

# HILTI

## DD EC-1

**Operating instructions**

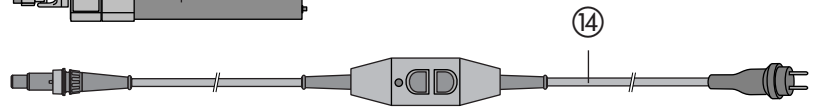
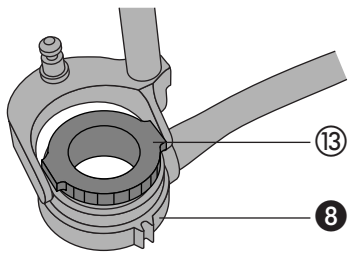
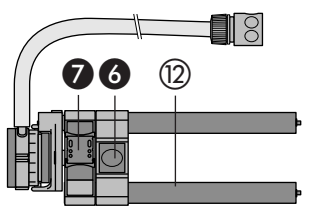
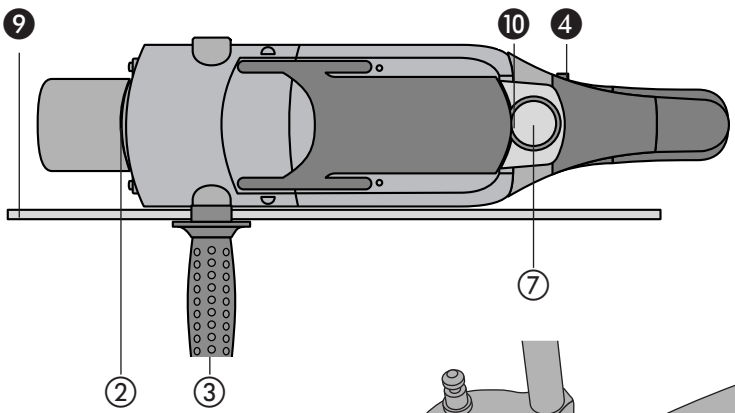
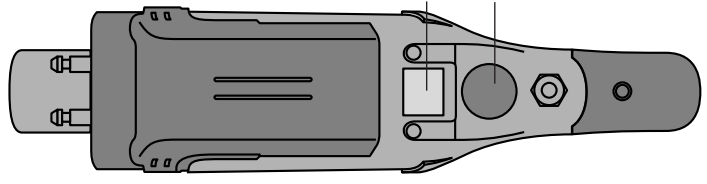
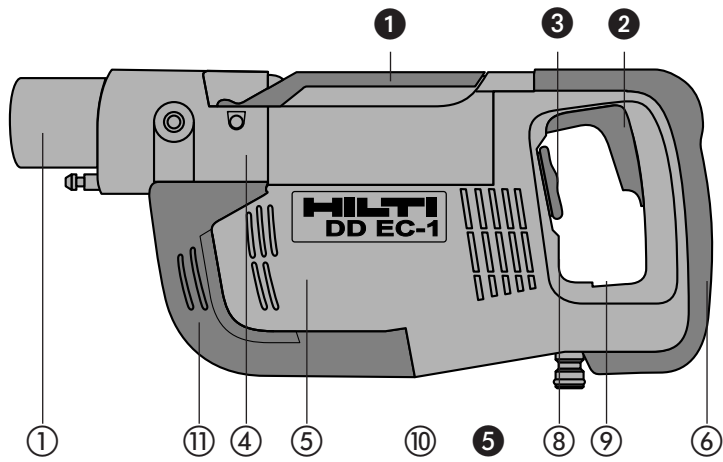
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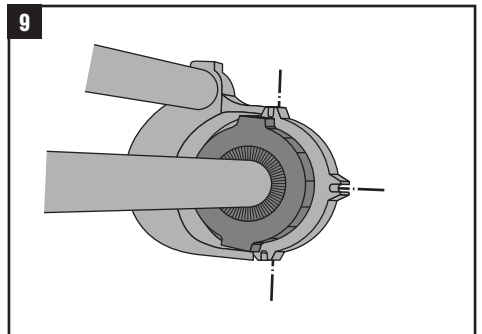
