

DIAMOND CORE DRILLS



MAINTENANCE MANUAL

DB-162P/162D

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(Rev.20230517-A1.0)

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LIMITED WARRANTY

1. Warranty coverage and period

1.1 The length of warranty is 12 months from date of original purchase.

1.2 Gearbox, motor housing, gears, drill spindle etc. All of these damaged parts should not be caused by user.

1.3 Rotor-stator, printed circuit board, bearings, water seals, oil seals etc. All these normal wear parts are not covered.

2. This limited warranty does not include the following

2.1 Product purchased date beyond the warranty period.

2.2 Product with no specific warranty card or valid invoice.

2.3 Operating methods other than those indicated in the Instruction Manual.

2.4 Product manufactured neither by our group nor authorized manufacturers.

2.5 Unauthorized alteration.

2.6 Damage caused by force majeure factors such as earthquakes, typhoons, floods and fires.

2.7 Natural wear and tear (natural fading of painted or plated surfaces, sheet peeling and other natural deterioration).

2.8 Exposure of product to chemical agents or other corrosive environments.

2.9 Model listed on invoice or on product selling information doesn't match with the actual product, or product with defaced or altered serial number.

2.10 Warranty coverage and period.

2.11 Product purchased thru illegal distribution channel.

MAINTENANCE

 Warning!

All repair works and maintenance must be carried out with the mains switched off and the plug disconnected.

1. Daily Maintenance of Power Tool (Please ref. to Maintenance Schedule)

1.1 Check if all bolts, screws and nuts are well tightened.

1.2 Check if there is a leakage on the water seals.

1.3 Check if there is a leakage inside of the gearbox.

1.4 Check if PRCD is perfectly functioning.

1.5 Keep the whole set of machine clean and dry.

1.6 Pay attention to the auto-stop carbon brushes. When they are reaching the end of their lifetime or the warning indicators are light on, please have them checked and replaced immediately. To replace, first remove the cover of carbon brush holder and pull the carbon brush out from the holder. Then insert a new one and put the cover back. Repeat the procedure with the other carbon brush.

1.7 Check gearbox lubricant condition after gearbox reaches 300 working hours. If there are too many impurities in lubricant, have the lube replaced immediately by a specialist or authorized repair station.

1.8 When not in use, please detach its drill bit first, and then clean the whole machine. Don't forget to grease on its spindle thread. Store the idle power tool out of reach of children and must in a dry environment.

1.9 Measuring the insulation resistance. Use a 500V ohmmeter to measure the insulation resistance between live parts and the housing. The value must not be less than 7 MΩ.

2. Trouble Shooting of Power Tool (please ref. to Trouble Shooting Chart)

2.1 If the power tool malfunctions while operating, please contact nearby repair station immediately. Do not disassemble the power tool by yourself.

2.2 As for electrical parts such as rotor-stator, circuit board, power cord and plugs etc., let them checked and repaired by an electrical specialist.

MAINTENANCE SCHEDULE

Maintenance Items (Things need to check)	Every time before use	The first month or after 25 working hours	The third month or after reaches 50 working hours	Every year or after reaches 200 working hours
Gearbox seals leakage	√	√	√	√
Water seals leakage	√	√	√	√
Power cord	√	√	√	√
PRCD functioning	√	√	√	√
Drill spindle rotating	√	√	√	√
Drill spindle abrasion	-	-	√	√
Mains switch functioning	√	√	√	√
Spindle thread greasing	√	√	√	√
Water valve opening and shutting	√	√	√	√
Bolts and nuts	√	√	√	√
Carbon brushes	-	-	-	√
Gearbox oil	-	-	-	√
Overall cleaning	-	√	√	√

