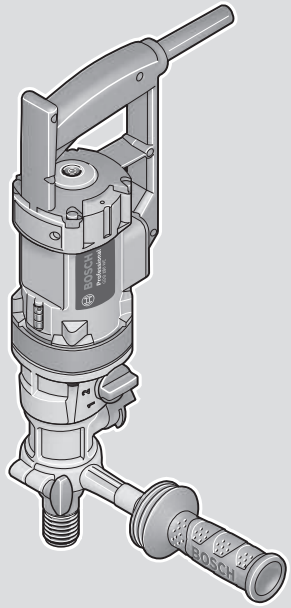
BOSCH

Professional HEAVY DUTY

GDB 180 WE



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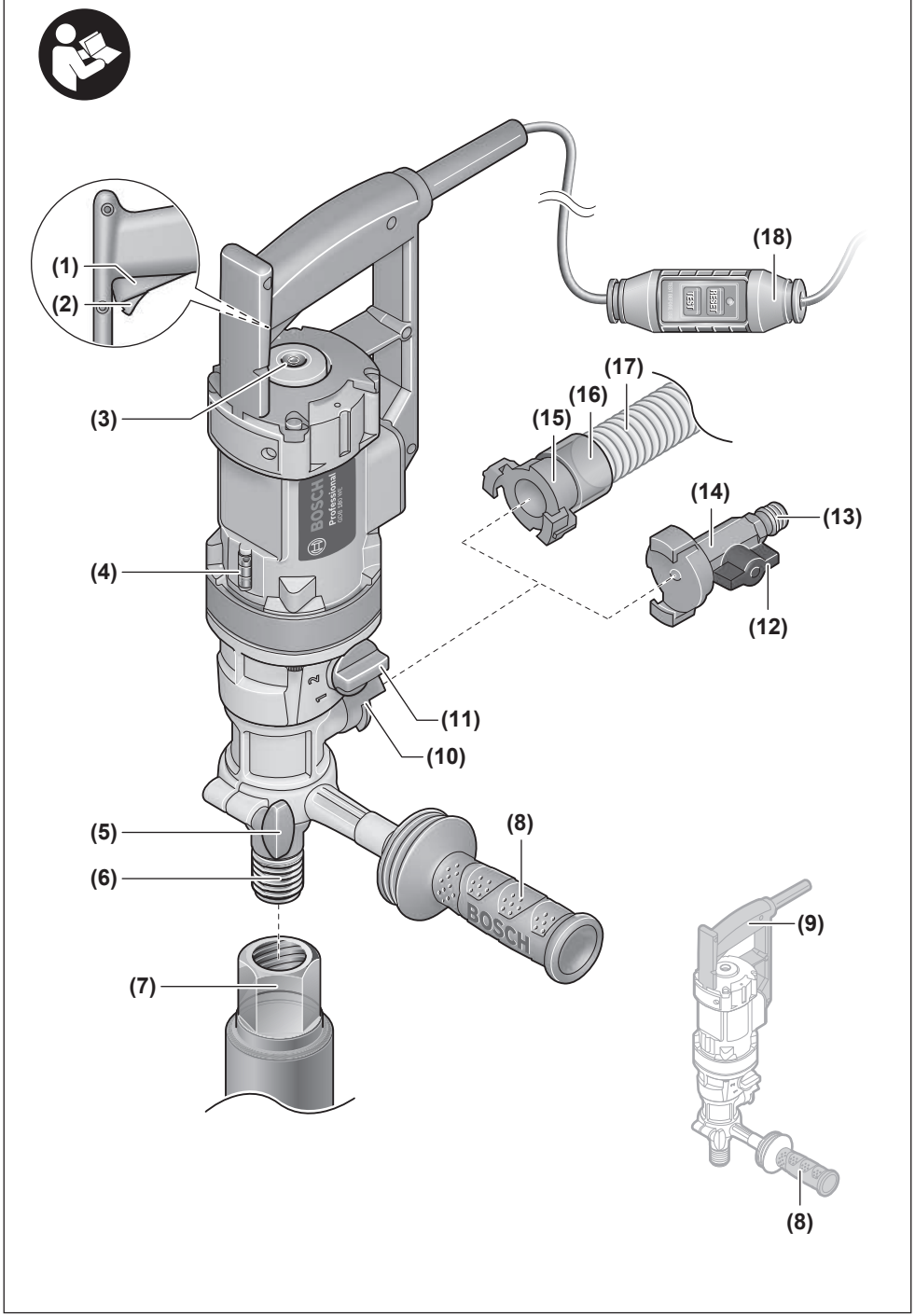
en Original instructions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Professional
TEST
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English

Safety Instructions

General Power Tool Safety Warnings

⚠ WARNING **Read all safety warnings, instructions, illustrations and specifications provided with this power tool.** Failure to follow all instructions listed below 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 a 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 and clothing 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.
- **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.

