

# HILTI

## DD EC-1

**Bedienungsanleitung**

**de**

**Operating instructions**

**en**

**Mode d'emploi**

**fr**

**Brugsanvisning**

**da**

**Käyttöohje**

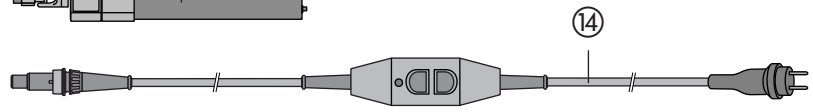
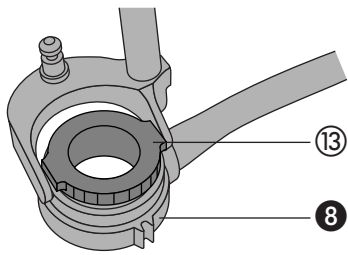
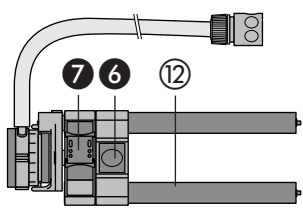
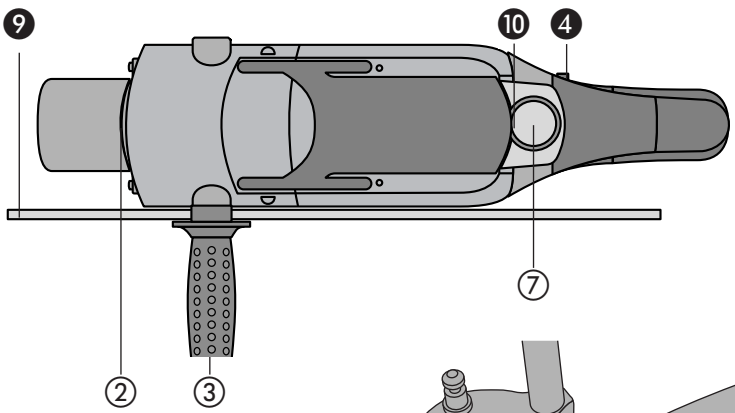
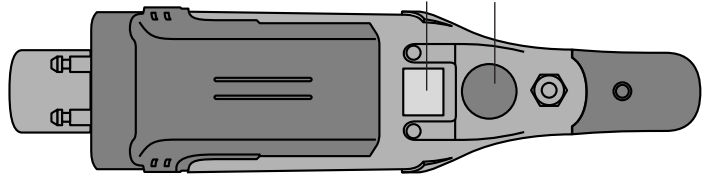
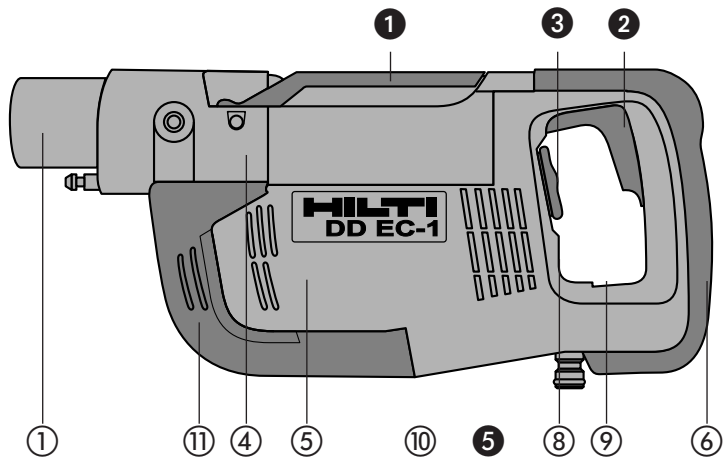
