0°	Twist angle 40°	Twist angle 0°	Twist angle 40°	
	mm	mm	mm	mm	mm	mm	DIN	13121	13125	13121	13125
								Ref. no.	Ref. no.	Ref. no.	Ref. no.
M3	0.5	2.5	56	3.5	2.7	371	030	030	430	430	
M4	0.7	3.3	63	4.5	3.4	371	040	040	440	440	
M5	0.8	4.2	70	6	4.9	371	050	050	450	450	
M6	1	5	80	6	4.9	371	060	060	460	460	
M8	1.25	6.8	90	8	6.2	371	080	080	480	480	
M10	1.5	8.5	100	10	8	371	100	100	500	500	
M12	1.75	10.2	110	9	7	376	120	120	520	520	
M16	2	14	110	12	9	376	160	160	560	560	
M20	2.5	17.5	140	16	12	376	200	200	600	600	

Application No.	Steel (N/mm ²)			Stainless steel		Aluminium		Brass		Bronze		Plastics	Graphite/G(C)FK	GG(G)GJMW	Titanium alloy	Nickel alloy	Super alloy	Hard material	
	<700	<1000	<1300	Martensitic	Austenitic	Short	Long	Short	Long	Short	Long							<55 HRC	<65 HRC
13121-13125	18	12	8	8		18		19		18	15	15							



ATORN® HPC POWER solid carbide end mill EXTRA STRONG
4 FLUTES, ULTRA-H-COATED

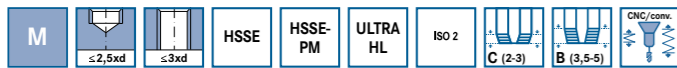
Advantages:

- Universal application in steel, stainless steel, cast iron and non-ferrous metals ensures maximum flexibility
- Wide range of cutting materials and coatings
- Good value for money



Machine tap, HSSE/HSSE PM Ultra HL

UNIVERSAL USE IN STEEL, VA, ALUMINIUM AND CAST IRON



Application:

For producing metric threads on CNC machines or conventional machines in steel, stainless steel, non-ferrous metals and cast iron material groups up to a strength of 1000 N/mm²

Design:

Structural dimensions in accordance with:
 DIN 371 = reinforced shank (up to M10),
 DIN 376 = protruding shank (from M12)

Advantages:

Innovative cutting geometry and newly developed ULTRA HL coating ensure high process reliability even in difficult machining conditions



Cutting material	HSSE	HSSE	HSSE PM	HSSE PM
Surface	ULTRA HL	ULTRA HL	ULTRA HL	ULTRA HL
Notch shape	B	C	B	B
Twist angle	0°	40°	0°	40°

					DIN	13049	13049	13050	13050
	mm	mm	mm	mm		Ref. no.	Ref. no.	Ref. no.	Ref. no.
M3	0.5	2.5	56	3.5	371	430	030	730	330
M4	0.7	3.3	63	4.5	371	440	040	740	340
M5	0.8	4.2	70	6	371	450	050	750	350
M6	1	5	80	6	371	460	060	760	360
M8	1.25	6.8	90	8	371	480	080	780	380
M10	1.5	8.5	100	10	371	500	100	800	400
M12	1.75	10.2	110	9	376	520	120	820	420
M16	2	14	110	12	376	560	160	860	460
M20	2.5	17.5	140	16	376	600	200	900	500

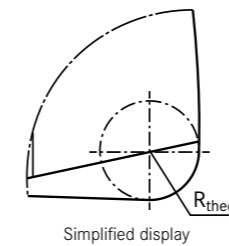
Application No.	Steel (N/mm ²)			Stainless steel		Aluminium		Brass		Bronze		Plastics	Graphite/G(C)FK	GG(G)GJMW	Titanium alloy	Nickel alloy	Super alloy	Hard material	
	<700	<1000	<1300	Marten-sitic	Auste-nitic	Short	Long	Short	Long	Short	Long							<55 HRC	<65 HRC
13049	18	12	8	8			18		19		18	15		15					
13050	22	15	8	11			25		28		20	20		22					

Application:

Low-vibration, multi-functional, high-performance tool for rough machining and finishing of high-strength materials up to 1600 N/mm² and hardened steel up to 55 HRC. **Ideal for use in modern milling strategies.**

Design:

- ULTRA H high-performance coating
- Centre cutting and clearance
- Uneven twist angle: 35° / 38°
- Uneven cutter pitch
- Cutting edge with edge preparation
- Edge protection chamfer in the form of a triple chamfer cut (R_{theo})



Short version

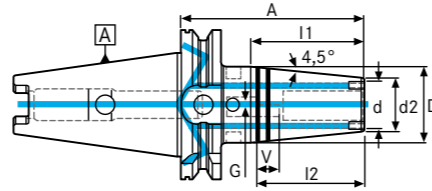
Long version

h10 mm	mm	mm	mm	mm	h6 mm	mm	HA shaft	HB shaft
							16855	16855
							Ref. no.	Ref. no.
6	7	16	54	5.7	6	0.5	546	506
8	9	20	58	7.7	8	0.5	548	508
10	11	24	66	9.7	10	0.5	550	510
12	12	26	73	11.6	12	0.5	552	512
12	12	26	73	11.6	12	1	553	513
16	16	32	82	15.6	16	0.5	556	516
16	16	32	82	15.6	16	1	557	517
20	20	40	92	19.6	20	0.5	560	520
20	20	40	92	19.6	20	1	561	521
6	15	21	57	5.7	6	0.5	646	606
8	20	27	63	7.7	8	0.5	648	608
10	25	32	72	9.7	10	0.5	650	610
12	30	38	83	11.6	12	0.5	652	612
12	30	38	83	11.6	12	1	653	613
16	35	44	92	15.6	16	0.5	656	616
16	35	44	92	15.6	16	1	657	617
20	44	54	104	19.6	20	0.5	660	620
20	44	54	104	19.6	20	1	661	621



Ref. no. 503-532

Ref. no. 553-582

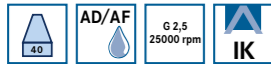


ISO 7388-1



Shrink-fit chuck with resealable coolant bores

WITH 4 ADDITIONAL DRILL HOLES FOR FINE BALANCING



Application:

For clamping cutters and drills with straight shank with h6 tolerance. Suitable for shrinking onto inductive contact and hot air devices.

Advantages:

- High transmittable torques
- Heat-resistant and creep-resistant tool steel 1600-1800 N/mm²
- High positioning and repeat accuracy
- Ideal for high rotation speeds

Design:

- Guaranteed maximum concentricity 0.003 mm
- Shrink grip and shrink release of HM and HSS tools
- Hardness 52 + 2 HRC
- Maximum coolant pressure 80 bar
- Internal axial/internal radial coolant supply
- Adjustment travel 10 mm, can be adjusted on both sides
- 4 additional drill holes for fine-balancing
- Hole for Balluff chip
- **The previous standard DIN 69871-1 was replaced by ISO 7388-1**

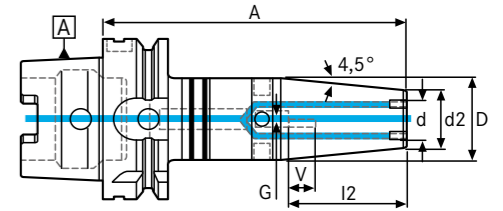
Tool chuck		SK 40												
Clamping Ø d	mm	3	4	5	6	8	10	12	14	16	18	20	25	32
External Ø D	mm	17	22	22	27	27	32	32	34	34	42	42	53	53
External tapered Ø d2	mm	10	15	15	21	21	24	24	27	27	33	33	44	44
Projection length A	mm	80	80	80	80	80	80	80	80	80	80	100	100	100
Max. clamping depth L2	mm	28	28	30	36	36	41	47	47	50	50	52	58	62
Max. adjustment travel V	mm	10	10	10	10	10	10	10	10	10	10	10	10	10
Suitable for thread G		M6	M6	M6	M5	M6	M8 x 1	M10 x 1	M10 x 1	M12 x 1	M16 x 1	M16 x 1	M16 x 1	M16 x 1
Concentricity tolerance	mm	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
23424	Ref. no.	503	504	505	506	508	510	512	514	516	518	520	525	532

Tool chuck		SK 40												
Clamping Ø d	mm	3	4	5	6	8	10	12	14	16	18	20	25	32
External Ø D	mm	16	17	18	22	24	26	28	30	32	34	36	53	53
Tapered Ø d2	mm	9	10	11	12	14	16	18	20	22	24	26	44	44
Projection length A	mm	120	120	120	120	120	120	120	120	120	120	120	120	120
Max. clamping depth L2	mm	-	-	-	36	36	41	47	47	50	50	52	58	62
Max. adjustment travel V	mm	-	-	-	10	10	10	10	10	10	10	10	10	10
Suitable for thread G		-	-	-	M5	M6	M8 x 1	M10 x 1	M10 x 1	M12 x 1	M12 x 1	M16 x 1	M16 x 1	M16 x 1
Concentricity tolerance	mm	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
23424	Ref. no.	553	554	555	556	558	560	562	564	566	568	570	575	582



Ref. no. 503-532

Ref. no. 553-575

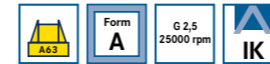


ISO 69893-1



Shrink-fit chuck with resealable coolant bores

RESEALABLE COOLANT BORES



Application:

For clamping cutters and drills with straight shank with h6 tolerance. Suitable for shrinking onto inductive contact and hot air devices.

