

## **HOLEMAKER HMPRO35-T3**

Holemaker Portable Magnetic Drilling Machine

# **OPERATOR'S MANUAL**

### **⚠ WARNING!**

BEFORE USE, ENSURE EVERYONE USING THIS MACHINE READS AND UNDERSTANDS ALL SAFETY AND OPERATING INSTRUCTIONS IN THIS MANUAL .



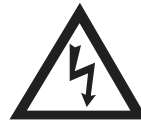
EYE PROTECTION  
REQUIRED



HEARING PROTECTION  
REQUIRED



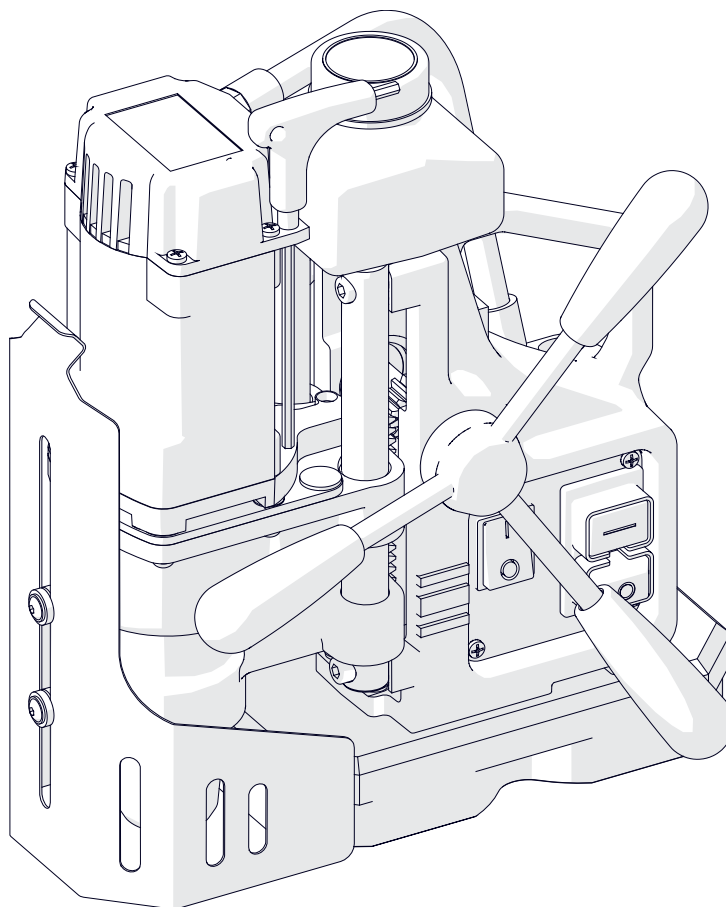
NEVER PLACE  
FINGERS NEAR  
CUTTING AREA OR  
MACHINE ARBOR



LINE VOLTAGE  
PRESENT



BEWARE OF  
ROTATING  
MACHINE PARTS



Serial # \_\_\_\_\_

Date of Purchase \_\_\_\_\_

Ver: 1.02 21/02/2020

**LIMITED WARRANTY**

Industrial Tool & Machinery Sales (hereinafter referred to as ITMS) will, within twelve (12) months from the original date of purchase, repair or replace any goods found to be defective in materials or workmanship.

This warranty is void if the item has been damaged by accident, neglect, improper service or other causes not arising out of defects in materials or workmanship. This warranty does not apply to machines and/or components which have been altered, changed, or modified in any way, or subjected to overloading or use beyond recommended capacities and specifications. Worn componentry due to normal wear and tear is not a warranty claim. Goods returned defective shall be returned prepaid freight to ITMS or agreed repair agent, which shall be the buyer's sole and exclusive remedy for defective goods. ITMS accepts no additional liability pursuant to this guarantee for the costs of travelling or transportation of the product or parts to and from ITMS or the service agent or dealer, such costs are not included in this warranty.

Our goods come with guarantees which cannot be excluded under the Australian Consumer Law. You are entitled to replacement or refund for a major failure and to compensation for other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

**THE MANUFACTURER RESERVES THE RIGHT TO MAKE IMPROVEMENTS AND MODIFICATIONS TO DESIGN WITHOUT PRIOR NOTICE.**

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## 1. GENERAL INFORMATION

### 1.1. Application

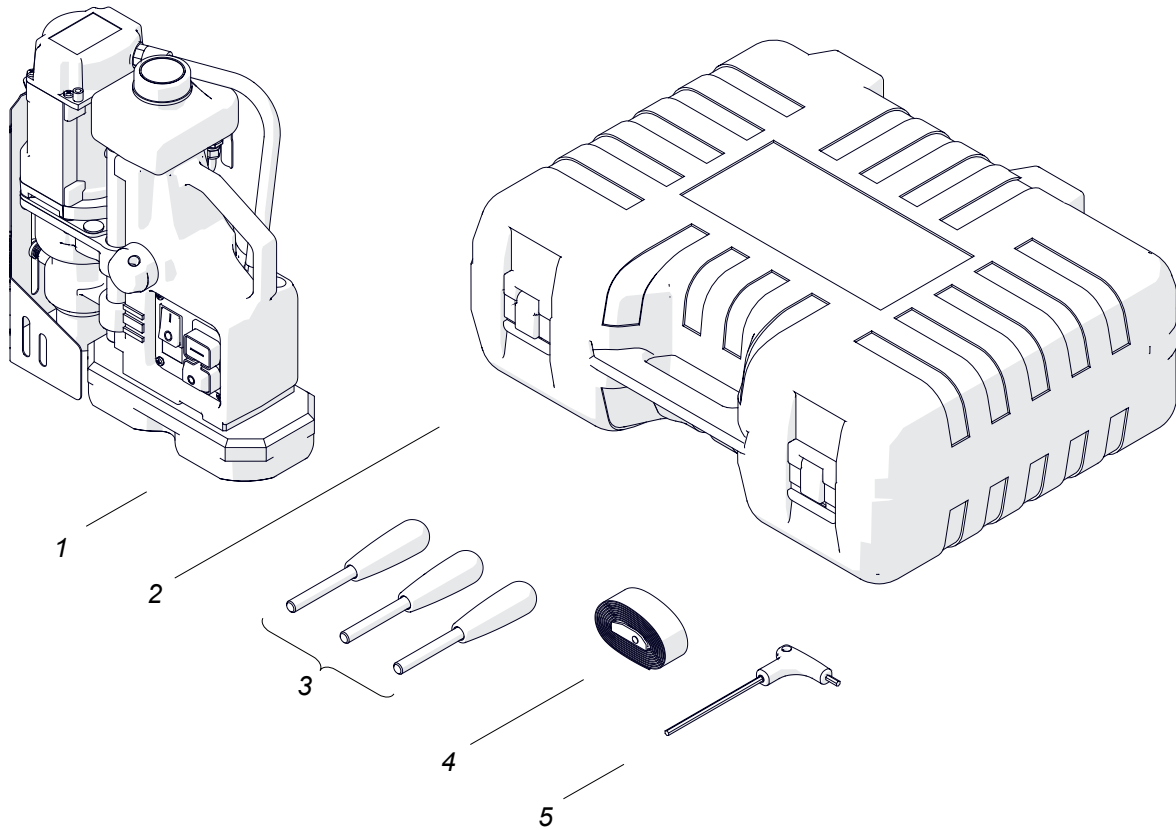
The PRO 35 T3 is a drilling machine designed to drill holes with diameters of up to 35 mm to a depth of up to 51 mm by using annular cutters.

