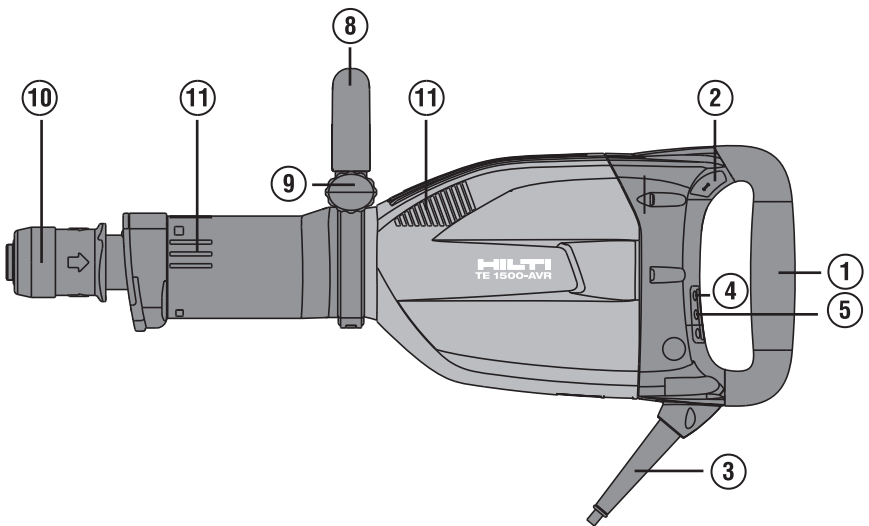
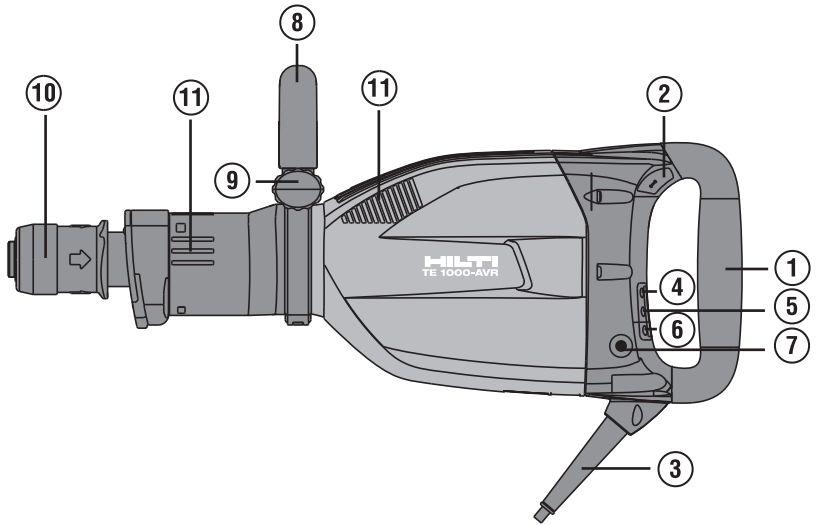


