

# Diamond Core Drill Machine

For your personal safety, READ and UNDERSTAND before using.

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.



CE CB

**Warning:**

Only tools equipped with over load protection, when motor has been cut off due to over load, always switch on machine with no load for at least 3 minutes to reduce temperature before switch on again to avoid burn out to the motor.

## SPECIFICATIONS

Model	Low Speed Version	High Speed Version
Power	2600 W	2600 W
Capacity	10" (250mm)	10" (250mm)
No Load min <sup>-1</sup>	350 / 630 / 840	650 / 1000 / 1250
Full Load min <sup>-1</sup>	230 / 390 / 540	450 / 650 / 850
Arbor Thread	1-1/4"-7 UNC	1-1/4"-7 UNC
Angle	0-45 Deg.	0-45 Deg.
Weight	25.3 kg (55.6 Lbs)	25.3 kg (55.6 Lbs)

### GENERAL SAFETY RULES

**WARNING! Read and understand all instructions.** Failure to follow all instructions listed below, may result in electric shock, fire and / or serious personal injury. The term "power tool" in all of the warnings listed below refers to your mains-operated (corded) power tool.

#### SAVE THESE INSTRUCTIONS.

#### Work area safety

**a) Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents.

**b) Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquid, gases, or dust.** Power tools create sparks which may ignite the dust or fumes.

**c) Keep bystanders, children, and visitors away while operating a power tool.** Distractions can cause you to lose control.

#### Electrical Safety

**a) Grounded tools must be plugged into an outlet properly installed and grounded in accordance with all codes and ordinances. Never remove the grounding prong or modify the plug in any way. Do not use any adaptor plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded.** If the tools should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user.

**Double insulated tools are equipped with a polarized plug (one blade is wider than the other). This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install a polarized outlet.** Do not change the plug in any way. Double insulation eliminates the need for a three wire grounded power supply system.

**b) Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is grounded.

**c) Don't expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.

**d) Don't abuse the cord. Never use the cord to carry the tools or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately.** Damaged cords increase the risk of electric shock.

**e) When operating a power tool outside, use an outdoor extension cord marked "W-A" or "W."** These cords are rated for outdoor use and reduce the risk of electric shock.

### **Personal Safety**

**a) Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.

**b) Use safety equipment. Always wear eye protection.** Safety equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.

**c) Avoid accidental starting. Be sure switch is off before plugging in.** Carrying tools with your finger on the switch or plugging in tools that have the switch on invites accidents.

**d) Remove adjusting keys or switches before turning the tool on.** A wrench or a key that is left attached to a rotating part of the tool may result in personal injury.

**e) Do not overreach. Keep a proper footing and balance at all times.** Proper footing and balance enables better control of the tool in unexpected situations.

**f) Dress properly. Do not wear loose**

**clothing or jewelry. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewelry or long hair can be caught in moving parts.

### **Tool use and care**

**a) Use clamps or other practical way to secure and support the work piece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control.

**b) Do not force tool. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed.

**c) Do not use tool if switch does not turn it on or off.** Any tool that cannot be controlled with the switch is dangerous and must be repaired.

**d) Disconnect the plug from the power source before making any adjustments, changing accessories, or storing the tool.** Such preventive safety measures reduce the risk of starting the tool accidentally.

**e) Store idle tools out of reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Tools are dangerous in the hands of untrained users.

**f) Maintain tools with care. Keep cutting tools sharp and clean.** Properly maintained tools, with sharp cutting edges are less likely to bind and are easier to control.

**g) Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tools operation. If damaged, have the tool**

**serviced before using.** Many accidents are caused by poorly maintained tools.


**h) Use the power tool, accessories and blades etc., in accordance with these instructions and in the manner intended for the particular type of power tool, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.

**Service**

**Have your tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.

**-WARNING- To reduce the risk of injury, user must read instruction manual.**

**Symbols used in this manual**

- V.....volts
- A.....amperes
- Hz.....hertz
- W.....watt
- ~.....alternating current
- $n_0$ .....no load speed
- min<sup>-1</sup>.....revolutions or reciprocation per minute
-  .....class II tool

**SPECIFIC SAFETY RULES**

- 1. Hold power tools by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord.** Contact with a "live" wire will make exposed metal parts of the tool "live" and shock the operator. To reduce the risk of injury, always check the work area for hidden wires before coring.
- 2. Wear ear protectors with diamond core drills.** Exposure to noise can cause hearing loss.
- 3. Use auxiliary handles supplied with the tool.** Loss of control can cause personal injury.
- 4. Maintain tools carefully.** Keep handles dry, clean and free from oil and grease. Keep cutting edges sharp and clean. Follow instructions for lubricating and changing accessories. Periodically inspect tool cords and extension cords for damage. Have damaged parts repaired or replaced by a qualified service facility.
- 5. Maintain labels and nameplates.** These carry important information. If unreadable or missing, obtain a replacement.
- 6. WARNING!** Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:
  - lead from lead-based paint
  - crystalline silica from bricks and cement and other masonry products, and arsenic and chromium from chemically-treated lumber.
  - Your risk from these exposures varies, depending on how often

you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specifically designed to filter out microscopic particles.