The electromagnetic base allows the drilling machine to be fixed to ferromagnetic surfaces with a force that ensures operator safety and proper machine operation. A safety strap protects the machine from falling in case of a power loss.

### 1.2. Technical data

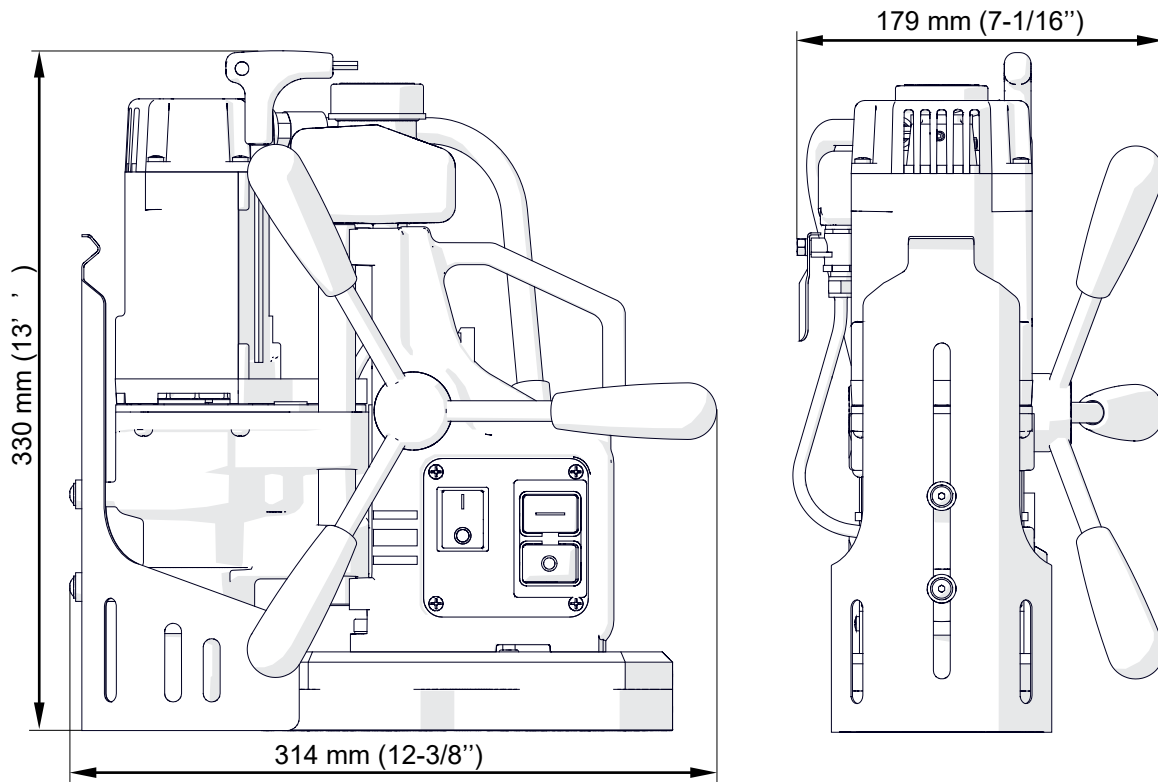
Voltage	1~ 110–120 V, 50–60 Hz 1~ 220–240 V, 50–60 Hz
Total power	1000 W
Motor power	920 W
Tool holder	19 mm Weldon (3/4")
Maximum drilling diameter	35 mm
Maximum drilling depth	51 mm
Electromagnetic base holding force (surface with the thickness of 25 mm and roughness $R_a = 1.25$ )	9 000 N
Electromagnetic base dimensions	100 mm × 200 mm × 38 mm 3-15/16" × 7-7/8" × 1-1/2"
Stroke	70 mm (2-3/4")
Rotational speed under load	350 rpm
Minimum workpiece thickness	3 mm (1/8")
Protection class	I
Noise level	More than 85 dB
Required ambient temperature	0–40°C (32–104°F)
Weight	11 kg (24 lbs)