Advantages:

- High transmittable torques
- High chip removal rate, perfect for HSC machining
- Protects spindle and machine
- Ideal for high rotation speeds
- Improved surface quality

Design:

- Guaranteed maximum concentricity 0.003 mm
- Shrink grip and shrink release of HM and HSS tools
- Hardness 52 + 2 HRC
- Maximum coolant pressure 80 bar
- Internal axial coolant supply
- Adjustment travel 10 mm, can be adjusted on both sides
- 4 additional drill holes for fine-balancing
- Hole for Balluff chip
- Resealable coolant bores
- Geometry significantly improves shock-absorption

Tool chuck		HSK A63												
Clamping Ø d	mm	3	4	5	6	8	10	12	14	16	18	20	25	32
External Ø D	mm	80	80	80	80	80	85	90	90	95	95	100	115	120
External tapered Ø d2	mm	15	22	22	27	27	32	32	34	34	42	42	53	53
Projection length A	mm	10	15	15	21	21	24	24	27	27	33	33	44	44
Max. clamping depth L2	mm	28	28	30	36	36	41	47	47	50	50	52	58	62
Max. adjustment travel V	mm	16	12	10	10	10	10	10	10	10	10	10	10	10
Suitable for thread G		M6	M6	M6	M6	M6	M8 x 1	M10 x 1	M10 x 1	M12 x 1	M12 x 1	M16 x 1	M16 x 1	M16 x 1
Concentricity tolerance	mm	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
23419	Ref. no.	503	504	505	506	508	510	512	514	516	518	520	525	532

Tool chuck		HSK A63												
Clamping Ø d	mm	3	4	5	6	8	10	12	14	16	18	20	25	32
External Ø D	mm	120	120	120	120	120	120	120	120	120	120	120	120	120
External tapered Ø d2	mm	20	22	22	27	27	32	32	34	34	42	42	53	53
Projection length A	mm	10	15	15	21	21	24	24	27	27	33	33	44	44
Max. clamping depth L2	mm	12	16	20	36	36	41	47	47	50	50	52	58	62
Max. adjustment travel V	mm	-	-	-	10	10	10	10	10	10	10	10	10	10
Suitable for thread G		-	-	-	M5	M6	M8 x 1	M10 x 1	M10 x 1	M12 x 1	M12 x 1	M16 x 1	M16 x 1	M16 x 1
Concentricity tolerance	mm	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
23419	Ref. no.	553	554	555	556	557	560	562	564	566	568	570	575	582



Application:

With its innovative production process, the ultra-slim hydro expansion chuck combines the advantages of a hydro expansion chuck with those of a shrink-fit chuck in a single product.

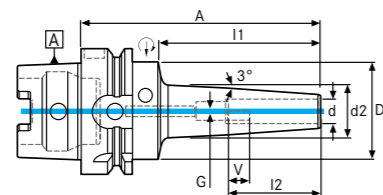
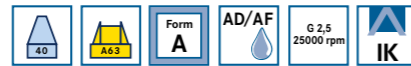
Design:

- Unusually high clamping forces
- Extremely high heat resistance (up to 120°C) ensures that the chuck retains its accuracy
- Slimline design for a shrink-fit chuck, therefore suitable for narrow interfering contours
- Outstanding absorption
- Max. concentricity < 0.003 mm
- Standard tool changes as with expansion chucks without requiring additional devices
- Various applications when used with reducer bushings
- With Balluff chip hole

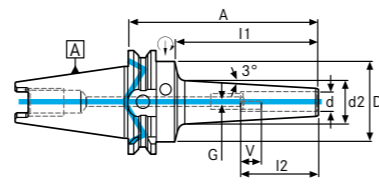


Hydro expansion chuck 3°

3D PRINTED – ULTRA-SLIM



Ref. no. 303-312



Ref. no. 603-612

ISO 69893-1

Tool chuck		HSK A63						
Clamping Ø d	mm	3	4	5	6	8	10	12
Shape		A	A	A	A	A	A	A
Projection length A	mm	120	120	120	120	120	120	120
External Ø D	mm	50	50	50	50	50	50	50
External tapered Ø d2	mm	9	10	11	12	14	16	18
Clearance length I1	mm	73	73	73	73	74	74	75
Clamping depth I2	mm	28	28	28	37	37	41	46
Max. adjustment travel V	mm	-	-	-	10	10	10	10
Coolant supply		Internal axial	Internal axial	Internal axial	Internal axial	Internal axial	Internal axial	Internal axial
Suitable for thread G		M3	M3	M3	M5	M6	M8 x 1	M10 x 1
Width across flats	mm	-	-	-	2.5	3	3	3
23733	Ref. no.	303	304	305	306	308	310	312

The previous standard DIN 69871-1 was replaced by ISO 7388-1

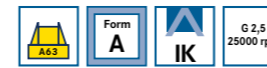
ISO 7388-1

Tool chuck		SK 40						
Clamping Ø d	mm	3	4	5	6	8	10	12
Shape		AD/AF	AD/AF	AD/AF	AD/AF	AD/AF	AD/AF	AD/AF
Projection length A	mm	120	120	120	120	120	120	120
External Ø D	mm	49.5	49.5	49.5	49.5	49.5	49.5	49.5
External tapered Ø d2	mm	9	10	11	12	14	16	18
Clearance length I1	mm	79.5	79.5	80	79.9	79.9	80.9	81.9
Clamping depth I2	mm	28	28	28	37	37	41	46
Max. adjustment travel V	mm	-	-	-	10	10	10	10
Coolant supply		Internal axial/radial	Internal axial/radial	Internal axial/radial	Internal axial/radial	Internal axial/radial	Internal axial/radial	Internal axial/radial
Suitable for thread G		-	-	-	M5	M6	M8 x 1	M10 x 1
Width across flats	mm	-	-	-	2.5	3	3	3
23333	Ref. no.	603	604	605	606	608	610	612



WZF collet chuck

COLLET CHUCK FOR TOOL AND MOULD CONSTRUCTION



Application:

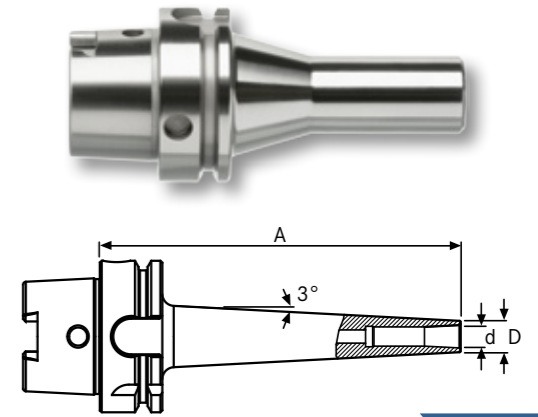
For clamping tools with straight shanks without any loss of concentricity or gripping force up to a shaft tolerance of h6/h7.

Design:

- With Balluff chip hole
- All functional surfaces machined
- Concentricity < 0.005 mm

Advantages:

- Slim design



DIN 69893-1

Tool chuck		HSK A63						
Min./max. clamping range	mm	2-6	2-6	2-6	2-6	2-6	3-8	3-10
Size d		6	6	6	6	6	8	10
Projection length A	mm	75	95	120	150	160	100	110
External Ø D	mm	13	13	13	13	13	22	28
Coolant supply		Internal axial	Internal axial	Internal axial	Internal axial	Internal axial	Internal axial	Internal axial
Shape		A	A	A	A	A	A	A
Balancing quality		G2.5 at 25,000 rpm	G2.5 at 25,000 rpm	G2.5 at 25,000 rpm	G2.5 at 25,000 rpm	G2.5 at 25,000 rpm	G2.5 at 25,000 rpm	G2.5 at 25,000 rpm
23296	Ref. no.	330	331	332	333	334	335	337



Tool presetter 400/600 ImageController Basic

SIMPLE OPERATION AND FAST FAMILIARISATION

Application:

The ATORN ImageController Basic presetter with great features for excellent value for money. Adjust your tools quickly, easily and to the nearest µm. Presetters are able to withstand the rigours of workshop use and can be set up directly next to CNC machines in machining and testing centres or in measurement rooms. All important basic functions for measuring your tools, such as length, diameter and radius come as standard (concentricity and axial runout are optional). A dynamic crosshair pointer detects and measures tool cutters automatically within the entire camera image.