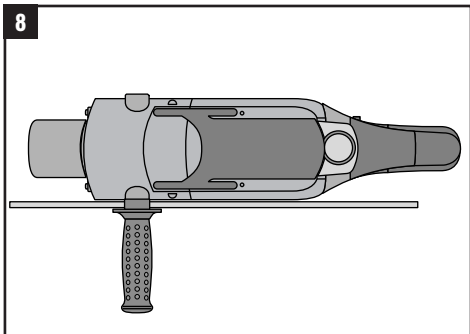
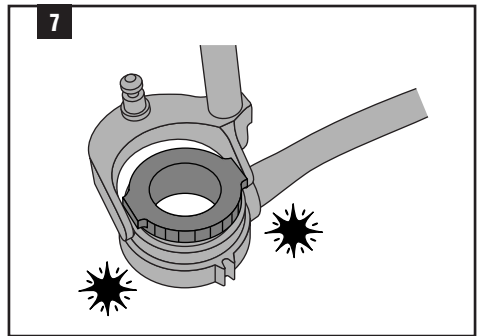
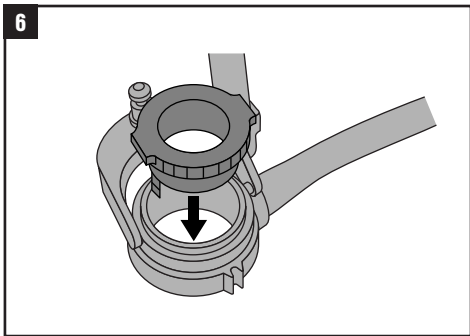
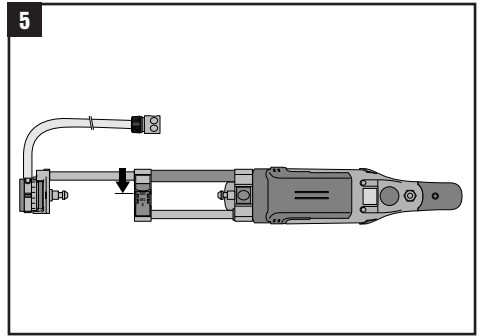
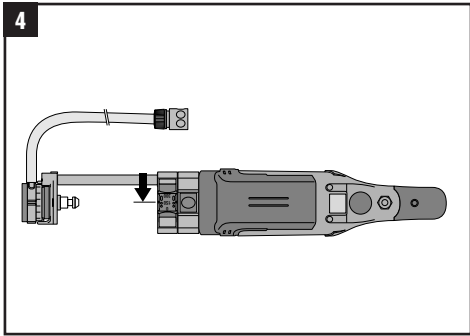
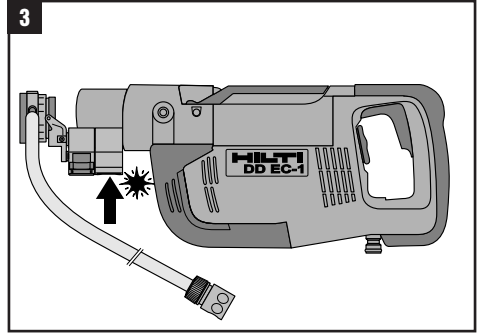
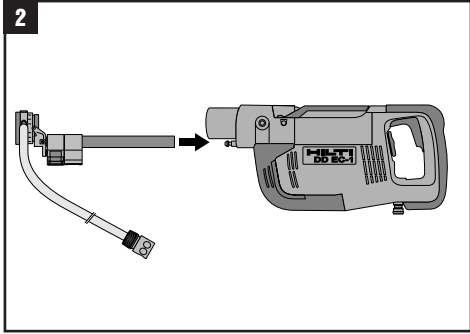
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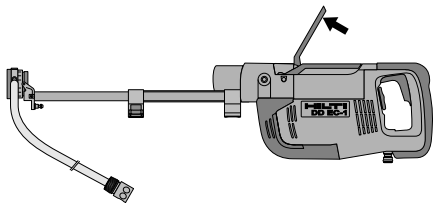