TROUBLE SHOOTING

Fault	Possible Cause	Solution
Drill motor doesn't work	1.Mains power supply interrupted or plug is loose 2.PRC D is not reset or loose contact on PRC D 3.Power cord or switch damaged 4.Rotor-stator damaged 5.Loose contact on carbon brush or brushes are worn-out	1.Plug in another electric appliance and check the functioning or tighten the plug ; 2.Press the RESET button on PRC D or replace with a new one. 3.Have them checked by an electrical specialist and replaced if necessary. 4.Have them checked by an electrical specialist and replaced if necessary. 5.Check if the length of brush is shorter than 6mm, replace it if necessary
Leakage on the water seals	Water seals worn-out	Replace water seals
Drill bit sticking or stuck	1. Gears are not engaged properly or disengaged. 2. Clutch worn-out 3. Reinforced steel or particular matter causes the drill bit sticking or stuck. 4.Gearbox damaged	1. Gear selector is not lock when turning it. Turn it to desired position until it locks. 2. Have clutch friction plates replaced. 3. After switching off the machine,use wrench to adjust the bit's position a little bit.Knock carefully and gently on the tube by using a wooden hammer shank till the stuck drilling core slips out. 4. Have gearbox replaced by a specialist

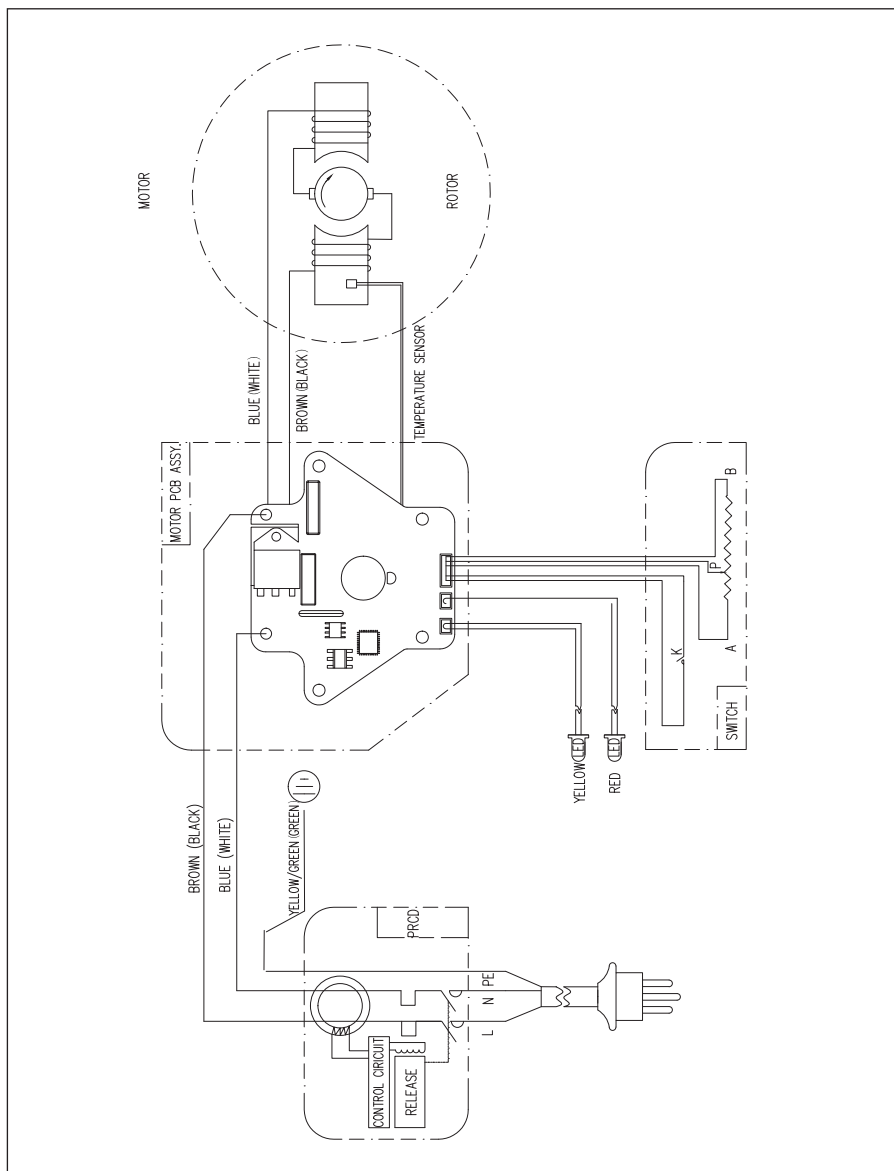
TROUBLE SHOOTING

Fault	Possible Cause	Solution
Drilling speed is way too slow	1.End of drill bit's lifetime or segments are not in good condition 2.Too much water flow causes segments cutting inefficiently. 3.Drill bit is dull. 4.Hits the reinforced bar or too many hard impurities. 5.Drill bit's bond matrix deforms.	1.Check the drill bit and segments and replace them if necessary. 2. Turn down the valve and reduce the water pressure to reduce the water flow. 3.Resharpen the segments. 4.Reduce the pressure on the drill bit to cut through reinforced bar. Increase again when cut through. 5.Adjust the cutting direction, make the drill bit perpendicular to the cutting surface.
Drill spindle wobbles	Drill spindle worn-out	Check if spindle is worn-out and replace it if necessary
Ring of fire generated on rotor commutator	1.There is a short circuit or break circuit on rotor coils. 2.Lose effectiveness or loose contact on carbon brush spring 3.Commutator is worn-out.	1.Have the rotor checked and replaced if necessary. 2.Clean the spring or adjust its pressure, or replace the carbon brushes if necessary 3.Replace the rotor with a new one.

*Please note, all repair works must be carried out by a specialist or in an authorized repair station!

