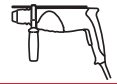


TE2-E/TE 2/TE 2-S/TE 2-M



en **Operating instructions**

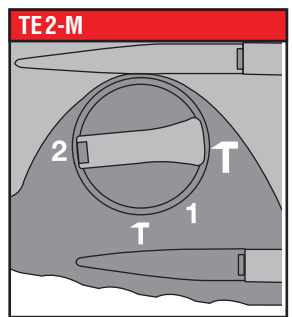
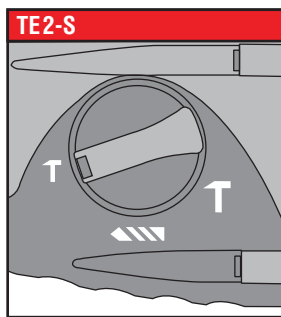
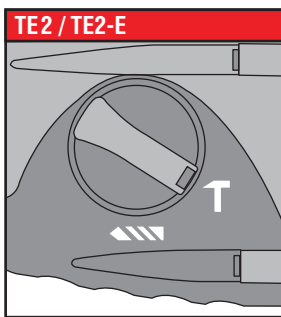
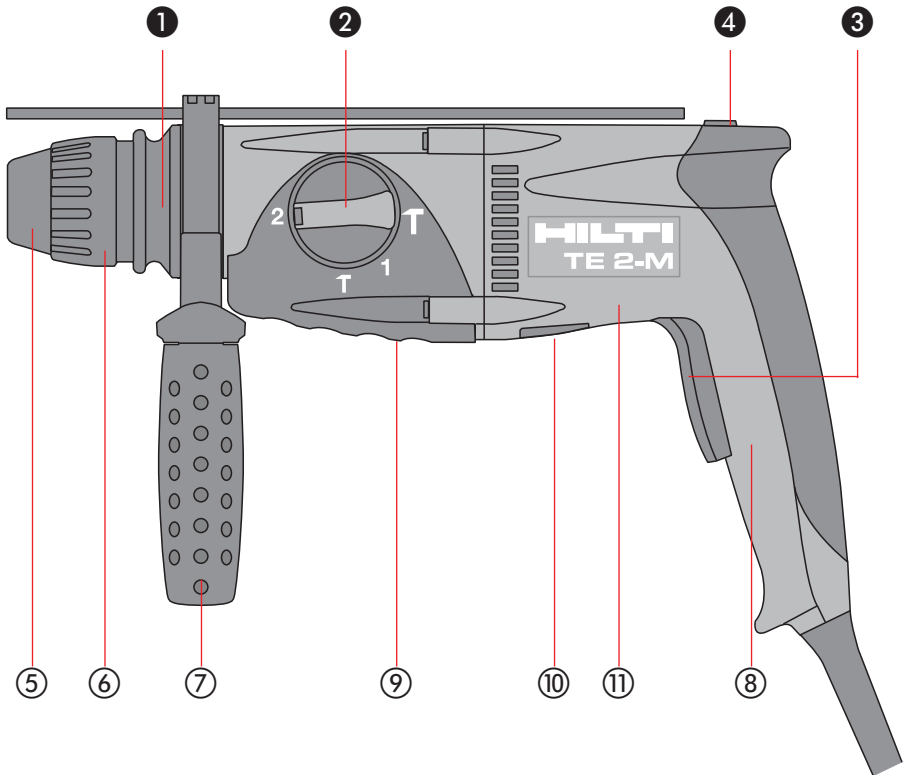
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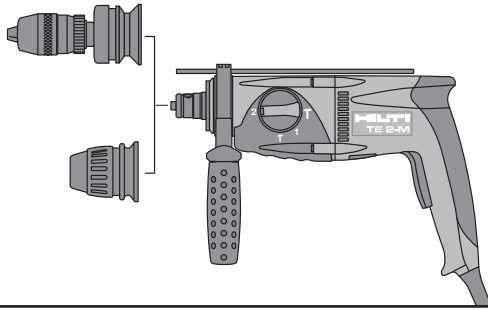