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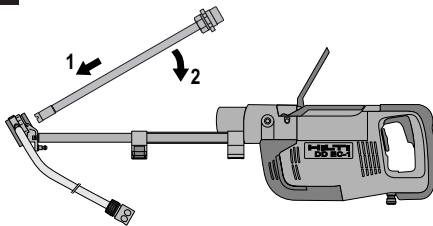




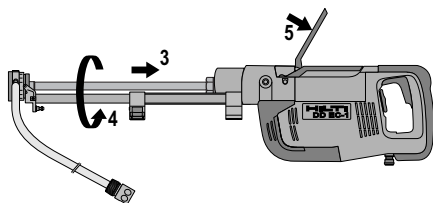
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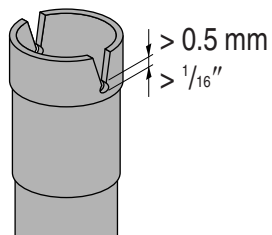
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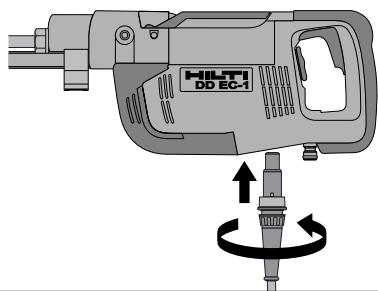
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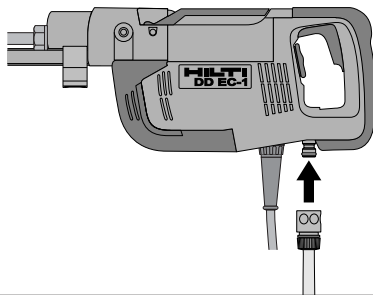
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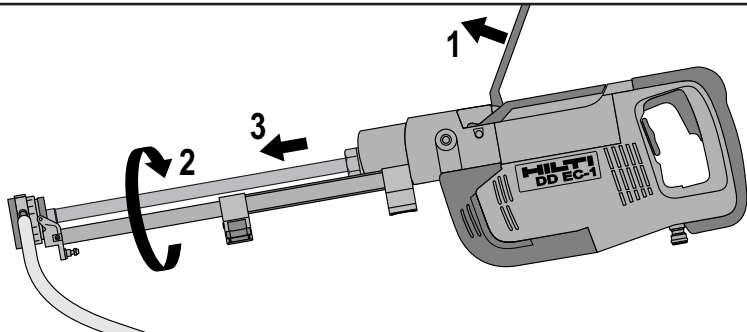
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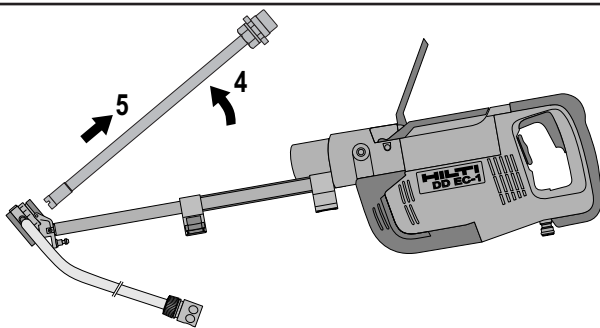
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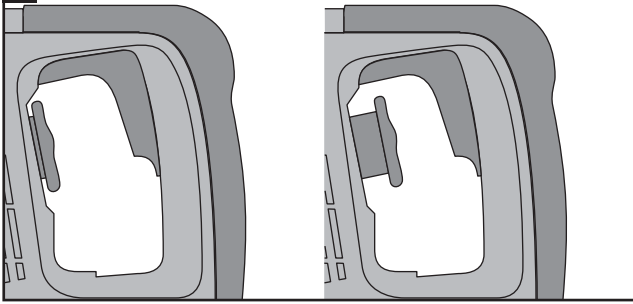
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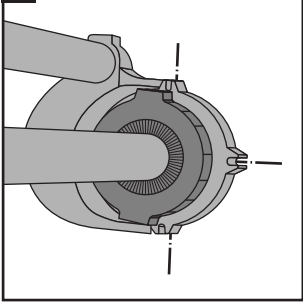
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Pos. 1

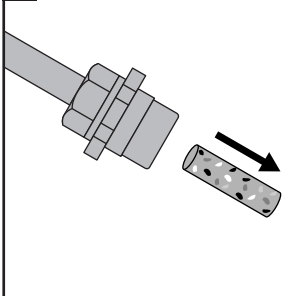
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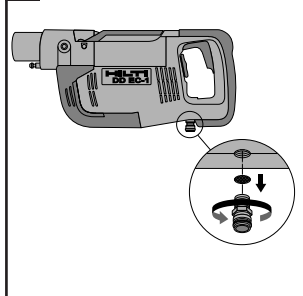
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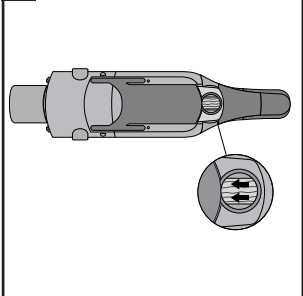
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# ORIGINAL OPERATING INSTRUCTIONS

# DD EC-1 diamond core drilling machine

**It is essential that the operating instructions are read before the tool is operated for the first time.**

**Always keep these operating instructions together with the tool.**


**Ensure that the operating instructions are with the tool when it is given to other persons.**

## Operating controls **1**

- 1 Chuck operating lever
- 2 Control switch
- 3 Water flow control knob
- 4 Switch lock
- 5 Electric supply cord plug connection (supply cord socket)
- 6 Water collector holder release button
- 7 Slider for water collector holder rod length adjustment
- 8 Water collector ring
- 9 Depth gauge
- 10 Water level indicator release button

## Component parts **1**

- 1 Chuck
- 2 Pressure plate
- 3 Side handle
- 4 Gearing section with TOPSPIN kinematics
- 5 Motor
- 6 Grip
- 7 Water flow indicator
- 8 Circular bubble level
- 9 Cylindrical bubble level
- 10 Type / rating plate
- 11 Belt drive cover
- 12 Water collector holder rods
- 13 Water collector seal ring
- 14 Supply cord

 In these operating instructions, this symbol indicates points of particular importance to safety. The instructions at these points must always be observed in order to reduce risk of serious injury.

 **Caution:** electrical

**1** The numbers refer to the illustrations on the fold-out cover pages (front and rear cover).

**1** / **1** The numbers refer to the operating controls / component parts of the tool.

In these operating instructions, the electric tool to which these operating instructions apply is referred to as “the tool”.

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# General safety rules

## 1. WARNING!

### Read and understand all instructions.

Failure to follow all instructions listed below may result in electric shock, fire and/or serious personal injury.

## SAVE THESE INSTRUCTIONS

### 2. Work Area

**2.1 Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents.

**2.2 Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.** Power tools create sparks which may ignite the dust or fumes.

**2.3 Keep bystanders, children and visitors away while operating a power tool.** Distractions can cause you to lose control.

### 3. Electrical Safety

**3.1 Grounded tools must be plugged into an outlet properly installed and grounded in accordance with all codes and ordinances. Never remove the grounding prong or modify the plug in any way. Do not use any adaptor plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded.** If the tools should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user.