7. **Provide proper protection for people and property below the coring area when coring through floors.**
8. **Always use core bits and drill bits within the maximum allowed size on the nameplate.** Oversized bits will cause damage to the motor and excessive torque leading to loss of control.
9. **Use only recommended bits,** rated at the machine's maximum rated RPM or higher with correct coupling thread.
10. **Always position your body and arms in a way that allows you to avoid injury if the machine anchor breaks loose or spins.** This machine is equipped with a safety clutch to protect the machine and operator but caution should always be used.
11. **When the electronic overload protection kicks in. Release the switch and wait for at least 3 seconds before continuing.** This is to avoid unexpected restarting which would cause a dangerous situation.
12. **Do not use a dull or damaged bit.** Dull bits cause excessive friction and binding and excessive load on the motor, leading to damage.
13. **Allow the machine to come to a complete stop** before removing from the anchor, or changing workpiece angle.
14. **Important: After completing the cut,** Wait for coasting bit to stop rotating completely before loosening the anchor.

15. **Never operate** the tool in an area with flammable solids, liquids, or gases. Sparks from the commutator or carbon brushes could cause a fire or explosion.
16. **There are certain applications for which this tool was designed.** The manufacturer strongly recommends that this tool NOT be modified and/or used for any application other than for which it was designed. If you have any questions relative to its application DO NOT use the tool until you have written the manufacturer and have been advised.
17. **Diamond coring equipment requires the use of water.** Since the use of electrical equipment in wet areas is hazardous, the equipment must be grounded. Wear insulated footwear and gloves for extra protection against shock hazards.

## FUNCTIONAL DESCRIPTION

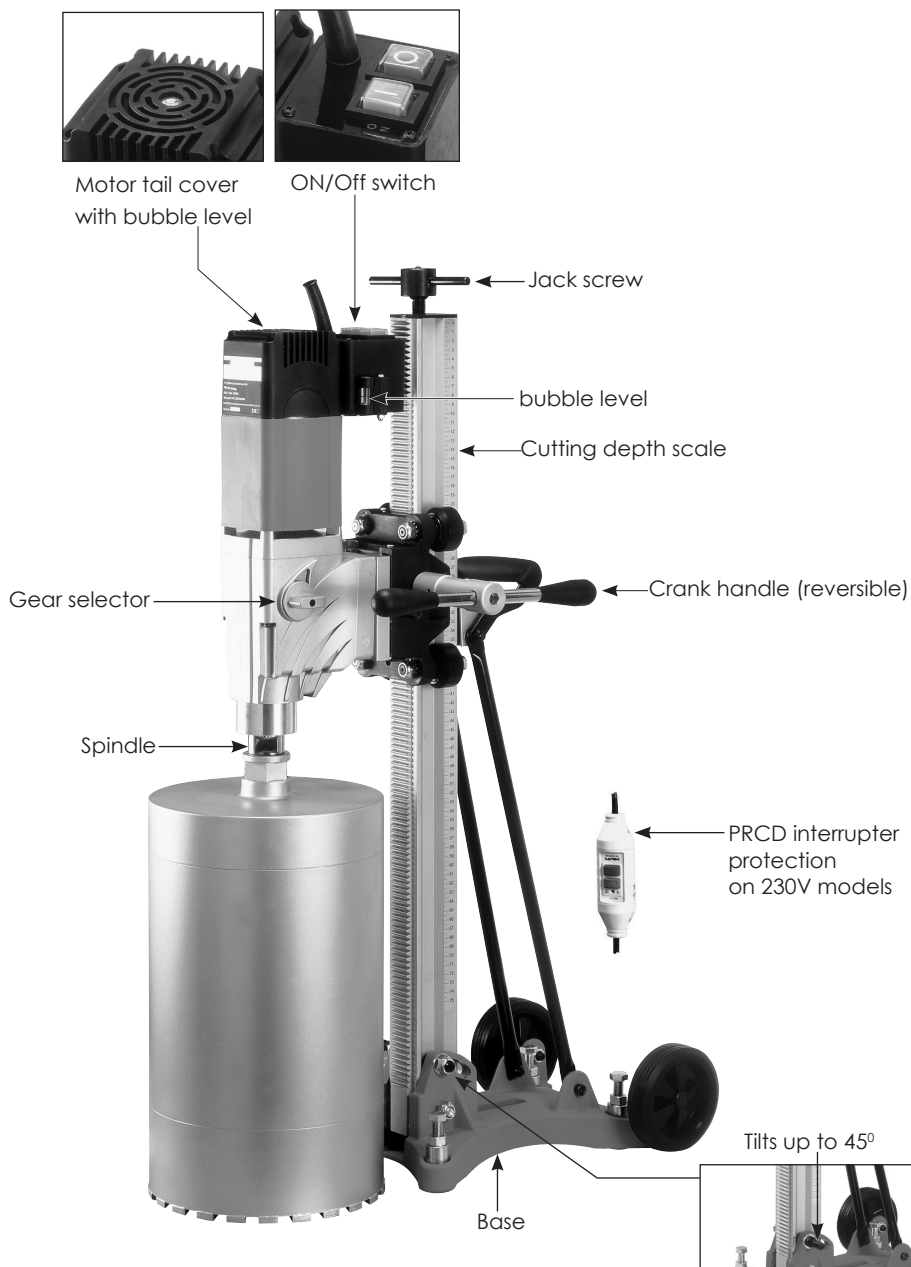


Fig.1

ELECTRICAL CONNECTION

WARNING!

