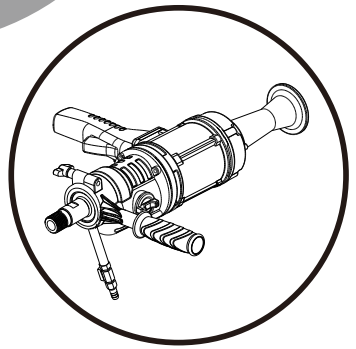


OPERATING INSTRUCTION -4

CONTENTS

Operation Manual

WARNING

To prevent electric shock or fire, please strictly abide by the procedures in the operation manual.
The machine only for the authorized persons, please do not let other people to operate. If any violation of the instructions operation and cause personal injury or machine damage, our company disclaim all responsibility.
The machine can be only maintained by the people who has the certification.

THANKS TO THE BUYER

Thanks for buying the series of diamond drill machine of . Please read the operation manual and pay attention to the safety precaution.
The right operation, will make you fully feel our products superior performance.
Please put this manual in a safe place for future reference.

ABOUT THIS MANUAL

The machine model of the description in this manual:

Mod.: 18/2EBM、18/2PA、26/3EBM、1520-3BS/1520-3EBS、1780-3BS/1780-3EBS 2020-3BS/2020-3EBS、90/2BS、105/3BS

Confirm the machine model according to the nameplate.

HAMMER DRILLING USE

This drilling machine is designed for either wet or dry core drilling in masonry, concrete and similar types of materials. It is equipped with a 2 speed gearbox which allows mechanical selection of 2 speed ranges forideal drilling with either small or large diameter core bits. In addition, the motor is equipped with feedback electronic speed stabilization which works to keep the rotation speed the same, regardless of load.There is a variable speed function which is controlled by a thumbwheel. There is soft start and electronic overload protection and also a mechanical slip clutch for safety.There is provision for both impact drilling and standard drilling functions. Selection between impact and standard drilling is made with a selector tab on the top of the gearbox.

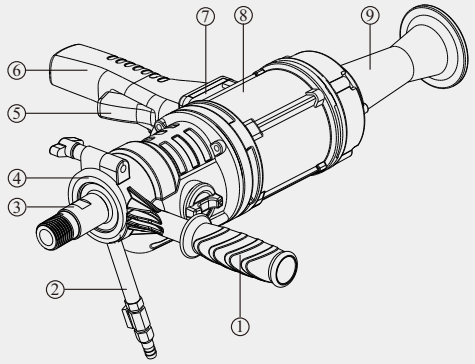
SAFETY PRECAUTION

- Read all precautions before operation and keep it forever.
- Please follow the operating instruction strictly, failures in the compliance with these safety precautions and instructions can cause electric shock, fire and/or heavy injuries.

1. Keep your working area clean and well illuminated. Disorder or unilluminated working areas can cause accidents
2. Do not work in explosive ambiances with the electric tool, beacuse there are flammable liquid, gases or dusts. Electric tools generate sparks which can inflame the dust or vapors.
3. Keep children and other persons away from the electric tool while using it. When being distracted, you can lose the control on the device.
4. Be attentive, pay attention to what you do and go to work with the electric tool with reason. Do not use an electric tool when you are tired or under the influence of drugs, alcohol or pharmaceuticals. One moment of carelessness while using an electric tool can cause serious injuries.
5. Wear personal protective equipment and always goggles. The wearing of personal protective equipment, like dust mask, skid-proof shoes, protection helmet or hearing protection, reduces the risk of injuries.
6. Avoid unintended start up. Make sure that the electric tool is switched off before connecting it to the electricity. When you have your fin-ger on the switch while carrying the electric tool or connect the device to the power when it is switched on, this can cause accidents.
7. Remove adjusting tools or wrenches before switching on the electric tool. A tool or wrench which is located on a turning device can cause injuries.