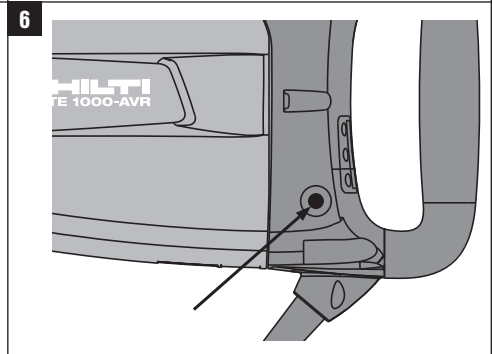
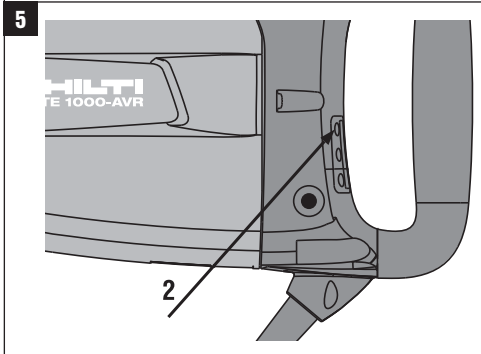
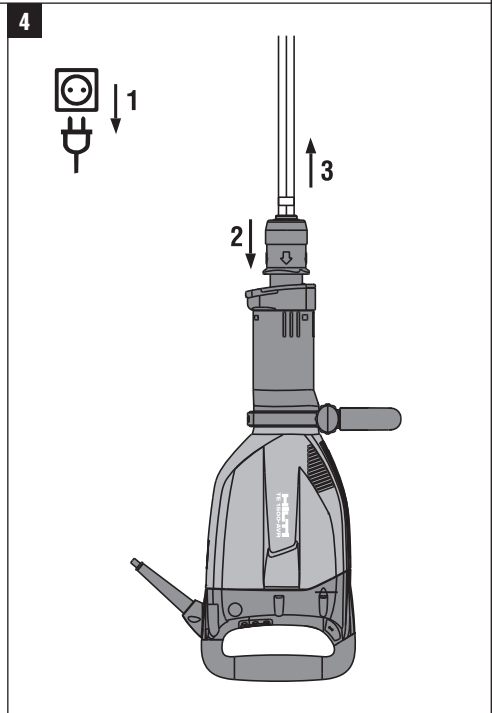
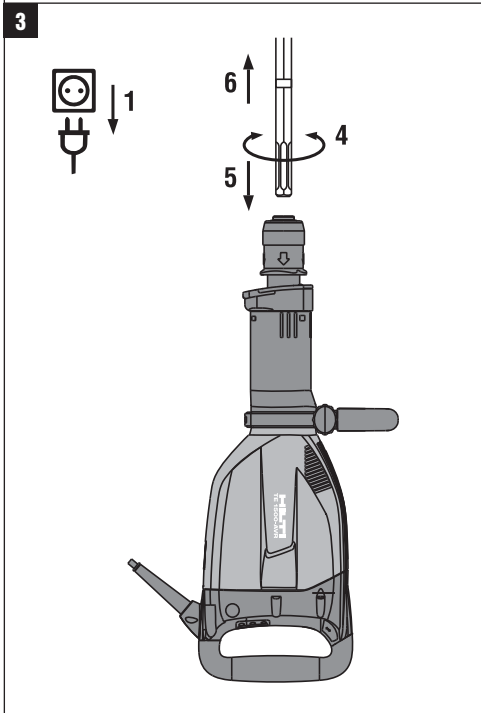
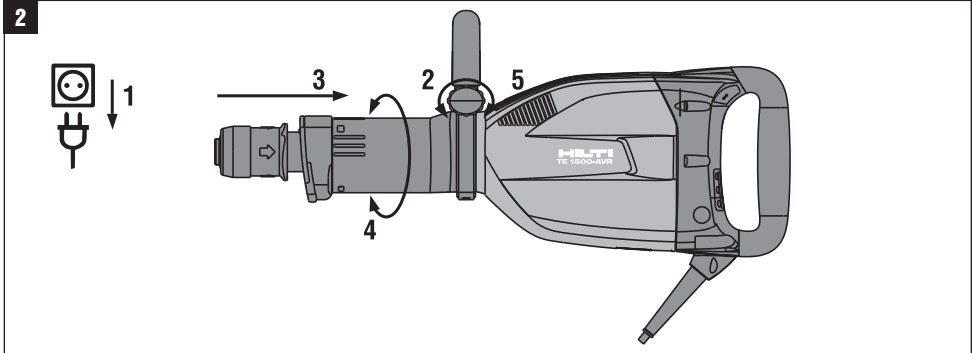
# HILTI

## TE 1000-AVR / TE 1500-AVR

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Οδηγίες χρήσεως	el
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دليل الاستعمال	ar
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Пайдалану бойынша басшылық	kk
取扱説明書	ja
사용설명서	ko
操作說明書	zh
操作说明书	cn