**3.2 Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is grounded.

**3.3 Don't expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.

**3.4 Do not abuse the cord. Never use the cord to carry the tools or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately.** Damaged cords increase the risk of electric shock.

**3.5 When operating a power tool outside, use an outdoor extension cord marked «W-A» or «W».** These cords are rated for outdoor use and reduce the risk of electric shock.

### 4. Personal Safety

**4.1 Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.

**4.2 Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.

**4.3 Avoid accidental starting. Be sure switch is off before plugging in.** Carrying tools with your finger on the switch or plugging in tools that have the switch on invites accidents.

**4.4 Remove adjusting keys or wrenches before turning the tool on.** A wrench or a key that is left attached to a rotating part of the tool may result in personal injury.

**4.5 Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the tool in unexpected situations.

**4.6 Use safety equipment. Always wear eye protection.** Dust mask, non-skid safety shoes, hard hat or hearing protection must be used for appropriate conditions.



**4.7 Exercise your fingers during pauses between work to improve the blood circulation in your fingers.**

### 5. Tool Use and Care

**5.1 Use clamps or other practical way to secure and support the workpiece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control.

**5.2 Do not force tool. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed.

**5.3 Do not use tool if the switch does not turn it on or off.** Any tool that cannot be controlled with the switch is dangerous and must be repaired.

**5.4 Disconnect the plug from the power source before making any adjustments, changing accessories, or storing the tool.** Such preventive safety measures reduce the risk of starting the tool accidentally.

**5.5 Store idle tools out of reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.

**5.6 Maintain tools with care. Keep cutting tools sharp and clean.** Properly maintained tools with sharp cutting edges are less likely to bind and are easier to control.

**5.7 Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the tools operation. If damaged, have the tool serviced before using.** Many accidents are caused by poorly maintained tools.

**5.8 Use only accessories that are recommended by the manufacturer for your model.** Accessories that may be suitable for one tool may become hazardous when used on another tool.



## 6. Service

**6.1 Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified personnel could result in a risk of injury.

**6.2 When servicing a tool, use only identical replacement parts. Follow instructions in the Maintenance section of this manual.** Use of unauthorized parts or failure to follow Maintenance Instructions may create a risk of electric shock or injury.

## Specific safety rules and symbols

Use protective equipment.



Read the operating instructions.




Always wear eye protection.



Always wear protective clothing.



Always wear protective gloves.

 Check the tool each time before use.


Check the condition of the tool, the supply cord, power plug and hoses. Don't use it if it is damaged, incomplete or if the controls cannot be operated correctly. If parts are damaged or missing, have the tool repaired at an authorized Hilti service center.

Use the correct insert tool.

Ensure that the core bits are equipped with the appropriate connection end for the chuck system in use and that they are locked in position correctly in the chuck. Use only the recommended original Hilti accessories and auxiliary equipment.

Use the tool only for the purposes for which it is intended.

 Apply a safe working method.

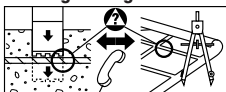
Avoid unfavourable body positions. Always ensure that you have a safe and stable stance. Always hold the tool in both hands when it is in use. Always use the side handle. Ensure that the side handle is fitted correctly and tightened securely . Hold the tool securely when drilling and pay attention at all times. Switch the tool off if you are distracted from your work.

 When the tool is in use, always guide the supply cord away from the tool to the rear.

Never carry the tool by the supply cord. Don't unplug the tool by pulling on the supply cord. Don't expose the supply cord to heat, oil or sharp edges. If the supply cord becomes damaged while working, don't touch it – unplug the power plug immediately.

Check that the blades of the plug and supply cord are clean and dry before it is connected. Unplug the supply cord from the power socket before cleaning.

Drilling through reinforcing bars



Obtain permission from the architect or site engineer before drilling through reinforcing bars. Drilling through steel is indicated by slow progress and clear water at the core bit.



**Take care to avoid concealed cables and pipes.**



Concealed electric cables or gas and water pipes present a serious hazard if damaged while you are working. Accordingly, check the area in which you are working beforehand (e.g. using a metal detector). Avoid contact between your body and grounded objects such as pipes or radiators. External metal parts of the tool may become live, for example, when an electric cable is drilled into inadvertently. The power to cables (or water, gas etc. in pipes) located where drilling work is to take place must be switched off.

Avoid unintentional starting.

Do not carry the tool with your finger on the control switch while it is connected to the power supply. Check that the tool is switched off and that the trigger switch lockbutton is released before connecting it to the power supply or before connecting the supply cord to the tool. Disconnect the plug from the power socket when the tool is not in use, e.g. during pauses between work, before maintenance and when changing insert tools.



**Keep the electric tool and insert tools in good condition.**

Follow the care and maintenance instructions and replace insert tools in good time. Never operate the tool when it is dirty or wet. Dust or dampness on the surface of the tool make it slippery and difficult to hold and may, under unfavourable conditions, present a risk of electric shock.

Repairs to the tool may be carried out only by an authorized electrical specialist using original Hilti spare parts. Failure to observe this point may result in damage to the tool or present a risk of accident. Accordingly, if necessary, have the tool repaired at a Hilti service center or authorized Hilti repair workshop.



