

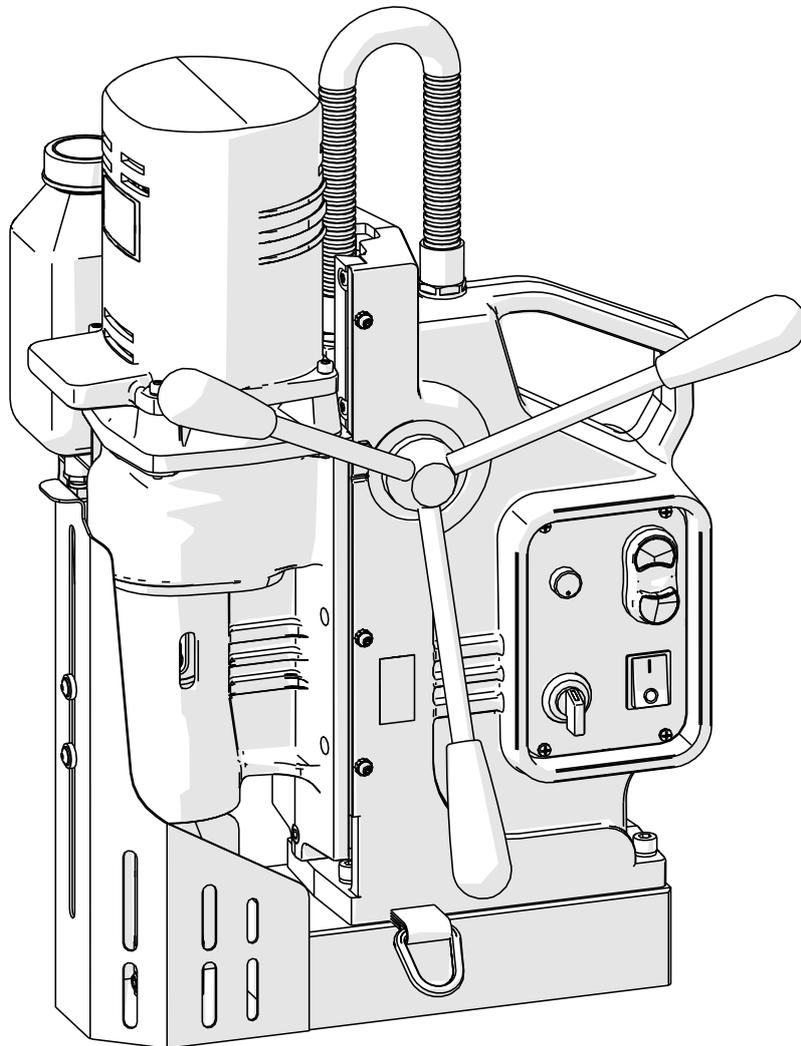


The tools of innovation.

OPERATOR'S MANUAL

D3X R/L / D3XS R/L

DRILLING MACHINE WITH ELECTROMAGNETIC BASE



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1. GENERAL INFORMATION

1.1. Application

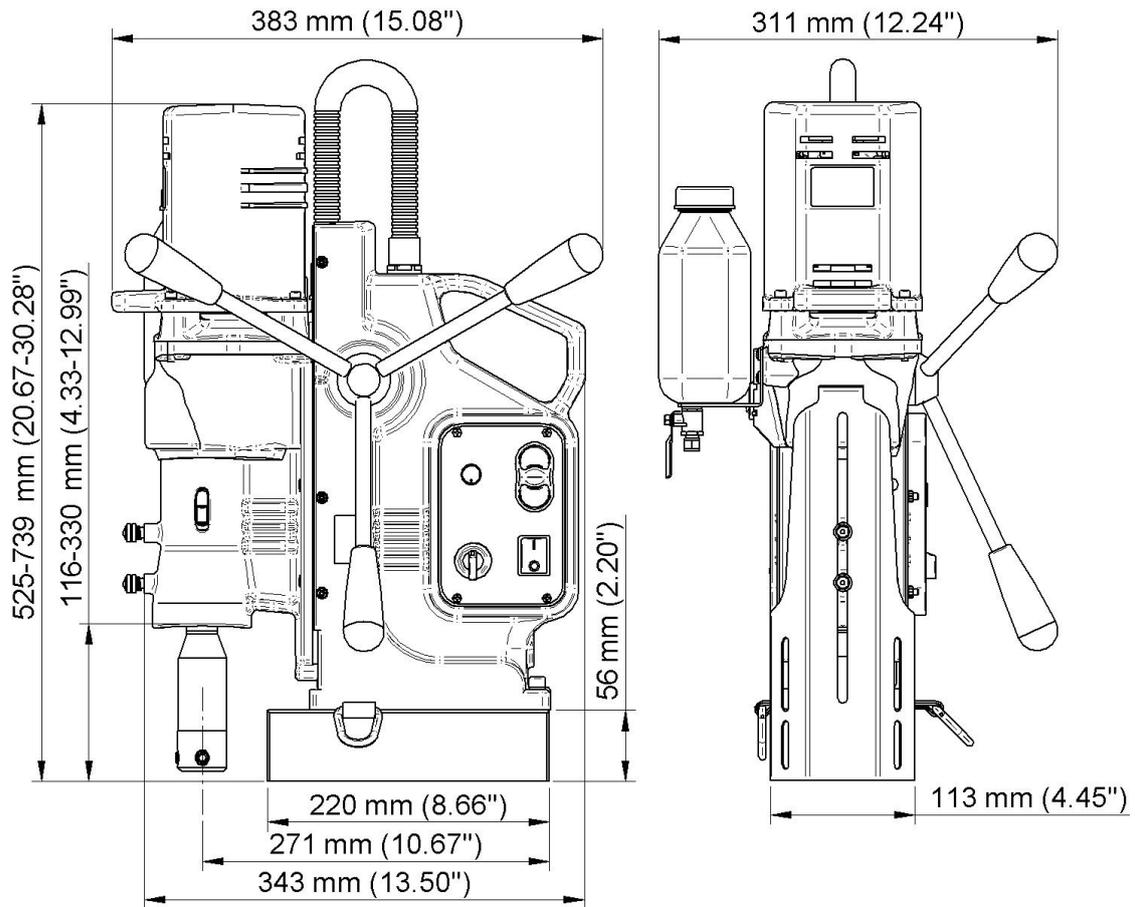
The D3X(S) R/L is a drilling machine with electromagnetic base designed to drill holes using annular cutters or twist drills. Additionally, the rotation direction switch allows for direct tapping or tapping with the use of a holder with axial compensation.

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

1.2. Technical data

Voltage	~ 110–120 V, 50–60 Hz ~ 220–240 V, 50–60 Hz
Total power	1800 W
Motor power	1650 W
Spindle shank	MT3
Tool holder	Weldon 19 mm (0.75")
Maximum drilling diameter with annular cutter	12–75 mm (0.47–2.95")*
Maximum drilling diameter with twist drill	8–32 mm (0.31–1.26")
Maximum drilling depth with annular cutter	76 mm (3")
Maximum drilling depth with twist drill	76 mm (3")
Maximum tap size	M24 (G3/4")
Electromagnetic base holding force (surface with the thickness of 22 mm and roughness $R_a = 1.25$)	19 500 N
Electromagnetic base dimensions	110 mm × 220 mm × 56 mm 4.3" × 8.7" × 2.2"
Slider stroke	225 mm (8.9")
Rotational speed (under load)	80–160 rpm (gear I) 210–420 rpm (gear II)
Minimum workpiece thickness	10 mm (0.39")
Protection class	I
Noise level	85 dB
Required ambient temperature	0–40 °C (32–104 °F)
Weight	27 kg (60 lbs)

* Above 60 mm (2.3") the UCW-0191-00-00-00-0 arbor is required.



