

**MODEL ETN 152/3 P
CORE DRILL**



OPERATING MANUAL

Technical Characteristics

Diamond Core Drill ETN 152/3 P

Nominal voltage	230 V AC	110 V AC
Power drain	1,900 W	1,800 W
Rated current	9.2 A	17.4 A
Order No.	03334	03335

Frequency:	40-60 Hz
Max. drilling diameter:	152 mm
Bit holder:	1 ¼" UNC
Protection class:	II
Degree of protection:	IP 20
Weight:	approx. 6.5 kg
Interference suppression acc.to:	EN 55014 and EN 61000

Gear	Idle speed	Load speed	Max. drilling diameter
I	900 min ⁻¹	550 min ⁻¹	152 mm
II	2000 min ⁻¹	1250 min ⁻¹	70 mm
III	4000 min ⁻¹	2700 min ⁻¹	40 mm

Available add-ons:

Item	Order No.
BST 162 V/S diamond drill rig	09636
Drill rig accessories	35720
Diamond drill bit dia. 32 - 152 mm	
Copper rings for easier drill bit removal	35450
Drill bit extension	
Centring rod	36391
Quick-snap column	35730
10 litres metal water pressure vessel	35810
Wet/dry deduster DSS 1225 A	09904
Vacuum pump	09201
Vacuum hose	35855
Water collecting ring	3587A

Supply

Diamond core drill with cable-integrated cable PRCD protective switch, wet-type connector with ball valve and GARDENA connector, adapter for deduster connection (dia. 35 mm) and instruction manual in transport case.

Application for Indented Purpose

The diamond core drill ETN 152/3 P is indented only for professional use and may be used only by instructed personnel.

It may be used either with or without a suitable diamond drill rig. For wet drilling jobs with diameters above 70 mm and/or drilling in the 1st gear, it is a must to use a suitable drill rig.

Drilling in the 1st gear without drill rig is prohibited! On careless use, counter torques may cause danger to the user!

With an appropriate drill bit, the tool can be used for wet cutting of concrete and stone and dry cutting of bricks, sand-lime bricks and pore concrete.

Safety Instructions



Safe use of the tool is only possible if the user had studied the instruction manual and safety instructions completely and is strictly following the instructions contained therein.

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.



Prior to drilling in walls and ceilings, check them for hidden cables, gas and water pipes and other media.

Check the working area, e.g. using a metal detector.

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.
- Unplug the tool and make sure that the switch is off if the tool is not under supervision, e.g. during preparation and take-down works, at power failures, for insertion or mounting accessories.
- Unplug the tool if it stops for any reason. So you avoid sudden starts in unattended condition.
- Do not use the tool if its shell, switch, cable or plug are damaged.
- Always lead the mains and extension cables as well as the dedusting hose from the tool to the back.
- Electrical tools have to be inspected visually by a specialist in regular intervals.
- On using the tool, in no case cooling water may seep into the motor or the electric components.
- If water comes out of the drainage hole at the gear neck, stop your work and have the tool repaired by an authorised service centre.
- Perform overhead drilling only with suitable protective appliances (water catcher).
- After interruption of your work, restart the tool only after having made sure that the drill bit is moving freely.
- The tool may be used only in two-hand operation or with the drill rig.
- Keep the handles dry, clean, and free of oil and grease.
- Do not touch rotating parts.
- Persons under 16 years are not allowed to use the tool.
- During use, the user and other persons standing nearby have to wear suitable goggles, helmets, ear protectors, protective clothes and boots.
- **During manual operation, always hold the tool with both hands and be fall-safe. Consider the tool's reaction torque in case of blocking.**
- **Always work with concentration. Always work in a carefully considered way and do not use the tool if you are lacking consideration.**

For further safety instructions, see the enclosure.

Electrical Connection

The ETN 152/3 P is designed according to protective class 2. For the user's safety, the tool may be operated only with a leakage current protector. That is why the tool includes an integrated PRCD protective switch in an earth contact socket.

Attention!



- **The PRCD protective switch must not lay in water.**
- **PRCD protective switches must not be used to switch the tool on and off.**
- **Before starting your work, check the proper function by pressing the TEST button**

Use only three-conductor cable with earth conductor and sufficient cross section (ref. to table). Too small a cross section may cause malfunction of the tool.

Recommended minimum cross sections and maximum cable lengths

Mains voltage	Cross section in sq. mm	
	1,5	2,5
110V	20 m	40 m
230V	50 m	80 m

Prior to putting the tool into operation, check the mains voltage for conformity with the requirements of the tool's nameplate.

