

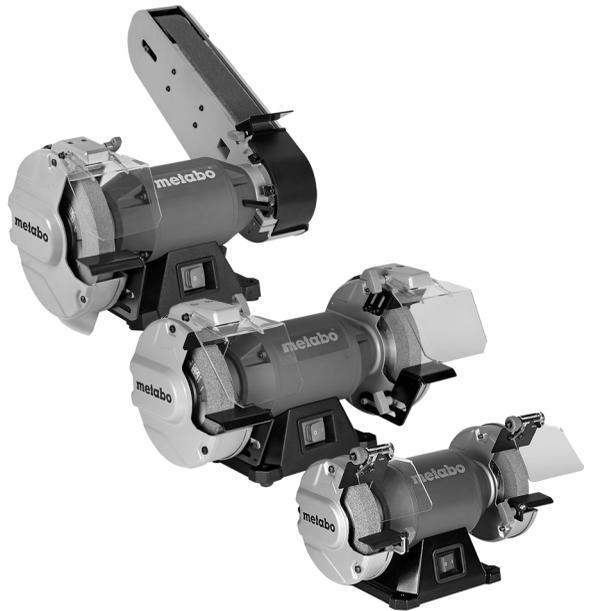
metabo®

PROFESSIONAL POWER TOOL SOLUTIONS

DS 125 M
DS 150 M

DS 150 Plus
DS 200 Plus
DSD 200 Plus

BS 200 Plus



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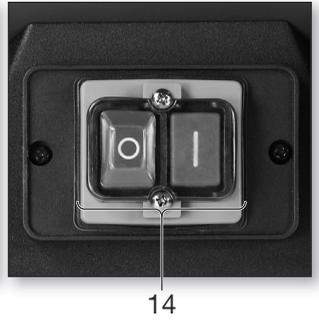
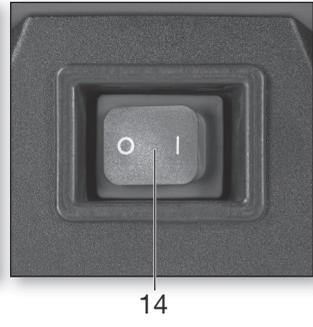
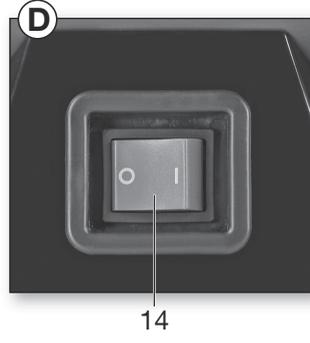
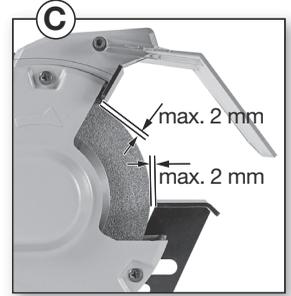
