

# TEST REPORT

## For

Shenzhen BaZhao Technology Co., Ltd.

Vacuum Cleaner

Model No.: S5, S5 Mate, S5 Pro, P5, P5-A, P5-B, FS5, FS5-A, FS5-B

Test Report Number: CQASZ20240200053SX



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**Tested under**

**UL 1017, Standard for Safety Vacuum Cleaners, Blower Cleaners, and Household Floor Finishing Machines Tenth Edition, Dated September 15, 2017**

**Prepared for:**

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**Date of Test:** February 18, 2024 to February 21, 2024

**Date of Report:** March 07, 2024

**Report Number:** CQASZ20240200053SX

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## Description

### **Product(s) Covered:**

- Vacuum Cleaner, Model S5, S5 Mate, S5 Pro, P5, P5-A, P5-B, FS5, FS5-A, FS5-B
- The unit is Vacuum Cleaner, Class III product for household and indoor use only
- External enclosure is totally enclosed by mechanical means.

### **Model Differences:**

All models are identical except for model No, Product color and injection molding accessories. After comparison, tests carried out on model S5 Mate were considered representative.

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### **Electrical Rating:**

- Rated Voltage: 25.2V $\overline{=}$  , Rated power: 150W,
- Charge input:30V $\overline{=}$  0.5A
- Adapter: input: 100-240V $\sim$ , 50/60Hz, 0.5A Max, Output: 30V $\overline{=}$  0.5A.

### **Engineering Considerations:**

- Vacuum Cleaner, Model S5, S5 Mate, S5 Pro, P5, P5-A, P5-B, FS5, FS5-A, FS5-B has been investigated in accordance with UL 1017, Standard for Safety Vacuum Cleaners, Blower Cleaners, and Household Floor Finishing Machines, Tenth Edition, Dated September 15, 2017.
- Test results are related to the testing samples only.

### **Operation/Service Instructions:**

- Operations instruction is provided with the equipment.

### **Trade Mark:**

N/A

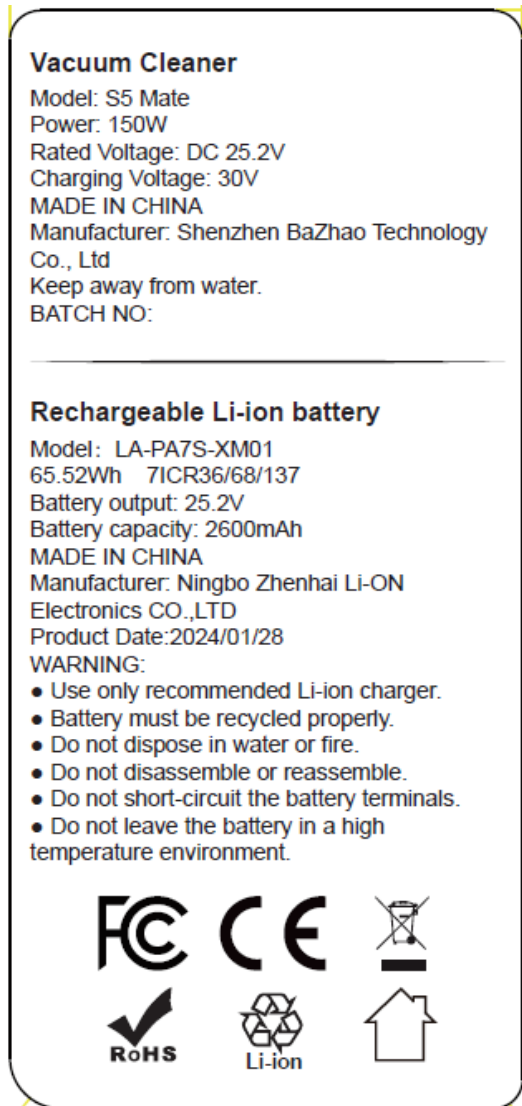
### **Revision:**

N/A

## Markings

Etching, molding, die-stamping, silk-screening, stamped-, or etched-metal labels secured by rivets or screws are considered permanent. Recognized/Certified Component, Marking and Labeling Systems, suitable for the surface to which it is applied is also considered permanent. Each product is to be permanently marked with the following information.