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 remove the battery pack, if detachable, 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 and accessories. 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.
- ▶ **Keep handles and grasping surfaces dry, clean and free from oil and grease.** Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.

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.

Diamond drill safety warnings

Safety instructions for all operations

- ▶ **Use the auxiliary handle(s).** Loss of control can cause personal injury.
- ▶ **Brace the tool properly before use.** This tool produces a high output torque and without properly bracing the tool during operation, loss of control may occur resulting in personal injury.
- ▶ **Hold the 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.

Safety instructions when using long drill bits

- ▶ **Never operate at higher speed than the maximum speed rating of the drill bit.** At higher speeds, the bit is likely to bend if allowed to rotate freely without contacting the workpiece, resulting in personal injury.
- ▶ **Always start drilling at low speed and with the bit tip in contact with the workpiece.** At higher speeds, the bit is likely to bend if allowed to rotate freely without contacting the workpiece, resulting in personal injury.
- ▶ **Apply pressure only in direct line with the bit and do not apply excessive pressure.**Bits can bend causing breakage or loss of control, resulting in personal injury.

Additional safety warnings

- ▶ **Wear hearing protection when diamond drilling.** Exposure to noise can cause hearing loss.
- ▶ **Use suitable detectors to determine if utility lines are hidden in the work area or call the local utility company for assistance.** Contact with electric lines can lead to fire and electric shock. Damaging a gas line can lead to explosion. Penetrating a water line causes property damage or may cause an electric shock.
- ▶ **When the bit is jammed, stop applying downward pressure and turn off the tool.** Investigate and take corrective actions to eliminate the cause of the bit jamming.
- ▶ **When restarting a diamond drill in the workpiece check that the bit rotates freely before starting.** If the bit is jammed, it may not start, may overload the tool, or may cause the diamond drill to release from the workpiece.
- ▶ **When drilling through walls or ceilings, ensure to protect persons and the work area on the other side.** The bit may extend through the hole or the core may fall out on the other side.
- ▶ **Wear non-skid shoes.** This prevents injuries that can occur from slipping on smooth surfaces.
- ▶ **Never operate the power tool without the portable residual current device (PRCD) included in delivery.**
- ▶ **Before beginning work, check that the portable residual current device (PRCD) is functioning properly. Have any damaged portable residual current devices (PRCDs) repaired or replaced by a Bosch after-sales service centre.**
- ▶ **Pay attention that neither persons in the working area nor the power tool itself come into contact with the water that comes out.**
- ▶ **Take care that water-conducting hoses and connection elements are in proper condition. Replace damaged or worn parts before the next use.** Water escaping from parts of the power tool will increase the risk of electric shock.
- ▶ **Products sold in GB only: Never operate the 110 V execution of the machine without isolation transformer according to EN/IEC 61558-1 and EN/IEC 61558-2-23. The isolation transformer must have a grounded earth wire on the secondary winding side.**
- ▶ **Hold the power tool firmly with both hands and make sure you have a stable footing.** The power tool can be more securely guided with both hands.
- ▶ **Always wait until the power tool has come to a complete stop before placing it down.** The application tool can jam and cause you to lose control of the power tool.
- ▶ **Connect the power tool to a mains supply that is properly connected to earth.** The socket and extension cable must have a fully functioning protective conductor.
- ▶ **Products sold in GB only:**
  Your product is fitted with an BS 1363/A approved electric plug with internal fuse (ASTA approved to BS 1362). If the plug is not suitable for your socket outlets, it should be cut off and an appropriate plug fitted in its place by an authorised customer service agent. The replacement plug should have the same fuse rating as the original plug.
  The severed plug must be disposed of to avoid a possible shock hazard and should never be inserted into a mains socket elsewhere.

