

HUMIDIFIER SERVICE MANUAL

CAUTION:

- Before servicing the unit, read the "Safety Precautions" in this manual.
- Only for authorized service.



MODEL NO.: PCMH45

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1. PREFACE

This manual is designed to provide you with important service information. Be sure to read the safety precautions prior to servicing the unit.

1.1 Safety Precautions

- 1 When servicing, set the POWER of the CONTROL PANEL to OFF and unplug the power cord.
- 2 Observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
- 3 After servicing, make an insulation resistance test to prevent the customer's exposure to shock hazards.

1.2 Insulation Resistance Test

- 1 Unplug the power cord and connect a jumper between 2 pins.
- 2 The grounding conductor (green or green & yellow) is to be open.
- 3 Measure the resistance value with an ohm meter between the jumper lead and each exposed metallic part on the equipment at all MODES (except POWER OFF).
- 4 The value should be over 1 $M\Omega$.

1.3 Specifications

MODELS	PCMH45
ITEMS	
Power Supply	220-240V, 50Hz
Input (W)	70W
Running Current (A)	0.3A
Fan Type	Fan Blade
Fan Speeds	3 (Hi/Med/Lo)
Operation Control	Control Panel
Air Direction Control	Horizontal Louver (Up & Down) - Manual
Timer Control	2 to 8 hours
Protector	Fan Motor Internal Thermal Protector
Power Cord	1.8m (3 wire with grounding)
Water Fill System	Manual (from top panel)
	Auto (from tap water connector)
Drain System	Manual empty water reservior
Evaporating Capacity	45 L/24h (at 21°C x 30% RH)
Water Tank Capacity	7.9 US Gallon / 30 L
Net Weight	27.3 lbs / 12.4 kg
Outer Dimension	29.5" x 17.3" x 29.3"
(W x D x H)	750 x 440 x 745 mm



1.4 Features

- Very powerful airflow: up to 500 m³/hr or 294 CFM.
- Carbon filter for air cleaning.
- Adjustable humidification level to your comfort.
 - L (low) the unit will keep the humidity level around the 30% RH
 - M (medium) the unit will keep the humidity level around the 45% RH
 - H (high) the unit will keep the humidity level around the 60% RH
 - C (continuously) the unit will work continuously
- Up to 8 hour timer.
- Mounted with castors for easy mobility.
- 3 speeds: high, medium and low.
- Low/High water alarm.
- 30 liter water tank capacity.

1.5 Warning & Safety Rules

WARNING - This appliance is intended for use in a domestic or office environment only. Any other use is not recommended by the manufacturer and may cause fire, electrical shocks or other injury to person or property.

When using electrical appliances, basic safety precautions should always be followed:

- Your humidifier should run on 220-240 Volt AC, 50 Hz current only.
- Check the household voltage to ensure it matches the appliance's rate specification.
- Extreme care should be taken when any product is used by, or near children, and whenever the product is left operating and unattended.
- Before operating the product remove it from its packaging and check it is in good condition.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- DO NOT operate any product with a damaged cord or plug.
- DO NOT use an extension cord with this appliance.
- DO NOT run power cord under carpeting, or cover with rugs or runners. Arrange the cord away from areas where it may be tripped over.
- Unplug the appliance during filling and cleaning.
- Always unplug the appliance from the power source before servicing or removing the unit.
- Disconnect the power supply before servicing or cleaning operation.
- Remove the power cord from the electrical receptacle by grasping and pulling on the power cord plug-end only, never from the cord.
- DO NOT use the product in areas where gasoline, paint or other flammable goods and objects are stored.
- DO NOT attempt to repair or adjust any electrical or mechanical functions on this unit, as this may void warranty. Take the unit to a qualified service engineer for inspection and repair.
- Verify that the voltage power source matches the appliance electrical specifications. Improper voltage will burn out the blower/fan, PCBA and will void the warranty.
- DO NOT cover the air inlet or outlet on the appliance as this may cause motor damage.
- DO NOT insert or allow objects to enter any ventilation, exhaust opening or water tank as this may damage the product and could cause an electrical shock or fire.
- DO NOT operate with media removed as this will overload and damage the motor.
- To reduce the risk of fire or electric shock, do not use this appliance with any solid state speed control device.
- DO NOT leave the appliance operating unattended for any extended period of time.
- This appliance is not intended for use by persons (including children or elderly) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. People who have not read this manual or are not use to this kind of product should not be allowed to use the unit.



