EIBENSTOCK
Elektrowerkzeuge

Original Instructions

EBM 352/3

Important Instructions

Important instructions and warning notices are allegorized on the machine by means of symbols:

Before you start working, read the operating instructions of the machine.

Work concentrated and carefully. Keep your work-place clean and avoid dangerous situations.

In order to protect the user, take precautions.

During work you should wear ear protectors, goggles, dust mask, protective gloves and sturdy work clothes!

Wear safety goggles

Wear safety helmet

Use ear protection

Wear protective gloves

Wear protective boots

Warning notices:

Warning of general danger

Warning of dangerous voltage

Warning of hot surface

Danger of being ripped or cut

Specifications

Wet Diamond Core Drill Motor EBM 352/3

Rated voltage:	120 V ~
Rated current:	20 Amp

Frequency:	50 / 60 Hz
Max. drilling diameter:	14”
Spindle connection:	1 ¼" UNC
Protection class:	I
Degree of protection:	IP 20
Net weight:	about 27.5 lbs
Interference suppression:	EN 55014 and EN 61000

Gear	Rated speed	drilling diameter
1	260 rpm	152 - 352 mm
2	570 rpm	62 - 152 mm
3	1200 rpm	42 - 62 mm

Available accessories:

Item	Order No.
Diamond drill rig BST 352 V	09647000
Fastening set concrete / stone	35720000
Copper ring for easy removal of the drill bit	35450000
Adapter 1 ¼" i – ½" i	35116000
Quick action bracing unit	35730000
Water suction ring WR 352	3587D000
Spare seal ED 352 for WR 352	3586L000
Water tank 10 l metal	35810000
Wet/dry vacuum cleaner DSS 25 A	09915000
Diamond drill bits Ø 42 – 352 mm	
Drill bit extensions	

Supply

Diamond core drill motor **EBM 352/3** with ball valve and GARDENA connector, PRCD protective switch, operating instructions, one spanner SW 32 and one spanner SW 41 in a cardboard box.

Application for Indented Purpose

The diamond core drill **EBM 352/3** is indented for professional use and may be used by instructed personnel only.
With the appropriate wet drill bits, the machine may be used for wet drillings only, e.g. in concrete, stone and masonry.
It may be used with a suitable diamond drill rig only.

Safety Instructions

Safe work with the machine is only possible if you read this operating instruction 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 use, do not touch it, but instantly pull the plug out of the socket. Never use the tool with a 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 core may fall downward.

Do not expose power tools to rain or wet conditions.
Water entering a power tool will increase the risk of electric shock.

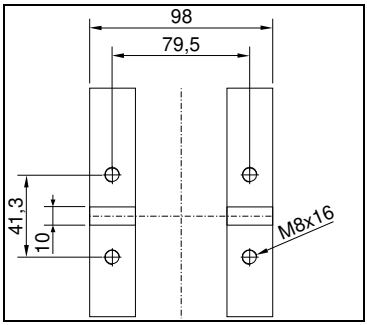
- Do not use the tool in an environment with danger of explosion.
- Do not use the tool standing on a ladder.
- Do not drill in asbestos-containing materials.
- Never carry the tool at its cable and always check the tool, cable and plug before use. Have damages only repaired by specialists. Insert the 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, e.g. 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.
- Do not use the machine if a part of the housing is damaged or in case of damages on the switch, the cable or plug.
- During work, always lead the mains cable, extension cable and extraction hose to the back away from the machine.

- Power tools have to be inspected visually by a specialist in regular intervals.
- **When using the drill, cooling water is never allowed to get into the motor and all electrical parts.**
- Overhead-drillings only with suitable safety measures (water collection).
- After an interruption of your work, only switch the machine on again after having checked that the drill bit can be turned freely.
- The tool may be used with the drill rig only.
- Do not touch rotating parts.
- Persons under 16 years of age are not allowed to use the tool.
- During use, the user and other persons standing nearby have to wear suitable ear protectors, goggles, helmets, protective gloves and boots.

- **Always work concentrated and carefully. Do not use the tool when you are lacking in concentration.**

For further safety instructions, please refer to the enclosure!

Fixing to Drill Rig



Fasten the gearing foot of the **EBM 352/3** by means of four M 8 Allen screws to the drill rig.
The drill stand should have a good stiffness and precise guide ways. The spindle of the machine needs to go parallel to the axle of the drill stand.
Use only fall-safe drill rigs.
It is advisable to use a water-collecting ring.

The **EBM 352/3** is equipped with a transport handle which makes the transport of the core drill and inserting in the drill rig reception easier.

Electrical Connection

The **EBM 352/3** is made in protection class I. In order to protect the operator, the machine can only be run with a GFCI. For this reason, the machine is standard equipped with a PRCD switch integrated in the cord which allows to connect the unit directly with a grounded socket.