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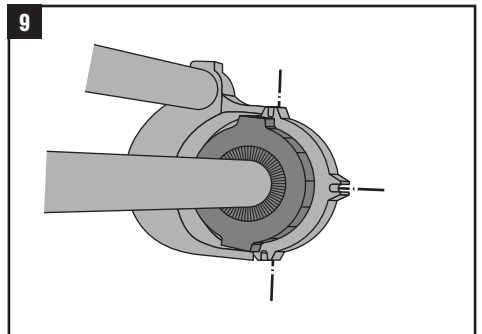
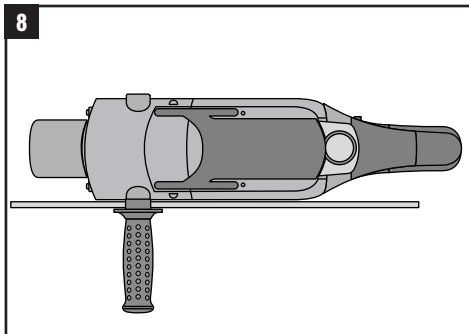
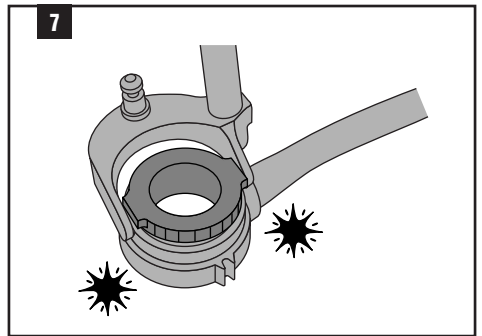
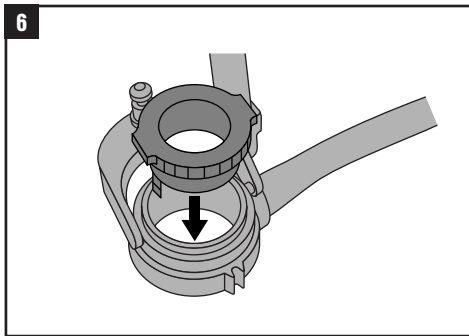
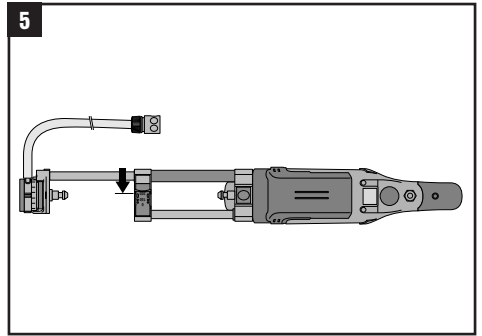
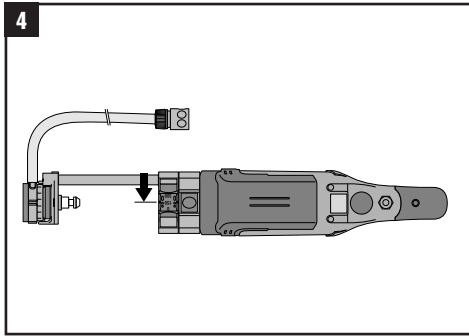
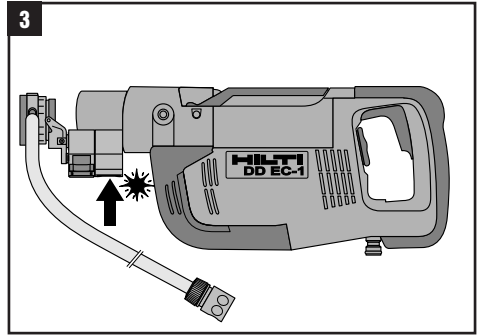
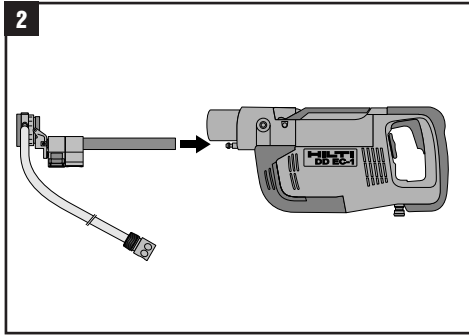
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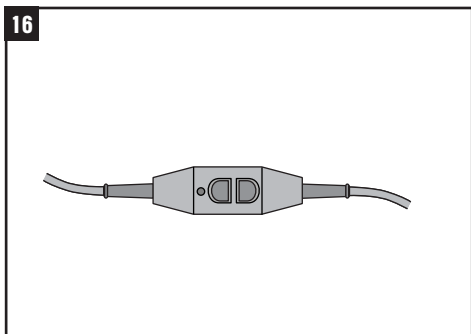