**When setting anchors, follow all anchor installation instructions and applicable testing / inspection regulations.**

Store the tool in dry area if it is not in use.

Symbols used on the tool:

V	.....	volts
~	.....	alternating current
Hz	.....	hertz
W	.....	watts
A	.....	amperes
$n_0$	.....	no load speed
n	.....	speed under normal load
/min	.....	revolutions per minute
∅	.....	diameter
⊕	.....	protective grounding

## Description

The DD EC-1 is an electrically-powered diamond core drilling machine for wet drilling.

**Items supplied:** The following items are supplied: electric tool, water collector holder including water collector, supply cord equipped with GFCI, operating instructions, lubricant spray (50 ml), cleaning cloth, toolbox. See figure 1 and the explanation of operating components and tool parts on page 1.



**The following conditions must always be observed when the tool is in use:**

- The tool must be connected to an alternating current electric power supply in compliance with the information given on the type rating plate.
- The tool must not be used in places where the surrounding conditions present a risk of explosion.
- The water collector with the correct sleeve must always be used.

## Technical data

Rated input:	1350 W
Rated voltage:	120 V
Power supply frequency:	50–60 Hz
Weight of tool:	5.7 kg (12.5 lbs)
Dimensions (L×W×H):	423×108×195 mm (6 <sup>5</sup> / <sub>8</sub> "×4 <sup>1</sup> / <sub>4</sub> "×7 <sup>5</sup> / <sub>8</sub> "
Minimum distance between wall and hole drilled:	36 mm (1 <sup>3</sup> / <sub>8</sub> "
Speed:	9100 r.p.m.
Max. permitted water supply pressure:	6 bar / 88 psi (If water pressure is higher, a pressure-reducing valve must be fitted at the jobsite connection.)
Other important features:	Removable supply cord with keyed socket connector
Protection class:	I, Grounded construction

Right of technical changes reserved

## Main features of the tool

- Drilling machine with TOPSPIN kinematics, i.e. deliberate orbital movement of the core bit and chuck
- Class I electrical protection
- Belt drive (uses no oil)
- Mechanical slip clutch
- Electronic motor protection
- Rubber-covered grip and side handle
- Chuck system for DD-C core bits (150 and 300 mm / 6" and 12" effective core depth)
- Quick-change core bit connection end system
- Infinitely variable speed control
- Automatic water on / off function
- Manual water volume regulation
- Built-in water flow rate indicator
- Lockable trigger switch
- Removable water collector holder
- Removable supply cord with keyed socket connector and GFCI ground fault circuit interruptor
- Depth gauge
- Bubble levels

## Intended uses

### The tool is intended for the following uses:



- Drilling holes (diamond core drilling) of 10–35 mm ( $\frac{3}{8}$ "– $1\frac{1}{16}$ " diameter) in reinforced concrete, masonry and natural stone.
- To be used exclusively for wet drilling and in conjunction with the water collector and corresponding water collector seal rings.
- The tool must be connected to a power supply providing a voltage and frequency in compliance with the information given on the type rating plate.
- The tool may be used only when connected to a power supply equipped with a ground conductor and of adequate power rating.
- The tool may be used only with the power supply cord supplied with the tool, which is equipped with a keyed socket connector and built-in GFCI.
- In accordance with national safety regulations, the safety function of the ground conductor must be tested at regular intervals.
- Before use, the GFCI must be tested for correct functionality.
- Only the core bits and accessories designed for use with this tool may be used.

The tool may be handled only as described in these operating instructions (care, maintenance, assembly, use, etc.). Manipulation of the tool in ways other than as described in these operating instructions may negatively affect its functionality.


The general and specific safety rules listed in the operating instructions must be observed.

The position and dimensions of the holes drilled must be approved by the design engineer, architect or person in charge of the building project (building statics).

## Before use

  It is essential that the safety precautions printed in these operating instructions are read and observed.


 The power voltage must correspond to the information on the type rating plate.


 If extension cables are used: Only extension cables of a type approved for the intended use and of adequate cross section may be used. Failure to observe this point may result in reduced performance and could cause the cable to overheat. Damaged extension cables must be replaced.



The recommended extension cord AWG size maximum and maximum lengths are:

### Extension Cord Table

Voltage	Conductor cross-section			
	1.5 mm <sup>2</sup>	2.5 mm <sup>2</sup>	14 AWG	12 AWG
110–120 V	20 m	40 m	100 ft	150 ft

 Before beginning drilling, ensure that the necessary safety rules are observed to prevent injury or damage caused by falling cores or water escaping from the hole into rooms or areas below where the holes are being drilled.

 Before using the tool, ensure that the chuck is clean and the core bit to be used is not damaged (e.g. the core bit must not wobble or run out of true when the chuck lever is closed). Worn or broken parts on the electric tool or core bit must be replaced immediately.

  When drilling overhead, for safety reasons, the following items of equipment must be used:

1. Water collector assembly with suitable water collector seal ring
2. DD-REC1 water recycling system, or
3. A suitable wet-type vacuum cleaner with the correct adaptor for the water collector hose
4. Ground fault circuit interruptor (GFCI) (integrated in the supply cord)

Use only DD-C core bits.