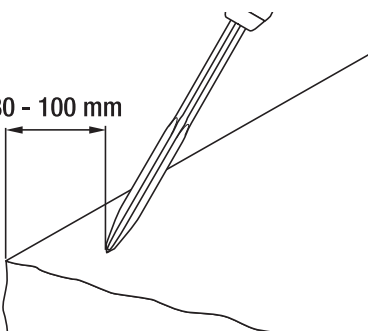




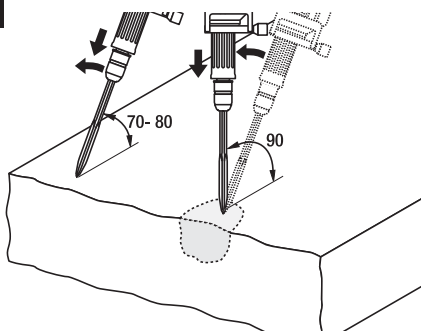


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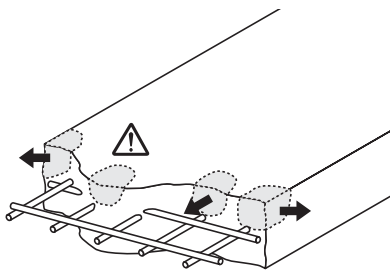
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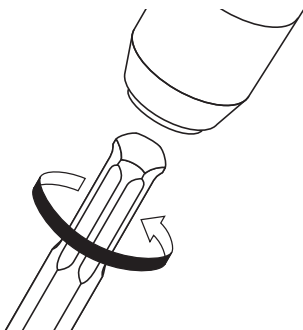
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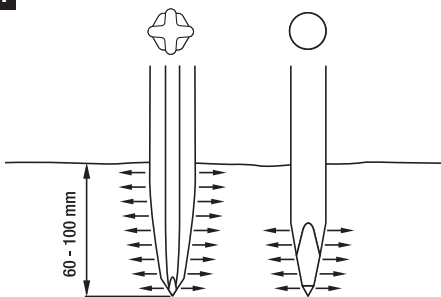
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11



# ORIGINAL OPERATING INSTRUCTIONS

## TE 1000-AVR / TE 1500-AVR breaker

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

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

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

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12 EC declaration of conformity (original)	27

**1** These numbers refer to the corresponding illustrations. The illustrations can be found on the fold-out cover pages. Keep these pages open while studying the operating instructions.

In these operating instructions, the designation "the power tool" always refers to the TE 1000-AVR and / or TE 1500-AVR breaker.

### Components, operating controls and indicators **1**

- 1 Grip
- 2 On / off switch
- 3 Supply cord
- 4 Theft protection indicator (optional)
- 5 Service indicator
- 6 Power level indicator (TE 1000-AVR)
- 7 Power level selector switch (only TE 1000-AVR)
- 8 Side handle
- 9 Knob
- 10 Chuck and chisel position adjustment
- 11 Ventilation slots

## 1 General information

### 1.1 Safety notices and their meaning

#### **DANGER**

Draws attention to imminent danger that will lead to serious bodily 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.

#### **NOTE**

Draws attention to an instruction or other useful information.

### 1.2 Explanation of the pictograms and other information

#### Warning signs



General warning



Warning: electricity



Warning: hot surface

**Obligation signs**



Wear eye protection



Wear a hard hat



Wear ear protection



Wear protective gloves



Wear breathing protection

**Symbols**



Read the operating instructions before use



Returning materials for recycling



Chiseling



Chisel position adjustment



Volts



Amps



Alternating current



Hertz



Double insulated



Lock symbol



Equipped with theft protection system

**Location of identification data on the power tool**

The type designation can be found on the type identification plate and the serial number on the side of the casing. Make a note of this data in your operating instructions and always refer to it when making an enquiry to your Hilti representative or service department.

Type: \_\_\_\_\_

Serial no.: \_\_\_\_\_

**2 Description**

**2.1 Use of the product as directed**

The power tool is an electrically-powered breaker with electropneumatic hammering mechanism designed for heavy chiseling work.

The power tool is designed for breaking / removing and demolishing concrete, masonry, stone or asphalt.

Working on materials hazardous to the health (e.g. asbestos) is not permissible.

Observe national health and safety requirements.

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

The working environment may be as follows: construction site, workshop, renovation, conversion or new construction. The power tool may be used only in a dry environment.

Do not use the power tool where there is a risk of fire or explosion.

The power tool may be operated only when connected to a power supply providing a voltage and frequency in compliance with the information given on its type identification plate.

To avoid the risk of injury, use only genuine Hilti accessories and insert tools.  
Observe the information printed in the operating instructions concerning operation, care and maintenance.  
Modification of the power tool or tampering with its parts is not permissible.

## **2.2 Chuck**

TE-S quick-change chuck

## **2.3 Switches**

On / off switch

Power level selector switch (100%, 70%, only TE 1000-AVR)

## **2.4 Grips (with soft synthetic foam rubber covering)**

Vibration-absorbing grip

Vibration-absorbing, rotatable and pivotable side handle

## **2.5 Lubrication**

Gearing and hammering mechanism with separate lubrication chambers

An additional lubrication chamber at the front end of the hammering mechanism prevents entry of dust.