To reduce the risk of injury, always use a Ground. Fault Circuit Interrupter (GFCI) or a Portable Residual Current Device (PRCD) device with diamond coring equipment to reduce the risk of shock hazards. Always position the device GFCI as close as possible to the power source.

The network voltage must conform to the voltage indicated on the tool name plate. Under no circumstances should the tool be used when the power supply cable is damaged. A damaged cable must be replaced immediately by an authorized Customer Service Center. Do not try to repair the damaged cable yourself. The use of damaged power cables can lead to an electric shock.

GROUNDING

Tools marked "Grounding Required" have a three wire cord and three prong grounding plug. The plug must be connected to a properly grounded outlet. If the tool should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user, reducing the risk of electric shock. The grounding prong in the plug is connected through the green wire inside the cord to the grounding system in the tool. The green wire in the cord must be the only wire connected to the tool's grounding system and must never be attached to an electrically "live" terminal. Your tool must be plugged into an appropriate outlet, properly installed and grounded in accordance with all codes and ordinances.

Intended use

This drilling machine is designed exclusively for the drilling of masonry, concrete, steel reinforced concrete and similar types of materials. It is equipped with a mounting rig to hold it in position and a crank to feed the drill bit to the work. There is an electronic overload protection unit and a mechanical slip clutch for safety. Water feed to the bit is necessary and there is provision for water feed including a valve.

**WARNING: The machine should not be converted or modified, e.g. for any other form of use, other than as specified in these operating instructions. The user shall be liable for damages and accidents due to incorrect use.**

EXTENSION CABLE

If an extension cable is required, it must have a sufficient cross-section so as to prevent an excessive drop in voltage or overheating. An excessive drop in voltage reduces the output and can lead to failure of the motor. The following table shows you the correct cable diameter as a function of the cable length for this machine. Use only U.L. and CSA listed extension cables. Never use two extension cables together. Instead, use one long one.

Total Extension Cord Length (feet)	Cord Size (AWG)
25	16
50	12
100	10
150	8
200	6

## UNPACKING

Carefully remove the tool and all loose items from the shipping container. Retain all packing materials until after you have inspected and satisfactorily operated the machine.

## CARTON CONTENTS

1. Diamond Core Drill Machine motor head with column
2. Base with buttress bar (assembly required)
3. Crank (assembly required)
4. Wheels for base with axles (assembly required)
5. Jack screw
6. Various hardware
7. Wrenches

## SET UP

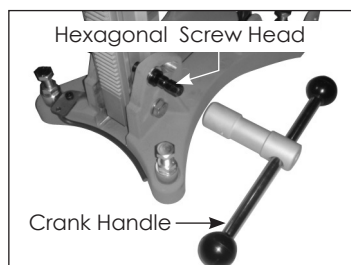
1. Slide the motor head into cradle.
2. Use crank handle to tighten hexagonal screw head.



3. Carefully measure the distance from the center of the intended cut to the location of the mounting slot in the base. Follow the concrete anchor

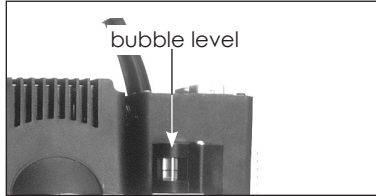
manufacturer's instructions to install. Using an appropriate tool such as a rotary hammer, drill a correct sized hole to fit the anchor. Then drive in the anchor to below flush.

4. Move the base into position and screw in the anchor bolt, washer and nut, leaving it finger tight.
5. If angle drilling is desired, loosen the hexagonal screw head on the baseplate by crank handle, then loosen hexagonal screw head on the behind of column by crank handle. Then adjust to the desired angle. Firmly retighten these two hexagonal screw by crank .



6. Using the bubble level (use one of the side levels for horizontal drilling or the tail cover bull's eye level for vertical drilling), adjust the four leveling bolts to achieve a good level positioning, then fully tighten the center anchor bolt. The entire rig must be mounted solidly.



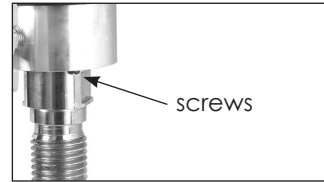


7. First use a copper washer (not included) then add some anti-seize compound or grease to the threads, then attach the core bit (not included) to the spindle and tighten with the wrench (supplied) on the spindle and one correct sized wrench (not included) on the bit coupling.
8. Attach the hose adaptor to the water hose and connect by the quick release coupling. Always use the water hose hook, keeping the hose away from the drilling operation and preventing any damages to the hose and to core bit. Keep the water control valve closed until drilling begins.
9. Attach a GFCI or PRCD device (not included) inline with the power source and plug in the power supply cord.
10. Put on all eye and hearing protection before beginning drilling.

