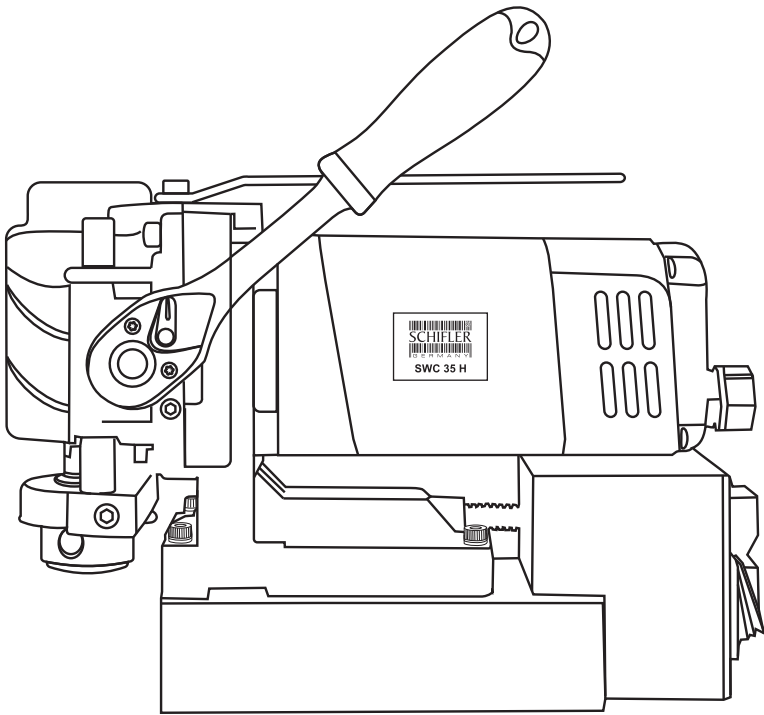




# Magnetic Drilling Machine



**SWC 35 H**



**OPERATING MANUAL**

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**UNDERSTANDING SAFETY SYMBOLS**



**DANGER** : The possibility of suffering harm , injury or even death if the situation is not avoided during operation of the machine



**WARNING** : A statement or event that warns of something or that serves as a cautionary example while using the machine



**CAUTION** : Care taken to avoid danger or mistakes during operation of the machine



**NOTE** : A brief record of points or ideas written down as an aid to memory while using the machine

**When using magnetic drilling machines please follow the general safety instructions for electric power tools.**

Please read the manual	Use eye protection	Use ear protection	Use safety helmet
Pacemaker warning	Wear appropriate clothing	Disconnect before opening	Use safety chain
Warning for electrical shock	Dangerous environment	Don't use in wet places	

**WARNING: THIS APPLIANCE MUST BE EARTHED.**

1. Always secure the machine with the supplied safety chain before starting to operate, this is to protect the user in case of power failure or breaking loose of the magnet while in use.
2. Always wear safety goggles and ear plugs.
3. Disconnect from the power source when changing cutters or working on the machine.
4. Always ensure cutter retaining screws are secure – they sometimes vibrate loose in use.
5. Regularly clean the work area and machine., remove swarf and dirt, paying particular attention to the underside of the magnet.
6. With a gloved hand, after switching off the power, remove any swarf which might have gathered around the cutter and arbor before proceeding to the next hole.
7. Remove tie, rings, watches and any loose adornments which might entangle with the rotating parts of the machine.
8. Should the cutter get stuck in the workpiece, stop the motor immediately to prevent personal injury. Disconnect from the power source and push and pull the arbor by hand. DO NOT ATTEMPT TO FREE THE CUTTER BY SWITCHING THE MOTOR ON AND OFF.
9. If the machine is accidentally dropped, always thoroughly examine the machine for signs of damage and check that it functions correctly before trying to drill a hole.
10. Regularly inspect the machine and check the nuts and screws are tight.
11. Always ensure when using the machine in an inverted position use special cutting paste or cutting spray which is specially designed for inverted position drilling.
12. Use only spare parts advised by your dealer for magnetic drilling machines.
13. Use the magnetic drilling unit on a clean and flat surface only, to prevent the machine breaking out because of poor clamping force.
14. If you discover any irregularity on machine cables immediately bring the machine to a recognized dealer for a repair or maintenance service.
15. When and in any case if the hole cutter is jammed in work piece during drilling, stop applying downward pressure and switch off the machine, check and take appropriate action to eliminate cause of the jam.

