## jo <sub>ke</sub>

## **Workplace systems** Overview





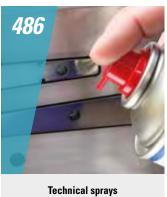
Work chairs





**Engraving ball** 



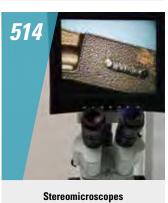
























## Workshop equipment

#### **Ergonomic and convenient work**

We would like you to work at modern workplaces. Workplaces that offer you comfort and make your work a good deal easier. Workplaces that adapt to your needs and deliberately avoid damage to health through compliance with ergonomic requirements.

### Workplaces made by joke

Our workplaces combine modern ergonomic nowledge with requirements based on practice. Modern worktables and tripods are the result, which although they cannot do the work for you, may nevertheless make it a good deal easier. Working with first-rate "hardware" is ultimately a great deal more enjoyable and your body will thank you for it at any rate.

461 Worktables, stands

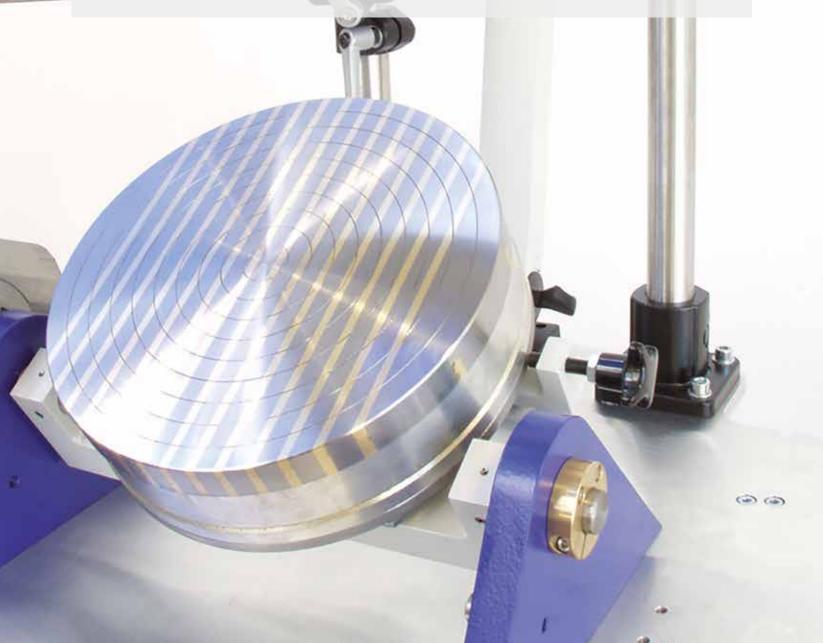
465 Work chairs

466 Clamping devices

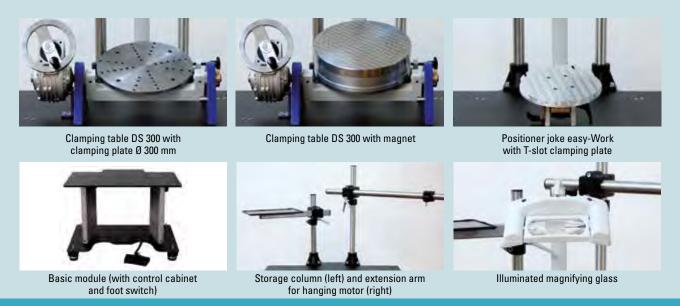
476 Workplace lighting

482 Workshop supplies

**504** Suction units









## Worktable joke Ergo-Work Basic module

#### Worktable joke Ergo-Work

Maximum flexibility thanks to the modular system. The joke Ergo-Work worktable can be perfectly adjusted to your requirements – simply choose the accessories you need to create your perfect workplace. The worktable adjustable in height by 355 mm, with a choice of milled aluminium or powder-coated steel tabletop, always forms the basis in this case.

All the optionally available accessories can be attached to this table: from device receptacles for the ENESKA systems and the jokeFlex motor unit to the illuminated magnifying glass to give you the perfect view of your workpiece. Everything travels together with the worktable with millimetre precision to the desired working height. The upwards and downwards movement is controlled by hand or foot switch.

Two rotating and pivoting units are provided for receiving tools: The DS 300 clamping table provides a firm grip for large, heavy workpieces whilst the easy-work rotating and pivoting unit hold (light to medium-weight) workpieces. Furthermore, the worktop can be fitted with a conventional bench vice or another rotating and reversible clamping device.

#### Highlights:

- perfect working position at all times owing to simple electric height adjustment
- · modular system guarantees maximum equipment flexibility
- wide range of matching accessories

Note: the scope of supply does not include accessories, work chair and pivoting unit

	oo, trom onan ana process			
				Price from
			Order No.	1 piece
Worktable joke Ergo-Work				
	Dimension (W x H x D): Dim. tabletop (W x H x D): Height adjustment: Max. load: Supply voltage: Connected load: Scope of delivery:	970 x 1,600 x 680 mm 950 x 500 mm 695 to 1,050 mm, continuously adjustable 200 kg (at the centre of the worktop) 230 V, 50/60 Hz 400 W (excl. accessories) Excl. accessories and pivot unit with steel tabletop	0 200 850	

### \* Accessories / spare parts

			Price from
		Order No.	1 piece
Hand switch			
1	to control up and down movement, incl. 1 m cable	0 200 852	
Foot switch			
	to control up and down movement by foot, incl. 1 m cable	0 200 853	
Socket strip, 6 -point			
		2 017 751	



## Worktable joke Ergo-Work Basic module

### \* Accessories / spare parts

			Price from
		Order No.	1 piece
Storage table			
-	incl. cross clamping unit, height locking, stainless steel tube and tray	0 200 856	
Left-/right-hand column	for trays		
	incl. attachment base and stainless steel tube 500 mm	0 200 855	

#### Left-/right-hand column for hanging motor



incl. attachment base and stainless steel tube 700 mm 0 200 857

#### Cantilever arm for hanging motor



incl. cross clamping unit, height locking, stainless steel tube and receptacle for hanging motor

0 200 858

0 200 560-LED

#### Illuminated magnifying glass LED Premium

Material:



Equipment: LED's, energy efficiency class A+ Colour temperature:

4,000 K

Mains connection cable: ca. 3 m, earthing plug

steel tubing, powder-coated

Articulated arm range: 700 mm

LED-light segments switchable in multi stages

Light output: Lamp cover: shade, matt Joint relief: spring 60°/310° Pivoting range:

360° magnifying glass Rotation range:

Protection class: IP 20 Protection: Power input: about 12 W Dimensions of lens: 162 x 105 mm

Dioptres, lens: Supply voltage: 220 - 240 V / 50/60 Hz

Weight: approx. 4.5 kg Colour: RAL 7035

Specific features: light segments can be switched seperately, excelent colour reproduction, RA > 95

### Clamping table joke DS 300, without base plate



With clamping plate  $\emptyset$  300 mm with grid holes M10 and receiving holes for magnets

0 200 300-1

Rotation range:

Pivoting range: 0-100° through gearing mechanism

Weight: approx. 28 kg









## Worktable joke JT

### The worktable enables ergonomic work through electric height adjustment.

- Load-bearing capacity 400 kg
- Electric height adjustment between 650 and 1,280 mm
- Speed of 23 mm/sec.

Worktable joke JT 400

- Memory control
- Ideal for use in the industrial sector and the electronic and pharmaceutical industry
- Electrical connection 230 V / 50 Hz

### Optionally available:

- On castors
- Heavy-duty table
- Perforated walls
- Power strips
- Base cabinet





Price from

Order No.

. 1 piece

#### Worktable JT 400 with beech Multiplex tabletop 40 mm



Number of lifting jack columns:

Lifting system:

Operator control element: Load-bearing capacity kg:

Max. speed without load: Stroke length: Dimensions (W x D): s: 4

Up / Down memory control

400 23 mm/sec. 630 mm 2,000 x 750 mm 0 200 847-7



Number of lifting jack columns:

Lifting system:

Operator control element: Load-bearing capacity kg:

Max. speed without load: Stroke length:

Dimensions (W x D):

F۱۵

Up / Down memory control

400 23 mm/sec.

630 mm 1,500 x 750 mm 0 200 848-7



## **Standing aid**

#### Standing aid

Even if you prefer to stand whilst working instead of sitting down – you still need the necessary support. Our standing aid relieves you during stand-up jobs resulting in enhanced efficiency with fewer inactivity periods due to injuries caused by poor posture.

- Integral foam padding
- Seat inclination 2-15° forwards
- Circular base with PU rim (anti-slip)
- Seat height adjustment by means of a pneumatic safety spring
- optimal as a supplement for your workplace

				Pi	rice from
			Orde	er No.	1 piece
Standing aid					
	Seat height:	630 – 850 mm	0 20	0 419	
	Seat surface (W x D):	390 x 350 mm			
	Circular base:	Ø 430 mm			

### **Work chairs**

#### Work chairs

The fact that healthy, proper sitting posture is a prerequisite for an ergonomic workplace is no secret in today's working world. Yet only very few companies pay attention to this basic principle.

Our joke work chairs actively contribute to maintaining your health. The contact backrest with adjustable pressure constantly adapts to your sitting position and ensures that your spine is supported in every position. Our contribution to active prevention of back injuries: take a seat, please.

- Adjustable backrest pressure
- Backrest inclination 10° in both directions
- Seat inclination 7° forwards, 4° rearwards
- Integral foam upholstery
- Seat height adjustment by means of a pneumatic safety spring
- Circular base with PU rim (anti-slip) for a secure hold

			Price	from
			Order No. 1	piec
Work chair joke Staı	ndard			
-	Seat height: Seat surface (W x D): Circular base:	450 – 630 mm 460 x 435 mm Ø 430 mm	0 200 413	
Work chair joke Extr	a-high			
2	Seat height: Seat surface (W x D): Circular base:	630 – 880 mm 460 x 435 mm Ø 560 mm	0 200 414	



## Positioner joke easy-Work for attachment to table

#### Positioner joke easy-Work

Compact and very flexible to use: the small rotating and pivoting unit unit joke easy-Work can be attached quickly and securely to almost any table by means of the drillings, such as the large joke Ergo-Work worktable.

The optionally available T-slot clamping plates ensure make fixing the workpieces child's play. These plates are made from aluminium and are optionally available in square or round shape.









360° rotation range 90° pivot range

Price from Order No. 1 piece joke easy-Work positioner with magnet Ø 125 mm 0 200 872 Rotation range: manually through 360°



 $0-90^{\circ}$  manually Pivoting range: Dimensions (W x H x D): 200 x 160 x 250 mm approx. 11 kg Weight: Clamping system: Magnet Ø 125 mm

				Price from
			Order No.	1 piece
joke easy-Work positioner with T-slot clamping	plate, round			
	Rotation range:	360° manual	0 200 873	



Pivoting range:  $0-90^{\circ}$  manual Dimensions (W x H x D): 250 x 130 x 250 mm Weight: approx. 8 kg Clamping system: T-slot clamping plate, Ø 248 mm



## Clamping table joke DS 300

0 200 300

#### Clamping table joke DS 300

Workpieces of up to 200 kg can be clamped to the DS 300 clamping table, pivoted within a range of 0 to 100° and rotated by 360° on the turntable. The turntable locking and selflocking pivoting drive ensure a secure hold of the workpiece in any working position. The grid hole clamping plate with M10 tensioning medium can be used to clamp any workpieces easily. A selection of different magnetic chucks is available that can be directly screwed to the table.



	Price from
Order No.	1 piece

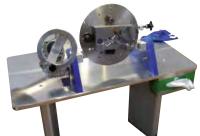
#### Clamping table joke DS 300



With Ø 300 mm support plate to hold different magnetic chucks. Grid holes M10 4 x 90° for mechanical clamping without magnetic chucks.

Dimensions base plate: 470 x 420 mm Height turntable: approx. 130 mm Weight: 46 kg

			Price from
		Order No.	1 piece
Clamping table joke DS 300, without base plate			
	With clamping plate Ø 300 mm with grid holes M10 and receiving	0 200 300-1	



holes for magnets

360° manual Rotation range:

0-100° through gearing mechanism Pivoting range:

Weight: approx. 28 kg

### \* Accessories / spare parts

						Price from
V	Weight [kg]	Dimensions	Clamping force	Pole pitch	Order No.	1 piece
Round magnets for joke DS	300 clamping ta	ible				
9	9 kg	Ø 160 x 75 mm	120 N/cm <sup>2</sup>	6 + 1.5 + 2 +1.5	0 200 314	
1	13 kg	Ø 200 x 80 mm	120 N/cm <sup>2</sup>	8 + 5	0 200 313	
2	20 kg	Ø 250 x 80 mm	120 N/cm <sup>2</sup>	8 + 5	0 200 312	
2	29 kg	Ø 300 x 85 mm	120 N/cm <sup>2</sup>	8 + 5	0 200 310	



# **Clamping table** joke DS 400-E

Clamping table joke DS 400-E
The clamping table can be rotated and swivelled, automatically rotated by motor drive and has a sturdy stand with fixing elements. Speed and direction of rotation are selectable.