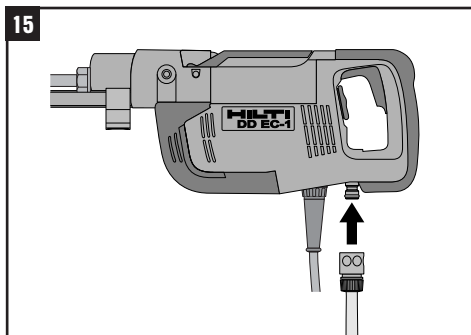
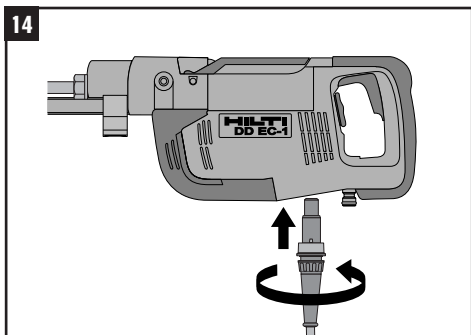
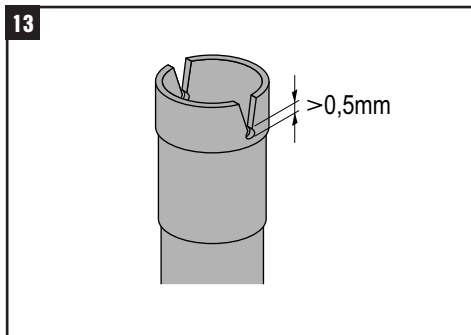
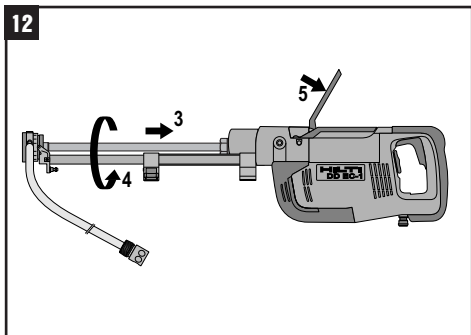
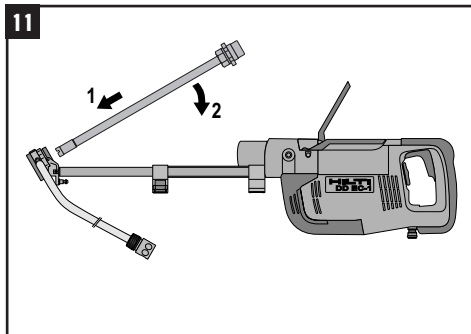
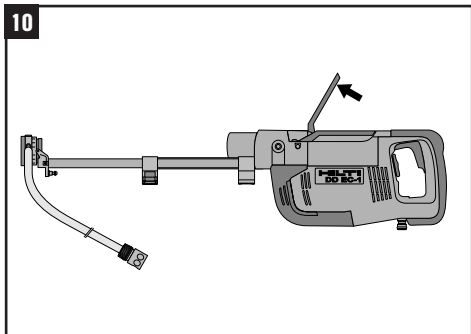
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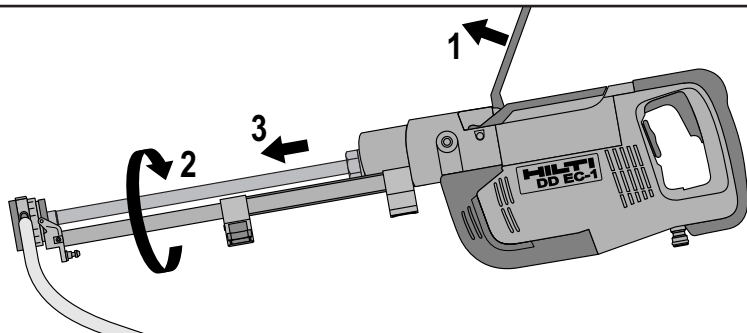
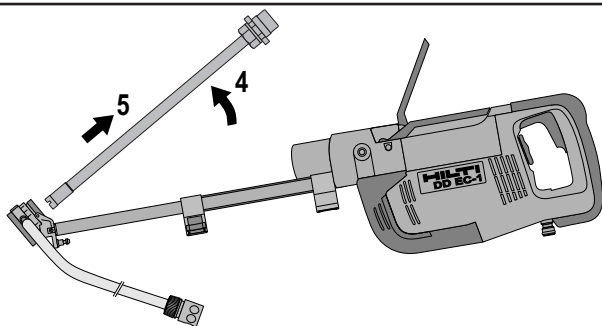