**WARNING : DO NOT USE YOUR MAGNETIC DRILL ON THE SAME STRUCTURE WHEN ARC WELDING IS IN PROGRESS. D.C. CURRENT WILL EARTH BACK THROUGH THE MAGNET AND CAUSE IRREPARABLE DAMAGE.**

**CAUTION DO NOT USE MACHINE OUTSIDE OR IN WET ENVIRONMENT WITHOUT AN (RCD) RESIDUAL CIRCUIT DEVICE. RCD MUST BE USED.**

## SAFETY INSTRUCTIONS



### WARNING

It is mandatory to read and follow all the safety norms, regulations and instructions given in this Guide before you operate the machine to avoid unwanted and fatal accidents. Follow the mentioned workplace safety measures in the guide strictly to ensure your safety against electric shocks or injuries.

### SELF PROTECTION

The machine operators must start their work only after the protective glasses, earmuffs and insulated shoes tightened to the legs but must ensure a comfortable movement too. In case the operator has long hair, he must wear a cap suited to the work environment. You must strictly adhere to these rules and prohibit the staff from wearing clothes that are loosely fitted.

Never work towards the maintenance of the circuit board if you haven't followed all the rules mentioned above.

### MANDATORY RULES FOR THE WORK PLACE

1. Say no to a messy work environment completely. Keep yourself protected against fatal accidents by keeping the area clean.
2. In case the floor is wet, stop the usage of the drill machine immediately. You will expose yourself to the risk of shock if you don't.
3. Only when the surroundings around are brightly lit, use the machine instead of a dark environment.
4. You must never place flammable material near the machine or avoid using the drill machine in the presence of anything flammable. The Drill machine tends to produce sparks in the process of working, which may cause fire.
5. Children should never be allowed near the drill machine, especially when it is being operated.
6. Nobody should be in the area where the Drill machine is being used by the Operator.

### MANDATORY RULES TO ENSURE SAFETY

1. Before you start using the Drill machine, make sure you inspect the condition of the power cord and the plug. Replace them immediately if you see any damage.

2. The power supply should always be in sync with what the equipment requires. Hence, ensure the same while making sure that safety measures for grounding and leakage are made available.
3. Study this manual well to understand the Do's and Don'ts of the Drilling tools. They should be used strictly according to the size specified. The material of the drilling workpiece comes with a magnetized absorption and works better on a smooth surface. Double check that its thickness ranges between 10mm-75mm, without the 0.5mm thickness of Iron scrap and the presence of paint, granular impurities and any other foreign particles should be avoided.
4. If the thickness of the drilling machine is less than 10mm, you must ensure that it is well-supported by iron plates right at the bottom that come with a thickness higher than 10mm. The supporting iron plate must have a base area greater than the drilling machine's area of the magnetic base if you need to improvise the reliability of the capability of the magnetic base's absorption. In case you opt for a supporting iron plate which is thinner than the requirement, you will notice the drilling machine becoming loose in the process of absorption that may lead to unwanted and fatal accidents.
5. Don't press the drill machine too hard as that may lead to an overload, which tends to shorten the life of the magnetic drill. When in use, be extremely attentive to the condition of the magnetic absorption of the drill. Stop using the drill immediately if you notice any instability in the magnetic absorption.
6. Whenever the drill starts to operate or shuts down, ensure that the operating sequence of the motor and magnetic switch has been complied.
7. Do not continuously operate the magnetic base with a full load as that will cast a strong effect negatively on the life of the magnetic base. It may also get heated up to an extent that it may catch fire. Never touch the magnetic base, especially when it is extremely hot as that will cause a serious burn. Turn off the switch and unplug immediately once you stop using the magnetic base.
8. Do not overload the motor for than a total duration of 30 minutes. If done otherwise, it will lead to extreme heat getting generated that will result in a fire or explosion. Switch off the motor when it is not in use.
9. Add a certain amount of coolant to the equipment whenever you