## REVERSING THE WATER SUPPLY

This will also necessitate changing the angle of the water feed inlet. To do this, simply loosen the 3 screws on the water seal

holder and rotate it 1/3 of a turn to the other side.

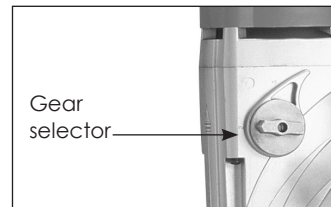


## SELECTING SPEEDS

There are 3 speed ranges to suit the bit size and aggregate hardness. Choose the slowest speed for large diameter bits and hard aggregates.

**CAUTION: Never attempt to change gears on a running machine! Only adjust when the machine is at rest.**

Rotate the gear selector while turning the spindle slightly by hand to help the gear to engage fully.



## OPERATION

1. Turn the motor on by pressing the green motor switch.



2. Open the water control valve.
3. Very gently begin the cut using very light feed pressure to prevent the bit from wandering until the bit is fully penetrated into the cut.
4. Make adjustments to the water feed as needed. The water leaving the cut should have a solid color. If the exiting water is clear, then reduce the feed. As rule of thumb, use the least amount of water that will still flush cuttings out of the cut.
5. Once in the cut use steady, firm feed pressure all the way through. Never use a sharp motion or the bit will be damaged. Conversely, don't feed too gently or the diamond segments will become glazed. See the section "RESHARPENING A GLAZED BIT" below if the bit becomes glazed. Make the bit work, but don't be abusive or give the bit shock impacts into the work.
6. If embedded steel such as rebar is encountered take special care. When the steel is encountered, the water will generally go clear and vibration will begin. Feed very gently and let the bit go at its own pace, if there too much vibration the bit will be destroyed. Once the steel is passed, continue normally. A properly sharp bit with good diamond exposure should be able the cut through rebar if handled well.
7. When the cut is finished keep the motor running until the bit is removed from the cut to avoid it getting stuck. Then shut down and shut off the water supply.

**WARNING: When coring through a floor, the core will fall down. Take precautions to avoid injury or damage below.**

**NOTE: When cutting with a new bit for the first time, use less than normal feed pressure for a time until it breaks in.**  
**DIAMOND CORING AND WATER**

The diamond impregnated segments in a diamond core bit operate on a principle of controlled erosion. The bond matrix holding the diamonds is continually worn away by abrasion with the concrete, exposing the harder diamonds to stand proud from the bond matrix. A bit with good diamond exposure is a sharp bit.

This erosion process causes heat and particles, which require water to cool and rinse free. Without adequate water, the bit would overheat and be destroyed.

With too much water and not enough feed pressure, there would not be adequate erosion of the bond matrix (the diamonds not exposed) and the bit becomes dull (diamond segments polish smooth). This is called glazing. If the bit seems to refuse to cut anymore, you know that it is glazed. See below.

### **RESHARPENING A GLAZED BIT**

If you find the bit to be glazed, first reduce the water flow until the water exiting the cut is really muddy. If that still does not work to sharpen the bit, stop and add a 1/4" of coarse silica sand into the kerf and drill for a few minutes, then turn up the water to rinse the sand free. Repeat as needed.

### **VIBRATION TROUBLESHOOTING**

If vibration occurs and it is not caused by

embedded steel, stop drilling to find the cause and remedy.

**CAUTION:** Do not operate with vibration or there will be serious hazard and the diamond core bit will surely be destroyed.

#### **Vibration is usually caused by:**

1. A loose rig, shifted mountings or loose gibs

**SOLUTION:** Retighten mountings or adjust gibs as needed.

2. A bit with too much runout

**SOLUTION:** Replace bit.

3. A bit with diamond segments broken off

**SOLUTION:** Replace bit.

#### **THE SAFETY CLUTCH**

This machine is equipped with a friction safety clutch inside the gearbox so that if the bit gets stuck, the clutch will spin rather than the torque damaging the gears, damaging the motor, or breaking the anchor free. The bit should not normally get stuck if the bit and machine are maintained properly.

Once the safety clutch slips many times, it will lose its torque setting and need to be reset by an authorized service shop.

#### **THE WATER SEALS**

Note that there is a small hole at the top of the water seal holder near the nose of the gearbox. If water begins to drip from this hole, then your water seals have worn out.

**CAUTION:** If you do not replace leaking water seals immediately, there is a possibility of water entering the gearbox. This will cause serious hazard and damage!

#### **To replace the seals:**

1. Unplug the machine
2. Remove the bit if it is in place.
3. Remove the 3 screws holding on the water seal holder and remove.
4. Drive out both seals with an appropriate drift.
5. Press in new seals being careful not to damage them.
6. Replace the holder.

#### **KEEP TOOL CLEAN**

Periodically blow out all air passages with dry compressed air. All plastic parts should be cleaned with a soft damp cloth. NEVER use solvents to clean plastic parts. They could possibly dissolve or otherwise damage the material.

Wear safety glasses while using compressed air.

