



Wet and Dry Diamond Core Drill

Operating Instructions

DBM131



Technical Characteristics

Rated voltage:		110 V
Rated power input:		1500 W
Load speed:	1 st speed	0 - 800 min ⁻¹
	2 nd speed	0 - 1570 min ⁻¹
maximum drilling capacity:		
	1 st speed	132 mm
	2 nd speed	70 mm
Protection class:		II
Collet:		M 18
Weight(net):		6.8 kg
Collar clamping diameter:		53 mm

This machine is meant for professional use only!

All rights of changes due to technical development reserved.

Safety Instructions

Read and obey these instructions before using this machine.

ADDITIONAL SAFETY RULES FOR THIS MACHINE

1. This core-drill must only be used under constant supervision. Unplug and make sure the mains switch is OFF whenever core-drill is not in use or left unattended, before servicing, adjustments, change of cutter or other accessories and when there is a voltage drop (below 200V)
2. Only grip by insulated part of auxiliary handle and other plastic surfaces when performing drilling where cutter is likely to contact hidden electrical wiring or its own cable. Contact with a "Live" wiring will make all exposed metal surfaces of the machine "Live" and danger for an electric shock.
3. Do not use the machine if a defect is found on the plug, mains lead, trigger switch or any part of housings (daily inspection). Have them repaired by a qualified person.
4. For longer machine use, wear hearing protectors.
5. Machine should never be damp or wet. Do not use the machine in damp or wet locations.
6. Likewise it is recommended to wear safety helmet, safety glasses and/or face shield. Also wear a dust mask and thickly padded gloves.
7. Prior to work starting, make sure that cutting accessory is fitted properly.
8. Before starting work carefully check all screws for tightness. Due to vibration screws come loose and can cause serious breakdown or injury.
9. Make sure no one is below when using the machine in high locations.
10. Keep hands well away from rotating parts.
11. During machine operation, cooling water must never be allowed to enter motor or other electrical installation.
12. Should there be any leaking of water between synthetic ring and gearbox, stop immediately and have the fault rectified by an authorised service workshop.
13. Overhead (upward) drilling can only be carried out with the use of suitable protection shielding (water collecting device).
14. After interrupt cutting, do not switch on the motor again unless core bit can rotate freely.
15. Avoid touching near dry-cut immediately after work process. Area can be very hot and cause severe burns.
16. To avoid machine self-starting, always trigger-off the switch should power supply become interrupted or plug accidentally withdrawn from the socket while motor is still running.
17. When coring manually, always use also auxiliary handle (side handle) and hold the machine firmly with both hands.
18. Keep sure-footing and body balance at all times for better control of reaction torque.

Main Instructions

The DBM131 is in connection with diamond core drill bits meant for drill in bricks, brickwork and lime-sand-stone for dry cut and in concrete and stone for wet cut.

The plastic cap stays also during the dry cut on the spindle and is only to remove for replace the shaft seals.

For drill about more than 40 mm and operating in the 1st speed the use of the drill stand is absolute necessary. The user is responsible for damages caused by inappropriate use.

Hand drilling in the first speed forbidden! Counter torque can lead to risk in case of careless use.

Auxiliary Handle

In hand held drilling operations, only use the machine with the auxiliary handle fixed. This handle must be tighten on the collar, by turning the lever.

Putting into operation

First, check the correspondence between voltage and frequency against the data mentioned on the identification plate. $\pm 5\%$ voltage difference is allowed.

The machine is supplied with a standard integrated PRCD-protection switch for use at a grounded socket. Check before every use the proper function of the PRCD-protection switch (see special instruction!)

Attention! Don't use PRCD switch for switching on / off the machine!

Use only 3-wire extension cable with protecting conductor and sufficient cross-section (min. 2,5 mm²). A cross-section which is too small could lead to excessive power loss and to overheating of motor and cable. The drilling progress must correspond with the bit diameter and the drive power of the machine so that the rated power will not be exceeded.

Gear Shifting

According to the drill bit diameter you have to choose between the both possible speeds.

For drilling up to 70 mm we recommend the 2nd speed •• (pointed side of the gear switch shows towards motor) and for drilling over 70 mm you have to use the 1st speed •

(pointed side of the gear switch shows towards spindle).

If it is not possible in standstill to turn the gear switch in end position just turn the spindle a little bit.

Attention! Gear shifting only when the machine is stopped. Turn in clockwise direction!

On-Off Setting

The diamond drill machine is equipped with an electronic controller with locking device.

The more the switch is pressed, the higher is the speed. This allows very precise drilling when starting a hole.

In normal working conditions, always work at maximum speed.

Attention! Do not lock the switch in case of hand held drilling.

