



# EIBENSTOCK

## Elektrowerkzeuge



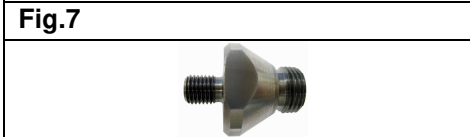
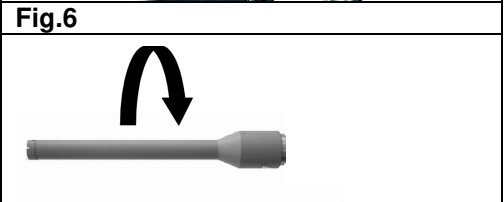
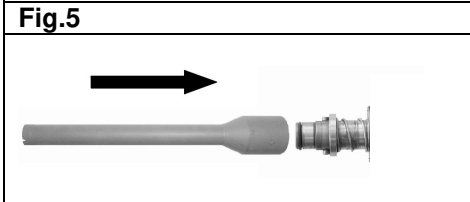
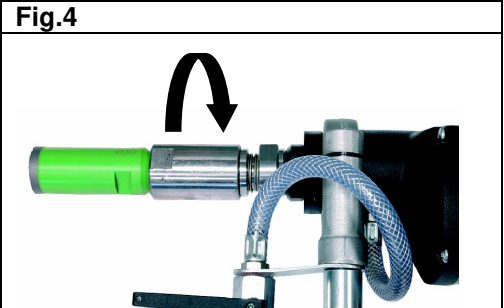
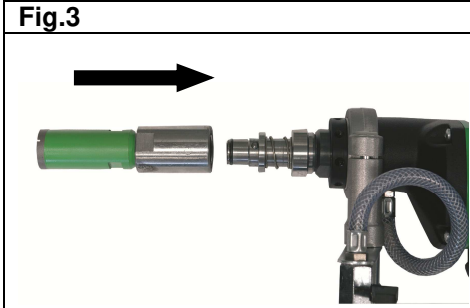
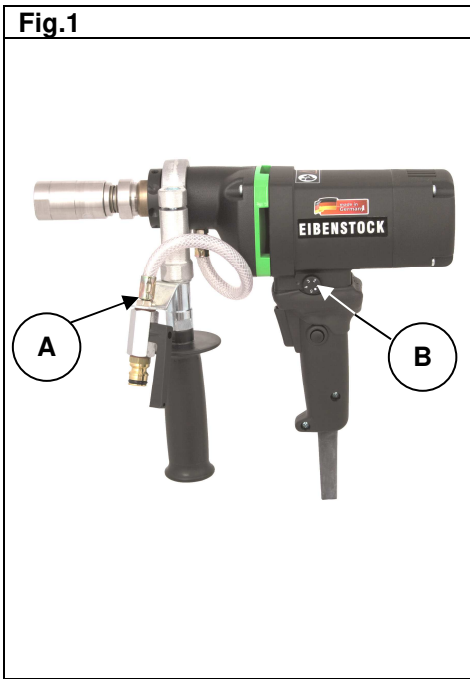
## Original Instructions



**END 1550 P**







## Important Instructions

Important instructions and warning notices are put 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.**

In order to protect yourself, implement the following actions:



**Use ear protection**



**Wear safety goggles**



**Wear a helmet**



**Use protective gloves**



**Wear protective boots**



**Warning of dangerous voltage**



**Warning of hot surface**



**Danger of being crushed**



**Danger of being ripped or cut**

## Technical Data

### Diamond Wet Drill END 1550 P

Rated voltage:	120 V ~
Rated current:	13 A

Frequency:	50 / 60 Hz
Drilling diameter	1/4" – 2 5/8"
Thread connection:	G 1/2" i
Rated speed:	1800-4400 rpm
Protection class:	II
Degree of protection:	IP 20
Net weight:	7 lbs.
Interference suppression:	EN 55014 and EN 61000

Subject to technical changes!

### Available add-ons:

Item	Order No.
Diamond drill bits R1/2" a	
Usable length: 40mm Ø 22-68 mm for tiles a. natural stone	
Usable length:300mm Ø 08-31 mm for reinforced concrete	
Diamond drill bits M 12 x 1,5 i	
Usable length: 30mm Ø 6-18 mm for tiles a. natural stone	
Usable length: 30mm Ø 6-12 mm for concrete a. brickwork	
Usable length:100mm Ø 6-12 mm for concrete a. brickwork	
3 Spare seals for quick-change adapter	35125000
Drill rig BST 50 V with 2 suction feet	09645000
Water suction hose 1/2", 5 m, Gardena connector as well as adapter for wet/dry vacuum cleaner	35837000

For further information about our products and our wide range of accessories please see: [www.eibenstock.com](http://www.eibenstock.com)

## Supply

Diamond wet drill with PRCD protective switch integrated in the cable, Quick-change adapter G1/2"a / G1/2"i, adapter G1/2" / M12x1,5 a and operating instructions in a case for transport.