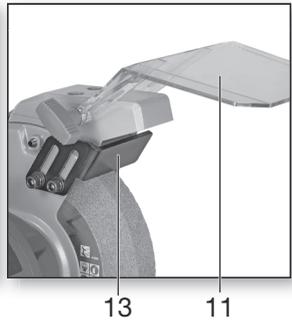
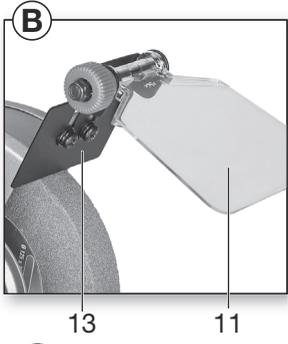
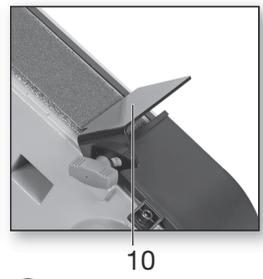
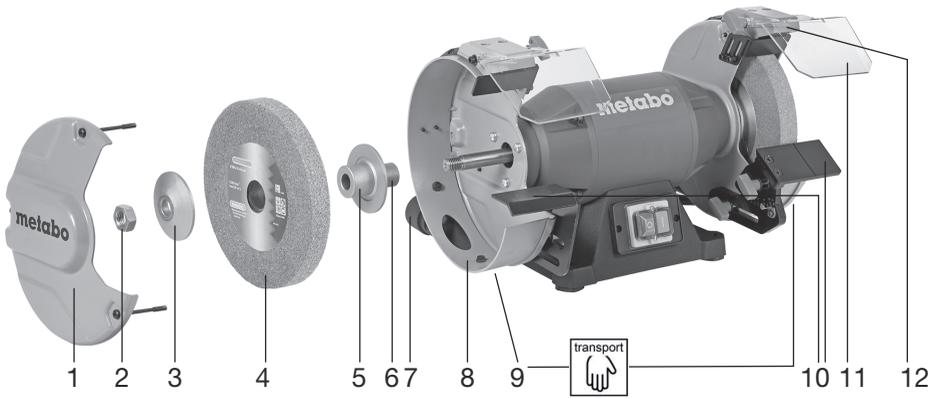
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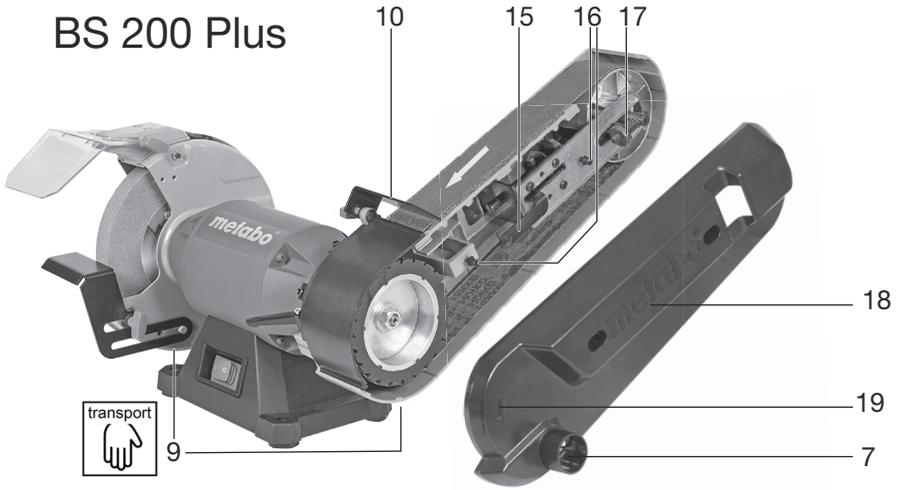
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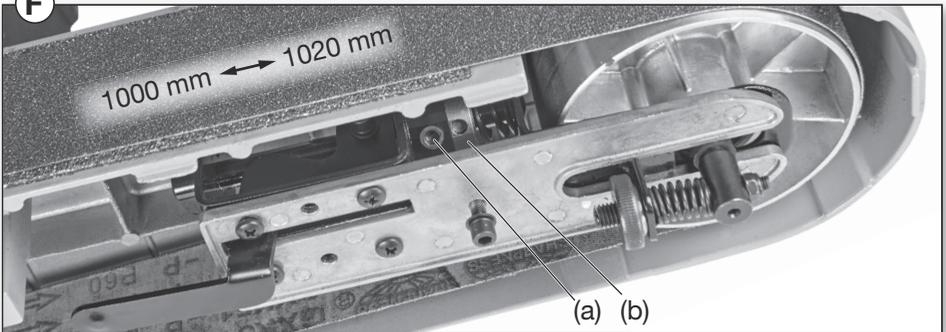
BS 200 Plus



