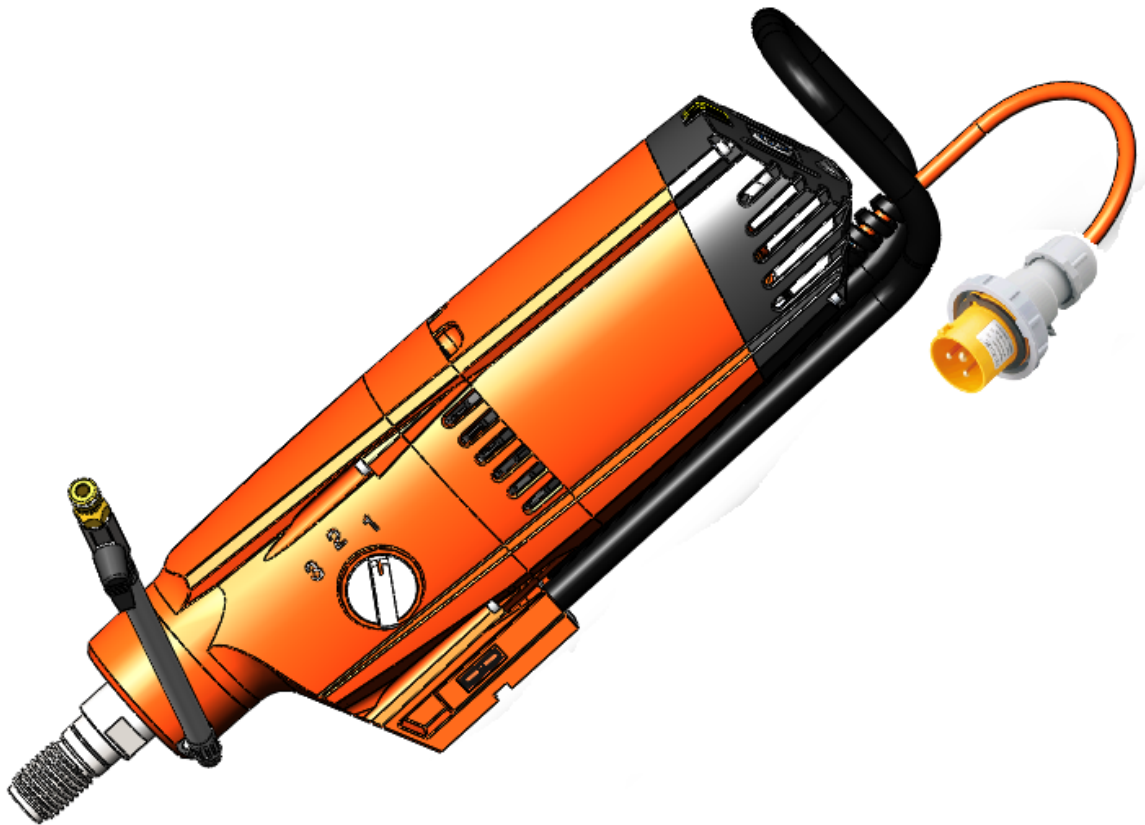


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Original Operating Manual EDM25



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 Hellenthal, den 03.03.2025  Geschäftsführer / General Manager / Président-directeur général		

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1. Important Safety Instructions

Important instructions and warning notices are allegorized on the machine by means of symbols:



Before you start working, read the operating instructions of the machine.



Work concentrated and carefully. Keep your work-place clean and avoid dangerous situations.



In order to protect the user, take precautions.

During work you should wear ear protectors, goggles, dust mask, protective gloves and sturdy work clothes!



Wear safety goggles



Wear safety helmet



Use ear protection



Wear protective gloves



Wear protective boots

Warning notices



Warning of general danger



Warning of dangerous voltage



Warning of hot surface

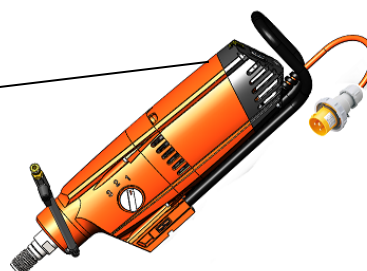


Danger of being ripped or cut

2. Technical Data

Wet Diamond Core Drill EDM25		
Rated voltage:	115 V	230V
Power input:	2.5 kW	2.5kW
Rated current:	22 A	11 A
Frequency:	50 / 60 Hz	50 / 60 Hz
Drilling diameter:	20-200 mm	20-200mm
Spindle connection:	1 ¼" UNC	1 ¼" UNC
Protection class:	IP54	IP54
Degree of protection:	I	I
Net weight:	13.2 kg	13.2 kg
RPM I/II/III:	180/430/750	180/430/750
Dimension (LxWxH):	680x190x150	680x190x150

