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Beveling and Deburring Device B5

obj.č. 25 200



Operation manual



EN

General Safety Instructions

Please read this manual carefully and follow all relevant instructions and information.

When using electric tools, always adhere to the following safety instructions in order to prevent electric shock, fire hazard and risk of injury:

- Prior to every use, check device, power cable and plug! Do not use device with the switch damaged, when the device cannot be switched on and off, or when the speed governor of the motor does not work reliably.
- Only connect the plug to the power supply with the motor switched off.
- Keep the device away from moisture and do not use in moist conditions.
- Do not use the device in the proximity of flammable fluids or gases.
- Ensure your workspace is well lit.
- Always wear safety goggles.
- Mind long hair and jewellery. They may become entangled in the rotating motor shaft.
- Do not touch the cutter.
- The work piece must be held and fixed tightly during the machining process.
- Ensure the power supply cable is flat on the ground. Avoid tripping hazards.
- Assume a firm stance when working.
- Always disconnect from power supply before working on device or motor.
- Protect yourself from electric shock.
- Avoid physical contact with grounded parts.
- Do not overload the device. Secure and ideal operation of the device is possible within the specified range of performance of the drive motor only.
- Do not use the device for purposes other than specified.
- Do not misuse the power cable. Never carry the device by the cable. Never pull the cable when disconnecting the plug from the power supply.
- Protect the power cable from heat, oil, gasoline and sharp edges.
- Always have damaged devices repaired by a specialist.

Unpacking the Device

Please check the packing for intactness and for possible damage by transport. In the case of damage by transport, please notify the shipping agency immediately. The shipping agency will be liable for any occurring damage by transport.

Connecting the Device

The device is supplied ready for operation.

Power supply 230V AC, ~6A, 50/60Hz (other countries 110V)

The 1,300 watt motor is equipped with a safety switch. If the plug is disconnected or if a power failure occurs while the motor is running, the switch toggles to the OFF position.



When changing tools or adding accessories, disconnect the power plug from the power supply to prevent accidents.

Read the manual carefully.

Specific Safety Instructions

- Risk of injury to your hands! Do not reach into the machining zone. Hold the device with both hands!
- Always run the cable away from the device and avoid sharp edges.
- Risk of injury by hot chips.
- Risk of injury by incorrect use!
- Never touch tool with the device running.
- Always hold device away from body.
- Do not carry out overhead work with device.
- Wear safety goggles.

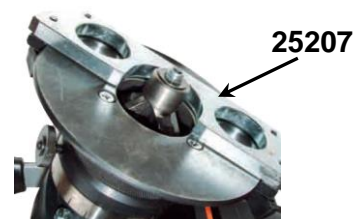
Description

The B5 Deburring Device, item no 25200 is intended for deburring operation to inner and outer edges, radii and bores from 20mm (=10mm radius).

Designed for steel, stainless steel, aluminium, aluminium alloys, brass and plastics machining jobs, for clean visible edges and for the preparation of weld seams.

- Tool-free adjustment of chamfer height.
- Handy and powerful.
- Triple cutting insert holder.
- For industrial and handiwork purposes.
- For producing visible edges in plant and machine construction.
- For use in ship building to remove sharp angles and edges in order to avoid paint chipping (corrosion protection).

Optional:
Adjustable guidance-stop for outer edge Prod.-No.: 25207



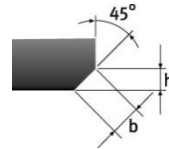
Specifications

Motor voltage:	230 volts, 50/60Hz 110V for other countries
Power:	1.300 W
Speed:	4.200 to 11.000min ⁻¹ with soft start, including thermo protection and overload limiter
Feed:	manual
Feed rate:	1-4 m/min, dependant on chamfer width and material quality