replace the drill. In case you notice a blockage, switch off the motor immediately. However, you must leave the magnetic base power on. The logic behind this process is that in case you shut down the power supply of the magnetic base directly, it may result in the operator suffering from injuries. It will also harm the motor because of the sudden loss of magnetic force of the magnetic base.

10. Whenever the magnetic drilling machine is in use and is suspended either in a vertical or a horizontal position, you must get it fixed with a device that gets attached to the equipment so that it doesn't come down falling caused by the sudden loss of power of the magnetic base. When you choose to drill in an upside-down position, always opt for a cooling method that is reasonable. Say a frank NO to the option of Liquid Cooling method as liquid will easily infiltrate into the equipment and result in leakage of electricity. Instead of Liquid Cooling method, choose Mist Spray Cooling.
11. If a Supplier has provided or approved of the Parts and Tools, only then must you use them as once installed on the equipment, they come with a guaranteed usage safety.
12. Do not remove the drill if the spindle and the drill are in continuous motion. Unplug the drill from the main power supply to change its gear and never touch it with your bare hands.
13. Even when the equipment stops working, never use your bare hands to remove the iron fillings after the drilling process as that can cause injuries.
14. While you use the magnetic drill on a particular workpiece, do not do the process of welding on the same.
15. Use the handle function of the drilling machine to move it from one place to another instead of pulling the power cable.
16. Switch off the main power supply and unplug the drilling machine after the usage. If this is not done and the spindle and the tool continue to rotate, then do not let the operator remove the drill and replace the gear with his bare hands. Make sure you practice this to avoid injuries.
17. The generation of the magnetic field affects devices such as watches, mobile phones and pacemaker installed to regulate the heartbeat. Make sure that the operator takes off the watch and keeps the mobile phone before operating the drilling machine and doesn't have a pacemaker installed in him.

## **CLEANING AND MAINTENANCE**

1. Keep a close check on the bolt of the magnetic drill. It should not be loose and the gap in the spindle should not be too large. The power cable of the drill should be in a good condition. You must make sure that the machine is maintained well.
2. Inspect the carbon brush and change it immediately if you notice that it is worn out.
3. The Lubricating Grease in the Gear Box should be changed by a professional once you have used the drill for three months. Inspect well once the professional finishes to double check that all the parts have been fully lubricated.
4. It is always the After-Sales Service Department or the designated dealer who cater to the maintenance of the drill machine.
5. The operator must clean the magnetic drill after finishing the work, scrub the side where the drill slides while working and apply lubricating oil on the drill for the machine to last longer.
6. Whenever you indulge in the process of cleaning the Drill with compressed air, you must wear Goggles and to protect yourself and the other people around you at the workstation.
7. Switch the machine off and unplug it from the main power socket before you start the process of maintenance and cleaning.

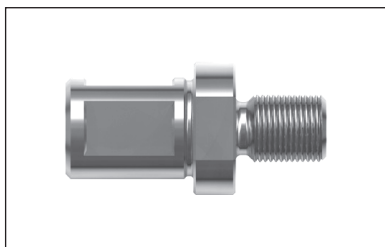
When it comes to the process of Maintenance, Inspection and Repair pertaining to their electrical aspects, only a qualified electrician must be contacted to cater to the task. The qualifications of these electricians change according to their respective countries. They must follow the effective rules put in place when it comes to processing, inspection and the maintenance of a Circuit Board in order to avoid accidents.