## Application for Intended Purpose

The Diamond wet drill **END 1550 P** is intended for professional use and may be used only by instructed personnel.

It may be used either with or without an adequate drill rig.

With the appropriate diamond drill bits the tool may be used for wet drilling of holes up to 68 mm diameter maximum in tiles, stoneware and natural stone (up to a maximum drilling depth of 40 mm) as well as up to 30 mm diameter maximum in concrete, reinforced concrete and brickwork.

## Safety Instructions



**Safe work with the machine is only possible if you read this operating instructions completely and strictly follow the instructions contained herein.**

**In addition, the general safety instructions in the enclosed brochure have to be observed. Take part in a practical introduction before the first use.**



**If the connecting cable is getting damaged or cut during the work, don't touch it, but instantly pull the plug out of the socket. Never use the machine with damaged connecting 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.**

**Before you start working, consult a statics specialist to determine the exact drilling position. If drilling through ceilings, secure the place below, because the core may drop out.**



**Pay attention that the tool is not exposed to direct rain.**

- 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 materials containing asbestos.
- Never carry the tool at its cable and always check the tool, cable and plug before use. Have damages only repaired by specialists. Only insert the plug into the socket when the tool switch is OFF.
- Modifications of the tool are prohibited.
- The machine should only run under supervision of somebody. Plug and switch the machine off if it is not under supervision, e.g. in case of setting 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. This way, 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 connecting cable or plug.
- When using the drill, always lead the line cord, extension cable and suction tube backwards away from the machine.
- 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).

- 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.
- After an interruption of work the machine should only be switched on again if the drill bit can be turned.
- Do not touch rotating parts.
- Keep the handles dry, clean and free of oil and grease.
- 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 goggles, helmets, ear protectors, protective clothes and boots.



- **Always work with concentration. Always work in a carefully considered way and do not use the tool when you are not concentrated.**
- **During manual operation, always hold the machine with both hands and maintain a safe standing position. Always consider the reaction moment of the machine in case of blockage.**

**For further safety instructions please refer to the enclosure!**



### Electrical Connection

The **END 1550 P** is made in protection class II. For protection purposes the machine can only be run with a GFCI. The machine is standard equipped with a PRCD protective switch integrated in the cord.

#### **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.**

First, check the correspondence between voltage and frequency against the data mentioned on the identification plate.

Voltage differences of + 6 % to – 10 % are allowed.

Use only extension cable with sufficient cross-section (see chart). A cross-section which is too small could cause a failure of the machine.

**Recommended minimum cross-sections and maximum cable lengths**

<b>Length of Cord in Feet</b>										
	110 V	25 Ft.	50 Ft.	100 Ft.	150 Ft.	200 Ft.	250 Ft.	300 Ft.	400 Ft.	500 Ft.
<b>Nameplate Ampere Rating</b>	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

The machine is equipped with a soft start which prevents that swift automatic circuit breakers are unintentionally triggered.

**Additional Handle**

For manual operation of the **END 1550 P** always use the additional handle. This one has to be attached from ahead on the gearbox neck and tightened by turning the handle. At the same time the water supply has to be mounted at the handle (see Fig. 1 A).

**Switching on and off**

Short-Time Operation

Switching-on: press the on/off switch

Switching-off: release the on/off switch

Permanent Operation

Switching-on: press the on/off switch and, keeping it pressed, engage the lock-on button

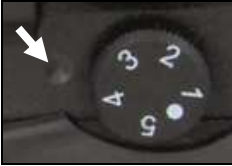
Switching-off: press the on/off switch and let it go off again



### Attention!

Only press the lock-on button when using a stand. In case of every stop of the machine, the lock-on button has to be released immediately by pressing the on/off switch. Consequently, you can avoid an unintentional restart of the machine (physical hazard).

The **END 1550 P** is equipped with an adjusting wheel in order to allow a stepless variable control of speed from 1800 to 4400 rpm. The adjusting wheel is on the switch grip (see fig. 1 B).



#### Rated speed

1 =	1800 rpm
2 =	2000 rpm
3 =	2500 rpm
4 =	3100 rpm
5 =	4400 rpm

#### Drilling diameter

40 – 50(68) mm
30 – 40 mm
20 – 30 mm
15 – 20 mm
6 – 15 mm

A permanent use with reduced speed can cause an overload because the motor then gets less cooling air and therefore the machine will be overheated much faster. A thermal switch-off can be released!