### 1.3. Equipment included

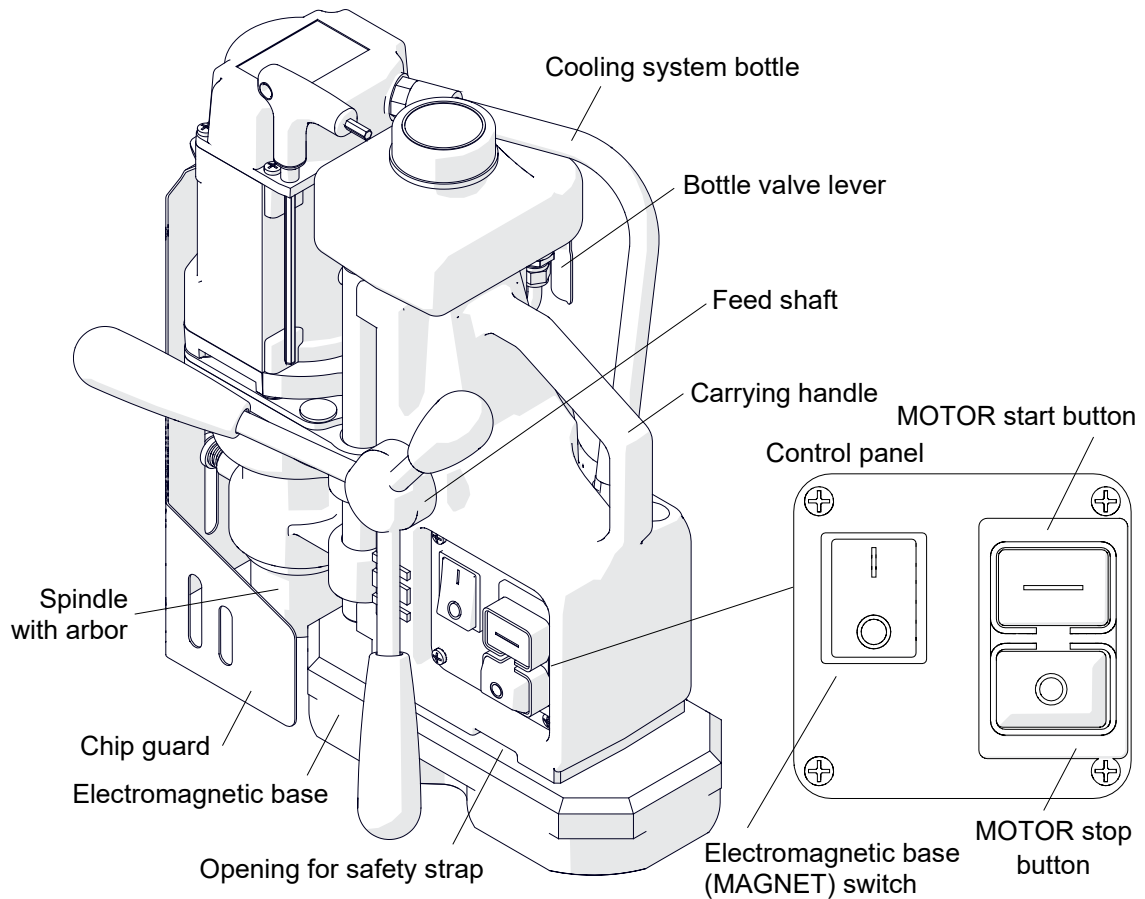


1	Drilling machine with cooling system bottle and chip guard	1 unit
2	Plastic box	1 unit
3	Handle	3 units
4	Safety strap	1 unit
5	4 mm hex wrench with handle	1 unit
-	Operator's Manual	1 unit

**1.4. Dimensions**



**1.5. Design**



## **2. SAFETY PRECAUTIONS**

1. Before starting, read this Operator's Manual and complete proper occupational safety and health training.
2. Use the machine only in applications specified in this Operator's Manual.
3. The machine must be complete and all parts must be genuine and fully functional.
4. The specifications of the power source must conform to those specified on the rating plate.
5. Connect the machine to a properly grounded power source. The power source must be protected with a 16 A fuse for 230 V or a 32 A fuse for 115 V. When used on building sites, supply the machine through an isolation transformer with class II protection only.
6. Never carry the machine by the power cord and never pull the cord. This may damage the cord and result in electric shock.
7. Transport and position the machine by using the carrying handle and only when the MAGNET switch is set to 'O'.
8. Untrained bystanders must not be present near the machine.
9. Before starting, ensure the correct condition of the machine, power source, power cord, plug, control panel, and cutters.
10. Keep the machine dry. Never expose it to rain, snow, or frost.
11. Never stay below the machine placed at heights.
12. Keep the work area well lit, clean, and free of obstacles.
13. Install the annular cutter securely by tightening the set screws. Remove wrenches from the work area before connecting the machine to the power source.
14. Never use cutters that are dull or damaged.
15. Install and remove cutters by using protective gloves and only when the machine is unplugged from the power source.
16. Never use annular cutters without the pilot pin except when drilling incomplete through holes.
17. Do not drill holes whose diameter or depth differ from those specified in the technical data.
18. Never use near flammable liquids or gases, or in explosive environments.
19. Never use the machine on surfaces that are uneven, not rigid, covered with rust, paint, chips, or dirt.

20. Use the safety strap in all work positions. Attach the machine to a fixed structure by fastening the strap through the opening in the machine body. When working in horizontal position fasten the strap to the carrying handle. Never insert the strap into the buckle from the front.
21. Before every use, inspect the machine to ensure it is not damaged. Make sure that no part is cracked or loose. Make sure to maintain proper conditions that may affect the operation of the machine.
22. Always use eye and hearing protection and protective clothing during work. Do not wear loose clothing.
23. Proceed with caution when drilling in plates with a thickness less than 6 mm (1/4"). The holding force depends on workpiece thickness and is much lower for thin plates.
24. The whole bottom of the base must be in full contact with the workpiece. Before every positioning, wipe the workpiece with coarse-grained sandpaper.
25. Do not touch chips or moving parts. Prevent anything from being caught in moving parts.
26. After every use, remove chips and excess coolant from the machine and cutter. Do not remove chips with bare hands.
27. Cover steel parts with a thin anti-corrosion coating to protect the machine from rust when not in use for any extended period.
28. Maintain the machine and install/remove parts and cutters only when the machine is unplugged from the power source.
29. Repair only in a service center appointed by the seller.
30. If the machine falls from any height, is wet, or has any other damage, stop the work and promptly send the machine to the service center for check and repair.
31. Never leave the machine unattended during work.
32. When not in use, remove the cutter and pilot pin, and then remove the machine from the worksite. Store in a secure and dry place.

### 3. STARTUP AND OPERATION

#### 3.1. Installing, removing, and operating the annular cutter

Unplug the machine from the power source, and then rotate the handles to the right (1, Fig. 1) to raise the motor. Wear protective gloves and insert the proper pilot pin into the annular cutter (2). Then, use a clean and dry cloth to wipe the arbor and cutter. Next, insert the cutter into the arbor (3) so that the flats (4) are aligned with the set screws (5). Then, use the 4 mm hex wrench to tighten both set screws.

To remove the cutter, loosen the screws (5) with the 4 mm hex wrench.

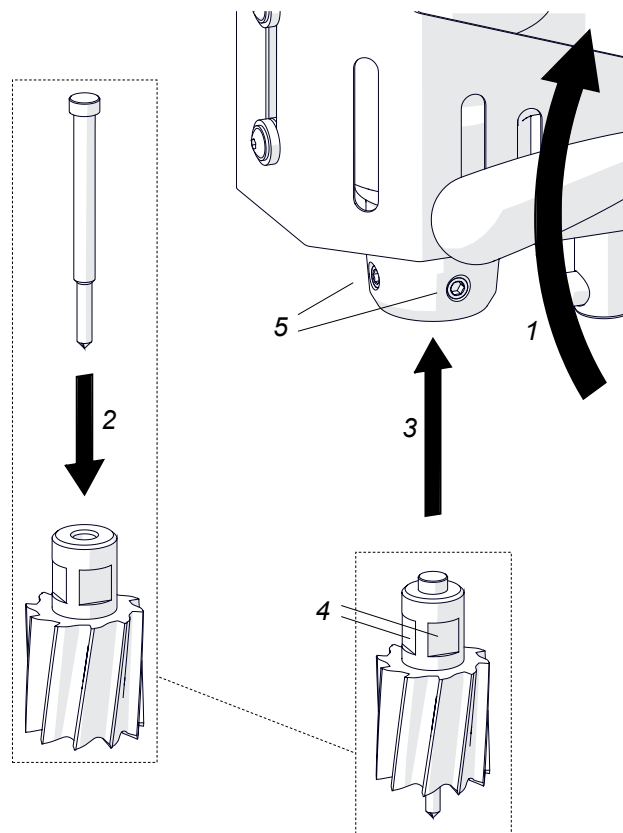
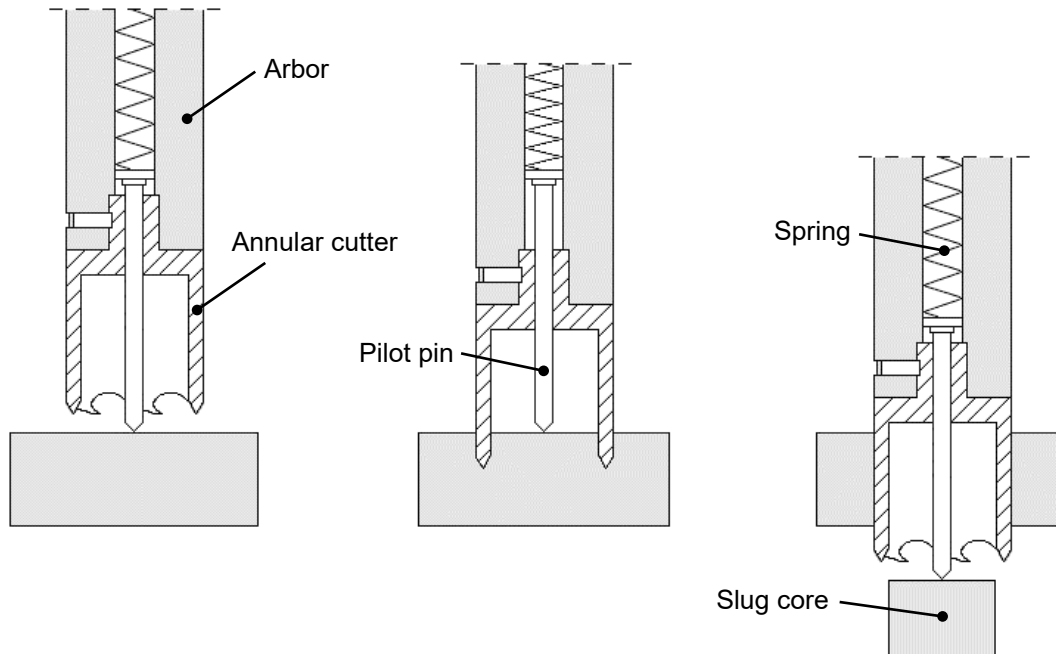