Short-Time Operation – free-hand drilling

switching-on: press the on/off switch
switching off: release the on/off switch

Permanent Operation – drilling with drill stand

switching-on: press the on/off switch and keeping it pressed, engage the lock button
switching-off: press the on/off switch again and let it go off

Overload Protection

In order to protect the operator, the motor and the drill bit, the machine 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 bit from the motor.
Pay attention to the reaction torque.

electronic: For the warning of the user at overload of the machine in case of too large crowd force there is installed a LED into the hand grip.

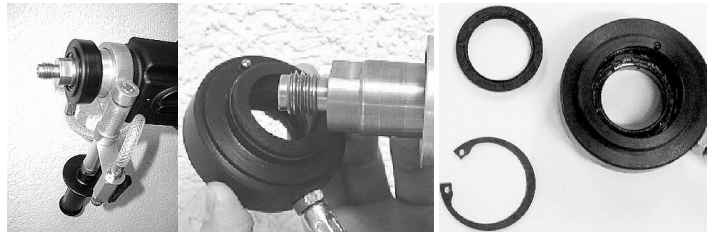
thermal:

In no-load operation and normal load occurs no indication.
In case of overload the LED glows red. In this case you have to remove the load. For longer disregard of the red LED it follows a self-contained of the machine. After discharge and reengagement one can drill again. When continuous overload is applied (despite the electronic device) a thermal protection will protect the motor. The machine disengages itself in this case and can be put into operation after waiting for cooling down (approx. 2 min.) The time needed to be able to restart the machine will be vary dependent on overheating of the coil and the ambient temperature. To speed up the cooling down of the machine let the machine after the restart run 1-2 min. without load.

The stop of the machine caused by overload protection is no failure. After an adequate time it is possible to restart working!

Water Supply

The DBM131 is designed for wet-and dry core drilling. The water supply has to stay on the spindle always. Never drill without water supply due the spindle could be damaged. If there is water leakage between the water supply ring and the gearbox housing you have to change the water supply respectively replace the shaft seals by new and slight greasy shaft seals. These are available about dealers or manufacturer. The water supply (black plastic ring) can only remove by pull down. The mounting of the water supply occurs to push open till it snapped. Pay attention to the position of the dowel (for protection against twist)



Attention ! Do not damage the seal rings during the mounting.

The machine has an external water supply through the work spindle. With the help of the water tap you can regulate the water quantity.

The water supply is equipped with a connector for Gardena-hose coupling.

Attention! Water pressure not higher than 3 bar.

In case of drilling “overhead” you have to exhaust the leak out water at the drill hole by suction ring and wet-vacuum cleaner for reasons of safety at work and reliability.

Electrical Safety

The machine has a class II protection.

For operator full protection this machine must only be used by wet drilling with fault current protection device.

Therefore the DBM181 is standard equipped with PRCD protection switch be used on a grounded socket.

Care and Maintenance

Due to it's design, the machine needs a minimum of care and maintenance.

Nevertheless, you should always observe the following:

- Keep the electric tool clean
- Avoid any particle or part to penetrate inside the tool
- If the machine is defect let carry out a repair only through an authorized workshop.



Instructions for Using Diamond Core Drilling Bits

1. Dry Drilling

- 1.1 Only perform dry core-drilling on brickwork and soft lime or soft sand stones.
- 1.2 Vacuum the dust away. Rock and masonry dust is harmful. We strongly recommend you to wear a face shield as well. Employ suitable type of vacuum and which also have ample of suction power. Plentiful suction air offers additional benefit of cooling the core drill's body and free of dust, running more freely. Moving core drill slightly back every now and then during coring process will make dust extraction more effective. In doing so make sure not to tilt the core drill bit, as this will substantially shorten its useful life.
- 1.3 Use solid pilot inserted into the core-bit until a starting groove about 5mm deep is cut. Then remove pilot bit, otherwise it will start overheating and become unnecessarily defective. Alternatively you can also use separate hammer drilling machine to make a pilot hole which then renders removal of the pilot from core bit unnecessary.

2. Wet Drilling

- 2.1 Concrete and natural (hard) stone must be core-drilled wet.
- 2.2 Ensure sufficient water flow. There has to be enough water to flush all the residue out of the groove. A 100mm diameter core can require up to 5 lit/min of water supply. If using pressurised water container, make sure it will deliver the required amount.
- 2.3 Starter hole guides and drill rigs assist accurate starts and guidance. These are also available with a water collecting facility. If neither starter hole guide nor drilling rig are available, use wooden template to ensure drilling starts in the proper place.
- 2.4 When using drilling rig, make sure that:
 - drilling machine is mounted securely;
 - the feed control is engaged and that drill does not move by its own weight;
 - the stand is mounted securely.Improperly secured drilling rigs can cause jamming of the core bit and breakage of the segment(s).
- 2.5 For safety, the drill stand should be secured in one of the following ways:
 - with bolt anchor, washer and quick fastening bolt (use anchor for at least 50mm setting depth).
 - with vacuum base (vacuum kit and pump required)
 - masonry or other work substrate surface need to be flat, cracks and pores free. This method is not suitable for tiled surfaces. When drilling horizontally (wall) or ceiling drilling, additionally secure the drill to prevent falling by the use of straps or rope.
 - with Quick Clamping Column: Brace or prop-up against the centre of the column base or clamping head.