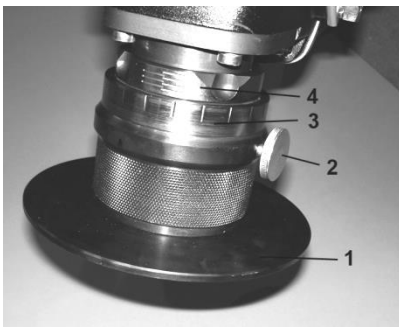
Bevel Height and Width

The bevel width is calculated using the following equation:

$$B = H \times 1.414$$



Material and Tensile Strength	Chamfer Width (2) mm	
	60°	45°
	230V	230V
• Steel 400 N/mm ²	4	5
• Steel 600 N/mm ²	3	3
• Stahl 800 N/mm ²	2	2
• Aluminium 250 N/mm ²	6	6



Adjusting the bevel width and height

The bevel height can be adjusted using the support plate and is metered by means of the marker on the graduated collar.

- 1 = Support plate.
- 2 = Knurled nut.
- 3 = Adjusting collar.
- 4 = Scale.
- 5 = upper limitation stone

- a) Loosen knurled screw (2).
- b) Turn support plate (1) until desired bevel height is achieved on graduated collar. The line markings on the scale indicate the approximate bevel height in millimetres (one marking line is approx. 1mm). Use the markings on the adjusting collar for fine adjustment. The distance from one marking line to the next corresponds to approx. 0.05mm of chamfer height.
- c) Tighten knurled screw (2).
- d) The upper limitation stone (5) limited the bevel width



The bottom mark on the scale corresponds to a bevel height of approx. 1mm. It is recommended to establish the exact chamfer height using a test job.

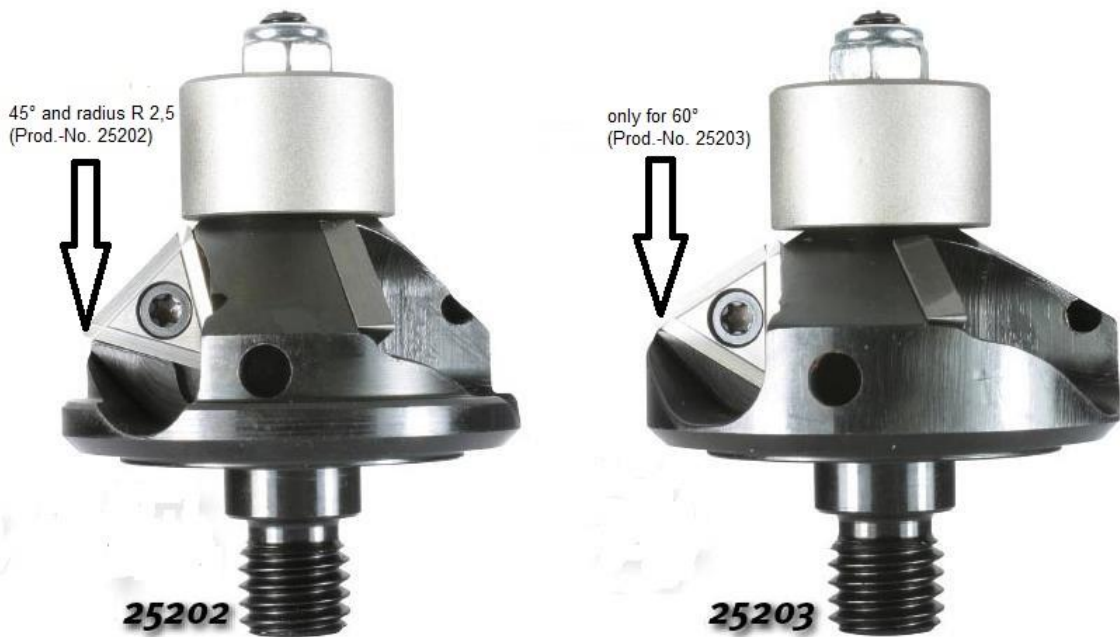
Graduated Collar:

On assembly, the device is adjusted to zero position. Zero position means a bevel height of 0.