## **2.6 Active vibration reduction**

The power tool is equipped with an AVR active vibration reduction system which reduces vibration significantly compared to power tools without active vibration reduction.

## **2.7 TPS theft protection system (optional)**

The power tool may be equipped with the TPS theft protection system as an option. If the power tool is equipped with this optional feature, it can be unlocked and made ready for operation only through use of the corresponding TPS key (see section "Operation / TPS theft protection system (optional)").

## **2.8 Protective features**

Vibration reduction and high-temperature protection provided by isolation of the grips and plastic casing from internal parts of the power tool.

Electronic restart interlock to prevent the power tool starting unintentionally after an interruption in the electric supply (see section "Troubleshooting").

Electronics with self-acting protective system against overvoltage and overheating.

## **2.9 LED indicators**

Service indicator LED (see section "Care and maintenance / service indicator")

Theft protection system indicator (optional) (see section "Operation / TPS theft protection system (optional)")

Power level indicator (only TE 1000-AVR) (see section "Operation/ adjusting chiseling power")

## **2.10 Items supplied as standard**

- 1 Power tool
- 1 Side handle
- 1 Grease
- 1 Cleaning cloth
- 1 Operating instructions
- 1 Hilti toolbox

## **2.11 Using extension cords**

Use only extension cords of a type approved for the application and with conductors of adequate cross section. The power tool may otherwise lose performance and the extension cord may overheat. Check the extension cord for damage at regular intervals. Replace damaged extension cords.

## Recommended minimum conductor cross section and max. cable lengths

Conductor cross section	1.5 mm <sup>2</sup>	2.5 mm <sup>2</sup>	3.5 mm <sup>2</sup>
Mains voltage 100V			30 m
Mains voltage 110-127 V		20 m	
Mains voltage 220-240 V	30 m	50 m	

Do not use extension cords with 1.25 mm<sup>2</sup> conductor cross section; 2.0 mm<sup>2</sup> conductor cross section.

### 2.12 Using extension cords outdoors

When working outdoors, use only extension cords that are approved and correspondingly marked for this application.

### 2.13 Using a generator or transformer

This power tool may be powered by a generator or transformer when the following conditions are fulfilled: The unit must provide a power output in watts of at least twice the value printed on the type identification plate on the power tool. The operating voltage must remain within +5% and -15% of the rated voltage at all times, frequency must be in the 50 – 60 Hz range and never above 65 Hz, and the unit must be equipped with automatic voltage regulation and starting boost.

Never operate other power tools or appliances from the generator or transformer at the same time. Switching other power tools or appliances on and off may cause undervoltage and / or overvoltage peaks, resulting in damage to the power tool.

## 3 Accessories, consumables

Designation	Short designation	Item number, description
TPS Theft Protection System with Company Card, Company Remote and TPS-K key		206999, optional
Dust removal module	TE DRS-B	

Use the Hilti chisels or other tools listed below. With these chisels and tools you will achieve higher performance and longer lifetime as the power tool and chisels have been optimized as a system.

	TE-S chuck / tool designation	Width (mm)	Length (mm)	Width in inches	Length in inches
Pointed chisels	TE-SP SM 36		360		14
	TE-SP SM 50		500		20
	TE-SP SM 70		700		27
Flat chisels	TE-SP FM 36	32	360	1¼	14
	TE-SP FM 50	32	500	1¼	20
	TE-SP FM 70	32	700	1¼	27
Wide-flat chisels	TE-SP SPM 5/36	50	360	2	14
	TE-SP SPM 5/50	50	500	2	20
	TE-SP SPM 8/36	80	360	3	14
	TE-SP SPM 8/50	80	500	3	20
	TE-SP SPM 12/36	120	360	4¾	14
	TE-SP SPM 12/50	120	500	4¾	20