3. Type plate



4. Content of delivery

- Diamond core drill with ball valve and GARDENA connector
- Operating instructions
- Carrying case

5. Application for indented purpose

The diamond core drill EDM25 is indented for professional use and may be used by instructed personnel only. With the appropriate wet drill bits, the machine may be used for wet drillings only, e.g. in concrete, stone and masonry.

With the appropriate dry drill bits, and connect the machine with vacuummer, the machine may be used for dry drilling in concrete, stone and masonry.
It may be used with a suitable diamond drill rig only.

6. Safety instructions



WARNING Read all safety warnings, instructions, illustrations and specifications provided with this machine. 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



Safe work with the machine is only possible if you read this operating instruction and follow the instructions contained strictly. Additionally, the general safety instructions of the leaflet supplied with the tool must be observed. Prior to the first use, the user should take a practical training.



If the mains cable gets damaged or cut during use, do not touch it, but instantly pull the plug out of the socket. Never use the tool with a damaged mains cable.



When drilling in ceilings or walls make sure you will not cut through electrical mains, gas or water pipes. Use metal detection systems if needed.

Prior to the start of your work, consult a statics specialist to determine the exact drilling position.

If drilling through ceilings, secure the place below, because the core may fall downward.



Pay attention that the tool is not exposed to direct rain.

1) Work area safety

- **Keep your workplace clean and well lit.** Cluttered or dark area in the workplace can cause accidents
- **Do not use the tool in an environment with danger of explosion, 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 you are working.** Do not allow other people to touch the tool or cable.

2) Electric 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, furnaces and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
- **Do not expose this tool to rain or wet conditions. Do not allow cooling water get into the motor when using the drill.** 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 tool and always check the tool, cable and plug before use. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.
- **For outdoors work, use extension cord suitable for this purpose and marked accordingly.**
- If operating the power tool outdoor or in a damp location is unavoidable, use a residual current device (RCD) or ground fault circuit interrupter (GFCI) protected supply, or use an isolation transformer.
- Have damages only repaired by specialists. Insert the plug into the socket only when the tool switch is off.

3) Personal safety

- **Stay alert. Watch what you are doing and use common sense when operating. Proceed sensibly. Do not use the tool when you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating the tool 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, picking up or carrying the tool.**
- **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 jewelry. Keep your hair and clothing away from moving parts. Loose clothes, jewelry 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 hazard.
- **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 second.
- **Wear ear protectors when impact drilling.** Exposure to noise can cause hearing loss.
- During use, the user and other persons standing nearby have to wear suitable ear protectors, goggles, helmets, protective gloves and boots.



4) 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 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 the power tool for operations different from those intended could result in a hazardous situation.
- **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 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.

5) Service

- **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure the safety of the power tool is maintained.
- **Power tools have to be inspected visually before every use.** Do not use the machine if a part of the housing is damaged or in case of damages on the switch, the cable or plug.
- Replacement of the plug or the supply cord shall always be carried out by the manufacturer of the tool or his service organization.

6) Other instructions

- Modifications of the tool are prohibited.
- Do not use the tool standing on a ladder
- Do not drill in asbestos-containing materials.
- The machine should only work under supervision. Plug and switch the machine off if it is not under supervision, e.g. in case of putting up and stripping down the machine, in case of voltage drop or when fixing or mounting an accessory.
- During work, always lead the mains cable, extension cable and extraction hose to the back away from the machine.
- Secure the workpiece. Use clamps or a vice to hold the workpiece. This will make it more secure that if you hold it in your hand and will allow you to use both hands to control the machine. Do not overstretch yourself. Avoid abnormal body positions. Ensure that you have a stable area on which to stand and keep your balance at all times.
- Do not leave a tool spanner on the tool. Before switching on the tool check that the wrench and setting tools have been removed.
- Important:
Safety equipment (such as overcurrent protection devices, under voltage trips, safety couplings etc.) are tools but do not offer guaranteed safety. As a responsible manufacturer we tailor these tools to each other so that they offer the best possible protection. But without the care and caution of the use, these tools may even cause damage if they are not used properly.
- Have the slip couplings, in particular, checked during the quarterly inspection to ensure that it is correctly adjusted and functions properly. This inspection should be conducted by the manufacturer or an authorised service outlet and documented.
- Overhead-drillings only with suitable safety measures (water collection)

7. Fixing to drill rig

Fasten the gearing foot of the EDM25 by means of four M 8 Allen screws to the drill rig.