## **ENVIRONMENTAL PROTECTION AND WASTE DISPOSAL**

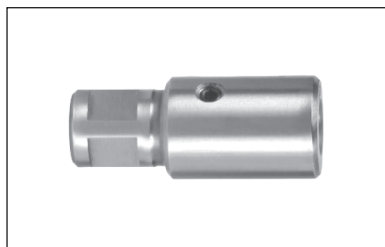
1. Disposal of the old electrical equipment: Make sure you process the product in accordance with EC Directive 2002/96/EC-WEEE, also known as Waste Electrical and Electronic Equipment. In case of doubts or queries, contact the Department of Waste Disposal.
2. Disposal of grease: Follow the instructions given by the lubricant's manufacturer.



**OPTIONAL TOOLS & ACCESSORIES**



Weldon Drill Chuck Adaptor



Weldon Tapping Adaptor



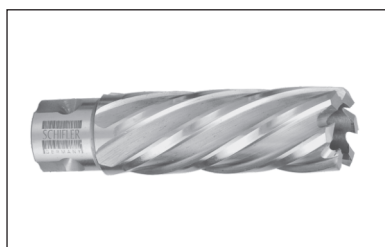
Drill Chuck



Weldon Counter Sink



MT 2 / MT 3 Arbour



Core Drill

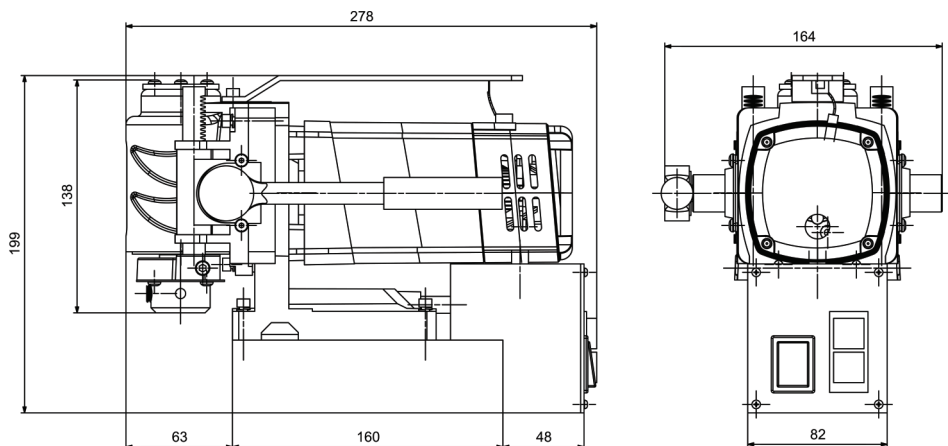


Pilot Pin



Taper Drift

## DESCRIPTION & TECHNICAL DATA



Motor power	1100 watt
Spindle	19 mm (3/4") Weldon
Broach cutter (35 mm length)	ø 12 mm - ø 35 mm
Broach cutter (50 mm length)	ø 12 mm - ø 35 mm
RPM	450 min-1
Weight	9.5 kg
Magnet power	11000 N
Input supply voltage	220-240 V
Frequency	50-60 Hz

## COMPONENTS CONTENT

1. Packing case	1 No.	6. Instruction Manual	1 No.
2. Safety Belt	1 No.	7. Magnetic Drill Machine	1 No.
3. 2,0 mm Allen Wrench	1 No.	8. Pilot Pin 6x50	1 No.
4. 2,5 mm Allen Wrench	1 No.	9. Pilot Pin 8x50	1 No.
5. 6,0 mm Allen Wrench	1 No.		

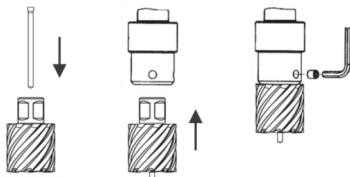
**OPERATING MANUAL**

**5.1 How to mount tools or adapters in a Weldon arbor?**

- 1) Make sure the machine is disconnected from the power supply.
- 2) Put the center pilot in the cutter hole.
- 3) Put the cutter or adapter in the arbor, making sure the flat sides are exactly in front of the arbor retaining screws.