Fig. 1. Installing the annular cutter

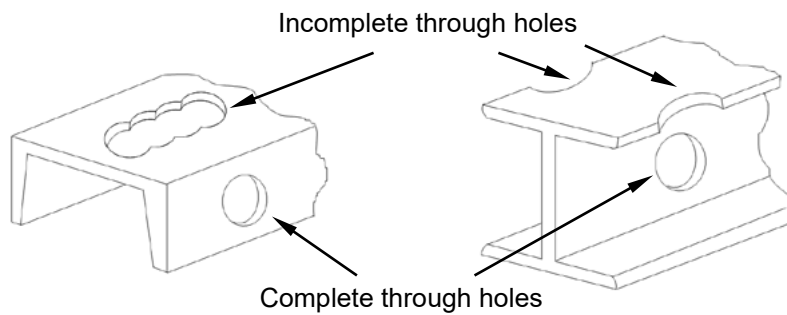


Fig. 2 shows how annular cutters work. As the cutter drills into the workpiece, the pilot pin retracts and the coolant gets into the cutter. After the drilling, the tightened spring causes the slug core to be pushed out.



**Fig. 2.** Annular cutters work

Annular cutters are designed to drill only through holes shown in Fig. 3. When drilling incomplete through holes the pilot pin must not be used.

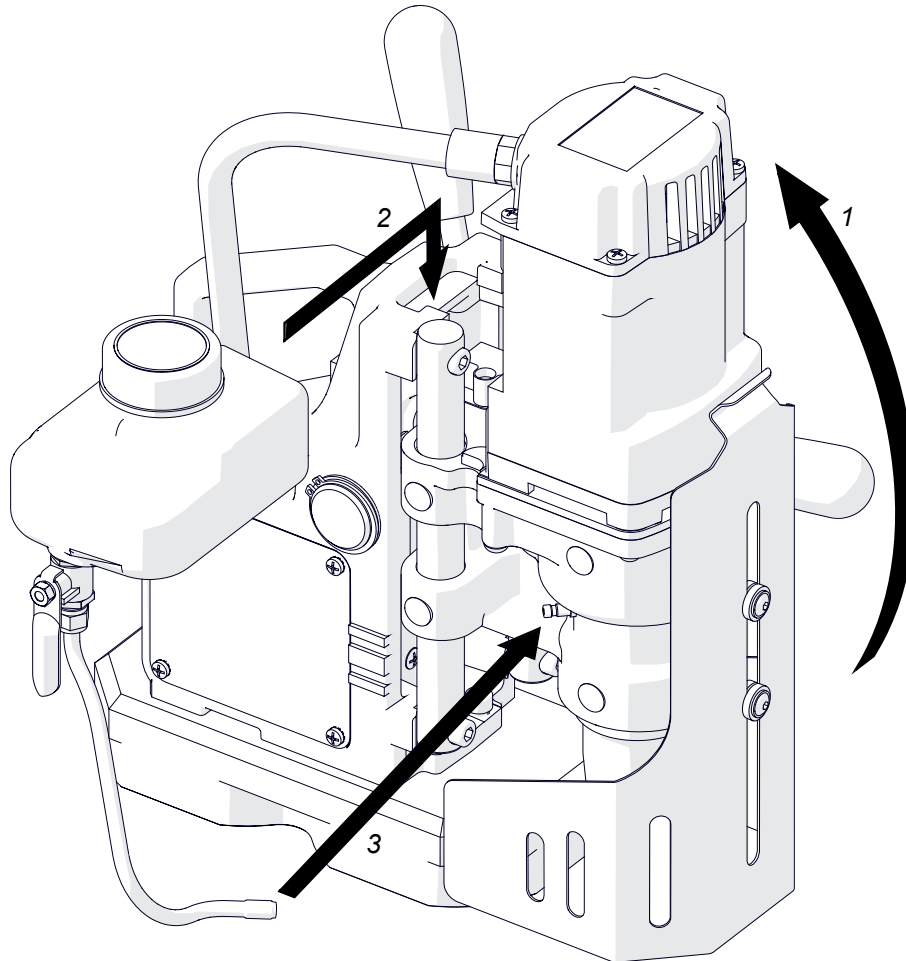


**Fig. 3.** Types of holes to drill with annular cutters

### 3.2. Installing and removing the cooling system bottle

Rotate the handles (1, Fig. 4) to raise the motor. Next, place the cooling system bottle on the machine (2), and then attach the bottle hose to the hose fitting (3).

To remove the bottle, first detach the hose from the fitting and raise the motor.