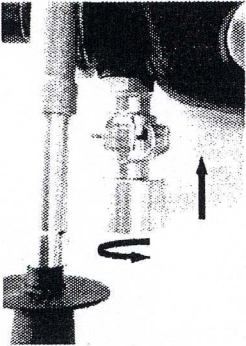
Voltage variations between + 6 % and – 10 % are permissible.

The tool includes a start-up speed limiter to prevent fast expulsion fuses from unindented responding.

Handle

For manual drilling, the ETN 152/3 P may be used only together with its handle which comes with the tools. Place it on the gearing collar from the front and fix it by counterclockwise rotation.

Dust Exhaustion



Dust which occurs during your work is hazardous to health. That is why it is advisable to use a deduster and to wear a dust mask on dry drilling. Place the adapter for the dedusting unit onto the tool's connector and turn into the direction of the arrow up to the stop. As a suitable wet/dry deduster, our DSS 1225 A is available as add-on. The use of a dedusting system is also a prerequisite for optimal cutting performance of the bit (air cooling).

Changing Gears

1st gear
0 - 550 min⁻¹



The ETN 152/3 P is equipped with a 3-gear oil-bath gearing. Select the speed according to the drilling diameter.

2nd gear
0 - 1250 min⁻¹



Use the gear selector to change to next higher or lower gear.

3rd gear
0 - 2700 min⁻¹



If gear changing is too heavy, slightly turn the working spindle to ease gear changing. Switching the tool on and off for a moment may also help to ease gear selection.

Warning!

- ! - Never apply force, and change the gear only when the tool is running down.
- Never use tools, such as hammers or pliers to change the gear.

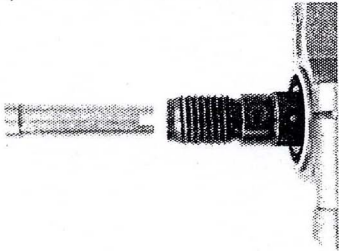
	Diameter (mm)	Gear
wet drilling	42 - 72	2
	12 - 32	3
dry drilling	122 - 152	1
	62 - 112	2
	12 - 62	3

Rig drilling		
wet drilling	82 - 152	1
	42 - 72	2
	12 - 32	3

Manual Drilling

Dry drilling

Mount the appropriate adapter for dedusting.
(refer to illustration at p. 18)



Insert the centering point so that the recesses in the centering point latch on the catches of the working spindle.

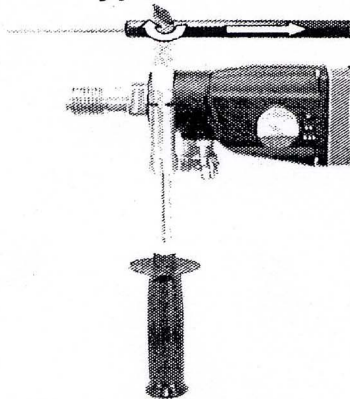
Fix the required dry drill bit on the working spindle.

Check for appropriate gear selection. Operate the ON/OFF switch and drill until the segments are approximately 5 mm in the material. Remove the centering point. Refix the drill bit to the existing groove and complete your drilling.

Wet drilling

For wet drilling, we recommend the use of a dimpling aid with water removal (order No. 35847).

This type is a must for overhead drilling.



Insert the gas spring with the water collecting ring and the guide ring appropriate for the drill bit diameter into the tension disk. Shift the gas spring up to complete coverage of the bit segments by the water collecting ring. Tighten the wing screw. On drilling overhead, make sure that the water supply is opened only after having switch the water remover on and the removing unit was fixed to the wall or ceiling.

Open the ball valve and switch the tool on.

Hold the tool tight with both hands. Locate the tool slightly inclined. Once the drill bit is in the material (approx. 1/8 to 1/4 of the circumference), bring the tool into an angle of 90 degrees and continue drilling.

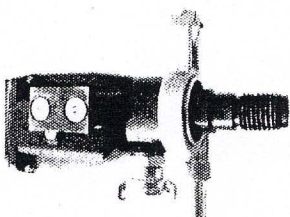
Take care that the drill bit is not out of line.

Advance the tool according to bit diameter and machine power. Observe the LED in the handle.

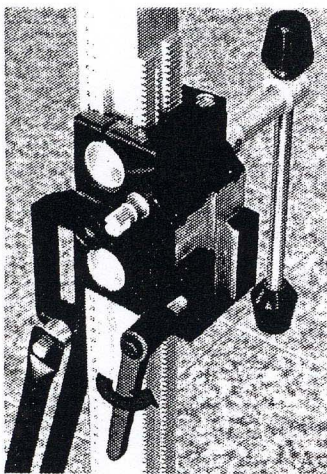
If it lights red, reduce your pressing force.