 $\dot{\text{Can}}$  be used with a clamping plate or magnet.

				Price from
			Order No.	1 piece
Clamping table joke DS 400-E				
	Rotation range:	360° via motor	0 200 301	
	Rotation speed:	3.7–37 rotations per minute		
	Swivel range:	0–90° via gear		
	Max. load:	50 kg		
	Dimensions:	700 x 530 x 500 mm		
	Weight:	9 kg		
	Power supply CEE:	3 x 440 V 50 Hz		
	Power:	0.37 kW		



## \* Accessories / spare parts

D.		Order No.	1 piece
D: .			
D: :			
Dimensions: slots: mounting holes:	Ø 400 x 12 mm 10.5 mm M10	0 200 301-5	
2-button foot switch		0 200 301-6	
Left button:	Start/Stop rotation		
Right key: rotation	Change of direction of		
	2-button foot switch Left button: Right key:	2-button foot switch Left button: Start/Stop rotation Right key: Change of direction of	2-button foot switch Left button: Right key:  M10  0 200 301-6  Start/Stop rotation Change of direction of

## **Clamping table** joke DS 200

0 200 303

0 200 320-1

With 200 mm mounting plate for receiving various magnetic chucks. Clamping disc with M6 grid holes for mechanical clamping without magnetic chuck. Incl. 4 stepped jaws and 4 clamps

				Price from
			Order No.	1 piece
Clamping table joke DS 200				
	Dimensions base plate: Weight: Rotation range: Swivel range:	250 x 280 mm 9 kg 360° manual 0–100° via gear	0 200 302	



	Price from
Order No.	1 piece

Clamping table joke DS 200-E

Dimensions base plate: 250 x 280 mm Weight: 12 kg

Rotation range: 360° via motor Rotation speed:

3.7–37 rotations per minute 0-90° via gear

Right key:



	01 6	0.000.004.0	
Foot control for DS 200-E and DS 400-E			
		Order No.	1 piece
			Price from



2-button foot switch 0 200 301-6 Left button: Start/Stop rotation

Change of direction of rotation

Three-jaw chuck Ø 125 mm



Ø 4–125 mm Clamping: Pitch circle: Ø 108 mm Number of bores: 3 x M8 Total height with jaws: 85 mm Total height without jaws: 58 mm



## **Positioner** joke Junior

Positioner joke Junior
For flexible polishing of smaller workpieces: the ball joint can be rotated in all directions and fixed with a clamping lever. In addition, the magnet can be rotated by 360° and fixed using a clamping lever.

				Price from
			Order No.	1 piece
Positioner joke Junior				
	Freely rotatable ball joint, rotation range magnet: Magnet dimensions: Ø 125 x 48 mm Pivot range: 0–55°	360°	0 200 049	

## **Ball joint vices** JUNIOR

					Price from
			Design	Order No.	1 piece
JUNIOR ball joint vices					
	JUNIOR ball joint vice	with rippled hardened steel jaws.	for clamping	0 200 055	
	For clamping to workt Jew width: Clamping length: Clamping depth: Inclination:	tops up to 75 mm thick. 80 mm 65 mm 50 mm ± 50°	for screwing in position	0 200 056	





# Magnetic clamping ball joke Magic-3D

Clamping magnet with 3 directions of movement in X = 360°, Y = 230°, Z = 230° Fastening of the bracket by integrated 2nd magnet, by 3 screws or 3 pads

sphere diameter: 50 mm
Clamping surface diameter: 20 mm
Positioning force: 16 N
weight: only 125 g

		Price from
Dimensions	Order No.	1 piece
Magnetic clamping ball joke Magic 3D		
Ø 50 mm	0 200 319	







# **Precision grinding and control vices** joke Junior

Ground on all sides for 4-side processing, hardened steel, with prism jaws, draw-down clamping system, accuracy 0.005 mm.

						Price from
	Jaw widths	Clamping length	Jaw height	Dimensions	Order No.	1 piece
Precision grinding and	control vice					
	25 mm	20 mm	9 mm	29 x 65 mm	0 200 341	
1	48 mm	70 mm	25 mm	50 x 140 mm	0 200 342	
=	63 mm	87 mm	32 mm	63 x 175 mm	0 200 343	

Ground on all sides for 4-side processing, hardened steel, with prism jaws, accuracy 0.005 mm.

						Price from
	Jaw widths	Clamping length	Jaw height	Dimensions	Order No.	1 piece
Precision machine vice	•					
	48 mm	65 mm	25 mm	50 x 150 mm	0 200 347	
0-	4.					





## Magnetic clamping balls joke Magic-Ball

#### Magnetic clamping balls joke Magic-Ball

Comfortable and ergonomic 3-dimensional work. Ideal for polishing and welding workplaces. The Magic-Ball magnetic clamping balls bring your workpiece into almost any desired position. Depending on the workpiece geometry and weight, pivoting angles of up to 90° can be set. The balls are enclosed in leather-lined, chemically nickel-plated steel rings that hold them absolutely securely in any position – the sliding adhesion effect makes it possible! The powerful magnetic chuck of the Magic-Ball is activated using the key supplied (partial activation is also possible for optimum positioning of the workpiece). The balls available in four sizes are all of "Made in Germany" quality.



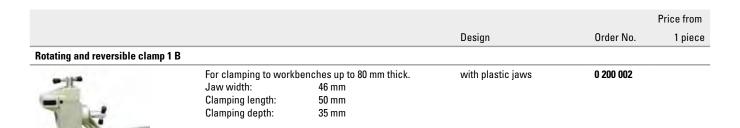
						Price from
	Dimensions	Clamping force	Pole pitch	Weight	Order No.	1 piece
Magnetic clamping balls joke Magic-Ball						
	magnet (Ø): 80 mm ball (Ø x H): 128 x 104 mm	80 N/cm <sup>2</sup>	1.5 + 0.5 mm	ball: 4 kg ring: 1 kg	0 200 323	
	magnet (Ø): 100 mm ball (Ø x H): 158 x 129 mm	100 N/cm <sup>2</sup>	1.5 + 0.5 mm	ball: 7 kg ring: 2 kg	0 200 324	
	magnet (Ø): 130 mm ball (Ø x H): 188 x 145 mm	100 N/cm <sup>2</sup>	1.5 + 0.5 mm	ball: 11 kg ring: 4 kg	0 200 325	
•	magnet (Ø): 160 mm ball (Ø x H): 218 x 164 mm	100 N/cm <sup>2</sup>	1.5 + 0.5 mm	ball: 17 kg ring: 5 kg	0 200 326	



The magnetic chuck is activated using the key supplied



## **Vices**





For clamping to work	benches up to 80 mm thick.	with aluminium jaws	0 200 015
Jaw width:	80 mm		
Clamping length:	100 mm		
Camping depth:	52 mm		

## \* Accessories / spare parts

		Price from
Design	Order No.	1 set
Replacement jaws for rotating and reversible clamp 1 B		
plastic	0 200 030	
Aluminium	0 200 031	
Replacement jaws for rotating and reversible clamp 2 B		
plastic	0 200 032	
Aluminium	0 200 033	



# **Engraving Ball** unlimited clamping options

#### **Engraving Ball**

This engraving ball has a painted, non-reflecting surface. It provides unlimited clamping options for holding tools securely. It also has holes for mounting additional tools. The upper part has an adjustable brake, which allows it to be either fixated or rotated around its own axis. The ball has a stable seating, but can still be swiveled in all directions. The centrally adjustable, self-centering jaws with prisms also enable round workpieces to be clamped.

				Price from
		Dimensions	Order No.	1 piece
Engraving Ball				
	The engraving ball has a maximum opening of 85 mm. The wide range of accessories includes:	Ø 150 mm	0 200 329	



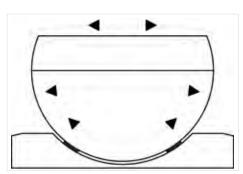
upper part with locking brake, including clamping key, 2 mounting plates, rubber pads, 4 pins and a 30-part set of accessories.



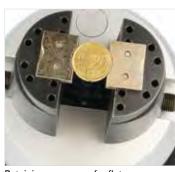
Felt-padded retaining accessory



Mould jaws made of modelling granulate



- Ball freely rotatable and pivotable
- Top section rotatable through 360°



Retaining accessory for flat, round components



Mounting via retaining pins



## Illuminated magnifying glass LED illuminated magnifying glass

#### LED illuminated magnifying glass

A classic meets high technology. 60 LED's create a fantastically bright light while saving power and have a very long life. 2.25 x magnification can be achieved with the real glass, 5-dioptre magnifying glass. The flexible, 860 mm-long articulated arm rapidly brings the magnifying glass into any desired working position. We have something else for you in addition to all the technical highlights: the price.

ED illuminated magnifuing glass		
	Order No.	1 piece
		Price from

#### LED illuminated magnifying glass



60 LED's / 800 lm 0 200 575-3 Equipment: Colour temperature: 6500 K

Material:

head: plastic, articulated arm: steel tubing

Articulated arm range: 860 mm Plastic shade Lamp cover: Lens dimensions: Ø 152 mm Lens dioptre:

Magnification: 2.25 x 230 V, 50/60 Hz Connection: Weight: 3,7 kg

60 LEDs for optimum, energy-saving illumination

### Illuminated magnifying glass LED Premium

#### Illuminated magnifying glass LED Premium

This illuminated magnifying glass is characterised by several special features

- A wide range of action even large workpieces can be observed
- A mobile magnifying glass unit workpieces can be observed from any angle
- · Energy-saving, energy efficiency class A+
- Separately switched LED-light segments cause a 3D shade effect that are focused on their structure, this focus shows small errors and differences in the surface structure of an object
- A distortion-free field of vision allows optimum work under the magnifying glass
- · Screw-fit lamp foot
- · Ground lens made of optical glass



0 200 560-LED

Price from Order No. 1 piece

#### Illuminated magnifying glass LED Premium



#### Good to know

#### Diopte

denotes the power of refraction of the lens. This value also determines the ratio between the magnification factor and the focal distance.

#### Focal distance

is the distance between the centre of the magnifying glass and the object observed, at which no distortion

#### **Magnification factor**

is the degree of magnification of the object observed.

## How is the magnification calculated?

The following formula can be used to calculate the magnification factor:

No. of diopte

+ 1 = magnifitation factor

The illuminated magnifying glass therefore corresponds to a magnification of:

4 + 1 = 1.79

#### Some further useful tips:

- The focal length and size of the lens decrease with increasing magnification.
- In order to achieve maximum, distortion-free magnification, hold the magnifying glass approx. 25 cm from your eyes.

Equipment: LED's, energy efficiency class A+

Colour temperature: 4,000 K

Mains connection cable: ca. 3 m, earthing plug
Material: steel tubing, powder-coated

Articulated arm range: 700 mm

Light output: LED-light segments switchable in multi stages

Lamp cover: shade, matt
Joint relief: spring
Pivoting range: 60° / 310°

Rotation range: 360° magnifying glass

Protection class: I
Protection: IP 20
Power input: about 12 W
Dimensions of lens: 162 x 105 mm

Dioptres, lens: 3

Supply voltage: 220 – 240 V / 50/60 Hz Weight: approx. 4.5 kg

Colour: RAL 7035

Specific features: light segments can be switched seperately, excelent colour reproduction, RA > 95

### Accessories / spare parts

Table clamp		
	Order No.	1 piece
		Price from

#### . . .

clamping range 0 – 65 mm



#### Clip-on magnifying glass

for clipping to illuminated magnifying glass, lens 4 dioptres, allowing total magnification to

7 dioptres,

dimensions: 162 x 105 mm

0 200 562

0 200 561

477



### Illuminated magnifying glass Magic touch

#### LED illuminated magnifying glass Magic touch

More light per watt. 63 innovative LEDs ensure optimal light conditions with minimised energy usage. Next advantage: service life of at least 50,000 working hours. That means six years of light non stop without any maintenance costs. The show-stopper is the operation via the touch sensor integrated in the lamp head. A gentle touch is enough to turn the light on and off.

Thanks to the high tech optics, the light is precisely focussed and light loss through scattering is drastically reduced. The plastic lens (Ø 72 mm) has a power of 6 dioptres, which means 2.3x magnification of the viewed objects. The lens has a hard coating to prevent scratches. The highquality lens protection cover shields the lens against damage during work breaks. The lamp can optionally be fixed directly onto the workplace with a plastic foot and four screws, or attached using the table clamp available as an accessory.