**Fig. 4.** Installing the cooling system bottle

### **3.3. Preparing**

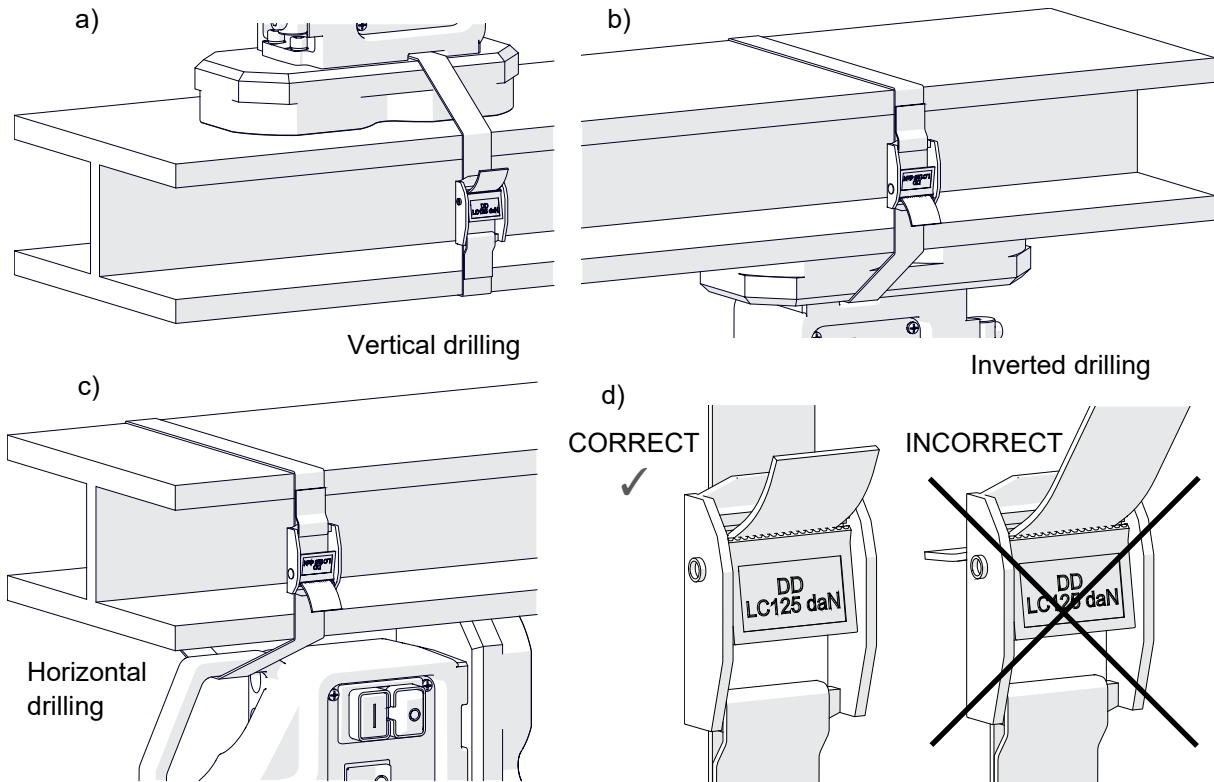
Before starting, clean steel parts, including the arbor, from anti-corrosion coating used to preserve the machine for storage and transport.

Screw the handles into the feed shaft. The machine can allow use by a left-handed person or in places hard to reach. To do this, install the feed shaft so that the handles are on the opposite side of the machine.

Select the proper annular cutter based on the hole size desired. Use a clean and dry cloth to wipe the arbor and cutter. Then, install the cutter into the arbor as described before.

Place the machine on a flat ferromagnetic workpiece with the thickness of at least 3 mm (1/8"). The workpiece must be free of rust, paint, chips, or dirt that decrease the holding force. The force value depends also on the type, thickness, flatness, and roughness of the surface, fluctuations of the supply voltage, and the wear of the base bottom. Then, connect the machine to the power source, and set the MAGNET switch to 'I' to turn on the clamping. Some types of steel are non-ferromagnetic (do not conduct magnetic flux) and the machine cannot clamp onto them.

Use the safety strap to prevent the machine from falling and avoid possible injury to the operator if the machine loses the clamping. To protect the machine, attach it to a fixed structure by fastening the strap through the opening (Fig. 5a, 5b). When working in horizontal position fasten the strap to the carrying handle (Fig. 5c). The strap must be tight, not twisted, and must be replaced every single time the machine comes loose from steel and hangs on the strap. Never insert the strap into the buckle from the front (Fig. 5d).



**Fig. 5.** Protecting the machine from falling by using the safety strap

Rotate the handles to the left to place the cutter above the workpiece.

When working in the position from Fig. 5a, fill the cooling system bottle with coolant. Do not use only water as the coolant. However, using emulsions made from water and drilling oil is adequate. Make sure that the cooling system works properly. To do this, slightly loosen the bottle cap and use the lever to open the valve. Next, rotate the handles to the left to initially apply pressure on the pilot pin. The coolant should fill the system and start flowing from the cutter.

The cooling system works by gravity. Thus, when working in inverted or horizontal positions (Fig. 5b, 5c) use coolants under pressure or in the form of spray or paste.

### 3.4. Drilling

Start the motor with the green MOTOR button. Then, slowly rotate the handles to the left to lower the cutter to the workpiece, and start drilling. Drill the hole in one pass.



**After the annular cutter drills through the workpiece, the slug core is pushed out with a large force.**

Proceed with caution when drilling in plates with a thickness less than 6 mm (1/4"). The holding force depends on workpiece thickness and is much lower for thin plates.



**If the machine loses contact with the workpiece, the motor will still be running. Then, promptly press the red MOTOR button to turn off the motor.**

After the drilling depth exceeds 40 mm (1-9/16"), retract the cutter above the workpiece as often as possible. Then, apply the coolant manually (from the bottle) into the drilling area

If the work results in an overload caused by not enough cooling, dull cutter, or too fast feed in relation to the cutter diameter, the machine will stop. Then, to restart the machine, retract the cutter from the workpiece, and then press the green MOTOR button.

After the hole is made, retract the cutter from the workpiece and press the red MOTOR button to stop the motor. Before moving the machine to another place, set the MAGNET switch to 'O' to turn off the base.