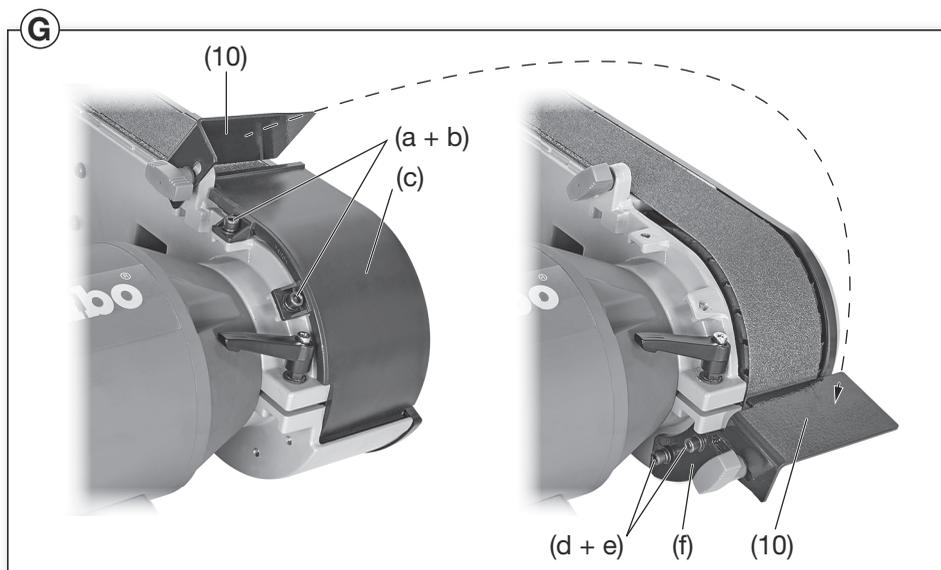
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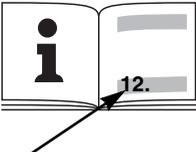


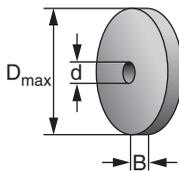
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BS 200 Plus

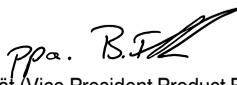


		DS 125 M *1) Serial Number: 04125...		DS 150 M *1) Serial Number: 04150...		DS 150 Plus *1) Serial Number: 04160...		DS 200 Plus *1) Serial Number: 04200...		DSD 200 Plus *1) Serial Number: 04210...		BS 200 Plus *1) Serial Number: 04220...	
D_{min} x B	mm (in)	84 x 20 (3 ⁵ / ₁₆ x 2 ⁵ / ₃₂)		87 x 20 (3 ⁷ / ₁₆ x 2 ⁵ / ₃₂)		150 x 25 (5 ²⁹ / ₃₂ x 5)							
D_{max} x B	mm (in)	125x20 (5 x ³ / ₄)		150x20 (6 x ³ / ₄)		200x25 (8 x 1)							
d	mm (in)	20 (³ / ₄)				32 (1 ¹ / ₄)							
B_{max}	mm (in)	20 (³ / ₄)				25 (1)							
A	mm (in)	-										50 x 1000/1020	
n₀	min ⁻¹ (rpm)	2980											
v₀	m/s	19,5	23,4	23,4	31,2	31,2	19,0						
P₁	W	125	200	200	370	480	370						
P₂	W	200	370	400	600	750	600						
P₃	W	110	260	265	420	520	420						
M_K	Nm	1,1	1,5	1,75	3,1	6,35	2,7						
m	kg (lbs)	6,7	8,7	10,2	17,5	17,8	16,9						
L_{pA}/K_{pA}	dB(A)	66,44 / 3	65,8 / 3	66,7 / 3	67,33 / 3	70,42 / 3	76,14 / 3						
L_{WA}/K_{pA}	dB(A)	79,44 / 3	78,8 / 3	79,7 / 3	80,33 / 3	83,42 / 3	89,14 / 3						




 *2) 2014/30/EU, 2006/42/EC, 2011/65/EU
 *3) EN 62841-1:2015, EN 62841-3-4:2016+A11:2017+A12:2020+A1:2020, EN IEC 63000:2018

2021-04-21, Bernd Fleischmann
 Direktor Produktentstehung & Qualität (Vice President Product Engineering & Quality)
 *4) Metabowerke GmbH - Metabo-Allee 1 - 72622 Nuertingen, Germany



 ppa. B.F.

Original instructions

1. Declaration of Conformity

We, being solely responsible: Hereby declare that these bench grinders, identified by type and serial number *1), meet all relevant requirements of directives *2) and standards *3). Technical documents for *4) - see page 4.

2. Specified Conditions of Use

The grinders are suitable for dry, peripheral grinding of metals - only in dry rooms and for occasional grinding. The workpiece is guided by hand.

The belt sander (BS 200 Plus) is also suitable for dry sanding of metal and derived wood products.

DS 150 Plus, DS 200 Plus, DSD 200 Plus, BS 200 Plus can (on the left side) also be equipped with suitable Metabo wire brushes (not part of the delivery scope).