Design:

- High-precision spindle, SK 50
- 7-inch screen
- Memory for 99 adapter tools
- Automatic zero point monitoring
- Automatic cutting edge shape detection
- Quick menu operation via a rotary/push button
- Compass needle – simple camera positioning for measuring set values on the tool

- Dynamic crosshair for automatic measurement
- USB 2.0 interface, data output via USB

Advantages:

- Simple operation and fast familiarisation with minimum training
- Fast measurement, setting and testing of tools
- Fast and convenient printing of measurement results



- EZmax software function for easy creation of tool contour
- Various programs make it incredibly easy to measure concentricity and axial runout at the tool cutting edge (optional)

23961 Ref. no. **001** **002**



ESCHENBACH

Digital magnifying glass

PRECISION DOWN TO THE SMALLEST DETAIL

Checking specific quality features during inspections of incoming and outgoing goods, during warehouse sampling and in the production flow is a basic prerequisite for ensuring high customer satisfaction. The Mobilux® DIGITAL Inspection is an ideal instrument for non-contact visual inspection in areas such as production, quality control or repairs – both at the workbench and on the go.

Application:
For checking specific quality features in production.

- Design:**
- Non-contact visual inspection
 - Large magnification range and extensive configuration options
 - Test images in HD quality
 - Software for live streaming and for use as measuring software
 - Tripod screw for stationary use
 - Touchscreen 4.3" Display resolution 480 x 272 pixels
 - Photographic resolution 1280 x 720 pixels, 16:9 format, JPEG
 - Automatic switch-off
 - Memory feature for storing up to 10,000 images
 - Magnification 1.25x to 15x

- Advantages:**
- Large magnification range and extensive configuration options for lighting and exposure ensure that every detail is displayed realistically
 - Live streaming of the inspection image on the computer and video conferencing programs, such as Skype – either in full screen or as simultaneous comparative measurements of the target and actual condition using a split screen



Scope of delivery:
Mobilux includes 4-GB memory card, charger, USB cable, quick guide, case

41541	Ref. no.	500
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ATORN®

Electronic pocket vernier calliper IP67

PROVEN TECHNOLOGY WITH THE LATEST, PRACTICAL DESIGN



Application:
For measuring external, internal, step and depth dimensions.

- Design:**
- ON/OFF
 - Zero setting at any position
 - mm/inch changeover
 - AUTO OFF
 - ABS function
 - Keyptronic system

- Advantages:**
- Button locking prevents inadvertent adjustments
 - Switched on by the ON button or automatically switched on by calliper movement
 - Particularly energy-saving electronics (battery lifetime up to 3 years)

Scope of delivery:
In a case, with battery (1 x 3 V lithium, type CR 2032)

Min./max. length measuring range	mm	0-150	0-150
Digit increment	mm	0.01	0.01
Jaw length	mm	40	40
Depth gauge		Flat	Round
Depth gauge rod thickness	mm	-	1.5
31173	Ref. no.	202	203



ATORN®

Electronic universal vernier callipers set

WITH INTERCHANGEABLE GAUGE SLIDES



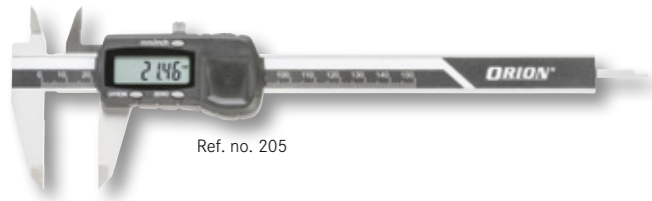
Application:
A vernier calliper set that can be fitted with any common M2.5 gauge slides for dial gauges. This provides numerous application possibilities for internal and external measurements.

- Design:**
- ON/OFF
 - Zero setting at any position
 - mm/inch changeover
 - AUTO OFF
 - Preset function
 - ABS function
 - Hold function

- Advantages:**
- Button locking prevents inadvertent adjustments
 - Switched on by moving the slider
 - Suitable for a wide range of measuring applications due to exchangeable M2.5 gauge slides

Scope of delivery:
In a wooden case, with 2 pairs of gauge slides (ball Ø 5 mm, end face Ø 4.8 mm), with battery (1 x 3 V lithium, type CR 2032)

Min./max. length measuring range	mm	0-150
Digit increment	mm	0.01
Jaw length	mm	40
31173	Ref. no.	900



Ref. no. 205



Electronic pocket vernier callipers



Application:
For measuring external, internal, step and depth dimensions.

- Design:**
- ON/OFF
 - Zero setting at any position
 - mm/inch changeover
 - Large digits: Size: 11 mm
 - **Ref. no. 211-651:** AUTO OFF

Delivery:
In case, with battery

Min./max. length measuring range	mm	0-150	0-300
Digit increment	mm	0.01	0.01
Jaw length	mm	40	60
Depth gauge		Flat	Flat
31170 with 3 V battery	Ref. no.	205	-
31170 with 1.55 V battery	Ref. no.	211	651



Small electronic depth callipers



Application:
For measuring depths in small boreholes and at cramped measuring points.

- Design:**
- ON/AUTO OFF
 - Zero setting at any position
 - mm/inch changeover
 - Overall length 150 mm

Delivery:
In case, with battery

Min./max. length measuring range	mm	0-25
Digit increment	mm	0.01
Bridge length x bridge width	mm	60 x 6
Depth gauge rod width	mm	2.4
31308 with 3 V battery	Ref. no.	012



Dial gauges IP 53

WITH SHADOW-FREE DISPLAY



Application:
For measuring lengths and differences in length, e.g. concentricity, flatness and position measurements.



- Design:**
- Measuring pin and clamping shank are made from a durable stainless steel
 - Shadow-free display and mount (external ring and viewing window) made from one piece

Delivery:
In case

Length measuring range	mm	3	10
External Ø	mm	32	58
IP protection class	mm	IP 53	IP 53
Scale interval		0.01	0.01
Measurement travel of one pointer revolution		1	1
33050	Ref. no.	015	010



Scriber

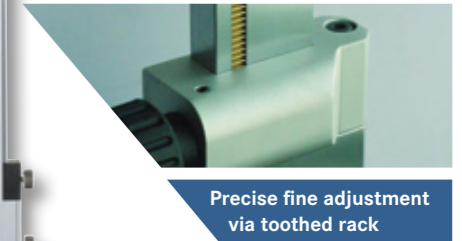
PRECISE FINE ADJUSTMENT VIA TOOTHED RACK



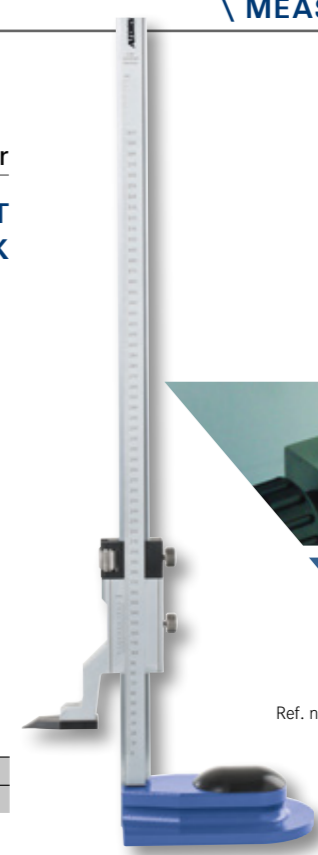
Application:
For marking scale lines on workpiece surfaces.

- Design:**
- Scale and vernier scale with anti-glare, brushed chromium-plated finish
 - Parallax-free reading
 - Measuring rod made from special steel
 - Marking-off needle from base

Max. length measuring range	mm	300	600	1000
Vernier scale	mm	0.02	0.02	0.02
Base length x base width	mm	145 x 90	189 x 118	189 x 118
35072 fine adjustment	Ref. no.	030	060	100
35072 toothed rack	Ref. no.	130	160	200



Precise fine adjustment via toothed rack



Ref. no. 060



Electronic scriber

WITH DATA OUTPUT



Application:
For marking scale lines on workpiece surfaces and for measuring heights and clearances.