Do not apply excessive pressure when drilling. This will not increase drilling performance.

Only pure water, without additives, may be used for cooling and flushing when drilling. Use of the liquids listed in the DD-REC1 operating instructions is permissible

when the DD-REC1 water recycling unit is used. The corresponding information must be observed.

## Assembling

### Assembling the tool

- Take the tool out of the toolbox.
- Slide the water collector rods into the openings provided on the front side of the tool as far as they will go **2**.
- As you do so, keep button **6** depressed and engage the water collector in position on the gear housing by releasing the button when the rods have been fully inserted **3**.
- Slide the button **7** to the right to adjust the water collector to the length corresponding to the core bit used (position 1: 6" working length; position 2: 6"-12" working length) **4** **5**.
- Always use the supplied water collector system.
- Always ensure that the diameter of the water collector ring used corresponds to the nominal diameter of the core bit used.
- Always screw the side handle and depth gauge into one of the threaded bushings provided on the gear housing **8**.


### Inserting the core bit

#### -DANGER-

**Do not use damaged core bits. Check the core bits for chipping, cracks, or heavy wear each time before use. Do not use damaged tools.** Fragments of the workpiece or a broken core bit may be ejected and cause injury beyond the immediate area of operation.



#### -NOTE-

Diamond core bits must be replaced when the cutting performance and/or rate of drilling progress drops significantly. This generally is the case when the segments reach a height of less than 2 mm.

- Open the chuck by lifting the operating lever **1** 30° upwards **10**.
- Check that the core bit connection end and the chuck are clean and undamaged.
-  Check that the slots in the cutting edge of the core bit to be used still have a depth of at least 0.5 mm ( $\frac{1}{16}$ " ). If not, the core bit should be replaced as there is otherwise a risk of it becoming stuck in the hole **13**.
- Pivot the water collector about its mounting axis as far as it will go.
- From above, insert the cutting edge of the core bit into the water collector ring **11**.
- Guide the connection end of the core bit into the opening in the chuck.
- Rotate the core bit in a clockwise direction while pressing it into the chuck as far as it will go **12**.
- Return the chuck operating lever **1** to its original position.

-   Ensure that the core bit is securely engaged in the chuck.

### Connecting the supply cord and the water supply hose

  Check that the detachable electric plug connector is clean and dry before it is connected to the tool. The power plug must be disconnected from the power supply before cleaning the keyed socket on the supply cord.

- Take the supply cord out of the toolbox **14**.
- Align the mark on the socket with the mark on the plug on the underside of the tool **12**.
- While in this position, insert the plug into the socket as far as it will go.
- Rotate the keyed socket in a clockwise direction, while applying slight pressure, until it is heard to engage.
- Use a suitable coupling to connect the water supply hose **15**.
- Connect the supply cord to the power supply.
- Switch on the GFCI by pressing the black button **16**.
- Before operating the tool, check the GFCI safety function by pressing the test button. The test is OK when the test LED extinguishes.

#### -DANGER-

If the indicator continues to light, further operation of the machine is not permissible. Have the machine repaired by a qualified specialist using genuine Hilti spare parts.

- After the test, switch on the GFCI again by pressing the ON button.

### Switching off after use

1. Disconnect the mains plug.
2. Release the hose connectors to the diamond core drilling tool. When using the DD-REC1 hoses, connect the extraction hose and water supply hose couplings together. By use of external water supply, close the water valve and always use a connector with a water-stop to prevent water runs on the tool.
3. Release the keyed plug from the diamond core drilling machine. To do this, pull on the ring and turn the plug in a counterclockwise direction, as far as it will go, and then pull it out.

## Operation

### Drilling




The water flow can be controlled in one of two ways:

#### 1. Automatic control (preferred) **17**

When the flow control knob is in position 1, the water supply is controlled (started and stopped) automatically by the control switch on the tool. The water flow rate can be adjusted manually by turning the water flow control knob (minimum water flow rate: approx. 1 pint/min.).



## 2. Bypass mode


When the water regulation wheel is pulled into position 2, the water flow rate can be adjusted manually between 0 GAL/min. and approx.  $\frac{3}{4}$  GAL/min. by turning the knob. This operating mode is used for special applications.


- Before beginning drilling, adjust the flow control knob to the middle position of its range.
- Carefully bring the water collector into contact with the surface where the hole is to be drilled.
- The core bit can be exactly positioned by bringing the centering marks on the water collector into alignment with a cross marked at the position where the hole is to be drilled .
- To begin drilling, press the control switch  before the core bit has been brought into contact with the base material.
- Begin drilling the hole only when the water flow indicator shows that water is flowing through the core bit .
- Press the core bit gently against the base material.
- Take care to ensure that the core bit is straight in the hole (i.e., do not allow the core bit to bind against the side of the hole).

The pressure applied to the core bit should be regulated so that the tool continues to run at full RPM. Application of higher pressure does not increase the rate of drilling progress. Keep the tool straight on the hole.