1.3. Design

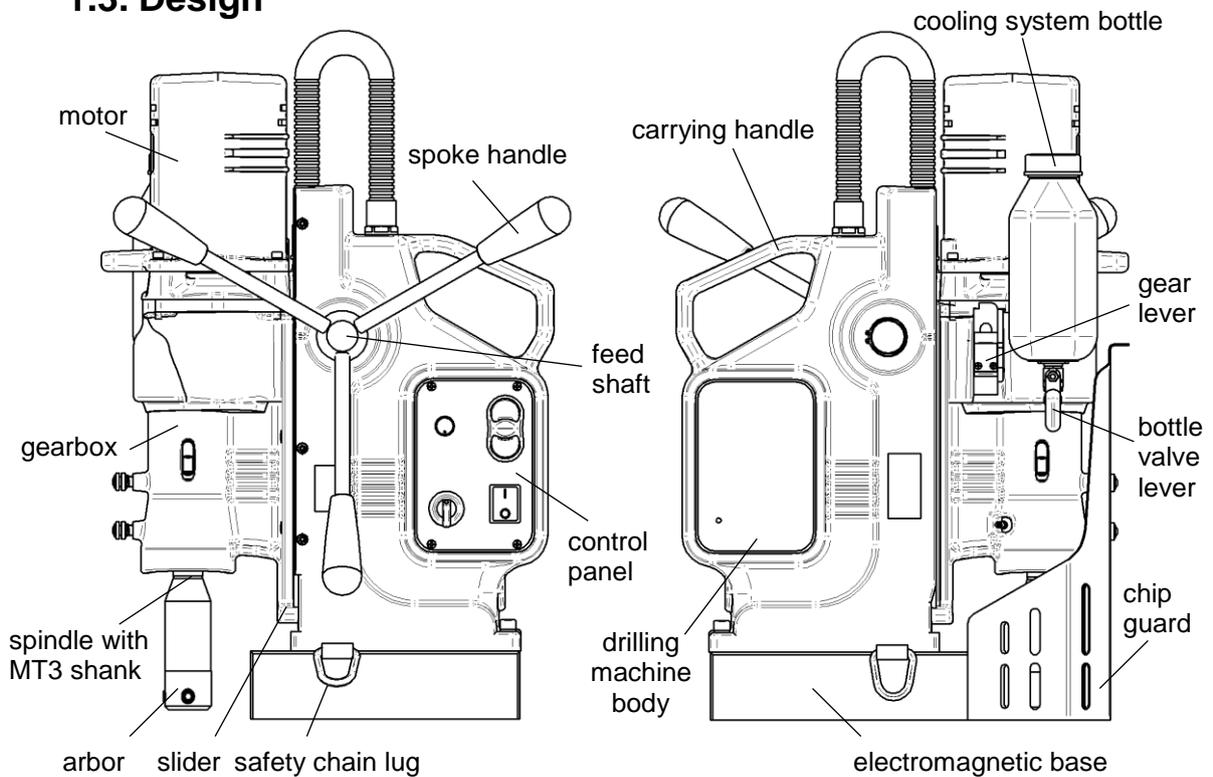


Figure 1. D3X R/L design

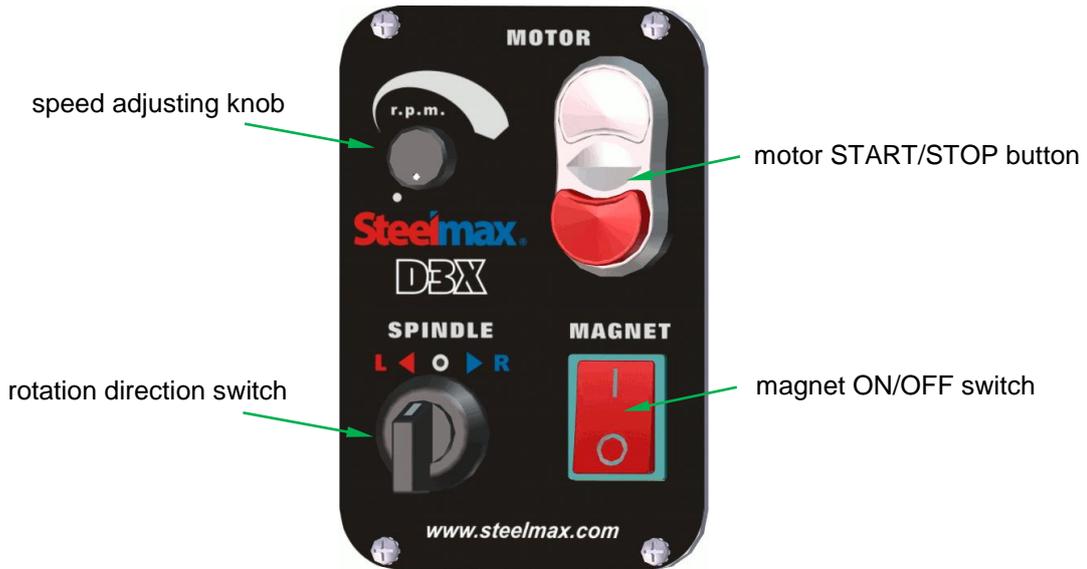
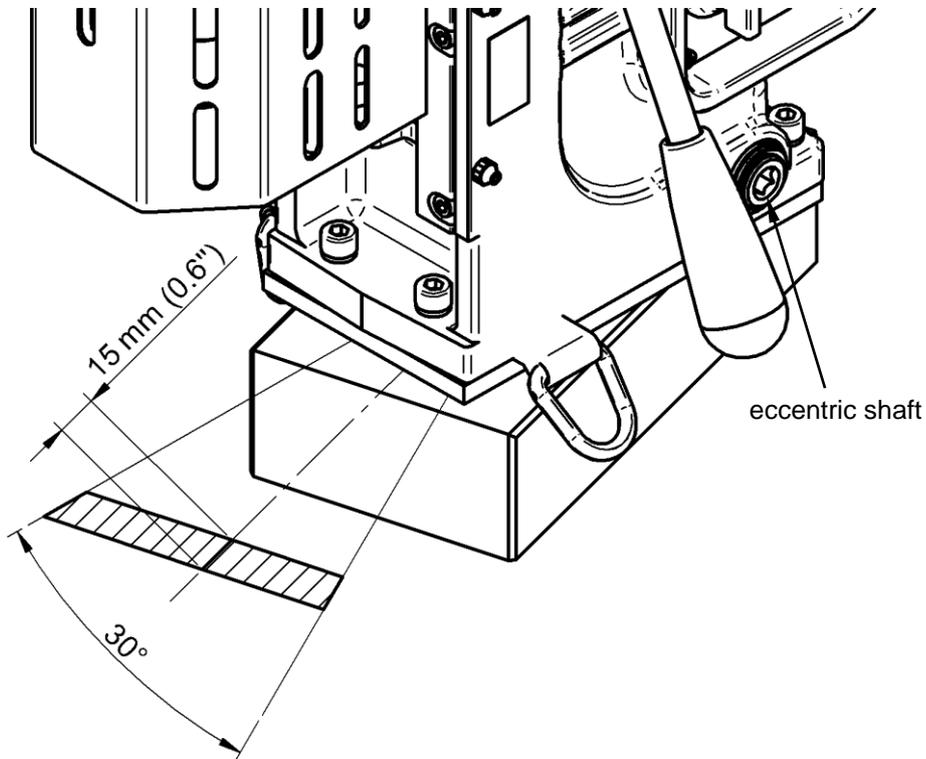


Figure 2. Control panel design

1.4. D3XS special function

The D3XS R/L has an ability to turn the upper machine part in the range of $\pm 15^\circ$ and to move it out up to 15 mm (0.6") without moving the electromagnetic base. To fix the drilling machine in chosen position, lock the eccentric shaft using the supplied 10 mm hex wrench.



1.5. Equipment included

The D3X(S) R/L is supplied in a metal box with complete standard equipment. The included equipment consists of:

	D3X R/L	D3XS R/L
• Drilling machine	1 unit	1 unit
• Metal box	1 unit	1 unit
• Spoke handle	3 units	3 units
• Cooling system	1 unit	1 unit
• Arbor with 19 mm (0.75") Weldon shank	1 unit	1 unit
• Chip guard	1 unit	1 unit
• Safety chain	1 unit	1 unit
• Drill drift	1 unit	1 unit
• 2.5 mm hex wrench	1 unit	1 unit
• 4 mm hex wrench	1 unit	1 unit
• 5 mm hex wrench	1 unit	1 unit
• 6 mm hex wrench	1 unit	1 unit
• 10 mm hex wrench	–	1 unit
• 8 mm flat wrench	1 unit	1 unit
• Operator's Manual	1 unit	1 unit

2. SAFETY PRECAUTIONS

1. Before beginning, read this Operator's Manual and complete proper occupational safety and health training.
2. The machine must be used only in applications specified in this Operator's Manual.
3. The machine must be complete and all parts must be genuine and fully operational.
4. The electrical supply specifications must conform to those specified on the rating plate.
5. The machine must be plugged into a properly grounded (earthed) socket-outlet. The electrical supply 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 made in II protection class.
6. Never carry the machine by the cord or pull it to disconnect the plug from the power outlet as this may damage the power cord and result in electric shock.
7. Transport and position the machine using the carrying handle, with the magnet switch set to position 'O'.
8. Untrained bystanders must not be present in the vicinity of the machine.
9. Before beginning, check the condition of the machine and electrical supply, including the power cord, plug, control panel components, and milling tools.
10. Keep the machine dry. Exposure to rain, snow, or frost is prohibited.
11. Never stay below the machine placed at heights.
12. Keep the work area well lit, clean, and free of obstacles.
13. Mount the annular cutter securely using the set screws. Remove adjusting keys and wrenches from the work area before connecting the plug to the power outlet.
14. Never use dull or damaged tools.
15. Mount and dismount tools using protective gloves and with the power cord unplugged from the power outlet.
16. Never use annular cutters without the pilot pin except for establishing incomplete through holes. Never use arbors without the spring.
17. Never use the machine in the vicinity of flammable liquids or gases, or in explosive environments.
18. Using the machine on surfaces that are rusty, covered with a thick paint layer, uneven, or not stiff is prohibited.
19. Do not start operation in the case of excessive slider clearance.

20. Use the safety chain in all operating positions. The chain must not be loose and should be fastened to a securely fixed element by catching the chain either on the lugs or on the carrying handle. Wrap the chain around the workpiece if possible.
21. Before every use, inspect the machine to ensure it is not damaged. Check whether any part is cracked or improperly fitted. 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 operation. Do not wear loose clothing.
23. Operating on surfaces with thickness lower than 10 mm (0.4") is not recommended as the holding force is significantly reduced.
24. The entire surface of the electromagnetic base bottom must be in full contact with the workpiece. Before every positioning, wipe the workpiece with coarse-grained sandpaper.
25. Do not touch moving parts or chips formed during milling. Prevent objects from being caught in moving parts.
26. After every use, remove metal chips and coolant remainder from the machine. Do not remove chips with bare hands.
27. Maintain the machine and tools with care. Cover steel parts with a thin grease layer to protect them against rust when not in use for any extended period.
28. Perform maintenance only with the machine unplugged from the power outlet.
29. Perform repairs only in a service center appointed by the seller.
30. If the machine falls on a hard surface, from height, is wet, or has any other damage that could affect the technical state of the machine, stop the operation and immediately send the machine to the service center for inspection and repair.
31. Remove from the worksite and store in a secure and dry location when not in use, previously removing the tool from the holder.

3. STARTUP AND OPERATION



All safety precautions must be closely observed.

3.1. Mounting the arbor (or twist drill)

The machine allows mounting either the supplied 19 mm (0.75") Weldon shank arbor for fixing an annular cutter or a twist drill into the MT3 spindle shank. Before proceeding, unplug the power cord from power the outlet. Raise the chip guard and rotate the spoke handles to raise the slider. Clean the arbor (twist drill) and the inside of the spindle using a cotton cloth. Wear gloves and insert the arbor (drill) into the spindle with the fin directed upward and rotate the arbor (drill) to match the fin with the slot. Then, hit the arbor (drill) from the bottom to mount it into the spindle.

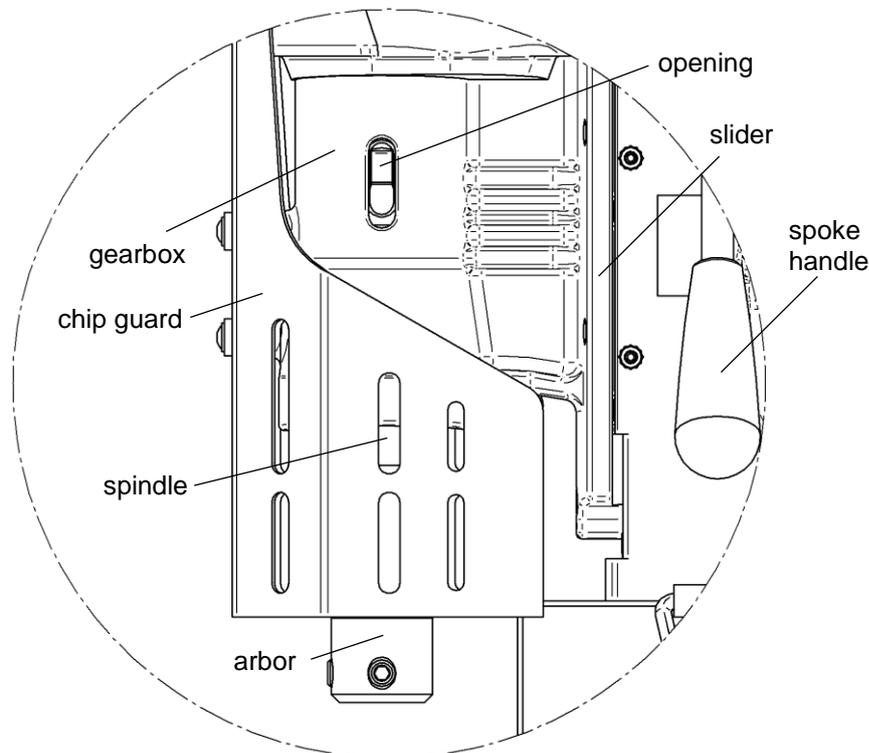


Figure 3. Arbor after mounting

To dismount, rotate the spindle to match the openings in the spindle and gearbox. Insert the drill drift into the opening above the arbor (drill). Wear gloves and hold the arbor (drill) with one hand, and hit the drift using a hammer, paying attention not to damage the arbor (drill). Gently remove the arbor (drill) from the spindle socket and remove the drill drift.

3.2. Mounting and operating the annular cutter

Mount the arbor as described before and insert the proper pilot pin into the annular cutter (Figure 4). Then, wear gloves and mount the cutter into the arbor, aligning the flats on the cutter shank with the set screws, and tighten the screws with the supplied 5 mm hex wrench. To dismount the cutter, proceed in reverse order.

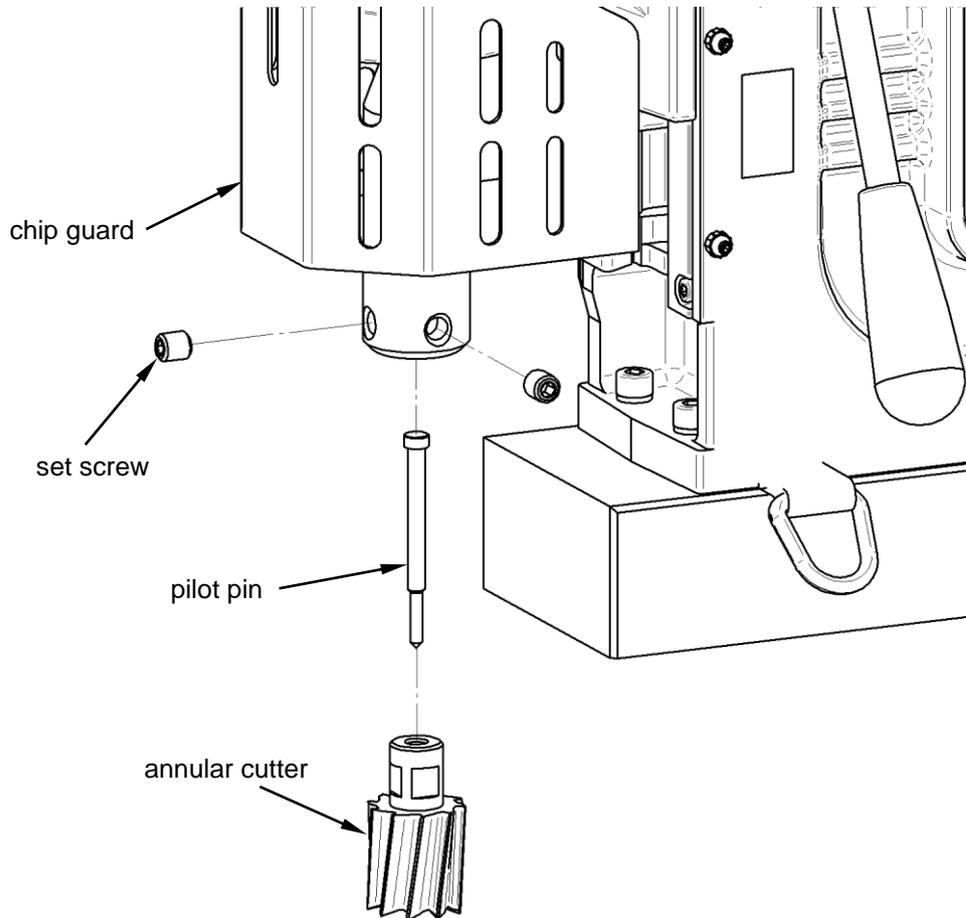


Figure 4. Mounting the annular cutter

Figure 5 shows how annular cutters operate. As the cutter penetrates the workpiece, the pilot pin recesses into the arbor and tightens the spring. As a result, after the cutter goes through the entire thickness, the slug core is expelled from the cutter.