- Design:**
- Marking-off needle from base
 - LCD display, 11 mm
 - Carbide-tipped marking-off needle
 - Steel foot
 - ON/OFF
 - Zero setting at any position
 - mm/inch changeover
 - Hold and preset function
 - Preset function

Delivery:
Battery included (1 x 3 V lithium, type CR 2032)

Max. length measuring range	mm	300	600	1000
Digit increment	mm	0.01	0.01	0.01
Base length x base width	mm	145 x 90	189 x 118	189 x 118
Data transmission type		Proximity	Proximity	Proximity
35072 fine adjustment	Ref. no.	230	260	300
35072 toothed rack	Ref. no.	330	360	400
35072 sliding scriber	Ref. no.	430	460	500



Ref. no. 430-500

Ref. no. 230

Ref. no. 330



LED magnifying lamp
NOW WITH 90 LEDs

Application:

For magnifying small parts with additional light source.

Design:

- Bright illumination with **90 ultra bright SMD LEDs**
- Segmented LED switching in 2 stages
- Non-slip, well-designed, soft plastic ring for impact protection
- 6500 K colour temperature (daylight)

Delivery:

Magnifying lamp, 65 mm table clamp and instructions



Advantages:

- Extremely low power consumption (only approx. 9 watts)
- Metal arm with plastic cover, no danger of pinching
- Long LED service life, no risk of breakage
- External switch for use as a table lamp
- High-quality lens

Magnification		1.75x	2.25x
Lens diameter	mm	127	127
Lens design		Biconvex	Biconvex
Lens material		Glass	Glass
41333	Ref. no.	035	055



Universal comparator
measuring instrument

MEASURING RANGE FROM 5 TO 2000 MM

Versatile precision measuring device with a large selection of measuring probes and gauge slides for a wide variety of external and internal measurements. Ideal for inspecting workpieces and for setting machines.

Design:

- Measured values displayed by dial gauge or precision pointer
- Robust, torsion-free tubular structure

Advantages:

- Reversible measuring direction, enabling internal and external measurement
- Measuring range up to 2000 mm due to optional extensions
- M2.5 thread gauge slides can be adjusted to your needs



The basic device (item 1) and the measuring arm (item 7), including gauge slide (not included in in scope of delivery), are illustrated here.

Item	Description	31970 Ref. no.
1	Basic device, including wooden case (without dial gauge)	010
	Extension, 100 mm	100
2	Extension, 200 mm	110
	Extension, 500 mm	120
3	Mounting attachments (pair)	130
4	Shoulder gauge slides for external measurements (pair)	140
5	Shoulder gauge slides for internal measurements (pair)	150
	Gauge slides with spherical contact surface, L = 23 mm	160
	Gauge slides with spherical contact surface, L = 53 mm	170
6	Cylindrical gauge slides, length 52 mm (pair)	180
	Gauge slides, cranked offset (pair)	190
	Gauge slides with gauge disc (pair)	200
7	Measuring arms, L = 40 mm (pair)	210
	Measuring arms, L = 80 mm (pair)	220
8	Depth stops for measuring arms (pair)	230
9	Adapters for gauge slides with M2.5 (pair)	240



Items 3 + 4



Items 3 + 5



Items 3 + 6



Items 3 + 6



Items 7 + 8 + 9

High-precision distance
measuring instrument

With visible
laser target point



Coverage distance	m	40	100
Measuring accuracy	mm	+/- 2	
IP protection class		IP 54	
Laser category		2M	
Measuring functions		Continuous measurement, area measurement, volume measurement, length measurement	
Length x width x height	mm	121 x 56 x 28	
Weight	g	150	
37062	Ref. no.	040	100



Laser distance measuring instruments
WITH MANY PRACTICAL FUNCTIONS

Application:

For non-contact measurement of lengths, areas and volumes.

Advantages:

- Extensive time and cost savings
- Fast and accurate measurement thanks to the visible laser target point
- With addition/subtraction function, space calculation, automatic shutoff, tripod socket, function for indirect measurement

Delivery:

Measuring instrument, batteries, operating instructions, protective case



Electronic inclinometer

ADHESION MAGNETS ON 3 SIDES

Application:

For easy and rapid measurement of gradients.

Advantages:

Rotating display for overhead measurements

Design:

- Display in degrees
- Arrow in display shows direction of gradient
- Simple adjustment in normal position (reset)
- Hold function
- 0.05° digit increment
- Error limit 0.5°
- Large LCD display

38600	Ref. no.	100
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Electronic handheld rev meter

NON-CONTACT SPEED RECORDING

Design:

- Non-contact measurement using a red, modulated light beam and a reflection marker
- 5 digit LCD display
- Memory function: last value measured, maximum value, minimum value, mean
- Shutdown: automatically 30 seconds after last key press, measured value saved
- Housing: Plastic with holster

Delivery:

Case with basic device, reflection markers, 2 x 1.5 V AA batteries, calibration certificate, operating instructions

Update time	Seconds	1
Error tolerance		0.02 % of display value
Measurement distance	mm	Optical max. 600
Dimensions (L x W x H)	mm	151 x 35 x 60
39350	Ref. no.	025



Ref. no. 020 - 070 Ref. no. 080 Ref. no. 090 Ref. no. 100 Ref. no. 110 Ref. no. 120 Ref. no. 130 Ref. no. 140



ESD precision electronics pliers

2-COMPONENT HANDLES WITH WIDE AND NON-SLIP CONTACT SURFACE



Design:

- Hot drop-forged high-alloy steel
- Glossy polished steel surfaces
- Rust-proof
- No risk to circuitry or components due to flaking off of chrome
- Double-eye leaf springs, spot-welded and wear-resistant, guarantee uniform action
- Box-joint design for optimal maintenance-free guidance of jaws. Silky-smooth action and long service life.
- **Ref. no. 010-090:** Inductively hardened blades facilitate easy and sharp cutting with maximum service life

Design	Length mm	Cutting capacity, max. soft wire Ø mm	Head/jaws version	53028 Ref. no.
Side cutters	120	1.5	Pointed head with small bevel	010
	125	1.5	Oval head with bevel	020
	125	1.5	Oval head with bevel and wire clip	030
	125	1.5	Pointed head with mini bevel	040
	140	2.0	Oval head with bevel	050
	125	1.5	Pointed head with bevel	060
Angled end-cutting nippers	125	1.5	Pointed head without bevel	070
	120	1.2	Straight head with small bevel	080
Tail cutters	130	0.8	Pointed head with small bevel, pointed jaws, bent and slim	090
Pointed pliers	130	-	Jaws flat, round, short, smooth and straight	100
Bent pointed pliers	130	-	Jaws flat, pointed, short, smooth and bent	110
Flat-nose pliers	130	-	Jaws flat, wide, short and smooth	120
Round-nose pliers	130	-	Jaws round, short and smooth	130
Pointed pliers	155	-	Jaws flat, pointed, with fine grooves, straight with cut	140



ESD precision screwdriver

2-COMPONENT HANDLE TECHNOLOGY WITH COMFORTABLE, NON-SLIP SOFT COATING



Slotted screwdriver Phillips screwdrivers Hexagon socket screwdrivers



Design:

- Handle with easily turned, ergonomically shaped rotating cap
- Non-slip soft casing for handle area.
- Blade produced from special chrome-molybdenum-vanadium alloy with optimal performance data up to 100 % above DIN values
- **Ref. no. 015-120, 500:** "Black tip" for precise fit
- **Ref. no. 500:** 6-piece set in ESD plastic box



Set with slotted and Phillips screwdrivers

Design	Width across flats mm	Width of cutting edge mm	Thickness of cutting edge mm	Blade length mm	Length mm	52689 Ref. no.
Slotted screwdriver	-	1.5	0.23	60	162	015
	-	2	0.4	60	162	020
	-	2.5	0.4	60	162	025
	-	3	0.5	60	162	030
Phillips head screwdriver	PH00	-	-	60	162	100
	PH0	-	-	60	162	110
	PH1	-	-	75	177	120
Hexagon socket screwdriver	1.5	-	-	60	162	215
	2	-	-	60	162	220
	2.5	-	-	75	177	225
	3	-	-	75	177	230
Set	PH00, PH0	1.5/2/2.5/3	-	60	162	500



LiftUp 26 magazine bit holder

THE MOST COMMON BITS IN A SINGLE TOOL

Design:

- Magnetic bit holder
- Equipped with 13 double bits - i.e. 26 drive sizes
- Bit magazine opens by pushing the button
- Large handle - maximum power