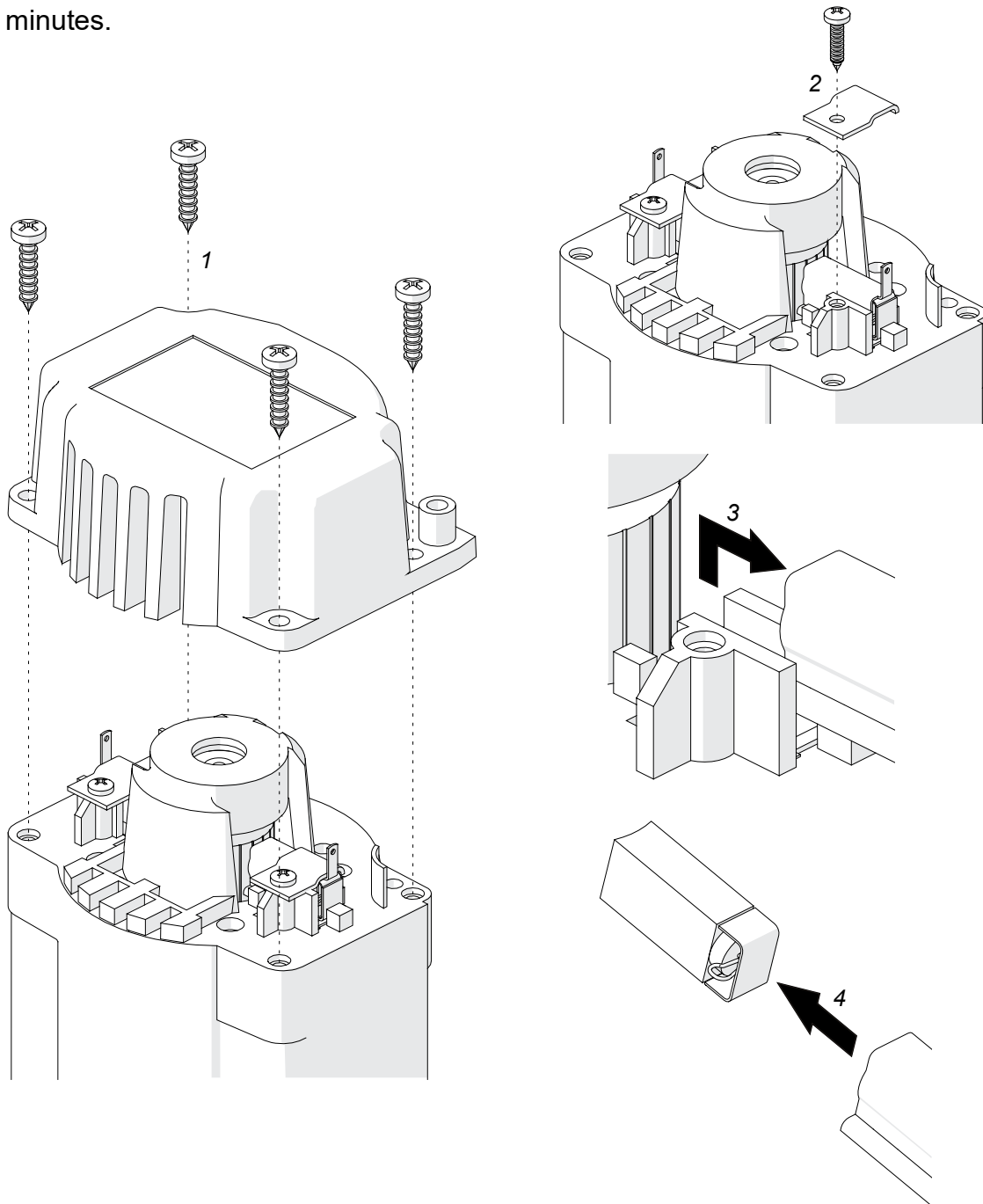
After the work is finished, turn off the motor and base, and then unplug the machine from the power source. Next, clean chips and excess coolant from the machine and cutter, and then remove the machine from the worksite.

Tighten the bottle cap, close the valve, and then press the pilot pin to remove the coolant remaining within the cooling system. Before inserting the machine into the box, wear gloves to remove the cutter from the arbor.

### 3.5. Replacing the motor brushes

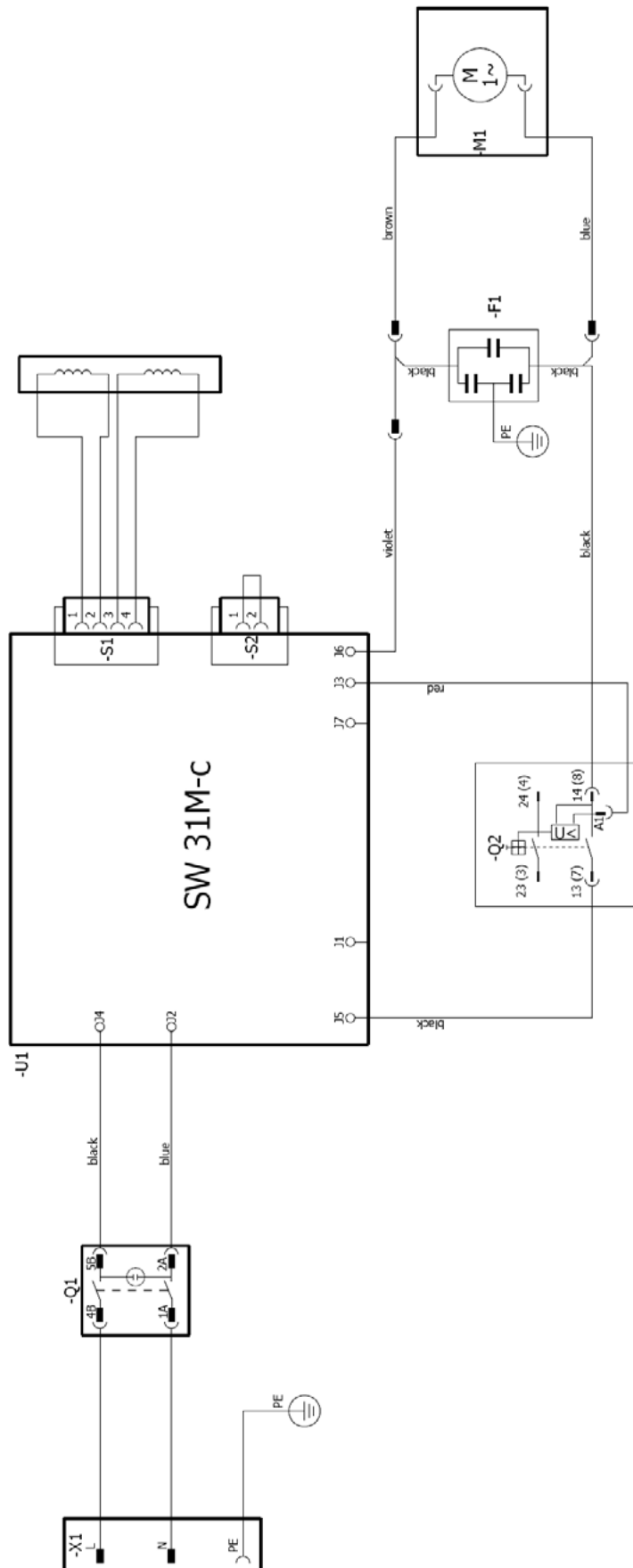
Check the condition of the carbon brushes every 100 work hours. To do this, unplug the machine from the power source, and unscrew the cover (1, Fig. 6). Next, unscrew the pressing plate (2), and then remove the brush holder (3) and the brush (4). If the length of the brush is less than 5 mm (3/16"), replace both brushes with new ones.