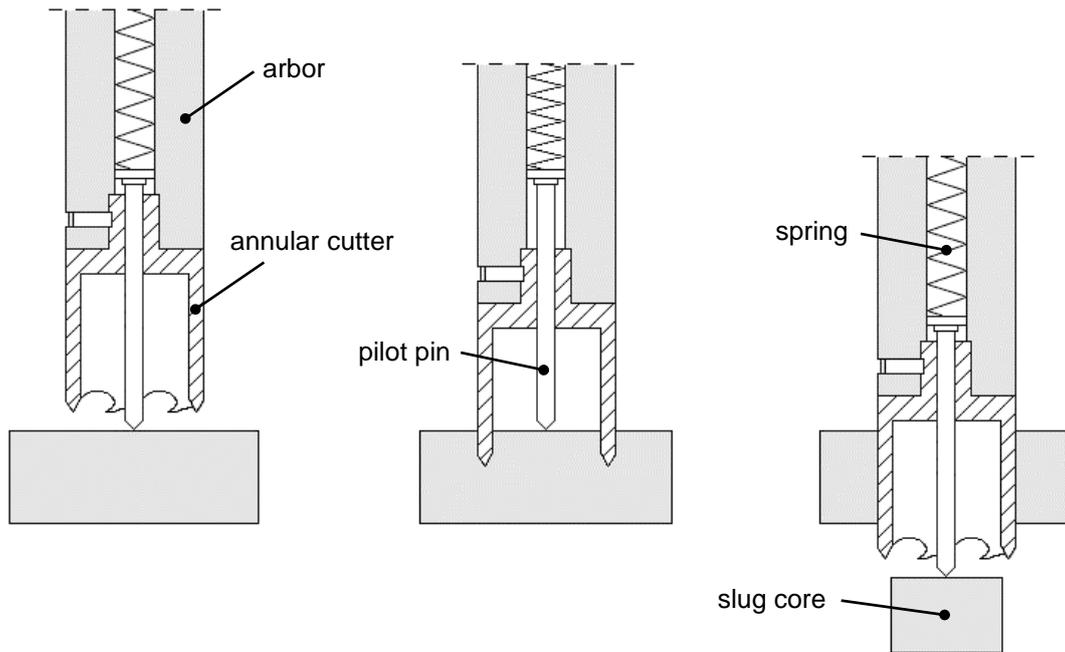


Figure 5. Annular cutters operation

Annular cutters are designed to establish only through holes shown in Figure 6. During establishing incomplete through holes the pilot pin must not be used.

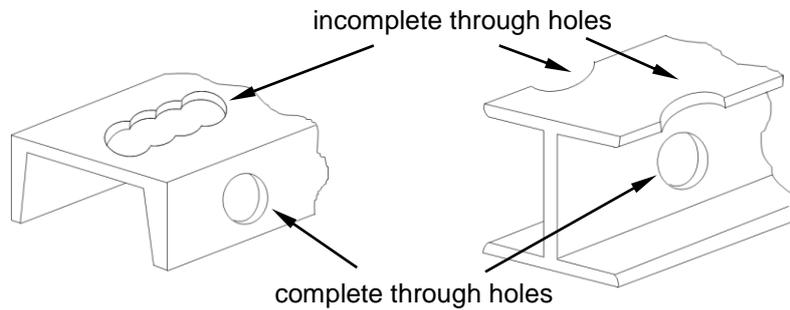


Figure 6. Types of holes to establish with annular cutters

3.3. Mounting the screw tap

Unplug the drilling machine from the power outlet and wear gloves. Use the supplied drill drift to knock out the arbor (drill) from the drilling machine spindle. Mount a holder for tapping with 1- or 2-axis compensation (not included in standard equipment). Mount the tap no. 1 into a proper adapter and then mount the adapter into the compensation holder. Taps with a conical shank can be mounted directly in the spindle or indirectly using a reducer sleeve with MT3 shank.

3.4. Mounting the cooling system

Hang the cooling system on the screws located on the machine side and attach the tip of the cooling hose to the coupling, as shown in Figure 7.

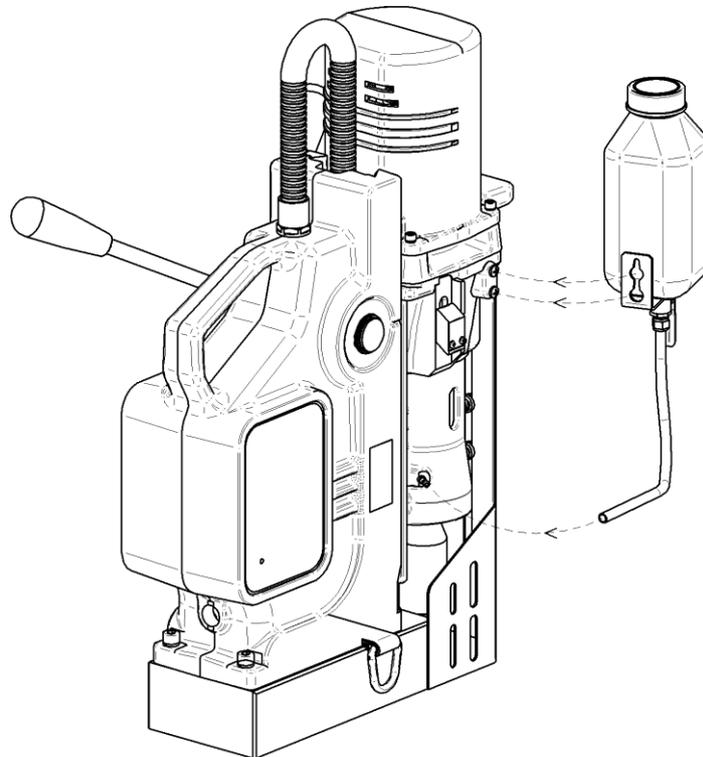


Figure 7. Mounting the cooling system

3.5. Control system of the electromagnetic base holding force

The D3X(S) drilling machine incorporates a holding force control system to monitor the adhesion force of the electromagnetic base to the surface. The force value depends on several factors, such as type, thickness, flatness, and roughness of the surface, presence of paint, rust or other contaminants, supply voltage fluctuations, and the wear of the electromagnetic base bottom.

If the holding force falls below a safe operating value (Figure 8), the control system will not allow the machine to operate. Additionally, the system will prevent the startup of the motor if the machine is placed on a surface thinner than 5 mm (0.2") as such thickness does not provide sufficient holding force. In such a case, the adhesion force will be only about 25 % of the force attained on a standard 22 mm (0.87") flat plate.

If the motor does not continue operation after the green MOTOR button is pushed and released, it means that the control circuit is operating properly and preventing further drilling because of too low adhesion force.

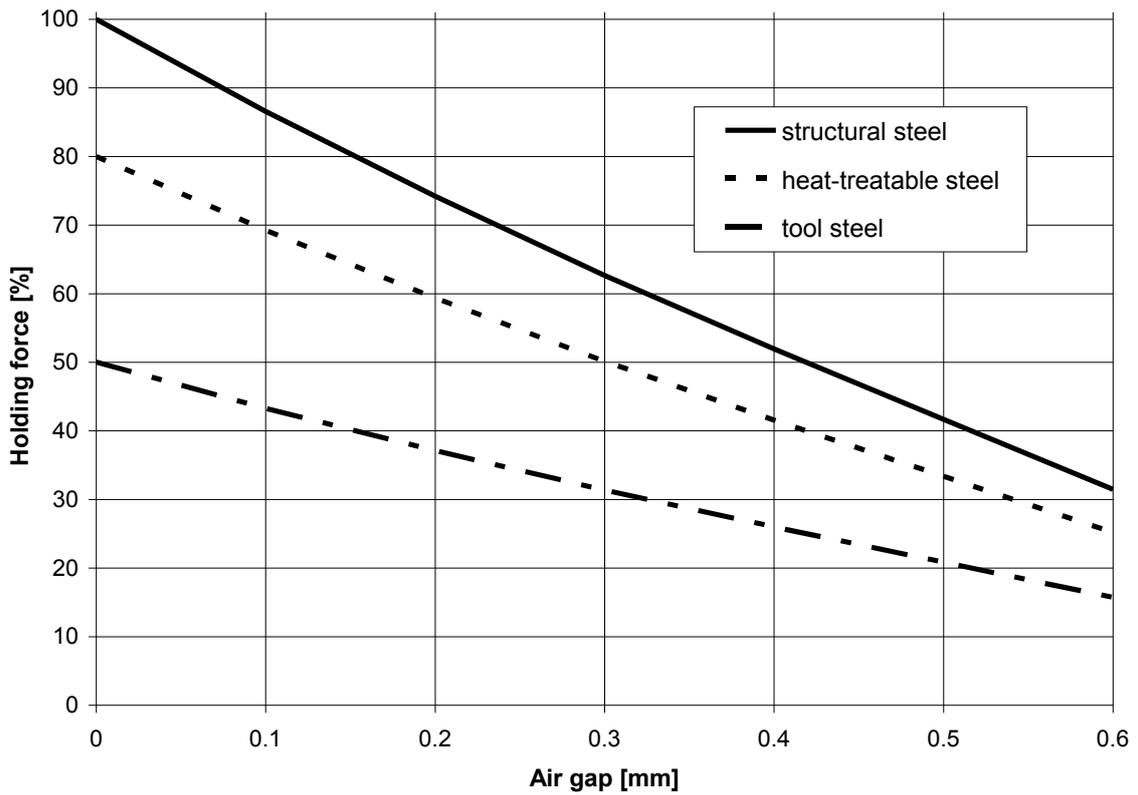
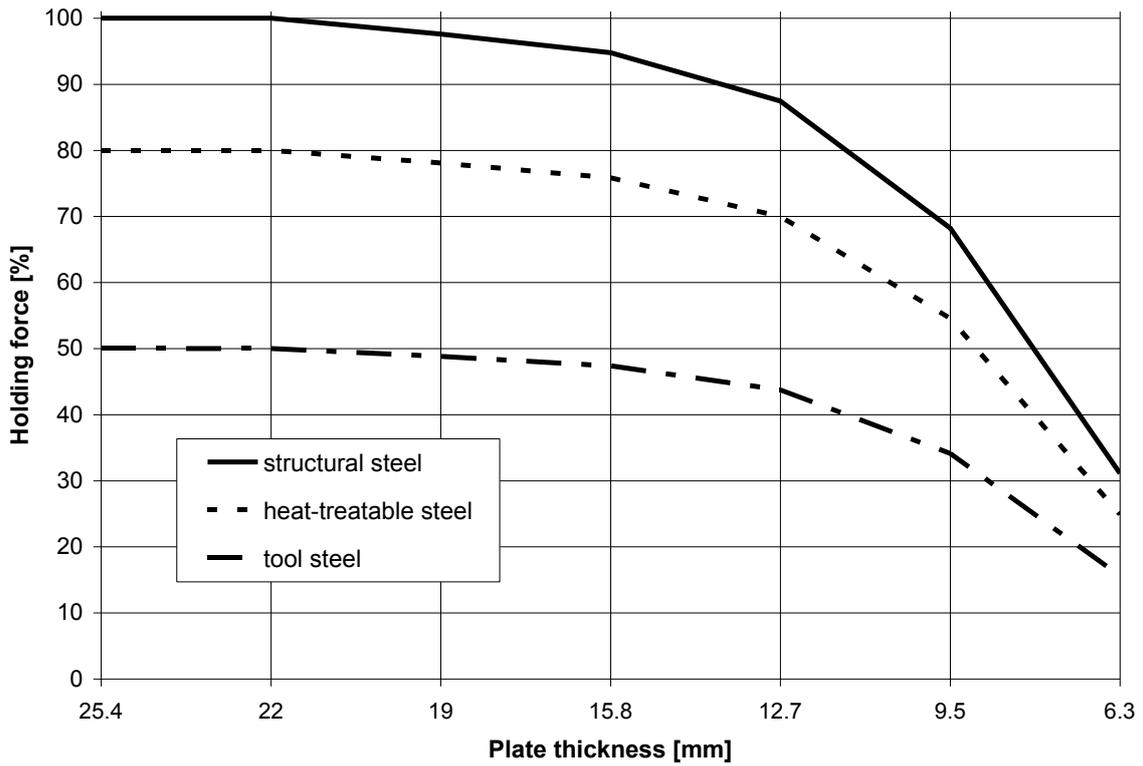