Attention!

- **The PRCD-safety switch must not lay in water.**
- **PRCD-safety switch must not be used to switch the tool on and off.**
- **Before you start working, check the proper functioning by pressing the TEST button.**

First, check the correspondence of voltage and frequency and compare it with the data mentioned on the identification plate. Voltage differences from + 6 % to – 10 % are allowed.
Use only 3-wire extension cable with protecting conductor and a sufficient cross-section (min. 2.5 mm^2). A cross-section which is too small could lead to excessive power loss and to overheating of machine and cable.
The machine is equipped with a start-up speed limiter to prevent fast expulsion fuses from unindented responding.

Recommended extension cord sizes for use with portable electric tools:

Length of Cord in Feet										
110 V		25 Ft.	50 Ft.	100 Ft.	150 Ft.	200 Ft.	250 Ft.	300 Ft.	400 Ft.	500 Ft.
Nameplate Ampere Raiting	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

Water Connection

If the drill bit is not cooled enough with water, the diamond segments could heat up and consequently get damaged and weakened. For this reason, always make sure that the cooling system is not blocked.

In order to supply the machine with water, please proceed as follows:

- Connect the tool to the water supply system or a water pressure vessel using the GARDENA connector.
- Always make sure that the machine only runs with enough clear water as the seals get damaged when the machine is running dry.
- Attention! The maximum water pressure should not exceed 3 bar!
- Make sure that the segments are well cooled. If the drilling water is milky, the segments are well cooled.
- Overhead-drilling only with water collection ring.
- In case of frost warning, drain the water system.

Changing Gears

The **EBM 352/3** is equipped with a mechanical 3-speed oil-bath gearbox.
Select the speed according to the drilling diameter (ref. to the tool's identification plate).
Use the speed selection to change to the next higher or lower speed until it locks. Change the speed only when the tool is not running; slightly turn the working spindle to ease the speed change.

Warning!

- **Only change gears whilst the tool is not in operation!**
- **Never apply force**
- **Never use tools, such as hammers or pliers to change the gear.**

Drill Bits

Diamond drill bits with an 1 ¼" UNC female thread can be screwed directly onto the working spindle.
For drill bits with R ½" male thread, adapters are available as accessories.
Always use drill bits which match the material which has to be drilled.
You can prevent the machine from damage if you only use drill bits which are balanced and not deformed. Pay attention that diamond segments have enough relief cut towards the drill bit body.

Drill Bit Changing





Attention!
The machine is heavy and when you use or sharpen it, it might heat up enormously. You could burn your hands or get cut or ripped by the segments. Before the beginning of all works on the tool you have to disconnect the plug from the mains. Always use protective gloves when changing the drill bit.

The drill spindle has a right-hand thread.
To hold on spindle always use an jaw wrench SW 32.
Never remove the drill bit with impacts because this way the machine will be damaged.With some waterproof grease, which is put on the drill bit thread, and a copper ring between spindle and drill bit you can remove the drill bit easier.

Using the Drilling Unit

In order to operate safely, please observe the following instructions:

Safety at work:

- Make sure that your work place is free of anything that might disturb your work.
- Pay attention that your work-place is well-lit.
- Make sure that you observe the conditions for the connection with the power supply.
- When laying the cables, make sure that it cannot be damaged by the tool.
- Make sure that you always can overlook the work place in a sufficient way and that you always can reach all necessary control elements and safety devices.
- In order to avoid accidents, keep other persons away from your work place.

Required space for operation and maintenance

If possible, make sure that you have enough free space for operation and maintenance around the machine (about 2 metres). This way, you can work safely and in case of operating trouble you can intervene immediately.

Preparation

- When you drill into blocs, make sure that the blocs are well anchored and fixed.
- Before drilling in supporting parts, make sure that you do not disregard the statics. Observe the instructions of the experts who are responsible for the design.
- Make sure that you do not damage any gas mains, water mains or electric cables while drilling.
- Pay attention that you do not touch any metallic parts of the machine when you drill walls and grounds where electric cables could lie under water.
- Pay attention that the drilling core does not hurt anybody or damaging anything when it drops out.
- If the drilling core might cause any damage when it drops out, use an device that can hold back the drilling core.
- Make sure that the drill bit is well fixed.
- Only use tools which are suitable for the particular material.

Fastening of the Drill Rig

The diamond core drill **EBM 352/3** may only be used mounted on a drill rig. Since the drill rig is not included in the delivery, we point out some important kinds of assembly.

For this purpose, please refer to the drill rig's operating instructions.

Vacuum fastening:

For the **vacuum**, make sure that it is sufficient (minimum -0.8 bar). Make sure that the gaskets are not worn.