Cutter Head 45° and radius 2,5 Cutter Head only for 60°

For very quiet operation and high stock-removing capacity the device has been equipped with triple milling heads, with 3 cutting inserts each. These cutting inserts have 3 cutting edges. They are the actual tools for bevelling and deburring. Depending on the material they can be used for machining steel, aluminium, aluminium alloys and plastics.

➤ Suitable for machining chamfers of



Cutting inserts size: 13,47 x 3mm / PM25 M coated .

Cutter Head with Radius 2,5 Cutting Insert

For bevelling and deburring, use the 2.5 mm radius cutter head, Prod.-No. 25202 with the cutting insert Prod.-No. 25205.

Suitable for steel of up to 600N/mm²



together

Note: When inserting the milling head with radius, the supporting plate must be rotated to achieve the correct position (compare 4.1).

Prior to machining steel and aluminium or aluminium alloys, it is recommended to spray the cutting edges with cutting oil-adhesive-foam spotty in order to achieve enhanced machine ability of the edges and higher durability of the cutting inserts.

Working with the B5 Deburring Device

The motor has a speed governor which can be used to adjust the speed to the relevant material. Infinitely variable from 6,000 to 10,000 min⁻¹.

The ON/OFF switch is located on the handle.

Do not start working on the job until the correct speed has been reached.

Work on material.



When bevelling or deburring, the device must always be guided from left to right (up-cut milling).



Operation with the device in all positions must be carried out with both hands.

Switching Off

1. Withdraw device from material.
2. Operate ON/OFF switch, the motor is turned off.

Attention:

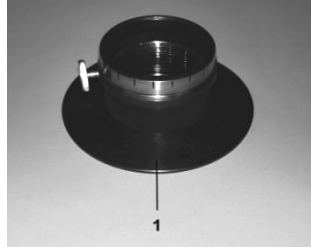
Perform regular wear checks on cutting inserts. Sharp cutting inserts ensure efficient cutting performance and prevent device from damage. Ensure to rotate or replace blunt or cracked cutting inserts when due.

Maintenance Intervals

Transmission and gearhead:	Lubrication carried out by a specialist at every 100 operating hours or replace lubricating grease.
Recommended grease:	Grease of the type MSN 2 (Rhenus Norlith) The first gear chamber needs to be filled up with 20 g and the gear chamber on the motor side with 17 g.
Mounting thread on transmission housing:	Clean and lubricate as necessary.
Motor air vents:	Clean as necessary.
Cutting inserts:	Rotate or replace as necessary.
Ball bearing race:	Replace as necessary.
Tool change:	Push the shaft lock on the motor to the side and rotate milling head counter-clockwise. Completely remove cutting insert holder.

Changing the Cutting Head

- 1) Loosen knurled screw and remove support plate with adjusting collar.
- 2) Press release button and engage drive shaft.
- 3) Loosen cutting head counter clockwise with hook wrench (supplied).



1 = Support plate with adjusting collar.



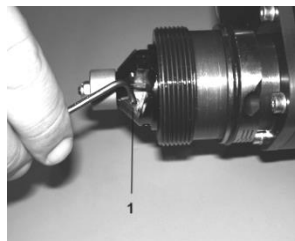
1 = Release button.
2 = Drive shaft.

For refitting, proceed in reversed order. It will suffice to tighten the cutting head to hand tight with the hook wrench.

Changing the cutting inserts

- 1) Loosen cutting insert fastening bolt with torx wrench (T 10, supplied) and remove cutting inserts. Repeat this procedure in the same way for each of the three cutting inserts.
- 2) Rotate or replace cutting inserts.
- 3) Refit cutting inserts with fastening bolt (tighten to hand tight).