The grinders are not suitable for grinding aluminium, magnesium or other materials associated with a risk of fire or explosion.

Not suitable for polishing.

It is not suitable for sanding materials which could produce dust harmful to health.

The user bears sole responsibility for any damage caused by inappropriate use.

Generally accepted accident prevention regulations and the enclosed safety information must be observed.

Operating mode S2 (30 min) refers to short-term operation with a maximum operating time of 30 minutes. The unit must be switched off after 30 minutes and cool down.

3. General Safety Information



For your own protection and for the protection of your power tool, pay attention to all parts of the text that are marked with this symbol!



WARNING – Read the operating instructions to reduce the risk of injury.



WARNING – Read all safety warnings, instructions, illustrations and specifications provided with this power tool. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

Keep all safety instructions and information for future reference.

Always include these documents when passing on your power tool.

4. Special safety instructions



For your own protection and for the protection of your power tool, pay attention to all parts of the text that are marked with this symbol!

a) **Do not use a damaged accessory. Before each use, inspect the accessory such as abrasive wheel for chips and cracks. After inspecting and installing an accessory, position yourself and bystanders away from the plane of the rotating accessory and run the power tool at maximum no-load speed for one minute.** Damaged accessories will normally break apart during this test time.

b) **The rated speed of the accessory must be at least equal to the maximum speed marked on the power tool.** Accessories running faster than their rated speed can break and fly apart.

c) **Never grind on the sides of a grinding wheel.** Grinding on the side can cause the wheel to break and fly apart.

The sanding disc must match the machine. Observe the maximum sanding disc diameter and thickness. The hole diameter must match the back flange without play. Do not use adapters or reducers.

Do not drill sanding discs.

Do not trim discs.

The sanding discs must be fitted perfectly and turn freely.

Prior to using the grinding wheels, ensure that they are free from defects. A sound inspection has to be carried out to detect cracks.

Damaged, eccentric or vibrating or deeply furrowed sanding discs must not be used.

When clamping the sanding discs, only the flanges included in the delivery must be used. The intermediate layers between flange and sanding tool must be made of elastic materials, e.g. soft cardboard etc.

Protect sanding discs against shocks, bumps and grease.

Grinding wheels must be stored and handled with care in accordance with the manufacturer's instructions.

Do not touch the rotating sanding disc!

Always use the **guard** (8), the **workpiece support** (10), the **transparent guard/eye protection** (11) and the **spark deflector** (13) as required for the tools;

Only work when the safety cover (1) and sanding belt cover (18) are fitted.

Swivel the eye preservers (11) downwards before sanding.

Use the perimeter (not the sides) of the grinding wheels for grinding.

Do not reduce the speed of the sanding disc by pressing on the sides.

The workpiece to be processed must be large enough, or small enough, to be held safely with both hands.

Only work when the grinding wheels are fitted to minimise the risk of coming into contact with the rotating spindle.

High temperatures can result after long-term operation.

LED light (12): do not observe the LED radiation directly with optical instruments.



CAUTION Do not stare at operating lamp.



WARNING



Always wear eye goggles, hearing protection and protective gloves. Use other available personal protective equipment, e.g. suitable protective work clothing. Ensure that sparks produced during work do not constitute a risk to the user or others and are not able to ignite flammable substances. Areas at risk must be protected with flame-resistant covers. Always keep a fire extinguisher on hand when working in areas prone to fire risk.

The workpiece can become hot during sanding.

Do not allow water within the vicinity of electric machine parts or close to people in the working area.

If a grinding material blockage occurs, switch off the grinder immediately, allow the motor to stop and unplug the grinder. Identify the cause and remove the blockage.

Clean, check and perform maintenance work on the machine and guard devices regularly. Regularly clean the inside of the grinding wheels and belt grinder housing. The grinding wheels and sanding belt must be able to rotate freely within the housing.

Unplug when the grinder is not in use, before making any adjustments or carrying out modifications, repairs or maintenance.

Regularly check the power cable on the grinder and have it repaired by an approved expert if damaged.

Regularly check extension cables and replace if damaged.

Check the grinder for possible damage: Before using the grinder, protective devices or slightly damaged components must be carefully checked to ensure they are operating perfectly and as intended. Check that moving parts are in perfect working order and do not jam and check whether parts are damaged. All parts must be correctly installed and fulfil all conditions necessary to ensure the perfect operation of the machine. Damaged protective devices and parts must be repaired or replaced according to specifications by an authorised specialist workshop.