Attention! Do not use the vacuum fastening on the wall or overhead!

Please ensure that the leveling screws are adjusted in such a way that they do not protrude from the underside of the drill stand foot, otherwise the vacuum is affected and the stand may come away from its support.

Dowel fastening:

The most common way of fastening is **dowel fixing**.

If possible, use metal dowels only. The dowel diameter must not be smaller than 12 mm.

- In order to fasten the drilling unit correctly, you need the fastening set (order number 35721).
- Drill a hole with a diameter of 15 mm, 50 mm deep. Make sure that the hole is free of dust.
- Insert a dowel and open it with an expanding mandrel.
- Screw the thread rod into the dowel.
- Put the drilling unit with the deep hole in the base onto the thread rod.
- Place the washer and screw the butterfly nut very tightly.
- Adjust the drilling unit in the platform by using the four screws.

Drilling

Vertical drilling

- Switch the PRCD on.
- Open the water supply.
- Switch the motor on without touching the surface with the drill bit.
- Turn the handle to bring down the drill bit until it contacts the surface.
- In order to reach an exact centring of the drill bit, keep the feed low for the first centimeter of cutting depth.
- Then you can drill faster. A too small drilling speed reduces the power. On the other hand, when the drilling speed is too high, the diamond segments quickly become blunt.

Angular drilling

- Remove the screw in the foot base which arrests the column at 90°.
- Loosen the two screws on the base of the column and turn the column to the requested angle.
- Retighten the screws again.
- At the beginning, it is better to drill very slowy because the bit only meshes with a fraction of its cutting area with the material. If you drill too fast or with a pressure which is too high, the bit can be off centre.

You have hit reinforced iron when you recognise while drilling that the feed rate gets very low, when you need to use more force, or when the water leaking from the bore hole clearly shows some metal chips.
Reduce the pressure on the drill bit to cut through the reinforced iron without any problems. You increase the pressure again when you have cut through the reinforced iron.

Drill bit extension

If you have to drill deeper than the usable length of your drill bit is:

- First, only drill to the point the usable length of the bit reaches.
- Remove the bit and pull the centre core out of the hole without moving the core drilling unit.
- Push the drill bit back into the bore hole.

Screw an adequate extension between drill bit and motor. If the collet of the drill bit is 1 ¼", please do not forget the copper rings which make the removal of the drill bit easier.

Overload Protection

In order to protect the operator, motor and drill bit, the **EBM 352/3** is equipped with a mechanical, electronic and thermal overload protection.

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

Thermal: In case of permanent overload, a thermocouple protects the motor against destruction. In that case, the tool switches off and can only be restarted after a certain cooling-down

period (approx. 2 minutes). The cooling-down time depends on the temperature of the motor winding and ambient temperature.

Safety Clutch

The safety 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 it in good condition, the clutch should slip for a very short time (max. 2 seconds) in each case only. Slipping for longer periods destroys the safety clutch. After excessive wearing the clutch has to be renewed by an authorized service shop.**

Fracture of Segments

If a diamond segment, parts of the reinforcement or something similar breaks out, and consequently the drill bit seizes, stop working on this bore and drill a hole with the same centre and a diameter being 15 – 20 mm bigger.
Do not try to finish your work using another drill bit of the same diameter!

After Drilling

When you have finished drilling:

- Pull the drill bit out of the hole.
- Stop the motor by using the motor switch and not the PRCD switch.
- Close the water supply.

Removal of the core when it sticks in the drill bit:

- Separate the drill bit from the motor (if possible).
- Put the drill bit in a vertical position.
- Knock carefully on the pipe by using a wooden hammer shank till the drilling core slips out. Never throw the drill bit against a wall by force or set about it with tools, such as hammer or jaw wrench. Otherwise, the pipe could go out of shape and neither the core can be removed nor the drill bit reused.

Removal of the core from blind holes:

Break off the core with a cotter or lever, or in pieces. Lift the core out with appropriate tongs or drill a hole in the core, screw an eyebolt in and pull the core out.

Care and Maintenance

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

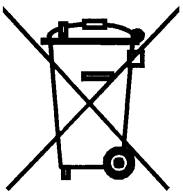
Repairs may be executed only by appropriately qualified and experienced personnel. After every repair the machine has to be inspected by an electric specialist. Due to its design, the machine needs a minimum of care and maintenance. Regularly the following works have to be carried out or rather the component parts have to be inspected.