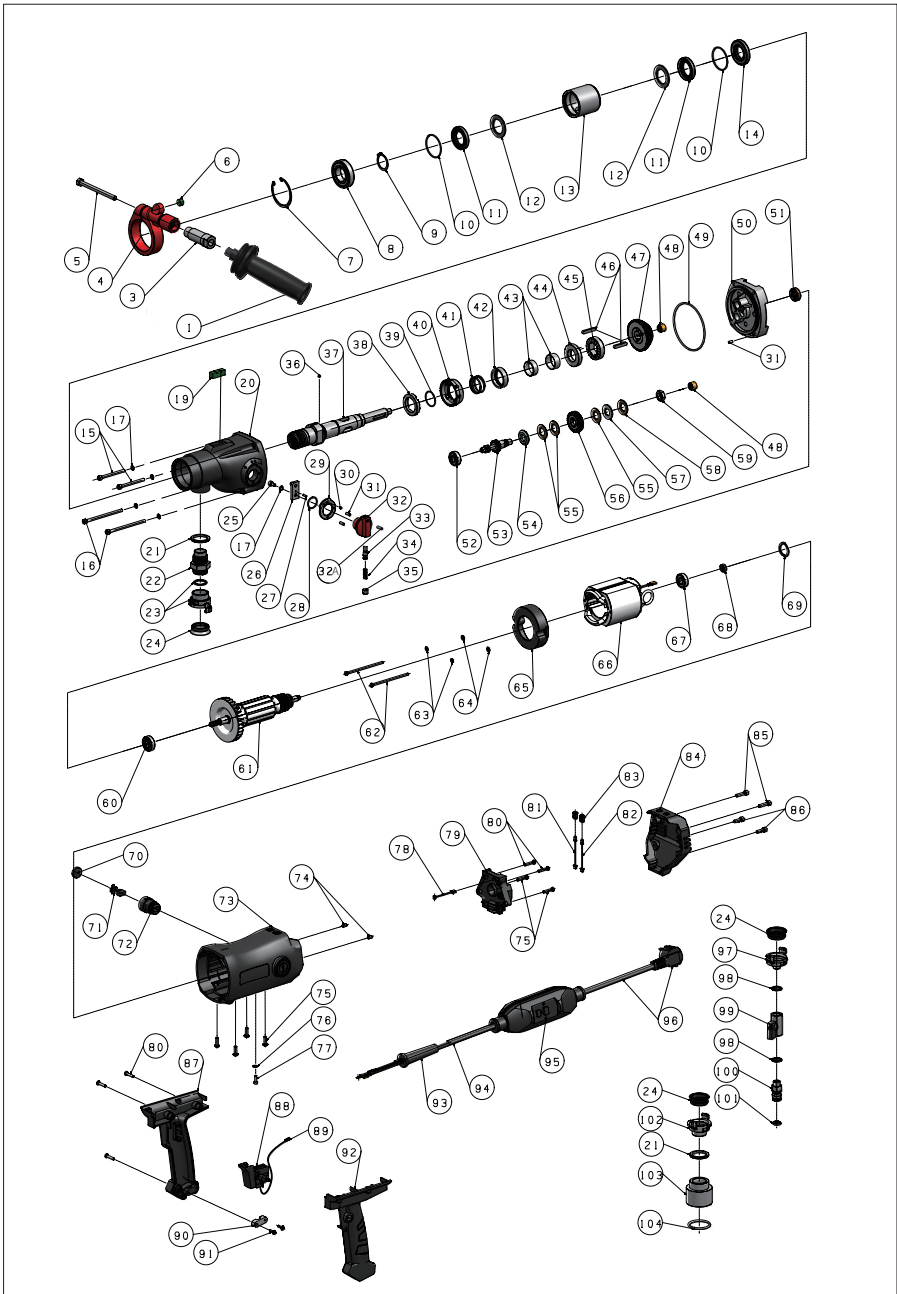
WIRING DIAGRAM

Model: DB-162P/162D



EXPLODED VIEW

Model: DB-162P



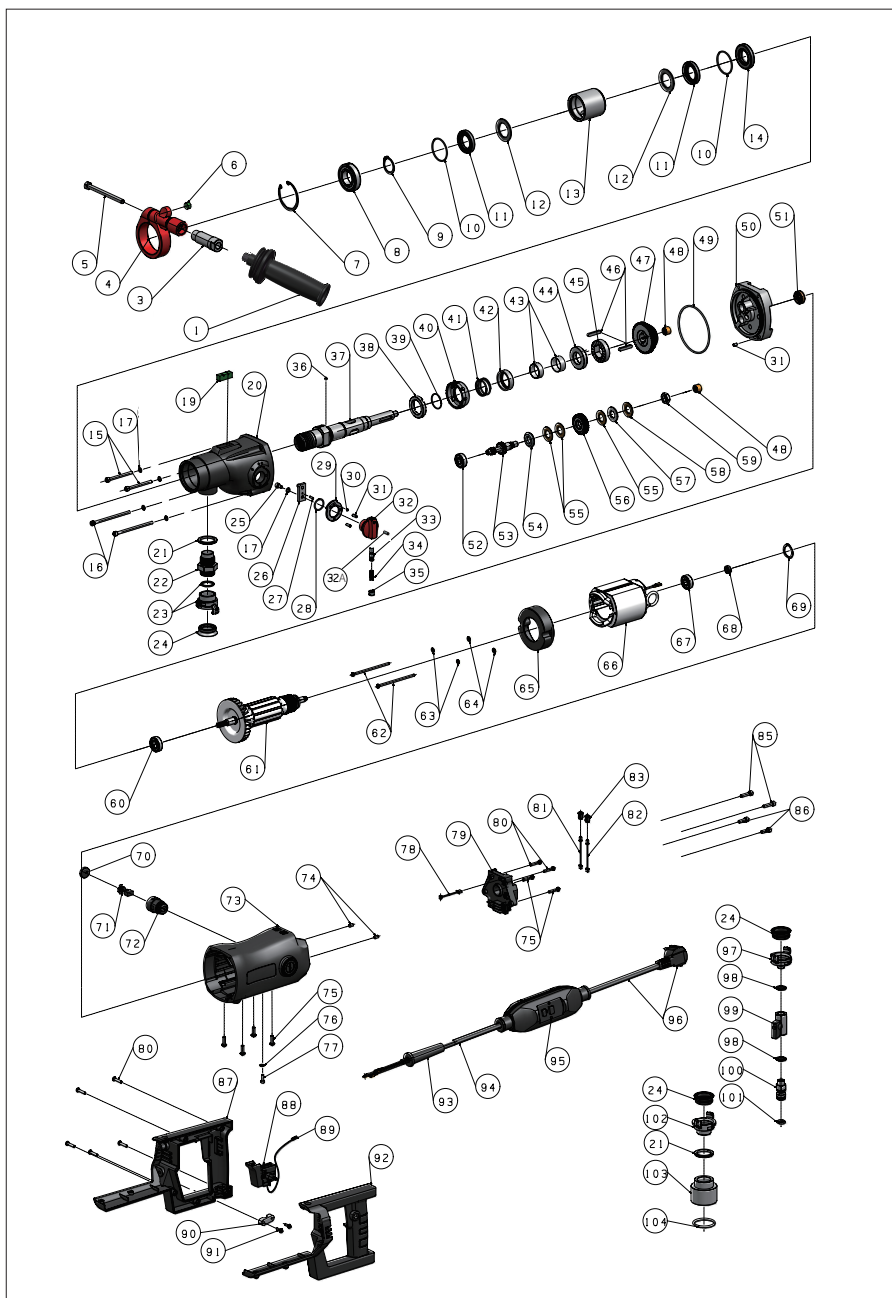
PARTS LIST

Model: DB-162P

No.	Parts Name	Qty	No.	Parts Name	Qty
1	Front grip, plastic	1	57	Clutch disk	1
3	Front grip connecting rod	1	58	Disk spring	1
4	Front grip clamp bracket	1	59	Hex nut M12xP1.25 T=6 mm	1
5	Hex head cap bolt M8x100	1	60	Deep groove ball bearing 6001V	1
6	Bubble level Φ12	1	61	Rotor assy. (230V)	1
7	Internal circlip Φ52	1		Rotor assy. (120V)	1
8	Deep groove ball bearing 6028Z	1	62	Cross recessed tapping screw M4x95	2
9	External circlip Φ28	1	63	Spring washer M4	2
10	Wire circlip Φ45xΦ2	2	64	Washer 4.2	2
11	Skeleton oil seal TC 28x43x7	2	65	Wind deflector	1
12	Water ring washer Φ43xΦ28.2x2	2	66	Stator assy. (230V)	1
13	Water ring bushing	1		Stator assy. (120V)	1
14	Skeleton oil seal TC 25x47x7	1	67	Deep groove ball bearing 6000Z	1
15	Cross recessed tapping screw M5x50	2	68	Magnetic ring, grade 2 (Φ14xΦ7x5.5)	1
16	Cross recessed tapping screw M5x80	2	69	Wave washer Φ26	1