- 4) Tighten the retaining screws.
- 5) Check if the center pilot can move inside the cutter (up and down).



**5.2 Drilling with Core Drills**

- 1 Place the machine at the desired position



**CAUTION :** For 100% magnet clamping force you need at least 10 mm of steel. Coatings, paintings and dirt between magnet and workpiece will affect clamping force.

- 2 Switch on the magnet.



- 3 Ensure that the magnetic drilling unit is secure on the working piece.
- 4 Fill the arbor with lubrication/cutting oil in the special meant holes. Always use cutting oil from your dealer.

- 5 Start the motor by pressing the green motor start button (I).



- 6 Start bringing the cutter to the workpiece but handle with care and do not apply too much pressure. The cutter has to find its way in to the material by itself. After 2 mm, the groove of the cut will help the cutter maintain its place and you can increase the power. Still it is not necessary to use a lot of pressure. Too much pressure will cause damage and breakage.

- 7 After the cut is finished the slug will automatically be ejected from the cutter, switch the machine off by pushing the red button(0).
- 8 If the slug gets stuck in the cutter, move the machine to a flat surface. Switch on the magnet and gently bring the cutter down in contact with the surface. This usually allows a slug to straighten and to eject.

**WARNING: THE SLUG WILL BE EJECTED AND IS VERY HOT**

### 5.3 Drilling with twist drills

There are several accessories available to be able to use twist drills with your magnetic drill.

- Adapter 19 mm Weldon - ½"x20 UNF
- Adapter 19 mm Weldon – B16 taper connection
- Adapter 19 mm Weldon – B18 taper connection



Weldon Drill Chuck Adaptor



Drill Chuck

These adapters will allow you to attach a drill chuck on to the hole cutter arbor.

Also twist drills with a direct Weldon connection are available (ranging from  $\varnothing 6 - \varnothing 12$  mm)