Product Description and Specifications

Read all the safety and general instructions. Failure to observe the safety and general instructions may result in electric shock, fire and/or serious injury.

Please observe the illustrations at the beginning of this operating manual.

Intended use

In conjunction with diamond wet-drilling core bits and a water supply, the power tool is intended for wet drilling in concrete and reinforced concrete. Overhead drilling with a water supply is not permitted.

In conjunction with dry diamond core bits and a suitable dust extraction attachment, the power tool is intended for dry drilling in brick, sandstone, aerated concrete and tiles.

Product features

The numbering of the product features refers to the diagram of the power tool on the graphics page.

- **(1)** On/off switch
- **(2)** Lock-on button for on/off switch
- **(3)** Spirit level for vertical alignment
- **(4)** Spirit level for horizontal alignment
- **(5)** Wing bolt for auxiliary handle adjustment
- **(6)** Drill spindle
- **(7)** Core bit[a)]
- **(8)** Auxiliary handle (insulated gripping surface)
- **(9)** Handle (insulated gripping surface)
- **(10)** Claw coupling
- **(11)** Gear selector switch
- **(12)** Water cutoff valve
- **(13)** Valve adapter
- **(14)** Water connection adapter
- **(15)** Dust extraction adapter
- **(16)** Extraction outlet[a)]
- **(17)** Extraction hose[a)]
- **(18)** Portable residual current device (PRCD)

a) **This accessory is not part of the standard scope of delivery.**

Technical data

Diamond drill		GDB 180 WE
Article number		**3 601 A89 8..**
Rated power input	W	2000
Power output	W	1340
Rated speed n_0		
– First gear	min^{-1}	900
– Second gear	min^{-1}	2800
Drilling diameter		
– optimum in masonry	mm	40–180
– possible in masonry	mm	0–180
– optimum in concrete	mm	40–150
– possible in concrete	mm	0–180
Tool holder		1 1/4" UNC
Max. pressure of water supply	bar	3
Weight[A)]	kg	5.5
Protection class		⏚/I

A) With auxiliary handle **(8)**, without mains connection cable

The specifications apply to a rated voltage [U] of 230 V. These specifications may vary at different voltages and in country-specific models.

Values can vary depending on the product, scope of application and environmental conditions. To find out more, visit www.bosch-professional.com/wac.

Noise/vibration information

Noise emission values determined according to **EN 62841-2-1**.

Typically, the A-weighted noise level of the power tool is: Sound pressure level **92** dB(A); sound power level **100** dB(A). Uncertainty K = **5** dB.

Wear hearing protection!

Vibration total values a_h (continuous vibrations), p_F (repeated shock vibrations) and uncertainty K determined according to **EN 62841-2-1**:

Drilling in concrete: $a_{h,DD}$ = **5.0** m/s^2 (K = **1.5** m/s^2), $p_{F,DD}$ = **193** m/s^2 (K = **52** m/s^2)

The vibration level and noise emission value given in these instructions have been measured in accordance with a standardised measuring procedure and may be used to compare power tools. They may also be used for a preliminary estimation of vibration and noise emissions.

The stated vibration level and noise emission value represent the main applications of the power tool. However, if the power tool is used for other applications, with different accessories or is poorly maintained, the vibration level and noise emission value may differ. This may significantly increase the vibration and noise emissions over the total working period.

To estimate vibration and noise emissions accurately, the times when the tool is switched off or when it is running but not actually being used should also be taken into account. This may significantly reduce vibration and noise emissions over the total working period.

Implement additional safety measures to protect the operator from the effects of vibration, such as servicing the power tool and accessories, keeping their hands warm, and organising workflows correctly.

Assembly

▶ **Pull the plug out of the socket before carrying out any work on the power tool.**

Fitting the auxiliary handle

▶ **Use the auxiliary handle(s).** Loss of control can cause personal injury.

Always use the auxiliary handle **(8)**. To do so, slide the auxiliary handle over the drill spindle **(6)** onto the spindle collar (see illustration on the graphics page). Tighten the wing bolt for adjustment of the auxiliary handle **(5)** in a clockwise direction.

You can swivel the auxiliary handle **(8)** to any angle for a safe work posture that minimises fatigue.