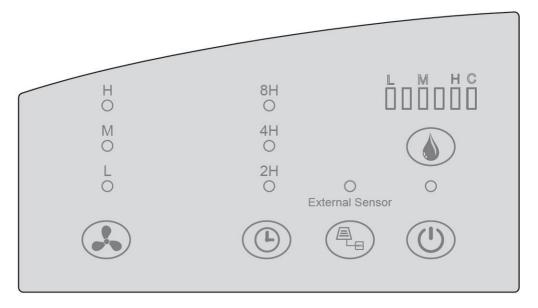
- DO NOT let children play with the packaging, for example plastic Bags, as there is a danger of suffocation.
- Children should be supervised to ensure that they do not play with the appliance.
- If the unit is damaged or it malfunctions, do not continue to operate it.
- Only use in the upright position on a flat level surface.
- This product is not intended for use in wet or damp locations. Never locate the product where it may fall into a bathtub or other water container. DO NOT use in bathrooms. Do not use in outdoors. When it is not in use always store in a dry area.

NOTE: OPERATE THE UNIT WHEN THE WATER TANK IS FILLED WITH CLEAN WATER



1.6 Operations

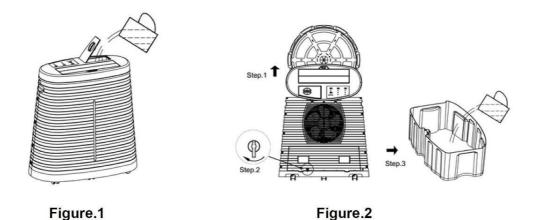
Control Panel:



Operation Instructions:

FILL WATER:

Lift up the water inlet cover, fill water into the tank through a tube (Figure.1), once water reaches to the max level, the unit will give 10sec alarm, and meanwhile the green light will be illuminated. You can also fill water directly from the tank by 1st step. unlocking/opening the top cover, removing the water wheel, 2nd step. unlocking the tank, and 3rd step. pulling the tank out (Figure.2).



Note: in case of any injuries to persons, whenever filling water into the tank, please plug out the unit and do not spill water on the unit controls and inside wirings.



- 1. Plug the power cord into a properly grounded 220~ 240Volt AC outlet, the power indicator will illuminate.
- 2. To turn the unit on, press the button, the unit will run in the default setting(low fan speed and continuous humidity).
- 3. Use the button to change the fan speed between High, Medium and Low, the indicator will show the setting you have selected, the high fan speed will result in quicker moisture increase.
- 4. Press the button to choose either Low, Medium, High an Continuous humidity, the indicator will show the setting you have selected, so the room is kept at comfortable concentration, the unit will cycle ON and OFF keeping the desired level of comfort.

 Note:
 - L (low) the unit will keep the humidity level around the 30% RH
 - M (medium) the unit will keep the humidity level around the 45% RH
 - ➤ H (high) the unit will keep the humidity level around the 60% RH
 - C (continuously) the unit will work continuously
- 5. Timer button is to set the unit automatically on/off within 2h, 4h or 8h, while the unit is running, you can choose timing off, while the unit stops, you can choose timing on.
- 6. Top cover is equipped with a kid lock, when you open it for service or removing water wheel, please use a coin to unlock it, meanwhile the power will be cut-off automatically in case of any electrical shock or injures to persons
- 7. Once the water drops to the Min level of the tank, the unit will give 10sec alarm and meanwhile the red light will illuminate and keep flashing. You can only reset it by filling water into the tank.
- 8. Memory function is applied to the unit, when the unit is routinely turned off without power interruption, the previous Fan & Humidity settings will become the default ones.
 - 9. The unit has 6 casters of which two are with a lock. These two casters are at the left and right of rear side of the unit. We strongly recommend when the unit is in operation these two casters are locked by pushing down the lock lever.