- 1 Place the machine at the desired position
- 2 Switch on the magnet

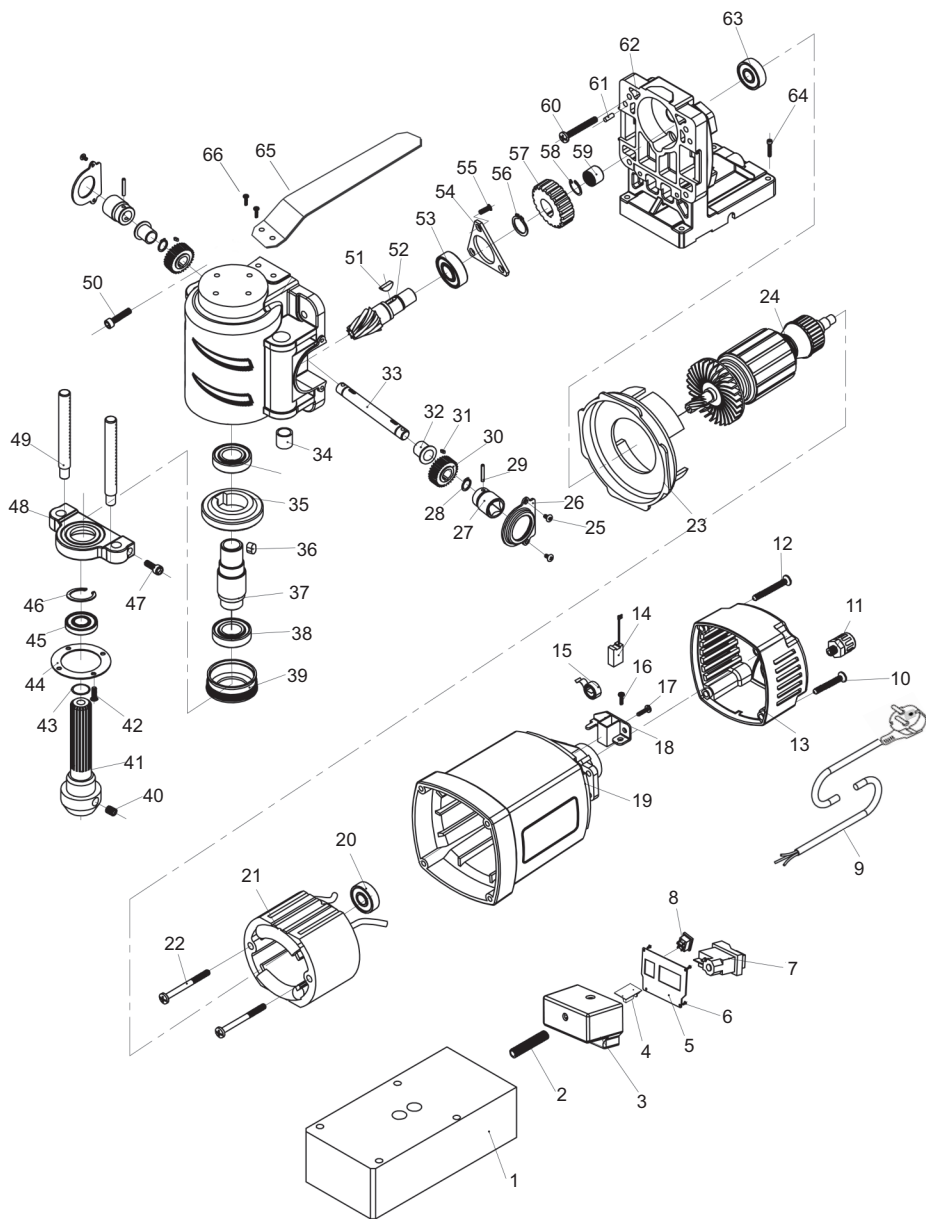


- 3 Ensure that the magnetic drilling unit is secure on the working piece.
- 4 Apply cutting oil to the twist drill and workpiece. Always use cutting oil from your dealer.
- 5 Start the motor by pressing the green motor start button.

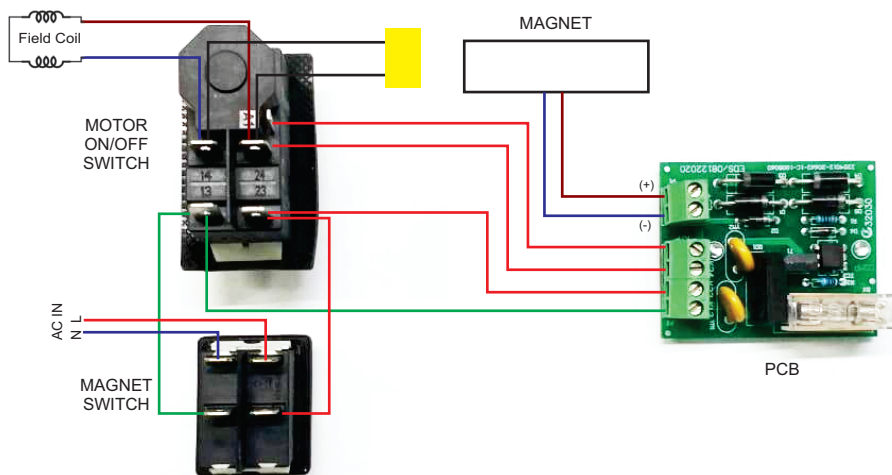


- 6 Start bringing the twist drill to the workpiece but handle with care and do not apply too much pressure. The drill has to find its way in to the material by itself. It is not necessary to use a lot of pressure. Too much pressure will cause damage and breakage.
- 7 After the cutting is finished switch the machine off by pushing the red button.