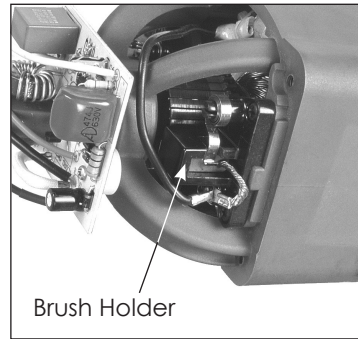
#### **MAINTENANCE**

To keep your diamond coring machine in top condition, periodic maintenance must be performed. In addition always check for damaged power supply cable, check for loose fasteners and always keep alert for unusual noises and vibration when operating.

**WARNING:** Never operate a damaged machine. Always tag a damaged machine and take it out of service until repairs can be made.

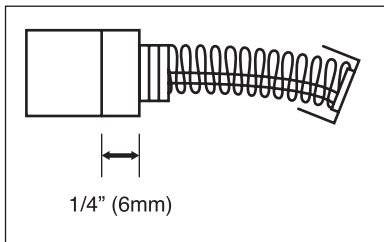
Periodic maintenance should include the following:

- ☑ Lubricate the rack and pinion of the rig.
- ☑ Adjust gibs as needed
- ☑ Replace water seals as needed.
- ☑ Replace the carbon brushes as needed
- ☑ Each year perform a full mechanical inspection, cleaning and re-lubrication of all gears, pinions, clutch, etc.



## THE CARBON BRUSHES

Carbon brushes are a consumable part and must be replaced when a specified wear limit has been reached. These are full stop brushes, so if they are worn to their limit, the motor will not be able to run. Both brushes should be replaced at the same time.



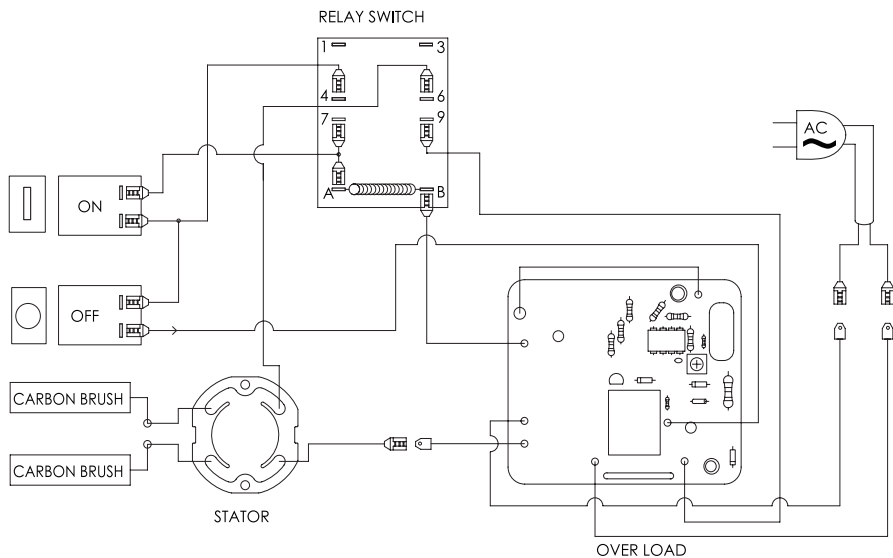
Always entrust all repairs to an authorized service agent.

**If the replacement of the power supply cord is necessary, this has to be done by the manufacturer or their agent in order to avoid a safety hazard.**

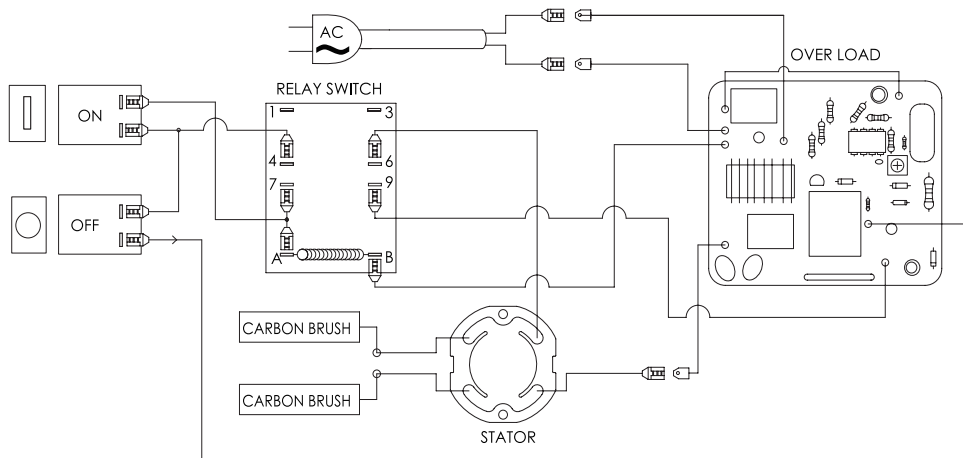
### Replacement:

1. Remove the motor tail cover to gain access to the brushes.
2. Remove the screw to the brush lead and move the brush spring to one side.
3. Slide out the old brush.
4. Slide in new brush and ensure proper alignment of the spring. Reattach the brush lead.
5. Repeat for the other brush.
6. Replace the tail cover.