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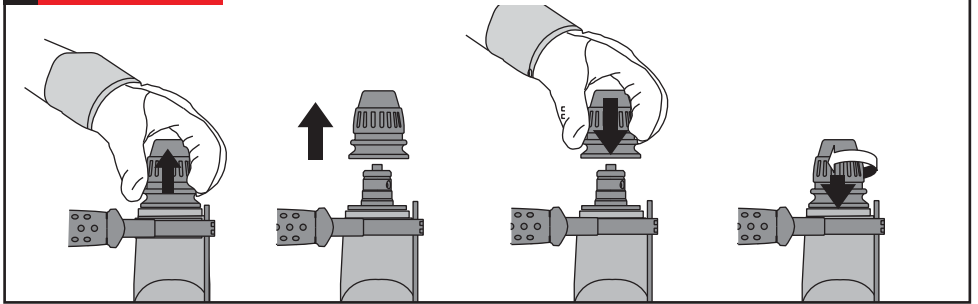
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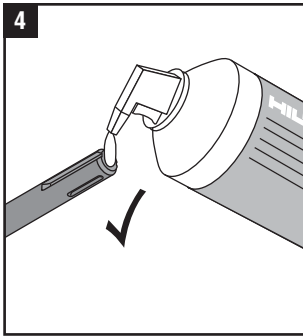
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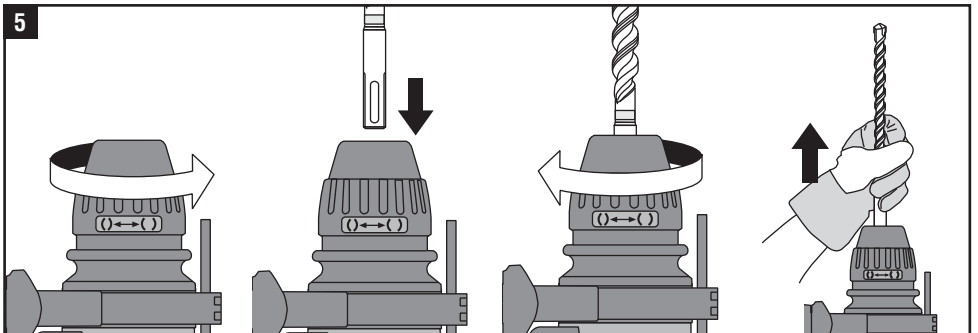
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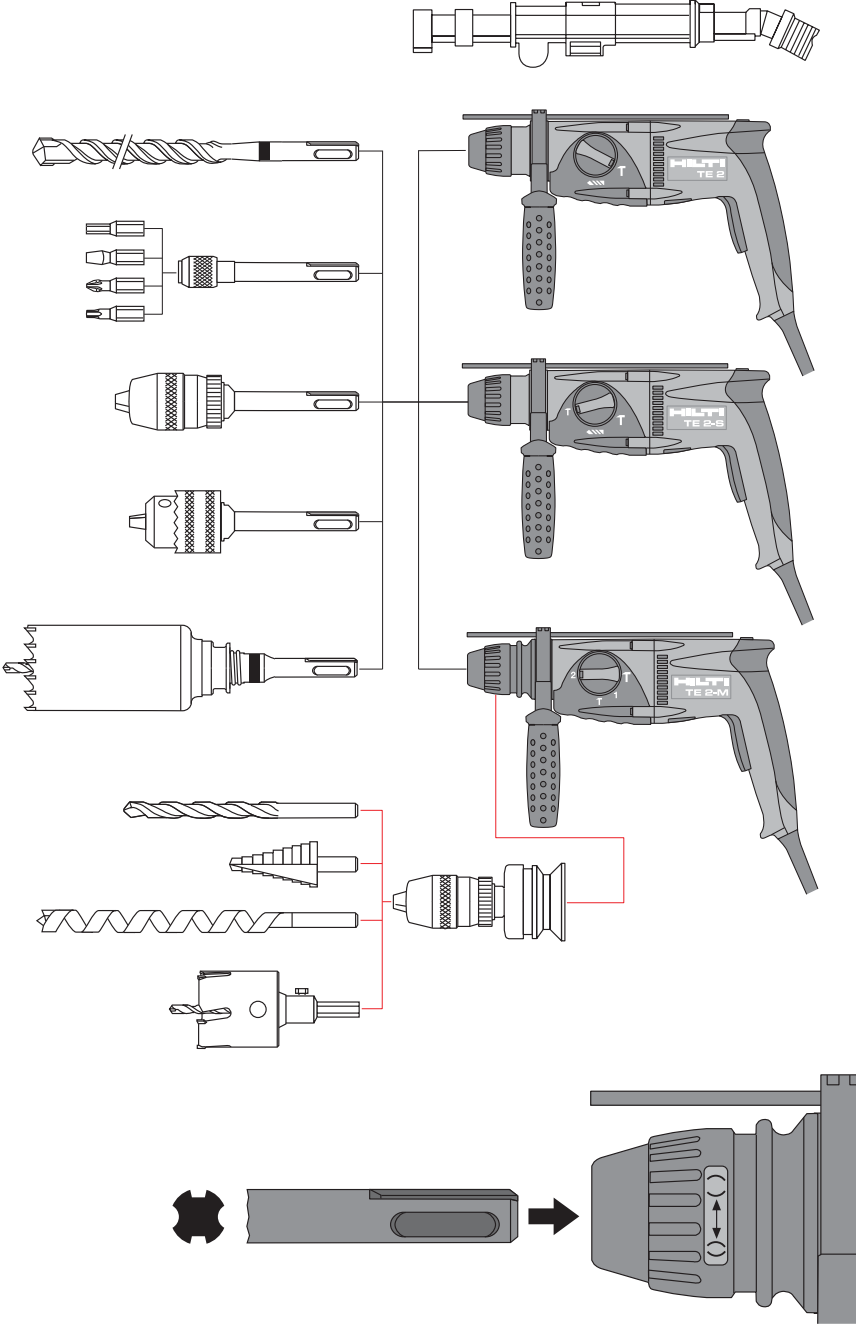