Reducing dust exposure:



WARNING - Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- Lead from lead-based paints,
- crystalline silica from bricks and cement and other masonry products, and
- arsenic and chromium from chemically treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well-ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

This also applies to dust from other materials, such as some timber types (like oak or beech dust), metals, asbestos. Other known diseases are e.g. allergic reactions, respiratory diseases. Do not let dust enter the body.

Observe the relevant guidelines and national regulations for your material, staff, application and place of application (e.g. occupational health and safety regulations, disposal).

Collect the particles generated at the source, avoid deposits in the surrounding area.

Use suitable accessories for special work. In this way, fewer particles enter the environment in an uncontrolled manner.

Use a suitable extraction unit.

Reduce dust exposure with the following measures:

- do not direct the escaping particles and the exhaust air stream towards yourself or nearby persons or towards dust deposits,
- use an extraction unit and/or an air purifier,
- ensure good ventilation of the workplace and keep it clean using a vacuum cleaner. Sweeping or blowing stirs up dust.
- Vacuum or wash protective clothing. Do not blow, beat or brush protective gear.

5. Overview

See page 2, page 3 and page 4.

Illustrations are examples.

- 1 Guard cover
- 2 Clamping nut
- 3 Clamping flange
- 4 Sanding disc
- 5 Back flange
- 6 Spacer*
- 7 Dust extraction connection*
- 8 Safety guard
- 9 Handling points for transport
- 10 Workpiece support
- 11 Eye protection
- 12 LED light (worklight) *
- 13 Spark deflector
- 14 On/Off switch
- 15 Lever (sanding belt replacement) *

- 16 Screws for securing the sanding belt cover *
 - 17 Rotary knob for adjusting the belt run *
 - 18 Sanding belt cover *
 - 19 Arrow (direction of circulation of sanding belt) *
- * depending on model/equipment/not in scope of delivery

6. Initial Operation

6.1 Transport

During transport (9), the bench grinder must be lifted and carried from the handling points marked on page 3.

6.2 Connection to Power Mains

 Before commissioning, check that the rated mains voltage and mains frequency stated on the type plate match your power supply.

The grinder complies with protection class I and must therefore only be connected to sockets earthed according to specifications.

 Always install an RCD with a maximum trip current of 30 mA upstream.

DSD 200 Plus (three-phase version):

Ensure that the grinding wheels have the correct direction of rotation (the correct direction of rotation is indicated by an arrow on the side safety guards). If a grinding wheel is rotating in the wrong direction: Unplug the grinder. The plug comprises of two phase conducting pins that are mounted on a rotating socket (phase changing switch). Use a Phillips screwdriver to rotate this socket.

6.3 Installing workpiece support

Install workpiece support (10) as shown in illustrations A, page 2.

6.4 Fitting spark deflector and eye preservers

Install the spark deflector (13) and eye preservers (11) as shown in illustrations B, page 2.

6.5 Only if required: Set BS 200 Plus to a different band length (1000 mm or 1020 mm)

See page 3, fig. F.

Removing the sanding belt (see Section 8.2). Loosen screw (a) and unscrew until the sleeve (b) can be moved. By moving the upper sanding belt roll, move the sleeve (b) until the stop and insert the screw (a) back in completely.

6.6 Installing machine safely

Place the machine on a stable workbench. Ensure that the machine is securely seated.

The machine can also be bolted down (screws not included in the scope of delivery). To do this, fasten the securing screws through the holes in the rubber feet.

If a stand or wall bracket is used (see Accessories chapter): bolt down the machine.

6.7 Dust extraction connection (depending on features)

If your machine is not equipped with a dust extraction connection (7), fit an extraction device that is suitable for bench grinders. Inner diameter of extraction connection piece: 35 mm. Outer diameter of extraction connection piece: 41 mm. Before switching on the machine, ensure that the extraction device is connected and being used correctly.

6.8 Test run

Check the sanding discs before initial use.



Test run

A test run of approx. 5 min without load must be carried out before initial use. All persons must stay clear of the danger zone when this is performed.

7. Use

7.1 Adjusting the workpiece support

Adjust the workpiece supports (10) frequently to compensate for wear of the sanding discs (4).