Figure 8. Holding force for a sample base in the function of surface thickness and air gap

3.6. Preparing

Before beginning, clean steel parts, especially the MT3 socket, from grease used to preserve the machine for storage and transport. The feed shaft can be mounted at the opposite side of the drilling machine to allow working in places hard to reach or using the machine by a left-handed person.

Mount a drill, the arbor with an annular cutter, or a holder with a screw tap into the spindle in the manner described before.

Position the machine on a flat ferromagnetic surface (some types of stainless or acid-proof steel do not conduct magnetic flux) with the thickness of least 10 mm (0.4"). The workpiece must be clean, without rust or paint that decrease the holding force of the electromagnetic base.

Then, connect the drilling machine to the power outlet and enable the holding force of the electromagnetic base by toggling the MAGNET switch to position 'I'.

Mount the chip guard to protect yourself from swarf, and protect the machine with the supplied safety chain by catching the chain on the carrying handle or on the lugs. Rotate the spoke handles to place the tip of the drill, pilot pin, or tap above the drilling (tapping) point.

When working with an annular cutter, install the cooling system. Then, fill the cooling system bottle with a cutting fluid, slightly loosen the cap, open the valve using the lever, and initially apply pressure on the pilot pin by rotating the spoke handles counterclockwise. The fluid should fill the system and should begin flowing from the inside of the cutter. Do not use pure water as the cutting fluid, however, using emulsions formed from mixing water and drilling oil is also satisfactory.



The cooling system works by means of gravitation, therefore use a cooling paste when working in horizontal or inverted positions.

3.7. Drilling

With the tool mounted, use the gear lever to set the speed range corresponding to the diameter of the hole to be drilled. Use the following relation among the speed, diameter, and the type of the tool.

Tool	Hole diameter		Rotational speed [rpm]
	[mm]	[in]	
Annular cutter	12–34	0.47–1.34	210–420 (gear II)
	35–75	1.38–2.95	80–160 (gear I)
Twist drill	8–17	0.31–0.67	210–420 (gear II)
	18–32	0.71–1.26	80–160 (gear I)

Set the rotation direction switch to position 'R', and start the motor using the green MOTOR button. Slowly rotate the spoke handles to lower the cutter (or drill) to the workpiece and gently begin drilling. Then, use the speed adjusting knob to set a speed suitable for given process conditions.

When drilling using annular cutters, accomplish holes in one pass. However, drilling holes with diameters of 18–32 mm (0.71–1.26") using twist drills must be performed in two passes. In such the case, drill a hole with the diameter of about 70 % of the final diameter, and then perform the drilling again to finalize the hole to the anticipated diameter.



When the annular cutter goes through the material, the slug core is expelled from the cutter with a significant force.

When drilling holes deeper than 50 mm (2"), retract the tool above the workpiece as often as possible to allow the chips to be expelled from the hole. Additionally, once the tool is retracted, clean the grooves of the tool using a small brush if they are clogged. After exceeding 40 mm (1.6") of the drilling depth, introduce the cutting fluid into the milling area manually (from the bottle).

If the operation results in an overload, caused by not sufficient cooling, using dull tool, or too fast feed in comparison to the tool diameter, the machine will automatically stop. In such a case, to restart the machine, press the red MOTOR button, retract the tool from the workpiece, and then press the green MOTOR button (the electromagnetic base must remain powered).

Once the hole is accomplished, retract the tool from the workpiece, stop the motor using the red MOTOR button, and disable the electromagnetic base by toggling the MAGNET switch to position 'O'.

To improve lubrication, after the work is finished and the motor is stopped toggle the gear to the opposite position (for example: from gear II to I) and run the drilling machine for a while without load. Then, stop the motor and disable the electromagnetic base, unplug the power cord from the power outlet, and clean metal chips and coolant remainder from the machine. Tighten the bottle cap of the cooling system, close the valve, and press the pilot pin to expel the coolant remaining within the system. Before putting the drilling machine into the tool box, disassemble the cooling system and remove the tool from the holder using gloves.

3.8. Tapping

Position the machine in such a way to place the tap no. 1 above the hole with proper diameter. With the hole diameter being too low, tapping may be impossible because of excessive milling resistance and insufficient motor power.

Select the first gear using the gear lever and set the rotation direction switch to position 'R'. Spread grease on the working part of the tap to prevent seizure and extend durability. Then, start the motor with the green MOTOR button and slowly rotate the spoke handles to lower the tap to the workpiece and begin tapping. Once tapping with the tap no. 1 is finished, stop the motor using the red MOTOR button and set the rotation direction switch to position 'L'. Then, press and hold the green MOTOR button to retract the tap from the hole, and release the button once the tap is retracted.

At this stage, replace the tap no. 1 with the tap no. 3 and perform the tapping again, proceeding as described before. To improve lubrication, after the work is finished and the motor is stopped, switch to gear II and run the drilling machine for a while without load. Then, stop the motor and disable the electromagnetic base, and unplug the power cord from the power outlet.

3.9. Adjusting the slider clearance

Check the slider clearance every 50 operational hours or more often as the clearance significantly influences the quality of drilled holes. The clearance is suitable if the slider moves smoothly and does not drop under its own weight.

To adjust the clearance, loosen the mounting screws using the supplied 4 mm hex wrench. Access the screws through the slider holes (Figure 9) by positioning the slider at the appropriate level using the spoke handles. With all the screws loosened, move the slider up and down several times and tighten the central screw, then the adjacent screws, and eventually the utmost screws. Next, tighten the set screws until noticeable resistance, lock them using the supplied 2.5 mm hex wrench and tighten the nuts with the 8 mm flat wrench.

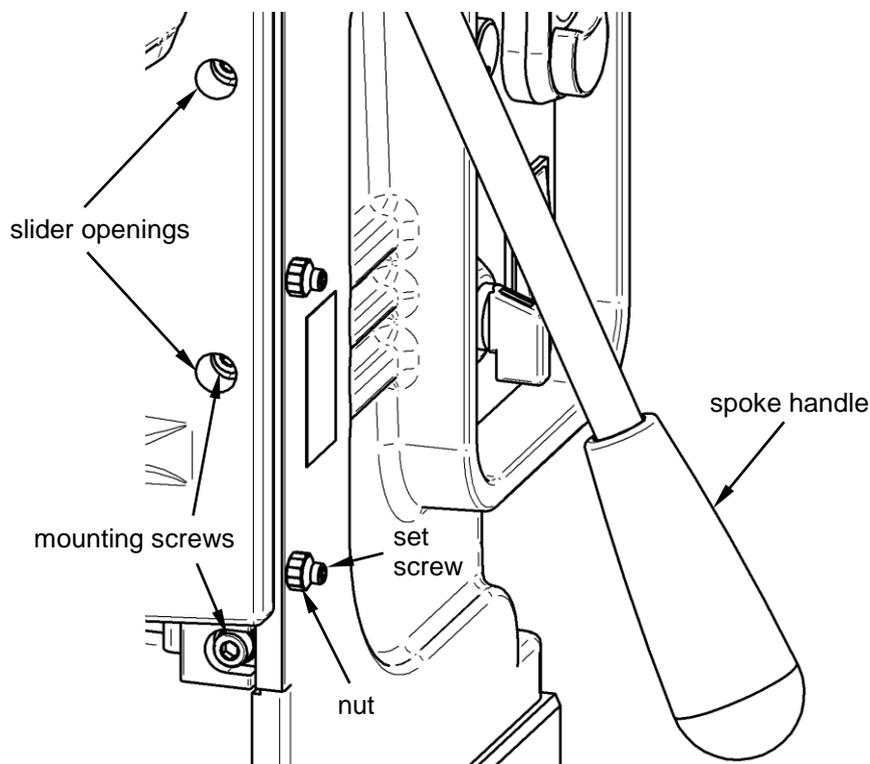


Figure 9. Adjusting the slider clearance

3.10. Replacing the motor brushes

Check the condition of the carbon brushes every 100 operational hours. If the length of the brushes is less than 5 mm (0.2”), replace them with new ones. To do this, unplug the power cord from the power outlet, unscrew four screws mounting the motor cover and gently remove the cover (Figure 10). Proceed with caution paying attention to the grounding wire connected to the cover. Then, press the center of the brush wire connector to unlock it and remove the connector. Unbend the spring, put it on the top of the brush holder, and gently remove the brush. Proceed as described also for the second brush located at the opposite side of the motor. To mount brushes, proceed in reverse order. After the replacement, run the motor without load for 20 minutes.