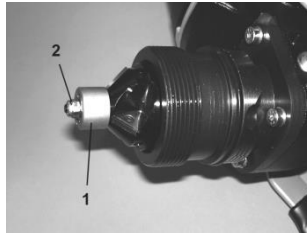
There is no need to remove the cutting head when changing the cutting inserts. It will suffice to turn home the support plate with the adjusting collar.



1 = Cutting insert.

Changing the Ball Bearing Race

Any worn out ball bearing must be duly replaced in order to prevent the chamfer surfaces from suffering irregular machining.



1 = Ball bearing.
2 = Hex nut.

- a) Loosen lower hex nut (2).
- b) Pull away and replace ball bearing race.
- c) Fit new ball bearing race with hex nut (2).

Replacing Carbon Brushes

With the carbon brushes worn out the motor will stall or the collector will be damaged. Have carbon brushes checked and replaced by a specialist as necessary.

Only use original carbon brushes and follow instructions on rating plate.

Spare Parts

In order to ensure correct and rapid delivery of genuine consumables:

- 1) State part number according to attached exploded drawing.
- 2) Enter more order data such as:
Voltage data, quantity, machine type and purchase date.
- 3) State complete shipping address:
Correct address, desired type of dispatch.

Replacement inserts

Description	Prod.-No.
Radius insert 2.5 mm	25205
Indexable insert BK84 for steel/stainless steel	22209
Torx screws, individually, for spare indexable inserts	25210

Replacement cutting heads

Description	Prod.-No.
45° spare insert holder/radius R=2.5 (without indexable inserts)	25202
60° spare insert holder (without indexable inserts)	25203
Adjustable guide stop for outer edges	25207

Chip Removal and Cleaning

Regularly remove metal chips from device.

Always keep your working space clean.

For collecting chips, use our magnetic chip collector, Prod.-No. 18654:



Remember to turn off the device while collecting the chips. Never remove chips with your bare hands. Risk of injury!

Scope of Supply

According to the current offer.

Limitation of Liability

All technical information, data and instructions for use and maintenance of the device contained in this user manual were last updated prior to delivery and have been of our previous experience and findings to the best of our knowledge. This manual is subject to technical modifications on the basis of further development.

We do not assume liability for damage and malfunctions caused by operating errors, failure to follow the instructions of these manual or inappropriate repairs. Any arbitrary modifications or alterations to the device are prohibited for safety reasons and exclude a nonwarranty clause for resulting damage. Claims for damages, derived from whichever legal ground, are excluded.

Warranty

The manufacturer grants a warranty of 12 months. For our Beveling and Deburring Machines we grant guarantee according to the legal and regional regulations (proven by invoice). This warranty is only valid with the carrying out of the instructions of the Operation Manual and correct purpose of use.

The manufacturer is not legally liable for damages, caused by abuse, or misuse of instructions of this Operation Manual.

Rights to claim under guarantee are out of question, in case the Bevel Milling Machine is, without written authorization of the manufacturer, changed in construction or functional execution. If the electric tool is modified without our authorization, this declaration will lose its validity and the guarantee expires.

EC Declaration of Conformity

N.KO, spol. s r.o.
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293 01 Mladá Boleslav
Czech republic

declare that the build of this

B5 type Deburring Device

complies with the provisions of the Safety of Machinery EC Directive as in 91/368/EEC.

