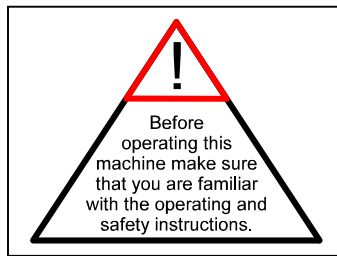


MODEL EBM 350/3 P



OPERATING MANUAL



Technical Data**Wet Diamond Core Drill EBM 350 / 3 P**

Nominal voltage	230 V ~	110 V ~
Power drain	3000 W	2700 W
Rated current	13,5 A	27 A
Order No.	03631	03632

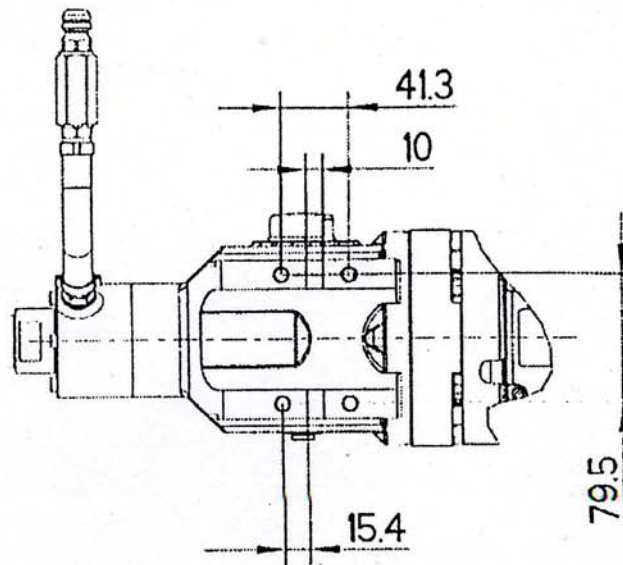
Frequency: 40-60 Hz
 max. Drilling Diameter: 350 mm
 Collet: 1 1/4" UNC
 Protection Class: I
 Degree of protection: IP 20
 Net Weight: about 12,4 kg
 Interference Suppression: EN 55014 und EN 61000

Speed	Idle Speed	Load Speed	max. Drilling Diameter
●	400 min ⁻¹	230 min ⁻¹	350 mm
●●	800 min ⁻¹	500 min ⁻¹	150 mm
●●●	1600 min ⁻¹	1030 min ⁻¹	60 mm

Available add-ons:

Item	Order No.
Diamond drill rig BST 300 with quick-retool adapter	09626
Drill rig accessories	35720
Copper rings for easier drill bit removal	35450
Adapter 1 / 1/4" i – 1/2" i	35116
Quick-snap column	35730
10 litres metal water pressure vessel	35810
Wet/dry deduster DSS 1225 A	09904
Diamond drill bits dia. 60 – 350 mm	
Drill bit extension	

Attachment Sizes



Subject to alterations!

Supply

Diamond core drill with ball valve and GARDENA connector,
PRCD protective switch, user manual,
each one single open-end wrench SW 32 and SW 41 in the tool box

Application for Indented Purpose

The diamond core drill EBM 350/3 P is indented for professional use and may be used only by instructed personnel.
With an appropriate drill bit, the tool may be used only for wet cutting of concrete, stone and masonry.
It may be used only with a suitable diamond drill rig.

Safety Instructions



Safe work with the machine is only possible if you read this operating instruction and the safety instructions completely and follow the instructions contained strictly. Additionally, the general safety instructions of the leaflet supplied with the tool must be observed. Prior to the first use, the user should absolve a practical training.

If the mains cable gets damaged or cut during the use, do not touch it, but instantly pull the plug out of the socket. Never use the tool with damaged mains cable.



When drilling in ceilings or walls make sure you will not cut through electrical mains, gas or water pipes. Use metal detection systems if needed.

Prior to the start of your work, consult a statics specialist to determine the exact drilling position.

If drilling through ceilings, secure the place below, because the may fall downward.



The tool must neither be wet nor used in humid environment.