	TE-S chuck / tool designation	Width (mm)	Length (mm)	Width in inches	Length in inches
Flexible chisel	TE-S-BSPM	150	650	6	25½
Scraper / flexible chisel	TE-SP-SPMK 12/50	120	500	4¾	20
Pointed flat chisel	TE-S-SPI 50	115	485	4½	19⅝
Ballast bed chisel	TE-S-TT 60		600		24
Shank	TE-S-SS		300		11¾
Tamping plate	TP-STP 150/150	150 x 150		6 x 6	
Bushing head	TP-SKHM 40	40 x 40		1½ x 1½	
	TP-SKHM 60	60 x 60		2⅓ x 2⅓	
Earth rod rammer	TP-TKS 15			Inside ø 15	
	TP-TKS 20			Inside ø 20	
	TP-TKS 25			Inside ø 25	
	TE-S-RD ⅝"			Inside ø ⅝"	
	TE-S-RD ¾"			Inside ø ¾"	
	TE-S-RD 7⁄8"			Inside ø 7⁄8"	

#### 4 Technical data

Right of technical changes reserved.

##### NOTE

The power tool is available in various voltage ratings. Please refer to the power tool's type identification plate for details of its voltage, current and input power ratings.

Rated voltage, TE 1000-AVR	100 V	110 V	110 V	127 V	220 V	230 V	240 V
Rated power input	1,450 W	1,600 W	1,600 W	1,600 W	1,600 W	1,600 W	1,500 W
Rated current input	14.6 A	14.6 A	14.6 A	12.7 A	7.3 A	7 A	6.3 A
Mains frequency	50...60 Hz	50 Hz	60 Hz	60 Hz	50...60 Hz	50...60 Hz	50 Hz

Rated voltage, TE 1500-AVR	100 V	110 V	110 V	220 V	230 V	240 V
Rated power input	1,490 W	1,750 W	1,640 W	1,800 W	1,800 W	1,800 W
Rated current input	15 A	16 A	15 A	8.5 A	7.9 A	7.6 A
Mains frequency	50...60 Hz	50 Hz	60 Hz	50...60 Hz	50...60 A	50 Hz

Power tool	TE 1000-AVR	TE 1500-AVR
Weight in accordance with EPTA procedure 01/2003	11.8 kg	14.2 kg
Dimensions (L x W x H)	700 mm x 138 mm x 230 mm	760 mm x 138 mm x 230 mm
Single impact energy in accordance with EPTA procedure 05/2009	22 J	30 J
Chuck	TE-S	TE-S
Hammering frequency under load	32.5 Hz	27 Hz

#### Information about the power tool and its applications

Protection class	Protection class II (double insulated)
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#### 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 60745-1):

Typical A-weighted sound power level, TE 1000-AVR	98 dB (A)
Typical A-weighted emission sound pressure level, TE 1000-AVR	87 dB (A)
Typical A-weighted sound power level, TE 1500-AVR	100 dB (A)
Typical A-weighted emission sound pressure level, TE 1500-AVR	89 dB (A)
Uncertainty for the sound levels given for the TE 1000-AVR / TE 1500-AVR	3 dB (A)
Triaxial vibration value for the TE 1000-AVR (vibration vector sum)	Measured in accordance with EN 60745-2-6
Chiseling, $a_{h, Cheq}$	6.5 m/s <sup>2</sup>
Triaxial vibration value for the TE 1500-AVR (vibration vector sum)	Measured in accordance with EN 60745-2-6
Chiseling, $a_{h, Cheq}$	12 m/s <sup>2</sup>
Uncertainty (K)	1.5 m/s <sup>2</sup>

## 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

- 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.

### 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 Hammer safety warnings

- a) **Wear ear protectors.** Exposure to noise can cause hearing loss.
- b) **Use auxiliary handles, if supplied with the tool.** Loss of control can cause personal injury.
- c) **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.

### 5.3 Additional safety instructions

#### 5.3.1 Personal safety

- a) **Store power tools, when not in use, in a secure place. When not in use, power tools must be**

stored in a dry, high place or locked away out of reach of children.

- b) **Always hold the power tool securely with both hands on the grips provided. Keep the grips dry, clean and free from oil and grease.**
- c) **Improve the blood circulation in your fingers by relaxing your hands and exercising your fingers during breaks between working.**
- d) **Always lead the supply cord and extension cord away from the power tool to the rear while working.** This helps to avoid tripping over the cord while working.
- e) **Children must be instructed not to play with the power tool.**
- f) **The power tool is not intended for use by children, by debilitated persons or those who have received no instruction or training.**
- g) **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.**

### 5.3.2 Electrical safety



- a) **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 power tool may become live, for example, when an electric cable is damaged accidentally. This presents a serious risk of electric shock.
- b) **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).** External metal parts of the power tool or machine may become live, for example, when an electric cable is damaged accidentally.
- c) **Check the power tool's supply cord at regular intervals and have it replaced by a qualified specialist if found to be damaged. If the machine's supply cord is damaged it must be replaced with a specially-prepared and approved supply cord available from Hilti Customer Service. Check ex-**

tension cords at regular intervals and replace them if found to be damaged. Do not touch the supply cord or extension cord if it is damaged while working. Disconnect the mains plug from the power outlet. Damaged supply cords or extension cords present a risk of electric shock.