Note:

- once the room humidity is more than the set parameter, the unit will not turn on
- > Please slightly pushing the unit avoid water splashing to the floor or electrical parts.
- when restarting the unit or opening and re-placing the top cover, TANK FULL and TANK EMPTY sensor will re-detect the water level, and give the signals accordingly.



1.7 CLEANING & MAINTENANCE

Frequent cleaning is necessary to maximize and extend the life of your humidifier. Always disconnect the unit from the wall socket before cleaning and maintenance.

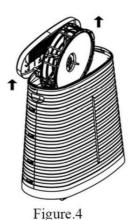
1. Evaporative Pads

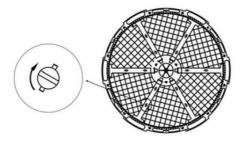
The humidifier evaporative pads have several functions. They are the most important parts of your humidifier since they perform the following functions:

- Moisture Evaporation
- Air cleaning

It is essential to keep the pads clean and replace them periodically (at least yearly, but preferably twice a year) depending on the amount of use, water hardness, local air pollution. To exchange the pads, open the humidifier top cap, take out the air flow direction part(figure.3), take carefully out the wheel(figure.4), open the clip holding the round foam-pad(figure.5), remove the circular foam-disk, and clean the foam pads with white vinegar or de-scaling agent or replace with new ones if too old(figure.6). Relocate in original position. Fix foam pads in correct position with clip. Do the same with the foam-pad that sits around the wheel.







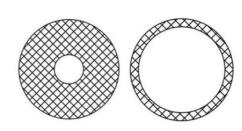


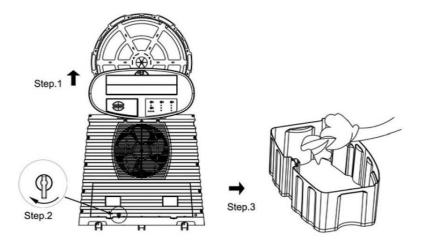
Figure.5

Figure.6



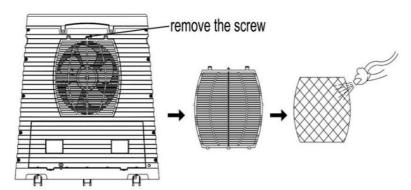
2. Water Reservior

Open the humidifier top cap, take out the air flow direction part,take carefully out the wheel,unlock the water reservoir and carefully pull back the water reservoir. Clean all remaining scale with scouring pad. Relocate water reservoir by smoothly pushing back till the water reservoir is in the correct position and lock.



3. Filter

Open the protection guard of the filter by un-screwing the protection guard. Take out the dust filter and clean this by using a vacuum cleaner and rinse in warm water. Before replacing make sure that the dust filter is fully dry. Replace the dust filter and replace the protection guard and fix with the screw. We recommend to replace the dust-filter at least once a year.



4. Cleaning inside and outside

Use a soft cloth with mild soap to clean the outside and other inside parts with possible scale deposits of your humidifier. Never use aggressive detergents to clean the unit. In order to extend the lifetime of your humidifier we recommend to clean the unit inside, outside and the water reservoir regular.



2. DISASSEMBLY INSTRUCTIONS

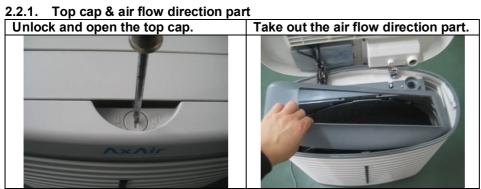
WARNING – Before the following disassembly, POWER is set to OFF and disconnected the power cord.