- Do not use the tool in an environment with danger of explosion.
- Do not use the tool standing on a ladder.
- Do not drill into asbestos-containing materials.
- Do not carry the tool at its cable, and always check the tool, cable and plug before use. Have damages only repaired by specialists. Insert the plug into the socket only when the tool switch is off.
- Modifications of the tool are prohibited.
- The machine should only work under supervision of sbd. Plug and switch the machine off if it is not under supervision, in case of putting up and stripping down the machine, in case of voltage drop or when fixing or mounting an accessory.
- Switch the machine off if it stops for whatever reason. You avoid that it starts suddenly and not under supervision.
- Don't use the machine if a part of the housing is damaged or in case of damages on the switch, the cable or plug.
- Electrical tools have to be inspected visually by a specialist in regular intervals.
- **When using the drill, cooling water is not allowed to get into the motor and all electrical parts.**
Overhead-drilling only with suitable safety measures (water collection).

Use only 3-wire extension cable with protecting conductor and sufficient cross-section (min. $2,5 \text{ mm}^2$). A cross-section which is too small could lead to excessive power loss and to overheating the motor and the cable.

First, check the correspondence between voltage and frequency against the data mentioned on the identification plate. Voltage differences from + 6 % to - 10 % are allowed.

Water Connection

Connect the tool to the water supply system or a water pressure vessel using the GARDENA connector.

Attention! The max. water pressure should not be more than 3 bar. Make always sure that the machine only runs with enough water as the seals can be damaged when running dry and water could get into the gearbox housing. Use only mains water.

Changing Gears

The EBM 350/3 P is equipped with a mechanical 3-gear oil-bath gearing. Select the speed according to the drilling diameter (ref. to the tool's nameplate).

Use the gear selector to change to next higher or lower gear. Change the speed only when the tool is not running; slightly turn the working spindle to ease the gear change.

Warning!

Never switch over by excessive force and only after the spindle has stopped or just before stopped when run-out.

Never use inappropriate tools (nippers, hammer etc.) for gear shifting.

Overload Protection

In order to protect the operator, the motor and the drill bit the EBM 350/3 P is equipped with a mechanical, electronic overload protection.

Mechanical: If the drill bit is suddenly blocked in the hole, a clutch will slip disengaging the bit from the motor.

Electronic: In case of overload due to large a feed force, the electronic facility in the tool switch will deenergize the tool. After discharge and reengagement one can drill again.

Safety Clutch

The slip clutch should absorb shock and excessive stress. It is an aid and not an absolute protection. Therefore you have to handle and drill carefully. To keep in good condition, the clutch should slip for a very short time (max. 2 seconds) in each case only. After excessive wearing the clutch can be readjusted by an authorized service shop.

Fastening of the Drill Rig

The EBM 350/3 P diamond core drilling tool may be used only in a drill rig. Since the drill rig does not belong to the supply, some of its most important features are described here.

Refer to the drill rig's operation manual.

The most common way of fixing is dowel fixing. If possible, use only metal dowels. The dowel diameter must not be smaller than 12 mm.

For the vacuum, make sure that it is sufficient (minimum -0.8 bar). Make sure that the gaskets are not worn. Do not forget that the levelling screw may be turned out only up to a certain extend in order not to destroy the vacuum.

Drilling

Using the ball valve, adjust a sufficient water quantity to fully flush the material out of the bore hole.

If mud is depositing around the bore hole, increase the water quantity.

In case that the drill bit does not cut any longer, sharpen it by means of a grinding stone.

Make sure that the drill bit does not vibrate.

Advance the tool according to bit diameter and machine power.

In case the bit gets jammed, do not try to release it by switching the tool on and off. Switch the tool off immediately and unfix the drill bit by turning to the left or right using an appropriate open-end wrench. Cautiously pull the tool out of the borehole.

Drill Bits

Diamond drill bits with an 1/4" UNC female thread can be screwed directly onto the working spindle.

For drill bits with R 1/2" male threads, adapters are available as add-ons. Always use drill bits which match to the material which has to be drilled. You can treat the machine if you only use balanced and no deformed drill bits. Pay attention that diamond segments have enough relief cut toward the drill bit body.

Drill Bit Changing

The drill bit have a right-hand thread.

To hold on spindle use an open-end wrench SW 32.