- Immediately after beginning drilling, check the water flow rate indicator to ensure that water is flowing (water flow rate is within the optimum range when the red and white segments of the rotating wheel are still individually discernible).

 Always keep an eye on the water flow rate indicator while drilling. Insufficient water may cause the core bit to stick in the hole. It may be necessary to adjust the water flow rate manually by turning the flow control knob .


- Switch off the tool after reaching the desired drilling depth or when the hole has been drilled right through and, at the same time, pull the core bit out of the hole.
- When drilling in the bypass mode, bring the flow control knob  back to the zero position.
- The water collector should be lifted away from the base material only when the core bit has stopped rotating.

 If the water collector is lifted away from the base material while the core bit is still rotating, there is a risk of injury as the core may be thrown out of the bit.


### Additional instructions for drilling using the DD-REC1 water recycling unit





- Read and observe the information printed in the DD-REC1 operating instructions.
- When the water recycling unit is used, it must be ensured that the DD-REC1 is in stand-by mode (turn

the main switch). This mode is indicated by a green LED (see DD-REC1 operating instructions).

- When in stand-by mode, the DD-REC1 begins to operate when the control switch  on the DD EC-1 is pressed.
- The water recycling unit continues to run for a few seconds after switching off the DD EC-1. Keep the water collector pressed against the base material during this time so that any remaining water can be removed from the hole or core bit.

### Removing the core bit


 Care must be taken when removing the core bit as it may be hot, particularly at the cutting edge. Care must also be taken to ensure that the core does not fall out of the core bit unexpectedly.

- To open the chuck, lift the lever  to the 30° position.
- Hold the tool with the tip of the core bit pointing slightly downwards .
- Rotate the core bit counter-clockwise approx. 60°.
- Pull the core bit out of the chuck away from the tool .
- Lift the connection end upwards slightly and pull the core bit out of the water collector towards the rear .

### Removing the core from the core bit

Note

- After drilling a hole vertically upwards, the water remaining in the core bit must be emptied by tipping the front end of the core bit down.
- Remove the core bit from the chuck.
- Hold the core bit securely and shake it until the core falls out through the connection end to the rear. Should parts of the core remain stuck in the core bit, tap the connection end gently against a soft surface (wood, plastic) while holding it in a vertical position. Alternatively, use a thin rod to push out the core.

 Before re-inserting the core bit in the tool, ensure that all pieces of the core have been removed from the core bit and from the chuck. Pieces of the core falling out of the core bit while drilling could cause injury.

### Removing the core from the hole

- On occasion, a core may stick in the hole. Using a suitable prybar, break the core loose and remove it from the hole.

### Removing the water flow sight glass

- Slide the water flow sight glass release button towards the chuck.
- Lift the water flow sight glass away in an upwards direction.
- Remove the water flow indicator wheel and axle.
- Remove any dirt or fragments.  
Check the sight glass seal for damage and replace it if necessary.

### Removing the water flow filter

- Use a suitable tool to unscrew the water supply connector from the housing of the tool.
- Use pliers to carefully remove the filter.
- Check the seal for damage and replace it if necessary.
- When reassembling, check that the seal and the filter are seated correctly.

### Procedure in the event of the core bit sticking

The slip clutch will be activated if the core bit sticks. The power tool must then be switched off by the operator. To release the core bit, proceed as follows:

### Using an open-end wrench to release the core bit

1. Disconnect the supply cord plug from the power outlet.
2. Grip the core bit close to the connection end with a suitable open-end wrench and rotate the core bit to release it.
3. Plug the supply cord back into the power outlet.
4. Continue the drilling operation.

### Using the spider wheel to release the core bit (for use with the drill stand)

1. Disconnect the supply cord plug from the power outlet.
2. Release the core bit by rotating it with the spider wheel.
3. Plug the supply cord back into the power outlet.
4. Continue the drilling operation.

### Transport and storage

#### Note

- Store and transport the power tool in its toolbox when possible.
- Open the water flow regulator before storing the power tool. Especially at temperatures below freezing, take care to ensure that no water remains in the power tool.

## Care and maintenance

### Care

The motor housing, the grip moulding and the belt drive cover are made of impact-resistant plastic. The gear housing is made of magnesium alloy. The grip cover, the side handle cover and supply cord sleeve are made of an elastomer material.

### CAUTION

**Keep the power tool, especially its grip surfaces, clean and free from oil and grease. Do not use cleaning agents which contain silicone.**

The outer casing of the tool is made from impact-resistant plastic. Sections of the grip are made from a synthetic rubber material. Never operate the tool when the ventilation slots are blocked. Clean the ventilation slots carefully using a dry brush. Do not permit foreign objects to enter the interior of the tool. Clean the

outside of the tool at regular intervals with a slightly damp cloth. Do not use a spray, steam pressure cleaning equipment or running water for cleaning. This may negatively affect the electrical safety of the tool.

Clean the chuck frequently with a cloth and lubricate it at regular intervals with Hilti grease. Remove any dirt and fragments from the chuck.

Your core bits must also be cared for. Remove any dirt adhering to their surfaces and protect the surfaces from corrosion by rubbing the core bits at regular intervals with an oily cloth. Always keep the connection end clean and slightly greased.