8. Avoid abnormal posture. Care for safe standing and keep the balance anytime. Do not work on a ladder. Thus you can control the electric tool better in unexpected situations.
9. Wear suitable clothing. Do not wear wide clothing or jewelry. Keep hair, clothing and gloves away from moving parts. Wide clothing, jewelry or long hair can be caught by moving parts.
10. Do not overload the device. Use the appropriate electric tool for your work. With the appropriate electric tool you work better and saver in the declared range of performance.
11. Do not use an electric tool whose switch is damaged. An electric tool which can not be switched on and off is dangerous and has to be repaired.
12. Unplug the plug from the socket before carrying out instrument settings, exchanging accessories or put the device aside. This safety measure avoids the unintended start of the electric tool.
13. Keep unused electric tools out of reach of children. Do not allow persons to use the device who are not familiar with it or have not read these instructions. Electric tools are dangerous if they are used by inexperienced persons.
14. Voltage: please be attention that the power voltage should be no more than + 5% of rated voltage. Higher voltages however can cause irreparable damages. Please note that when operating the machine via a generator, this does not generate higher voltage peaks.

PRODUCT STRUCTURE



1. Sild handle
2. Flush water valve
3. Motor spindle
4. Water ring assembly(External)
5. Power switch
6. Main handle
7. Soft start the overload
8. Motor assembly
9. Plastic shoulder rest

Instructions for hand-held drills:

► Wear hearing protection when operating the machine
► Use the auxiliary handles that are supplied with the device
► Hold the handle while operating the machine

OIL IMMERSED ADVANTAGES

Oil immersed type diamond drilling machine is a kind of drill for the reinforced concrete, brick, stone, ceramic and refractory materials, It is Suitable for equipment installation, installation of water and electricity, tunnels and other construction, installation. Oil immersed type diamond drilling machine gear oil has a very good pressure, when gear meshing friction surface temperature is high enough, It can react chemically with the gear surface, form metal film strength strong critical shear, preventing gear surface wearing.

The friction losses, greatly improving the service life of the gear. The bearing capacity of gear oil is high, is conducive to the tooth surface protection. At the high temperature it can guarantee the reliable lubrication of the gear. Viscosity temperature performance is good with the variation of working temperature, it ensures a sufficient liquidity at low temperature, ensure the liquid oil to the tooth surface and bearing friction loss, prevent,Injury. In the high temperature viscosity does not decrease too much, can form a lubricating oil sufficiently thick enough.

Attention: Our company does not assume any responsibility because the machine is not solid or fixed safety facilities are not in appropriate place cause accident.

SPECIFICATION

Product model MOD.	Brick drilling range mm	Concrete drilling range mm	Rated voltage V	Input power W	Rated frequency Hz	No-load speed rpm/min
18/2EBM	132	80	110/220~	1900	50-60	720-1230/1780
26/3EBM	165	100	110/220~	2300	50-60	530- 720/1220/1300
1520/3BS	150	100	110/220~	1800	50-60	700/2770
1520/3EBS	150	100	110/220~	1800	50-60	100-700/ 2770
1780/3BS	180	125	110/220~	1900	50-60	700/1500/2980
1780/3EBS	180	125	110/220~	1900	50-60	100-700/1500/2980
2020/3BS	200	150	110/220~	2100	50-60	590/1310/2730
2020/3EBS	200	150	110/220~	2100	50-60	100-590/1310/2730
90/2BS	90	50	110/220~	1800	50-60	770/2770
105/3BS	105	76	110/220~	2100	50-60	590/1310/2730

Notice: In order to constantly improve products, our company reserves the right to change technical data without prior inform.