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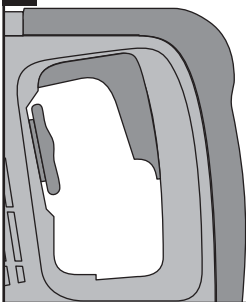




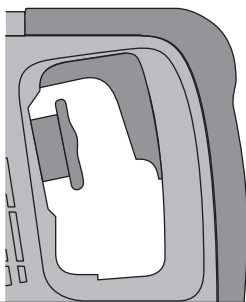
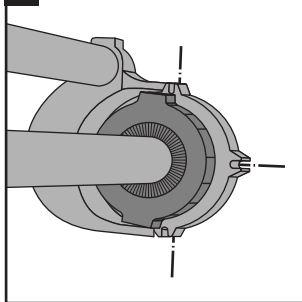
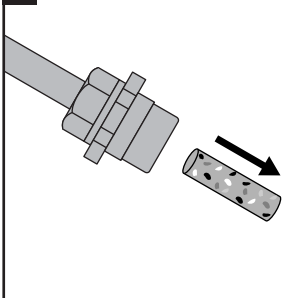
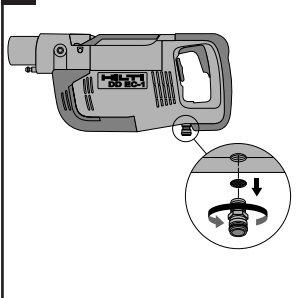
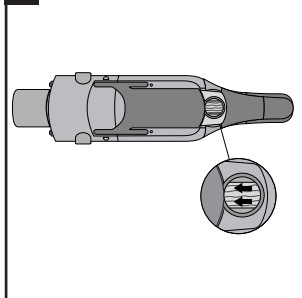


**17****18****19**

Pos. 1



Pos. 2

**20****21****22****23**

## 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 regulation wheel
- 4 Switch lock for drill stand use
- 5 Keyed supply cord plug connection (socket for supply cord plug)
- 6 Water collector holder release button
- 7 Slider for water collector holder rod length adjustment
- 8 Water collector sleeve
- 9 Depth gauge
- 10 Water flow 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 sleeve
- 14 Supply cord (with PRCD except for GB version)

## General information

 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 avoid risk of serious injury.

 **Danger:** Electricity

### Symbols



Read the operating instructions before use.



Return waste material for recycling.

**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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## 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 PRCD, operating instructions, lubricant spray (50 ml), cleaning cloth, toolbox.



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

- The tool must be connected to an alternating current electric mains supply in compliance with the information given on the type 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.

## 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 with temperature monitoring
- Rubber-covered grip and side handle
- Chuck system for DD-C core bits (working length of 150 and 300 mm)
- 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 control switch
- Removable water collector holder
- Removable supply cord with keyed socket connector and PRCD (except for GB version) residual current device
- Depth gauge
- Bubble levels

## Technical data

Rated input:	1450 W	1400 W	1400 W	1450 W	1450 W
Rated voltage: *	100 V	110 V	220 V	230 V	240 V
Rated current input: *		13.4 A	6.7 A	6.7 A	6.7 A
Mains frequency:	50–60 Hz				
Weight as per EPTA-Procedure 01/2003:	6.8 kg				
Dimensions (L×W×H):	423×108×195 mm				
Minimum distance between wall and hole drilled:	36 mm				
Speed:	9200 r.p.m.				
Max. permitted water supply pressure:	6 bar (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				
Slip clutch release torque:	13 Nm				
Protection class:	As per EN 60745, protection class I (earthed)				

**\* The tool is offered in different versions for various mains voltages. Please refer to the information on the type plate for the nominal voltage and nominal current input of your tool.**

### NOTE

The vibration emission level given in this information sheet has been measured in accordance with a standardised test given in EN 60745 and may be used to compare one tool with another. It may be used for a preliminary assessment of exposure. 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.

**Noise and vibration information (measured in accordance with EN 60745-2-1):**

Typical A-weighted noise power level (L <sub>WA</sub> ):	98 dB (A)
Typical A-weighted noise emission pressure level (L <sub>pA</sub> ):	87 dB (A)

For the given sound power level as per EN 60745, the tolerance is 3 dB.