- d) **Dirty or dusty power tools which have been used frequently for work on conductive materials should be checked at regular intervals at a Hilti Service Center.** Under unfavorable circumstances, dampness or dust adhering to the surface of the power tool, especially dust from conductive materials, may present a risk of electric shock.
- e) **Hold power tool by insulated gripping surfaces when performing an operation where the fastener may contact hidden wiring or its own cord.** Fasteners contacting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.
- f) **When working outdoors with an electric tool check to ensure that the tool is connected to the electric supply by way of a ground fault circuit interrupter (RCD) with a rating of max. 30 mA (tripping current).** Use of a ground fault circuit interrupter reduces the risk of electric shock.
- g) **Use of a ground fault circuit interrupter (RCD residual current device) with a maximum tripping current of 30 mA is recommended.**
- h) **Switch the power tool off and unplug the supply cord in the event of a power failure or interruption in the electric supply. This will prevent accidental restarting when the electric power returns.**

### 5.3.3 Work area



- a) **Ensure that the workplace is well ventilated.** Exposure to dust at a poorly ventilated workplace may result in damage to the health.
- b) **Keep the workplace tidy. Objects which could cause injury should be removed from the working area.** Untidiness at the workplace can lead to accidents.
- c) **If the work involves breaking right through, take the appropriate safety measures at the opposite side.** Parts breaking away could fall out and / or fall down and injure other persons.
- d) **Approval must be obtained from the site engineer or architect prior to beginning the work. 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.**

### 5.3.4 Personal protective equipment



The user and any other persons in the vicinity must wear suitable eye protection, a hard hat, ear protec-

tion, protective gloves and breathing protection while the tool is in use.

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## 6 Before use



### CAUTION

Check the insert tool for damage or uneven wear each time before use.

### 6.1 Fitting and adjusting the side handle 2

1. Disconnect the supply cord plug from the power outlet.
2. Release the side handle clamping band by turning the knob.

3. Relax the tension on the side handle clamping band and slide it over the chuck and onto the cylindrical section at the front end of the power tool.
4. Pivot the side handle into the desired position.
5. Secure the side handle by tightening the knob.

### 6.2 Unlocking the power tool (theft protection system)

See section "Operation / TPS Theft Protection System (optional)".

### 6.3 Use of extension cords and generators or transformers

See section "Description / use of extension cords".

## 7 Operation



### DANGER

Always hold the power tool securely with both hands on the grips provided. Keep the grips dry, clean and free from oil and grease.

### 7.1 Preparing for use

#### CAUTION

Wear protective gloves when changing insert tools as the insert tools get hot through use and they may have sharp edges.

### 7.1.1 Fitting the chisel or other tool 3

#### NOTE

The chisel can be adjusted to 6 different positions (in 60° increments). This ensures that flat chisels and shaped chisels can always be set to the optimum working position.

1. Disconnect the supply cord plug from the power outlet.
2. Check that the connection end of the chisel is clean and lightly greased. Clean it and grease it if necessary.
3. Check that the sealing lip of the dust shield is clean and in good condition. Clean the dust shield if necessary or replace it if the sealing lip is found to be damaged (please refer to the "Care and maintenance" section).
4. Push the chisel into the chuck and rotate it while applying slight pressure until it engages in the guide grooves.
5. Push the chisel further into the chuck until it is heard to engage.
6. Check that the chisel has engaged correctly by pulling it.

### 7.1.2 Removing the chisel 4

#### **DANGER**

**Do not lay a hot insert tool down on flammable materials.** This could cause the material to ignite, resulting in a fire.

1. Disconnect the supply cord plug from the power outlet.
2. Open the chuck by pulling back the locking sleeve.
3. Pull the chisel out of the chuck.

