

HILTI

SF BT 22-A

English



1 Information about the documentation

1.1 About this documentation

- Read this documentation before initial operation or use. This is a prerequisite for safe, trouble-free handling and use of the product.
- Observe the safety instructions and warnings in this documentation and on the product.
- Always keep the operating instructions with the product and make sure that the operating instructions are with the product when it is given to other persons.

1.2 Explanation of signs used

1.2.1 Warnings

Warnings alert persons to hazards that occur when handling or using the product. The following signal words are used in combination with a symbol:

	DANGER! Draws attention to imminent danger that will lead to serious personal injury or fatality.
	WARNING! Draws attention to a potentially dangerous situation that could lead to serious personal injury or fatality.
	CAUTION! Draws attention to a potentially dangerous situation that could lead to slight personal injury or damage to the equipment or other property.

1.2.2 Symbols

The following symbols are used:

	Read the operating instructions before use.
	Instructions for use and other useful information
n_0	Rated speed under no load
/min	Revolutions per minute
	Direct current (DC)
\varnothing	Diameter

1.2.3 Illustrations

The illustrations in these operating instructions are intended to convey a basic understanding and may differ from the actual version of the product:

2	These numbers refer to the corresponding illustrations found at the beginning of these operating instructions.
3	The numbering in the illustrations reflects the order of the work steps in the illustration and may deviate from the numbering of work steps in the text.
11	Item reference numbers are used in the overview illustration. In the product overview section, the numbers shown in the legend relate to these item reference numbers.

1.3 Product information

Hilti products are designed for professional use and may be operated, serviced and maintained only by trained, authorized personnel. This personnel must be informed of any particular hazards that may be encountered. The product and its ancillary equipment may present hazards when used incorrectly by untrained personnel or when used not as directed.

- ▶ Make a note of the designation and serial number printed on the identification plate in the following table.
- ▶ Always quote this information when you contact a Hilti representative or Hilti Service regarding questions about the product:

Product information

Drill	SF BT 22-A
Generation:	01
Serial no.:	

2 Safety

2.1 General power tool safety warnings

⚠ 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.

Work area safety

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

Electrical safety

- ▶ **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.
- ▶ **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.
- ▶ **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- ▶ **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.
- ▶ **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.
- ▶ **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.

Personal safety

- ▶ **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.
- ▶ **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.
- ▶ **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.
- ▶ **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.
- ▶ **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- ▶ **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.
- ▶ **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.

Power tool use and care

- ▶ 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.

- ▶ **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.
- ▶ **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.
- ▶ **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.
- ▶ **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.
- ▶ **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- ▶ **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.

Battery tool use and care

- ▶ **Recharge only with the charger specified by the manufacturer.** A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.
- ▶ **Use power tools only with specifically designated battery packs.** Use of any other battery packs may create a risk of injury and fire.
- ▶ **When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another.** Shorting the battery terminals together may cause burns or a fire.
- ▶ **Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help.** Liquid ejected from the battery may cause irritation or burns.

Service

- ▶ **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.