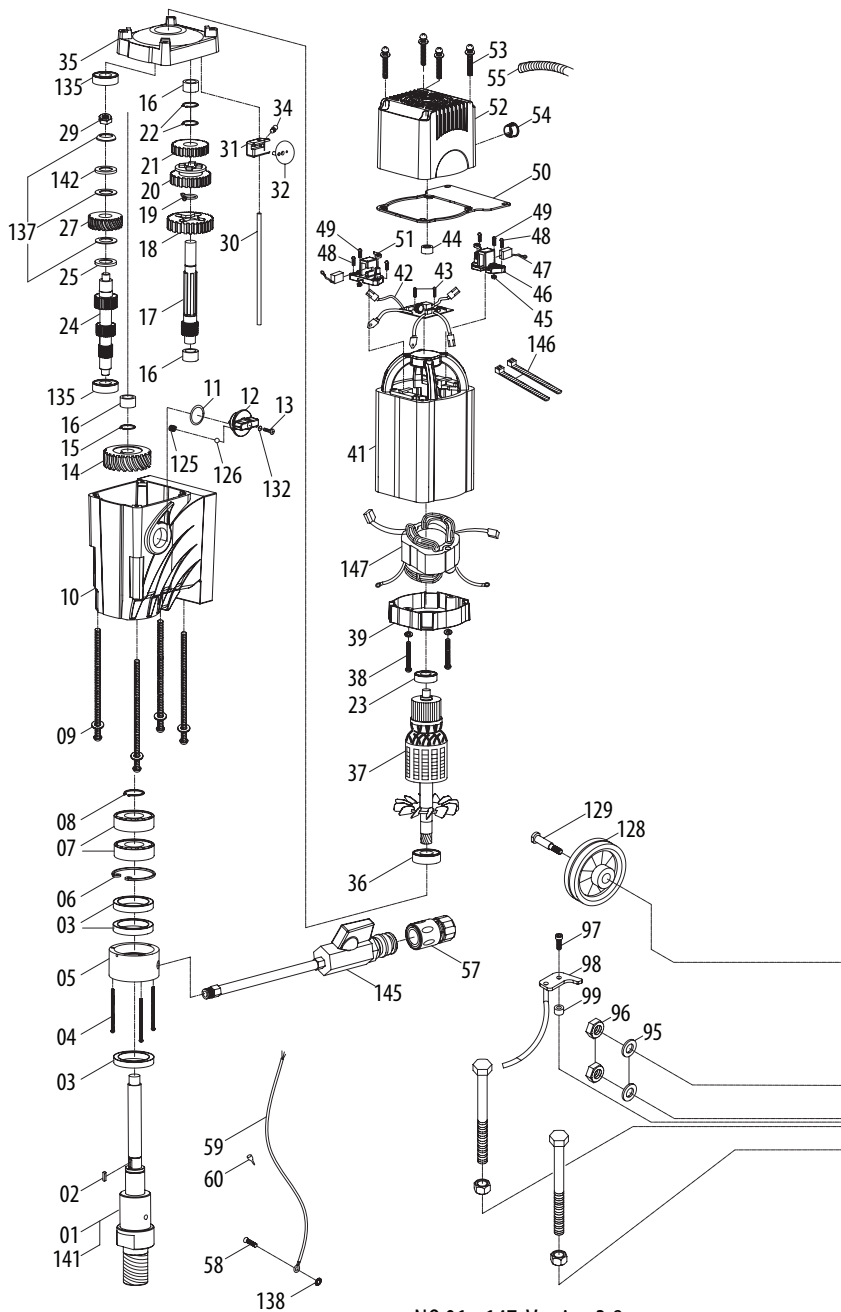
## WIRING (110V)