The drill stand should have a good stiffness and precise guide ways. The spindle of the machine needs to go parallel to the axle of the drill stand.

Use only fall-safe drill rigs.

It is advisable to use a water-collecting ring.

8. Electrical connection

First, check the correspondence of voltage and frequency and compare it with the data mentioned on the identification plate. Voltage differences from + 6 % to – 10 % are allowed.

Use only 3-wire extension cable with protecting conductor and a sufficient cross-section (min. 2.5 mm²). A cross-section which is too small could lead to excessive power loss and to overheating of machine and cable.

The machine is equipped with a start-up speed limiter to prevent fast expulsion fuses from unintended responding.

9. Water connection

If the drill bit is not cooled enough with water, the diamond segments could heat up and consequently get damaged and weakened. For this reason, always make sure that the cooling system is not blocked.

In order to supply the machine with water, please proceed as follows:

- Connect the tool to the water supply system or a water pressure vessel using the GARDENA connector.
- Always make sure that the machine only runs with enough clear water as the seals get damaged when the machine is running dry.
- Attention! The maximum water pressure should not exceed 3 bar!
- Make sure that the segments are well cooled. If the drilling water is clear, the segments are well cooled.
- Overhead-drilling only with water collection ring.
- In case of frost warning, drain the water system.

10. Vacuumer connection

If in some cases need dry drilling, please ensure dry drill bit is used otherwise diamond segments would be overheated which would cause segment damaged and weakened.

In order to connect the machine with vacuumer, please proceed as follows:

- Remove the watering system on the machine
- Assemble the vacuum pipe jointer on the machine
- Connect vacuum pipe from vacuumer to machine.

Make sure that you have a sufficient suction power of vacuum (minimum -0.8 bar). Make sure that the gaskets are not worn.

11. Changing gears

The EDM25 is equipped with a mechanical 3-speed oil-bath gearbox.

Select the speed according to the drilling diameter (ref. to the tool's identification plate).

Use the speed selection to change to the next higher or lower speed until it locks. Change the speed only when the tool is not running; slightly turn the working spindle to ease the speed change.



Warning: Never apply force and change the gear only when the machine is running down. Never use tools, such as hammers or pliers to change the gear.

12. Drill Bits

Diamond drill bits with an 1 ¼" UNC female thread can be screwed directly onto the working spindle.

For drill bits with R ½" male thread, adapters are available as accessories.

Always use drill bits which match the material which has to be drilled.

You can prevent the machine from damage if you only use drill bits which are balanced and not deformed. Pay attention that diamond segments have enough relief cut towards the drill bit body.

13. Drill Bit Changing



Attention: The machine is heavy and when you use or sharpen it, it might heat up enormously. You could burn your hands or get cut or ripped by the segments. Before the beginning of all works on the tool you have to disconnect the plug from the mains. Always use protective gloves when changing the drill bit.

The drill spindle has a right-hand thread.

To hold on spindle always use a jaw wrench SW 32.

Never remove the drill bit with impacts because this way the machine will be damaged. With some waterproof grease, which is put on the drill bit thread, and a copper ring between spindle and drill bit you can remove the drill bit easier.

14. Using the Drilling Unit

In order to operate safely, please observe the following instructions:

Safety at work:

- Make sure that your work place is free of anything that might disturb your work.
- Pay attention that your work-place is well-lit.
- Make sure that you observe the conditions for the connection with the power supply.
- When laying the cables, make sure that it cannot be damaged by the tool.
- Make sure that you always can overlook the work place in a sufficient way and that you always can reach all necessary control elements and safety devices.
- In order to avoid accidents, keep other persons away from your work place.

Required space for operation and maintenance

If possible, make sure that you have enough free space for operation and maintenance around the machine (about 2 metres). This way, you can work safely and in case of operating trouble you can intervene immediately.