- 2.6 Core can be removed from the core-bit by tapping or pressing it out from behind. Never hit the core-bit itself with a hammer, as this can damage it.
- 2.7 Remove blind core (no through bore) by the aid of cold chisel or similar, levering it loose against groove wall.
- 2.8 At overhead drilling always use water collecting equipment so to prevent water entering the machine. Do not attempt to protect the machine by covering as this inhibits motor cooling and would cause burn-out by overheating.
- 2.9 Water collecting rings are available for all drill bit sizes. The ring is secured to the central screw or the centering tip of the stand base. Cut the rubber gasket about 3mm bigger than the core-bit diameter.
- 2.10 Always remove broken off core-bit segment(s) from the cut groove before re-commencing any further drilling.

3. Core-Bit

- 3.1 Use only core-bits recommended by your local specialist supplier or manufacturer's agent. Follow their advice for particular application. There is no such thing as one/or universal core-bit that can satisfactorily drill concrete, reinforced concrete, granite, marble and (asphalt/tarmac).
- 3.2 A high content of rebar or very hard ballast in concrete will cause quicker blunting of core-bit. Re-dress more often by cutting into piece of corundum grinding wheel to re-expose diamond particles.
- 3.3 There is proportionate relationship between hardness of diamonds impregnated segment material, cutting speed and abrasiveness of material being cut. Follow speed instructions of the drilling machine. The optimum cutting speed is between 2 and 5 m/s.
- 3.4 Should core-bit jam or there is no progress made when drilling, check to ensure that there is sufficient amount of diamonds present in the surface of segments. If this is not the case, replace the core-bit.

4. Safety Switch

- 4.1 Check RCD (Residual Current Device) daily, following enclosed instructions. Make sure to use it as for any submerged pump or similar where RCD or FI-Box are a must.



- 2.7 Pour changer un trépan aveugle, utiliser un burin
- 2.8 Lorsque vous percez un plafond, utilisez toujours un collecteur d'eau pour éviter que l'eau rentre dans la machine ? Eviter de protéger la machine avec des éléments qui pourraient provoquer une surchauffe.
- 2.9 Les bagues de collecteurs d'eau sont disponibles dans toutes les dimensions. La bague est fixée solidement au centre de la base ; si nécessaire couper le joint 3mm plus grand que le diamètre du trépan.
- 2.10 Avant de recommencer à percer, assurez-vous qu'il n'y a pas de morceaux de segments dans la rainure.

3 TREPAN

- 3.1 Il est nécessaire d'utiliser des trépan recommandés par des spécialistes ; suivez leurs conseils pour des applications particulières. Attention, il n'existe pas de trépan universels qui peuvent donner satisfaction pour le béton, le béton armé, le granit, le marbre ou de l'asphalte.
- 3.2 Dans le béton, le trépan peut s'encrasser très rapidement. Il est fortement recommandé d'utiliser une meule en corindon pour refaire réapparaître les particules de diamant.
- 3.3 Il existe une étroite relation entre la dureté du lien du diamant, de l'abrasivité de la matière et de la vitesse de coupe . Suivez correctement les conditions d'utilisation quant à la vitesse. La vitesse optimum se situe entre 2 et 5 m/seconde.
- 3.4 Dans le cas où vous constatez que le perçage n'avance plus ; vérifiez l'état du trépan et voir s'il y a assez de diamant sur la surface des segments ; si ce n'est pas le cas, remplacez le trépan.

4 DIFFERENTIEL DE SECURITE

- 4.1 Vérifiez tous les jours , le différentiel .
Utiliser cette machine avec un différentiel comme n'importe quelle pompe immergée.

Noise and Vibration

The typical A/weighted noise levels are
sound pressure level: 85 dB(A)
sound power level: 90 dB(A)

Wear ear protection

The typical weighted root mean square acceleration value is not more than 2.5 m/s².

EC DECLARATION OF CONFORMITY

We declare under our sole responsibility that this product is in compliance with the following standards or standardized documents,

EN50144, HD400
in accordance with Council Directives, 89/336/EEC and 98/37/EC

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