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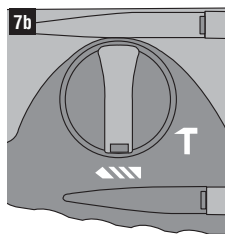
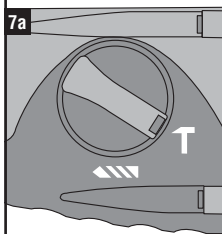


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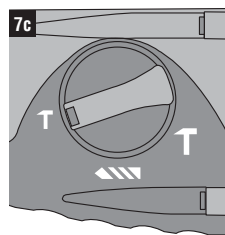
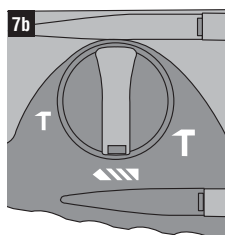
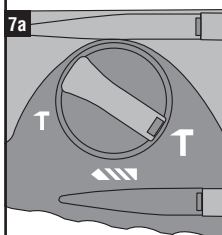




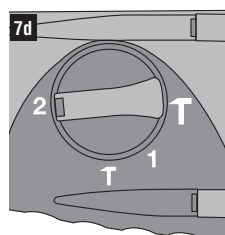
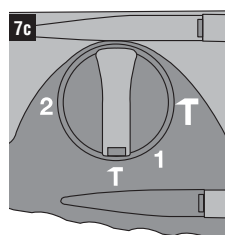
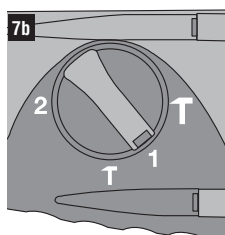
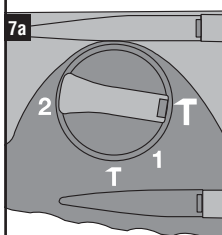
7 TE2 /TE2-E



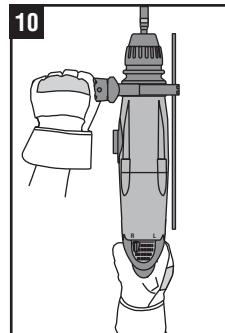
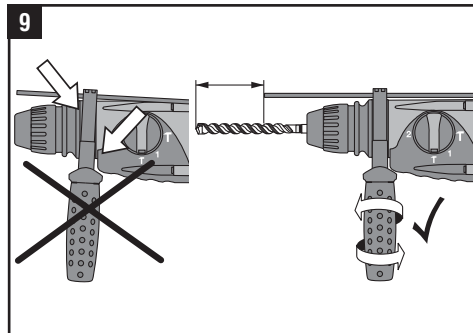
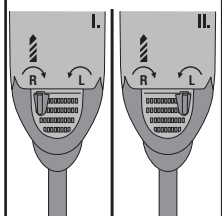
7 TE2-S



7 TE2-M



8 TE2/TE2-S/TE2-M

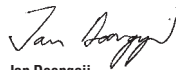


EC declaration of conformity

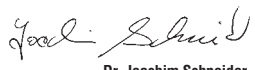
Description: Rotary Hammer
Designation: TE2-E / TE2 / TE2-S / TE2-M
Year of design: 2000

We declare, under our sole responsibility, that this product complies with the following directives and standards: 73/23/EWG, 89/336/EWG, 98/37/EG, EN 55014-1, EN 55014-2, EN 50144-1, EN 50144-2-6, EN 61000-3-2, EN 61000-3-3.