17	Flat washer (Φ5xΦ9x1)	4	70	Carbon brush cover	2
19	Square bubble level 10x10x30	1	71	Carbon brush	2
20	Gearbox housing	1	72	Carbon brush holder	2
21	Seal gasket (Φ35xΦ27.1x3)	2	73	Motor housing	1
22	G3/4" Male thread connector	1	74	Cone point socket set screw M5x10	2
23	G3/4" Female thread quick detach coupler	1	75	Hex socket mushroom cap screw M4x20	6
24	Special-shaped sealing ring for coupler	3	76	Serrated lock washers external teeth M4	1
25	Hex head cap screw M5x12	1	77	Cross recessed pan head screw M4x6	1
26	Gearshift lever	1	78	Temperature sensing line	1
27	Dowel pin Φ3x8	1	79	Motor PCBA (230v)	1
28	O-ring (Φ22xΦ2)	1		Motor PCBA (120v)	1
29	Gear selector flat washer	1	80	Hex head cap screw M4x25	5
30	Steel ball 5/32" (Φ3.969)	1	81	Yellow LED	1
31	Dowel pin Φ4x8	3	82	Red LED	1
32	Gear selector	1	83	LED socket	2
32A	Stop screw M4X6	1	84	Motor tail cover	1
33	Gear selector press pin	1	85	Cross recessed tapping screw M5x25	2
34	Spring Φ7xΦ0.8x18	1	86	Cross recessed tapping screw M5x20	2
35	Screw plug M10	1	87	Pistol grip right cover	1