- a. The applicant/ listee, trade name or trade mark, product model number, and a date of manufacture not exceeding any three consecutive months. If the date of manufacture is in a code, it shall not repeat in less than 10 years and it shall not require reference to the manufacturer's records to determine when the product was manufactured.
- b. An input and output ratings in voltage, amperes, and appliance capacity.
- c. The DC symbol for DC Current:  $\text{---}$



Power adapter output: 30V $\text{---}$ 0.5A  
 Product name: Vacuum Cleaner

## Manual/Service Instructions

- Operations instruction is provided with the equipment, and preceded by the heading “OPERATING
- INSTRUCTIONS,” or the equivalent.
- 
- Instructions shall be legible, and shall contrast with the background. Upper case letters in the instructions shall not be less than 5/64 in (2.0 mm) high, and lower case letters shall not be less than 1/16 in (1.6 mm) high.
- 
- Not for user maintainance, or assembly.

## Critical Components

Object/ Parts No.	Manufacturer/Tr ademark	Type/ Model	Technical Data	Standard (Edition / year)	Mark(s) of Conformity
Main Motor	NENG BO WANG	NBW-BVH45-099	25.2V DC	UL 1017	Test with appliance
Brush Motor	Yuyao Baidier Electric Manufacture Co., Ltd.	YD545S	25.2V DC	UL 1017	Test with appliance
Motor lead wire	SHENZHEN XINRUI ELECTRIC PRODUCTS CO LTD	1007	16AWG,80°C, 300V	UL 758	UL E477322
Power adapter	Shenzhen CHANZEHO Technology Co., Limited	CZH015300050U SWH	Input:100- 240V~50/60Hz 0.5A Max Output:30.0Vd.c.,0. 5A,	UL 1310:2018	Intertek: 22120828HKG- 001
Fuse resistant (F1)	Conquer Electronics Co., LTD	CQ12LI20A63V	20A/63V	UL 248-1 UL 248-14	UL E82636
Alternative	AEM Components (Suzhou) Co., Ltd	F1206HC20A0TM	20A/35V	UL 248-1 UL 248-14	UL E232989
PCB	ZHEJIANG HUABANG ELECTRONICS CO LTD	H-01/H-02	V-0, 130°C Thickness: 1.6mm	UL 796	UL E251053
Alternative	SuiChuan PingTai Circuit Board Co Ltd	PT-D	V-0, 130°C Thickness: 1.6mm	UL 796	UL E518094

Internal wire	ZHEJIANG XINXIN ELECTRONIC WIRE ROD CO LTD	1007	16AWG,18AWG, 20AWG,22AWG, 24AWG 300V, 80°C	UL 758	UL E225383
Alternative	DONGGUAN WENCHANG ELECTRONIC PRODUCTS CO.,LTD	1007	16AWG,18AWG, 20AWG,22AWG, 24AWG 300V, 80°C	UL 758	UL E214500
Alternative	ZHEJIANG XINXIN ELECTRONIC WIRE ROD CO LTD	2651	28AWG 300V,105°C	UL 758	UL E225383
Alternative	DONGGUAN WENCHANG ELECTRONIC PRODUCTS CO.,LTD	2651	28AWG 300V,105°C	UL 758	UL E214500
IC(U1)	HOLEK SEMICONDUCTOR INC	MCU HT66F3195	VDD:5.0V ROM:8K RAM:512	UL 1017	Tested with appliance
MOSFET (QDB/QDA)	Wuxi NCE Power Semiconductor Co., Ltd	NCE40H12K	40V 120A	UL 1017	Tested with appliance
Alternative	Wuxi NCE Power Semiconductor Co., Ltd	NCE4080K	40V 80A	UL 1017	Tested with appliance
MOSFET1 (QC1/QC2)	JieJie Microelectronics CO. , Ltd	JMTP440P04A	-40V -6.0A	UL 1017	Tested with appliance
Alternative	Wuxi NCE Power Semiconductor Co., Ltd	NCE40P07S	-40V -6.2A	UL 1017	Tested with appliance
NTC	Yu Fei Te Electronics (Nanjing) Co Ltd	YFT103@3435#A	10K, 25°C	UL 1434	UL E523747
Rechargeable Li-ion battery	Shenzhen BaZhao Technology Co., Ltd.	LA-PA7S-XM01	25.2V, 2600mAh, 65.52Wh	UL 2054	Shenzhen Huaxia Testing Technology Co., Ltd. report: CQASZ2024020 0133S