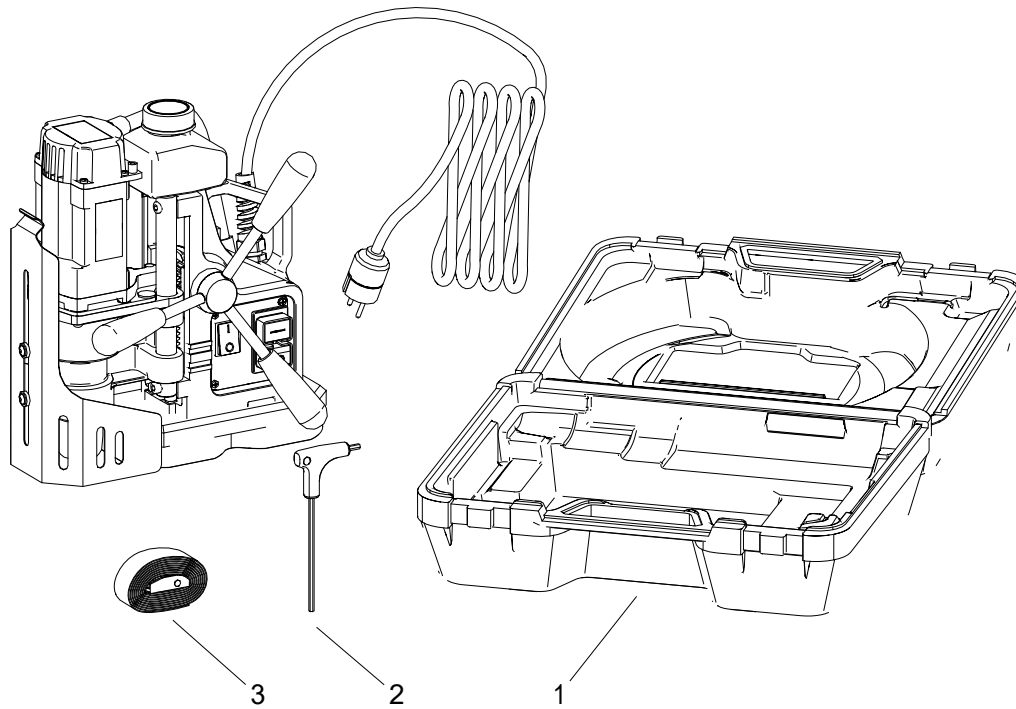
To install brushes, proceed in reverse order. Then, run the motor without load for 20 minutes.



**Fig. 6.** Replacing the brushes

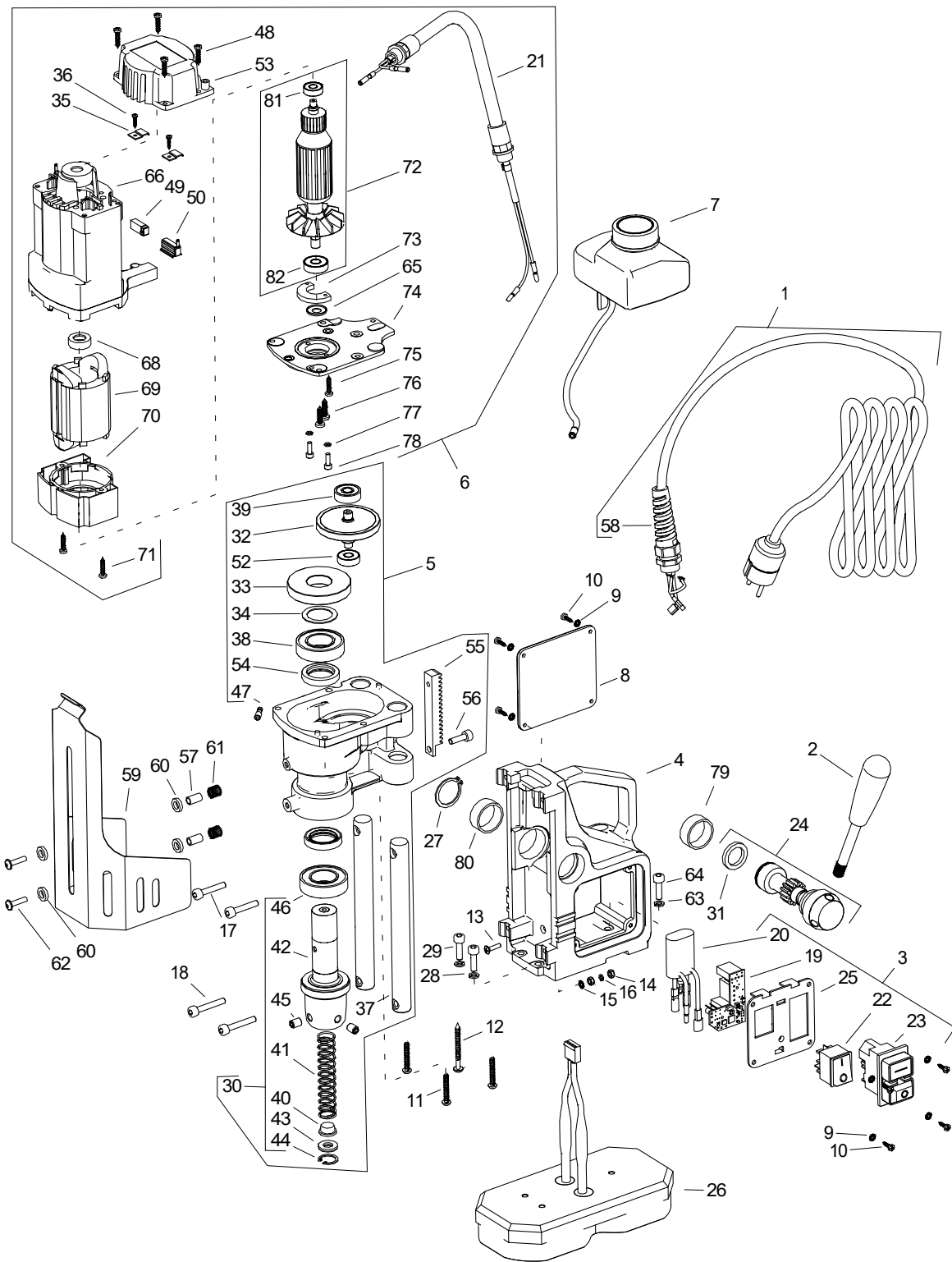
## 4. WIRING DIAGRAM





ITEM	PART NUMBER	DESCRIPTION	Q-TY
1	SKR-000010	PLASTIC BOX	1
2	KLC-000036	4 MM HEX WRENCH WITH HANDLE	1
3	PAS-000007	SAFETY STRAP 250	1