SAFE OPERATION

1. Please read the manual carefully before operation. This machine may only be used by trained people.
2. Please check the voltage before start, the power voltage should be no more than ±5% of rated voltage. Higher voltages however can cause damages such as motor burning and electric leakage.
3. Wear helmet, insulating gloves, labor suit. Do not wear wide clothing or jewelry, keep hair away from it in case of twist.
4. This machine is designed for wet drill bits, do not use other bits, and do not enlarge the motor load.
5. Pay attention that the water can' t get into the motor, do not block the ventilation, in case of motor burning.
6. Check the workplace before operation, eliminate danger, such as high voltage power lines, gas piping water pipe and telecommunication facility and so on.
7. Pay attention to the safety of down layer if the machine should drill holes through floor. When drill on beam column, check the structure of building.
8. Do not work in explosive ambiances with the electric tool, in which there are flammable liquid, gases or dusts. Electric tools generate sparks which can inflame the dust or vapors.
9. Make sure, the drill machine start to operate with no-load, starting with load is prohibited, or may cause damages to machine and users. Fix the machine well in case of dropping when working on high place.
10. Use high quality three-core cable and make sure the cable is connected with ground. A ground fault circuit interrupter is necessary.

OPERATION

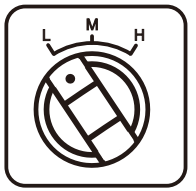
1. The fixation of expansion bolt: Drill a hole by impact drill in the set position, screw the expansion bolt, make sure it is tight, fix the diamond drill machine on it, and adjust the four regulating screws to keep the drill machine from swinging.
2. The fixation of support rod : determine the drilling location, supporting rod, adjusting the length of the push rod, and adjust the fastening screws, so that the drilling rig substructure full contact face, and ensure the drill bit and drill vertical face ,no swing.
3. Fix the drill bit, connect the power and water supply, move adjusting tools, switch on when the drill machine is no load, check the drill bit and sound, if everything is fine, then open the water tap, the machine can start to drill when water flow from the drill bit.
4. Take it slow when at first, when the drill bit cut in the wall, change to normal speed. Slow down when the drill machine run into steel.

5. Both mechanical and electronic protections exist in drill machine. When drilling, if the motor is working, while the drill bit is not moving, means the drill bit need sharpened or feeding speed is too fast, please pull out the drill bit then re-feed. If the motor stop when drilling, please return on the machine and slow down the feed speed.
6. After using period of time, the abrasion of friction plate may cause slip. Please take the clutch gear out of gearbox and change friction plates to unified size, tight the screws. Then put the gear back to gearbox (This step should be done by trained person).

INSTRUCTION OF SHIFTING GEAR

In order to improve the efficiency, some machines are designed with 2-speed gear shift, high speed(H speed) and low speed(L speed). H speed is for drilling on soft material with small drill bit , M speed is for drilling on hard material with medium drill bit, L speed is for drilling on hard material with large drill bit.

Shift when the machine stops or will stop.
Shift in place. If the spindle does not rotate or there is some noise after starting up, the gear may not shift in place. Turn off the machine immediately, and then shift the gear to proper place, rotate the spindle back and forth (easy to shift) at the same time till shift in place.
Do not shift when the machine is full-speed operated, over load or stuck.



L is for low speed, **H** is for high speed and, **M** is for medium speed.
The drawing is for low speed. Low speed to high speed, turn the knob clockwise, otherwise,anti-clockwise.

FAULT HANDING

Error	Cause	Solution
The Motor does not work	Power off, or plug loosed	Power up, plug in
	Carbon brush get stuck, and detach from diverter	Re-install carbon brush
	Reset PRCD failed	Push reset button or re-start the motor
	PRCD get damaged	Chang PRCD
Drill Slowly	Drill bit worn out	Change drill bit
	Feeding speed is too low	Accelerate feeding speed
	Drill bit was pasted by chips	Clean the drill bit, enhance water pressure
	Rotate speed is too high	Change to low speed
	Cutting on steel and slip	Reduce feeding speed, after cutting through the steel, increase it
	Too much chips in the hole	Clean the bottom of hole and enhance water pressure
	Less water supply or water leakage	Check the ball valve and the water flow
	Drill bit becoming glazed	Re-sharp the drill bit with grinder
Drill bit jam	The tube and drill bit or the drill bit and hole wall was jammed by chips The stand is not secured, move location	Switch off the machine, turn the drill bit right and left with wrench or pull the drill bit out and break up the core sample
	Rotate speed is too high	Re-fix the stand
	Cutting on steel and slip	Narrow the gap
Drill bit under cutting	Spindle is not straight	Repair or replace the spindle
	Drill bit is not straight	Replace the drill bit
	Chips can't be flushed out of the hole	Enhance water pressure, pull out the drill bit, clean the hole
Water jacket is leaking	The seal of skeleton is worn out	Change the seal

MAINTENANCE

Warning: Always and on principle pull the mains plug before beginning with works of maintenance or repairs.