## Figures



Figure 1



Figure 2



Figure 3



Figure 4

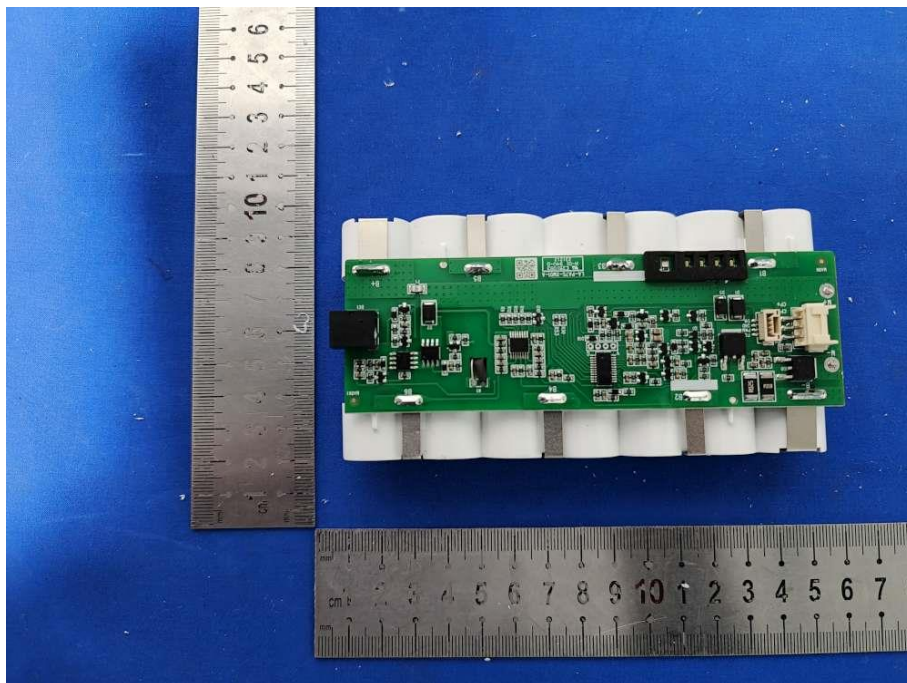


Figure 5

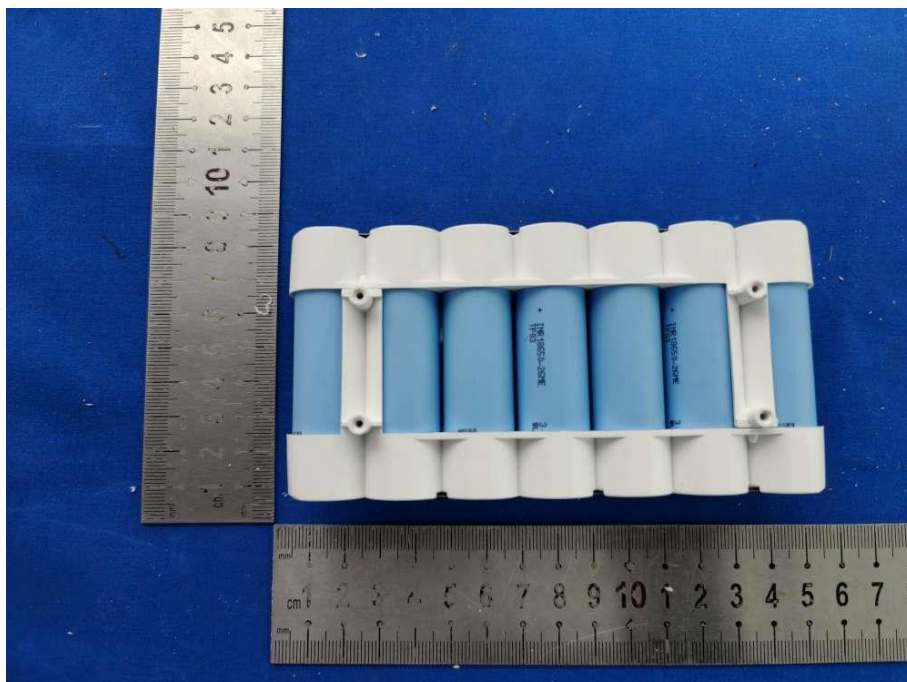


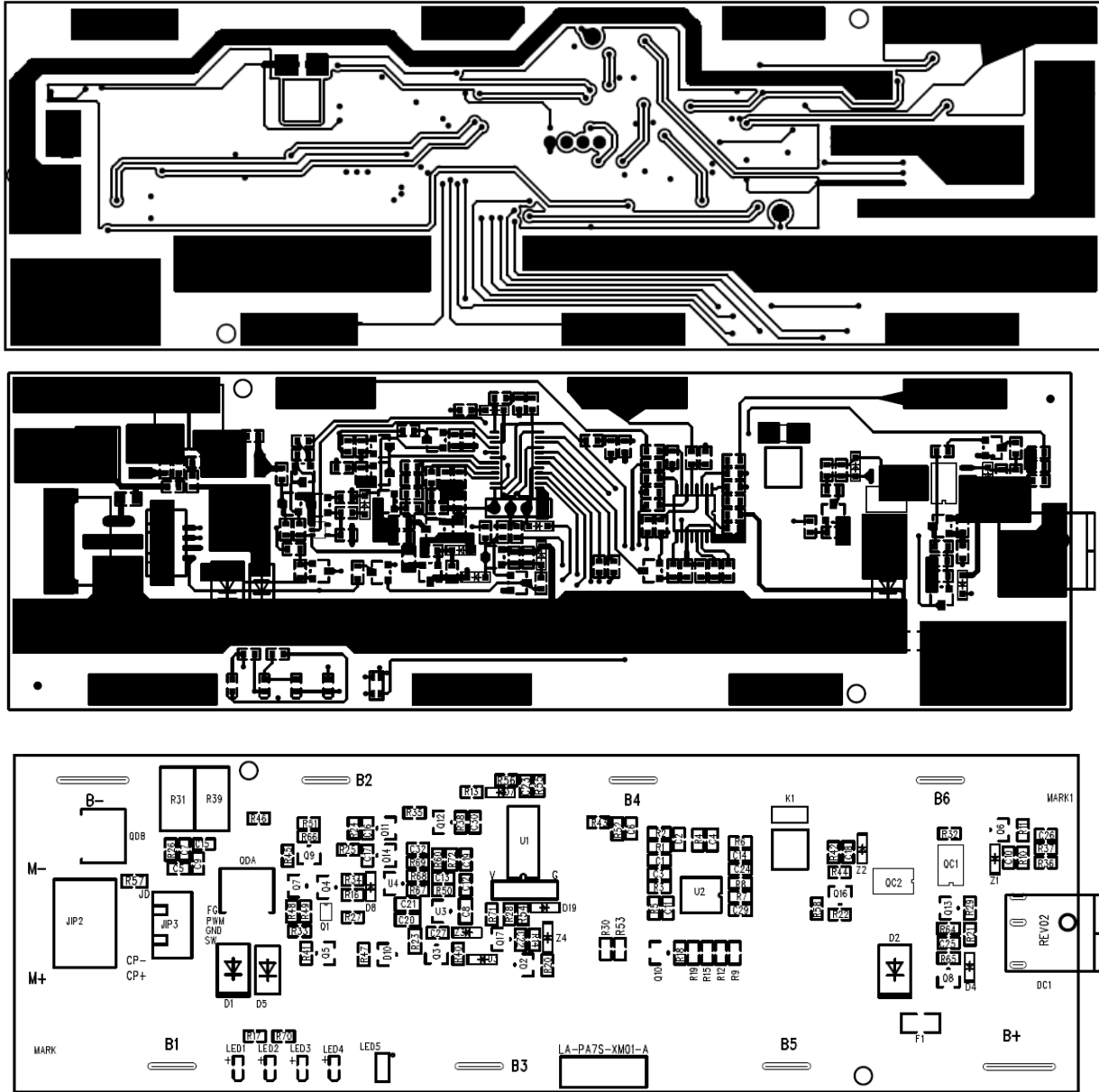
Figure 6