15. Preparation

- When you drill into blocs, make sure that the blocs are well anchored and fixed.
- Before drilling in supporting parts, make sure that you do not disregard the statics. Observe the instructions of the experts who are responsible for the design.
- Make sure that you do not damage any gas mains, water mains or electric cables while drilling.
- Pay attention that you do not touch any metallic parts of the machine when you drill walls and grounds where electric cables could lie under water.
- Pay attention that the drilling core does not hurt anybody or damaging anything when it drops out.
- If the drilling core might cause any damage when it drops out, use an device that can hold back the drilling core.
- Make sure that the drill bit is well fixed.
- Only use tools which are suitable for the particular material.

16. Fastening of the Drill Rig

The diamond core drill EDM25 may only be used mounted on a drill rig.

Since the drill rig is not included in the delivery, we point out some important kinds of assembly.

For this purpose, please refer to the drill rig's operating instructions.

Vacuum fastening:

Re. vacuum fastening, make sure that you have a sufficient vacuum (minimum -0.8 bar). Make sure that the gaskets are not worn.



Attention! Do not use the vacuum fastening on the wall or overhead!
Do not forget that the levelling screw may be turned out only up to a certain extend in order not to destroy the vacuum.

Dowel fastening:

The most common way of fastening is **dowel fixing**.

If possible, use metal dowels only. The dowel diameter must not be smaller than 12 mm.

- In order to fasten the drilling unit correctly, you need the fastening set.
- Drill a hole with a diameter of 16 mm, 50 mm deep. Make sure that the hole is free of dust.
- Insert a dowel and open it with an expanding mandrel.
- Screw the thread rod into the dowel.
- Put the drilling unit with the deep hole in the base onto the thread rod.
- Place the washer and screw the butterfly nut very tightly.
- Adjust the drilling unit in the platform by using the four screws.

17. Drilling

Vertical drilling

- Open the water supply.
- Switch the motor on without touching the surface with the drill bit.
- Turn the handle to bring down the drill bit until it contacts the surface.
- In order to reach an exact centring of the drill bit, keep the feed low for the first centimeter of cutting depth.
- Then you can drill faster. A too small drilling speed reduces the power. On the other hand, when the drilling speed is too high, the diamond segments quickly become blunt.

Angular drilling

- Remove the screw in the foot base which arrests the column at 90°.
- Loosen the two screws on the base of the column and turn the column to the requested angle.
- Retighten the screws again.
- At the beginning, it is better to drill very slowly because the bit only meshes with a fraction of its cutting area with the material. If you drill too fast or with a pressure which is too high, the bit can be off centre.

You have hit reinforced iron when you recognise while drilling that the feed rate gets very low, when you need to use more force, or when the water leaking from the bore hole clearly shows some metal chips.

Reduce the pressure on the drill bit to cut through the reinforced iron without any problems. You increase the pressure again when you have cut through the reinforced iron.

Drill bit extension

If you have to drill deeper than the usable length of your drill bit is:

- First, only drill to the point the usable length of the bit reaches.
- Remove the bit and pull the centre core out of the hole without moving the core drilling unit.
- Push the drill bit back into the bore hole.

Screw an adequate extension between drill bit and motor. If the collet of the drill bit is 1 ¼", please do not forget the copper rings which make the removal of the drill bit easier.

18. Power cord

Only use three-core extension cables with a protective conductor and an adequate cross-section. If the cross-section is too low, you may lose excessive power and result in the motor and cable overheating. An extension cable must have an overload cut-out switch.

Recommended cable cross-sections:

Rated current = 22 A							
Cable length	m	7,5	15	25	30	45	60
Cable cross section	mm ²	2,5	2,5	2,5	2,5	2,5	4

19. Overload Protection

In order to protect the operator, motor and drill bit, the EDM25 is equipped with a mechanical and electronic overload protection.

Mechanical: If the drill bit is suddenly blocked in the hole, a clutch will slip disengaging the drill spindle from the motor.

The safety clutch should absorb shock and excessive stress. It is an aid and not an absolute protection. Therefore, you have to handle and drill carefully. To keep it in good condition, the clutch should slip for a very short time (max. 2 seconds) in each case only. After excessive wearing the clutch has to be renewed by an authorized service shop

Electronic: In case of overload due to large a feed force, the electronic facility in the tool switch will deenergize the tool. After discharge and reengagement one can drill again.