2.1 How To Change Carbon Filter

Use screw driver to remove 1 SS screw with head (ST4*12) on the air inlet grille.	Remove the air inlet grille.	Get the carbon filter.
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2.2 How To Change PCBA



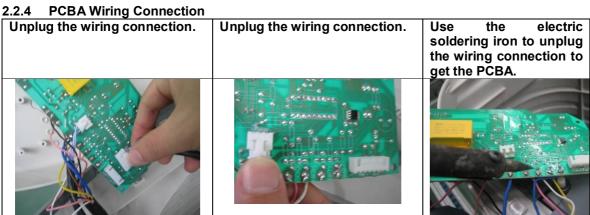
2.2.2. PCBA Box Cover & Wiring Holder			
Use screw driver to remove 2pcs SS screw with head (ST4*16) on the wiring holder.	4pcs SS screw with head	Use screw driver to remove 2pcs SS screw with head (ST3*12) on the wiring holder.	
The state of the s			

2.2.3. PCBA





2.2.4



Wiring Color Connection 2.2.5

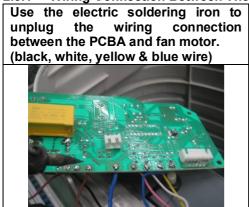
Wiring color connection refers to part 4.2 Wiring Color Description.



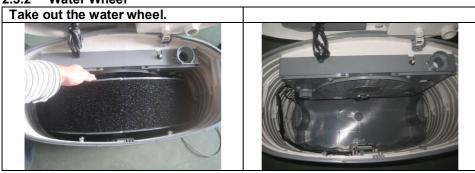
2.3 How To Change Fan Motor

Open the top cap and take out the air flow direction part follow the procedure 2.2.1 Remove the PCBA box cover and wiring holder follow the procedure 2.2.2 Remove the PCBA follow the procedure 2.2.3

2.3.1 Wiring Connection Between The PCBA And Fan Motor



2.3.2 Water Wheel

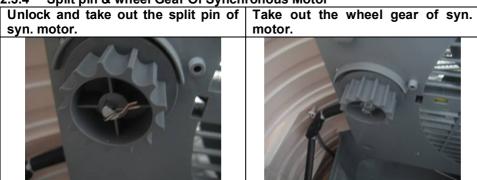


2.3.3 Water Reservoir



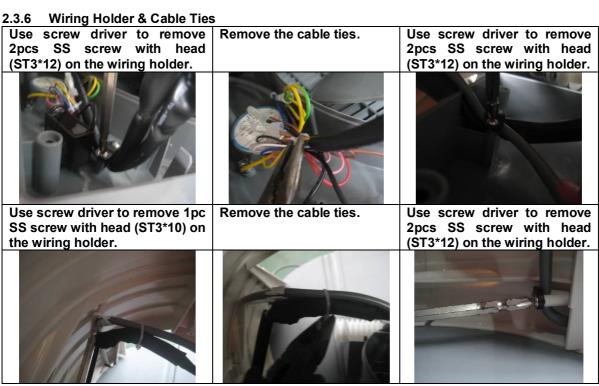


Split pin & wheel Gear Of Synchronous Motor



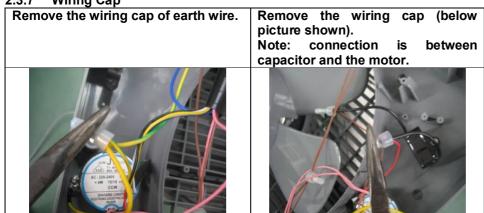
Motor Shroud



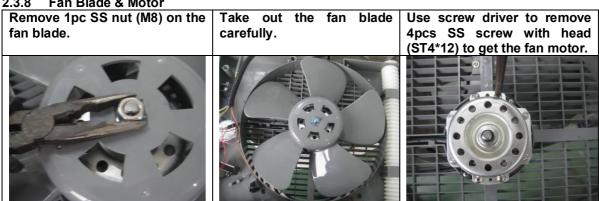




2.3.7 Wiring Cap



Fan Blade & Motor 2.3.8



2.3.9 **Wiring Color Connection**

Wiring color connection refers to part 4.2 Wiring Color Description.