Hilti Corporation



Jan Doongaij
Head of Marketing BU Rotary & UCD
June 2003



Dr. Joachim Schneider
Head of BA LDS
June 2003

TE2-E/TE 2/TE 2-S/TE 2-M Rotary Hammer

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 release ring (TE 2-M)
- 2 Function selector switch
- 3 Control switch
- 4 Forwards / reverse switch (TE2/TE2-S/TE2-M)

Component parts **1**

- 5 Dust shield
- 6 Chuck
- 7 Side handle
- 8 Grip
- 9 Hammering mechanism / gearing
- 10 Motor
- 11 Type plate

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Technical data	3
Safety precautions	4
Before use	5
Operation	5
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Forwards/reverse rotation	6
Insert tools and accessories	6
Care and maintenance	6
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Declaration of conformity	see cover

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 the risk of serious injury.

 Caution: high voltage

1 The numbers refer to the illustrations. The illustrations can be found on the fold-out cover pages. Keep these pages open while you read the operating instructions.

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

Description


The TE2-E / TE 2 / TE 2-S / TE 2-M is an electrically powered rotary hammer with pneumatic hammering mechanism designed for professional use.

The following items are supplied: power tool, (quick-release chuck TE 2-M), operating instructions, grease (except TE 2-E), toolbox.

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

- The tool must be connected to an alternating current electric supply in compliance with the information given on the type plate.
- The tool is for hand-held use only.
- The tool must not be used in places where the surrounding conditions may present a risk of explosion.

Main features of the tool


Class II electrical protection (double insulated) 
Mechanical torque-limiting clutch
Grip and side handle with vibration absorption
TE-C chuck with twist lock
TE-C insert tool system
Variable speed switch
Rotary-only drilling mode

Gearing and hammering mechanism with permanent grease lubrication
Pivotable side handle
Mechanical depth gauge
Interface for quick-release chuck (TE2-M)
Precision hammering action (TE2-S / TE2-M)
High spindle speed without hammering action (TE2-M)
Right of technical changes reserved

The tool is designed for the following uses:

Use	Required insert tools	Diameter range
TE2-E / TE2 / TE2-S / TE2-M: Hammer drilling in concrete, masonry and natural stone	Drill bits with TE-C connection end – Short hammer drill bits – Long hammer drill bits	Drilling in concrete: Anchor holes of 4–20 mm dia. Through holes of 4–20 mm dia.
TE2-S / TE2-M: Drilling with precision hammering action in perforated brick, tiles and marble	Drill bits with TE-C connection end – TE-CX hammer drill bits – Thin-barrel core bits	Drilling in brittle materials: Anchor holes of 4–20 mm dia. Cutting sockets of 25–68 mm dia.
TE2-E / TE2 / TE2-S: Drilling in wood, drywall panels and metal	Quick-release chuck with TE-C adaptor for insert tools with cylindrical shank or hexagonal shank for rotary-only drilling Wood drill bits Metal drill bits Hole saws	4–20 mm dia. 3–13 mm dia. 25–68 mm dia.
TE2-M: Drilling in wood, drywall panels, tiles and metal	Interchangeable quick-release chuck for insert tools with cylindrical shank or hexagonal shank for rotary-only drilling: Wood drill bits Metal/stepped drill bits Thin-barrel core bits Hole saws	4–10 mm dia. in 2nd gear 10–20 mm dia. in 1st gear 3–8 mm dia. in 2nd gear 8–13 mm dia. in 1st gear 25–68 mm dia. in 2nd gear 25–68 mm dia. in 2nd gear