20. Fracture of Segments

If a diamond segment, parts of the reinforcement or something similar breaks out, and consequently the drill bit seizes, stop working on this bore and drill a hole with the same centre and a diameter being 15 – 20 mm bigger.

Do not try to finish your work using another drill bit of the same diameter!

21. After Drilling

When you have finished drilling:

- Pull the drill bit out of the hole.
- Stop the motor by using the motor switch.
- Close the water supply.

Removal of the core when it sticks in the drill bit:

- Separate the drill bit from the motor.
- Put the drill bit in a vertical position.
- Knock carefully on the pipe by using a wooden hammer shank till the drilling core slips out. Never throw the drill bit against a wall by force or set about it with tools, such as hammer or jaw wrench. Otherwise, the pipe could go out of shape and neither the core can be removed nor the drill bit reused.

Removal of the core from blind holes:

Break off the core with a cotter or lever, or in pieces. Lift the core out with appropriate tongs or drill a hole in the core, screw an eyebolt in and pull the core out.

22. Care and Maintenance



Before the beginning of maintenance or repair works you have to disconnect the plug from the mains.

Repairs may be executed only by appropriately qualified and experienced personnel. After every repair the machine has to be inspected by an electric specialist. Due to its design, the machine needs a minimum of care and maintenance. Regularly the following works have to be carried out or rather the component parts have to be inspected.

- Clean the drilling unit after having finished drilling. Later on, you have to grease the spindle thread. The ventilation slots always have to be clean and open. Pay attention that no water gets inside the core drill during the cleaning process.

- After the first 150 hours of operation you have to replace the gearbox oil. Gearbox oil changes bring about an essential increase of the tool's lifetime.
- After approximately 250 hours of operation the carbon brushes have to be checked by a specialist and if necessary removed (only use original carbon brushes).
- Have switch, cable and plug checked by an electric specialist quarterly.

23. Environmental protection



Raw material recycling instead of waste disposal

To avoid damages on transportation, the power tool has to be delivered in a sturdy packing. Packaging as well as unit and accessories are made of recyclable materials and can be disposed accordingly.

The tool's plastic components are marked according to their material, which makes it possible to remove environmental friendly and differentiated because of available collection facilities.



Only for EU countries

Do not dispose of electric tools together with household waste material!

In observance of the European Directive 2012/19/EU on waste electrical and electronic equipment and its implementation in accordance with national law, electric tools that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility.

24. Noise emission / Vibration

The indication of noise emission is measured according to DIN 45 635, part 21. The level of acoustic pressure on the work place could exceed 85 dB (A); in this case protection measures must be taken.



Wear ear protectors!

The typical hand-arm vibration is below 2.5 m/s².
Measured values determined according to EN 60 745.

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.

25. In Case of Malfunction



In case of breakdown, switch the motor off and disconnect it from the power. Repairs of the electrical parts may only be performed by an authorised service specialist.

26. Trouble Shooting

Error	Possible Cause	Error Recovery
Machine does not work	mains current supply interrupted	plug in another electric appliance and check the functioning
	line cord or plug damaged	have it checked by an electric specialist and replaced if necessary
	switch damaged	have it checked by an electric specialist and replaced if necessary
Motor runs, drill bit does not rotate	gearbox damaged	have the tool repaired by an authorised service workshop
Drilling speed too slow	water pressure / water flow rate too high	regulate the water quantity
	drill bit damaged	check if drill bit is damaged and replace it if necessary
	gearbox damaged	have the tool repaired by an authorised service workshop
	drill bit is blunt	sharpen the drill bit with a sharpening block while using the flush
motor cuts off	the tool stops the tool overheats, overload	lead the tool in a straight manner
	protection of the motor has reacted	discharge the tool and restart it by pressing the switch
	carbon brushes are worn out	both brushes must be replaced with original brushes by an electrical specialist
water drops out of the gearbox housing	shaft sealing rings damaged	have the tool repaired by an authorised service workshop

27. Warranty

According to the general supply conditions for business dealings, suppliers have to provide to companies a warranty period of 12 months for redhibitory defects (to be documented by invoice or delivery note).

Damage due to natural wear, overstressing or improper handling are excluded from this warranty.

Damages due to material defects or production faults shall be eliminated free of charge by either repair or replacement.

Complaints will be accepted only if the tool was returned in non-dismantled condition to the manufacturer.