**NOTE**
Switching other machines or appliances on and off can cause undervoltage and/or overvoltage peaks which could damage the machine. Never operate other machines from the generator/transformer at the same time.

## 3 Accessories

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| Designation | Short designation | Description |
|---|---|---|
| TPS theft protection system with company card, company remote and TPS-K key | | Option |
| Water collection system | | |
| Hand wheel (lever) | | |
| Hand wheel (star handle) | | |
| Core bit extension (BI+) | | |
| Drill stand (with anchor base plate) | | |
| Drill stand (with combination base plate and tilt mechanism) | | |
| Vacuum base plate | DD-ST-120/160-VBP | |
| Depth gauge | | |
| Jack screw | | |
| Rota-Rail (column swivel) | | |

## 4 Technical data

Right of technical changes reserved.

**NOTE**
The machine is available in various voltage ratings. Please refer to the machine's type identification plate for details of its rated voltage and rated input power.

| Rated voltage [V] | 100 | 110 GB | 110 TW | 120 | 127 | 220 | 230 | 240 |
|---|---|---|---|---|---|---|---|---|
| Rated current [A] | 15 | 16 | 15 | 19.5 | 18.5 | 10 | 10.3 | 9.9 |
| Mains frequency [Hz] | 50/60 | 50/60 | 50/60 | 60 | 50/60 | 50/60 | 50/60 | 50/60 |

**Other information about the machine**

| | |
|---|---|
| Rated power input | 2200 W at 230 V |
| Rated speed under no load | 420 /min (1st gear), 700 /min (2nd gear), 1570 /min (3rd gear) |
| Max. permissible water supply pressure | 5 bar |
| Dimensions of the system with anchor base plate, (L x W x H) | 400 mm x 165 mm x 945 mm |
| Dimensions of the system with combination base plate, (L x W x H) | 610 mm x 250 mm x 952 mm |
| Weight of the system with anchor base plate | 16.3 kg |

| | |
|---|---|
| Weight of the system with combination base plate | 19.3 kg |
| Protection class | Protection class I (earthed) |

**NOTE**

The vibration emission level given in this information sheet has been measured in accordance with a standardised test given in EN 61029 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.

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**Noise and vibration information (measured in accordance with EN 61029-1)**

| | |
|---|---|
| Typical A-weighted sound power level | 106 dB (A) |
| Typical A-weighted emission sound pressure level | 93 dB (A) |
| Uncertainty for the given sound level | 3 dB (A) |

**Total triaxial vibration values (vibration vector sum) at the hand wheel (star handle)**

| | |
|---|---|
| Drilling in concrete (wet), $a_{h,\ DD}$ | 4 m/s² |
| Uncertainty (K) | 1.5 m/s² |

## 5 Safety instructions

### 5.1 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.

#### 5.1.1 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.

#### 5.1.2 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.

#### 5.1.3 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.

### 5.1.4 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.

### 5.1.5 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.

## 5.2 Proper organization of the work area

a) **Approval must be obtained from the site engineer or architect prior to beginning drilling work.** Drilling work on buildings and other structures may influence the statics of the structure, especially when steel reinforcing bars or load-bearing components are cut through.

b) **When drilling through walls, cover the area behind the wall, as material or the core may fall out on the other side of the wall. When drilling through ceilings, secure (cover) the area below as drilled material or the core may drop out and fall down.**

c) **Place the mounting device on a solid, flat and level surface.** If the mounting device can slip or wobble, the machine cannot be guided smoothly and safely.

d) **Check the nature of the surface.** Rough surfaces may reduce holding power. Coatings or composite materials may pull away from the surface while you are working.

e) **Do not overload the mounting device and do not use it as a substitute for a ladder or platform.** Overloading the mounting device or standing on it may shift its center of gravity to a higher position, causing it to tip over.

f) **Wear respiratory protection if the work causes dust.**

g) **It is recommended that rubber gloves and non-skid shoes are worn when working outdoors.**

h) **Keep the supply cord, extension cord, suction hose and vacuum hose away from rotating parts.**

i) **Do not work from a ladder.**

### 5.2.1 General safety rules

a) **Keep the grips dry, clean and free from oil and grease.**

b) **Never leave the machine unattended.**

c) **Store machines in a secure place when not in use. When not in use, machines must be stored in a dry, high place or locked away out of reach of children.**

d) **Children must be instructed not to play with the machine.**

e) **The machine is not intended for use by children, by debilitated persons or those who have received no instruction or training.**

f) **Never operate the machine without the supplied PRCD (machines without PRCD: Never operate the machine without an isolating transformer). Test the PRCD each time before use.**