Order No.	1 piece
	Price from

#### LED illuminated magnifying lamp Magic touch



Equipment: 63 LEDs 4,300 K, neutral white Colour temperature: 400 / 233 mm (flexible/fixed) Swan neck: Lamp service life: at least 50,000 h Dimensions of head/lens: Ø 122 / Ø 72 mm Dioptre lens:

Connection: 100 - 240 V, 50/60 Hz



63 LEDs for as much light per watt



0 200 568

Flexible swan neck for perfect positioning above the material to be tested

### Accessories / spare parts

Accessorie	es / spare parts		
			Price from
		Order No.	1 piece
Magnetic base Ø 89 m	m		
	Suitable for LED magnifying glass Magic touch (0 200 568)	0 200 556	
Magnetic support plat	e 90 x 85 mm		
	Suitable for table clamp (0 200 561)	0 200 542	



Table clamp

clamping range 0 - 65 mm

0 200 561





Further information: joke welding team

Fabian Bickenbach | head of welding technology Tel. +49 2204 893-32 | Mail: f.bickenbach@joke.de

## **Workplace light LJ1** LED version

Price from Order No. 1 piece

#### LED workplace light LJ1









Detailed view of lamp head and housing. Wide beam or spotlight infinitely adjustable.

- Light beam continuously adjustable from wide beam (36°) to spotlight (10°) 0 200 526-7
- Even places that are difficult to reach can be illuminated
- Brighter than a 50 W halogen light with 80 % reduced power consumption
- Flexible, plastic-coated, metal light holder tube (700 mm)
- Switch integrated in light head
- Cooling star and focus made of aluminium (anodised)
- Lamp head and housing made of plastic (oilproof, impactproof, noninflammable)

#### Technical data:

Equipment: 3 watt-high-power LEDs

6,000 K Colour temperature:

50,000 lux (spotlight) Luminosity: 6,000 Lux (wide beam) Angle of reflection: 10° to 36° infinitely adjustable

Bulb life: 35,000 h

Connection: 110 - 240 V, 50/60 Hz

Protection class: IP 20

Scope of supply: Lamp incl. plastic table clamp and magnetic

base

### \*Accessories / spare parts

			Price from
		Order No.	1 piece
Magnetic base Ø 80 mm			
	Suitable for workplace light HJ1 (0 200 533), workplace light KJ1 (0 200 534)	0 200 535	



and LED workplace light LJ1 (0 200 526-7)



### **Workplace light KJ1** Cold light version

Price from

Order No. 1 piece

#### Workplace light KJ1 - cold light, 11 W



- robust 700 mm metal articulated tube (coated) for free mobility of the lamp 0 200 534 head with high positional stability
- fluorescent tube (11 W) for soft, low-shadow and dazzle-free light
- rotatable lamp head

#### **Technical data:**

1 x fluorescent tube, 11 W Equipment:

Colour temperature: 3,000 K Luminosity: 1,150 lux approx. 8,000 h Bulb life: Connection: 230 V, 50/60 Hz

Cable length: 3 m with moulded contoured plug

Protection class: **IP 40** 

Scope of delivery: lamp incl. plastic table clamp

### **Workplace light** LED version

0 200 524

Price from

Order No. 1 piece

#### **LED** workplace light



- Flexible light holder tube
- 3-stage adjustable
- With clamp mounting, max. 45 mm clamping range

### Technical data:

Equipment: 3-watt LED / 350 lm Colour temperature: 5,000 K Connection: USB, 5V 1A / 5V 2A input

## **Workplace light HJ1** Halogen version

Price from

Order No.

0 200 533

1 piece

#### Workplace light HJ1 - halogen, 20 W



- robust 600 mm metal articulated tube (coated) for free mobility of the lamp head with high positional stability
- with protective glass cover

### Technical data:

1 x halogen bulb, 20 W Equipment:

2.800 K Colour temperature: Luminosity: 3,850 lux Angle of reflection: 36°

Bulb life: approx. 2,000 h Connection: 230 V, 50/60 Hz

Cable length: 3 m with moulded contoured plug Protection class: IP 20 (also available in IP 54!)

Scope of delivery: lamp incl. plastic table clamp and protective

glass cover



# **Modeling granules** easily applicable

The plastic already becomes soft and ductile at  $60 \, ^{\circ}$ C. Add the granulate to warm water at max.  $65 \, ^{\circ}$ C. As soon as the granulate has become completely transparent, it can be removed from the water and shaped with the hand. Once completely cooled, the plastic is hard but not brittle.

	oontone.	1 119	0 000 07 1	
	Content:	1 kg	0 960 071	
Modeling granules				
			Order No.	1 piece
				Price from









Raw granulate

Mould jaws

Mobile phone holder







Moulding

Drilling device

Tool handles



### **Precision impression silicone** Provil Novo Light CD 2

#### Precision impression silicone Provil Novo Light CD 2

Work in narrow slots or bore holes is already tricky enough in itself. Yet how can you expect to assess the results if you can hardly see anything during processing? Very simply: with Provil Novo Light CD 2 precision impression silicone.

Behind the somewhat unwieldy name is a very free-flowing silicone that reaches practically everywhere. A precise and fine impression (impression accuracy:  $< 0.1 \ \mu m$ ) of even the most difficult geometrical shapes is achieved, even overhead.

The application system guarantees an absolutely constant mixing ratio for safe, errorfree use: the silicone is evenly expelled from both chambers of the double cartridge by means of a mixing gun and through the mixing canula and is directly applied to the object. Mixing canula attachments can be used in addition for minute cavities.

#### The advantages at a glance:

- Exact replicas with maximum impression accuracy (< 0.1 μm)
- $\bullet$  Extremely simple use without prior knowledge owing to the application system
- No heat generation during use (therefore no influence on the surface characteristics)
- Limited time expenditure + economical
- No hazardous substances, no health and safety risk







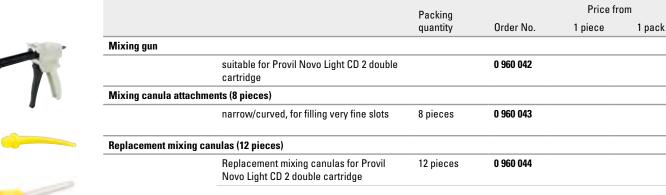
	2 x double cartridges (50 ml respectively) incl. 12 mixing canulas	0 960 041	
Provil Novo Light CD 2 precision impression si	licone		
		Order No.	1 piece
			Price from





			Price from
		Order No.	1 set
E	Starter set, Provil Novo Light CD 2 precision impression silicone		
	2 x silicone incl. mixing gun, mixing canulas (12 pcs.) and attachments (8 pcs.)	0 960 040	









## Cutting oils and pastes, separating agents and sprays

#### Universal cutting oil Solis Ambo N3S

- · Mineral oil-free, chlorine-free, skin-friendly
- Based on sustainable raw materials
- Excellent for drilling, thread cutting, reaming, groove broaching, tapping, turning and milling
- For all alloyed and non-alloyed steels, chrome nickel, titanium, manganese, copper and its alloys



500 ml spray bottle 0	
Universal cutting oil Solis Ambo N3S	
Content O	der No. 1 piece
	Price from

#### Thread cutting paste Solis Pina V4G

- The paste for extremely difficult working processes in which liquid oils do not provide any satisfactory results
- Chlorine-free and odourless
- Excellent for drilling, thread cutting, reaming, groove broaching, tapping, turning and milling
- For rust-free and heat-resistant alloys, molybdenum, manganese, chrome nickel steel, VA and titanium



		F	Price from
	Content	Order No.	1 piece
Thread cutting paste Solis Pina V4G			
	750 g can	0 960 403	

#### **Cutting oil foam Solis Ambo N4G**

- Foam with very good adhesive properties for economical processing
- Mineral oil-free, chlorine-free, skin-friendly
- Excellent for drilling, thread cutting, reaming, groove broaching, tapping, turning and milling
- For all alloyed and non-alloyed steels, chrome nickel, titanium, manganese, copper and its alloys



Content	Order No.	1 piece
		Price from
	Content	

#### High performance cutting oil Solis Ambo M5S

- Increased viscosity for difficult machining tasks
- Chlorine-free
- Excellent for drilling, thread cutting, reaming, groove broaching, tapping, turning and milling
- For all alloyed and non-alloyed steels, chrome nickel, titanium, manganese, copper and its alloys



			Price from
	Content	Order No.	1 piece
High performance cutting oil Solis Ambo M5S			
	500 ml spray bottle	0 960 402	



## **Cutting oils and pastes, separating agents and sprays**

#### Universal oil BALLISTOL

Uniquely versatile and environment-friendly at the same time. This oil cares, lubricates, disinfects, protects against rust, creeps into the minutest corners, has a very low friction coefficient and does not resinify. With all these superb qualities, the oil is fully biodegradable, food-grade, skin-friendly and completely harmless.

Use in industry, trade, hobby and soon with you too.



	200 ml aerosol	0 960 601	
Universal oil BALLISTOL			
	Content	Order No.	1 piece
			Price from

#### Universal cleaner Luxan Clean Uni

- Highly concentrated water-based cleaner
- Dilutable up to 1:40
- Dissolves heavy soiling in seconds
- For removing oil, grease and protein soiling
- For machines and surfaces made of metal, plastic, ceramic and many more



			Price from
	Content	Order No.	1 piece
Universal cleaner Luxan Clean Uni			
	500 ml hand sprayer	0 960 404	
	500 mi nand sprayer	0 960 404	

# **Spray bottles** for decanting cleaners and other liquids

#### **Spray bottles**

for transferring cleaners and other liquids from large containers. Particularly suitable for diamond fluids or lapping fluids such as diamond suspensions soluble in oil or water.



	Price from
	Order No. 1 piece
Pump spray bottle, 250 ml	
	0 580 455
Spray bottle, 100 ml	
	0 580 515-2



## **Food safe cleaning fluid joke** NSF-H1

#### joke NSF-H1,

the spray cleaner for foodstuffs, is the optimally effective cleanser for machines, units and tools in the food, pharmaceutical and fodder industries. It facilitates pore-deep cleaning of tools and also serves as a residue-free, evaporating lubricant for rubber articles (RIM-LUBE). The combination of evaporating ingredients allows a short-term sliding effect, and so prevents later position changes or movement of the rubber parts. Propellant gas: carbonic acid

#### Areas of application

- Metal surfaces on which the use of critical cleaning products is undesirable
- Cleaning of machines, work surfaces and tools in the food processing industry, leisure and domestic sectors
- Cleaning moulds and tools used for processing plastics

#### Properties:

- Removes dirt, oils, hard grease residues, etc.
- Strong removal effect and best cleaning effect
- Approved according to NSF-H1

Older Ne	7 piece 17	z pieces	
Order Ne	7. 1 picce 12	z pieces	
Order No	o. 1 piece 13	2 pieces	
	Price from	Price from	
	Order No		









## **Sprays**

#### Cleaning fluid X 73016-A

For all metals, glass, ceramic and many plastics. Use: cleaning moulds, cleaning machine components, pretreatment of glue points, pretreatment for lacquering. The spray cleaner rapidly evaporates and works without leaving residues. Unlike during use of solvent, no residual layer is left behind. Even removes resinated lubricants. Thermoplastics such as PVC, Plexiglas, polystyrene and simple paint strokes can be dissolved.

		Price from			
	Content	Order No.	1 piece	12 pieces	5 pieces
Cleaning fluid X 73016-A					
The second secon	500 ml aerosol	0 580 521			
	5 I container	0 580 522			
	28 I container	0 580 523-1			
10 Re					
Reinigunge Vissigkel X 200 a. A					

## **Double nozzle** suitable for many spray cans

			Price from
		Order No.	1 piece
Double nozzle			
	Multifunctional spray head for exact dosage in hard-to-reach places or even application through mist spray nozzle	0 580 538	





Even application due to mist spray nozzle



Punctual, targeted application due to spray jet nozzle

## jo <sub>ke</sub>

#### Cleaning fluid X 73020

Finds applications in industry and workshop areas. Owing to its special formula, the spray combines corrosion protection, cleaning, water repellence, lubrication and preservation in a single product. The spray dissolves rust, repels moisture, eliminates squeaking noises, cleans soiled surfaces, protects and cares for all tools and can also do farmuch more. A genuine all-round performer that no workplace should be without.

	400 ml aerosol	0 580 526		
Cleaning fluid joke X 73020				
	Content	Order No.	1 piece	12 pieces
			Price	from





#### Corrosion protection X 73030

With a composition based on synthetic wax and special additives, this spray offers both temporary corrosion protection and preservation of uncoated bright metals. Adheres to all metal surfaces, leaving behind a tacky, flexible protective film, free of silicone or silicone-based products. Seawater-resistant and therefore also suitable for corrosion protection during shipping by sea for example. Ideal for preserving stock items (injection moulds, etc.) and precision components, tools, etc.