36	Steel ball 5/32" (Φ3.969)	1	88	Trigger switch	1
37	Spindle shaft	1	89	Switch cable	1
38	Micro-percussion ring gear	1	90	Cable clamp	1
39	Wire circlip Φ28	1	91	Cross recessed tapping screw M4x16	2
40	Mode select ring	1	92	Pistol grip left cover	1
41	Micro-percussion spring	1	93	Power cord gland	1
42	Spring steel bushing	1	94	Power cord (230v/3x1.5²)	1
43	Water ring shaft sleeve (Φ28xΦ26x9.5)	2		Power cord (120v/3x14AWG)	1
44	Ratchet wheel	1	95	PRCD (230V)	1
45	Engagement ratchet wheel	1		PRCD (120V)	1
46	Key 5x5x30	2	96	Power plug (230V)	1
47	Pinion Z45-Z38	1		Power plug (120V)	1
48	Drawn cup needle bearing HK1010	2	97	Quick detach coupler G1/4"	1
49	O-ring (Φ85xΦ2.5)	1	98	Flat washer for assembly BS/A12.7 (12.7x19x1.5)	2
50	Gear cover plate	1	99	Water valve switch	1
51	Skeleton oil seal TC 12x24x7	1	100	Water valve coupler	1
52	Deep groove ball bearing 629Z	1	101	O-ring (Φ16xΦ3.1)	1
53	Pinion shaft Z15-Z8	1	102	G3/4" quick detach coupler	2
54	Friction washer	1	103	Dust exhaustor coupler	1
55	Copper friction disk	3	104	O-ring (Φ42xΦ4)	1
56	Helical gear Z34-M1 Right Hand	1			