g) **Check the machine and its accessories for any damage. Guards, safety devices and any slightly damaged parts must be checked carefully to ensure that they function faultlessly and as intended. Check that moving parts function correctly without sticking and that no parts are damaged. All parts must be fitted correctly and fulfill all conditions necessary for correct operation of the machine. Damaged guards, safety devices and other parts must be repaired or replaced properly at an authorized service center unless otherwise indicated in the operating instructions.**

h) **Avoid skin contact with drilling slurry.**

i) **Wear a protective mask during work that generates dust, e.g. dry drilling. Connect a dust removal system. Drilling in materials hazardous to the health (e.g. asbestos) is not permissible.**

j) 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.**

### 5.2.2 Mechanical

a) **Follow the instructions concerning care and maintenance.**

b) **Follow the instructions concerning lubrication and changing core bits.**

c) **Check that the core bits used are compatible with the chuck system and that they are secured in the chuck correctly.**

d) **Make sure that the machine is correctly and securely mounted on the drill stand.**

e) **Do not touch rotating parts.**

f) **Check that all the clamping screws are correctly tightened.**

g) **As the end stop has a safety-relevant function, always check to ensure that the end stop screw is securely in place on the drill stand.**

### 5.2.3 Electrical

a) **Check the machine's supply cord at regular intervals and have it replaced by a qualified specialist if found to be damaged. Check extension cords at regular intervals and replace them if found to be damaged.**

b) **Do not touch the supply cord or extension cord if it is damaged while working. Disconnect the supply cord plug from the power outlet.**

c) **In case of an interruption in the electric supply: Switch the machine off and unplug the supply cord.**

d) **Avoid using extension cords with multiple power outlets and the simultaneous use of several electric tools or machines connected to one extension cord.**

e) **Never operate the machine when it is dirty or wet. Dust (especially dust from conductive materials) or dampness adhering to the surface of the machine may, under unfavorable conditions, lead to electric shock. Dirty or dusty machines should thus be checked at a Hilti service center at regular intervals, especially if used frequently for working on conductive materials.**

f) **Before beginning work, check the working area (e.g. using a metal detector) to ensure that no concealed electric cables or gas and water pipes are present.** External metal parts of the machine may become live, for example, when an electric cable is damaged accidentally. This presents a serious risk of electric shock.

### 5.2.4 Thermal

**Wear protective gloves when changing core bits.** The core bit may become hot during use.

### 5.2.5 Requirements to be met by users

**Improve the blood circulation in your fingers by relaxing your hands and exercising your fingers during breaks between working.**

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### 5.2.6 Personal protective equipment

**The user and any other persons in the vicinity must wear suitable eye protection, a hard hat, ear protection, protective gloves and safety footwear while the machine is in use.**

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## 6 Before use

**CAUTION**
**The mains voltage must comply with the specification given on the type identification plate. Ensure that the power tool is disconnected from the electric supply.**

**DANGER**
**When drilling through walls, cover the area behind the wall, as material or the core may fall out on the other side of the wall. When drilling through ceilings, secure (cover) the area below as drilled material or the core may drop out and fall down.**

**DANGER**
**Check that the drill stand is securely fastened to the work surface.**

**CAUTION**
**Do not break the connection to earth by using an adaptor plug.**

### 6.1 Preparing for use

**CAUTION**
The machine and the diamond core bit are heavy. There is a risk of pinching parts of the body. **Wear a hard hat, protective gloves and safety boots.**

#### 6.1.1 Mounting the machine on the drill stand

**NOTE**
The motor section and the carriage form a unit. The machine can thus be removed from the drill stand together with the carriage.

1. Remove the end stop screw from the end of the rail.
2. Mount the machine on the drill stand by sliding the opening in the carriage over the end of the column.
3. Engage the carriage locking system with the channel and check that the channel is securely fastened.
4. Refit the end stop screw to the end of the rail.

#### 6.1.2 Fitting the hand wheel 4

**NOTE**
The hand wheel may be fitted on the left-hand or right-hand side of the carriage.

1. Fit the hand wheel onto the shaft on the left-hand or right-hand side of the carriage.
2. Secure the hand wheel.

#### 6.1.3 Fastening the drill stand with an anchor 5 6

**WARNING**
**Use an anchor suitable for the material on which you are working and observe the anchor manufacturer's instructions.**

**NOTE**
Hilti M16 metal expansion anchors are usually suitable for fastening diamond core drilling equipment to uncracked concrete. Under certain conditions it may be necessary to use an alternative fastening method. Please contact Hilti Technical Service if you have any questions about secure fastening.