			Price	from
	Content	Order No.	1 piece	12 pieces
Corrosion protection X 73030				
	400 ml aerosol	0 580 525		







## **Sprays**

#### Aluminium grinding spray X 73050

The low degree of hardness of aluminium and other non-ferrous metals can lead to clogging of the porces of the processing tool. The simple use of this aluminium grinding spray prevents this and leads to improved stock removal (by up to 350 %!). At the same time, the spray cools the material and reduces the shearing forces during processing. Suitable for use with all grinding media on a base, such as abrasive discs, sleeves, strips etc.

	400 ml aerosol	0 580 529		
Aluminium grinding spray X 73050				
	Content	Order No.	1 piece	12 pieces
			Price	from





#### Diamond compound cleaner joke Magic

This cleaner which is universally usable for all diamond compounds cleans the workpieces without leaving streaks after polishing. Can also be used for cleaning lapped workpieces. The spray is oil and silicone-free and therefore has a very discreet odour. Simple handling with simultaneously high cleaning power make the cleaner indispensable for any polisher.

Content Order No.  Diamond compound cleaner joke Magic	1 piece	12 pieces
Content Order No.	1 piece	12 pieces
	Price	from





## **Protection for the ears**

#### **Headband earplugs**

These earplugs are securely held inposition by the plastic headband – evenin case of rapid or jerky movements. They sit comfortably and pleasantly in the ears and the surrounding volume is reduced by 24 decibels (dB).

	0 960 723	
Headband earplugs		
	Order No.	1 piece
		Price from



#### Super-Fit earplugs incl. box

These tiny earplugs fit so well in your ears that you will probably hardly notice them. In contrast, the astonishing ability to understand speech will be all the more apparent, even though the surrounding volume is reduced by 30 decibels (dB). Supplied with a practical storage box (incl. belt clip) and safety cord.

	0 960 724	
Super-Fit earplugs incl. box		
	Order No.	1 piece
		Price from



## **Protection for the eyes**

#### Protective goggles

- Clear, optically correct, single-piece PC pane
- Scratchproof coating
- Casual design, extremely light (21.5 g)
- Protection against general hazards and flying particles (up to 45 m/sec.)
- Comfort pads on the temple ends
- · Soft nose pad

	ı	Price from
	Order No.	1 piece
Protective goggles		
	0 203 083-1	



## **Protection for the eyes**Protective goggles with progressive lenses

#### Protective goggles JK 16 with progressive lenses

Finally a pair of protective goggles with progressive lenses — that is what the JK 16 from joke offers, making them a good alternative to the "second pair of spectacles" for age-related long-sightedness.

The JK 16 is available in 6 strengths for optimum compensation of visual impairment. With 1.0 to 3.5 dioptres, the spectacles offer maximum wearing comfort coupled with optimum protection.

#### Special features:

- Progressive lenses certified according to EN166 FT.
- Closed side protection with ventilation slots and treatment of the lenses with an antifog coating permanently guarantee a clear view.
- The temples are variable in angle and adjustable in length for optimum wearing comfort.
- These protective goggles weigh a mere 44 g for a strength of +2.5 dioptres and offer overall the optimum prerequisites for fatigue-free work.

#### Scope of delivery:

- Microfibre case
- Spectacle cord (according to EN166)

	Maximum correction in the	Moderate correction in the	Minimal correction in the top		Price from
	bottom part of the lenses	centre of the lenses	part of the lenses	Order No.	1 piece
Protective goggles JK 1	6 with progressive lenses				
	1.0 dioptres	1.0 dioptres	0.3 dioptres	0 960 750	
	1.5 dioptres	1.2 dioptres	0.7 dioptres	0 960 751	
1	2.0 dioptres	1.4 dioptres	0.7 dioptres	0 960 752	
	2.5 dioptres	1.9 dioptres	1.2 dioptres	0 960 753	
	3.0 dioptres	2.3 dioptres	1.4 dioptres	0 960 754	
	3.5 dioptres	2.8 dioptres	1.9 dioptres	0 960 755	





## **Hand protection**

				Price from
	Size	Packing quantity	Order No.	1 pair
Tubular knitted cotton gloves with micro-nubs				
edo ella	10	12 pairs	0 960 704	



#### Tubular knitted cotton gloves with micro-nubs

- Ultrafine cotton with micro-nubs
- Very thin and breathable
- Lint-free
- Good grip owing to vinyl micro-nubs
- Readily adapts to the hand
- Non-reversible

Material, LINER: 100 % cotton with vinyl nubs

				Price from
	Size	Packing quantity	Order No.	1 pair
Maxi-Hit all-round gloves				
	7	12 pairs	0 960 701-7	
	8	12 pairs	0 960 701-8	
	9	12 pairs	0 960 701-9	
	10	12 pairs	0 960 701	
	Maxi-Hit all-round	l gloves		

- Nitrile Foam Technology (NFT) makes these gloves an "all-rounder":
- Abrasion-resistant, pleasant, flexible and breathable
- Liquid repellent
- Hard wearing and sensitive
- Back of hand made of Spandex liner for high stretchability and rapid drying

Material, LINER: 96 % nylon, 4 % elastane with (NFT) nitrile coating

				Price from
	Size	Packing quantity	Order No.	1 pair
Nubbed thermal assembly gloves				
	8	12 pairs	0 960 705-8	
	9	12 pairs	0 960 705	
	10	12 pairs	0 960 705-10	

Material, LINER: 100 % polyacryl liner with foam nitrile



## **Hand protection**

#### Nitrile disposable gloves

Non-powdered gloves in a practical dispensing box (contains 100). Both materials offer extremely good sense of touch combined with flexibility and wearing comfort. The nitrile gloves are not only antiallergic, but also markedly more robust (puncture and tear-resistant) than those made of latex. They furthermore offer protection against solvents, bacteria, paints, alkalis, acids, oils, greases and many chemicals. Length 24 cm

			Price from
	Size	Packing quantity	Order No. 1 pack
Nitrile disposable gloves			
de	L	100 pieces	0 960 706
	XL	100 pieces	0 960 707

			Price from
	Size	Packing quantity	Order No. 1 pair
Ultra Lite PU Hyflex gloves			
Mall	8	12 pairs	0 960 702-8
	9	12 pairs	0 960 702-9
E	10	12 pairs	0 960 702



### Ultra Lite PU Hyflex gloves

- Hard wearing fine knitted nylon with supersoft PU coating
- Maximum wearing comfort and sense of touch
- Lint-free and breathable
- Super sensitive and highly flexible
- · Exact fit and adaptability
- No fingerprints
- Several times reusable

Material, LINER: 100 % nylon with PU coating

				Price from
	Size	Packing quantity	Order No.	1 pair
Gloves with PU fingertips				
2.2	10	12 pairs	0 960 703	
The same of the sa	Gloves with PU fin Fingertips with PU Pleasant to wear Grip only in the fin Exact fit Lint-free Welded in pairs	J coating on fine nylon liner		

Material, LINER: 100 % nylon with PU coating



# **Rotating tool holder** brings tidiness to your workplace

			Price from
		Order No.	1 piece
Rotating tool holder			
1	Rotating tool holder from joke: everything within easy reach	0 200 020	
	Every desired tool is always at hand. Eliminates tiresome searching for the right implement. The rotating tool holder allows accommodation of more than 10 tool units. All the essential utensils for surface finishing (or other working stages) are in one place.		
	The following items are avaible overall:		
JOING STA	• 92 receptacles for tools with a Ø 3 mm or 1/8" shank		
	<ul> <li>13 receptacles for tools with a Ø 6 mm or 1/4" shank</li> <li>7 receptacles for different drills</li> </ul>		
The state of the s	• internal receptacle for tools, Ø 70 x 75 mm deep		
	• Dimensions: Ø 165 mm x 102 mm		

## **Surface protection**

#### Surface protection film

The simplest way of protecting scratch and dirt-sensitive surfaces during further processing, transport or storage. This film is fixed to the workpiece like an adhesive tape and can be detached again, above all absolutely without leaving residues. Suitable for steel, copper, anodised aluminium and glass, etc. Heatresistant between –20 °C and +60 °C.

	Width	Total length	Thickness	Price from Order No. 1 piec
Surface protection film				
	250 mm	100 m	50 μm	0 960 380

## **Waste bags**

				Price from
	Capacity	Content	Order No.	1 piece
Waste bags				
Waste bags	70	1 roll (25 bags)	0 960 458	
Extra strong and tear-resistant     draw-string	120 l	1 roll (25 bags)	0 960 459	
• Two sizes (70 and 120 litres)				



## **Industrial paper**

#### **Industrial** paper

This high-quality blue paper towelling absorbs almost anything, particularly readily and effectively dirt, oils and greases ... highly absorbent and tear-resistant. Supplied on a roll of 1,000 sheets (roll length 360 m). Matching floor stands and wall holders as accessories.

	0 960 450	
Industrial paper roll, 3-layer		
	Order No.	1 piece
		Price from





### \* Accessories / spare parts



		Price from	
	Order No.	1 piece	
Floor stands			
made of metal, blue lacquered Dimensions: 460 x 900 x 440 mm (W x H x D)	0 960 456		
Wall holder			
made of metal, blue lacquered Dimensions: 500 x 312 x 230 mm (W x H x D)	0 960 457		

### **Universal liquid-absorbent mat**

#### Universal liquid-absorbent mat

It mops everything up. Your workplace should no longer be without this mat if you work with oils, lubricants and chemicals. In this way, you can simply and effectively protect floors and working surfaces for example during cleaning, machine repairs and lining tool drawers, etc.

The highly absorbent mat can absorb a tidy 0.86 litres per cloth. It consists of polypropylene and fine fibre layers; a PE film on the back protects against soaking through. Important: the mats are absolutely lint-free.

Application areas: workshops, laboratories, hobby (car, motorcycle), household (oil heating, lawnmower, chainsaw ...).

				Price from
	Dimensions	Packing quantity	Order No.	1 pack
Universal liquid-absorbent mat				
	430 x 480 mm	10 pieces	0 960 500	







Use of sprays



Ultrasonic cleaning





## **Polishing wool**

If it is good for human skin, it cannot fail to be right for technical surfaces. Cotton wool is a universal cleaning aid. A choice between cotton and viscose (rayon) in addition to a "50/50 blend" of both is available. Rayon very rapidly absorbs liquid, whereas cotton stores it longer and offers better cohesion of the fibres. Cotton wool pads (100 % cotton) are available in addition to the loose cotton wool balls.

					Price from
	Design	Material	Content	Order No.	1 pack
Polishing wool					
-	Cotton wool	50 % viscose / 50 % cotton	100 g in the bag	0 960 010	
4		100 % cotton	100 g in the bag	0 960 011	
		100 % viscose	180 g in the bag	0 960 013-1	
	Cotton wool pads	100 % cotton	40 pieces in the bag	0 960 015	

### **Polishing cloths Kleenex**

High quality 3-ply cloth for wiping after polishing and for applying joke Magic very fine polishing suspension (similar illustration).

						Price from
	Design	Content	Colour	Dimensions	Order No.	1 piece
Polishing cloths Kleenex						
	3 layers	72 cloths	white	20 x 20 cm	0 590 602	



## **Cleaning stick**

The lint-free cleaning sticks are highly absorbent and owing to their pointed shape, ideal for use in model and mould making as well as in areas such as optics, laser and microtechnology. The rods have a very dense and firm head made of highest-quality cotton. They are therefore super absorbent, suitable for solvents and retain their shape when wet. Perfect for all cleaning tasks in hard-to-reach areas or for precise application of liquids (e. g. adhesives, resins, alcohols).

		Packing quantity	Order No.	Price from 1 pack
Cleaning stick				
	Sharp head on both sides, Ø 5 x 13 mm, hard, head and stick made of cotton	100 pieces	0 960 003	









## **Cleaning wires**

Flexible and firm at the same time. Particularly suitable for detaching and removing simple soiling in the drilling holes. Trimming made of soft cotton, with and without incorporated bristles (for maximum cleaning power). The wires are resistant against cleaning media and can be used both wet and dry. Available in long (150 mm) and longer (300 mm), conically wound respectively.

					Price from
	Material	Dimensions	Packing quantity	Order No.	1 pack
Cleaning wires					
	Cotton wool without bristles	Ø 4/5 x 150 mm	80 pieces	0 960 005	
and the same of th	Cotton wool with bristles	Ø 4/5 x 150 mm	80 pieces	0 960 006	
CANADA TO THE PARTY OF THE PART		Ø 3.5/5.5 x 300 mm	50 pieces	0 960 007	



Cotton wool without bristles



Cotton wool with bristles

### **Cotton buds**

Familiar in principle to any child. The joke cotton buds have a very dense and firm cotton wool head trimming (small and large version available). With their long wooden shanks, they are markedly superior to PP sticks, since more rigid and resistant to cleaners. Furthermore, their diameter also fits in the collets of our handpieces. Use wet or dry for cleaning and with compound for polishing.