EXPLODED VIEW

Model: DB-162D



PARTS LIST

Model: DB-162D

No.	Parts Name	Qty	No.	Parts Name	Qty
1	Front grip, plastic	1	56	Helical gear Z34-M1 Right Hand	1
3	Front grip connecting rod	1	57	Clutch disk	1
4	Front grip clamp bracket	1	58	Disk spring	1
5	Hex head cap bolt M8x100	1	59	Hex nut M12xP1.25 T=6 mm	1
6	Bubble level Φ12	1	60	Deep groove ball bearing 6001V	1
7	Internal circlip Φ52	1	61	Rotor assy. (230V)	1
8	Deep groove ball bearing 6028Z	1		Rotor assy. (120V)	1
9	External circlip Φ28	1	62	Cross recessed tapping screw M4x95	2
10	Wire circlip Φ45xΦ2	2	63	Spring washer M4	2
11	Skeleton oil seal TC 28x43x7	2	64	Washer 4.2	2
12	Water ring washer Φ43xΦ28.2x2	2	65	Wind deflector	1
13	Water ring bushing	1	66	Stator assy. (230V)	1
14	Skeleton oil seal TC 25x47x7	1		Stator assy. (120V)	1
15	Cross recessed tapping screw M5x50	2	67	Deep groove ball bearing 6000V	1
16	Cross recessed tapping screw M5x80	2	68	Magnetic ring, grade 2 (Φ14xΦ7x5.5)	1
17	Flat washer (Φ5xΦ9x1)	4	69	Wave washer Φ26	1
19	Square bubble level 10x10x30	1	70	Carbon brush cover	2
20	Gearbox housing	1	71	Carbon brush	2
21	Seal gasket (Φ35xΦ27.1x3)	2	72	Carbon brush holder	2
22	G3/4" Male thread connector	1	73	Motor housing	1
23	G3/4" Female thread quick detach coupler	1	74	Cone point socket set screw M5x10	2
24	Special-shaped sealing ring for coupler	3	75	Hex socket mushroom cap screw M4x20	6
25	Hex head cap screw M5x12	1	76	Serrated lock washers external teeth M4	1
26	Gearshift lever	1	77	Cross recessed pan head screw M4x6	1
27	Dowel pin Φ3x8	1	78	Temperature sensing line	1
28	O-ring (Φ22xΦ2)	1	79	Motor PCBA (230v)	1
29	Gear selector flat washer	1		Motor PCBA (120v)	1
30	Steel ball 5/32" (Φ3.969)	1	80	Hex head cap screw M4x25	7
31	Dowel pin Φ4x8	3	81	Yellow LED	1
32	Gear selector	1	82	Red LED	1
32A	Stop screw M4X6	1	83	LED socket	2
33	Gear selector press pin	1	85	Cross recessed tapping screw M5x25	2
34	Spring Φ7xΦ0.8x18	1	86	Cross recessed tapping screw M5x20	2
35	Screw plug M10	1	87	D shape grip right cover	1
36	Steel ball 5/32" (Φ3.969)	1	88	Trigger switch	1
37	Spindle shaft	1	89	Switch cable	1
38	Micro-percussion ring gear	1	90	Cable clamp	1
39	Wire circlip Φ28	1	91	Cross recessed tapping screw M4x16	2
40	Mode select ring	1	92	D shape grip left cover	1
41	Micro-percussion spring	1	93	Power cord gland	1
42	Spring steel bushing	1	94	Power cord (230v/3x1.5²)	1
43	Water ring shaft sleeve (Φ28xΦ26x9.5)	2		Power cord (120v/3x14AWG)	1
44	Ratchet wheel	1	95	PRCD (230V)	1
45	Engagement ratchet wheel	1		PRCD (120V)	1
46	Key 5x5x30	2	96	Power plug (230V)	1
47	Pinion Z45-Z38	1		Power plug (120V)	1
48	Drawn cup needle bearing HK1010	2	97	Quick detach coupler G1/4"	1
49	O-ring (Φ85xΦ2.5)	1	98	Flat washer for assembly BS/A12.7 (12.7x19x1.5)	2
50	Gear cover plate	1	99	Water valve switch	1
51	Skeleton oil seal TC 12x24x7	1	100	Water valve coupler	1
52	Deep groove ball bearing 629Z	1	101	O-ring (Φ16xΦ3.1)	1
53	Pinion shaft Z15-Z8	1	102	G3/4" quick detach coupler	2
54	Friction washer	1	103	Dust extraction coupler	1
55	Copper friction disk	3	104	O-ring (Φ42xΦ4)	1

PRODUCT REGISTRATION

Product Registration

As for technical data, please refer to the name plate on the machine.

- 1.Fill in the blanks with Product Model, Serial No., and Date of Purchase
- 2.Fill in the blanks with Parts Name and No., Spec. if purchasing spare parts
- 3.Fill in the blanks with details when consulting technical issues

Product Model: _____

Serial No.: _____

Date of Purchase: _____

Parts Name & No.: _____

Spec.: _____

Technical Issue: _____

Defective Component: _____

Sales or Distributor Info: _____



WARRANTY CARD

Date of Maintenance: _____

Usage Time: _____

Fault: _____

Solution and Result: _____

Return and/or Exchange Info: _____

Engineer Signature and Date: _____

User Signature and Date: _____