Bit chuck	Inch	¼ magnetic holder
Slot sizes	mm	4/6
Metric hexagon socket	mm	3/4/5/6
Hexagon socket	Inch	3/32 / 7/64 / 1/8 / 9/64 / 5/32 / 3/16
Phillips head		PH0 / PH1 / PH2 / PH3 / PZ1 / PZ2 / PZ3
TORX		TX10 / TX15 / TX20 / TX25 / TX27 / TX30
Square head	mm	1.0/2.0
52855	Ref. no.	250



Wire-stripping set, 4-piece

PROFESSIONAL WIRE-STRIPPING TOOLS FOR ALL APPLICATIONS

Min./max. cable diameter	mm	0.2-28
Automatic wire-stripping pliers	mm	0.2-6
Coax stripper	mm	4.8-7.5
Cable knife	mm	4-28
Round cable stripper	mm	8-13

53593 Ref. no. **010**



Scope of delivery:

In robust case with soft foam insert



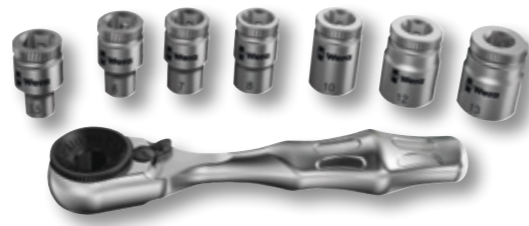
Double ring ratchet set
FOR 63 APPLICATIONS



Application:
2-piece set, right/left reversing lever

- Design:**
- Special ring profile for universal application
 - Metric wrench sizes 8 mm to 19 mm, imperial 5/16" to 3/4"
 - External torx E 10 to E 24, square 3/32, to 3/8" and 7 mm to 16 mm

52043	Ref. no.	200
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Tool-Check PLUS 1/4" set 38-piece

WITH FUNCTIONAL FOLD-OUT HOLDER FOR QUICK ACCESS

Drive	Inch	1/4
Sockets with external hexagonal tip provided	mm	5.5 / 6 / 7 / 8 / 9 / 10 / 12 / 13
Sockets with internal hexagonal tip provided	mm	3 / 4 / 5 / 6 / 8
Sockets with TORX drive provided		TX10 / TX15 / TX20 / TX25 / TX30
Sockets with Phillips-head tip provided		PH1 / PH2 / PH3 / PZ1 / PZ2 / PZ3
Sockets with slotted tip provided	mm	5.5
Ratchet provided	Inch	1/4 square head
Bit holder provided	Inch	1/4
Bit holder	Inch	1/4
58009	Ref. no.	055

- Design:**
- Ratchet in die-forged, all-steel design
 - Holding sockets, bits and adapters
 - With additional Kraftform handle

- Design:**
- With 1/4" hexagon socket
 - Calibrated to a permissible tolerance of +/- 6% from the set value
 - Ergonomically shaped 2-component handle
 - Adjustment tool included in delivery
 - A suitable tester is required for adjustment
 - **Ref. no. 120 and 130** with additional plug-in T-handle included in delivery

Delivery:
With calibration certificate

Handle material		2-component plastic			
		%	6	6	6
Error tolerance	%	6	6	6	6
Min./max. torque measuring range	Nm	0.05-0.25	0.2-1.5	0.5-4.5	2.5-13.5
52204	Ref. no.	100	110	120	130



Torque screwdriver

WITH 1/4" HEXAGON SOCKET



Inspection lamp
WITH ROTATING MAGNETIC ATTACHMENT CLIP



- Design:**
- LED light chip with high light output
 - Rubberised push switch
 - The rotating magnetic attachment clip makes it possible to mount the light on metal surfaces

Delivery:
Including 3 x AAA batteries

Light source	mm	LED
Length	mm	160
56808	Ref. no.	205



Battery-operated LED work lamp

TO HANG UP OR PLACE IN UPRIGHT POSITION

- Design:**
- Latest LED technology: 2 W high-performance COB LED ensures uniform, optimum illumination
 - With pocket torch function/spot lighting (4 x 5 mm LEDs in lamp head)
 - Extra-strong magnet in lamp base and on the back
 - Li-ION technology (battery reaches 80% capacity again after just 1 hour of charging time)
 - Practical fold-out base
 - To hang up or place in upright position

Delivery:
With charging cable

Length	mm	120
Luminous flux	Lumen	100
56829	Ref. no.	030



LED bending work lamp

BRIGHT! HANDY! LIGHT!

- Design:**
- Latest LED technology: 2 W high-performance COB LED
 - With pocket torch function/spot lighting (3 x 5 mm LEDs in lamp head)
 - Extra-strong magnet in lamp base, QA-verified kinking mechanism
 - Li-ION technology (battery reaches 80% capacity again after just 1 hour of charging time)
 - With fold-out, break-proof hook, rotatable through 360°
 - Rubberised push switch

Delivery:
With charging station

Length	mm	170
Luminous flux	Lumen	100
Power rating	W	2
56829	Ref. no.	020



Cabinet with rear panel grating
WITH SOLID SHEET METAL DOOR OR DOORS
WITH VIEWING WINDOW

Application:

For appropriate, centralised and clearly arranged safekeeping and storage of e.g. slings, shafts, discs, cables and large, bulky tools, parts or materials.

Design:

- Rear panel with robust grid, wire thickness Ø 5 mm, mesh size 75 x 75 mm
- Load-bearing capacity of whole rear panel of 1000 kg with evenly distributed load
- Doors with turning handle with integrated cylinder lock incl. 2 keys

Powder-coated surface:

Body RAL 7035 light grey, fronts RAL 5010 gentian blue

Advantages for storage of slings:

- Secure locking protects against loss
- No damage to or knotting of slings



Example applications with slings, shafts, discs or cables

Door design		Full-sheet panel	Inspection glass
Height	mm	2000	2000
Effective height	mm	1880	1880
Width	mm	1000	1000
Depth	mm	490	490
50048	Ref. no.	500	502



Holder and support elements

FOR 75 X 75 MM WIRE MESH WALLS
WITH A WIRE THICKNESS OF 5 MM

Design:

Sheet steel, powder-coated surface: RAL 7035 light grey



Please order separately accordingly.

	Load-bearing capacity kg	50048 Ref. no.
Pin Ø 10 x 200 mm	10	510
Pin Ø 10 x 300 mm	8	511
Tube Ø 15 x 300 mm	15	512
Tube Ø 22 x 300 mm	25	513
Tube Ø 28 x 300 mm	25	514
Shaft 320 mm	10	515
Fork 300 mm, Clear width: 50 mm	25	516
Box 250 x 150 x 80 mm	25	517
Box 350 x 200 x 130 mm	25	518



W-KLT® storage boxes
with front flap

SPACE-SAVING MIRACLE



Application:

In European dimensions with integrated tipping function for clear, concise storage and easy removal of small parts, consumables and bulk materials.

Design:

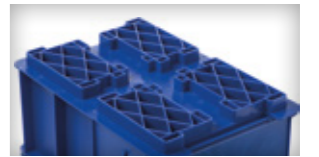
- Box made from polypropylene, dispenser made from ABS
- Peripheral stack edge for easy stacking
- Reinforced base, high resilience and dimensional stability
- Recessed handles for optimum grip during transport
- Smooth interior walls make it easy to clean the boxes
- Label holder for clear labelling of the box or goods
- Colour: night blue RAL 5022

Advantages:

- Space-saving storage of containers possible, up to 50 % less shelf space and surface area required
- The open front flap allows you to identify and remove contents easily even when stacked
- Maximum efficiency and optimisation of work processes
- Impact-resistant and break-proof



Easy removal and clearly arranged storage due to integrated tipping function



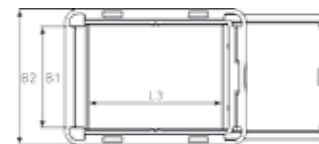
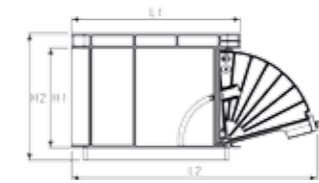
Reinforced base, high resilience and dimensional stability



Recessed handles for optimum grip during transport



Peripheral stack edge for easy stacking



Please order separately accordingly.



Cover for W-KLT® storage box ref. no.	012	013	014
50057	Ref. no.	490	491

External length (L1)	mm	197	297	396
External length, open (L2)	mm	290	385	486
External width (W2) x external height (H2)	mm	148 x 147	198 x 147	298 x 147
Interior dimensions (L3) x (W1) x (H1)	mm	155 x 117 x 129	247 x 166 x 115	335 x 265 x 115
Min./max. temperature resistance	°C	-20/90	-20/90	-20/90
Stack load	kg	75	75	75
Load-bearing capacity	kg	25	30	30
50057	Ref. no.	012	013	014

CLIP-O-FLEX

W-KLT® CLIP hook-on profile

FLEXIBLE MOUNTING

Design:

Length 105 mm, made of aluminium with red cover caps on left and right

Advantages:

The hook-on profile allows W-KLT® storage boxes no. 50057 012-014 to be flexibly and ergonomically attached to any workstation with CLIP-O-FLEX support rails no. 50237 005-019.