Remove the filter from the water supply connection on the tool and flush the filter gauze with water against the normal flow direction.

If the water flow indicator has become dirty, remove the parts and clean them with a damp cloth. Do not use abrasive agents or sharp objects to clean the sight glass. This may negatively affect functionality of the water flow indicator.

### Maintenance



Check all external parts of the tool for damage at regular intervals and check that all operating controls function faultlessly. Do not operate the tool when parts are damaged or when operating controls do not function faultlessly. The tool should be repaired at a Hilti service center.

## Insert tools and accessories

For safety reasons and for optimum transmission of the TOPSPIN action, only DD-C core bits may be used with the DD EC-1. When drilling using special core bits with an effective core depth of 24", the hole must be pre-drilled using a shorter core bit and water collector.

The following accessories are available for use with the DD EC-1:

- DD-REC 1 water recycling unit
- DD-CB core removal tool
- Drill stand DD-CR 1

## Manufacturer's warranty – tools

Hilti warrants that the tool supplied is free of defects in material and workmanship. This warranty is valid so long as the tool is operated and handled correctly, cleaned and serviced properly and in accordance with the Hilti Operating Instructions, and the technical system is maintained. This means that only original Hilti consumables, components and spare parts may be used in the tool.

This warranty provides the free-of-charge repair or replacement of defective parts only over the entire lifespan of the tool. Parts requiring repair or replacement as a result of normal wear and tear are not covered by this warranty.

**Additional claims are excluded, unless stringent national rules prohibit such exclusion. In particular, Hilti is not obligated for direct, indirect, incidental or consequential damages, losses or expenses in connection with, or by reason of, the use of, or inability to use the tool for any purpose. Implied warranties of merchantability or fitness for a particular purpose are specifically excluded.**

For repair or replacement, send tool or related parts immediately upon discovery of the defect to the address of the local Hilti marketing organization provided.

This constitutes Hilti's entire obligation with regard to warranty and supersedes all prior or contemporaneous comments and oral or written agreements concerning warranties.

## Disposal

### Handling drilling and sawing slurry

Working with diamond tools on mineral materials (e.g. concrete) in a wet process produces drilling or sawing slurry. As with fresh cement mortar, it may cause irritation if allowed to come into contact with the skin or eyes. Wear protective clothing, protective gloves and goggles. With regard to environmental aspects, allowing these slurries to flow directly into rivers, lakes or the sewerage system without suitable pre-treatment is problematical.

### Disposal procedure

In addition to the following recommended pre-treatment procedures, the applicable national regulations must be observed when disposing of drilling or sawing slurry. Ask the local authorities concerned for further information.

### Recommended pre-treatment

- Collect the drilling or sawing slurry (e.g. using a suitable industrial vacuum cleaner).
- The fine content of the drilling or sawing slurry should be separated from the water by allowing it to settle (e.g. leave standing for some time or add a coagulation agent).
- Solid material from the drilling or sawing slurry should be deposited at a construction waste disposal site.
- Water from the drilling or sawing slurry should be neutralised (e.g. by adding a large quantity of water or other neutralisation agents) before it is allowed to flow into the sewerage system.

## Troubleshooting

<b>Problem</b>	<b>Possible cause</b>	<b>Solution</b>
Machine doesn't start	Fault in power supply	Plug in another electric appliance and check whether it works.
	Supply cord or plug defective	The cord should be checked and replaced if necessary by an electrical specialist.
	Switch defective	The switch should be checked and replaced if necessary by an electrical specialist.
Motor runs but the core bit doesn't rotate.	Gearing defective	The machine should be repaired at a Hilti service center.
Rate of drilling progress decreases	Water pressure/water flow rate too high	Reduce the water flow rate by turning the regulating wheel.
	Core bit connection end dirty or not properly engaged	Clean the connection end and insert the core bit correctly.
	Core bit defective	Check the core bit for damage and replace it if necessary.
	Gearing defective	The machine should be repaired at a Hilti service center.
The motor runs up to speed and then cuts out.	Core bit cutting edge polished	Resharpener the core bit on a sharpening plate or similar abrasive material.
	Electronics defective	The machine should be repaired at a Hilti service center.
No flow of water when operated in automatic mode	Cooling fan defective	The machine should be repaired at a Hilti service center.
	Filter or water flow indicator blocked	Remove the filter or water flow indicator and flush it through.
No flow of water when operated in bypass mode	Magnet valve defective	Drill in bypass mode.
	Filter or water flow indicator blocked	The machine should be repaired at a Hilti service center.
Water leaks from the gear housing	Water swivel shaft seal defective	Remove the filter or water flow indicator and flush it through.
The core bit cannot be inserted in the chuck	The machine should be repaired at a Hilti service center.	Open the lever as far as it will go.
	Chuck operating lever not fully open	Clean the connection end and chuck or replace if necessary.
Water leaks from the chuck	Core bit connection end or chuck dirty	Clean the connection end and chuck.
	Chuck seal defective	Check the seal and replace it if necessary.
Motor cuts out	Motor too warm	Release pressure on core bit. Switch on the tool several times until runs a full RPM.





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