In case the bit gets jammed, do not try to release it by switching the tool on and off. This would cause premature wearing of the safety clutch. 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.

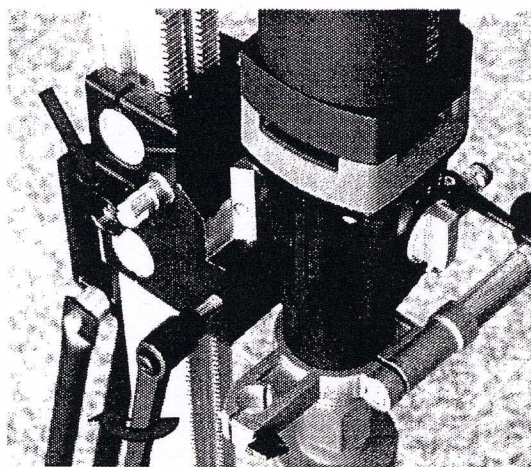
Fixing to Drill rig BST 162 V/S



The ETN 152/3 P is equipped with a special accommodation for the diamond drill rig BST 162 V/S. For mounting the tool to the drill rig, the handle may remain at its place.



Open the fixing by turning the tommy screw in direction of the arrow until the guideway is free.



Block the tool slide by means of the knurled screw. Insert the tool into the drill rig. Fix the tool by turning the tommy screw in direction of the arrow.

Rig Drilling

Fixing of the drill rig BST 162 V/S

Dowel fixing, vacuum fixing, bracing

Dowel fixing

The most common way of fixing is dowel fixing.

To apply this method, use the concrete and/or Rawl dowels available as accessories.

Remove the vacuum handle by releasing the Allen screw inside the footing.

Vacuum fixing (not for wall or ceiling drilling)

On applying vacuum fixing, provide a sufficient vacuum. 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.

Overload Protection

To protect the user, motor and drill bit, the ETN 152/3 P is equipped with a mechanical, electrical and thermal overload protection.

Mechanical: In case of sudden jamming of the drill bit, the drilling spindle is unclutched from the motor by means of a slip clutch.

Electrical: To warn the user against overstressing the tool by applying to high an advance force, the handle includes a LED. It does not light during idle run or at normal load. At overload, it lights red. In that case the tool must be stress-relieved. In case of longer non-observation of the red indication, the electronics will independently switch the tool off. After relieving be switching the tool off and on, the work can be continued as normal.

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 slip clutch served for compensation of shocks and overload. To keep its functionality, it shut not slip for more than 2 seconds. In case of excessive wearing, it can be replaced by an authorized service centre.

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. Use only appropriate drill bits for the material to be drilled in. You can protect your tool by using only well balanced drill bits without deformation. Make sure that the diamond segments have sufficient cutting clearance towards the bit body.

Changing Drill Bits

The drilling spindle has a right-hand thread. To ease screwing on and off, always use a SW 32 open-end wrench at the drilling spindle. Never use a hammer, because this may damage both the drill bit and the tool. Some water-resistant grease on the drilling spindle thread, or a copper ring between spindle and drill bit will simplify removal of the drill bit.

Attention!

The bits may have got hot due to use or sharpening. There is a danger of burning ones hands or injuring oneself at the segments' edges. When changing the drill bits, you should always wear protective gloves.

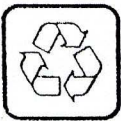
Care and Maintenance

It is a must to unplug the tool before starting any service or repair works. Repairs may be executed only by appropriately qualified and experienced personnel. After every repair, the unit has to be checked by an electrical specialist.

According to its design, the tool requires a minimum of care and maintenance. However, the following maintenance works and component checks have to be performed in regular intervals:

- Clean the tool after completion of your work. Apply some grease onto the drilling spindle thread. The ventilation slots must always be clean and unclogged. Make sure that now water gets into the tool during cleaning.
- After the first 150 hours of operation, the gearing oil must be changed.
Gearing oil changes bring about an essential increase of the tool's lifetime.
- After approx. 250 hours of operation, the carbon brushes must be checked and, if necessary, be replaced by an authorized specialist (use only original carbon brushes).
- Once per quarter of a year, an electrical specialist should check the switch, cable and plug.

Environmental Protection



Raw material recycling instead of waste disposal

To avoid damages in transit, the tool is supplied in a sturdy packing. The packing as well as the tool and its accessories are made of recyclable materials which enable environmentally friendly and sortwise disposal by the local reception points.

Noise

The tool's noise is measure according to DIN 45 635, part 21. The noise level at the working place may exceed 85 dB (A); in this case the user has to provide noise protection measures.

Wear ear protectors!