2.4 How To Change Drum Motor

Open the top cap and take out the air flow direction part follow the procedure 2.2.1; Remove the PCBA box cover and wiring holder follow the procedure 2.2.2;

Remove the PCBA follow the procedure 2.2.3;

Remove the water wheel and water reservoir follow the procedure 2.3.2 and 2.3.3;

Remove the split pin & wheel gear of synchronous motor follow the procedure 2.3.4;

Remove the motor cover follow the procedure 2.3.5;

Remove the wiring holder & cable ties follow the procedure 2.3.6;

2.4.1 Wiring Connection Between The PCBA And Drum Motor

Use the electric soldering iron to unplug the wiring connection between the PCBA and drum motor. (2 pink line)



2.4.2 Drum Motor

Use screw driver to remove 2pcs SS screw with head (ST4*8) to get the drum motor.



2.4.3 Drum Motor Wiring Connection

Drum motor wiring connection refers to part 4.2 Wiring Color Description.



2.5 How To Change To New Water Wheel

Open the top cap and take out the air flow direction part follow the procedure 2.2.1; Remove the old water wheel follow the procedure 2.3.2

2.5.1 Old Front Bearing Bracket And Old Spring

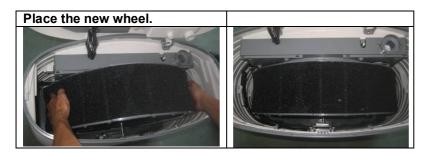
Use screw driver to remove 4pcs SS screw with head (ST4*12) to get the old front bearing bracket.

Use screw driver to remove 2pcs SS screw with head (ST3*10) to get the old spring.

2.5.2 New Front Bearing Bracket And New Spring



2.5.3 New water wheel.





2.6 How To Change To New Motor Shroud

Open the top cap and take out the air flow direction part follow the procedure 2.2.1

Remove the PCBA box cover and wiring holder follow the procedure 2.2.2

Remove the PCBA follow the procedure 2.2.3

Remove the wiring connection between the PCBA and fan motor follow the procedure 2.3.1

Remove the water wheel follow the procedure 2.3.2

Remove the water reservoir follow the procedure 2.3.3

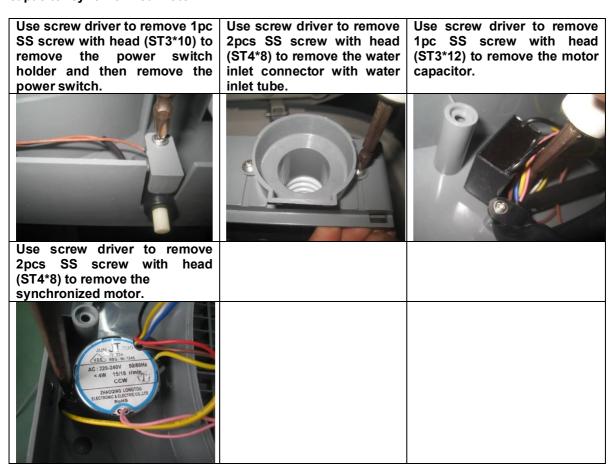
Remove the split pin & wheel gear of synchronous motor follow the procedure 2.3.4;

Remove the old motor shroud follow the procedure 2.3.5;

Remove the wiring holder & cable ties follow the procedure 2.3.6

Remove the fan blade & motor follow the procedure 2.3.8

2.6.1 Power switch holder/power switch/water inlet connector with water inlet tube/motor capacitor/synchronized motor



2.6.2 New Motor Shroud

Install the new motor shroud follow the above step.



3. TROUBLESHOOTING GUIDE

3.1 Outside Dimensions



Width: 745 mm (29.3") Depth: 440 mm (17.3") Height: 750 mm (29.5")

3.2 How it works

This large humidifier is designed to inrease the room humidity up to a specified level, two major mechanism is employed:

- 1. Air flow system, which adopts an asynchronous motor and axial flow fan to drive air going through the sponge pads and blow certain humid air into the room.
- 2. Water wheel, which wears the sponge on the drum, it can be driven by a synchronous motor and gear mechanism, the sponge pads bring some water from the water tank through the drum rotation and the fan will remove certain moisture from the sponge by evaporating principle.

Note: Before turn on the unit, make sure water wheel snaps into both end bearing correctly, otherwise the water wheel cannot be driven.