- Clean the drilling unit after having finished drilling. Later on, you have to grease the spindle thread. The ventilation slots always have to be clean and open. Pay attention that no water gets inside the core drill during the cleaning process.
- After the first 150 hours of operation you have to replace the gearbox oil. Gearbox oil changes bring about an essential increase of the tool's lifetime.
- After approximately 250 hours of operation the carbon brushes have to be checked by a specialist and if necessary removed (only use original carbon brushes).
- Have switch, cable and plug checked by an electric specialist quarterly.

Environmental Protection

Raw material recycling instead of waste disposal

In order to avoid damages on transportation, the power tool has to be delivered in sturdy packing. The packing as well as the tool and its accessories are made of recyclable materials and can be disposed accordingly. The tool's plastic components are marked according to their material, which makes it possible to remove environmental friendly and differentiated because of available collection facilities.



Only for EU countries

Do not dispose of electric tools together with household waste material!

In observance of European Directive 2002/96/EC on waste electrical and electronic equipment and its implementation in accordance with national law, electric tools that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility.

Noise Emission / Vibration

The indication of noise emission is measured according to DIN 45 635, part 21. The level of acoustic pressure on the work place could exceed 85 dB (A); in this case protection measures must be taken.

Wear ear protectors!

auto-stop brushes

In order to protect the motor, this power tool is equipped with auto-stop brushes. When the carbon brushes are worn out, the machine switches itself off. In this case both brushes must be replaced at the same time with original brushes by an electrical specialist.
werden.

In Case of Malfunction

In case of breakdown, switch the machine off and disconnect the plug from the mains. Repairs on the electric parts of the tool may only be done by an electric specialist.

Trouble Shooting

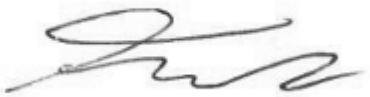
Error	Possible Cause	Error Recovery
machine does not work	mains current supply interrupted	plug in another electric appliance and check the functioning
	line cord or plug damaged	have it checked by an electric specialist and replaced if necessary
	switch damaged	have it checked by an electric specialist and replaced if necessary
	the PRCD-switch is off	press RESET to switch on
motor runs, drill bit does not rotate	Gear not engaged properly or accidentally disengaged	Operate the gear switch to engage the required gear
	gearbox damaged	have the tool repaired by an authorised service workshop
drilling speed too slow	drill bit damaged	check if drill bit is damaged and replace it if necessary
	A too high water flow rate prevents self-sharpening of the drill bit	regulate the water quantity
	drill bit is blunt	sharpen the drill bit with a sharpening block while using the flush
motor cuts off	the tool stops	lead the tool in a straight manner
	the tool overheats, overload protection of the motor has reacted	discharge the tool and restart it by pressing the switch a couple of times
	carbon brushes are worn out - auto-stop brush switch off	both brushes must be replaced with original brushes by an electrical specialist
water drops out of the gearbox housing	shaft sealing rings damaged	have the tool repaired by an authorised service workshop

Warranty

According to the general supply conditions for business dealings, suppliers have to provide to companies a warranty period of 12 months for redhibitory defects (to be documented by invoice or delivery note).
Damage due to natural wear, overstressing or improper handling are excluded from this warranty. Damages due to material defects or production faults shall be eliminated free of charge by either repair or replacement. Complaints will be accepted only if the tool was returned in non-dismantled condition to the manufacturer.

EU Declaration of Conformity

On sole responsibility we declare that this product is in conformity with the following standards and standard documents:
EN 62841-1:2023-03
EN 62841-3-6:2018-09
EN 55014-1:2022-12
EN 55014-2:2022-10
EN 61000-3-2:2023-10
EN 61000-3-3:2023-02
EN IEC 63000:2019-05
According to the regulations 2006/95/EC, 2014/30/EU, 2006/42/EC
Technical file (2006/42/EC) at:
Elektrowerkzeuge GmbH Eibenstock
Auersbergstraße 10
D – 08309 Eibenstock



Lothar Lässig
General Manager
16.07.2024

Frank Markert
Head of Engineering

GB - Declaration of Conformity

We declare as the manufacturer under our sole responsibility that the product described under “Technical Data” fulfi lls all the relevant provisions of the following Regulations S.I. 2008/1597 (as amended), S.I. 2017/1206 (as amended), S.I. 2012/3032 (as amended) and that the following designated standards have been used:
BS EN 62841-1: 2023-03
BS EN 62841-3-6:2018-09
BS EN 55014-1: 2022-12
BS EN 55014-2: 2022-10
BS EN 61000-3-2: 2023-10
BS EN 61000-3-3: 2023-02
BS EN IEC 63000:2019-05

Technical file (S.I. 2008/1597) at:
Elektrowerkzeuge GmbH Eibenstock
Auersbergstraße 10
D – 08309 Eibenstock

Lothar Lässig
General Manager
16.07.2024

Frank Markert
Head of Engineering

Your distributor

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