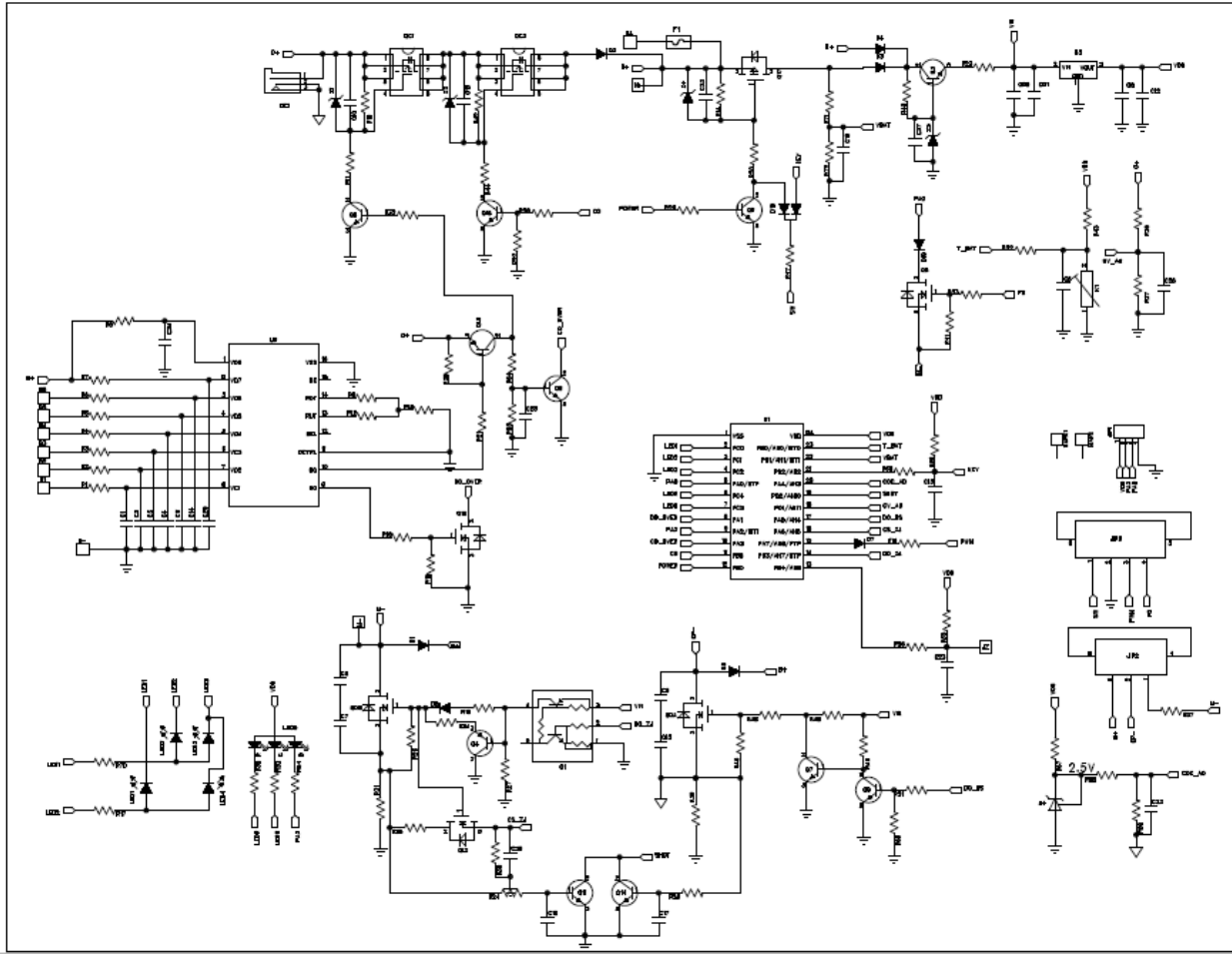


Figure 7

# Illustrations

Illustration 1 –Schematic diagram and PCB Layout





## Illustrations (Continued)

### Illustration 2 – User manual

## 5. IMPORTANT SAFETY INSTRUCTIONS

When using an basic precautions should always be followed, including the following:

### READ ALL INSTRUCTIONS BEFORE USING (THIS APPLIANCE)



#### WARNING:

TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, DAMAGE, OR INJURY:

1. To protect against electrical shock, do not immerse the power cord or plug in water or any other liquid. Please always operate it with dry hands to avoid the risk of electrical shock or serious personal injury.
2. Close supervision is necessary when any appliance is used by or near children. This vacuum is not intended for use by persons (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and common sense unless they are supervised or have been given instructions on using the vacuum by a person responsible for their safety.
3. Do not use the vacuum outdoors. It is for household use only.
4. Do not use the vacuum if it has been dropped, damaged, left outdoors, or dropped in water. Please contact customer service for help when the appliance or the adapter is damaged.
5. Use the vacuum only as described in this manual. The use of accessory attachments not recommended may cause damage to the vacuum or personal injuries.
6. Do not use abrasive materials to clean the vacuum. Do not use spirits or other solvents to clean the appliance.
7. Do not use the appliance to vacuum any of the items below:
  - Water, flammable, or combustible liquids such as gasoline.
  - Lighted stubs, matches, hot ashes, or other combustible items.
  - Needles, pins, or other sharp items.
  - Wood pieces, gesso, cement, calcimine, or other tiny granules.
  - Pieces of string or fabric.
8. Do not pick up liquids with the vacuum or use it on wet floors. Do not immerse the vacuum in water.
9. Do not use the vacuum on concrete, tar, or similar rough surfaces.
10. Do not vacuum frayed carpets or carpet tassels.
11. Do not use the vacuum without the dust cup lid in place.
12. Do not put any objects into openings of the vacuum. Do not use when any openings are blocked. Keep free of dust, lint, hair, or anything that may reduce air flow.
13. Keep hair, loose clothing, fingers, and all body parts away from openings and moving parts.
14. Store the vacuum indoors. Store after use to prevent accidents.
15. Keep the vacuum cleaner away from stoves and heat-emitting appliances. Heat can deform and discolor the plastic parts of the unit. Please use the vacuum at the temperatures between 14°F-104°F.
16. Always remove the adapter from the power socket when the appliance is not being charged.
17. Unplug charging cord from the appliance and power it off before cleaning or performing maintenance, making tool adjustments, changing accessories, or storing, to avoid powering it on accidentally.
18. The battery must be removed from the appliance before disposing of it.
19. The battery must be disposed of safely.
20. The appliance includes Li-ion batteries. Do not incinerate the batteries or expose them to high temperatures, as they may explode.
21. The thermal cutout will switch off the vacuum automatically when it overheats. If this happens, turn off the power switch, and wait for 45 minutes to restart the vacuum.
22. Use only the adapter provided by the manufacturer.



Please keep the adapter away from liquids.



Do not vacuum large piece of paper.



Do not vacuum fire or flammable substances.

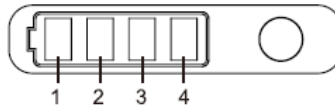


Do not vacuum water or liquids.



Do not remove plug by grasping the cord.

## 6. INDICATOR LIGHT INSTRUCTION



### Battery indicator light description:

When the power is turned on, as the usage time increases, the power decreases, and the number of lamp beads 1, 2, 3, and 4 decreases in order.


When the power is almost exhausted, only the number 4 lamp bead flashes, prompting charging, and the machine shuts down after 60 seconds.


\*Without charging, the machine cannot be used normally.

### Function Display Instructions:

The function indicator light displays green in the low-range state and blue in the high-range state. When the local brush encounters a foreign object and is stuck, the round light will display red and flash 20 times quickly for 10 seconds; when the airway of the vacuum cleaner is severely poisoned, the round light will display red and flash slowly 10 times for 10 seconds.

#### • Button Description

Press the on/off button  and the machine will start running. In any gear, press the on/off key again and the machine will stop running.

Press the gear button  When the vacuum cleaner is turned on, press the gear button to switch between the high and low gears of the vacuum cleaner.

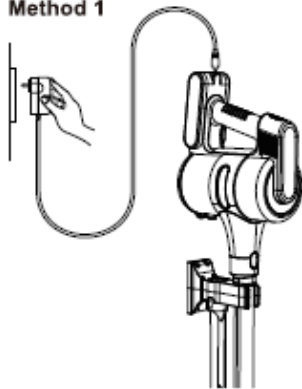
## 7. BATTERY CHARGING



### CAUTION:

- \* The battery must be fully charged before the first usage as the product is delivered non fully charged for safety.
- \* Please use the original charger (30V). It takes about 5 hours to fully charge the battery.
- \* The vacuum cannot be turned on when charging for safety.
- \* Please use the original charger for charging.