				Price fr	rom
	Design	Dimensions	Packing quantity	Order No. 1 pa	ack
Cotton buds on wooden sticks					
	small head (Ø approx. 4 – 5.5 mm)	Ø 2.3 x 150 mm	100 pieces	0 960 001	
	large head (Ø approx. 10 – 12 mm)	Ø 3 x 200 mm	50 pieces	0 960 002	

## **Hand cleansing cloths**

For mobile hand cleansing; also for cleaning tools and surfaces, without aggressive solvents and alcohol.

- Highly efficient
- effective cleaning of contamination by oils, lubricating greases, wet paints, adhesive, ink, petrol, etc.
- Simple to use, ideal when out and about and wherever no water is available.
- Large cloths (25 cm x 25 cm) in a resealable bucket
- Provided with an abrasive cloth side for improved cleaning performance.



			Price f	rom
	Content	Order No.	1 piece	5 pieces
Hand cleansing cloths				
	70 cloths	0 960 735		



## **Precision gauge tapes** individual and as assortments with sheet sections

Precision gauge tapes and reference sheets

The precision gauge tapes and reference sheets are used for example when dressing moulds and tools, compensating tolerances and readjusting the bearing play of guides and cutting blades, adjustment of devices, etc., etc.

The tapes are supplied in hardened springband steel (material no. 1.1274) or Cr-Ni steel.

In addition to this standard selection, we supply you on request and at short notice tapes and cut sections in widths of up to 300 mm made of different materials such as C steel, stainless Cr-Ni steel and brass.

						Price from
	Thickness	Width	Total length	Material	Order No.	1 piece
Precision gauge tape						
-37	0,005 mm	12.7 mm	5 m	1.4310	0 960 300	
0	0,01 mm	12.7 mm	5 m	1.4310	0 960 301	
	0,02 mm	12.7 mm	5 m	1.4310	0 960 302	
	0,03 mm	12.7 mm	5 m	1.1274	0 960 303	
	0,04 mm	12.7 mm	5 m	1.1274	0 960 304	
	0,05 mm	12.7 mm	5 m	1.1274	0 960 305	
	0,06 mm	12.7 mm	5 m	1.1274	0 960 306	
	0,07 mm	12.7 mm	5 m	1.1274	0 960 307	
	0,08 mm	12.7 mm	5 m	1.1274	0 960 308	
	0,09 mm	12.7 mm	5 m	1.1274	0 960 309	
	0,10 mm	12.7 mm	5 m	1.1274	0 960 310	
	0,12 mm	12.7 mm	5 m	1.1274	0 960 311	
	0,15 mm	12.7 mm	5 m	1.1274	0 960 312	
	0,20 mm	12.7 mm	5 m	1.1274	0 960 314	
	0,25 mm	12.7 mm	5 m	1.1274	0 960 315	
	0,30 mm	12.7 mm	5 m	1.1274	0 960 316	
	0,40 mm	12.7 mm	5 m	1.1274	0 960 318	
	0,45 mm	12.7 mm	5 m	1.1274	0 960 319	
	0,50 mm	12.7 mm	5 m	1.1274	0 960 320	





## **Precision gauge tapes** individual and as assortments with sheet sections

							Price from
	Thickness	Width	Total length	Material	Packing quantity	Order No.	1 pack
Precision underlay foils							
	0,01 mm	50 mm	300 mm	1.4310	10 pieces	0 960 291	
	0,02 mm	50 mm	300 mm	1.4310	10 pieces	0 960 386	
	0,03 mm	50 mm	300 mm	1.1274	10 pieces	0 960 357	
	0,04 mm	50 mm	300 mm	1.4310	10 pieces	0 960 290	
	0,05 mm	50 mm	300 mm	1.4310	10 pieces	0 960 387	
	0,07 mm	50 mm	300 mm	1.1274	10 pieces	0 960 266	
	0,08 mm	50 mm	300 mm	1.1274	10 pieces	0 960 388	
	0,09 mm	50 mm	300 mm	1.1274	10 pieces	0 960 265	
	0,1 mm	50 mm	300 mm	1.4310	10 pieces	0 960 389	
	1,0 mm	50 mm	300 mm	1.1274	10 pieces	0 960 264	



## matching set



		Price from
	Order No.	1 set
Reference sheet assortment, sheets 25 x 300 mm, conte	ents: 21 pieces	
	following thicknesses (in mm): 0 960 330 0.06 / 0.07 / 0.08 / 0.09 / 0.10 / 0.15 / 0.20 / 0.25 / 0.80 / 0.90 / 1.00	
Reference sheet assortment, sheets 50 x 300 mm, conte	ents: 25 pieces	
0.01 / 0.02 / 0.03 / 0.04 / 0.05 /	following thicknesses (in mm): 0 960 331 0.06 / 0.07 / 0.08 / 0.09 / 0.10 / 0.12 / 0.15 / 0.18 / 0.45 / 0.50 / 0.60 / 0.70 / 0.80 / 0.90 / 1.00	



				Price from
			Order No.	1 piece
Tin snips, straight (1 pie	ce)			
	for cutting thin sheeting	]	0 960 326	
	Length:	170 mm,		
	cutting edge length:	50 mm		



## **Assortment case** Raaco boxxser

#### Raaco boxxser assortment case

This handy case with a carrying handle and clever one-hand locking system can be divided using differently sized inserts. The inserts can be purchased individually or in six different set combinations. A grid in the lid and base of the case prevents the inserts from slipping.

### Set A

<b>S1</b>	<b>S1</b>	<b>S1</b>	<b>S1</b>	<b>S1</b>
S	2	S5	<b>S</b> 5	S5
S	2			
	S5			
		33		

 Set B				
<b>S1</b>	S1	<b>S1</b>	<b>S1</b>	<b>S1</b>
<b>S6</b>	S6	S6	S6	\$6

Set C			
S2	<b>S</b> 3		
<b>S</b> 2	\$3		

	0 960 200	
Assortment case		
	Order No.	1 piece
		Price from

Set D					
<b>S1</b>	S1	<b>S</b> 3			
<b>S1</b>	S1	<b>S</b> 3			
<b>S1</b>	S1	<b>S</b> 3			
S2		<b>S</b> 3			
eo .		eo eo			

Set E				
<b>S1</b>	S1	<b>S3</b>		
<b>S1</b>	S1	<b>S</b> 3		
S1	S1	\$3		
S1	S1	\$3		
<b>S1</b>	S1	<b>S</b> 3		

Set F				
<b>S1</b>	<b>S</b> 4			
<b>S</b> 5	<b>S</b> 4			
30	<b>S</b> 4			
CE.	<b>S</b> 4			
<b>S5</b>	<b>S</b> 4			

_	
<b>(i)</b>	Case inserts set (without case!)

					Price from
		Туре	Packing quantity	Order No.	1 se
Case inserts set					
	5 x S1, 2 x S2, 2 x S4, 4 x S5	А	13 pieces	0 960 230	
	5 x S1, 5 x S6	В	10 pieces	0 960 231	
	5 x S2, 5 x S3	С	10 pieces	0 960 232	
	6 x S1, 2 x S2, 5 x S3	D	13 pieces	0 960 233	
	10 x S1, 5 x S3	E	15 pieces	0 960 234	
	1 x S1, 5 x S4, 2 x S5	F	7 pieces	0 960 235	



### **Assortment case** Raaco boxxser

## \* Accessories / spare parts

The case can be subdivided internally with inserts by means of a grid system (5 x 5 fields). Each grid has a dimension of  $39 \times 54$  mm (D x W).

#### Overall internal case dimensions:

Depth: 5 x 39 mm (195 mm) Width: 5 x 54 mm (270 mm)

				Price from
	Туре	Dimensions	Order No.	1 piece
Case inserts				
	S1	47 x 54 x 39 mm	0 960 221	
	S2	47 x 108 x 39 mm	0 960 222	
	S3	47 x 162 x 39 mm	0 960 223	
	S4	47 x 216 x 39 mm	0 960 224	
	S5	47 x 54 x 78 mm	0 960 225	
	S6	47 x 54 x 156 mm	0 960 226	





## **Compressed air spray can** refillable

#### Compressed air aerosol

Using this refillable aerosol, most liquid materials can be processed (ideal for spray-on oils, cleaners or cooling lubricants). This saves you a good deal of packaging waste and various different active substances can be economically refilled from large containers. Handling is child's play: the material is filled into the aerosol from above and charging with compressed air is performed through the base valve by means of the matching compressed air service station (optimum operating pressure 5–10 bars). Only the pure active ingredient and no compressed air is sprayed during use!





## Compressed air spray can refillable

Price from Order No. 1 piece

Compressed air spray can



Filling quantity: 400 ml, refillable from above, compressed-air filling viabase valve and the matching compressed-air service station, supplied incl. 2 valves and 4 spray heads

				Price from
		Order No.	1 piece	1 set
Compressed-air service	station			
	for direct connection to the compressed-air network by means of a push-fit nipple, hose length approx. 0.5 m. For filling, the compressed-air aerosol is pushed into the service station. After the filling operation (approx. 8–10 seconds), the valve closes automatically. The service station can remain on the compressed-air network.	0 960 611		
Spray head valve set				
6 .	consisting of four different spray heads and a ball valve with a suction tube	0 960 615		



### **Suction units**

#### joke Suction units

... Laser emissions, dust and fine particles, solvents, adhesive vapour, solder vapour/ welding vapour ...

at least one of these or some other pollutions also occur daily in your working environment. You should do something about them in order to avoid damage to health.

With a suction unit from joke, you create the optimum conditions for "good air" at the workplace – even if you ever "let it fly".

With us, you have a choice between two suction systems:

- JF Compact with favourably priced entrylevel products
- JFD Premium as a highly efficient system with comprehensive equipment details (high filter capacity, filter monitoring, serial interface for remote control)

Both systems can be configured with two filter modules. Suspended matter filter for dusts/fine particles and all particles that arise in mechanical processing sequences.

The activated charcoal filter is used wherever solvents, adhesive vapours, soldering vapour, smoke and similar gaseous pollutions arise. It eliminates or reduces them to a minimum.

Owing to the high density of the filters used, a very high level of separation of the particles and contaminants to be aspirated is achieved. The filters can be combined as individual modules and are easy to replace. Consequently, if replacement is required, you only actually need to change the saturated filter, whereas the remainder can continue to be used.

The turbine cooling (bypass cooling) inside the devices ensures very long services lives of the turbine units, even during constant use. The modular construction allows effective adaptation to individual requirements.





#### Things to know about contaminants at the workplace and use of suction units

Aerolsols consist of a large number of dust and smoke particles of different diameters. They occur during production processes such as milling, drilling, laser work, cutting, soldering and engraving, etc. The particle size is indicated in micrometres ( $\mu m = 10^{-6} \, m$ ). Contamination of the respiratory tracts depending on the particle size is shown in the diagram opposite.

#### Maintenance intervals of the filters

With a properly dimensioned unit, the following intervals result for the individual filter types, depending on the contamination:

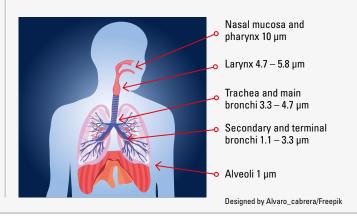
• Z-line filter:

4-8 months

suspended matter filters:activated charcoal filters:

4-8 months 6-12 months

Without a change of filter, no protection of your health exists!





## **Suction units** joke JFD Premium

			Price from
	Design	Order No.	1 piece
Suction unit joke JFD Premium			



Suction device with initial filter equipment and filter monitoring, continuously adjustable, operating hour counter, 4 castors for mobile use, without accessories

with suspended matter filter 0 200 250-1 with activated charcoal filter 0 200 250-ZA

System with W3 certification and HEPA H13 filter

Technical data:

Suction capacity, free-blowing: 320 m³/h
Suction capacity, effective: 50 - 250 m³/h
Max. compression: 20,000 Pa
Motor: constant running
Connection: 100 - 240 V, 50/60 Hz

Motor output: 1.1 kW

Noise level: approx. 62 dB(A)

 Weight:
 approx. 40 kg (0200 250-1)

 approx. 55 kg (0 200 250-ZA)

 Dimensions (W x H x D):
 350 x 785 x 350 mm (with

 activated charcoal filter:
 350 x 1,050 x 350 mm)

Colour: RAL 7035
Suction connectors: 3 (rear)
Suction connectors for arm: 1 (top)

Filter equipment:

(0200 250-1) suspended matter filter H 13 2.4  $m^2$  + z-line filter (0200 250-ZA) activated charcoal filter + suspended matter

filter + z-line filter



System with W3 certification and HEPA-H13 Filter



			Price from
		Order No.	1 piece
Suspended matter filter	; 300 x 300 x 78 mm		
		0 200 246	
Z-line filter, 300 x 300 x	145 mm		
	for units built before 2017	0 200 245-N	
Z-line-filter plus, 300 x	300 x 225 mm		
	for units built after 2017	0 200 245-3	

### Activated charcoal filter, 295 x 295 x 20 mm $\,$



0 200 240-1

#### Suction arm for mounting on device



850 mm long, 3 articulations, with damper cap, anodised aluminium tubes

0 200 266





0 200 080

3326,00€

## low noise, energy saving - additional working space

#### Suction unit joke eco 20

Suction device with initial filter equipment and filter monitoring, continuously adjustable, operating hour counter, 4 castors for mobile use, without accessories, with suspended matter filter H13, z-line filter and activated charcoal filter.