**Wear ear protection!****Triaxial vibration information (measured in accordance with 60745-2-1 at the grips and in accordance with EN 61029 at the lever)***Triaxial vibration values (vibration vector sum) EN 60745-2-1 (hand-held)*

	Core bit length 150 mm	Core bit length 300 mm
<b>Vibration a<sub>h DD</sub></b>	<b>10 m/s<sup>2</sup></b>	<b>17 m/s<sup>2</sup></b>
Uncertainty K	1.5 m/s <sup>2</sup>	2 m/s <sup>2</sup>

*Triaxial vibration values (vibration vector sum) EN 61029, RIG DD-CR1 (on drill stand)*

	Core bit length 150 mm	Core bit length 300 mm
<b>Vibration a<sub>h DD</sub></b>	<b>7 m/s<sup>2</sup></b>	<b>11 m/s<sup>2</sup></b>
Uncertainty K	1.5 m/s <sup>2</sup>	1.5 m/s <sup>2</sup>

Right of technical changes reserved

**Intended uses****The tool is intended for the following uses:**

- Drilling holes (diamond core drilling) of 8–35 mm 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 sleeves
- The tool must be connected to a mains supply providing a voltage and frequency in compliance with the information given on the type plate.
- The tool may be used only when connected to a mains supply equipped with an earth / ground conductor and of adequate power rating.
- The tool may be used only with a mains supply cord of the type intended for use with it, equipped with a keyed socket connector and built-in PRCD (isolating transformer for GB).
- In accordance with national safety regulations, the safety function of the earth / ground conductor must be tested at regular intervals.
- Before use, the PRCD must be tested for correct functionality (see “Operation”).
- 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 safety precautions listed in the operating instructions or, if applicable, on a separate sheet, 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).

Do not, under any circumstances, use this product in any way other than as described in these operating instructions.

**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 a working length of 600 mm, 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
- Vacuum cleaner adaptor
- Drill stand DD-CR 1




# Safety instructions

## NOTE

The safety rules in section 1 contain all general safety rules for power tools which, in accordance with the applicable standards, require to be listed in the operating instructions. Accordingly, some of the rules listed may not be relevant to this tool.

### 1. General Power Tool Safety Warnings

- a)  **WARNING! Read all safety warnings and all instructions.** Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury. **Save all warnings and instructions for future reference.** The term "power tool" in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

#### 1.1 Work area safety

- a) **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- b) **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.
- c) **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

#### 1.2 Electrical safety

- a) **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.
- b) **Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
- c) **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- d) **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.
- e) **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.
- f) **If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.** Use of an RCD reduces the risk of electric shock.

#### 1.3 Personal safety

- a) **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- b) **Use personal protective equipment. Always wear eye protection.** Protective equipment such as dust mask, non-skid safety

shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.

- c) **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.
- d) **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- e) **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- f) **Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.
- g) **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.

#### 1.4 Power tool use and care

- a) **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.
- b) **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- c) **Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
- d) **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
- e) **Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.
- f) **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- g) **Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.

#### 1.5 Service

- a) **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.

## 2. Additional safety precautions

### 2.1 Safety instructions for electric drills

- a) **Use auxiliary handles supplied with the tool.** Loss of control can cause personal injury.
- b) **Hold power tool by insulated gripping surfaces, when performing an operation where the cutting accessory may contact hidden wiring or its own cord.** Cutting accessory contacting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.

### 2.1 Personal safety

- a) **Wear ear protectors.** Exposure to noise can cause hearing loss.
- b) **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.
- c) **Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
- d) **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- e) **Ensure that the side handle is fitted correctly and tightened securely. Always hold the tool in both hands when it is in use.**
- f) **To avoid tripping and falling when working, always lead the supply cord, extension cord and dust extraction hose away from the rear.**
- g) **The tool is not intended for use by children, by debilitated persons or those who have received no instruction or training.**
- h) **Children must be instructed not to play with the tool.**
- i) **Dust from material such as paint containing lead, some wood species, minerals and metal may be harmful. Contact with or inhalation of the dust may cause allergic reactions and/or respiratory diseases to the operator or bystanders. Certain kinds of dust are classified as carcinogenic such as oak and beech dust especially in conjunction with additives for wood conditioning (chromate, wood preservative). Material containing asbestos must only be treated by specialists. Where the use of a dust extraction device is possible it shall be used. To achieve a high level of dust collection, use a suitable vacuum cleaner of the type recommended by Hilti for wood dust and/or mineral dust together with this tool. Ensure that the workplace is well ventilated. The use of a dust mask of filter class P2 is recommended. Follow national requirements for the materials you want to work with.**
- j) **Exercise your fingers during pauses between work to improve the blood circulation in your fingers.**