Clean the machine with a dry or moist cleaning-rag and not with a jet of water, make sure the water does not go into the motor and switch box. Keep the ventilation apertures clean, do not forget to clean the core bit thread and grease it, get all screws checked and tighten. Have your tool only repaired by qualified personnel and only with original spare parts. Or else, it may cause damage to person or machine.

CARBON BRUSH

After you have used the machine for about 300 hours you should check the carbon brushes for wear and replace them if necessary. Like any other work on the motor this must be done by an electrical specialist.

QUALITY ASSURANCE

This product is covered by a guarantee for a period of 6 months from the date of purchase. The guarantee covers all defects or damages of the product during the gu arantee period evidently due the defaults in workmanship or material and is limited to repair and/or adjustment. Please contact our company or authorized parties for free replacement or repair.

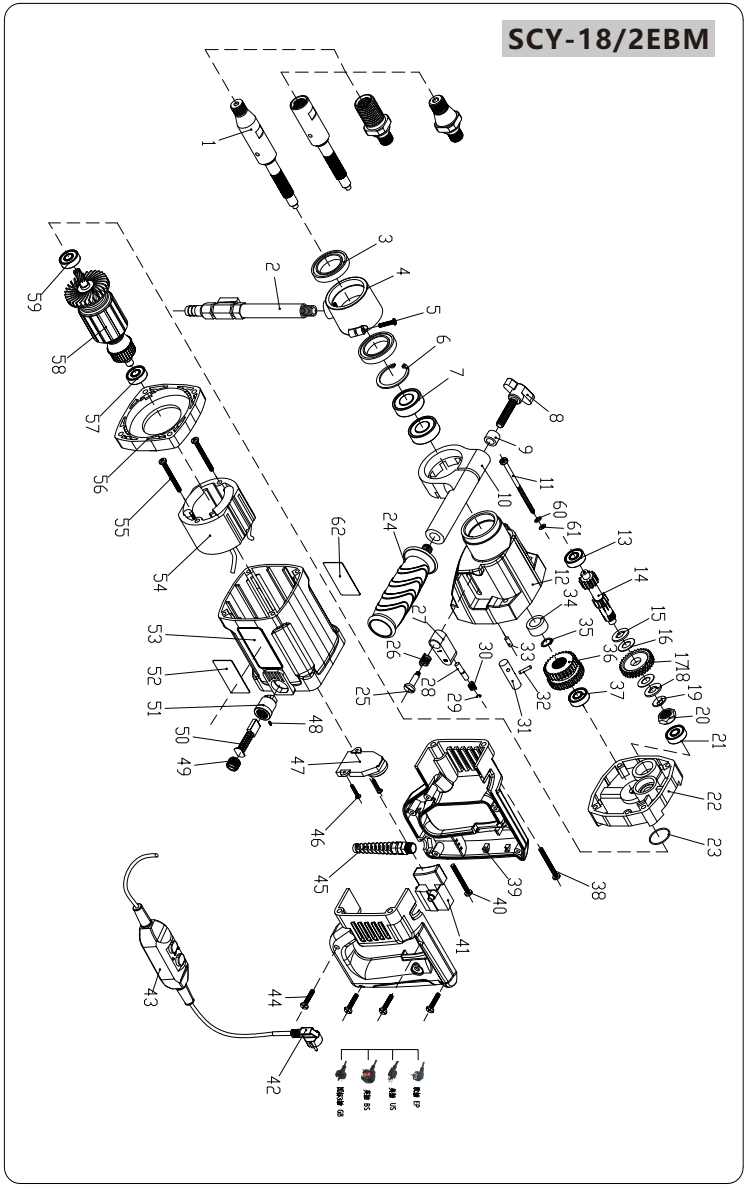
The guarantee is not valid in case of normally wear and tear, if the product has been misused, used contrary to the instruction manual, or by using extraneous parts. After warranty period, authorized parties have right to ask for payback for repair, the maintenance record effects with the stamp and signature of authorized party.