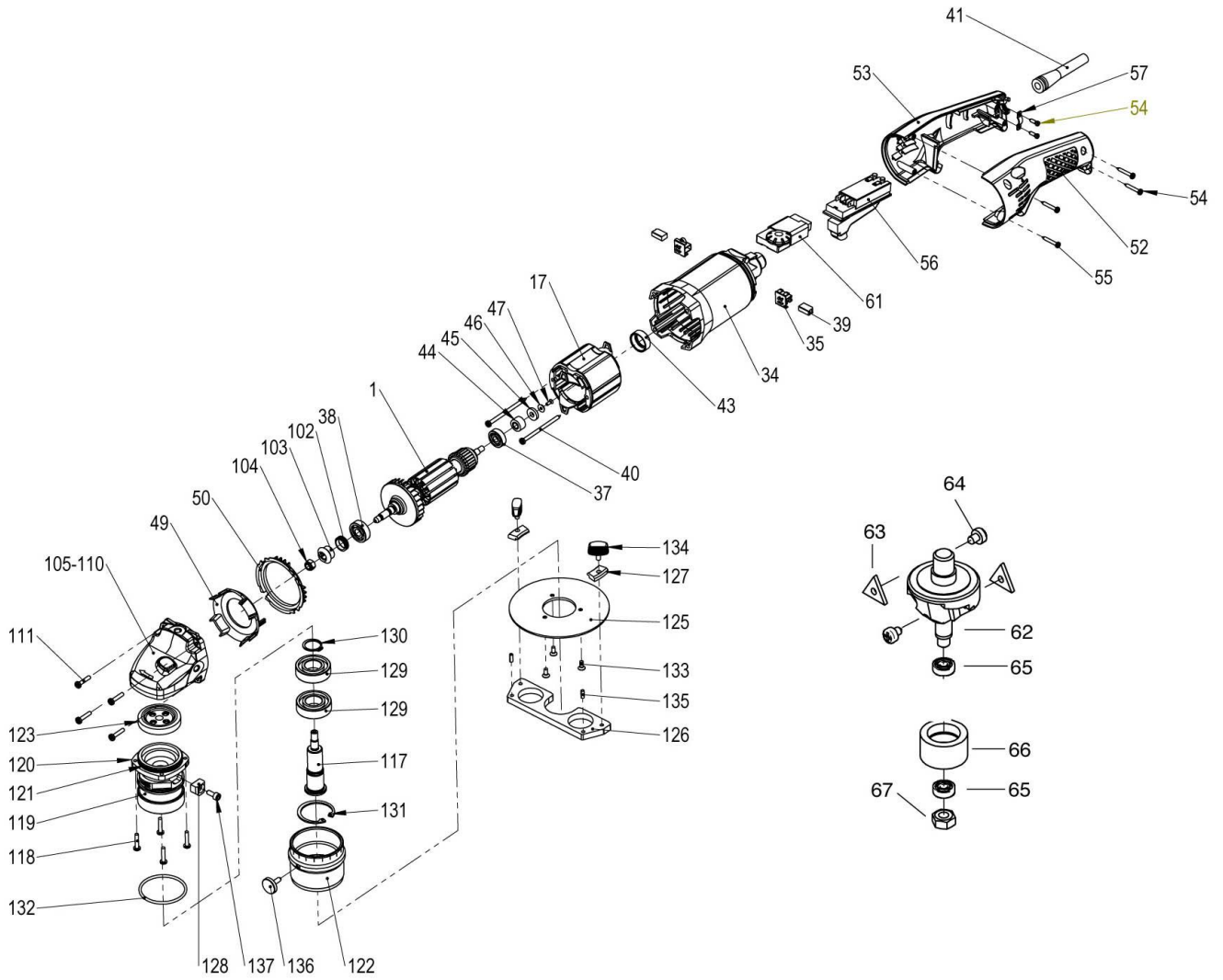
The applied, harmonised standards are:

EN 292, Part 1, Safety of Machines
EN 60204, Part 1, Electrical equipment of machines

Technical documentation is available.

The user manual is supplied with the device.