### 2.2 Power tool use and care

- a) **Ensure that the insert tools used are equipped with the appropriate connection end system and that they are properly fitted and secured in the chuck.**

- b) **In the event of a power failure, switch the tool off and unplug the supply cord.** *This prevents inadvertent starting when the power returns.*

### 2.3 Electrical safety

- a) **Before beginning work, check the working area (e.g. with a metal detector) to ensure that no concealed electric cables or gas and water pipes are present.** *External metal parts of the tool may become live if, for example, an electric cable is damaged inadvertently. This presents a serious risk of electric shock.*
- b) **Check the condition of the supply cord and its plug connections and have it replaced by a qualified electrician if damage is found. Check the condition of the extension cord and replace it if damage is found. Do not touch the supply in the event of it suffering damage while working. Disconnect the supply cord plug from the socket.** *Damaged supply cords and extension cords present a risk of electric shock.*
- c) **Dirty or dusty electric tools should thus be checked at a Hilti service center at regular intervals, especially if used frequently for working on conductive materials.** Dust (especially dust from conductive materials) or dampness adhering to the surface of the tool may, under unfavorable conditions, present a risk of electric shock.
- d) **Check that the pins of the plug and supply cord are clean and dry before they are connected. Unplug the supply cord from the mains socket before cleaning.**

### 2.4 Work area

- a) **Ensure that the workplace is well lit.**
- b) **Ensure that the workplace is well ventilated.** *Poorly ventilated workplaces may be injurious to the health due to exposure to dust.*

### 2.5 Personal protective equipment

The user and any other persons in the vicinity must wear suitable eye protection, a hard hat, ear protection and protective gloves when the tool is in use.



Wear eye protection



Wear a hard hat



Wear ear protection



Wear protective gloves

## Before use



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



The tool may be used for drilling work only by trained personnel.



The mains voltage must correspond to the information on the type 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.

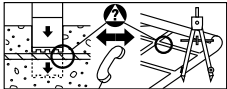
**The recommended cable cross-sections and maximum lengths are:**

Mains voltage	Conductor cross-section		
	1.5 mm <sup>2</sup>	2.0 mm <sup>2</sup>	2.5 mm <sup>2</sup> 3.5 mm <sup>2</sup>
100 V		20 m	40 m
110–120 V	20 m		40 m
220–230 V	50 m		80 m



Before beginning drilling, ensure that the necessary safety precautions are taken 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.

### 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.



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 sleeve
2. DD-REC1 water recycling system, or
3. A suitable wet-type vacuum cleaner with the correct adaptor for the water collector hose
4. PRCD portable residual current device (integrated in the supply cord, isolating transformer for GB))



The grip of the tool must not be used for attaching lifting equipment (e.g. block and tackle, crane, etc.).

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.



When setting anchors, the applicable product and test / inspection regulations must be observed.

## Operation

### 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 < 150 mm working length; position 2 : 300 mm working length) **4 5**.
- Always use the supplied water collector system.
- Always ensure that the diameter of the water collector sleeve 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**.
- Ensure that the supply cord is not plugged in.

### 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. 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 sleeve **11**.
- Guide the connection end of the core bit into the recess 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 connect-

ed to the tool. The mains plug must be disconnected from the mains supply before cleaning the keyed plug on the supply cord.

- Take the supply cord out of the toolbox **14**.
- Align the mark on the plug with the mark on the socket on the underside of the tool **14**.
- While in this position, insert the plug into the socket as far as it will go.
- Rotate the keyed plug 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 mains socket.
- Switch on the PRCD by pressing the black button **16**.
- Before operating the tool, check the PRCD 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 PRCD again by pressing the ON button.

### After use

1. Disconnect the mains plug.
2. Release the hose connectors to the diamond core drilling machine. If the DD REC-1 is used, connect the extraction hose and water supply hose connectors together. If an external water supply system is used, prevent water entering the interior of the tool by ensuring that hose couplings of the automatic cut-off type are fitted and that the water supply valve is turned off.
3. Release the keyed plug from the diamond 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.

### Drilling

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

#### 1. Automatic control (preferred) **19**

When the water regulation wheel 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 regulation wheel (minimum water flow rate: approx. 0.5 l/min.).