Turn the wing bolt for adjusting the auxiliary handle **(5)** anticlockwise and swivel the auxiliary handle **(8)** into the required position. Then retighten the wing bolt **(5)** by turning it clockwise.

▶ **Before carrying out any work, make sure that the wing bolt is tightened.** Loss of control can cause personal injury.

Inserting/changing the core bit

Inserting the core bit

Only use dry core bits for dry drilling and only use wet core bits for wet drilling.

▶ **Always examine the core bits before inserting them. Only use core bits that are free of defects.** Using damaged or deformed core bits may result in dangerous situations.

Clean the core bits before inserting them. Lightly grease the thread of the core bit or spray it with corrosion inhibitor.

Screw a 1 1/4" UNC core bit **(7)** onto the drill spindle **(6)**.

▶ **Check that the core bit is fitted securely.** Core bits that are attached incorrectly or are not securely fixed in place may come loose during operation, thereby putting you at risk.

Removing the core bit

▶ **Wear protective gloves when changing the core bit.** The core bit may become hot when the power tool is operated for extended periods of time.

Detach the core bit **(7)** using an open-ended spanner (width across flats 41 mm). When doing so, hold a second open-ended spanner (width across flats 32 mm) on the two flats of the drill spindle **(6)** to provide counterforce.

Connecting the water cooling/dust extraction system

If wet or dry core bits are not sufficiently cooled when drilling, the diamond segments can become damaged or the core bit can jam in the drill hole. You should therefore ensure that the water cooling system provides sufficient cooling when wet drilling, or that the dust extraction system is functioning properly when dry drilling.

When expanding an existing hole, this must be sealed carefully to allow the core bit to be sufficiently cooled.

▶ **Connected hoses, shut-off valves or accessories must not interfere with drilling.**

Connecting the water cooling system

Attach the water connection adapter **(14)** to the claw coupling **(10)** and tighten it by turning it clockwise as far as possible.

Close the water cutoff valve **(12)**. Connect a water supply line to the valve adapter **(13)**. The water supply line can be provided from mobile water pressure equipment (accessory) or a stationary water connection.

Connecting the dust extraction system

Do not perform work without taking dust-reducing measures. Using a suitable dust extraction attachment will reduce exposure to harmful dust. Provide good ventilation at the workplace. Always use suitable breathing protection. Use a dust extraction system that is suitable for the material wherever possible. The regulations on the materials being machined that apply in the country of use must be observed.

Requirements for the Dust Extractor		
Recommended hose nominal diameter	mm	**35**
Required vacuum pressure[A)]	mbar hPa	≥ **230** ≥ **230**
Required flow rate[A)]	l/s m^3/h	≥ **36** ≥ **129.6**
Recommended filter efficiency		Dust class M[B)]

A) Power value at the power tool's dust extractor connection

B) According to IEC/EN 60335-2-69

Refer to the dust extractor's instructions. If there is reduced suction power, stop working and eliminate the cause.

Connecting the dust extractor to the power tool:

– Attach the extraction adapter **(15)** to the claw coupling **(10)** and tighten it by turning it clockwise as far as possible.

– Attach the extraction hose **(17)** of the dust extractor to the extraction outlet **(16)**.

Operation

Starting operation

▶ **Pay attention to the mains voltage.** The voltage of the power source must match the voltage specified on the rating plate of the power tool.

▶ **Seek advice from the responsible structural engineer, architect or construction supervisor regarding planned drill holes before starting work. Do not penetrate any reinforcements unless you have authorisation from a structural engineer.**

▶ **When drilling holes that penetrate walls or ceilings, always check the area concerned for obstacles. Close off the work site and prevent the drill core from falling by means of formwork.**

Function test of the portable residual current device (PRCD)

Before starting work, always check that the portable residual current device (PRCD) **(18)** is functioning correctly:
- Press the **TEST** button on the residual current device (PRCD). The red indicator light will switch off.
- Press the **RESET** button. It must now be possible to switch the power tool on.

If the red indicator light does not switch off when you press the **TEST** button or it switches off repeatedly when the power tool is switched on, you must have the power tool checked by an authorised **Bosch** after-sales service centre.

▶ **The power tool must not be used if the portable residual current device (PRCD) is defective.**

Switching on

Press the **RESET** button on the portable residual current device (PRCD) **(18)**.