The workpiece support must always be adjusted in such a way that the angle between the workpiece support and the tool is always greater than 85°.

The distance between the workpiece support and grinding material must be as small as possible and never greater than 2 mm (see illustration C, page 2).

If the sanding disc is so badly worn that the maximum distance of 2 mm can no longer be maintained, the sanding disc must be replaced.

7.2 Adjusting the spark deflector

Adjust the spark deflectors (13) regularly to compensate for wear on the grinding wheels (4).

Release the 2 screws on the spark deflector and shift the spark deflector.

The distance between the spark deflector and grinding wheel must be as small as possible and never greater than 2 mm (see illustration C, page 2).

If the sanding disc is so badly worn that the maximum distance of 2 mm can no longer be maintained, the sanding disc must be replaced.

7.3 Switching on and off

Press the switch (14) (see illustrations D, page 2).

I = Switch on

0 = Switch off

Avoid inadvertent starts: always switch the tool off when the plug is removed from the mains socket or if there has been a power cut.

Restart protection (for DSD 200 Plus): When power is restored after a power failure, the machine - which is still switched on - will not start automatically for safety reasons. Switch machine on and off again.

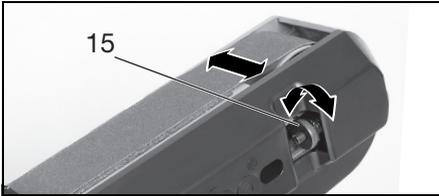
7.4 Belt grinding

- Stand in front of the grinder.

- Holding the workpiece with both hands, place the workpiece on the workpiece supports (10) and gently press it against the sanding belt. For optimum grinding/sanding results, move the workpiece gently to and fro. This also helps to distribute wear evenly on the grinding material.

7.5 Adjusting the belt run (only BS 200 Plus)

 Unplug power cable; Rotate the sanding belt manually. Use the rotary knob (17) to adjust the sanding belt so that it runs centrally on the sanding belt roller.



7.6 Setting the angle of the belt sanding arm (only BS 200 Plus)

See page 3, fig. E.

- (I) Loosen the lever / screw (depending on equipment) at the belt sanding arm
- (II) Put the belt sanding arm in the desired position
- (III) Tighten again the screw at the belt sanding arm.

7.7 Sanding at the round part of the belt sanding arm (only BS 200 Plus)

See page 3, fig. G

- Remove screws (a + b), remove cover (c) and put aside.
- Attach bracket (f) with screws (d + e) as shown.
- Remove the workpiece support (10) at the straight part of the belt sanding arm and fix at the bracket (f) as shown.

 For grinding work on the flat part of the belt sanding arm:

Fix the cover (c) again and also install the workpiece support (10), as shown in fig. A, page 2.

8. Maintenance and Cleaning

Clean, check and perform maintenance work on the machine and guard devices regularly. Regularly clean the inside of the grinding wheels and belt grinder housing. The grinding wheels and sanding belt must be able to rotate freely within the housing.

 Disconnect the mains plug before starting any setting, cleaning, maintenance or repair work.

8.1 Sanding disc change

 Use only original Metabo sanding discs.

 The permissible rotational speed specified on the sanding disc must be equal to or greater than the maximum idling speed specified on the identification plate of the machine.

 Sanding disc check: suspend the sanding disc on a thread. Knock lightly with a piece of hard wood. You will hear a clear tone if the sanding disc is in perfect condition. If you hear a clattering, dull or hollow sound, the grinding wheel is damaged.

 Do not use damaged sanding discs.

Test run

A test run of approx. 5 min without load must be carried out after the grinding wheel has been changed. All persons must stay clear of the danger zone when this is performed.

Sanding disc:

- Remove screws from safety cover (1) and take off cover (1).
- Hold the sanding disc (4) firmly in position as shown. Alternative option: Insert a hexagonal wrench into the spindle and hold the spindle to prevent it from turning. **Caution! Risk of injury! Wear protective gloves!**



- Remove adjusting nut (2) with an open-ended spanner.

Caution! Left-hand thread on left machine side, i.e. to release the adjusting nut (2) on the left machine side, turn clockwise!