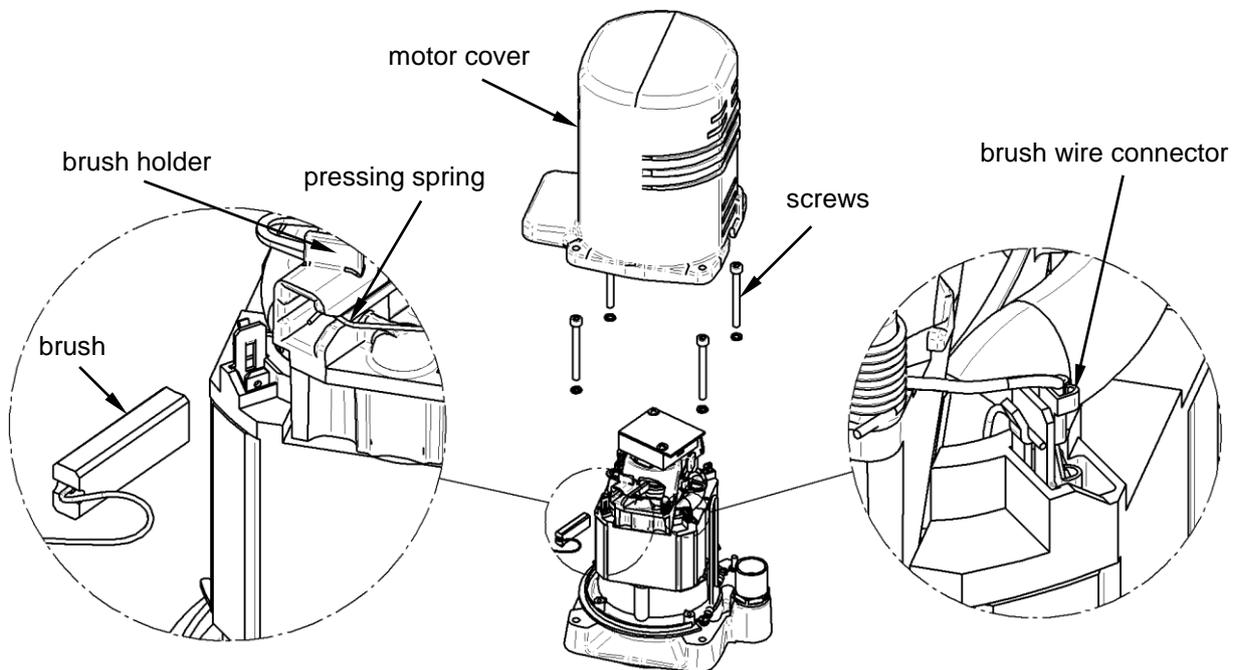
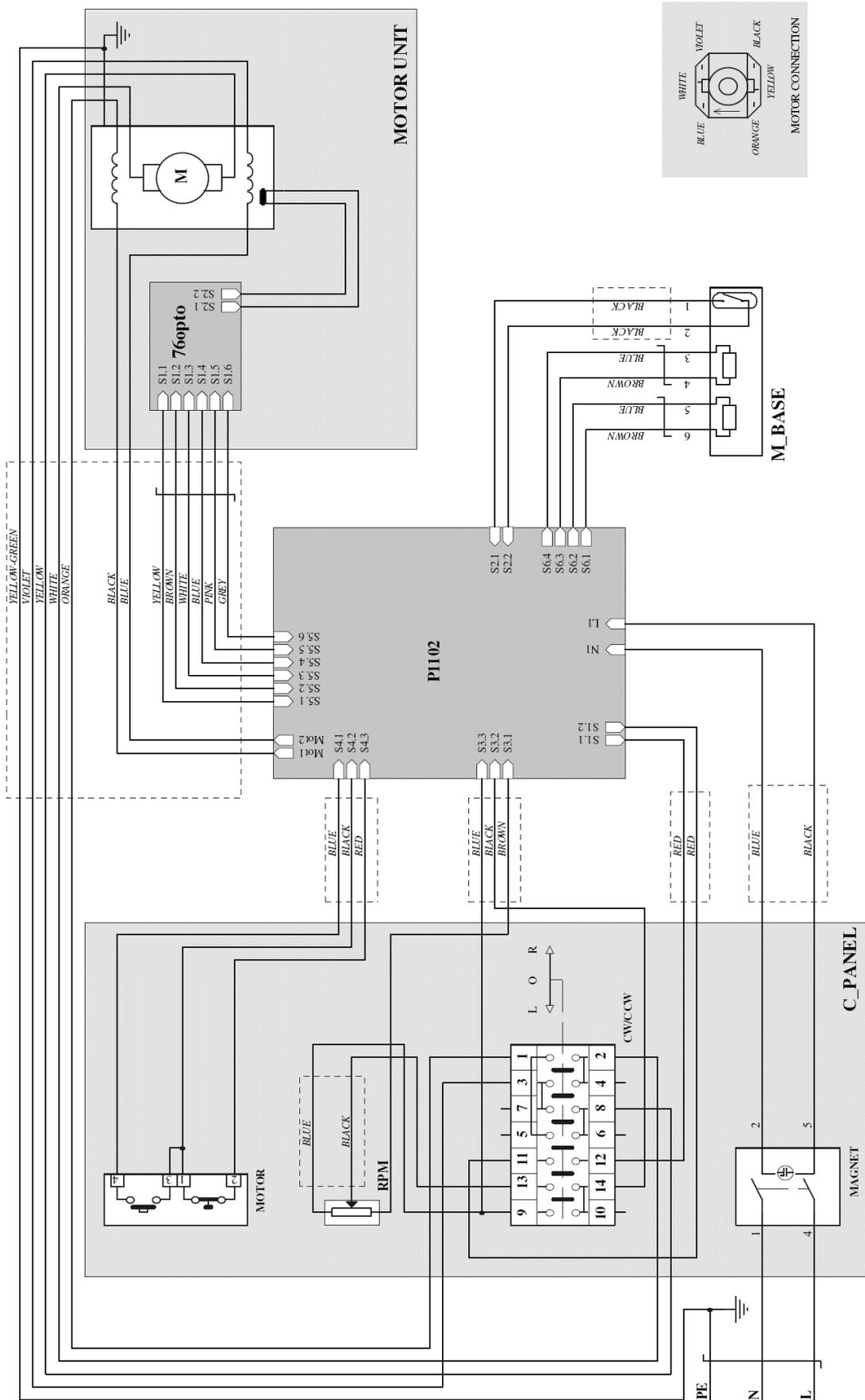
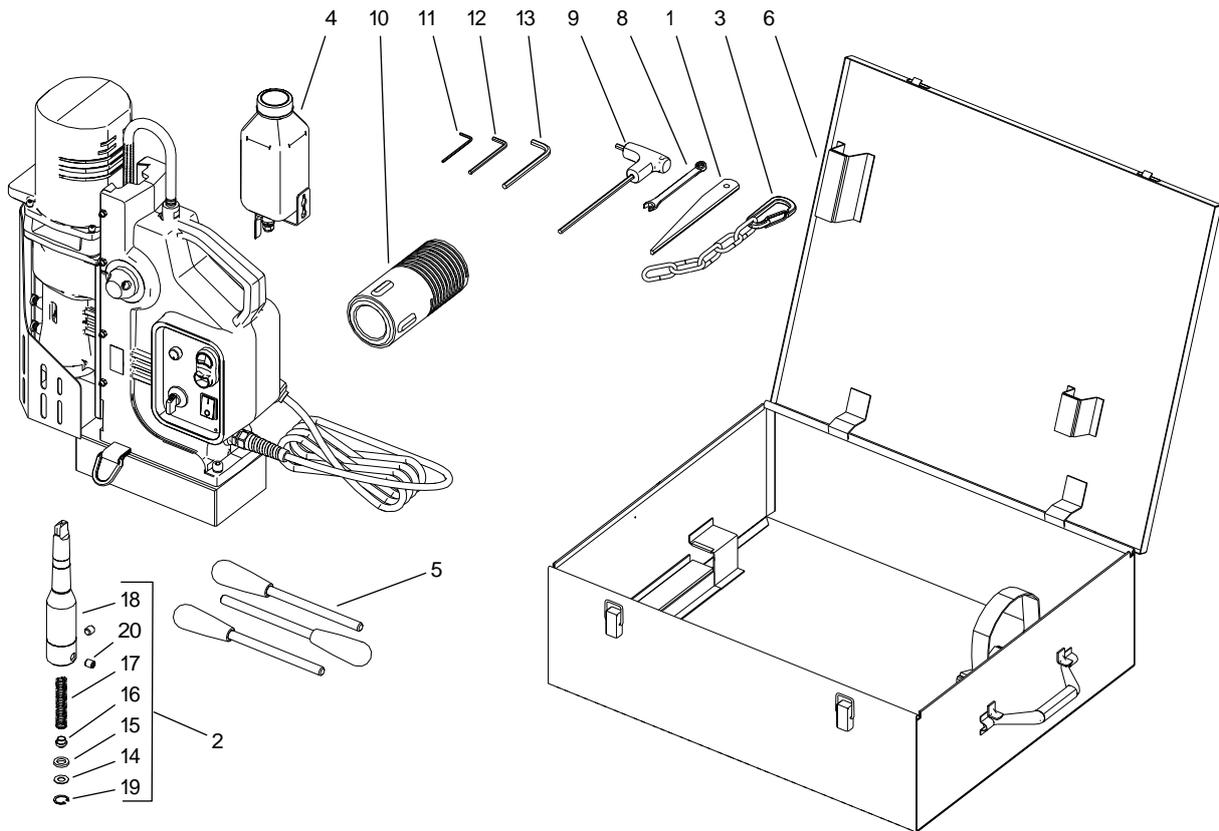