2.2 Drill safety warnings

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

2.3 Additional safety instructions

Personal safety

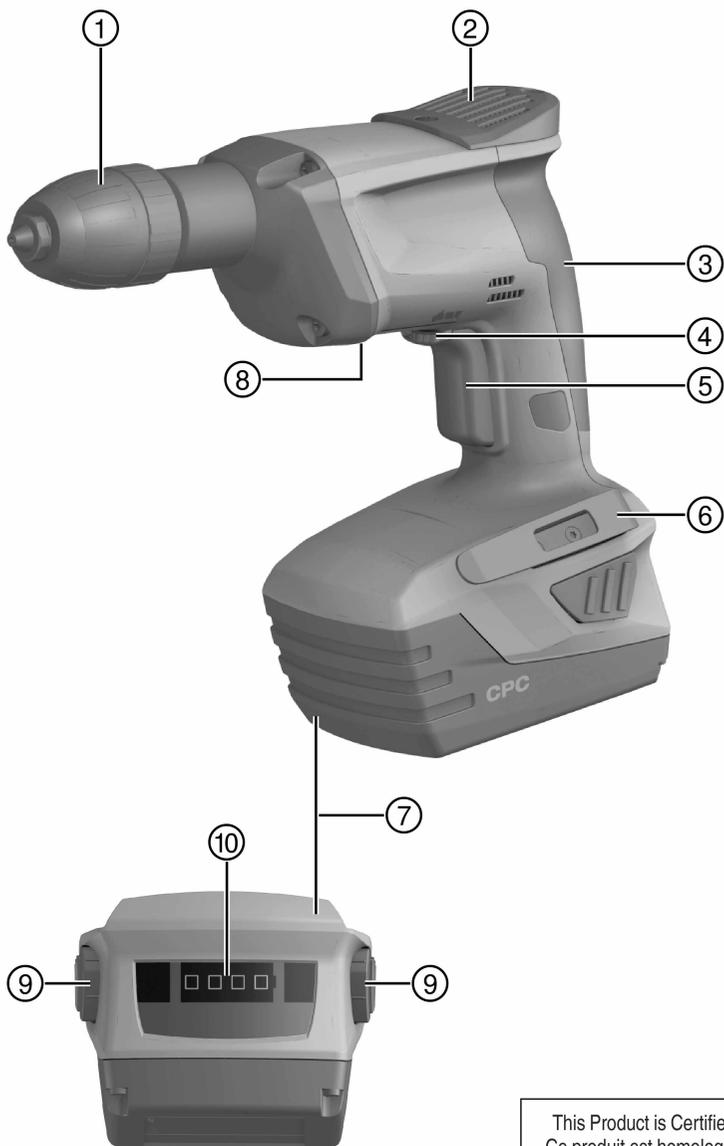
- ▶ Use the tool only when it is in technically faultless condition.
- ▶ Never tamper with or modify the tool in any way.
- ▶ Always hold the tool with the hand on the grip provided. Keep the grip clean and dry.
- ▶ Avoid touching rotating parts – risk of injury!
- ▶ Wear suitable protective glasses, a hard hat, ear protection, protective gloves and light respiratory protection while using the power tool.
- ▶ Wear protective gloves also when changing the accessory tool. Touching the accessory tool presents a risk of injury (cuts or burns).
- ▶ Wear eye protection. Flying fragments present a risk of injury to the body and eyes.
- ▶ Take breaks between working and do physical exercises to improve the blood circulation in your fingers. Exposure to vibration during long periods of work can lead to disorders of the blood vessels and nervous system in the fingers, hands and wrists.
- ▶ Use a dust removal system and suitable vacuum cleaner whenever possible. Dust from materials, such as paint containing lead, some kinds of wood, concrete / masonry / stone containing silica, and minerals as well as metal, may be injurious to health.
- ▶ Keep the power tool out of reach of children. The power tool is not intended for use by inexperienced persons who have received no special training.
- ▶ Observe the national health and safety requirements.

Careful handling and use of batteries

- ▶ Do not use the battery as a power source for other unspecified appliances.
- ▶ Observe the special guidelines applicable to the transport, storage and use of lithium-ion batteries.
- ▶ Do not expose batteries to high temperatures, direct sunlight or fire.
- ▶ Do not disassemble, squash or incinerate batteries and do not subject them to temperatures over 80°C (176°F).
- ▶ Do not attempt to charge or continue to use damaged batteries.
- ▶ If the battery is too hot to touch it may be defective. In this case, place the power tool in a non-flammable location, well away from flammable materials, where it can be kept under observation and allowed to cool down. Contact **Hilti** Service after the battery has cooled down.