### 7.2 Operation



#### **WARNING**

**If the power tool starts without pressing the on/off switch when the supply cord is plugged back in after unplugging, the power tool must be brought to Hilti Service immediately.**

#### **WARNING**

**Unplug the supply cord if the on/off switch is found to be faulty.**

#### **CAUTION**

Working on the material may cause it to splinter. **Wear eye protection and protective gloves. Wear breathing protection if no dust removal system is used.** Splintering material presents a risk of injury to the eyes and body.

#### **CAUTION**

The work generates noise. **Wear ear protectors.** Exposure to noise can cause hearing loss.

### 7.2.1 TPS theft protection system (optional)

#### **NOTE**

The power tool may be equipped with the optional theft protection system. If the power tool is equipped with this feature, it can be unlocked and made ready for operation only through use of the corresponding TPS key.

#### 7.2.1.1 Unlocking the power tool 5

1. Plug the supply cord into the power outlet. The yellow theft protection indicator LED blinks. The power tool 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 power tool 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 power tool 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 power tool.

### 7.2.1.2 Activation of the theft protection system for the power tool

#### **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.

### 7.2.2 Chiseling

#### 7.2.2.1 Working at low temperatures

#### **NOTE**

The power tool must reach a minimum operating temperature before the hammering mechanism begins to operate.

Bring the power tool to the minimum operating temperature by switching it on and allowing it to run and warm up. Bring the tip of the chisel into contact with the work surface at regular intervals (approx. every 30 sec.) to check whether the hammering mechanism has begun to operate. Repeat the procedure if the hammering mechanism does not begin to operate.

#### **NOTE**

As starting is electronically controlled, the power tool's starting characteristics may be different in cold conditions.

#### 7.2.2.2 Switching on

1. Plug the supply cord into the power outlet.
2. Press the on / off switch.

#### 7.2.2.3 Adjusting chiseling power 6

Chiseling power can be reduced to approx. 70% by pressing the power selector switch (only TE 1000-AVR). The power selector LED then lights indicating reduced power.

#### **NOTE**

Chiseling power can be adjusted only when the power tool is switched on and ready for use. To reselect full chiseling power, press the chiseling power selector switch again. Switching off and then on again also causes the power tool to return to full chiseling power.

#### 7.2.2.4 Switching off

1. Press the on / off switch.
2. Disconnect the supply cord plug from the power outlet.

### 7.3 Chiseling tips

#### 7.3.1 Starting chiseling 7

Position the tip of the chisel approx. 80-100 mm from the edge of the workpiece.

#### 7.3.2 Reinforcing bars 8

Always guide the tip of the chisel toward the edge of the workpiece, not toward reinforcing bars.

### 7.3.3 Chiseling direction 9

1. Begin with the chisel positioned at an angle of 70° to 80° to the concrete surface, with the tip of the chisel pointing toward the edge of the workpiece.
2. Break material away by increasing the angle to approx. 90° as the chisel penetrates.

### 7.3.4 Self-sharpening process 10

The chisel should be rotated at regular intervals as even wear assists the self-sharpening process.

### 7.3.5 Chiseling depth 11

The polygon chisel design ensures that material is broken up even when the chisel penetrates to great depths.

### 7.3.6 Contact pressure

If inadequate pressure is applied, the chisel will jump around uncontrollably. Application of excessive pressure will result in a loss of chiseling performance.

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## 8 Care and maintenance

### CAUTION

Disconnect the mains plug from the power outlet.

### 8.1 Care of insert tools

Clean off dirt and dust deposits adhering to the insert tools and protect them from corrosion by wiping the insert tools from time to time with an oil-soaked rag.

### 8.2 Care of the power tool

#### CAUTION

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

Never operate the power 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 power tool. Clean the outside of the power 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.

### 8.3 Service indicator

#### NOTE

The power tool is equipped with a service indicator.

Indicator	Constant red light	End of service interval - servicing is due. After the lamp lights for the first time, the power tool may continue to be used for several hours before the automatic cut-out is activated. To ensure that the power tool is always ready for use, it should be returned to Hilti for servicing in good time.
	Blinking red light	See section "Troubleshooting".

### 8.4 Cleaning or replacing the dust shield

Clean the dust shield on the chuck with a dry, clean cloth at regular intervals. Clean the sealing lip by wiping it carefully and then grease it again lightly with Hilti grease. It is essential that the dust shield is replaced if the sealing lip is found to be damaged. Push the tip of a screwdriver under the edge of the dust shield and prise it out toward the front. Clean the area of the chuck in contact with dust shield and then fit a new dust shield. Press it in firmly until it engages.