Figure 10. Replacing the brushes

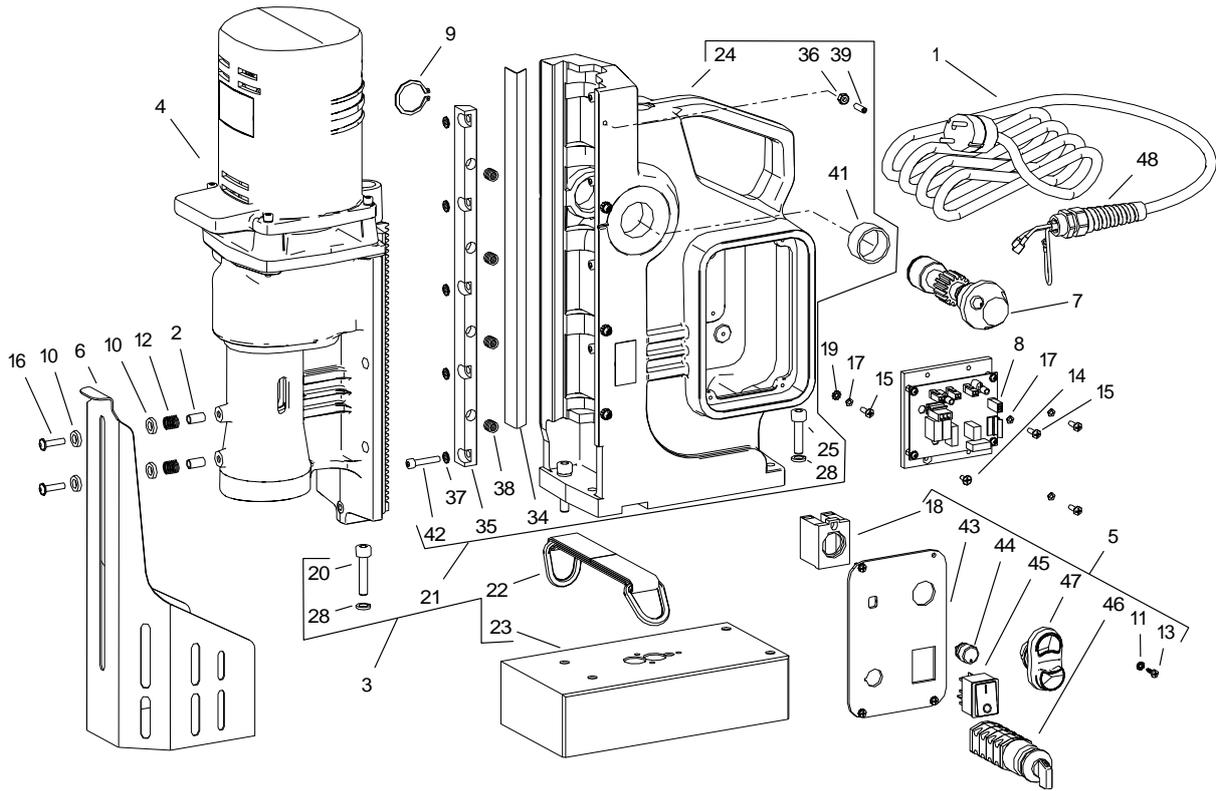
4. WIRING DIAGRAM



5. D3X R-L PARTS LIST AND EXPLODED DRAWINGS

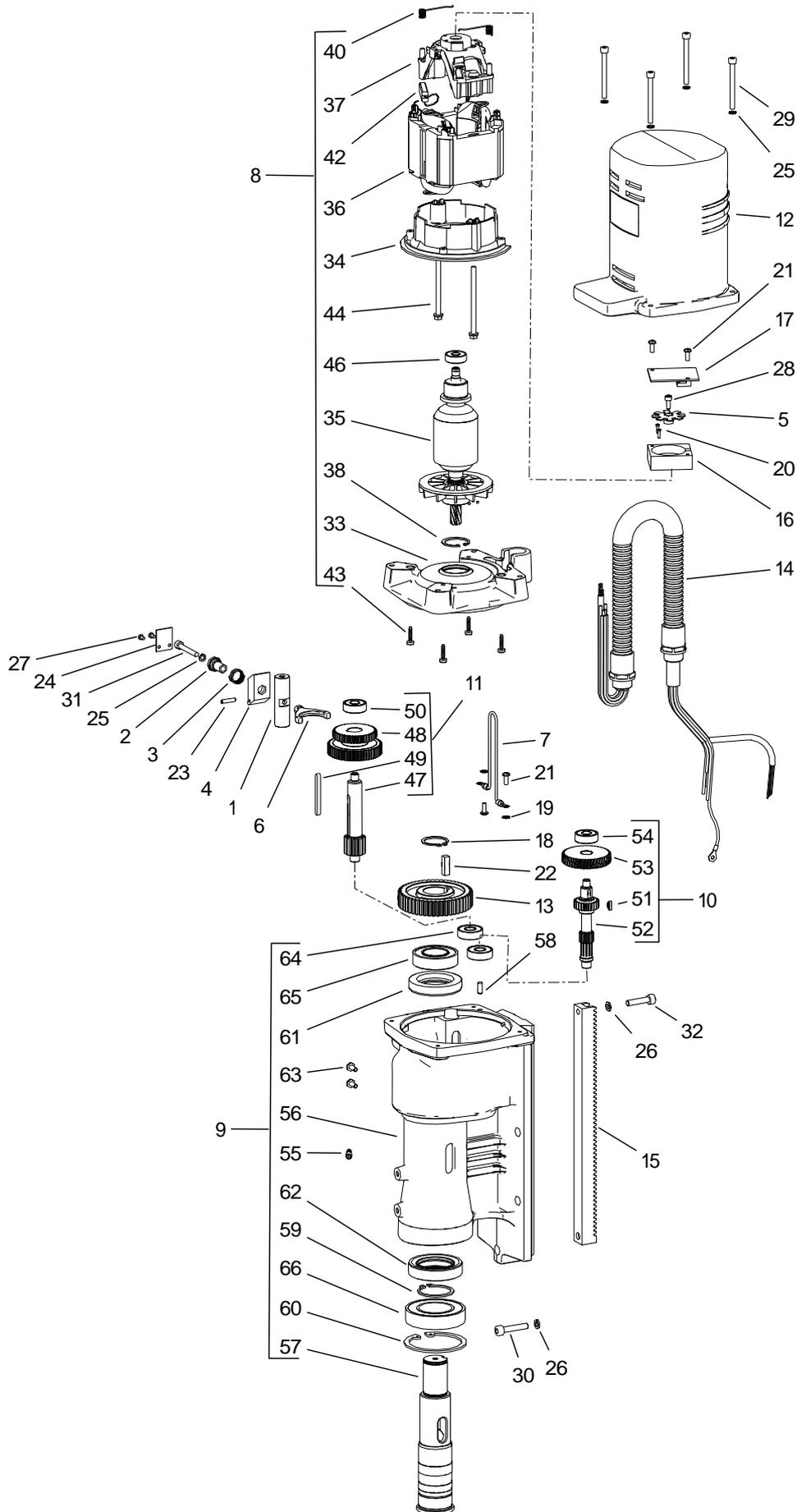


ITEM	PART NUMBER	DESCRIPTION	Q-TY
1	KLN-0103-00-00-00-0	WEDGE MT3	1
2	UCW-0173-00-00-00-0	ARBOR ASSY AMT3-U19/3-3	1
3	LNC-0223-00-01-00-0	SAFETY CHAIN	1
4	UKL-0399-11-00-00-0	COOLING SYSTEM	1
5	DZW-0400-07-00-00-0	SPOKE HANDLE WITH KNOB	3
6	SKR-0400-12-00-00-1	METAL CASE	1
8	KLC-000003	8 MM FLAT WRENCH	1
9	KLC-000037	5 MM HEX WRENCH WITH HANDLE	1
10	OPK-000001	PLASTIC BOX	1
11	KLC-000005	2.5 MM HEX WRENCH	1
12	KLC-000007	4 MM HEX WRENCH	1
13	KLC-000009	6 MM HEX WRENCH	1
14	PDK-0139-00-04-00-0	WASHER D=18.8x10x1	1
15	USZ-0140-05-04-00-0	SEAL	1
16	WYP-0154-00-02-00-0	PLUNGER	1
17	SPR-0154-00-03-00-0	SPRING 1.6x12.4x159	1
18	KRP-0173-00-01-00-0	ARBOR BODY	1
19	PRS-000009	INTERNAL RETAINING RING 19w	1
20	WKR-000032	HEX SOCKET SET SCREW WITH FLAT POINT M10x10	2



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-0075-00-51-00-5	POWER CORD 120V 3x2.08 WITH STRAIN RELIEF ASSY (US)	1
1	SZN-0212-10-02-00-5	POWER CORD 230V 3x1.5 WITH STRAIN RELIEF ASSY (AU)	1
2	TLJ-0399-06-00-00-0	BOTTOM SLEEVE	2
3	STJ-0473-01-00-00-0	FRAME ASSEMBLY	1
4	NPD-0473-02-00-00-1	MOTOR COMPLETE L-R – 230V	1
4	NPD-0473-02-00-00-0	MOTOR COMPLETE L-R – 120V	1
5	MSK-0473-03-00-00-0	PANEL PLATE ASSY	1
6	OSL-0400-04-00-00-0	GUARD ASSY	1
7	WLK-0400-05-00-00-0	PINION SHAFT ASSY	1
8	ZSP-0473-04-00-00-1	ELECTRONIC CONTROL SYSTEM – 230V	1
8	ZSP-0473-04-00-00-0	ELECTRONIC CONTROL SYSTEM – 115V	1
9	PRS-000019	EXTERNAL RETAINING RING 28z	1
10	PDK-000151	NYLON WASHER 8.1x14x3	4
11	PDK-000161	EXTERNAL TOOTH LOCK WASHER 3.7	4
12	SPR-000030	PUSH SPRING	2
13	WKR-000415	CROSS RECESSED PAN HEAD SELF-TAPPING SCREW 3.5x13	4
14	WKR-000150	CROSS RECESSED COUNTERSUNK HEAD SCREW M4x10	1
15	WKR-000184	CROSS RECESSED PAN HEAD SCREW M4x12	4
16	WKR-000395	HEX SOCKET ROUND HEAD SCREW WITH FLANGE M5x20	2
17	PDK-000043	SPRING WASHER 4.1	4
18	WZK-0400-03-02-00-0	START-STOP WIRE SET	1
19	PDK-000060	EXTERNAL TOOTH LOCK WASHER 4.3	1
20	SRB-000156	HEX SOCKET HEAD CAP SCREW M8x35	2
21	KRP-0400-01-01-00-0	MAIN BODY ASSY	1
22	PAS-0205-00-20-00-0	D-RING STRAP	1

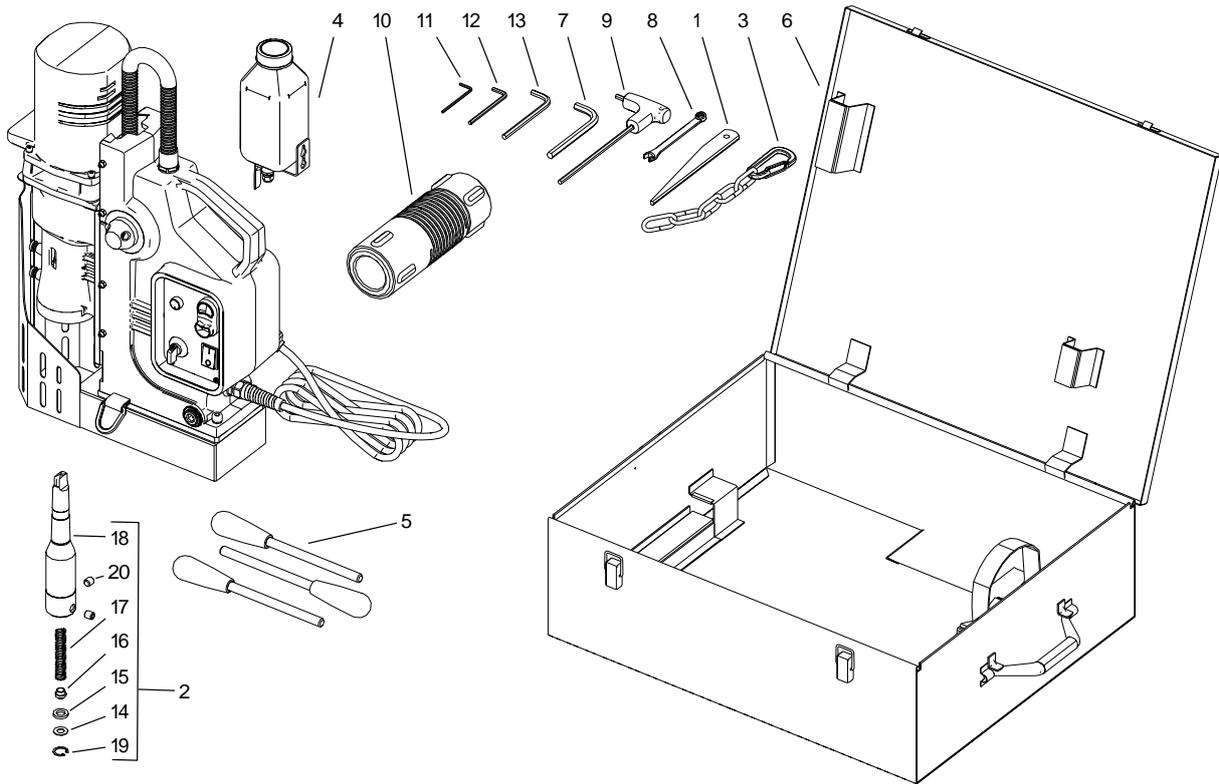
ITEM	PART NUMBER	DESCRIPTION	Q-TY
23	PDS-0396-01-00-00-0	ELECTROMAGNETIC BASE	1
24	KRP-0400-01-01-01-1	MAIN BODY	1
25	SRB-000155	HEX SOCKET HEAD CAP SCREW M8x30	2
28	PDK-000051	SPRING WASHER 8.2	4
34	LST-0400-01-01-03-0	GLUED BAR	1
35	LST-0473-01-01-02-0	PRESSING BAR	1
36	NKR-000016	HEX NUT M5	1
37	PDK-000017	ROUND WASHER 5.3	5
38	SPR-000043	SPRING 1.6x8x14.5	4
39	WKR-000077	HEX SOCKET SET SCREW WITH FLAT POINT M5x16	4
41	TLJ-000010	SELF-LUBRICATING SLEEVE 28x32x16	1
42	SRB-000087	HEX SOCKET HEAD CAP SCREW M5x25	1
43	MSK-0473-03-01-00-0	PANEL PLATE	1
44	WZK-0400-03-03-00-0	ROTATIONAL SPEED WIRE SET	1
45	PNK-000013	MAGNET SWITCH	1
46	WZK-0473-03-04-00-0	LEFT-RIGHT SWITCH WIRE SET	1
47	PRC-000007	START-STOP SWITCH	1
48	DLW-000007	CABLE GLAND WITH STRAIN RELIEF PG11	1