APPLICATION FIELD

This machine is applied for drilling holes in concrete, stone, masonry, and pipe work, such as air cooler, electric appliance, water pipe and gas pipe.

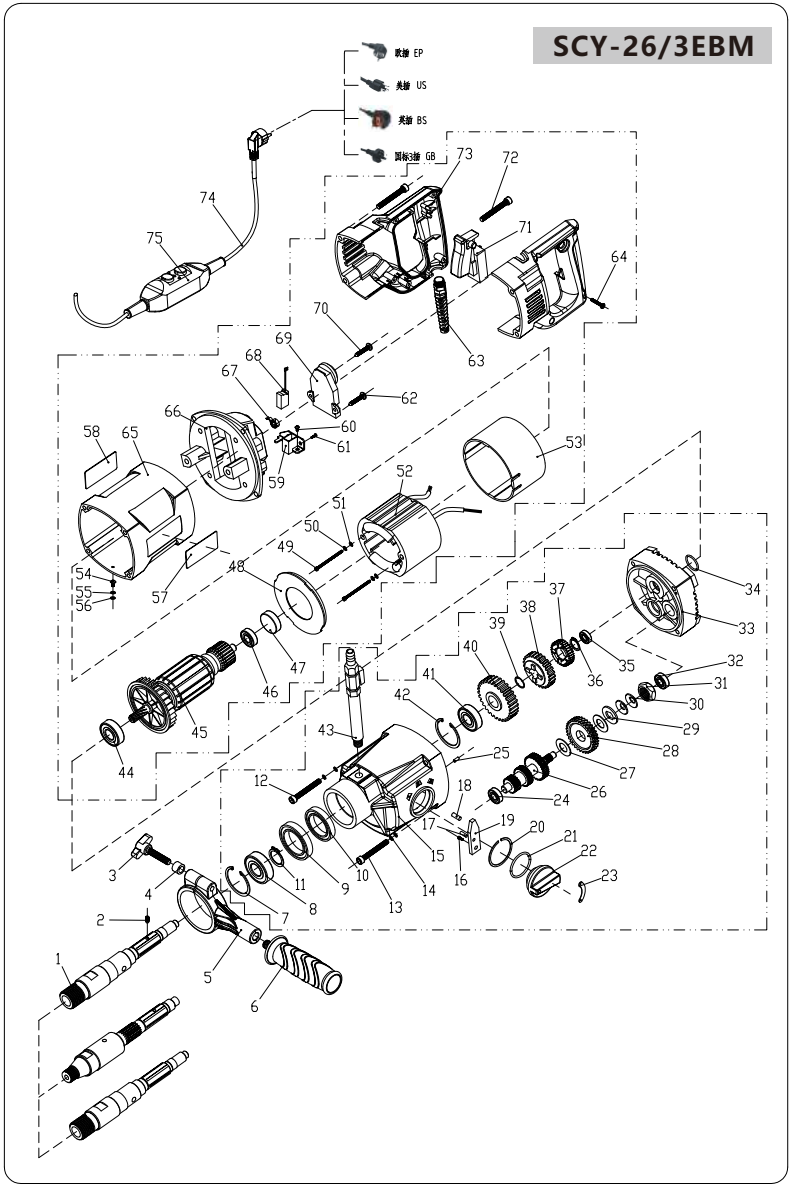
Notice: In order to constantly improve products, our company reserves the right to change technical data without prior inform.