Wet drilling: Set the water cutoff valve **(12)** to flow.

To switch on the power tool, press the on/off switch **(1)** and keep it pressed.

To lock the on/off switch down, press the lock-on button **(2)** as well.

Switching off

Release the on/off switch **(1)**. If the on/off switch is locked, press the switch first and then release it.

Wet drilling: Close the water cutoff valve **(12)**. Once work is complete, disconnect the valve adapter **(13)** from the water supply line. Open the water cutoff valve **(12)** and drain off the residual water.

Starting current limitation

The electronics of the power tool make the motor start softly, therefore preventing the starting current from being too high.

Restart protection

The restart protection feature prevents the power tool from uncontrolled starting after the power supply to it has been interrupted.

To restart the tool, press the **RESET** button on the portable residual current device (PRCD) **(18)**. Set the on/off switch **(1)** to the off position and then switch the power tool on again.

Preselecting the speed

Two speeds can be preselected using the gear selector switch **(11)**.

The gears are recommended for the following drilling diameters:
- First gear: 80–180 mm
- Second gear: 25–60 mm

Working advice

▶ **Pull the plug out of the socket before carrying out any work on the power tool.**

Always use a centering cross (accessory) when drilling.

Start drilling in first gear at a low speed until the core bit rotates in the material without vibrating. Then switch to second gear if necessary.

You should always adjust the contact pressure to the material you are drilling. Drill applying uniform pressure. If necessary, pull the core bit gently out of the drill hole to remove the wet/dry drilling debris from the diamond segments.

Overload clutch

▶ **If the application tool jams or snags, the power transmission to the drill spindle will be interrupted. Always hold the power tool firmly with both hands to withstand the forces this may create and adopt a position with stable footing.**

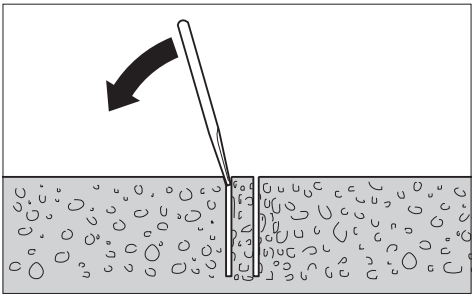
Overload protection

If the overload threshold is exceeded, the power tool will start noticeably pulsating. Reduce the contact pressure until the power tool starts working normally again.

If the contact pressure is not reduced, the power tool will switch off. You will be able to switch the power tool on again straight away, but you should now continue working with a lower contact pressure.

Removing the drill core

Wet drilling: Once drilling is complete, allow the water to keep flowing for a short while to rinse out the debris between the core bit and the drill core itself.



If the drill core is tightly seated in the core bit, hit the core bit with a piece of soft wood or plastic to loosen the drill core. If necessary, push the drill core out through the shank of the core bit using a rod.

Note: Do not hit the core bit with hard objects, as this may damage or deform it.

Maintenance and Service

Maintenance and Cleaning

▶ **Pull the plug out of the socket before carrying out any work on the power tool.**

▶ **To ensure safe and efficient operation, always keep the power tool and the ventilation slots clean.**

Clean the drill spindle **(6)** once the work is complete. Regularly spray the drill spindle and the core bit **(7)** with corrosion inhibitor.

In order to avoid safety hazards, if the power supply cord needs to be replaced, this must be done by **Bosch** or by an after-sales service centre that is authorised to repair **Bosch** power tools.

Accessories/replacement parts

Water pressure equipment	2 609 390 308
G 1/2" adapter	2 608 598 043

After-Sales Service and Application Service

Great Britain
Tel. Service: (0344) 7360109

GB Importer:
Robert Bosch Ltd.
Broadwater Park
North Orbital Road
Uxbridge
UB9 5HJ

In all correspondence and spare parts orders, please always include the 10-digit article number given on the nameplate of the product.

Disposal

The power tool, accessories and packaging should be recycled in an environmentally friendly manner.

Do not dispose of power tools along with household waste.

Only for EU countries and United Kingdom:

Electrical and electronic equipment that is no longer suitable for use must be collected separately and disposed of in an environmentally friendly manner. Use the designated collection systems.Incorrect disposal may cause harmful effects on the environment and human health, due to the potential presence of hazardous substances.

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