1. If using the anchor base plate, set an anchor suitable for the applicable base material at a distance (ideally) of 267 mm (10 ½ ") from the center of the hole to be drilled or, if using the combination base plate, at a distance of 292 mm (11 ½ ") from the hole center.
2. Screw the clamping spindle into the anchor.
3. Place the drill stand base plate over the spindle and align it.
4. Screw the clamping nut onto the spindle but do not tighten it.
5. Level the base plate by turning the four leveling screws. Take care to ensure that the leveling screws make firm contact with the underlying surface.
6. Use a suitable open-end wrench to tighten the clamping nut on the clamping spindle.
7. Make sure that the drilling system is secured reliably.

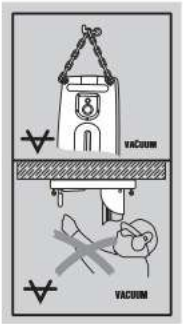
### 6.1.4 Using the vacuum fastening method (drill stand with combination base plate) 7

**DANGER**
A coated, laminated, rough or uneven surface may significantly reduce the effectiveness of the vacuum system. **Check whether the surface is suitable for use of the vacuum method to fasten the drill stand.**

**DANGER**
**Overhead drilling with the machine secured only by the vacuum base plate is not permissible.**

**CAUTION**
**Make yourself familiar with information contained in the operating instructions for the vacuum pump and follow these instructions before using it.**

**WARNING**
**Before beginning drilling and during operation it must be ensured that the pressure gauge indicator remains within the green area.**




**NOTE**
To be carried out only when the drill stand is used with the anchor base plate and vacuum base plate: Screw the anchor base plate securely onto the vacuum base plate.

**NOTE**
Make sure that the anchor base plate lies flat against the vacuum base plate and that the two plates are securely connected. Make sure that the core bit selected for use will not damage the vacuum base plate.

1. Turn (retract) the 4 leveling screws until they project approx. 5 mm beneath the combination base plate or, respectively, the vacuum base plate.
2. Connect the vacuum pump to the vacuum connector on the combination base plate or vacuum base plate.
3. Locate the center point of the hole to be drilled.
4. Draw a line approximately 800 mm in length from the center of the hole to be drilled towards where the drill stand is to be positioned.
5. If using the combination base plate, make a mark on the line at a distance of 292 mm (11 ½") from the center of the hole to be drilled.
6. Switch on the vacuum pump and press the vacuum release valve.
7. Bring the mark on the combination base plate or vacuum base plate into alignment with the line.
8. Once the drill stand has been positioned correctly, release the vacuum release valve and press the base plate against the work surface.
9. Level and steady the combination base plate or vacuum base plate by turning the 4 leveling screws.
10. An additional means of securing the drilling system must be provided when drilling horizontally (e.g. a chain attached to an anchor, etc.).
11. Make sure that the drilling system is secured reliably.

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### 6.1.5 Fastening the drill stand with the jack screw

1. Fit the jack screw at the top end of the rail.
2. Position the drill stand on the work surface.
3. Level the base plate by turning the four leveling screws.
4. Secure the base plate by tightening the jack screw.
5. Check to ensure that the machine is fastened securely.

### 6.1.6 Adjusting the drilling angle when using the drill stand with combination base plate 8 9 10

(in 7.5° increments; adjustable to max. 45°)

**CAUTION**
There is a risk of crushing the fingers in the pivot mechanism. **Wear protective gloves.**

1. At bottom right of the drill stand, release the adjusting lever until the slot nuts are disengaged.
2. Adjust the column to the desired angle.
3. Engage the slot nuts.
4. Tighten the adjusting lever until the slot nuts are fully engaged and the frame is again secured in position.
5. Bring the adjusting lever back into the vertical position by pushing it inwards and then moving it as necessary.

### 6.1.7 Fitting the water connection

**CAUTION**
**Regularly check the hoses for damage and make sure that the maximum permissible water supply pressure of 5 bar is not exceeded.**

**CAUTION**
**Make sure that the hose doesn't come into contact with rotating parts.**

**CAUTION**
**Make sure that the hose is not pinched and damaged as the carriage advances.**

**CAUTION**
**Check the water supply system to ensure there are no leaks.**

**NOTE**
To avoid damage to the components, use only fresh water containing no dirt particles.

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**NOTE**
An optional flow meter may also be fitted between the machine's water supply connector and the water supply hose.

1. Connect the water regulator to the machine.
2. Connect the water supply (hose coupling).

### 6.1.8 Fitting the water collection system (accessory) 11

**WARNING**
**Use of the water collection system in conjunction with a wet-type industrial vacuum cleaner is a mandatory requirement for work on ceilings. The machine must be positioned at an angle of 90° to the ceiling. The seal used must be of the correct size for the diamond core bit** diameter.