NO.	Parts name	QTY
1	Spindle 80	1
2	Hose faucet 200A-EU	1
3	Water seal 30 * 42 * 7	2
4	Water circle 80	1
5	Round head cross self-propelled screw M4 * 16	2
6	Inner card 35	1
7	Bearing 6003	2
8	Word Hand Screw M8 * 55	1
9	Roller 130	1
10	Handlebars 80	1
11	Round head cross self-propelled screw M5 * 85(half tooth)	4
12	Gear box 80	1
13	Bearing 608	1
14	Class I tooth axis 80-2	1
15	Hannes 80	2
16	Piece 80	2
17	Class I gear 80-1	1
18	Hand-key gasket 80-1	2
19	Curved bullet pad 80	1
20	Nut 80	1
21	Bearing 608	1
22	Middle cover 80	1
23	O-ring φ 25.8 * 1.8	1
24	The assistant took 80	1
25	Custom screw 80	1
26	Spring 80	1
27	Button 80	1
28	Slot pin 5 * 30	1
29	E-card 6	1
30	Spring 80-1	1
31	Bypass 80	1
32	Cylinder pin 80 custom	1
33	Cylinder pin 4 * 12	1
34	Iron Circle 80	1
35	Card 16	1
36	Spindle gear 80-3	1
37	Bearing 698	1
38	Round head cross self-propelled screw M5 * 35	2
39	Master handle 80	1
40	Round head cross self-propelled screw M5 * 30	2
41	Switch TN 336	1
42	Power cord 3 * 1.0 * 3.5 M	1
43	Leakage protector PD16	1
44	Round head cross self-propelled screw M4 * 20	4
45	Fold proof connector M12 * 1.5	1
46	Round head cross self-propelled screw M4 * 12	2
47	Governor CX-80	1
48	Ultrasonic M5 * 6	2
49	Brush 80	2
50	Carbon Brush 80	2
51	Brush 80	2
52	Brand 40-80	1
53	Stator shell 80	1
54	Stator SCY-18 / 2	1
55	Round head cross self-propelled screw M4 * 65(half tooth)	2
56	Bend 80	1
57	Bearing 608	1
58	Rotor SCY-18 / 2	1
59	Bearing 6000	1
60	Pad M5	4
61	Pad M5	4
62	Parameter Card 18-916(60.3 * 29.5)	1



NO.	Parts name	QTY
1	Spindle 140	1
2	Ball head plunger M8 * 15	1
3	Word Hand Screw M8 * 55	1
4	Roller 130	1
5	Handlebars 140	1
6	The assistant took 80	1
7	Inner card 52	1
8	Bearing 60/28	1
9	Oil seal 26 * 48 * 7	1
10	Oil seal 26 * 50 * 7	1
11	Card 28	1
12	Hegonal screw M6 * 75(half tooth)	2
13	Hegonal screw M6 * 70(half tooth)	2
14	Pad M6	4
15	Gear box 140	1
16	Hegonal screw M4 * 10	1
17	Cylinder pin 3 * 14	1
18	Cylinder pin 5 * 25	2
19	Pulling 140	2
20	Stop ring φ 42	1
21	O-ring φ 35 * 2	1
22	Pulling knob 140	1
23	Deck 43185	1
24	Bearing 6001	1
25	Cylinder pin 4 * 12	1
26	Class I tooth axis 140-2	1
27	Piece 80	2
28	Class I gear 140-1	1
29	Hand-key gasket 80-1(2.8)	1
30	Curved bullet pad 90	2
31	Nut 80	1
32	Bearing 608	1
33	Center cover 140	1
34	O-ring φ 31.5 * 1.8	1
35	Bearing 698	1
36	Card 15	1
37	Type II high-speed gear 140-3	1
38	Class II sliding gear 140-4	1
39	Stop Ring 18	1
40	Type II low speed gear 140-5	1
41	Bearing 6005	1
42	Inner card 47	1
43	Hose faucet 200A-EU	1
44	Bearing 6201	1
45	Rotor SCY-26 / 3	1
46	Bearing 6000	1
47	Rubber cover 140	1
48	Bend 23	1
49	Hegonal screw M5 * 70(half tooth)	2
50	Pad M5	4
51	Pad M5	4
52	Stator SCY-26 / 3	1
53	Interior lining 23	1
54	Round Cross Screw M4 * 6	1
55	Pad M4	2
56	Waveform gasket M4	1
57	Commercial sign 140	1
58	Parameter Card 26/3(65 * 30)	1
59	Brush frame 19	2
60	Round Head Cross Screw M4 * 6(Copper)	2