Technical data

Rated power	600 W
Nominal voltage *	100 V 110 V 120 V 220 V 230 V 240 V
Nominal current input *	6.2 A 5.5 A 5.2 A 2.7 A 2.7 A 2.6 A
Mains frequency	50–60 Hz
Weight of tool	2.3 kg (TE2-E / TE 2) 2.4 kg (TE 2-S) 2.6 kg (TE 2-M)
Dimensions (l×h×w)	344×200×79 mm (TE2-E / TE 2 / TE 2-S) 359×200×79 mm (TE 2-M)
Minimum distance between wall and hole drilled	30 mm
Speed	0– 930 r.p.m. ( TE2-E / TE 2 / TE 2-S) (in 1st gear TE 2-M) 0–2200 r.p.m. (in 2nd gear TE 2-M)
Hammering speed:	
Precision hammering action	0–2400 blows/min. (TE 2-S / TE 2-M)
Full hammering action	0–4600 blows/min. (TE 2-E / TE 2 / TE 2-S / TE 2-M)
Single impact energy Nm (J):	
Precision hammering action	0.6 Nm (TE 2-S / TE 2-M)
Full hammering action	1.8 Nm (TE 2-E / TE 2 / TE 2-S / TE 2-M)
Typical drilling performance in medium-hard B35 concrete	8 mm dia.: 500 mm/min 10 mm dia.: 440 mm/min 12 mm dia.: 340 mm/min
Typical weighted vibration at the handles	≤ 10 m/s ²
A-weighted emission sound pressure level (LpA)	≤ 89 dB(A)
A-weighted sound power level (LwA)	≤ 102 dB(A)

*** 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.**



Safety precautions

When using electric tools, the following fundamental safety precautions must always be observed in order to avoid the risk of injury, electric shock and fire hazards. Please read and observe the instructions below before using the tool.

1. Use protective equipment.



Wear ear protection



Wear goggles



Wear protective gloves



Wear respiratory protection when the work causes dust

2. Wear suitable working clothing.

Don't wear loose clothing, loose long hair or jewellery as it can become caught up in moving parts of the electric tool. Wear non-slip shoes.

3. Make the working area safe.

Objects which could cause injury should be removed from the working area. Ensure that the area is well lit. When working, keep other persons, children in particular, outside the range of the tool you are using. Use clamps or a vice to secure the workpiece.

4. Take the influences of the surrounding area into account.

Don't expose the tool to rain or snow and don't operate it in the vicinity of flammable liquids or gases.



5. Check the tool each time before use.

Check the condition of the tool, the supply cord and mains plug. Don't use it if it is damaged, incomplete or if the controls cannot be operated correctly.

6. Use the correct insert tool.

Ensure that the insert tools (drill bits, adaptors, etc.) are equipped with the appropriate connection end for the chuck system in use and that they are locked in position correctly in the chuck. Use only the recommended original Hilti accessories and auxiliary equipment.

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



8. Apply a safe working method.

Always concentrate on the job. Proceed carefully and do not use the tool if you are distracted from your work. Avoid unfavourable body positions. Always ensure that you have a safe stance. Always hold the tool in both hands when it is in use. Always use the side handle. Ensure that the side handle is fitted correctly and tightened securely **9**. Hold the side handle at its end **10** when

drilling and pay attention at all times - the drill bit may become stuck unexpectedly. Switch the tool off if you are distracted from your work.

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

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



9. Take care to avoid concealed cables and pipes.

Concealed electric cables or gas and water pipes present a serious hazard if damaged while you are working. Accordingly, check the area in which you are working beforehand (e.g. using a metal detector). Avoid contact between your body and earthed / grounded objects such as pipes or radiators. External metal parts of the tool may become live, for example, when an electric cable is drilled into inadvertently.

10. Avoid unintentional starting.

Don't carry the tool with your finger on the control switch while it is connected to the mains supply. Check that the tool is switched off before connecting it to the mains supply. Pull the plug out of the mains socket when the tool is not in use, e.g. during pauses between work, before maintenance and when changing insert tools.



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

Follow the care and maintenance instructions and replace insert tools in good time. Never operate the tool when it is dirty or wet. Dust or dampness on the surface of the tool make it slippery and difficult to hold and may, under unfavourable conditions, present a risk of electric shock. Repairs to the tool may be carried out only by an authorised electrical specialist using original Hilti spare parts. Failure to observe this point may result in damage to the tool or present a risk of accident. Accordingly, if necessary, have the tool repaired at a Hilti service centre or authorised Hilti repair workshop.

12. Keep electric tools in a secure place.

Electric tools, when not in use, should be locked away in a dry place, out of reach of children.

Before use



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



The supply voltage must correspond to the information on the type plate.



If extension cords are used: Only extension cords 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 of the tool and overheating of the cord. Damaged extension cords must be replaced.