Spare Parts List and Spare Part Drawing for Deburring Device B5



NKO-N°	Pos.	Menge			
25195-001	1	1	Rotor s ventilátorem	armature with ventilation	230V 1,5kW
25195-017	17	1	Kompletní stator	stator complete	230V 1,5kW
25195-034	34	1	Skříň statoru	stator housing	reinorange
25195-035	35	2	Držák uhlíků	brush holder incl. flange	
25195-037	37	1	Kuličkové ložisko	ball bearing 627-2RS-J/Y	7x22x7
25195-038	38	1	Kuličkové ložisko	ball bearing 627-2RS-J/Y	
25195-039	39	2	Uhlík	carbon	230V
25195-040	40	2	Šroub statoru	stator-screw-fixation	
25193-09	41	1	Vývodka	protection sleeve	
25191-11	42	2		tapping screw	
25191-12	43	1	Těsnění	insulation ring	
25195-044	44	1	Vložka	supporting ring	
25193-19	45	1	Kruhový magnet	ring magnet	
25191-18	46	1	Talíř	disk	M3
25191-14	47	1	Šroub	countersink screw	M3x8
25195-049	49	1	Kryt ventilace	ventilation cover	
25195-050	50	1	Záslepka	blinds	
25195-052	52	1	Rukojeť levá	half shell handhold left	schwarz
25195-053	53	1	Rukojeť pravá	half shell handhold right	schwarz
25191-19	54	4	Šroub	tapping screw BZ	ø3.5x12
25191-47	55	2	Šroub	tapping screw B	ø3.5x25
25195-056	56	1	Vypínač	switch	2200.0601
25195-057	57	1	Klip kabelu	cable bridge	
25195-058	58	1		feeding cable	VDE
25195-061	61	1	Regulace	electronic 230V	15 - 33k
189302115	62	1	Frézovací hlava 45° + R2,5 (pouze těleso hlavy)	Cutter head 45° and R 2,5 (cutter head only; without cutting inserts and startup ball bearings)	
189302116	(62)	1	Frézovací hlava 60°	Cutter head 60°	
25206	63	3	Břitové destičky	Cutting insert	
25210	64	3	Šroub břitových destiček	Bolt	
189302118	65	2	Ložisko vodící rolny	Deep groove ball bearing	686 ZZ
189302121	68	1		lock washer	16/1
189302119	66	1	Vodící rolna	Stop	
189302120	67	1	Samojistící matice	Hex nut	M6
25195-100	100	1		lock washer	
25195-102	102	1	Těsnění	sealing	
25195-103	103	1	Pastorek	Pinion	
25195-104	104	1	Matice	screw nut	M7
25195-105	105	1	Hlava	crosshead	
25195-106	106	1	Kolík	blocking pin	
25195-107	107	1	O-kroužek	o-ring	4.5x1
25195-108	108	1	Pružina	Spring	
25195-109	109	1	Tlačítko	button	
25195-110	110	1	Špice	needle bush	
25195-111	111	4	Šroub	screw	
25195-117	117	1	Vřeteno	spindle	
25195-118	118	4	Šroub	screw	M4 x 20
25195-119	119	1	Těsnění	sealing flange	
25195-120	120	1	Podložka	washer	
25195-121	121	1	O-kroužek	o-ring	50x2
25195-122	122	1	Jistící kroužek	Adjusting ring	
25195-123	123	1	Kolo	spindel gear	

25195-124	124	1	Držák	handhold	
25195-125	125	1	Talíř vedení	Disc	
25195-126	126	1	Doraz	stop	
25195-127	127	2	Kámen	tensioning block	
25195-128	128	1	Kámen max. nastavení	limit stop block	
25195-129	129	2	Ložisko	deep groove ball bearing	6004 1RZ
25195-130	130	1	Podložka	lock washer	DIN 471 Ø20
25195-131	131	1	Ségrovka	snap ring	DIN 472 Ø42
25195-132	132	1	O-kroužek	o-ring	Ø52 x 3 NBR70
25195-133	133	3	Šroub	countersink screw	M4 x 8
25195-134	134	2	Křídlová matice	wing screw	M5 x 10
25195-135	135	2	Kolík	dowel pin	Ø4 x 10
25195-136	136	1	Šroub aretační	knurled screw	
25195-137	137	1	Šroub	cylinder head screw	M5 x10
25195-200	200	16	Tuk převodovky	grease	

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