Wait approx. 1 minute to allow dissipation of residual voltage before dismantling the power tool and removing the electronics unit.

Check all external parts of the power tool for damage at regular intervals and check that all controls operate faultlessly. Do not operate the power tool if parts are damaged or when the controls do not function faultlessly. Have the appliance repaired by Hilti Service.

### 8.5 Maintenance

#### WARNING

Repairs to the electrical section of the power tool may be carried out only by trained electrical specialists.

### 8.6 Checking the power tool after care and maintenance

After carrying out care and maintenance work on the power tool, check that all protective and safety devices are fitted and that they function faultlessly.

## 9 Troubleshooting

Fault	Possible cause	Remedy
The power tool doesn't start.	Initialization of the electronics is in progress (takes up to approx. 4 sec. after plugging in) or the electronic re-starting interlock has become activated after an interruption in the electric supply.	Switch the power tool off and on again.
	Interruption in the electric supply.	Plug in another electric appliance and check whether it works.
	The supply cord or plug is defective.	Have it checked by a trained electrical specialist and replaced if necessary.
	The control switch is defective.	Have it checked by a trained electrical specialist and replaced if necessary.
	Generator with sleep mode.	Apply a load to the generator by connecting another appliance (e.g. a lamp). Subsequently switch the power tool off and on again.
No hammering action.	The power tool is too cold.	Allow the power tool to warm up to the minimum operating temperature. See section: 7.2.2 Chiseling
	A fault has occurred in the power tool.	If necessary, the power tool should be repaired by Hilti Service.
The power tool doesn't start and the LED lights red.	A fault has occurred in the power tool.	If necessary, the power tool should be repaired by Hilti Service.
The power tool doesn't start and the LED blinks red.	The voltage provided by the electric supply is too high.	Use a different power outlet. Check the electric supply.
The power tool cuts out while running and the LED lights red.	The overheating prevention cut-out has been activated.	Allow the power tool to cool down. Clean the ventilation slots.
The power tool doesn't start and the indicator lamp blinks yellow.	The power tool has not been unlocked (power tools with optional theft protection system).	Use the TPS key to unlock the power tool.
The power tool doesn't achieve full power.	Reduced power activated (only TE 1000-AVR).	Press the power selector switch (observe the power level indicator). Switch the power tool off and on again.
	The extension cord is too long or its gauge is inadequate.	Use an extension cord of an approved length and / or of adequate gauge.
	The voltage provided by the electric supply is too low.	Connect the power tool to a different power source.
The chisel can't be released from the chuck.	The chuck is not pulled back fully.	Pull the chuck back as far as it will go and remove the insert tool.

### NOTE

If the fault cannot be eliminated by the measures listed above, have the power tool checked by Hilti Service.



## 10 Disposal



Most of the materials from which Hilti power tools or appliances 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 power tools or appliances for recycling. Please ask your Hilti customer service department or Hilti representative for further information.



For EC countries only

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

In observance of the European Directive on waste electrical and electronic equipment and its implementation in accordance with national law, electrical appliances that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility.

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## 11 Manufacturer's warranty - tools

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

## 12 EC declaration of conformity (original)

Designation:	Breaker
Type:	TE 1000-AVR / TE 1500-AVR
Year of design:	2009

We declare, on our sole responsibility, that this product complies with the following directives and standards: 2004/108/EC, 2006/42/EC, 2000/14/EC, 2011/65/EU, EN 60745-1, EN 60745-2-6, EN ISO 12100.

Measured sound power level, $L_{WA}$ TE 1000-AVR	98 dB/1pW
Guaranteed sound power level, $L_{WAd}$ TE 1000-AVR	100 dB/1pW
Conformity assessment procedure	2000/14/EC annex VI
Authorized assessment office (0044)	TÜV NORD CERT GmbH Hannover office Am TÜV 1 30519 Hannover Germany

Measured sound power level, $L_{WA}$ TE 1500-AVR	99 dB/1pW
Guaranteed sound power level, $L_{WAd}$ TE 1500-AVR	102 dB/1pW
Conformity assessment procedure	2000/14/EC annex VI
Authorized assessment office (0044)	TÜV NORD CERT GmbH Hannover office Am TÜV 1 30519 Hannover Germany

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