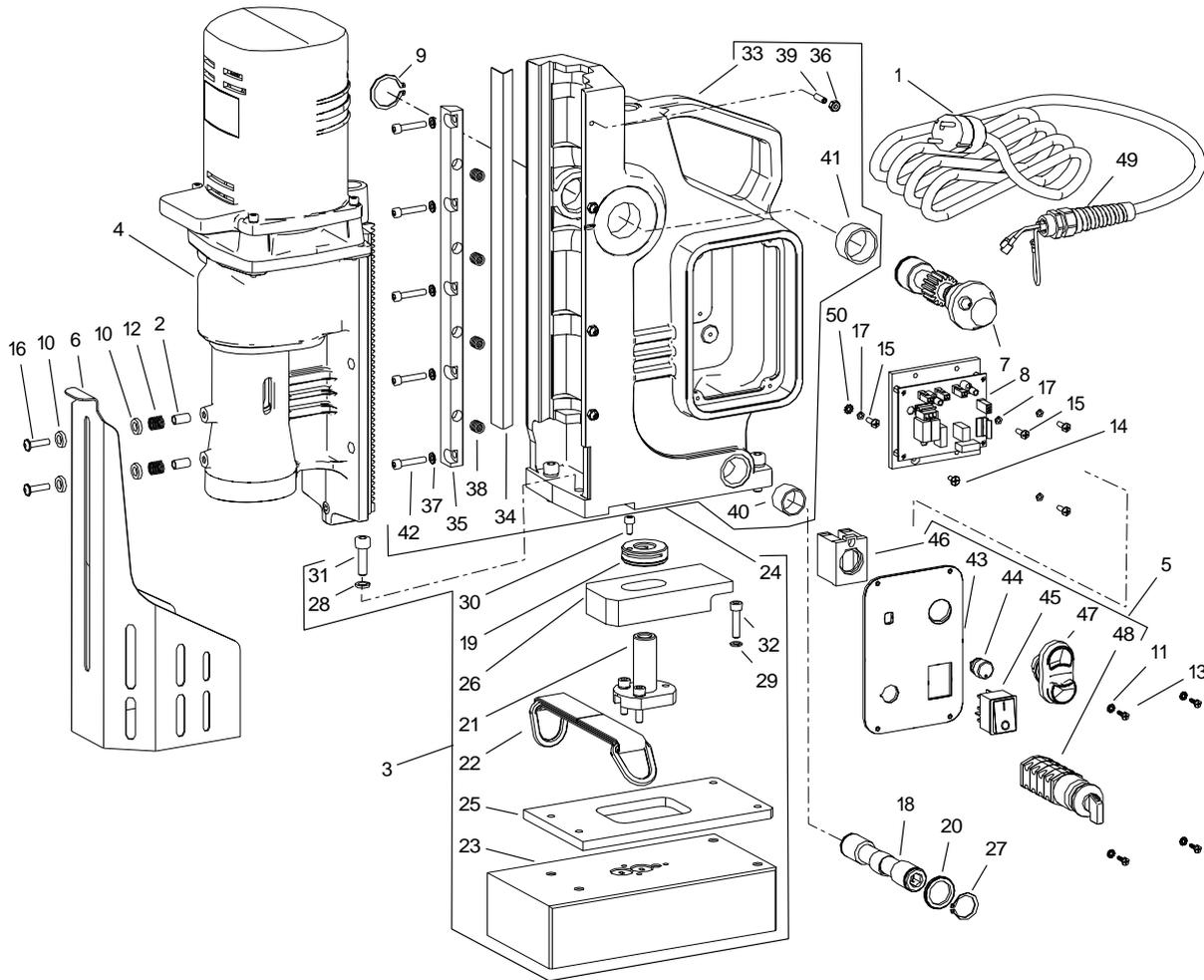
NPD-0473-02-00-00-1		MOTOR COMPLETE L-R – 230V	
NPD-0473-02-00-00-0		MOTOR COMPLETE L-R – 120V	
ITEM	PART NUMBER	DESCRIPTION	Q-TY
1	WLK-0171-00-21-00-2	LINK SHAFT	1
2	TLJ-0171-00-22-00-0	SWITCH SLEEVE	1
3	SPR-0171-00-23-00-0	SWITCH SPRING	1
4	DZW-0171-00-24-00-0	SHIFT LEVER	1
5	TRC-0171-05-00-00-0	IMPULSING SHIELD ASSY	1
6	WDL-0211-00-28-00-1	SHIFT FORK	1
7	PWD-0399-02-07-00-0	DRIVE GROUND WIRE ASSY	1
8	SLN-0473-02-01-00-0	MOTOR L-R ASSY 120V	1
9	KRP-0400-02-02-00-0	GEARCASE ASSY	1
10	WLK-0400-02-02-10-0	TOOTHED SHAFT z12, m=1, z24, m=1 ASSY	1
11	WLK-0400-02-02-20-0	TOOTHED SHAFT z12, m=1.5 ASSY	1
12	OBD-0400-02-03-00-1	MOTOR HOUSING	1
13	KOL-0400-02-04-00-0	GEAR z50	1
14	WZK-0473-02-05-00-0	MOTOR WIRE ASSY	1
15	LST-0400-02-06-00-0	GEAR RACK	1
16	KRP-0400-02-07-00-0	ENCODER BODY	1
17	MDL-0400-02-08-00-0	ENCODER MODULE	1
18	PRS-000017	EXTERNAL RETAINING RING 25z	1
19	PDK-000060	EXTERNAL TOOTH LOCK WASHER 4.3	2
20	WKR-000458	SCREW FOR PLASTIC 2.2x8	2
21	WKR-000183	CROSS RECESSED PAN HEAD SCREW M4x10	4
22	WPS-000054	KEY 6x6x20	1
23	KLK-000013	SPRING DOWEL PIN 4x16	1
24	TBL-0202-00-30-00-0	GEAR LABEL	1
25	PDK-000045	SPRING WASHER 5.1	5
26	PDK-000046	SPRING WASHER 6.1	2
27	WKR-000180	CROSS RECESSED PAN HEAD SCREW M3x5	2
28	SRB-000254	HEX SOCKET HEAD CAP SCREW M4x10	1
29	SRB-000094	HEX SOCKET HEAD CAP SCREW M5x50	4
30	SRB-000118	HEX SOCKET HEAD CAP SCREW M6x30	1
31	SRB-000091	HEX SOCKET HEAD CAP SCREW M5x35	1
32	SRB-000115	HEX SOCKET HEAD CAP SCREW M6x25	1
33	PKR-0473-02-01-10-1	MOTOR COVER	1
34	KRW-0400-02-01-02-0	FAN GUIDE	1
35	WRN-0473-02-01-20-1	ROTOR ASSY – 230V	1
35	WRN-0473-02-01-20-0	ROTOR ASSY – 120V	1
36	STN-000029	STATOR – 230V	1
36	STN-000028	STATOR – 120V	1
37	OBD-000024	UPPER HOUSING	1
38	PRS-000018	INTERNAL RETAINING RING 28w	1
40	SPR-000042	BRUSH SPRING	2
42	SCZ-000022	BRUSH – 230V	2
42	SCZ-000023	BRUSH – 115V	2
43	WKR-000407	CROSS RECESSED PAN HEAD TAPPING SCREW M4x20	4
44	SRB-000286	HEXAGON BOLT M5x76	2
46	LOZ-000055	BALL BEARING 8x22x7	1
47	WLK-0400-02-02-21-0	TOOTHED SHAFT z12, m=1.5	1
48	KOL-0400-02-02-22-0	MOVABLE WHEEL z=43	1

NPD-0473-02-00-00-1		MOTOR COMPLETE L-R – 230V	
NPD-0473-02-00-00-0		MOTOR COMPLETE L-R – 120V	
ITEM	PART NUMBER	DESCRIPTION	Q-TY
49	WPS-000055	KEY 4x4x45	1
50	LOZ-000071	BALL BEARING 8x24x8	1
51	WPS-0211-00-17-00-1	KEY 3x3.7	1
52	WLK-0400-02-02-11-0	TOOTHED SHAFT z12, m=1, z24, m=1	1
53	KOL-0400-02-02-12-1	HELICAL INPUT GEAR z47, m=1, m=17	1
54	LOZ-000071	BALL BEARING 8x24x8	1
55	KNC-0234-00-10-00-0	COOLANT COUPLING	1
56	KRP-0400-02-02-01-1	GEARCASE	1
57	WRZ-0400-02-02-02-0	SPINDLE	1
58	KLK-000045	DOWEL PIN 5n6x12	1
59	PRS-000024	EXTERNAL RETAINING RING 35z	1
60	PRS-000035	INTERNAL RETAINING RING 62w	1
61	PRS-000077	SEAL 35x55x10	1
62	PRS-000081	SEAL 35x56x12	1
63	WKR-000450	CROSS RECESSED PAN HEAD SCREW M5x10	2
64	LOZ-000034	BALL BEARING 10x26x8	2
65	LOZ-000028	BALL BEARING 25x47x12	1
66	LOZ-000051	BALL BEARING 35x62x14	1
	SMR-000001	GREASE LUBRIPLATE BP1	0.39 kg

6. D3XS R-L PARTS LISTS AND EXPLODED DRAWINGS

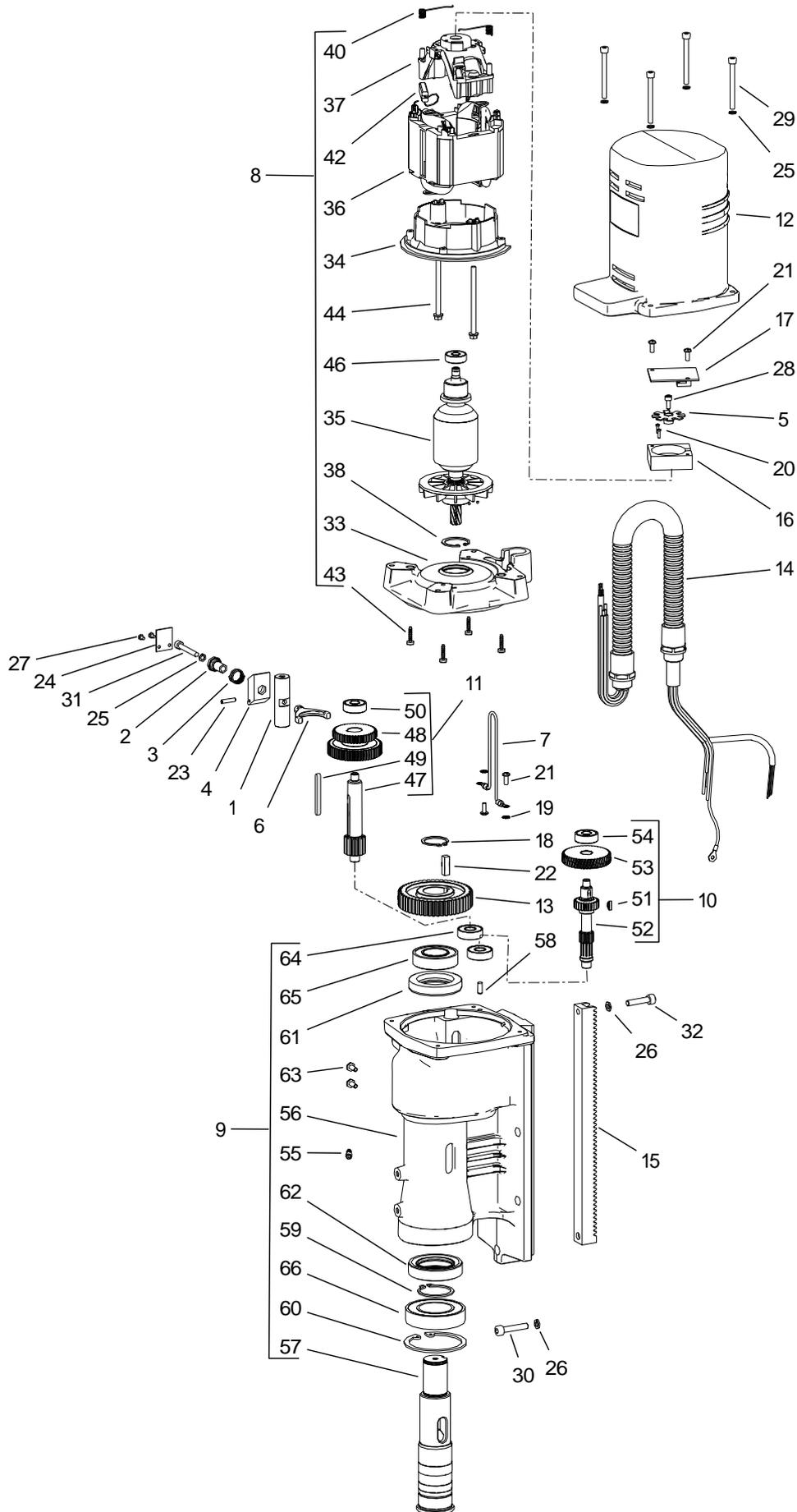


ITEM	PART NUMBER	DESCRIPTION	Q-TY
1	KLN-0103-00-00-00-0	WEDGE MT3	1
2	UCW-0173-00-00-00-0	ARBOR ASSY AMT3-U19/3-3	1
3	LNC-0223-00-01-00-0	SAFETY CHAIN	1
4	UKL-0399-11-00-00-0	COOLING SYSTEM	1
5	DZW-0400-07-00-00-0	SPOKE HANDLE WITH KNOB	3
6	SKR-0400-12-00-00-1	METAL CASE	1
7	KLC-000004	10 MM HEX WRENCH	1
8	KLC-000003	8 MM FLAT WRENCH	1
9	KLC-000037	5 MM HEX WRENCH WITH HANDLE	1
10	OPK-000001	PLASTIC BOX	1
11	KLC-000005	2.5 MM HEX WRENCH	1
12	KLC-000007	4 MM HEX WRENCH	1
13	KLC-000009	6 MM HEX WRENCH	1
14	PDK-0139-00-04-00-0	WASHER D=18.8x10x1	1
15	USZ-0140-05-04-00-0	SEAL	1
16	WYP-0154-00-02-00-0	PLUNGER	1
17	SPR-0154-00-03-00-0	SPRING 1.6x12.4x159	1
18	KRP-0173-00-01-00-0	ARBOR BODY	1
19	PRS-000009	INTERNAL RETAINING RING 19w	1
20	WKR-000032	HEX SOCKET SET SCREW WITH FLAT POINT M10x10	2