- Remove clamping flange (3) and sanding disc (4).
- Secure new sanding disc (4) in the reverse order.
- Remount the safety cover (1). Tighten the screws.
- Adjust the spark deflector (13) and workpiece support (10) as described in chapter 7.2 and 7.1.

8.2 Changing the sanding belt (only BS 200 Plus)

Remove the side sanding belt cover (18): release the 2 screws (16), slide the sanding belt cover (18) (bayonet catch) and remove.

Swivel out lever (15) as far as it will go. This relieves sanding belt tension and it can now be removed from the rollers.

Place the new sanding belt on the rollers so that its direction of circulation (arrows on the inside of the sanding belt) matches the arrow (19) on the side sanding belt cover (18).

Return the lever (15) to the original position to tension the sanding belt.

Place the side sanding belt cover (18) on the 2 screws (16) and slide (bayonet catch). Tighten the two screws.

Adjust the belt run (see chapter 7.5).

For sanding belts, see chapter 9. (accessories).

9. Accessories

Use only genuine Metabo accessories.

If you need any accessories, check with your dealer.

For the dealer to select the correct accessory, they need to know the exact model designation of your power tool.

 Wire brushes permitted only for DS 150 Plus, DS 200 Plus, DSD 200 Plus, BS 200 Plus. Max. permissible width: 28 mm. Wire brushes may only be mounted on the left side. The assembly is basically the same as for sanding discs (see chapter 8.1), however, the suitable reducing sleeve supplied must be inserted.

- A Wire brushes Order no:
 D= 150 mm: 629070000
 D= 200 mm: 629072000
- B Sanding discs Order no.:
 D= 125 mm:
 36 P: 629088000
 60 N: 629089000
 D= 150 mm:
 36 P: 630632000
 60 N: 630633000
 D= 200 mm:
 36 P: 630784000
 60 N: 630785000
- C Stand
 Order no.: 623875000
- D Wall bracket
 Order no.: 623865000
- E Sanding belts 50 x 1020
 3 x P 60 629063000
 3 x P 80 629064000
 3 x P 100 629065000
 3 x P 120 629066000
 3 x P 180 629067000
 3 x P 240 629068000
 3 x P 400 629069000

For the complete range of accessories, see www.metabo.com or the main catalogue.

10. Repairs

 Repairs to electrical tools must ONLY be carried out by qualified electricians!

A defective mains cable must be replaced only with a special, original mains cable from Metabo available from the Metabo service.

Contact your local Metabo representative if you have Metabo power tools requiring repairs. For addresses see www.metabo.com.

You can download a list of spare parts from www.metabo.com.

11. Environmental Protection

Metabo's packaging can be 100% recycled.

Worn out power tools and accessories contain considerable amounts of valuable raw and rubber materials, which can be recycled.

These instructions are printed on chlorine-free bleached paper.



Only for EU countries: never dispose of power tools in your household waste!
 According to European Directive 2012/19/EU on Waste from Electric and Electronic Equipment and implementation in national law, used power tools must be collected separately and recycled in an environmentally-friendly manner.

12. Technical Specifications

Explanatory notes regarding the specifications on page 4.

Subject to change in accordance with technical progress.

- D_{min} = minimal diameter of the sanding disc
- D_{max} = maximum diameter of the grinding wheel
- d = Hole diameter of the grinding wheel
- B_{max} = maximum thickness of the sanding disc
- A = Sanding belt (length x width)
- n_0 = Idle speed
- v_0 = Belt speed in idle mode
- P_1 = Rated input power (S1)
- P_2 = Rated input power (S2 30min)
- P_3 = Power output (S2 30min)
- M_K = Breakdown torque
- m = weight

Typical A-effective perceived sound levels:

- L_{pA} = sound-pressure level
- L_{WA} = acoustic power level
- $K_{...}$ = Uncertainty (sound level)

During operation the noise level can exceed 80 dB(A).



Wear ear protectors!

Values measured as per EN 62841.
 ~AC Power



Emission values

These values make it possible to assess the emissions from the power tool and to compare different power tools. The actual load may be higher or lower depending on operating conditions, the condition of the power tool or the accessories used. Please allow for breaks and periods when the load is lower for assessment purposes. Arrange protective measures for the user, such as organisational measures based on the adjusted estimates.

The device was tested with S2 (30 min).

The technical specifications quoted are subject to tolerances (in compliance with relevant valid standards).