#### additional advantages:

- additional work surface for e.g. space-saving installation of compact lasers
- large pre-filter to increase the service life of the suction unit
- · energy saving, powerful and silent

Order No.	1 piece
Urder No.	i piece

#### Suction unit joke eco 20 with suspended matter filter H13, z-line filter and activated charcoal filter



Air volume flow with free air delivery: 350 m³/h
Effective air volume flow: 100 - 300 m³/h
Max. static pressure: 6,000 Pa

Drive type: continuous running Voltage:/ Frequency 100-240 V, 50/60 Hz

 Motor output:
 0.6 kW

 Sound level:
 approx. 53 dB(A)

 Weight:
 approx. 125 kg

 Dimensions (HxWxD):
 780 x 710 x 700 mm

Color: RAL 7035
Suction connectors: NW 100 (1x)
Filter equipment: Z-line filter

(0 200 084): + H13 (0 200 083): + activated charcoal 26 L (0 200 082)





### **Easy filter changing**

When a filter is saturated, it can be replaced cleanly and safely via the front doors of the individual filter stages. The other filters remain as they are in the system.

#### Space-saving base-type laser system

The Desk series was specially developed as a base-type unit for compact lasers with a maximum base area of 700 x 700 mm. It enables space-saving setup and replaces an otherwise necessary worktable. Expansions for larger lasers can be individually upgraded. Adaptations to applications are easily possible.



#### Low noise and energy saving

The series, as "Green Line", stands for especially environmentally friendly. We have developed this series especially with environmental protection in mind, so that it consumes les electricity than conventional extraction systems.



The **energy-saving and noise-reduced blowers** used (approx. 53 db(A)) are hardly noticed in noise-sensitive environments such as laboratories and offices. **Energy savings of up to 65** % are possible.



#### Quiet

### Works efficiently without making a lot of noise

- can hardly be heard in the working environment
- energy-saving motor
- only 53 dB(A)



#### **Applications: Laser technology**

Lasers are used for processing metals, woods and plastics. Due to this versatility, companies are intensively involved in laser technology. This not only increases efficiency, but also creates unwanted by-products, regardless of type and performance. joke systems ensure safe extraction of fine dust and laser fumes.



#### Work processes with vapours/gases

Gases are much more difficult to separate than solid particles. Due to their chemical structure, they can pass through most filters without any problems. Special filters are required to extract gases correctly and reliably.



#### Draws off every harmful particle - pollutants do not stand a chance

- Low-contamination dust disposal
- Molecular sieve against gaseous pollutants
- Piping / Flexible hose / Extraction arm
- Air-recirculation or exhaust-air pipe



Active carbon

### **High adsorption power**

The adsorption of the gaseous substances takes place with activated carbon granules (physical adsorption). It collects a very wide range of gases and odors. If requested, special mixtures are possible that are adapted to each customer's process. For more info ask our sales team.

# **Suction units** joke JF 10 Compact

					Price from
			Design	Order No.	1 piece
Suction unit joke JF 10 Compact					
	table, operating hour cour	filter equipment, infinitely adjus- nter, 4 castors for mobile use, not	with suspended matter filter	0 200 230-3	
	including accessories  Technical data: Suction output, free blowing Effective suction output: Max. compression: Motor: Connection: Motor output: Sound level: Weight: Dimensions (W x H x D):	: 250 m³/h 20 – 200 m³/h 6,000 Pa continuous running 120 – 230 V, 50/60 Hz 0.65 kW approx. < 62 dB(A) approx. 24 kg 300 x 510 x 300 mm	with activated char- coal filter	0 200 230-ZA1	
<b>a</b>	Colour: Suction connectors: Suction connector for arm: Filter (0 200 230-3):	RAL 7035 2 (rear) 1 (top) Prefilter F5 + suspended particle			
	Filter (0 200 230-ZA1):	filter H 13 Prefilter F5 + suspended particle filter H 13 + activated charcoal filter			

*C Accessories / spare parts		
		Price from
	Order No.	1 piece
Suspended matter filter H 13, 250 x 250 x 190 mm		
	0 200 271	
Filter mats F5, 230 x 230 mm (pack: 20 pieces)		
	0 200 257	
Combination filter suspended matter/activated charcoal, 250 x 250 x 190 mm		
	0 200 240-4	
Suction arm for mounting on device		
850 mm long, 3 joints, without throttle valve, anodised alum	inium tubes 0 200 242-3	





### **Suction units** joke JF 5 Compact

				Price from
		Design	Order No.	1 piece
Suction unit joke JF 5 Compact				
	Suction device with initial filter equipment, continuously adjustable,	with combined	0 200 225	



operating hour counter, 4 device feets, without accessories

with combined 0 200 225

filter

Technical data: Suction capacity, free-blowing:130 m³/h

Suction capacity, effective: 20 - 100 m<sup>3</sup>/h 1,900 Pa Max. compression: Motor: constant running 90 - 264 V, 50/60 Hz Connection:

0.05 kW Motor output: Noise level: approx. 58 dB(A) approx. 17 kg Weight: Dimensions (W x H x D): 300 x 315 x 300 mm Colour: **RAL 7035** 

Suction connectors: 2 (rear) Suction connectors for arm: optional

combination filter: suspended matter/acti-Filter equipment: vated charcoal filter (Order No. 0 200 227)

### \* Accessories / spare parts

			Price fron	n
		Order No.	1 piece	1 set
Lid JF 5 with suction arn	n flex NW50			
	Black, 900 mm, 2 articulations	0 200 185		
Flat shield kit with table	holder			
0	system 50, transparent, 330 x 240 mm, without suction hose	0 200 152		
Hose set				
	length 2.5 m, incl. connecting sleeve	0 200 153	'	
Combination filter: suspe	ended matter/activated charcoal filter			
臣		0 200 227		



#### An electronic display opens up new possibilities!



- Turbine monitoring
- Fault messages
- Speed control by tip function
- Clear and user-friendly visualisation of all data on a colour display







0 200 243

## **Suction units** Accessories

			Price from
		Order No.	1 piece
Suction arm for table mounting			
	850 mm long, 3 joints, with throttle valve, anodised aluminium tubes, incl. table bracket and 2.5 m hose	0 200 268	
Welding nozzle for suction arm			



Suction shield for suction arm Ø 200 mm 0 200 248

310 mm long, anodised aluminium





**Connecting hose NW 44** 

2.5 m, NW 44 connecting sleeves on both sides 0 200 247

#### Connecting hose NW 44/NW50



2.5 m incl. connection sleeve for connecting a suction arm/suction tip outer 0 200 247-3  $\emptyset$  50 mm to a suction system



## **Suction units** Accessories

	Price from
Order No.	1 piece



incl. receptacle for LED protective pane

0 200 514

- For tabletop thickness up to 60 mm
- Suction opening 100 x 80 mm
- Connection for rectangular tube 80 x 30 mm

#### **Suction duct**



Rectangular tube 80 x 30 mm for suction funnel

0 200 515

- Length 500 mm
- For mounting under table
- Suction connectors Ø 37/41mm

#### Reducing sleeve 50/63 to 40/50

For connecting to the suction duct on connecting hose NW 44

0 200 251-3

0 200 510



#### LED protective pane



Optimum protection for your work

- ESG protective pane
- SMD-LED lighting (daylight white)
- Extraction via suction funnel
- $\bullet \ {\bf Bright} \ {\bf and} \ {\bf shadow-free} \ {\bf illumination} \\$
- incl. table stand

Technical data:

Colour temperature: 6,000 K

Luminosity: 2,500 Lux (brighter than two 60 W incandescent bulbs)

Nominal voltage: AC 100-240 V, 50/60 Hz

Operating voltage: 12 V Power consumption: 8 watts

Dimensions: height 205 mm, width 160 mm, thickness 4 mm





4



## jo <sub>ke</sub>

## **Deburring box** JK19



Price from

Order No.

0 200 894

1 piece

#### **Deburring box JK19**



Deburring box JK 19 for connection to an extraction system

With integrated lighting, air gun and access openings with vertical blinds.

Technical data:

Dimensions (W x D x H): 600 x 400 x 300 mm Supply voltage: 230 V, 50 Hz Exhaust air connector: rear Weight: 15 kg

Large working area with small external dimensions.



Fig. Magnifying glass attachment



### **Deburring box** JK15

#### **Deburring box JK15**

The compact, semi-closed unit is designed for use during deburring, polishing and grinding work tasks on small workpieces. The deburring box is used among modellers and mould builders, jewellers, dental technicians, laboratory technicians, etc.

The lighted work chamber illuminated by a pivotable LED light has a compressed-air nozzle with variable air volume, which is adjustable by means of a ball joint. The air nozzle ensures that dust and dirt are directed away from the workpiece towards the suction nozzle. The unit has a connection for 4 mm compressed-air lines and a 4 mm to 6 mm adapter is also included in the scope of delivery.

At the rear, a suction unit can be connected to the exhaust air connector (Ø 57 mm) via a hose.

The polycarbonate shields can be folded open for easy cleaning of the box. The system is rounded off by the folding magnifier, a removable collecting tray and the padded armrests.

Order No. 1 piece	Deburring box 1K15
	Order No.
Price from	

#### Deburring box JK15



with integrated LED lighting, padded armrests, air nozzle and magnifying glass attachment 0 200 896

Technical data:

Air nozzle: Air flow and position adjustable

Air connection: Ø 4 / 6 mm at rear

Magnifying glass: 2.5 x Ø 125 mm / 10 x Ø 25 mm

Exhaust air connector: Ø 57 mm at rear
Dimensions (W x D x H): 270 x 250 x 290 mm
Supply voltage: 230 V, 50/60 Hz

Weight: 5 kg

### Accessories / spare parts

			Price from
		Order No.	1 piece
Flexible reducing sleeve			
	clamping range 48-73mm / 35-60mm	0 200 891	

#### Additional magnifying glass, with vacuum suction cup



for all smooth surfaces

0 200 894-1

magnifying glass:  $2.5 \times 0$  suction cup: 55 mm

2.5 x Ø 125 mm / 10 x Ø 25 mm 55 mm

#### LED spotlight



Super-bright LED spotlight

0 200 894-2

Very flexible due to magnetic base and swiveling possibility

- Daylight quality
- 200 lumens
- 7 watts
- 100/240 V, 50/60 Hz





## **Stereomicroscopes**System overview SM-200 • SM-101 • SM-50







## **Stereomicroscopes** SM-101 • SM-200

#### **Stereomicroscopes**

Our stereomicroscopes are used to visually magnify workpieces or their surfaces for observation and inspection. Furthermore, tasks such as microwelding or polishing work can be monitored and checked in terms of quality directly at the workpiece. You have a choice between the introductory model SM-101 and the thousand times over tried and trusted top model SM-200 with versatile possibilities.

The structure of the stereomicroscopes with two eyepieces and one lens allows threedimensional representation of the surface observed. Consequently, differences in height on the observation level can in particular be plastically detected.

#### Stereomicroscope SM-200

The stereomicroscope universally rotatable, pivotable and movable on columns can also be optimally erected over large workpieces without having to align the workpiece accordingly. The inspection area can be evenly illuminated by means of a ring light attachable to the lens. The working distance is increased to 160 mm when using a 0.5 x lens, which allows working under the microscope.

The optimum magnification for the respective view can be configured using eyepieces and lenses with different magnifying factors.



SM-200 with camera tube



#### Stereomicroscope SM-101

The little brother of the large microscope SM-200 is already equipped as standard with a camera barrel. Otherwise this microscope offers sophisticated technology too at an introductory price. No illumination is included in the scope of supply in the standard version. Suitable LED ring lights or cold light sources from our range can be optionally installed.

The ideal basis for a digital image archiving environment: it is possible to switch over as desired from a stereo view through the eyepieces to camera deployment. In this case, the object is only still visible in one eyepiece. By substituting the glass plate supplied for the black/white working plate, it is also possible to observe objects with the transmitted light method.