NO.	Parts name	QTY
61	Round Head Cross Screw M4 * 12(Copper)	4
62	Round Cross Screw M3 * 20	2
63	Fold proof connector M16 * 1.5	1
64	Cross tapping screw M4 * 20	4
65	Stator shell 140-1	1
66	Stent 140	1
67	Curtain 19	2
68	Carbon Brush 19	2
69	Governor CX-150	1
70	Round Cross Screw M3 * 10	2
71	Switch 140	1
72	Hegonal screw M6 * 35	4
73	Master handle, 140.	1
74	Power cord 3 * 1.0 * 3.5 M	1
75	Leakage protector PD16	1



NO.	Parts name	QTY
1	Master handle 1780	1
2	Governor 1780	1
3	Fold proof connector M12 * 1.5	1
4	Hegonal screw M5 * 30	4
5	Leakage protector PD16	1
6	Power cord 3 * 1.0 * 3.5 M	1
7	Cross round head self-propelled screw	2
8	Transporter 1780	1
9	Horizontal 10 * 10 * 29	1
10	Stator shell 1780	1
11	Parameter card 1780(40 * 50)	1
12	Brand 40-80	1
13	Brush frame 1780	1
14	Pad M4	6
15	Loose nut M4	2
16	Capacitors 1780	2
17	Carbon Brush 1780	2
18	Round Head Cross Screw M4 * 6 Copper	2
19	Bypass 1780	2
20	O-ring φ 25.8 * 1.8	1
21	Top cover 1780	1
22	Hegonal screw M5 * 40	4
23	Back shoulder 1780	1
24	Hegonal screw M4 * 16 in round head	4
25	Plastic Shoulder 1780	1
26	Bearing 6001	1
27	Rotor SCY-1780	1
28	Breeze 1780	1
29	Bearing 6000	1
30	Hegonal screw M4 * 100(half tooth)	2
31	Interior 1780	1
32	Stator SCY-1780	1
33	Insulation sleeve 12 * 20	2
34	Inner card 47	1
35	Bearing 6005	1
36	Wild card 26	1
37	Hegonal screw M5 * 45	2
38	Pad M5	4
39	Pad M5	4
40	Cylinder pin 4 * 12	1
41	Oil seal 22 * 35 * 7	1
42	O-ring φ 85 * 1.8	1
43	O-ring φ 28 * 1.8	1
44	Oil seal 12 * 24 * 7	1
45	Gear box 1780-1	1
46	Hegonal screw M5 * 70(half tooth)	2
47	Cylinder pin 3 * 14	1
48	Hegonal screw M5 * 10	1
49	Pulling 1780	1
50	O-ring φ 20 * 3	1
51	Dialing knob 1780	1
52	Deck 1780/3	1
53	Cylinder pin 5 * 15	1
54	Type II low-speed gear 178-5	1
55	Stop Ring 18	1
56	Class II sliding gear 178-4	1
57	Type II High Speed Gear 178-3	1
58	Inner card 13	1
59	Roller pin bearing HK1010	1
60	Middle cover 1780	1

NO.	Parts name	QTY
61	Bearing 629	1
62	Class I tooth axis 178-2	1
63	Piece 80	2
64	Class I gear 178-1(6)	1
65	Iron 1780	1
66	Curved bullet pad 1780	2
67	Nut 80	1
68	Bearing 608	1
69	Word Hand Screw M8 * 55	1
70	Ring 8 * 14 * 10	1
71	Oil seal 38 * 47 * 7	1
72	Oil seal 38 * 49 * 8	1
73	Hose faucet 200A-EU	1
74	Water circle 1780	1
75	Handlebars 1780	1
76	The assistant took 80	1
77	Ball head plunger M8 * 15	1
78	Spindle 100	1