Use only insert tools with TE-C connection end.

Don't exert excessive pressure on the tool. This will not increase its hammering power.

At low temperatures: The tool requires to reach a minimum operating temperature before the hammering mechanism begins to operate. Switch on the tool and position the tip of the drill bit on the work surface. While the tool is running, apply light pressure briefly and repeatedly until the hammering mechanism begins to operate.

Operation

Inserting the insert tool

-  Unplug the supply cord from the electric socket to prevent unintentional starting.
- Check that the connection end of the insert tool is clean and lightly greased. Clean it and grease it if necessary **4**. Check that the sealing lip of the dust shield is clean. Wipe it off if necessary. Take care to ensure that no drilling dust finds its way into the interior of the chuck. The dust shield must be replaced when the sealing lip is damaged. Please refer to the section on care and maintenance.
- Turn the chuck quickly (quick twist) towards the  symbol. Push the insert tool into the chuck as far as it will go and then rotate the insert tool until the driving grooves engage and the tool can be pushed all the way into the chuck. Turn the chuck (quick twist) towards the  symbol to lock the insert tool in the chuck **5**. Check that it is engaged securely by pulling on the insert tool.

Removing the insert tool



-  Unplug the supply cord from the electric socket to prevent unintentional starting.
- Turn the chuck towards the  symbol and pull out the insert tool **5**.




Wear protective gloves. The insert tool may be very hot after long periods of use.

Drilling

Hammer drilling / precision hammering action

- Insert the drill bit into the chuck.
- Turn the function selection switch to the hammer drilling position ( TE2-E / TE2 / TE2-S / TE2-M) until the switch mechanism and the gearing are engaged **7a**. Rotate the chuck spindle slightly if necessary. Check that forwards rotation is selected **8**.
- Use of the precision hammering action ( TE2-S / TE2-M) is advantageous when drilling in brittle materials (e.g. tiles, marble, perforated brick). This will improve the quality of the holes drilled **7a**.
- Connect the supply cord to the power supply.
- Pivot the side handle, with or without the depth gauge, to the desired angle and tighten the handle to lock it in this position. Check that the side handle is seated and attached securely **9**.
- Bring the tip of the drill bit into contact with the work surface at the position where the hole is to be drilled and press the control switch slowly. Drill at low speed until the drill bit centres itself in the hole.
- Press the control switch fully and continue drilling at full power.

Rotary-only drilling (without hammering action) (TE2-E / TE2 / TE2-S)

Turn the function selection switch to the drilling position ( **7b**). When the switch is in this position, only the rotary movement is transmitted to the TE-C insert tool or chuck adaptor for insert tools with cylindrical shanks.

Rotary-only drilling (without hammering action) (TE2-M)

Turn the function selection switch to the 1st gear or 2nd gear drilling position **7b** **7d**. When the switch is in these positions, only the rotary movement is transmitted to the TE-C insert tool or quick-release chuck. Use of a high spindle speed can be advantageous when drilling in metal or wood. For higher drilling speed, the function selection switch must be engaged in the 2nd gear position **7d**.

Changing the chuck (TE2-M)

Pull the chuck release ring towards the front and remove the chuck completely. When fitting the chuck, pull the release ring towards the front and hold it in this position. Push the chuck onto the guide tube as far as it will go and release the ring. Rotate the chuck until it engages and the ring snaps back into its original position **3**. The TE-C interchangeable chuck or quick-release interchangeable chuck may be fitted to the TE2-M with chuck interface **2**.

Drilling using the depth gauge

We recommend the use of the depth gauge for drilling holes accurately to the desired depth. The depth gauge is integrated in the side handle, which can be pivoted and locked in position. Release the side handle (turn

counter-clockwise), set the depth gauge to the desired drilling depth and tighten the side handle (turn clockwise) **9**.

Forwards / reverse rotation


For screwdriving, the desired direction of rotation can be selected simply by moving the switch **8** (TE2 / TE2-S / TE2-M). For forwards rotation, select position (R ↻ ↗) and for reverse rotation, select position (L ↻ ↙). When the tool is operated in reverse rotation, the function selection switch **7** should be engaged in the position for drilling without hammering action (↗ / 1st gear). For drilling, always ensure that forwards rotation (R ↻ ↗) is selected.

Insert tools and accessories

Use only insert tools with TE-C connection end **6**.