### Visible field $m{\varnothing}$ and working distance depending on the magnification

Microscope equipment	Magnification SM-101	Magnification SM-200	Visible field Ø	Working distance
Eyepiece 10 x and lens 0.5 x	3.5 - 22 x	3.25 - 22.5 x	Ø 8 - 54 mm	160 mm
Eyepiece 25 x and lens 0.5 x	8.75 - 56.25 x	8.125 - 56.25 x	Ø 5.3 - 30 mm	160 mm
Eyepiece 10 x and lens 0 x	7 - 45 x	6.5 - 45 x	Ø 4 - 27 mm	90 mm
Eyepiece 10 x and lens 2 x	14 - 90 x	13 - 90 x	Ø 2.6 - 18 mm	30 111111
Eyepiece 25 x and lens 0 x	17.5 - 112.5 x	16.25 - 112.5 x	Ø 2 - 13 mm	25
Eyepiece 25 x and lens 2 x	35 - 225 x	32.5 - 225 x	Ø 1.3 -7 mm	25 mm







Stereomicroscope SM-101 with camera barrel					
Design	with trinocular connection				
Foot plate dimensions	ensions 285 x 238 mm				
Dioptres	−5 to +5 dpt				
Magnification	7 to 45 x				
Working distance	approx. 100 mm (165 mm with 0.5x lens)				
Dimensions	285 x 238 mm				
Weight	5.5 kg				
Scope of delivery	Basic device with 0.7 to 4.5x magnification (continuously adjustable), 2 x eyepiece with 10 x magnification, without lighting				
Order No.	0 200 665-3				
Price					

				Price from
		quantity	Order No.	1 piece
C-Mount Adapter				
-8	0.35x for microscop 101 (0200665-3) Trinocular		0 200 663-1	
Objectiv				
	0.5x for microscop 101 (0 200 665-3) Trinocular		0 200 663-5	
	2.0x for stereomicroscope 101 (0 200 665-3) trinocular		0 200 663-4	



**Stereomicroscopes** SM-200





					Price from
			Design	Order No.	1 piece
Stereomicroscope SM-200					
	Foot plate dimensions: Dioptres: Magnification: Working distance: Travel Fine adjustment: Weight: Scope of delivery:	253 x 253 mm -3 to +3 dpt 3.25 to 225x approx. 30 to 150 mm vert. 430 mm, horiz. 420 mm vert. 66 mm, horiz. 57 mm 25 kg Basic device with 0.65 to 4.5 x magnification (continuously adjustable), 2 x eyepieces with 10 x magnification, lens protection cap, ring light (LED)	without camera barrel	0 200 600	
	Foot plate dimensions: Dioptres: Magnification: Working distance: Travel: Fine adjustment: Weight: Scope of delivery:	253 x 253 mm -3 to +3 dpt 3.25 to 225x approx. 30 to 150 mm vert. 430 mm, horiz. 420 mm vert. 66 mm, horiz. 57 mm 25 kg Basic device with 0.65 to 4.5 x magnification (continuously adjustable), 2 x eyepieces with 10 x magnification, lens protection cap, ring light (LED)	with camera barrel	0 200 600-1	









			Price fro	m
	Packing quantity	Order No.	1 piece	1 set
Rubber protectors				
	2 pieces	0 200 602		
Eyepiece 10 x				
	2 pieces	0 200 609		
Eyepiece 25 x				
	2 pieces	0 200 610		
Objectiv 0.5 x				
		0 200 611		
Objectiv 2.0 x				
		0 200 612		



# **Stereo microscope** with switchable magnetic base and flex arm

#### Stereomicroscope with switchable magnetic base and flex arm

The stand is equipped with a switchable magnetic base. Its high magnetic clamping force of 800 N guarantees a secure hold. The large working distance allows comfortable work under the microscope. The 3-axis flex arm allows setting to any desired position.

				Price from
			Order No.	1 piece
Stereomicroscope, view 45° with switchable m	nagnetic base and flex arm			
	Magnification View Working distance Visual field Magnetic base (WxLxH): Magnetic force Flex arm length L1 / L2: incl. Eyepieces 10x and lens 1x	10x 45° approx. 225 mm approx. 20 mm 50 x 60 x 55 mm 800 N 133 / 113 mm	0 200 601	

Price from Order No. 1 piece

#### Stereomicroscope, view 0° straight, with switchable magnetic base and flex arm



Magnification 10/20x 0°
Working distance approx. 70 mm
Wisual field approx. 10 mm
Magnetic base (WxLxH): 50 x 60 x 55 mm
Magnetic force 800 N
Flex arm length L1 / L2: incl. Eyepieces 10x / 5x and lens 2x



0 200 601-2



## **Digital video camera** for stereomicroscopes

#### Digital image archiving

The stereomicroscopes with a camera barrel are prepared for use with digital cameras.

Using the set of digital video camera and software, you can either cleanly archive the images or additionally process, measure and analyse etc. the latter using the special software. The camera is fitted to the camera barrel of the microscope using the C-mount adapter. The camera can also be installed on conventional microscopes without barrel using the adapter likewise supplied. It is installed in this case in front of the eyepieces of the microscope.

Both cameras can be connected to a PC via USB. The HD camera also enables you to observe brilliant images live on the screen via HDMI or save them on an SD card.

Price from

Order No. 1 piece

0 200 631-2

#### Digital USB-2 camera with software



Live transfer of your microscope results to your PC.

Technical data:

Resolution: 5 megapixels (2,048 x 1,536 px)

Connection: USB 2.0

#### Scope of delivery:

- Image processing software
- USB cable
- 1/2" CMOS for installing the camera on microscopes using a C-mount adapter
- incl. 2 eyepiece adapter Ø 30 and Ø 30.5 mm
- Objectiv 0.45 x 5 fps (2,592 x 1,944 px) 38 fps (640 x 480 px)
- Calibration measuring plate

Price from

Order No. 1 piece

0 200 631-6

#### Multiple HDMI/USB/SD-card microscope camera, HD-Ultra



- Live via HDMI (1980 x 1080) 60 images per second
- Live via USB/PC (1980 x 1080) 30 images per second
- SD card recording format 1980 x 1080, video HD 980 x 1080

#### Scope of supply:

- USB and HDMI cable
- Stand-alone system, work without computer assistance possible
- PC software
- Onboard software / mouse control
- Calibration measuring plate





## Stereomicroscope Display LCD 101 Saving of images and videos

NEW!

This LCD screen can be connected to a trinocular microscope via c-mount adapter or to all conventional microscopes via an eyepiece adapter (0 200 657). Analysing surface structures and micro objects with the LCD 101 screen is easy and convenient. Onboard software allows capturing and saving images and movies to a microSD-card.

Price from

Order No.

0 200 665-5

1 piece

#### Stereomicroscope-Camera with 9" LCD screen



• Full HDMI 1080P, 60 frames per second, video 30 FPS

- Recording format microSD-card
- stand-alone system, working without computer support possible
- onboard software / operation by mouse

Scope of delivery: LCD s

LCD screen 9" incl. USB mouse, on-board control, USB cable



Menues left side & bottom of screen Onboard-Software | Mouse controlled



check captured photos / video records and compare them in split windows

## jo ke

## **LED ring lights** for stereomicroscopes

#### LED ring lights for stereomicroscopes

When working under a stereomicroscope, a good ring light is virtually part of the basic equipment, in order to guarantee correct illumination of the workplace and above all the object being viewed. Up to now, either neon lights or the professional variant cold lights have been used for this purpose.

Thanks to ultra modern LED technology, there is now a great alternative: the new LED ring lights from joke. Owing to their LED's, these are not only brighter and more precise in illumination, they are also more economical and "live" longer.

Two versions of the LED ring lights are available. One with 48 LED's and adjustable luminous intensity. The other version has 60 LED's, switchable in 4 segments, with adjustable luminosity (not in

The ring lights are delivered completely ready to use with everything that you need to mount them on the microscope.



Use of the LED ring light with segmental switching on the SM-200 stereomicroscope

	Price from
Order No.	1 piece

#### Ring light (48 LED's)

segmental operation).



Model 1: ring light with 48 LED's.

Working distance: 50 – 150 mm Internal Ø: 60 mm Colour temperature: 6,000 K

Luminous intensity (adjustable): 12.000 Lux at 80 mm distance

 Bulb life:
 > 100,000 h

 Connection:
 100 – 240 V, 50/60 Hz

 Output voltage:
 24 V, DC, 250 mA

Material: Housing made of robust plastic
Scope of delivery: Power supply unit and connection cable

Price from Order No. 1 piece

0 200 621

#### Ring light (60 LED's), individually switchable in 4 segments



Model 2: ring light with 60 LED's individually switchable in four segments (15 LED's respectively).

Working distance: 50 – 150 mm Internal Ø: 60 mm Colour temperature: 6.500 K

Luminous intensity (adjustable): 16.000 lux at 100 mm distance

 Bulb life:
 > 100,000 h

 Connection:
 100 - 240 V, 50/60 Hz

 Output voltage:
 12 V, DC, 400 mA

 Material:
 Housing made of aluminium

Scope of delivery: Power supply unit and connection cable

522

0 200 623



# Cold light source LED

#### **Cold light source LED**

Light source with two independent goose-necked guides equipped with  $2\,x\,3$  watts, white  $6,500\,K$  power LEDs

- Each LED guide with a goose neck is equipped with a 3D lens focusing head, and has a length of 56 cm
- The light source version does not require a light-bulb change, unlike halogen light sources, has as a longer service life, and low electricity consumption
   The light source generates white light, and when dimmed there is no colour temperature change



			Price f	
			Order No.	1 piece
Cold light source LED				
	Colour temperature:	6,500 K	0 200 750-2	
	Light flux:	25,000 lux		
	Operating voltage:	100 to 240 V AC / 5 V DC (50/60 Hz) automatic switching		
	Dimensions (W x D x H):	106 mm x 140 mm x 70 mm		
	Weight:	1.5 kg		



## **Cold light source** P 100 W

 $\label{light source P 100 W} Powerful\ cold\ light\ source\ 100\ watts\ of\ luminous\ power.\ Longlife\ illuminants\ as\ accessories\ are\ optionally\ available.$ 

In this model, the brightness can be continuously adjusted by a rotary switch. The cold light sources are optionally available without, with a single swan-necked or double swannecked light guide.

					Price from
			Design	Order No.	1 piece
Cold light source P 100 W					
	Lamp: Colour temperature: Bulb life: Light brightness: Cooling: Dimensions (W x H x D): Connection voltage: Fuse: Protection class: Weight without light guide: Weight with light guide:	Halogen 100 W, 12 V 3,200 K approx. 50 h by rotary switch by fan approx. 110 x 155 x 240 mm 230 V, 50/60 Hz 1 A, slow blow IP 20 approx. 4 kg approx. 4.4 kg	without swan-necked light guide	0 200 710	2

			Price from
		Order No.	1 piec
Single swan-necked li	ght guide, 53 cm		
5	self-sustaining	0 200 730	
Double swan-necked I	light guide, 53 cm		
0	self-sustaining	0 200 720	
Double swan-necked l	light guide, 70 cm		
0	self-sustaining	0 200 741	
XXL Flexlight for cold l	ight sources		
8	For direct connection to our cold light sources. Delivery includes magnetic base for positioning on the workpiece in addition to two XXL swan necks (800 mm each) and flexible fibreglass supply lead (2,000 mm). Cold light source not included in scope of supply.	0 200 778	
	Suitable light source: 0 200 745 and 0 200 710		
Focusing attachment	-		
4	suitable for all Ø 10 mm swan necks	0 200 737	
Lens, aspherical			
(Th)	Lens, aspherical.	0 200 739	
	Matched to the focusing attachment 0 200 737, the lens enables the light to be more strongly focused and concentrated on the object to be illuminated.		
Illuminant, halogen 100	D W		
		0 200 721	
Illuminant, halogen 100	D W, "Longlife" (approx. 1,500 h)		
	Lamp service life approx. 1,500 h, colour temperature 3,050 K	0 200 725	



## Cold light source Power-LED

					Price from
			Design	Order No.	1 piece
Cold light source LED, 30 W Power LED					
000	Lamp: Colour temperature: Bulb life: Light brightness: Cooling: Connection voltage: Fuse: Protection class:	Power-LED 30 W 6,500 K approx. 25,000 h by rotary switch by fan 100 – 240 V, 50/60 Hz 1.25 A, slow-blow IP 20 in delivery	without swan- necked light guide	0 200 745	

			Price from
		Order No.	1 piec
Single swan-necked ligh	nt guide, 53 cm		
0	self-sustaining	0 200 730	
Double swan-necked lig	ht guide, 53 cm		
0	self-sustaining	0 200 720	
Double swan-necked lig	ht guide, 70 cm self-sustaining	0 200 741	
XXL Flexlight for cold lig	ht agusaa		
AAL FIEXIIGHT FOI COID HY			
3	For direct connection to our cold light sources. Delivery includes magnetic base for positioning on the workpiece in addition to two XXL swan necks (800 mm each) and flexible fibreglass supply lead (2,000 mm). Cold light source not included in scope of supply.	0 200 778	
	Suitable light source: 0 200 745 and 0 200 710		
Focusing attachment			
-	suitable for all Ø 10 mm swan necks	0 200 737	
Lens, aspherical			
-	Lens, aspherical.	0 200 739	
	Matched to the focusing attachment 0 200 737, the lens enables the light to be more strongly focused and concentrated on the object to be illuminated.		