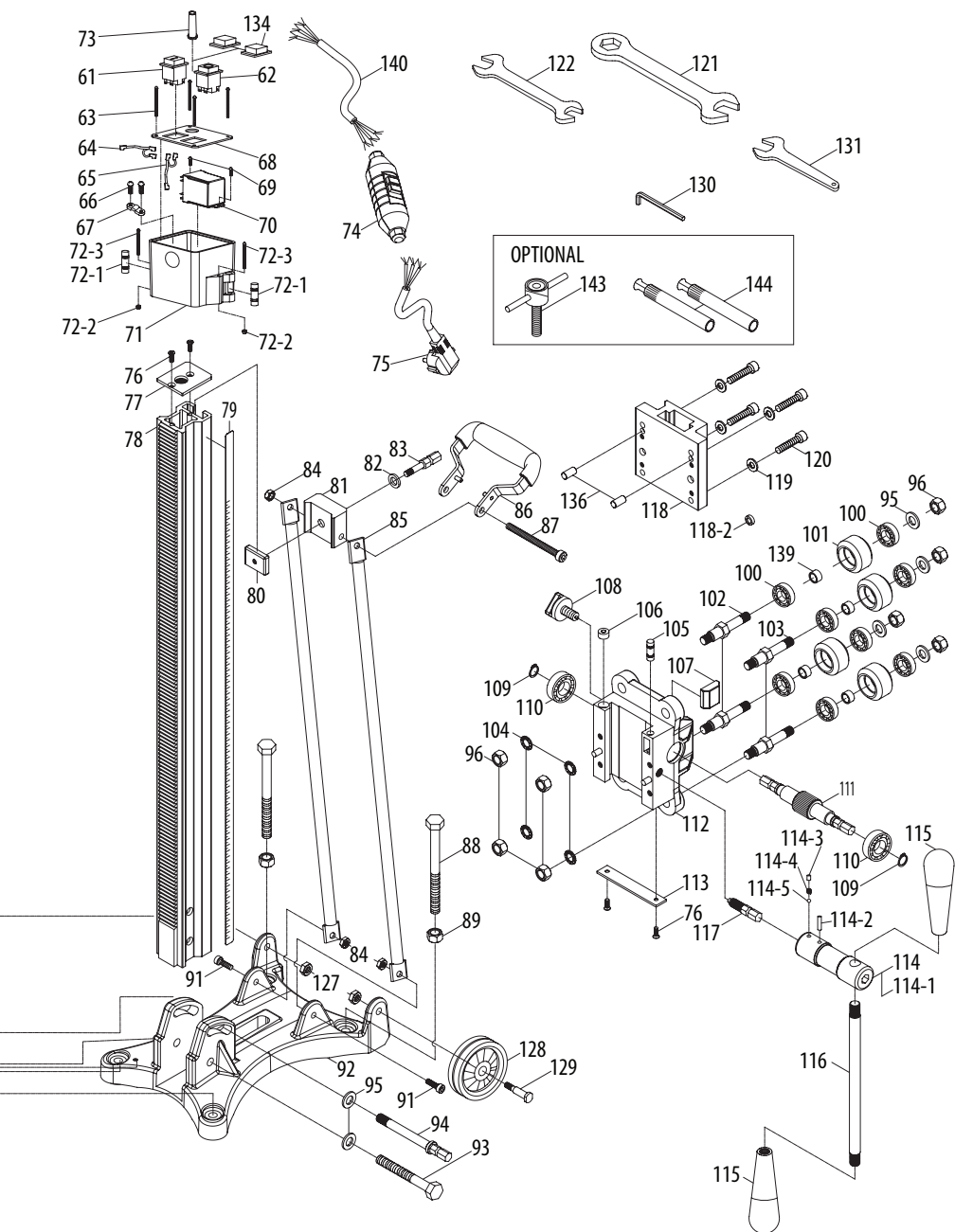
## WIRING (230V)



# EXPLODED VIEW



N0.01~147 Version 3.8



## PARTS LIST

NO.	Parts Name	Q'TY
1	SPINDLE (1 1/4"-7UNC)	1
2	PARALLEL KEY (5x5x15)	1
3	OIL SEAL (Ø40xØ52x8)	3
4	PANHEAD MACHINE SCREW-SUS (M4x40xP0.7)	3
5	WATER FEED COLLAR	1
6	INTERNAL CIRCLIP (R-52)	1
7	BALL BEARING (6205)	2
8	EXTERNAL CIRCLIP (S-25)	1
9	PANHEAD TAPPING SCREW (M5x110)	4
10	GEAR HOUSING	1
11	O-RING (Ø18xØ24x3)	1
12	GEAR SELECTOR	1
13	SHOULDER SCREW	1
14	OUTPUT GEAR (M1.75x32T)	1
15	EXTERNAL CIRCLIP (S-22)	1
16	NEEDLE BEARING (HK 1412)	3
17	COUNTERSHAFT (M1.75x10T)	1
18	LAY GEAR (M1.5x32T) (M1.5x37T)	1
19	RETAINING RING (Ø1.5xØ19)	1
20	LAY GEAR (M1.5x28T) (M1.5x32T)	1
21	LAY GEAR (M1.5x26T) (M1.5x29T)	1
22	EXTERNAL CIRCLIP (S-14)	2
23	BALL BEARING (6200)	1
24	INPUT SHAFT (M1.5x20Tx18Tx14T)(M1.5x17Tx14Tx9T)	1
25	PRESSURE DISC (Ø31.5xØ16.2x1.45)	1
26	N/A	-
27	INPUT GEAR (M1.25x33T)	1
28	N/A	-
29	CLUTCH NUT (M12xP1.5x8T)	1
30	GEAR SELECTOR SLIDER (Ø5x150L)	1
31	GEAR SELECTOR BLOCK	1
32	SELECTOR DISC SET	1
33	N/A	-
34	SELECTOR COLLAR PIN (Ø5.8x17)	1
35	GEAR PLATE	1
36	BALL BEARING (6202)	1
37	ARMATURE (110V/220V-94x54x45)	1