Please order separately accordingly.

Suspension angle	°	0/12.5/25
Load-bearing capacity	kg	15
50237	Ref. no.	085



In connection with W-KLT® storage boxes for suspending in CLIP-O-FLEX support rails



Simple installation
due to integrated 8-mm groove

Immense light output due to the latest LED technology



Long service life
due to optimum heat transfer

Technical specifications

Operating voltage	90-264 VAC 50/60 Hz
Power rating	40 W
Beam angle	60° x 90°
Colour temperature	Neutral white 4500 K
Connection	Schuko plug
Connection cable	3 m
Protection type	IP 50
Protection class	I
Cross-section	64 x 80 mm
Protective glass	Acrylic glass
Housing	Aluminium, powder-coated RAL 9016

The elegant and high-quality housing of the workstation lamps conceals the latest LED technology. Perfectly coordinated high-tech components ensure continual, bright illumination without glare while consuming minimal power. Activation delays, flickering light and disposal of lamps containing toxic mercury are a thing of the past. With flexible and rapid mounting, the workstation lighting offers versatile

application options. The various lengths and performance classes enable workstation lighting to be tailored to you. With the tremendous luminosity, even smaller lights are comparatively excellent for large work surfaces. The 504-mm version, for instance, is sufficient to effectively illuminate work surfaces of 1.50 m in length, and the 1004-mm version work surfaces of 2 m in length.



Workstation lamps – versions

Illuminate area at a distance of 1 m	mm	1500 x 1200	1500 x 1200	1500 x 1200	2000 x 1200	2000 x 1200	2000 x 1200
Length	mm	504	504	504	1004	1004	1004
Operation		I/O switch	I/O switch, dimmer	Wireless button*	I/O switch	I/O switch, dimmer	Wireless button*
Luminous flux	lm	4800	4800	4800	5400	5400	5400
50239	Ref. no.	160	161	162	163	164	165

* To operate the lamp versions with wireless button, item no. 50239 162 and 165, must be ordered in addition to wireless button mat. no. 50239 166, see accessories below

Optional accessories



Designation	Cable system	Mounting bracket	Mounting joint
Material	Nickel-plated steel	Powder-coated steel	Powder-coated steel
Dimensions	Ø 20 x 40 / Ø 1.2 x 2000	100 x 30 x 30	95 x 30 x 3
Included in delivery	2 x ceiling fasteners, 2 x 2-m wire cables, 2 x cable clips	2 x mounting brackets, 2 x slot nuts, 2 x stainless steel cylinder head screws	2 x mounting joints, 2 x slot nuts, 2 x stainless steel cylinder head screws
50239	Ref. no.	167	168

Version with radio button

Required accessories for lamp ref. no.	162, 165
Material	Plastic
Dimensions	80 x 80 x 15
Power supply	No battery or wires
50239	Ref. no.
	166



The wireless version of the workstation lamp can be switched on and off or dimmed using this button. This allows any number of lights to be controlled using a single button or various light clusters to be assigned to different buttons. The minimum range inside buildings is 30 m.



Knee pads

MADE FROM POLYURETHANE

Application:

Protective cushioning for knee joints, promotes ergonomic kneeling with anatomically shaped shells and shock-absorbent PUR material.

Design:

- Ergonomically shaped upper section, flat underside
- Available in three colours, with carry handle

Advantages:

- Optimum pressure distribution of body weight
- Easy-care, non-slip, shock-absorbing
- Levelling on uneven ground
- Extremely long service life

Length x width	mm	410 x 350
Material thickness	mm	80
50225 Anthracite	Ref. no.	090
50225 Dark blue	Ref. no.	091
50225 Claret	Ref. no.	092

Application:

Ideal for dry workstations and light- to medium-duty applications.

Design:

- Non-slip and impact resistant, insulates against cold and protects the industrial floor
- Slip prevention R10 in line with DIN 51130
- Fire safety class Bfl-S2 in line with DIN EN 13501-1
- Min./max. temperature resistance: 0-60°C
- Weight: approx. 3.5 kg/m²
- **Ref. no. 164-167:** with yellow safety-marking strips on sides

Advantages:

- Relieves the back and leg muscles and prevents premature fatigue during extended periods of standing
- Increases general safety underfoot

Note:

Sold by the metre up to max. length 18.3 m: We will be happy to cut the desired length to size. Mats which have been cut to size cannot be returned.



Office mat for standing workstations

MADE FROM POLYURETHANE

Application:

Ideal format and comfortable standing at office workstations and at height-adjustable desks.

Advantages:

- Optimum relief for musculoskeletal system
- With all-round bevelled edges for safe access

Tip:

Periods spent standing are essential for good health and well-being. Standing should be promoted within office environments by using ergonomic mats. Physicians recommend standing for between 2-3 hours per day at desk workstations.

Length x width	mm	800 x 400
Material thickness	mm	16
50225 Black	Ref. no.	100



Ref. no. 164-167



Ref. no. 160-163

PVC workplace mat

WITH CHECKER PLATE STRUCTURE

Delivery:

Mats delivered with bevelled edges, even if cut to size

Length	mm	900	1500	1000	1000
Width	mm	600	900	900	1200
Material thickness	mm	9	9	9	9
Mat design		Individual mat		By the metre	
50225 Black	Ref. no.	160	161	162	163
50225 Black/yellow	Ref. no.	164	165	166	167





fetra
Transportgeräte

Tugger-train pallet trolley

OPTIMAL DIRECTIONAL STABILITY

Application:

For transporting pallets or crates with towing vehicles at up to 6 km/h. Convoys of up to 5 trolleys possible. Maximum tractive weight 3000 kg.

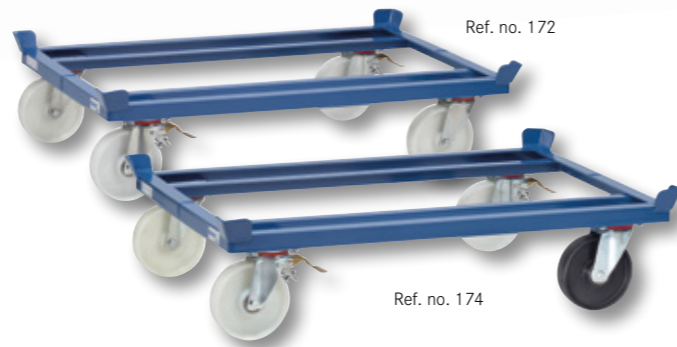
Design:

- Robust welded angular-steel-frame structure with 4 corner braces
- Flat-steel self-locking drawbar on fixed-wheel side with wheel block
- Robust coupling bolt with guide aperture and self-actuating safety latch
- Gas compression spring moves drawbar automatically to vertical neutral position
- May be operated using foot
- Powder-coated surface, brilliant blue RAL 5007

Note:

This coupling system guarantees optimal directional stability. Pulling vehicle must have front steering and tugger-train drawbar.

Load-bearing capacity	kg	1000
Length x width x height	mm	1327 x 855 x 775
Size of loading surface	mm	1210 x 810
Height of loading surface	mm	282
Number of fixed castors/steering rollers	Units	2/2
50267	Ref. no.	170



Ref. no. 172

Ref. no. 174

fetra
Transportgeräte

Pallet running gear for transportation on tugger-train trailers

ROBUST WELDED ANGULAR-STEEL-FRAME STRUCTURE

Application:

For transporting Euro pallets and crates. Suitable for transportation on commercially available tugger-train trailers.

Design:

- Robust welded angular-steel-frame structure with 4 corner braces
- Steering rollers with total lock in forward motion, diagonally arranged
- **Ref. no. 174 and 175:** 1 black, electrically conductive, polypropylene roller

Load-bearing capacity	kg	1050			
Height of loading surface	mm	280			
Ground clearance	mm	237			
Number of steering rollers	Units	4			
Wheel width	mm	50			
Wheel diameter	mm	200			
Length x width x height	mm	1255 x 855 x 327	1255 x 1055 x 327		
Size of loading surface	mm	1210 x 810	1210 x 1010		
50267	Ref. no.	172	174	173	175



CLIP-O-FLEX

Assembly trolley with CLIP-O-FLEX hook-on system

WITH 6 TRAYS, INCL. 100-PIECE TOOL ASSORTMENT IN 6 HARD FOAM INSERTS



Version with convenient pull-out system



The tray can be fixed into the rail with one hooking movement and detached again

Application:

Thanks to the flexible and modular CLIP-O-FLEX system, the assembly trolley can be optimally designed and adapted to the individual work sequences in production, assembly, development, training and further education. CLIP-O-FLEX sets your work/storage area or your organisation system with one clip and at the same time gives the highest level of horizontal and vertical flexibility.