3 Description

3.1 Overview of the product



This Product is Certified
Ce produit est homologué
Producto homologado por
Este producto está registrado



- | | | | |
|---|--|---|------------------------|
| ① | Keyless chuck | ⑥ | Belt hook |
| ② | Motor cooling air intake | ⑦ | Battery |
| ③ | Grip | ⑧ | Air exit |
| ④ | Switch safety lock | ⑨ | Battery release button |
| ⑤ | Control switch (with electronic speed control) | ⑩ | Battery display |

3.2 Intended use

The product described is a hand-held cordless drill designed for drilling blind holes in steel using **Hilti TX-BT ...** stepped drill bits which is a prerequisite for driving **Hilti X-BT** threaded studs.

- ▶ Use only **Hilti** lithium-ion batteries of the B 18 / B 22 series with this product.
- ▶ Use only **Hilti** battery chargers of the C 4/36 series to charge these batteries.

3.3 Switch-on interlock release button



The tool is equipped with a switch safety lock that can be used to lock the control switch, thereby preventing inadvertent starting.

Switch positions

- If the switch safety lock is positioned longitudinally, i.e. in line with the working direction of the drill, the control switch is locked (the safety lock is active).
- If the switch safety lock is pointing to the left relative to the working direction of the drill, the control switch is free to operate (the safety lock is deactivated).

3.4 Overload and overheating protection

The power tool is equipped with an electronic system to protect against overloading and overheating. The power tool switches itself off automatically in the event of overloading or overheating. After releasing the control switch, the power tool may not restart immediately when the switch is pressed again (while the power tool is cooling down).



Note

Activation of the automatic cut-out is indicated by all 4 LEDs on the battery display blinking.

3.5 Li-ion battery display

The charge status of the Li-ion battery and malfunctions of the power tool are indicated by the display on the Li-ion battery. The charge status of the Li-ion battery is displayed after pressing one of the two battery release buttons.

Status	Meaning
4 LEDs light.	• Charge status: 75 % to 100 %
3 LEDs light.	• Charge status: 50 % to 75 %
2 LEDs light.	• Charge status: 25 % to 50 %
1 LED lights.	• Charge status: 10 % to 25 %

Status	Meaning
1 LED blinks, the power tool is ready for use.	• Charge status: < 10 %
1 LED blinks, the power tool is not ready for use.	• The battery has overheated or is completely discharged.
4 LEDs blink, the power tool is not ready for use.	• The power tool is overloaded or has overheated.



Note

Battery charge status cannot be displayed while the control switch is pressed and for up to 5 seconds after releasing the control switch.

If the battery display LEDs blink, please observe the instructions given in the Troubleshooting section.

3.6 Items supplied

Electric drill, operating instructions.



Note

You can find other system products approved for your product at your local **Hilti** Center or online at: www.hilti.com.

4 Technical data

Rated voltage	21.6 V
Weight	4.2 lb (1.9 kg)
Torque	≤ 7 ftlb, (≤ 9 Nm)
Keyless chuck clamping range	3/64 in ...25/64 in

5 Operation

5.1 Inserting the battery



CAUTION

Risk of injury. The drill may start inadvertently.

- ▶ Before fitting the battery, check that the drill is switched off and that the switch safety lock is activated.



CAUTION

Electrical hazard. Dirty contacts may cause a short circuit.

- ▶ Before inserting the battery, check to ensure that the battery terminals and the contacts on the drill are free from foreign objects.



CAUTION

Risk of injury. If the battery is not fitted correctly it may drop out and fall.

- ▶ Check that the battery is securely seated in the drill so that it cannot drop out and fall, thereby presenting a hazard to other persons.



- ▶ Push the battery into the drill from the rear until it is heard to engage with a click.

5.2 Removing the battery



- ▶ Remove the battery.

5.3 Fitting the belt hook (optional)



WARNING

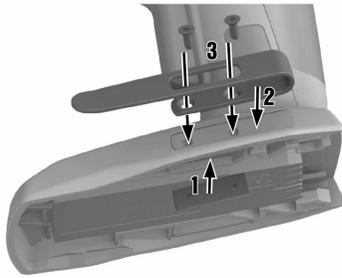
Risk of injury! Hazard presented by a falling power tool.

- ▶ A falling power tool may present a risk of injury to yourself and others. Check that the belt hook is fitted securely before beginning work.