3.3 Troubleshooting Guide

The following troubleshooting guide is intended to address the most common symptoms and is by no means exhaustive. If symptoms persist, call a qualified service provider. Only a certified electrician should complete any electrical work. Unplug and disconnect the appliance from the power source before attempting to troubleshoot any of the following symptoms.

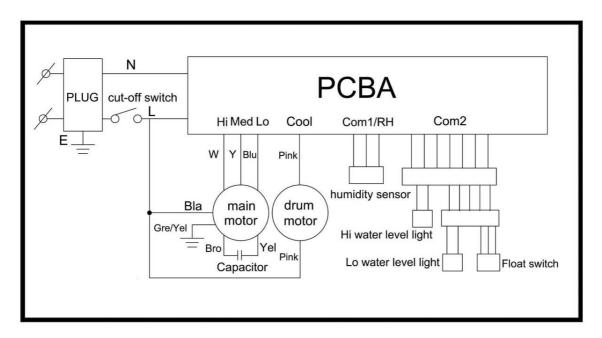
Problem Possible Cause		Solution	
Humidity output minimal to none	Water is below minimum water level in tank.	Turn off the unit. Follow instruction to fill the water tank with clean water.	
	Dust filter is dirty or has residue.	Clean or replace filter.	
Abnormal noise inside the product	Motor or fan blade problem.	Turn off and unplug the product or change the main motor according to the procedure 2.3.	
Musty or unpleasant odor	Stale or stagnant water in water tank.	Drain, flush and clean water tank	
The unit does not respond	Damaged PCBA	PCB board may be damaged. Turn off and unplug the product or change the PCBA according to the procedure 2.2.	

NOTE: The form is only for reference. If any help, please call customer service.