## **Magnifying spectacles** MD 2011

#### Magnifying spectacles MD 2011

Ergonomical, practical and good best sums up the magnifying spectacles MD 2011. They are extremely simple to use, not complicated adjustment to the wearer's own eyes is required. This is made possible by the wide pupillary distance (PD) range. The wide focussing range also allows good optical image quality. Owing to the adjustable sidepiece ends, the magnifying spectacles MD 2011 always fit perfectly without slipping. Also suitable for spectacle wearers, since the diopter compensation can be adjusted independently for the right and left side.

#### Applications:

- Model and mould building
- Quality control
- Watchmakers
- · Restoration work
- Soldering workplaces

etc.

Price from Order No. 1 piece

#### Magnifying spectacles MD 2011



Magnification: 2 x 0 203 124

Working distance: ca. 400 mm

PD range: 60 - 68 mm (PD = pupillary distance)Visual field:  $10^{\circ}$ , Ø 150 mm at 400 mm distance

Diopter compensation: ± 3 dpt (right/left can be separately adjusted)

Weight: 49

### \* Accessories / spare parts

	Price from
Order No.	1 piece

#### LED spotlight for magnifying spectacles MD 2011, incl. power supply



Dimensions lamp: 32 x 20 x 34 mm, weight 11 g

Dimensions battery housing:  $90 \times 55 \times 40$  mm, weight 60 g, without batteries Lighting intensity:  $3200 \times 1200 \times$ 

cable length: 1 m
Batteries: 3 x AA

#### LED spotlight with clip for spectacle wearers, incl. power supply

0 203 122

0 203 121



LED light with clamp clip for glasses (Order no. 0 203 122





LED light (Order no. 0 203 121)

Glasses not included in scope of delivery!



### **Binocular** LED headband magnifying glass

#### Binocular LED headband magnifying glass

This magnifying glass with a triple LED unit illuminates the entire working area very uniformly.

The very light but nevertheless robust metal frame contains prismatic, metal-mounted silicate glass lenses. The optics are scratchproof, resistant to most chemicals and solvents and are characterised by a very high depth of field. Like the optics, the housing is also resistant to chemicals and solvents.

The magnifying glass can be easily worn over glasses.

	Price from
Order No.	1 set
Binocular LED headband magnifying glass set	



Triple LED unit (colour temperature 6,000 K) for optimum illumination of the 0 200 569 working area.

Magnification:  $2\,x$ ,  $2.5\,x$  and  $3\,x$ Working distance: 220, 170 und 130 mm Weight: approx. 140 g

headband magnifying glass with LED, 3 exchan-Scope of supply:

geable lenses as a set in a case

## Visor-type magnifying glass

#### Visor-type magnifying glass

Good things are sometimes as simple as this - and good value at the same time. This magnifying glass sits on your head like a baseball cap, leaving your hands free to do the work. The degree of magnification can be increased from 2 x to 3 x by simply adding another lens. When it is not needed, you can fold up the entire visor made of durable plastic, keeping the magnifying glass directly on your head for its next use.

				Price from
			Order No.	1 piece
Visor-type magnifying glass				
	Magnification range: Working distance: Weight:	2 x or 3 x with additional fold-up additional lens 450/340 mm approx. 100 g	0 200 590	



# **LED precision magnifying glass** with leather storage case

LED precision magnifying glass
The handy magnifying glass with integrated LED ring lighting. The 6 LED's illuminate the working area without casting a shadow; the optics consisting of 3 glass lenses guarantee corrected colour errors and provide distortion-free images. Power supply by 3 x LR927 round cell batteries.

					Price from
	Ø lens	Magnification	Scope of delivery	Order No.	1 piece
LED precision magnifying glass					
	Ø 21 mm glass	10 x	magnifying glass, batteries, case	0 200 538	
	Ø 21 mm glass	20 x	magnifying glass, batteries, case	0 200 528	

0 200 53	9
Battery LR 927	
Order N	lo. 1 piece
	Price from









## Watchmaker's magnifying glasses

#### Watchmaker's magnifying glass

What's good enough for watchmakers is good enough for you: plastic casing, silicate glass lens. Available in three versions: 5 x / 7 x / 15 x magnification

				Price from
	Ø lens	Magnification	Order No.	1 piece
Watchmaker's magnifying glass (Plastic frame)				
	Ø 16.3 mm	15 x	0 200 582	
	Ø 30 mm	5 x	0 200 580	
		7 x	0 200 581	
Control of the contro		10 x	0 200 582-10	

## **Hand-held LED magnifiers**

#### LED hand-held illuminated magnifying glass

The mobile hand-held illuminated magnifying glass with the latest lighting technology and ergonomic shape. Optimum illumination is achieved with the 2-stage boost switch and a light colour of 4,500 K. Includes batteries and microfibre bags for storage and cleaning.

lens	Magnification	Order No.	1 piece
1 22.8 mm	15 x	0 200 589	
1 30 mm	8 x	0 200 588	
1 30 mm	10 x	0 200 588-2	
1	30 mm	30 mm 8 x	30 mm 8 x <b>0 200 588</b>

## **Inspection light sticks**Boride® Rib-Light

#### Inspection light sticks Boride® Rib-Light

The ideal lamp to light up hard to access places (ribs, bridges etc.). Handy like a ball point pen, you can be sure to find room in any shirt pocket. One push of the button is enough and the rib-lights deliver a very bright, precise light thanks to the LED technology. The lamps are available with and without swan necks.

				Price from
		Design	Order No.	1 piece
Inspection light sticks Boride® Rib	-Light			
	available with and without swan neck (190 mm long),	with swan neck, white LED	0 200 595	
	stick length 155 mm, Ø 9 mm, white LED	without swan neck, white LED	0 200 597	
-				

# **Inspection devices**



## **Inspection system 2500**System overview





## **Inspection system 2500** Light head

#### Inspection system 2500

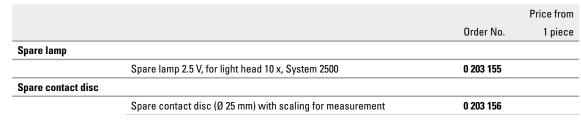
The modular system offers you a wide range of inspection possibilities. Simply changing the inspection heads using the automatic click coupling provides you the right equipment for any application. The robust metal handle is supplied by 2 batteries. The 2.5-volt system is equipped with a high-power xenon light or high quality LED technology. The devices are used for observing surfaces, bores and cavities, etc.

			Price from
		Order No.	1 piece
Battery handle for 2 batterys			
	<ul> <li>with click-on connection</li> <li>Ø 29 x 146 mm</li> <li>2.5 V</li> <li>without batteries</li> </ul>	0 203 176	

			Price from
		Order No.	1 piece
Illuminated magnifying glass with 10 x r	nagnification		
	<ul> <li>click-on connection</li> <li>xenon/halogen bulb</li> <li>2.5 V</li> <li>focus adjustment –6 up to +3.5 dpt</li> <li>large contact disk (Ø 25 mm) with scale setting for the measurement</li> <li>uniform, intensive illumination</li> </ul>	0 203 154	







		Order No.	Price from 1 piece
t probe Ø 6 x 11	0 mm incl. mirror	Order No.	1 piece
	• click coupling • xenon • 2.5 V	0 203 157	
	* Accessories / spare parts		
	*Accessories / spare parts		Price from
	*Accessories / spare parts	Order No.	
	* Accessories / spare parts  Spare lamp 2.5 V, for light probe Ø 6 x 110 mm	Order No.	Price from 1 piece



# **Inspection system 2500**Light head

0 203 159

	Price from
Order No.	1 piece
Light head	



- click-on connection
- LED bulb
- illuminance approx. 8,000 Lux
- lifetime approx. 100,000 h
- pivoting magnifying glass with 3-fold magnification
- direction of vision 0° and 90° with mirror attachment (see accessories)

### \* Accessories / spare parts

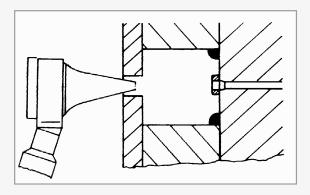


Spare lamp for light head (2.5 V)	0 203 162	
2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Order No.	1 piece
		Price from

### Functional principle

The light of a lens bulb is projected onto the end surface of a bundle of optical fibres consisting of several thousand optical fibres. The fibres are arranged in a circle at the light emission point.

In this way a uniform and shadowless coaxial illumination of the field of view is generated.





0 203 150-1

# **Light head Mini** lightweight, practical and universally usable



at Light head Mini 25 V LED CO fibre entire	
Order No.	1 piece1
	Price from



- Fibre optic LED lighting, very good colour rendering Ra > 94
- LED lamp life approx. 30,000 h
- Colour temperature 3,000 K
- Illuminance approx. 7,000 lux (distance 2 cm)
- Pivotable magnifying glass with 3 x magnification
- Viewing direction 0°

Scope of supply: Light attachment, battery handle for  $2\,x$  mignon type AA, without batteries, inspection funnel, 1 piece each:  $10 \times \emptyset$  2.5 x 35 mm and  $10 \times \emptyset$  4 x 30 mm

	0 203 151-1	
Spare lamp for light head (2.5 V)		
	Order No.	1 piece
		Price from





# **Cold light lamp Mini 3000** lightweight, practical and universally usable

#### Cold light source Mini 3000

A lightweight, practical and universally usable instrument for visual control with outstanding illumination.

- Light rod length 100 mm
- Ø 2.5 mm probes

#### Applications:

- Inspecting blind holes
- Narrow slots in mould making
- Controlling injection moulding tools incorporated in the machine
- · General testing

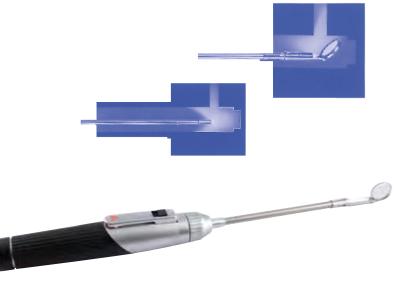
			Price from
		Design	Order No. 1 piece
Cold light la	amp Mini 3000		
	incl. battery handle and 2 AA batteries	Ø 2.5 x 100 mm	0 203 030-5
		Ø 5 x 100 mm	0 203 031-5



				Price from
		Dimensions	Order No.	1 piece
Spare lamp 2.5 V, XHL®				
	suitable for Order No. 0 203 030-5 and 0 203 031-5		0 203 030-1	

Glass mirror, clip-on			
	suitable for Order No. 0 203 031-5	Ø 25 mm	0 203 088-2
		Ø 16 mm	0 203 038
0		Ø 14.5 mm	0 203 118
		Ø 8 mm	0 203 093-2









### NEW! **Inspection lights**

## 1000 lumen torch, 450 lumen inspection lamp, 300 lumen gooseneck lamp

• innovative 3-in-1 work light, interchangeable attachments, rechargeable

• magnetic base for hands-free work

• different light intensities adjustable via on/off button

• Torch and gooseneck lamp with adjustable focus, inspection lamp can be rotated and swivelled through 180° rotatable and pivotable

• Gooseneck lamp with 350 mm long flexible neck for use in areas with restricted access.

3.7V 2200 mAh Li-Ion • Storage battery:

· Charging time:

torch/1000 lm, inspection lamp/450 lm, • Light output:

gooseneck lamp/300 lm gooseneck lamp: 11 hours, • Operating times (high):

inspection lamp: 4.2 hours, torch: 3.3 hours



Price from

Order No.

1 piece

LED inspection light, rechargeable



Content of the set:

- flashlight
- inspection lamp
- gooseneck lamp
- USB cable in sturdy box

0 200 717







Tip: The battery power device joke ENESKAmobile and useful sets can be found on page 40

0 200 716



# Inspection lights LED Inspection penlight, pocket size

#### Inspection penlight, pocket size, LED

The handy and small inspection penlight fits in any trouser pocket or with the clip on a shirt. With the aid of the two light modes spot light and planar light, the light can either be focused on one spot, or an entire area can be illuminated. The pen-sized lamp is perfect for illuminating hard-to-reach places or narrow openings.

Order No.	1 piece
	Price from

LED inspection penlight, pocket size

- Powerful, precise and pocket-friendly pen light.
- 1W COB extremely bright light with up to 50 lumens power output
- 3W SMD side light with up to 55 lumen power
- Ideal for one hand use
- Length 142 mm / Weight 26 g
- Powered by 1 x AAA battery (not included)