### Water Supply

If the drill bit is not cooled enough with water, the diamond segments 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 be more than 3 bar.
- Make sure that the segments are well cooled. If the drilling water is clear, the segments are well cooled.
- Overhead-drilling only with water collection ring.

In case of frost warning, drain the water system.

### Drill Bits

The **END 1550 P** is equipped with a G $\frac{1}{2}$ " internal thread

Drill bits with the following connections can be used with the adapters included in delivery:

- R  $\frac{1}{2}$ " male
- M 12 x 1,5 female
- EIBENSTOCK – quick-change system

Pay attention that the diamond segments have enough relief cut toward the drill bit body.

### Drill Bit Changing



#### Attention!

**When you use or sharpen the machine, it might heat up enormously. You could burn your hands or get cut or ripped by the segments. Therefore, always use protective gloves when changing the drill bit.**

The drill spindle of the **END 1550 P** has a right-hand thread.

To hold on spindle always use an open-end 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 you can remove the drill bit easier.

### Quick-change adapter

With the quick change adapter included in delivery drill bits with R ½" male-connection can be changed without any tool or the EIBENSTOCK-diamond wet drill bits bayonet can be fixed directly on the adapter.

The coupling piece of the quick change adapter which is screwed on the R ½" male-drill bit or the connection of the diamond wet drill bits bayonet are put that way on the quick change adapter that its flutes can be pushed on the grooved pins of the adapter. By using an adequate pressure push the coupling piece or the drill bit on the adapter until it stops (Fig. 3 + 5) and turn it about 90° against the rotating direction of the machine (Fig. 4 + 6). In order to change the drill bit and to remove the drilling core proceed in reverse order.

### Adapter G ½" male / M 12 x 1,5 male

For using drill bits with M 12 x 1,5 female thread screw the adapter (Fig. 7) directly onto the drill spindle of the machine.

### Using the Core Drill

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 meters). This way, you can work safely and in case of operating trouble you can intervene immediately.

### Preparation

- 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.
- Make sure that the drill bit is well fixed.
- Only use tools which are suitable for the particular material.

Put the gas pressure spring together with the water collection ring and the guide ring matching the diameter of the drill bit with the clamping clip on the gearbox neck of the machine. Push the gas pressure spring until the segments of the bit are covered by the water collection ring. Tighten the wing screw in the clamping clip.

When drilling overhead, pay attention that you only open the water supply after having switched on and attached the vacuum cleaner on the wall or the ceiling.

Open the ball valve and switch the machine on. Hold the machine with both hands.

**While drilling, especially pay attention that the drill bit does not tilt.**

Adapt the feed to the diameter of the drill bit and to the power of the machine.

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 can increase the pressure again when you have cut through the reinforced iron.

If the drilling machine jams, do not try to solve this problem by switching on and off the machine. Switch off the machine immediately and remove the

drill bit by turning left and right with a open-ended wrench. At the same time, pull the machine carefully out of the bore hole.

Instruction for drilling without centering device with water collection:

Attach the machine with a small inclination. After the drill bit has penetrated into the surface (about 1/8 – ¼ of the circumference), put the machine in a 90° angle and continue drilling.

**Overload Protection**

In order to protect the operator, the motor and the drill bit are equipped with an electronic and thermal overload protection.

Electronic: In case of overload due to too large feed force, the electronic will cut OFF the machine. After discharge and switching ON you can continue drilling again.

Thermal: By means of a thermal element, in case of continuous overload, the motor is protected against destruction. In fact, the machine switches OFF automatically and only can be switched ON again after a certain cooling period (about 2 minutes). This cooling period depends on the warming of the motor winding and ambient temperature.

**Attention!**

**The diamond wet drill is not equipped with a mechanical safety clutch which absorbs shocks and excessive stress. Therefore you have to handle and drill carefully.**

**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.
- 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 drilling core can be extracted 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.

### Use in drill rig:

The drill rig BST 50 V (special accessory) has been purpose-developed for the diamond wet drill **END 1550 P** for the use on smooth and polished surfaces.

### Fixing the drilling machine at the drill rig:

For fixing the machine at the drill rig remove both Allen screws M8 (Fig. 2 C) and take off the collar clamp. Remove the additional handle of the diamond drilling machine. The water supply has to remain at the machine and can be fixed on the gripper clamp at the drill rig. Put the machine on the carriage and close the collar clamp with the Allen screws.

### Fixing of the drill rig:

First open the two levers (Fig. 2 D) on the suction feeds. Position the drill rig on the desired place.

### **The surface has to be absolutely smooth and polished.**

Close the levers and check the firmly seat of the drill rig.

By means of the both adjusting levers for slewing of the column (Fig. 2 E) and for adjusting of the height of the support (Fig. 2 F) you can adjust the optimal drilling position.

The support increases the stability of the drilling unit on drilling and has to be adjust, that it has a firmly seat on the working surface.