Hilti power tools have been designed to work optimally as a system together with Hilti insert tools. Accordingly, highest performance and longest life expectancy can be achieved when you use this power tool with Hilti insert tools. A comprehensive programme of insert tools and accessories is available for the TE-C system **6**. The most important insert tools for hammer- and rotary-only drilling are shown on the inside of the toolbox. Details of the entire programme can be found in the current Hilti product catalogue.

Should you require insert tools not included in the standard programme, please contact the Hilti customer service department or your Hilti sales representative. Hilti offers a comprehensive range of special insert tools in professional quality.

 Check your insert tools at regular intervals and replace them in good time. A damaged or badly worn connection end may result in damage to the power tool. Drill bits with chipped or broken carbide tips may no longer drill holes of the specified diameter, thus influencing their suitability for anchor fastenings. Please observe the instructions on care and maintenance of your insert tools given in the following section.



Dust removal **6**


A DRS extraction head can be attached to the side handle / depth gauge. An industrial vacuum cleaner is used to remove drilling dust and fragments.

Care and maintenance

Care of the tool

The outer casing of the tool is made from impact-resistant plastic. Grip sections, the dust shield and the supply cord protective sleeve are made from an elastomer material.


  Clean the outside of the tool at regular intervals using a slightly damp cloth. Don't use a spray, steam pressure cleaning equipment or running water for cleaning. This may negatively affect the electrical safety of the tool. Always keep the grip surfaces of the tool free from oil and grease. Don't use cleaning agents which contain silicone.

 Never operate the tool when the ventilation slots are blocked. Clean the ventilation slots carefully using a dry brush. Don't permit foreign objects to enter the interior of the tool.

Clean the dust shield on the chuck at regular intervals using a clean, dry cloth. Carefully wipe the sealing lip and grease it with a little Hilti grease. **It is essential that the dust shield is replaced when the sealing lip is damaged.** Proceed as follows: Insert a screwdriver at the edge of the dust shield and lift it out in a forwards direction. Clean the contact surface and insert a new dust shield. Press it in firmly until it engages.

Also take care of your insert tools. Clean off dirt and dust deposits and protect your insert tools from corrosion by wiping them from time to time with an oil-soaked rag. Always keep the connection end clean and lightly greased.

Maintenance

 Regularly check all external parts of the tool for damage and to ensure that all controls operate faultlessly. Don't operate the tool when parts are damaged or when the controls do not function faultlessly. Have your electric tool repaired by a Hilti service center.

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.

Should you wish to return the electric tool yourself to a disposal facility for recycling, proceed as follows: Dismantle the tool as far as possible without the need for special tools. Use absorbent paper to wipe lubricated parts clean and to collect the oil that runs out (total quantity approx. 50 ml). This paper should also be disposed of correctly. **On no account should oil be allowed to enter the waste water system or to find its way into the ground.**

The individual parts should be separated as follows:

Part / assembly	Main material	Recycling
Toolbox	Plastic	Plastic
Gear housing	Plastic with magnesium alloy / brass part	Scrap metal
Bearing plate	Magnesium alloy / brass	Scrap metal
Grip, side handle	Plastic	Plastic
Motor housing	Plastic	Plastic
Grip cover	Plastic	Plastic
Fan	Plastic	Plastic
Motor (rotor and stator)	Steel and copper	Scrap metal
Supply cord	Copper, elastomer sheath	Scrap metal
Gearing parts, hammering mechanism parts	Steel	Scrap metal
Screws, small parts	Steel	Scrap metal

Troubleshooting

Symptom	Possible cause	Possible solution
The tool doesn't start	Fault in the electric power supply	Plug in another electric tool and check whether it starts
	Defective supply cord or plug	Have it checked by an electrical specialist and replace if necessary
	Switch defective	Have it checked by an electrical specialist and replace if necessary
No hammering action	The tool is too cold	Allow tool to reach the minimum operating temperature See section "Before use"
	Function selection switch set to rotary drilling	Set function selection switch to hammer drilling
Tool doesn't produce full power	Cross-section of the extension cord is inadequate	Use an extension cord of adequate cross-sectional area. See section "Before use"
	Control switch is not pressed fully	Press the control switch as far as it will go
	Function selection switch set to precision hammering action	Set function selection switch to hammer drilling
	Forwards / reverse switch set to reserve when drilling	Set forwards / reverse switch to forwards
Drill bit cannot be released	Chuck not opened fully	Rotate the chuck (quick twist) towards  and pull out the insert tool.

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