Design:

- Solidly welded sheet-steel structure with painted multiplex panel, 30 mm thick
- Workbench panel with CLIP-O-FLEX support rails installed on the top of the housing left, right and at the rear
- With convenient pull-out system incl. CLIP-O-FLEX trays with hook-in brackets 0/40/80°
- Incl. 6 ATORN hard foam inserts, made of polyethylene (PE), two-tone black/blue, resistant to most oils and chemicals thanks to closed-cell structure
- 6 ATORN hard foam inserts fitted with 100 ATORN tools, filling 6 trays of the tool trolley
- Central locking with cylinder lock incl. 2 keys
- Chassis with 2 fixed wheels and 2 guide rollers, diameter 100 mm, with one guide roller with stop

Advantages:

- Simply remove the trays from the cabinet and hang on the hook-in rails at the side
- Flexible hook-on system with only one hooking movement
- Ergonomic workplace design thanks to different inclines and can be relocated horizontally
- Quick access to work equipment, very clear overview
- Rapid conversion and replacement, highest possible level of mobility, less walking required, optimum use of space

Design

Body colour		White aluminium RAL 9006
Colour of front		Jet black RAL 9005
Door stop		Left
Number of cabinets 260 x 345 x 30 mm	Unit	6
Number of drawers	Unit	2
Height x width x depth	mm	958 x 474 x 405
Draw width (inner dimension)	mm	365
Drawer depth (inner dimension)	mm	294
Pullout type		Fully extending
Load-bearing capacity per drawer	kg	35
Door height	mm	540
Load-bearing capacity	kg	550
Dynamic load-bearing capacity	kg	225
With sliding handle		Yes
Number of fixed rollers	Unit	2
Number of steering rollers	Unit	2
With wheel lock		Yes
Material of the wheel		Solid rubber
Wheel diameter	mm	100
Central locking		Yes
Lock type		Cylinder lock
Material of the worktop		Multiplex beech
Material		Sheet steel
Surface		Powder-coated

with pull-out system

Body colour	White aluminium RAL 9006
Colour of front	Jet black RAL 9005
Door stop	Left
Number of cabinets 260 x 345 x 30 mm	Unit 6
Number of drawers	Unit 2
Height x width x depth	mm 958 x 474 x 405
Draw width (inner dimension)	mm 365
Drawer depth (inner dimension)	mm 294
Pullout type	Fully extending
Load-bearing capacity per drawer	kg 35
Door height	mm 540
Load-bearing capacity	kg 550
Dynamic load-bearing capacity	kg 225
With sliding handle	Yes
Number of fixed rollers	Unit 2
Number of steering rollers	Unit 2
With wheel lock	Yes
Material of the wheel	Solid rubber
Wheel diameter	mm 100
Central locking	Yes
Lock type	Cylinder lock
Material of the worktop	Multiplex beech
Material	Sheet steel
Surface	Powder-coated

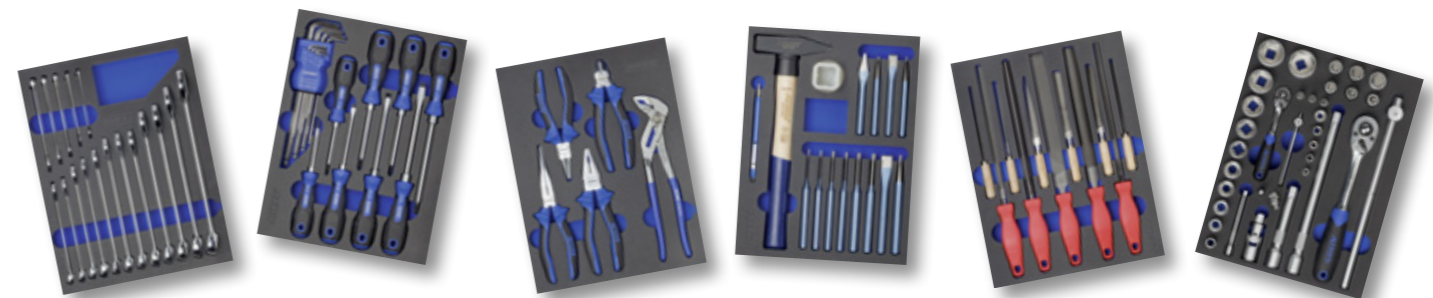
50237

Ref. no.

199

Note:

The spacing between the tray base and CLIP-O-FLEX mounting profiles is max. 52 mm. Please consider the amount of tool protrusion (max. 22 mm) when using trays equipped with ATORN tool inlays (height 30 mm). Trays of tools that protrude greatly must be stored in the first storage level.



ORION® Ceramic-bonded bench grinder discs

IN STACKABLE INDIVIDUAL PACKAGING

Application:

Synthetic corundum: For machining unhardened unalloyed and low-alloy steels.

White corundum: For machining hardened high-alloy and low-alloy steels and for regrinding HSS tools.

Silicon carbide: For machining cast iron and for sharpening carbide-tipped tools.

Advantages:

- Smooth running
- Includes set of reducing rings
- In stackable individual packaging

Note:

Maximum operating speed: 40 m/s. Not suitable for wet grinding.

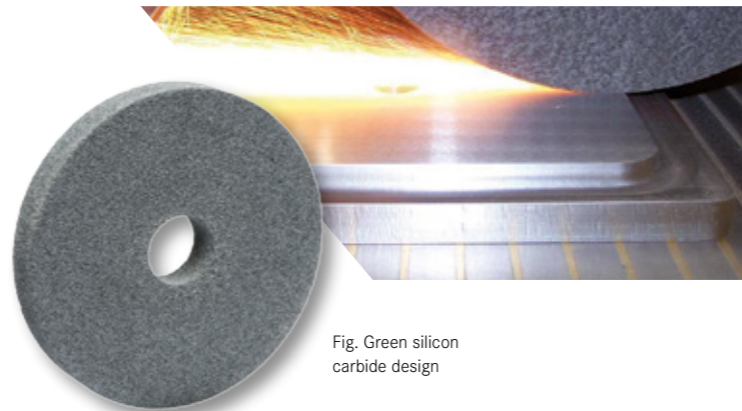
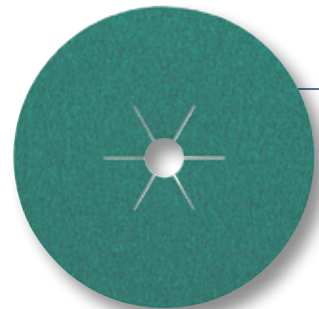


Fig. Green silicon carbide design

ISO 525

Abrasive material			Synthetic corundum	Synthetic corundum	White corundum	White corundum	White corundum	Green silicon carbide
Surface structure			Coarse	Medium	Medium	Medium	Fine	Fine
Grain size			36	60	46	60	80	80
Disc Ø	Disc thickness	Bore Ø	69496	69496	69496	69496	69496	69496
mm	mm	mm	Ref. no.	Ref. no.	Ref. no.	Ref. no.	Ref. no.	Ref. no.
125	20	32	-	-	-	-	005	015
150	20	32	051	055	-	061	065	071
175	20	32	101	105	-	111	-	115
175	25	51	141	145	-	151	155	161
200	20	32	-	-	201	-	-	-
200	25	51	241	245	-	251	-	255
200	32	51	271	275	-	281	285	291
300	40	76	340	345	-	355	-	360



FS 966 fibre disc — for stainless steel

CERAMIC CORUNDUM, SYNTHETIC RESIN BONDING, CLOSED COATING

Application:

High-performance disc with self-sharpening ceramic abrasive grain for an excellent removal rate and service life when grinding high-alloy steels.

Advantages:

- Long service life, especially in heavy-duty applications
- Cool grinding for enhanced performance
- New advanced coating technology for improved grain adhesion

ISO 525

Grain size			36	40	60	80	120
Disc Ø	Bore Ø	Number	76202	76202	76202	76202	76202
mm		Units per packet	Ref. no.	Ref. no.	Ref. no.	Ref. no.	Ref. no.
115	22	25	600	605	610	615	620
125	22	25	625	630	635	640	645
180	22	25	650	655	660	665	670



Elastic honing wheels

SUITABLE FOR USE ON FLEXIBLE SHAFTS

Application:

For machining unalloyed and low-alloy steels (unhardened and hardened), high-alloy steels (unhardened and hardened), HSS, stainless steel and cemented carbide

Advantages:

- Long service life at recommended rotation speed
- Cool grinding
- Also suitable for use on flexible shafts

Note:

Direction of rotation for honing wheel away from tool rest. Maximum operating speed: 25 m/s.