**For further information please see the operating instructions of the drill rig.**

### 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. The following works have to be carried out regularly or rather the component parts have to be inspected:

- The power tool as well as the ventilation slots always have to be clean.
- During work, please pay attention that no foreign elements get into the interior of the machine.

- In case of breakdown, a repair has to be carried out by an authorised service workshop.

## 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 2012/19/EU 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 EN 62841-2-1. 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!

The typical hand-arm vibration is below 2.5 m/s<sup>2</sup>.

Measured values determined according to EN 62841-2-1.

The declared vibration emission level represents the main applications of the tool. However if the tool is used for different applications, with different accessories or poorly maintained, the vibration emission may differ. This may significantly increase the exposure level over the total working period.

An estimation of the level of exposure to vibration should also take into account the times when the tool is switched off or when it is running but not actually doing the job. This may significantly reduce the exposure level over the total working period.

Identify additional safety measures to protect the operator from the effects of vibration such as: maintain the tool and the accessories, keep the hands warm, organisation of work patterns.

## In Case of Malfunction



**In case of malfunction, 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 electrical specialist.**

## Trouble Shooting

<b>Error</b>	<b>Possible Cause</b>	<b>Error Recovery</b>
machine does not work.	<ul style="list-style-type: none"> <li>- mains current supply interrupted</li> <li>- line cord or plug damaged</li> <li>- switch damaged</li> </ul> <p>the PRCD-switch is off</p>	<ul style="list-style-type: none"> <li>- plug in another electric appliance and check the functioning</li> <li>- have it checked by an electric specialist and replaced if necessary</li> <li>- have it checked by an electric specialist and replaced if necessary</li> <li>- press RESET to switch on</li> </ul>
motor runs, drill bit does not rotate	<ul style="list-style-type: none"> <li>- gearbox damaged</li> </ul>	<ul style="list-style-type: none"> <li>- have the tool repaired by an authorised service workshop</li> </ul>
drilling speed too slow	<ul style="list-style-type: none"> <li>- water pressure / water flow rate too high</li> <li>- drill bit damaged</li> <li>- gearbox damaged</li> <li>- drill bit polished</li> </ul>	<ul style="list-style-type: none"> <li>- regulate the water quantity</li> <li>- check if drill bit is damaged and replace it if necessary</li> <li>- have the tool repaired by an authorised service workshop</li> <li>- sharpen the drill bit with a sharpening stick while using the flush</li> </ul>
motor shuts down	<ul style="list-style-type: none"> <li>- the tool stops</li> </ul> <p>the tool overheats,</p> <ul style="list-style-type: none"> <li>- overload protection of the motor has reacted</li> </ul>	<ul style="list-style-type: none"> <li>- Lead the tool in a straight manner to avoid jamming of the drill bit.</li> <li>- Cool down the machine approximately 2 minutes and then let the machine run a couple of time in idle running with full speed and opened water supply (protection of the shaft seals) to cool the motor more down.</li> <li>- discharge the tool and restart it by pressing the switch</li> </ul>
water drops out of the gearbox housing	<ul style="list-style-type: none"> <li>- shaft sealing rings damaged</li> </ul>	<ul style="list-style-type: none"> <li>- have the tool repaired by an authorised service workshop</li> </ul>

## Warranty

According to our general terms of delivery 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).

Damages due to natural wear, oversteering 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 is returned in non-dismantled condition to the manufacturer or an authorized Eibenstock service centre.

## EU - Declaration of Conformity

We declare under our sole responsibility that the product described under "Technical Data" is in conformity with the following standards or standardization documents:

EN 62841-1, EN 62841-2-1, EN 55014-1, EN 55014-2, EN 61000-3-2, EN 61000-3-3

according to the provisions of the directives 2011/65/EU, 2014/30/EU, 2006/42/EG

Technical file (2006/42/EC) at:

Elektrowerkzeuge GmbH Eibenstock  
Auersbergstraße 10  
D – 08309 Eibenstock



Lothar Lässig  
General Manager



Frank Markert  
Head of Engineering

17.12.2021

## GB - Declaration of Conformity

We declare under our sole responsibility that the product described under “Technical Data” is in conformity with the following standards or standardization documents:

BS EN 62841-1, BS EN 62841-2-1, BS EN 55014-1, BS EN 55014-2,  
BS EN 61000-3-2, BS EN 61000-3-3

according to the provisions of the directives 2011/65/EU, 2014/30/EU,  
2006/42/EG

Technical file (2006/42/EC) at:

Elektrowerkzeuge GmbH Eibenstock

Auersbergstraße 10

D – 08309 Eibenstock



Lothar Lässig  
General Manager

17.12.2021



Frank Markert  
Head of Engineering





Your distributor

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