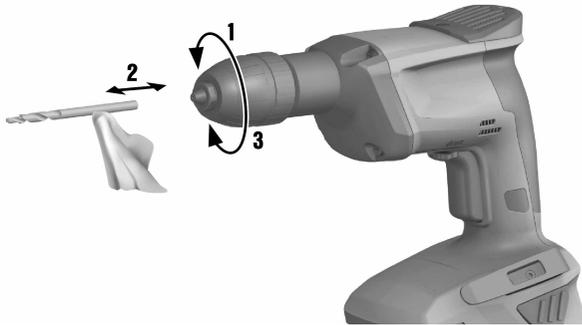
Note

The belt hook allows the drill to be attached to a belt worn by the operator. The belt hook can be fitted to allow attachment on the left or right side of the body.



- ▶ Fit the belt hook on the appropriate side of the drill.

5.4 Fitting or removing accessory tools



CAUTION

Risk of injury. The drill may start inadvertently.

- ▶ Make sure that the safety lock has been activated or that the battery has been removed from the drill.

1. Open the keyless chuck.
2. Check that the connection end of the accessory tool is clean and then insert it in the keyless chuck or, respectively, pull the accessory tool out of the keyless chuck.
3. Retighten the keyless chuck.

5.5 Switching on

- ▶ Press the control switch.



Note

The running speed can be controlled smoothly right up to maximum speed by varying how far the control switch is pressed in.

5.6 Switching off

- ▶ Release the control switch.

6 Care and maintenance



WARNING

Electrical hazards. Improper repairs to electrical parts may lead to serious injuries.

- ▶ Electrical parts may be repaired only by trained electrical specialists.



Note

To help ensure safe and reliable operation, use only genuine Hilti spare parts and consumables. Spare parts, consumables and accessories approved by Hilti for use with the product can be found at your local **Hilti Center** or online at: **www.hilti.com**

- ▶ Keep the tool, especially its grip surfaces, clean and free from oil and grease.
- ▶ Do not use cleaning agents containing silicone.
- ▶ Never operate the power tool when the ventilation slots are blocked. Clean the air vents 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 power tool.

7 Transport and storage



WARNING

Fire hazard. Risk of short circuiting.

- ▶ Never store or transport Li-ion batteries in loose, bulk form.

- ▶ Remove the battery before transporting or storing the drill.
- ▶ Observe the nationally and internationally applicable transport regulations when shipping batteries by road, rail, sea or air.

8 Troubleshooting

If the trouble you are experiencing is not listed in this table or you are unable to remedy the problem by yourself, please contact **Hilti Service**.

Trouble or fault	Possible cause	Action to be taken
The battery doesn't engage with an audible double click.	The retaining lugs on the battery are dirty.	▶ Clean the retaining lugs and push the battery in until it engages. Contact Hilti Service if the problem persists.
The control switch can't be pressed, i.e. the switch is locked.	The safety lock is engaged.	▶ Push the switch safety lock to the side (to the left as seen from the working direction).
The power tool doesn't run.	The battery is not fully inserted.	▶ Push the battery in until it engages with an audible click.
The tool doesn't work and one LED blinks.	Low battery.	▶ Change the battery and charge the empty battery.
The tool cuts out while operating, the 4 LEDs on the battery display blink.	The overload cut-out has been activated.	▶ Release the control switch and then press it again.
	The overheating cut-out has been activated.	▶ Allow the power tool to cool down. Clean the air vents.
The battery runs down more quickly than usual.	Very low ambient temperature.	▶ Allow the battery to warm up slowly to room temperature.

Trouble or fault	Possible cause	Action to be taken
The tool or battery gets very hot.	The tool is overloaded (application limits exceeded).	<ul style="list-style-type: none"> ▶ Pay attention to the power and performance rating of the product before using it, i.e. check its suitability for the job on hand. See “Technical data” section.

9 Manufacturer's warranty

- ▶ Please contact your local **Hilti** representative if you have questions about the warranty conditions.



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