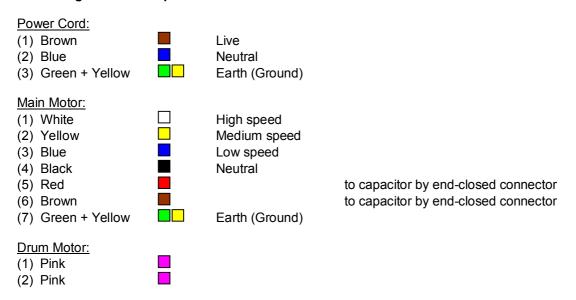


4. SCHEMATIC DIAGRAM

4.1 Wiring Diagram

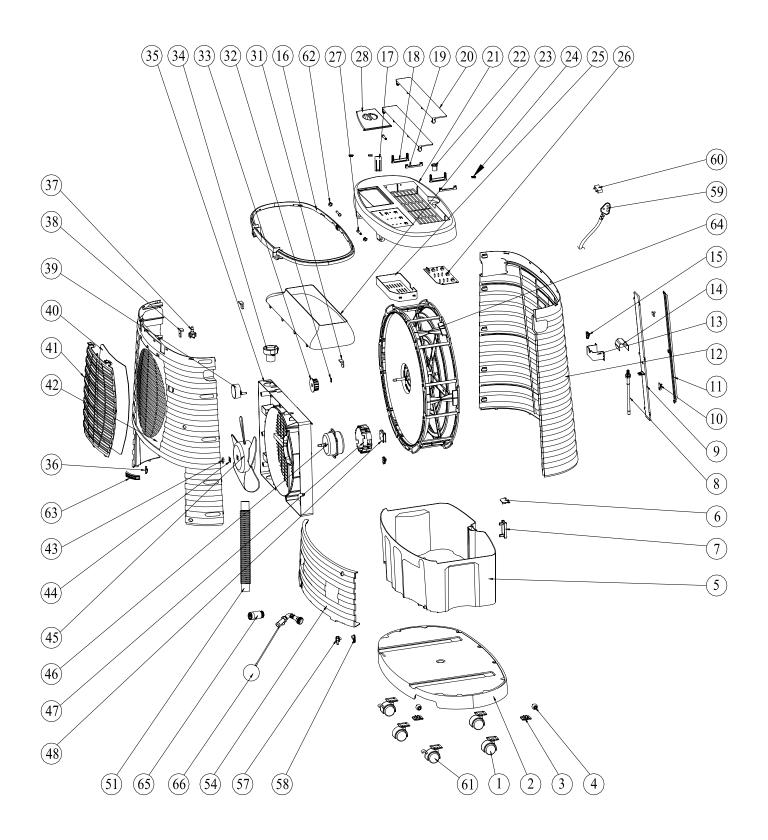


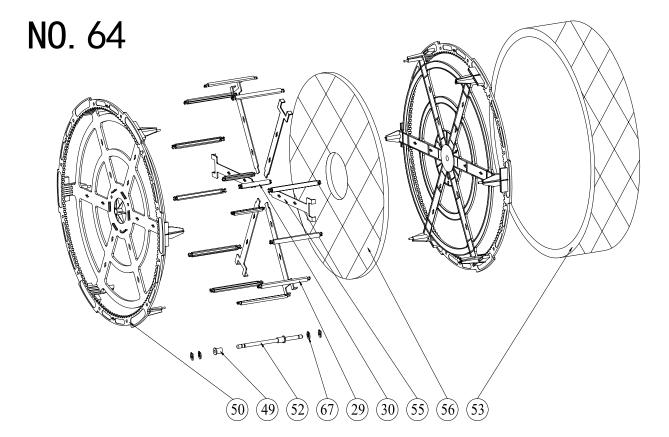
4.2 Wiring Color Description



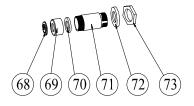


5. EXPLODED VIEW

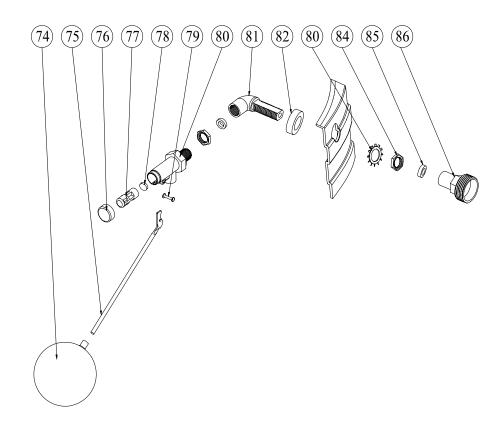


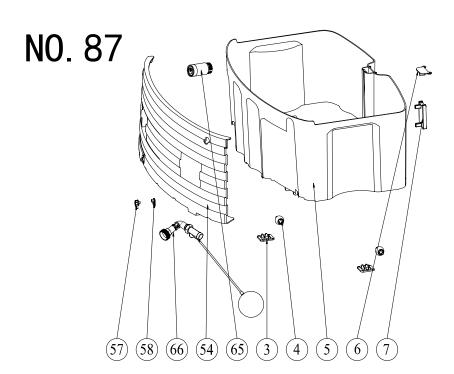


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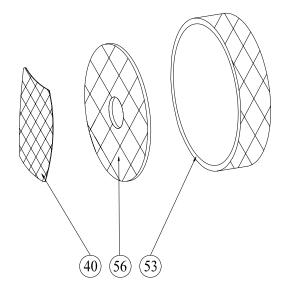


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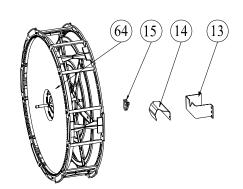