**NOTE**
Use of the water collection system allows water to be led away in controlled fashion, thus avoiding a mess or damage to the surrounding area. Best results are achieved with a wet-type industrial vacuum cleaner.

1. Release the screw at the front of the rail.
2. Push the water collector holder into position.
3. Fit the screw and tighten it.
4. Fit the water collector between the two movable arms of the water collector holder.
5. Press the water collector against the work surface by turning the two screws on the water collector holder.
6. Connect a wet-type industrial vacuum cleaner to the water collector or fit a length of hose through which the water can drain away.

### 6.1.9 Fitting the diamond core bit 12

**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.

**DANGER**
**To avoid injury, use only genuine Hilti core bits and DD 160 accessories. If using a machine with a BI+ chuck, only genuine Hilti core bits may be used with it.**

**CAUTION**
The core bit may become hot during use or during sharpening. There is a risk of burning your hands. **Wear protective gloves when changing the core bit.**

**CAUTION**
**Disconnect the supply cord plug from the power outlet.**

**DANGER**
Fitting and positioning the core bit incorrectly can lead to hazardous situations as this may cause parts to break and fly off. **Check that the core bit is seated correctly.**

**NOTE**
If using an alternative type of chuck, lock the drive spindle with a suitable open-end wrench and use another suitable open-end wrench to tighten the core bit.

1. Engage the carriage locking system with the channel and check that the channel is securely fastened.
2. Open the chuck (BI+) by turning it in the direction of the open brackets symbol.
3. Push the diamond core bit into the chuck (BI+) from below, turning the core bit until the teeth in the chuck engage with the core bit.
4. Close the chuck (BI+) by turning it in the direction of the closed brackets symbol.
5. Check that the diamond core bit is securely mounted in the chuck by pulling on the core bit and attempting to move it from side to side.

### 6.1.10 Selecting the speed 13

**CAUTION**
**Do not change gear while the machine is running. Wait for the spindle to come to a halt.**

1. Set the switch to the correct position according to the core bit diameter used (see Section 2.3). When turning the switch, rotate the core bit by hand at the same time until the switch can be engaged in the recommended position.

### 6.1.11 Removing the diamond core bit

**CAUTION**
The core bit may become hot during use or during sharpening. There is a risk of burning your hands. **Wear protective gloves when changing the core bit.**

**CAUTION**
**Disconnect the supply cord plug from the power outlet.**

**NOTE**
If using an alternative type of chuck, grip and hold the drive spindle securely with a suitable open-end wrench and use another suitable open-end wrench to release the core bit.

1. Engage the carriage locking system with the channel and check that the channel is securely fastened.
2. Open the chuck (BI+) by turning it in the direction of the open brackets symbol.
3. Pull the sleeve on the chuck in the direction of the arrow towards the machine. This releases the core bit.
4. Remove the core bit.

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## 7 Operation




**WARNING**
**Make sure that the supply cord does not come into contact with rotating parts.**

**WARNING**
**Make sure that the supply cord is not pinched and damaged as the carriage advances.**

**CAUTION**
The machine and the drilling operation generate noise. **Wear ear protectors.** Excessive noise may damage the hearing.

**CAUTION**
Drilling may cause hazardous flying fragments. Flying fragments present a risk of injury to the eyes and body. **Wear eye protection and a hard hat.**

**CAUTION**
**Do not change gear while the machine is running. Wait until the drive spindle has stopped rotating.**

**CAUTION**
**Take care to avoid coming into contact with rotating parts when adjusting the water flow while the machine is running.**

**CAUTION**
**Releasing the tilt mechanism on the drill stand may cause the column to tilt suddenly.**

### 7.1 TPS theft protection system (optional)

**NOTE**
The machine may be equipped with the optional theft protection system. If the machine is equipped with this feature, it can be unlocked and made ready for operation only with the corresponding TPS key.

#### 7.1.1 Unlocking the machine

1. Connect the supply cord to the electric supply and press the "I" or "Reset" button on the ground fault circuit interrupter. The yellow theft protection indicator LED blinks. The machine is now ready to receive the signal from the TPS key.
2. Hold the TPS key or the TPS watch strap buckle against the lock symbol. The machine is unlocked as soon as the yellow theft protection indicator LED no longer lights.
   **NOTE** If, for example, the electric supply is briefly interrupted due to a power failure or disconnected when moving to a different workplace, the machine remains ready for operation for approx. 20 minutes. In the event of a longer interruption, the TPS key must be used again to unlock the machine.

#### 7.1.2 Activation of the theft protection system for the machine

**NOTE**
Further detailed information on activation and use of the theft protection system can be found in the operating instructions for the theft protection system.