Never remove the drill bit with impacts because the machine will be damaged.

With some waterproof grease which is put on the drill bit thread you can remove the drill bit easier.

It is also a good help for easy removing to put a copper ring between the spindle and the drill bit.

Care and Maintenance

Before the beginning of the maintenance- or repair works you have to disconnect plug from the mains.

Repairs may be executed only by appropriately qualified and experienced personnel.

After every repair the machine has to be inspect by an electric specialist.

Due to its design, the machine needs a minimum of care and maintenance.

Regularly the following works have to be carry out or rather the component parts have to be inspect.

- Clean the machine after finishing work.
- Later on you have to grease the drill bit thread.
- The ventilation slits have to be clean and open.
- Pay attention that no water get into the machine during the cleaning process.
- **Give oil into the drill spindle to maintain the seal function.**
Disconnect the machine from the water supply. Open the water tap, fill in some drops of oil, close the water tap, give some drops oil into the overrunning hole and turn the spindle by hand.

- After the first 150 hours of operating you have to replace the gear oil. Gearing oil changes bring about an essential increase of the tool's lifetime.
- After approx. 250 hours of operating the carbon brushes have to be checked by a specialist and if necessary remove them. (Only use original-carbon brushes.)

Quarterly the switch, the cable and the plug have to be checked by a specialist.

Environmental Protection



Raw Material Recycling instead of Waste Disposal

In order to avoid damages on transportation, the tool has to be delivered in solid packaging. Packaging as well as unit and accessories are made of recyclable materials and can be disposed accordingly.

The tool's plastics components are marked according to their material, which makes it possible to remove environmental friendly and differentiated because of available collection facilities.

Noise Emission

The indication of noise emission is measured after DIN 45 635, part 21. The level of acoustic pressure on work site could exceed 85 dB (A); in this case protection means must be used.

Wear ear protectors!



PRCD Protection Switch

For the full protection of the operator the machine must only be used with a fault current (FI) protection device. Therefore the machine is standard delivered with an integrated PRCD protection switch.

Attention!!



- Please observe that the PRCD protection switch is not lying in water !!
- Don't use the PRCD protection switch for switching ON / OFF the machine !!
- Check the correct operation before starting your work !!

Testing Method:

1. Connect the plug of the PRCD with the connector socket !
2. Press RESET! The indication will show RED (ON) !
3. Disconnect the plug from the socket! The indication will switch off.
4. Repeat the points 1 and 2 !
5. Press TEST ! The red indication will switch off.
6. Press RESET to switch on the machine (RED)!

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Extension Cord Selection

If an extension cord is used, make sure the conductor size is large enough to prevent excessive voltage drop which will cause loss of power and possible motor damage. A table of recommended extension cord sizes will be found in this section. This table is based on limiting line voltage drop to 5 volts (10 volts for 230 volts) at 150 % of rated amperes.

If an extension cord is to be used outdoors it must be marked with the suffix W-A following the cord type designation. For example – SJTW-A to indicate it is acceptable for outdoor use.

Recommended extension cord sizes for use with portable electric tools:

		Length of Cord in Feet									
		115 V	25 Ft.	50 Ft.	100 Ft.	150 Ft.	200 Ft.	250 Ft.	300 Ft.	400 Ft.	500 Ft.
		230 V	50 Ft.	100 Ft.	200 Ft.	300 Ft.	400 Ft.	500 Ft.	600 Ft.	800 Ft.	1000. Ft.
Nameplate Ampere Rating	0-2	18	18	18	16	16	14	14	12	12	
	2-3	18	18	16	14	14	12	12	10	10	
	3-4	18	18	16	14	12	12	10	10	8	
	4-5	18	18	14	12	12	10	10	8	8	
	5-6	18	16	14	12	10	10	8	8	6	
	6-8	18	16	12	10	10	8	6	6	6	
	8-10	18	14	12	10	8	8	6	6	4	
	10-12	16	14	10	8	8	6	6	4	4	
	12-14	16	12	10	8	6	6	6	4	2	
	14-16	16	12	10	8	6	6	4	4	2	
	16-18	14	12	8	8	6	4	4	2	2	
	18-20	14	12	8	6	6	4	4	2	2	