NO.	Parts Name	Q'TY
38	PANHEAD TAPPING SCREW (M5x65)	2
39	FAN SHROUD	1
40	STATOR (110V/220V-94x54x45)	1
41	MOTOR HOUSING	1
42	OVERLOAD UNIT (110V/220V)	1
43	PANHEAD TAPPING SCREW (M4x20)	2
44	BULLS-EYE LEVEL	1
45	HEX NUT (M4xP0.7)	2
46	BRUSH HOLDER (7x17)	2
47	CARBON BRUSH (7x17x17)(110V)/(7x17x20)(220V)	2
48	PANHEAD TAPPING SCREW (M4x12)	4
49	PANHEAD MACHINE SCREW (M4x10xP0.7)	2
50	MOUNTING PLATE	1
51	BRUSH SPRING (0.4x4x3.5T)	2
52	TAIL COVER	1
53	PANHEAD TAPPING SCREW (M5x45)	4
54	CABLE GLAND	1
55	CABLE PROTECTOR (Ø23.8xØ19.3x6CM)	1
56	WATER FEED CONNECTOR KIT	1
57	WATER COUPLING (1/2")	1
58	PANHEAD MACHINE SCREW (M4x8xP0.7)	1
59	WIRE LEAD (1015-16#35CM)	1
60	CRIMP CAP CONNECTOR (C4)	1
61	MOTOR ON SWITCH (110V&220V)	1
62	MOTOR OFF SWITCH (110V&220V)	1
63	PANHEAD TAPPING SCREW (M4x16)	4
64	WIRE LEAD (1015-22#6CM)	1
65	WIRE LEAD (1015-22#6CM)	1
66	PANHEAD TAPPING SCREW (M4x12)	2
67	CABLE CLIP	1
68	SWITCH PANEL	1
69	PANHEAD TAPPING SCREW (M4x8)	2
70	RELAY (110V/220V)	1
71	SWITCH BOX (Ø25)	1
72-1	BUBBLE LEVEL	2
72-2	FLANGE NUT (M4xP0.7)	2
72-3	PANHEAD MACHINE SCREW (M4x45xP0.7)	2

NO.	Parts Name	Q'TY
73	CORD ARMOR	1
74	PRCD INTERRUPTER PROTECTION (110V/220V)	1
75	POWER SUPPLY CABLE	1
76	FLAT HEAD MACHINE SCREW (M5x10xP0.8)	4
77	COLUMN CAP PLATE	1
78	COLUMN	1
79	MITER SCALE	1
80	LOCK PLATE	1
81	BUTTRESS LOCK	1
82	FLAT WASHER (5/16"xØ17x1.5)	1
83	ANGLE LOCK CLAMP	1
84	NYLOCK NUT (M8xP1.25)	3
85	BUTRESS BAR	2
86	FRONT HANDLE	1
87	SOCKET CAP SCREW (M8x85xP1.25)	1
88	HEX BOLT (M12x75LxP1.75)	4
89	HEX NUT (M12xP1.75)	4
90	N/A	-
91	SOCKET CAP SCREW (M8x25xP1.25)	2
92	BASE	1
93	HEX BOLT (M12x100LxP1.75)	1
94	SET SCREW	1
95	FLAT WASHER (Ø12xØ24x2.5)	8
96	NYLOCK NUT (M12xP1.75)	10
97	SOCKET CAP SCREW (M6x20xP1.0)	1
98	CENTER INDICATOR	1
99	HEAD LOCKING KNOB (Ø6.1xØ10x8)	1
100	BALL BEARING (6201)	8
101	GUIDE ROLLER	4
102	ECCENTRIC SHAFT	2
103	ROLLER AXLE	2
104	EXTERNAL STAR WASHER (M12)	4
105	BUBBLE LEVEL	1
106	BULLS-EYE LEVEL	1
107	REVERTEX PLACE	1
108	THUMB SCREW (M8x30)	1
109	EXTERNAL CIRCLIP (S-15)	2
110	BALL BEARING (6002)	2

NO.	Parts Name	Q'TY
111	CRANK SPINDLE	1
112	CRADLE	1
113	CRADLE PLATE	1
114	CRANK BOSS	1
115	CRANK GRIP	2
116	HANDLE	1
117	PIVOT PIN	1
118	MOUNTING SPACER	1
119	SPRING WASHER (M8)	4
120	SOCKET CAP SCREW (M8x20xP1.25)	4
121	COMBINATION WRENCH (M32)	1
122	WRENCH (M17/M19)	1
123	N/A	-
124	N/A	-
125	SPRING (Ø0.5xØ4xØ5x5Lx4T)	1
126	CHECK BALL (Ø5)	1
127	NYLOCK NUT (M10xP1.25)	2
128	WHEEL	2
129	ROLLER AXLE	2
130	HEX KEY (M6)	1
131	WRENCH (M13)	1
132	O-RING (Ø3x1.5)	1
133	ZIP TIE (2.4x80MM)	2
134	SWITCH BOOT	2
135	BALL BEARING (6200)	2
136	PIN (Ø8x15)	2
137	CLUTCH DISC SET	1
138	EXTERNAL STAR WASHER (M4)	1
139	HEAD LOCKING KNOB (Ø12xØ16x9.1)	4
140	1.5(16A)x3Cx2.1M-H05VVF	1
141	SPINDLE (1 1/4"-3)	1
142	PRESSURE DISC (Ø31.5xØ16.2x1.4)	1
146	ZIP TIE (2.5x100MM)	2
147	STATOR (110V-94x54x45)	1
147	STATOR (220V-94x54x45)	1
143	T-HANDLE VISE SCREW (M16xP2.0)	1
144	ANCHOR (1/2")	2
145	WATER FEED CONNECTOR KIT	1