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NO. 89



6. REPLACEMENT PARTS LIST

Sr.	ERP PART CODE	PART NAME	CHINESE	QUANTITY
1	02100135	Caster	脚轮	4
2	03100886	Base pan	底座	1
3	03100904	Tank wheel bracket	水箱底轮压片	2
4	03100897	Water tank caster	水箱底轮	2
5	03100885	Water tank	水箱	1
6	03100903	Magnetic float stopper	磁浮挡板	1
7	03301012	Magnetic float	磁浮	1
8	03300170	Water level sensor	水位传感器	1
9	03100908	Transparent tube cover	密封板	1
10		Water level light	水位灯	2
11	03100907	Transparent tube	透明管	1
12	03100877	Front cover	前壳	1
13	03200461	Front bearing bracket	前轴承座支架	1
14	03200449	Spring	弹簧片	1
15	03100894	Bearing support	轴承座	2
16	03100906	Plastic ring	前后壳箍	1
17	03100890	Top cover lock holder	顶盖锁片	1
18	03100888	Lover link(fixed)	摇摆片定连杆	2
19	03100892	Lover link(movable)	摇摆片连杆	2
20	03100891	Louver A/B	摇摆片A/B	2
21	03100887	Top cover	顶盖	1
22	03100893	Top cover lock	顶盖锁	1
23	03100882	Air guide	导风口	1
24	03100915	rubber cushion	缓冲垫	10
25	03100909	Electrical box	电源盒	1
26	03300850	РСВА	电路板	1
27	03200500	Top cover hinge	顶盖轴	2
28	03100889	Water inlet cover	进水盖	1
29	03100899	Water wheel link B	水轮支承条B	18
30	03100898	Water wheel link A	水轮支承条A	3
31	03100902	Ring sponge clip	导风口档片	2
32	03200341	R-pin	开口R形销	1

33	03100895	Gear	齿轮	1
34	03100905	Water inlet connector	水管接头	1
35	03100879	Motor shroud	隔板	1
36	03301307	Humidity sensor	湿度感应器	1
37	03301029	power switch	电源开关	1
38	03100914	power switch holder	开关夹片	1
39	03300130	Synchronized motor	单向同步电机	1
40	03101222	mesh filter	活性炭滤网	1
41	03100883	Rear grille	进风盖	1
42	03100878	Rear cover	后壳	1
43	03200309	M8 nut	M8螺母	1
44	03200887	Fan washer	风叶垫片	1
45	03100881	12"Fan	风叶	1
46	03300977	Fan motor	电机	1
47	03100880	motor base	电机座	1
48	03200462	Rear bearing bracket	后轴承座支架	1
49	03100916	Sliding bearing	中心轴套	2
50	03100896	Water wheel	水轮	2
51	03101406	Water inlet tube	波纹连接管	1
52	03200484	Water wheel shaft	水轮轴	1
53	03101221	ring sponge	δ20海绵条	1
54	03100884	Water inlet cover	水箱盖	1
55	03100900	Round sponge clip	海绵压条	6
56	03101220	Round sponge	δ20海绵园	1
57	03100913	Water tank lock	水箱锁	1
58	03100901	Water tank lock holder	开关片	1
59	03300694	Power cord	电源线	1
60	03300025	Motor capacitor	电溶	1
61	02100136	Caster with brake	带刹车脚轮	2
62	03200337	Ø5 Circlip	Ø5 卡簧	2
63	03100910	Humidity sensor cover	感应器盖	1
64	02100109	Water wheel assembly	水轮组件	1
65	02100127	Overflow pipe assembly	排水管组件	1
66	02100128	Tap water connector assembly	止水阀组件	1
67	03200338	Ø6 Circlip	Ø6 卡簧	4
68	03101413	Water indicater window	透明水位窗	1
69	03200541	Overflow cover	密封排水盖	1

		T	1	
70	03101415	Ø16 Rubber pad	Ø16排水阀密封垫	1
71	03200539	Overflow pipe	排水外接管	1
72	03101414	Ø23 Rubber pad	Ø23排水阀密封垫	1
73	03200540	Nut M24	排水管螺母	1
74	03200532	Float ball	浮球	1
75	03200531	Pole	连杆	1
76	03101407	Back cover	后盖	1
77	03101408	Piston	活塞	1
78	03101410	Rubber plug	橡胶塞	1
79	03200534	Rivet	铆钉	1
80	03101409	Valve	阀体	1
81	03200530	Valve connector	弯头	1
82	03101412	Rubber washer	橡胶垫	1
83	03200537	Washer	菊花垫圈	1
84	03200536	Nut 7/16"-24	固定螺母7/16"-24	2
85	03101411	Ø11 Rubber pad	橡胶垫	2
86	03200529	Tap water connector	外接头	1
87	02100237	Water tank assembly	水箱组件	1
88	02100108	EFS-PCMH45 FILTER SET	过滤组合	1
89		Water wheel assembly & front Bracket sets	水轮组件+前支撑组合	1