ISO 525

Abrasive material	Green silicon carbide			
Disc Ø	mm	125	150	175
Disc thickness	mm	20	20	20
Bore Ø	mm	32	32	32
Grain size		800	800	800
69496	Ref. no.	500	505	510

White corundum design:

For wet grinding of unalloyed, low-alloy and high-alloy steels (unhardened and hardened)

Special corundum design (sintered corundum and white corundum):

For wet grinding of high-alloy, hardened steels, HSS, stainless steel

Advantages:

- Low wear
- Cool grinding
- Smooth cutting

Note:

Ensure that an adequate coolant supply is available. Recommended operating speed: 20–30 m/s.



Ref. no. 616
Sintered corundum and white corundum, Type 1

Ref. no. 621
White corundum, Type 1

Ref. no. 760-770
White corundum, Type 7



Ceramic-bonded flat sanding discs

LOW-WEAR AND SMOOTH CUTTING

ISO 525

Abrasive material				White corundum	Sintered corundum and white corundum	White corundum
Grain size				46	60	80
Shape	Disc Ø	Disc thickness	Bore Ø	69496	69496	69496
	mm	mm	mm	Ref. no.	Ref. no.	Ref. no.
1	200	20	51	611	616	621
1	200	25	32	641	646	651
1	225	25	51	671	-	681
1	250	25	76.2	700	705	710
1	300	30	76.2	730	735	740
7*	300	50	76.2	760	-	770
1	350	50	127	800	805	810
1	400	50	127	830	835	-
1	400	50	32	-	-	840

* Recess on both sides: 155 x 10 x 10 mm

metabo

KFM 18 LTX 3 RF cordless laminate trimmer

WORLD'S FIRST CORDLESS LAMINATE TRIMMER



Application:

Compact metal laminate trimmer for 45° chamfers and radii of 2 to 3 mm on visible edges

Design:

- Oxide-free and burr-free surfaces in ideal preparation for applying powder or paint coatings for maximum corrosion protection
- One-touch controller: Patented tool-free milling depth adjustment in 0.1 mm increments; stop points for short adjustment times, which prevent accidental adjustment of cutting depth when working
- Slimline milling head with standard carbide indexable inserts and thrust ball bearings for working on pipes and on curved surfaces
- Guide stop for uniform work results and high surface quality when processing straight metal sheets
- With soft start and restart protection

Scope of delivery:

2 each of carbide indexable inserts 45° chamfer, radius R2, radius R3, guide stop, screwdriver, dust filter, additional VibraTech handle, 2 LiHD battery packs, ASC 30-36-V charger, in MetaLoc case

Type of rechargeable battery/battery		LIHD
Rechargeable battery/battery capacity	Ah	5
Battery voltage	V/AC	18
Max. idle speed	rpm	7000
Max. 45° chamfer height	mm	4
70377	Ref. no.	500

LiHD battery pack for ultimate performance and extremely long runtime with minimal heat generation

metabo

WB 18 LTX BL 125 "Quick" cordless angle grinder

INCL. 10 ATORN CUTTING DISCS Ø 125 MM



Advantage of the angle grinder:

- Unique encapsulated Metabo brushless motor with optimum dust protection
- **Perfect user protection** due to the rapid braking system with safety spindle, electronic safety shutdown and restart protection
- **Quick system** for tool-free disc replacement at the touch of a button due to quick-clamping nut

Advantage of ATORN cutting discs:

- Particularly suitable for machining stainless steel
- Iron- and sulphur-free
- Incl. storage box

ATORN cutting discs, pack of 10		
Disc Ø	mm	125
Disc thickness	mm	1
Shape		Straight
Max. rotation speed	rpm	12,200

Scope of delivery:

Cordless angle grinder, protective cover, support flange, quick-action clamping nut, spare handle, dust filter, 2 LiHD battery packs, ASC 30-36 V "AIR COOLED" charger, in MetaLoc case, ATORN cutting disc box

Battery capacity/nominal voltage	Ah/V	5.5/18
Sanding disc Ø	mm	125
Max. idle speed	rpm	9000
Max. rotation speed	rpm	2850
Spindle thread		M14
Weight	kg	2.6
77773	Ref. no.	537

BOSCH

GWS 10.8-76 V-EC cordless angle grinder

WORLD'S FIRST 10.8 VOLT ANGLE GRINDER FOR PROFESSIONALS!

Application:

For grinding and cutting workpieces in tight spaces.

Advantages:

- Small, light, handy and, at the same time, very powerful thanks to the EC motor
- New compact design - optimised for cutting applications
- Permanent spindle lock for easy disc changes

Scope of delivery:

2x batteries, 1130 CV charger, 3 cutting discs (1x Carbide Multi Wheel, 2x Expert for Inox), in L-BOXX

Type of rechargeable battery/battery		Li-Ion
Rechargeable battery/battery capacity	Ah	2
Idle speed in first gear min./max.	rpm	0-19,500
Disc diameter	mm	76
Handle size	mm	160
Weight	kg	0.9
70376	Ref. no.	200

Order the right cutting discs at the same time:
Disc Ø, 76 mm, Multi Wheel, no. 76114 400
Disc Ø: 76 mm, stainless steel, pack of 5, no. 76114 400



metabo

WB 18 LTX BL 125 "Quick" cordless angle grinder

INCL. 10 ATORN CUTTING DISCS Ø 125 MM



incl. extensive accessories

Scope of delivery:

1 abrasive pad, 3 each of grinding discs (K 60, 80, 120, 180), 1 perforated abrasive pad, 3 each of perforated grinding discs (K 60, 80, 120, 180), 1 grinding disc Ø 115 mm, perforated, 2 each of perforated grinding discs (K 60, 80, 180), 1 vacuum device, 1 fixed spatula, 1 E-Cut Long-Life, saw blade (35 mm), 1 Universal E-Cut saw blade (44 mm), 1 E-Cut Long-Life saw blade (65 mm), 1 HSS segmented saw blade, 1 carbide segmented saw blade, 1 HM rasp (triangular), perforated, in plastic case



FMM 350 QSL Top MultiMaster

POWERFUL AND FOR UNIVERSAL USE FOR CONSTRUCTION AND RENOVATION

Design:

- StarlockPlus tool chuck
- Electronic speed adjustment by tachogenerator for constant speed, even under load
- With quick-action clamping system and rubberised handle
- Motor with vibration decoupling
- Ball/needle bearings

- Metal gear head
- Integrated interface for mounting additional system accessories

Advantages:

- Low vibration and low noise
- Robust and durable

Power input	W	350
Vibrations	rpm	10,000-19,500
Abrasive pad across a corner	mm	80
Weight	kg	1.4
70533	Ref. no.	213

LET'S WORK TOGETHER.



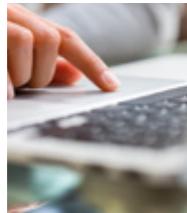
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Prices are subject to VAT.

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FOR UNIVERSAL ROUGH MACHINING AND SMOOTHING



Application:

HPC end mill set with unequal twist and pitch for universal rough and smooth machining.

Design:

- Solid carbide ultra-fine grain, ULTRA coated
- Straight shank in line with DIN 6535 HB
- Unequal twist angle of 35° / 38°
- With edge protection chamfer



Ref. No. 299

Ref. No. 298

Set contents Ø 6–12 mm	each	1x	1x	1x	1x
Cutting edge Ø	mm	6	8	10	12
Cutting edge length	mm	13	21	22	26
Clearance length	mm	19	25	30	36
Total length	mm	57	63	72	83
Clearance Ø	mm	5.8	7.7	9.7	11.6
Shank Ø	mm	6	8	10	12
Feed per tooth – steel < 1000 N/mm ²	mm	0.05	0.06	0.07	0.08
16851	Ref. no.	298			

Set contents Ø 6–16 mm	each	1x	1x	1x	1x	1x
Cutting edge Ø	mm	6	8	10	12	16
Cutter length	mm	13	21	22	26	36
Clearance length	mm	19	25	30	36	42
Total length	mm	57	63	72	83	92
Clearance Ø	mm	5.8	7.7	9.7	11.6	15.5
Shank Ø	mm	6	8	10	12	16
Feed per tooth – steel < 1000 N/mm ²	mm	0.05	0.06	0.07	0.08	0.12
16851	Ref. no.	299				