#### 2. Bypass mode **19**

When the water regulation wheel is pulled into position 2, the water flow rate can be adjusted manually between 0 l/min. and approx. 3.0 l/min. by turning the wheel. This operating mode is used for special applications.

- Before beginning drilling, adjust the water regulation wheel to the middle position of its range 1–3.
- 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 centring marks on the water collector into alignment with a cross marked at the position where the hole is to be drilled **20**.
- To begin drilling, press the control switch **2** 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 **23**.
- Press the core bit gently against the base material.
- Take care to ensure that the core bit is perpendicular to the base material.

The pressure applied to the core bit should be regulated so that the tool continues to run at its highest speed. Application of higher pressure does not increase the rate of drilling progress.

- Hold the tool straight. Do not tilt it at angle as this may result in reduced drilling performance. Always ensure that the tool continues to run at a high speed.
- 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, resulting in damage to the core bit. It may be necessary to adjust the water flow rate manually while drilling by turning the water regulation wheel **3**.

- 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 bypass mode, bring the water regulation wheel (3) 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 **2** 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



Ensure that the supply cord is not plugged in.



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, move the lever **1** as far as it will go.
- Hold the tool with the tip of the core bit pointing slightly downwards **17**.
- Rotate the core bit counter-clockwise approx. 60°.
- Pull the core bit out of the chuck away from the tool **18**.
- Lift the connection end upwards slightly and pull the core bit out of the water collector towards the rear **21**.

## 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

- Take the core removal tool (optional accessory) out of the toolbox.
- Ensure that the diameter of the core removal tool corresponds to the diameter of the core bit used.

- Push the core removal tool into the hole as far as it will go while rotating it slightly.
- Break the core by applying slight lateral pressure to the core removal tool.
- Use the core removal tool to pull the broken core out of the hole.
- Turn the core removal tool through 180° and re-insert it in the hole.
- Use a rule to measure the effective hole depth reached.
- Repeat this procedure, if necessary, several times until the entire core has been removed.

## 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 **22**

- 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



Ensure that the supply cord is not plugged in.

### 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 centre.

## Troubleshooting

<b>Fault</b>	<b>Possible cause</b>	<b>Solution</b>
Machine doesn't start	Fault in mains 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 centre.
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 centre.
The motor cuts out.	Core bit cutting edge polished	Resharpener the core bit on a sharpening plate (flush with water).
	Motor is stalled	Guide the machine straight.
	Machine is too warm. Thermal (overheating) cutout is activated.	Ease the load on the machine and press the switch several times to allow it to run up to speed again.
No flow of water when operated in automatic mode	Electronics defective	The machine should be repaired at a Hilti service centre.
	Cooling fan defective	The machine should be repaired at a Hilti service centre.
No flow of water when operated in bypass mode	Filter or water flow indicator blocked	Remove the filter or water flow indicator and flush it through.
	Magnet valve defective	Drill in bypass mode. The machine should be repaired at a Hilti service centre.
Water leaks from the gear housing	Filter or water flow indicator blocked	Remove the filter or water flow indicator and flush it through.
The core bit cannot be inserted in the chuck	Water swivel shaft seal defective	The machine should be repaired at a Hilti service centre.
	Chuck operating lever not fully open	Open the lever as far as it will go.
Water leaks from the chuck	Core bit connection end or chuck dirty or damaged	Clean the connection end and chuck or replace if necessary.
	Core bit connection end or chuck dirty	Clean the connection end and chuck.
	Chuck seal defective	Check the seal and replace it if necessary.

## 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



Most of the materials from which Hilti power tools are manufactured can be recycled. The materials must be correctly separated before they can be recycled. In many countries, Hilti has already made arrangements for taking back your old electric tools for recycling. Please ask your Hilti customer service department or Hilti sales representative for further information.

### 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.



### Only for EU countries

Disposal of electric tools together with household waste is not permissible!

In observance of European Directive 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.

## EC declaration of conformity (original)

Designation:	Diamond core drilling machine
Type:	DD EC-1
Year of design:	2000

We declare, under our sole responsibility, that this product complies with the following directives and standards: 2006/42/EC, 2004/108/EC, EN 60745-1, EN 60745-2-1, EN ISO 12100, 2011/65/EU.

**Hilti Corporation, Feldkircherstrasse 100,  
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Handwritten signature of Paolo Luccini.

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