**SWC 35 H Motor complete & Magnetic frame /  
Antriebseinheit & Magnetbohrständer**



## SWC 35 H Circuit Diagram / Schaltplan



### HELPFUL TIPS



**TIP:** Do not use your magnetic drill on the same structure when ARC welding is in progress. D.C. current will earth back through the magnet and cause irreparable damage.

**TIP:** It is recommended that machine is laid to rest every 30 minutes in order to permit grease to run across the gear box .

**TIP:** When using models with gear and variable speed always select a setting with low transmission ratio and high motor speed, if possible.

**TIP:** During drilling it is recommended after a certain depth the cutter should be pulled up on free load in order to permit grease to run across the gear box.

**TIP:** For 100% magnet clamping force you need at least 10 mm of steel. Coatings, paintings and dirt between magnet and workpiece will affect clamping force.

**TIP:** Most situations which cause problems or question marks have already occurred for other users. Contact Schifler or your dealer to see if a solution exists for your situation. (example: for drilling into non-magnetic material with your magnetic drill, a special vacuum system has been designed).



**WARNING:** This appliance must be earthed.

**WARNING:** After drilling the slug will be ejected and is very hot.

**WARNING:** When drilling in inverted position, cutting oil can enter the motor and can cause irreparable damage.

**WARNING:** When drilling in inverted position, metal swarf can enter the motor. This can cause irreparable damage and can cause electrical shocks.

**WARNING:** Steel plates of less than 10 mm thickness, coatings, paints and dirt between magnet and workpiece can affect clamping force and create a possible dangerous situation. Always make sure your magnetic drill is fastened with the supplied safety chain and make sure your machine is sufficient attached to the workpiece to start drilling.



**TROUBLESHOOTING**

1. If the type of error that you face revolves around the Motor not starting even after pressing the ON/OFF button or the motor tends to stop while it is functioning, following can be the possible causes along with the remedies:
    - a. The plug isn't properly inserted into the socket. Just re-insert the plug.
    - b. The Circuit Breaker has been switched off by accident. Switch it on.
    - c. The torque cut-off has been triggered. You just have to switch the machine off for a few seconds and then switch it on.
    - d. You have missed selecting the direction of rotation. Click on select.
    - e. You haven't switched on the magnetic clamp. Switch it on.
    - f. The machine is over-heated because of which the internal safety switch of the machine is switching it off. Let the machine cool down for some time and then switch it on.
      2. If the type of error that you face revolves around the Circuit Breaker tripping in the power distributor, following can be the possible causes along with the remedies:
        - a. The machine has some defective parts. Immediately contact the Customer Service.
        - b. Plenty of appliances have been connected to the same power circuit, resulting in the tripping. Unplug a few of those appliances.
  3. If the type of error that you face revolves around the Magnetic clamp not functioning to its best capability, following can be the possible causes along with the remedies:
    - a. You have not switched on the magnet. Switch it on.
    - b. The surface where the machine is placed is not magnetic enough. Change the placement and use a suitable base.
  4. If the type of error that you face revolves around the lubrication system not functioning to its best capability or failing to function at all, following can be the possible causes along with the remedies:
    - a. The lubricant is over. Pour the required amount of lubricant into the machine.
    - b. The connecting nipple has gotten clogged. Do a deep cleaning of the tank and the nipple.
    - c. The lubricant tap is jammed or has gotten closed. Open the tap.
- Contact the Customer Service immediately if the steps and remedies described above do not solve your problem.

**WARRANTY**

The warranty period for Schifler Magnetic Drills equipment is 12 MONTHS as of the date of purchase.

Damages due to wear and tear, overload or improper handling of the machine are excluded from warranty. Damages that are due to fault in material or defect in fabrication will be remedied free of cost by compensation delivery or repair.

Claims for damages cannot be derived from this warranty.

Please fill out the warranty or add the purchase receipt.

MACHINE TYPE : .....

MACHINE NUMBER : .....

DATE OF PURCHASE : .....

STAMP/SIGNATURE AUTHORISED DEALERS : .....

ERROR DESCRIPTION:



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