ITEM	PART NUMBER	DESCRIPTION	Q-TY
1	SZN-0212-10-02-00-2	POWER CORD 230V 3x1.5 WITH STRAIN RELIEF ASSY (EU)	1
1	SZN-0212-10-02-00-1	POWER CORD 230V 3x1 WITH STRAIN RELIEF ASSY (AU)	1
1	SZN-0075-00-51-00-5	POWER CORD 120V 3x2.08 WITH STRAIN RELIEF ASSY (US)	1
1	PWD-0212-10-02-00-6	POWER CORD 230V 3x1.5 WITH STRAIN RELIEF ASSY (INDIA)	1
2	DZW-0212-12-00-00-0	SPOKE HANDLE WITH KNOB ASSY	3
3	PNL-0440-27-00-00-1	CONTROL PANEL ASSY - 230V	1
3	PNL-0440-27-00-00-0	CONTROL PANEL ASSY - 120V	1
4	KRP-0440-01-01-00-3	BODY ASSY	1
5	RDK-0440-02-00-00-3	GEARBOX ASSY	1
6	SLN-0440-03-00-00-5	MOTOR ASSY - 230V	1
6	SLN-0440-03-00-00-3	MOTOR ASSY - 120V	1
7	UKL-0440-05-00-00-1	COOLANT BOTTLE ASSY	1
8	SCN-0440-07-00-00-0	BODY COVER	1
9	PDK-000161	EXTERNAL TOOTH LOCK WASHER 3.7	8
10	WKR-000415	CROSS RECESSED PAN HEAD SELF-TAPPING SCREW 3.5x13	8
11	WKR-000302	SELF-TAPPING SCREW 5x30	3
12	WKR-000237	SELF-TAPPING SCREW 5x50	1
13	WKR-000112	CROSS RECESSED OVAL COUNTERSUNK HEAD SCREW M4x16	1
14	NKR-000013	HEX NUT M4	2
15	PDK-000060	EXTERNAL TOOTH LOCK WASHER 4.3	1
16	PDK-000043	SPRING WASHER 4.1	1
17	SRB-000118	HEX SOCKET HEAD CAP SCREW M6x30	2
18	SRB-000123	HEX SOCKET HEAD CAP SCREW M6x35	2
19	STR-0257-04-03-00-9	ELECTRONIC CONTROLLER SW 30M-C - 230V	1
19	STR-0257-04-03-00-8	ELECTRONIC CONTROLLER SW 30M-C - 120V	1
20	FLT-0257-04-12-00-0	INTERFERENCE ELIMINATOR	1
21	PWD-0440-03-01-00-0	MOTOR CORD ASSY	1
22	PNK-000013	MAGNET SWITCH	1
23	WLC-000007	START-STOP SWITCH – 230V	1
23	WLC-000005	START-STOP SWITCH – 120V	1
24	WLK-0271-01-02-00-1	PINION SHAFT ASSY	1
25	MSK-0300-04-01-00-1	PANEL PLATE ASSY	1
26	PDS-0440-17-00-00-0	ELECTROMAGNETIC BASE	1
27	PRS-000019	EXTERNAL RETAINING RING 28z	1
28	PDK-000046	SPRING WASHER 6.1	2
29	SRB-000114	HEX SOCKET HEAD CAP SCREW M6x20	2
30*	WRZ-0272-02-02-00-0	SPINDLE ASSY	1
31	PRS-0440-11-02-00-0	BRAKE RING 20x28x3,9	1
32	WLK-0271-02-03-00-1	PINION SHAFT ASSY	1
33*	KOL-0271-02-05-00-3	GEAR z52	1
34*	PDK-000264	DISTANCE RING	1
35	PLY-0271-03-07-00-0	BRUSH HOLDER PRESSURE PLATE	2
36	WKR-000326	CROSS RECESSED COUNTERSUNK HEAD SHEET METAL SCREW 2.9x13	2
37	PRT-0440-02-02-00-1	GUIDE	2
38*	LOZ-000047	BALL BEARING 25x47x12	1
39	LOZ-000072	BALL BEARING 9x26x8	1
40	WYP-0139-00-02-00-1	PLUNGER	1
41	SPR-0271-02-02-03-0	SPRING	1
42*	KRP-0272-02-02-01-0	SPINDLE BODY	1
43	USZ-0279-02-01-06-0	SEAL	1
44	PRS-000009	INTERNAL RETAINING RING 19w	1
45	WKR-000059	HEX SOCKET SET SCREW WITH FLAT POINT M8x10	2

ITEM	PART NUMBER	DESCRIPTION	Q-TY
46*	LOZ-000048	BALL BEARING 25x47x12	1
47	KNC-0234-00-10-00-0	HOSE FITTING	1
48	WKR-000241	SELF-TAPPING SCREW 4x20	4
49	SCZ-000008	MOTOR BRUSH 6x9x17	2
50	SCT-0271-03-06-00-0	BRUSH HOLDER	2
52	LOZ-000053	BALL BEARING 8x22x7	1
53	PKR-0440-03-02-00-1	MOTOR COVER	1
54*	PRS-000070	SEAL 25x37x7	2
55	LST-0271-02-01-02-1	GEAR RACK	1
56	SRB-000111	HEX SOCKET HEAD CAP SCREW M6x18	1
57	TLJ-0399-06-00-00-0	BOTTOM SLEEVE	2
58	DLW-000007	CABLE GLAND WITH STRAIN RELIEF PG11	1
59	OSL-0440-04-00-00-2	CHIP GUARD ASSY	1
60	PDK-000151	NYLON WASHER 8.1x14x3	4
61	SPR-000030	PUSH SPRING	2
62	WKR-000395	HEX SOCKET ROUND HEAD SCREW WITH FLANGE M5x20	2
63	PDK-000176	EXTERNAL TOOTH LOCK WASHER 6.3	1
64	SRB-000113	HEX SOCKET HEAD CAP SCREW M6x20	1
65	USZ-000055	SEAL	1
66	OBD-0272-03-01-01-1	FILED FRAME	1
68	WKL-000001	BEARING INSERT 19x7.5	1
69	STN-000040	STATOR - 220V	1
69	STN-000039	STATOR - 120V	1
70	OSL-0271-03-01-02-0	FAN GUARD	1
71	WKR-000241	SCREW FOR PLASTIC 4x20	1
72	WRN-000062	ROTOR - 220V	1
72	WRN-000063	ROTOR - 120V	1
73	PRS-0271-03-02-02-1	GEARBOX COVER RING	1
74	PKR-0440-03-03-00-1	GEARBOX COVER	1
75	WKR-000083	CROSS RECESSED PAN HEAD TAPPING SCREW	1
76	WKR-000301	CROSS RECESSED PAN HEAD SELF-TAPPING SCREW 5x14	2
77	PDK-000042	SPRING WASHER 4.1	2
78	SRB-000062	HEX SOCKET HEAD CAP SCREW M4x12	2
79	TLJ-0440-99-00-00-0	SLIDE BUSHING WITH BEVEL 28x32x12	1
80	TLJ-000034	SLIDE BUSHING 28x32x12	1
81	LOZ-000210	BALL BEARING 7x16x6	1
82	LOZ-000209	BALL BEARING 9x24x7	1
-	SMR-000001	GREASE	0.055kg
-*	PWD-271-04-06-00-0	CONNECTING CABLE - FILTER	1
-*	ZLC-000027	JUMPER CONNECTOR	1

\* - before you order read the service manual