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-0075-00-51-00-5	POWER CORD 120V 3x2.08 WITH STRAIN RELIEF ASSY (US)	1
1	SZN-0212-10-02-00-5	POWER CORD 230V 3x1.5 WITH STRAIN RELIEF ASSY (AU)	1
2	TLJ-0399-06-00-00-0	BOTTOM SLEEVE	2
3	STJ-0473-01-00-00-1	FRAME ASSEMBLY	1
4	NPD-0473-02-00-00-1	MOTOR COMPLETE L-R – 230V	1
4	NPD-0473-02-00-00-0	MOTOR COMPLETE L-R – 120V	1
5	MSK-0473-03-00-00-0	PANEL PLATE ASSY	1
6	OSL-0400-04-00-00-0	GUARD ASSY	1
7	WLK-0400-05-00-00-0	PINION SHAFT ASSY	1
8	ZSP-0473-04-00-00-1	ELECTRONIC CONTROL SYSTEM – 230V	1
8	ZSP-0473-04-00-00-0	ELECTRONIC CONTROL SYSTEM – 115V	1
9	PRS-000019	EXTERNAL RETAINING RING 28z	1
10	PDK-000151	NYLON WASHER 8.1x14x3	4
11	PDK-000161	EXTERNAL TOOTH LOCK WASHER 3.7	4
12	SPR-000030	PUSH SPRING	2
13	WKR-000415	CROSS RECESSED PAN HEAD SELF-TAPPING SCREW 3.5x13	4
14	WKR-000150	CROSS RECESSED COUNTERSUNK HEAD SCREW M4x10	1
15	WKR-000184	CROSS RECESSED PAN HEAD SCREW M4x12	4
16	WKR-000395	HEX SOCKET ROUND HEAD SCREW WITH FLANGE M5x20	2

ITEM	PART NUMBER	DESCRIPTION	Q-TY
17	PDK-000043	SPRING WASHER 4.1	4
18	WLK-0153-02-04-00-0	SWIVEL BASE ECCENTRIC SHAFT	1
19	NKR-0153-02-05-00-0	SPECIAL NUT	1
20	PDK-0153-02-06-00-0	SPECIAL WASHER 21.5x32x3	2
21	SRB-0165-01-03-00-0	SPECIAL BOLT	1
22	PAS-0205-00-20-00-0	D-RING STRAP	1
23	PDS-0396-01-00-00-0	ELECTROMAGNETIC BASE	1
24	KRP-0473-01-01-00-1	MAIN BODY ASSY	1
25	PLY-0400-01-04-00-0	SWIVEL BASE PLATE	1
26	LPA-0400-01-05-00-0	PLATE CLAMPING ARM	1
27	PRS-000013	EXTERNAL RETAINING RING 21z	2
28	PDK-000051	SPRING WASHER 8.2	4
29	PDK-000046	SPRING WASHER 6.1	3
30	SRB-000075	HEX SOCKET HEAD CAP SCREW M5x10	1
31	SRB-000153	HEX SOCKET HEAD CAP SCREW M8x25	4
32	SRB-000115	HEX SOCKET HEAD CAP SCREW M6x25	3
33	KRP-0473-01-01-01-1	MAIN BODY	1
34	LST-0400-01-01-03-0	GLUED BAR	1
35	LST-0473-01-01-02-0	PRESSING BAR	1
36	NKR-000016	HEX NUT M5	4
37	PDK-000017	ROUND WASHER 5.3	5
38	SPR-000043	SPRING 1.6x8x14.5	4
39	WKR-000077	HEX SOCKET SET SCREW WITH FLAT POINT M5x16	4
40	TLJ-000014	SLIDE SLEEVE 21x24x16	2
41	TLJ-000010	SELF-LUBRICATING SLEEVE 28x32x16	2
42	SRB-000087	HEX SOCKET HEAD CAP SCREW M5x25	5
43	MSK-0473-03-01-00-0	PANEL PLATE	1
44	WZK-0400-03-03-00-0	ROTATIONAL SPEED WIRE SET	1
45	PNK-000013	MAGNET SWITCH	1
46	WZK-0400-03-02-00-0	START-STOP WIRE SET	1
47	PRC-000007	START-STOP SWITCH	1
48	WZK-0473-03-04-00-0	LEFT-RIGHT SWITCH WIRE SET	1
49	DLW-000007	CABLE GLAND WITH STRAIN RELIEF PG11	1
50	PDK-000060	EXTERNAL TOOTH LOCK WASHER 4.3	1



NPD-0473-02-00-00-1		MOTOR COMPLETE L-R – 230V	
NPD-0473-02-00-00-0		MOTOR COMPLETE L-R – 120V	
ITEM	PART NUMBER	DESCRIPTION	Q-TY
1	WLK-0171-00-21-00-2	LINK SHAFT	1
2	TLJ-0171-00-22-00-0	SWITCH SLEEVE	1
3	SPR-0171-00-23-00-0	SWITCH SPRING	1
4	DZW-0171-00-24-00-0	SHIFT LEVER	1
5	TRC-0171-05-00-00-0	IMPULSING SHIELD ASSY	1
6	WDL-0211-00-28-00-1	SHIFT FORK	1
7	PWD-0399-02-07-00-0	DRIVE GROUND WIRE ASSY	1
8	SLN-0473-02-01-00-0	MOTOR L-R ASSY 120V	1
9	KRP-0400-02-02-00-0	GEARCASE ASSY	1
10	WLK-0400-02-02-10-0	TOOTHED SHAFT z12, m=1, z24, m=1 ASSY	1
11	WLK-0400-02-02-20-0	TOOTHED SHAFT z12, m=1.5 ASSY	1
12	OBD-0400-02-03-00-1	MOTOR HOUSING	1
13	KOL-0400-02-04-00-0	GEAR z50	1
14	WZK-0473-02-05-00-0	MOTOR WIRE ASSY	1
15	LST-0400-02-06-00-0	GEAR RACK	1
16	KRP-0400-02-07-00-0	ENCODER BODY	1
17	MDL-0400-02-08-00-0	ENCODER MODULE	1
18	PRS-000017	EXTERNAL RETAINING RING 25z	1
19	PDK-000060	EXTERNAL TOOTH LOCK WASHER 4.3	2
20	WKR-000458	SCREW FOR PLASTIC 2.2x8	2
21	WKR-000183	CROSS RECESSED PAN HEAD SCREW M4x10	4
22	WPS-000054	KEY 6x6x20	1
23	KLK-000013	SPRING DOWEL PIN 4x16	1
24	TBL-0202-00-30-00-0	GEAR LABEL	1
25	PDK-000045	SPRING WASHER 5.1	5
26	PDK-000046	SPRING WASHER 6.1	2
27	WKR-000180	CROSS RECESSED PAN HEAD SCREW M3x5	2
28	SRB-000254	HEX SOCKET HEAD CAP SCREW M4x10	1
29	SRB-000094	HEX SOCKET HEAD CAP SCREW M5x50	4
30	SRB-000118	HEX SOCKET HEAD CAP SCREW M6x30	1
31	SRB-000091	HEX SOCKET HEAD CAP SCREW M5x35	1
32	SRB-000115	HEX SOCKET HEAD CAP SCREW M6x25	1
33	PKR-0473-02-01-10-1	MOTOR COVER	1
34	KRW-0400-02-01-02-0	FAN GUIDE	1
35	WRN-0473-02-01-20-1	ROTOR ASSY – 230V	1
35	WRN-0473-02-01-20-0	ROTOR ASSY – 120V	1
36	STN-000029	STATOR – 230V	1
36	STN-000028	STATOR – 120V	1
37	OBD-000024	UPPER HOUSING	1
38	PRS-000018	INTERNAL RETAINING RING 28w	1
40	SPR-000042	BRUSH SPRING	2
42	SCZ-000022	BRUSH – 230V	2
42	SCZ-000023	BRUSH – 115V	2
43	WKR-000407	CROSS RECESSED PAN HEAD TAPPING SCREW M4x20	4
44	SRB-000286	HEXAGON BOLT M5x76	2
46	LOZ-000055	BALL BEARING 8x22x7	1
47	WLK-0400-02-02-21-0	TOOTHED SHAFT z12, m=1.5	1
48	KOL-0400-02-02-22-0	MOVABLE WHEEL z=43	1

NPD-0473-02-00-00-1		MOTOR COMPLETE L-R – 230V	
NPD-0473-02-00-00-0		MOTOR COMPLETE L-R – 120V	
ITEM	PART NUMBER	DESCRIPTION	Q-TY
49	WPS-000055	KEY 4x4x45	1
50	LOZ-000071	BALL BEARING 8x24x8	1
51	WPS-0211-00-17-00-1	KEY 3x3.7	1
52	WLK-0400-02-02-11-0	TOOTHED SHAFT z12, m=1, z24, m=1	1
53	KOL-0400-02-02-12-1	HELICAL INPUT GEAR z47, m=1, m=17	1
54	LOZ-000071	BALL BEARING 8x24x8	1
55	KNC-0234-00-10-00-0	COOLANT COUPLING	1
56	KRP-0400-02-02-01-1	GEARCASE	1
57	WRZ-0400-02-02-02-0	SPINDLE	1
58	KLK-000045	DOWEL PIN 5n6x12	1
59	PRS-000024	EXTERNAL RETAINING RING 35z	1
60	PRS-000035	INTERNAL RETAINING RING 62w	1
61	PRS-000077	SEAL 35x55x10	1
62	PRS-000081	SEAL 35x56x12	1
63	WKR-000450	CROSS RECESSED PAN HEAD SCREW M5x10	2
64	LOZ-000034	BALL BEARING 10x26x8	2
65	LOZ-000028	BALL BEARING 25x47x12	1
66	LOZ-000051	BALL BEARING 35x62x14	1
	SMR-000001	GREASE LUBRIPLATE BP1	0.39 kg

7. DECLARATION OF CONFORMITY

EC Declaration of Conformity

We

PROMOTECH sp. z o.o.
Elewatorska 23/1
15-620 Białystok
Poland

declare with full responsibility that product:

D3X R/L Drilling Machine with Electromagnetic Base
D3XS R/L Drilling Machine with Electromagnetic Base

which the declaration applies to is in accordance with the following standards:

- EN 50144-1
- EN 55014

and satisfies safety regulations of the guidelines: 2004/108/EC, 2006/95/EC, 2006/42/EC.

Białystok, 29 January 2013



Marek Siergiej
Chairman

8. QUALITY CERTIFICATE

Machine control card

D3X R/L / D3XS R/L Drilling Machine with Electromagnetic Base

Serial number

Spindle radial runout.....

Slider to base travel perpendicularity.....

Spindle axis to base perpendicularity

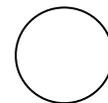
Base holding force

(surface with the minimum thickness of 22 mm and roughness $R_a \leq 1.25$)

Electric test

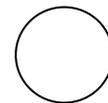
Type of test	Result	Name of tester
Test with sinusoidal voltage (voltage 1000 V, frequency 50 Hz)	 Date
Resistance of the protective circuit Ω Signature

Quality control



Adjustments, inspections

Quality control



9. WARRANTY CARD

WARRANTY CARD No.....

..... in the name of Manufacturer warrants the D3X R/L / D3XS R/L Drilling Machine with Electromagnetic Base to be free of defects in material and workmanship under normal use for a period of 12 months from date of sale.

This warranty does not cover tools, and damage or wear that arise from misuse, accident, tempering or any other causes not related to defects in workmanship or material.

Date of production

Serial number

Date of sale

Signature of seller.....

1.02 / 15 May 2014

***WE RESERVE THE RIGHT TO MAKE CORRECTIONS
AND MODIFICATIONS IN THIS MANUAL WITHOUT PRIOR NOTICE***