Method 1



Method 2



### Description of Charging Indicator:

When charging, plug the adapter into the AC power socket, and plug the DC interface of the adapter's charging output line into the charging interface of the battery pack to charge the vacuum cleaner.

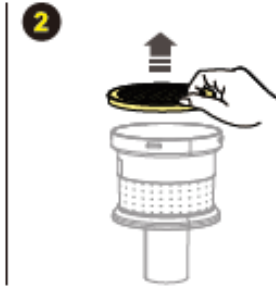
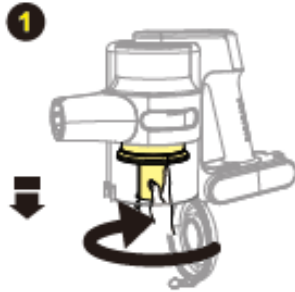
When the machine is charging, lights will continue to flash during the charging process.

When the battery is fully charged, all 4 lights will be on until the adapter is unplugged.

Do not leave the vacuum cleaner in a low-power state for a long time.

### Illustration 3 – Installation

#### >> Cleaning the Filter Device

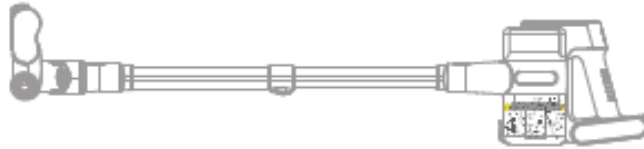


 **CAUTION:**  
Washable filter,  
dry completely before use.

### 3. CLEANING AND MAINTENANCE

#### >> Clean the Dust Cup

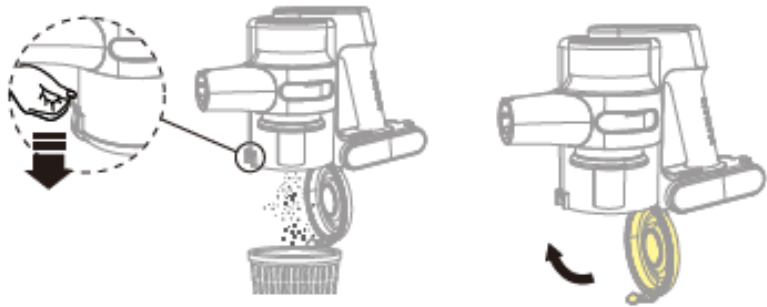
- 1 When the dust in the dust cup exceeds the MAX mark, please empty the dust cup in time, otherwise the suction may be weakened.



- 2 Remove the extension rod from the main body before maintaining and cleaning dust cup and HEPA filter.

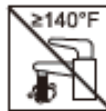
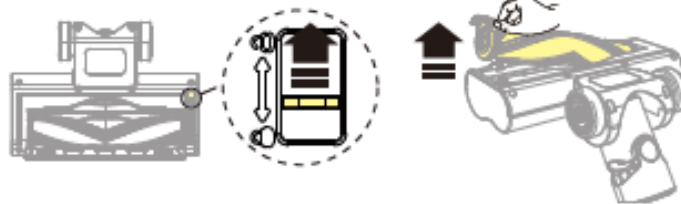


- 3 Open the dust cup cover to dump the dust, and please close the dust cup cover after emptying the dust cup.



#### >> Clean the Floor Brush

- Do not absorb water.
- Do not touch rotating parts.



## Testing Considerations

Sample of the Vacuum Cleaner, Model S5, S5 Mate, S5 Pro, P5, P5-A, P5-B, FS5, FS5-A, FS5-B were subjected to the following test program with satisfactory results. All tests were conducted in accordance with UL 1017, Standard for Safety Vacuum Cleaners, Blower Cleaners, and Household Floor Finishing Machines, Tenth Edition, Dated September 15, 2017. Only these tests were considered necessary due to engineering considerations.

Detailed test results are on file at Huaxia test Laboratories under project number CQASZ20240200053SX.

### **TESTS CONDUCTED:**

1. Leakage Current
2. Leakage Current Following Humidity conditioning
3. Leakage Current - Abnormal Operating Conditions
4. Rating
5. Temperature
6. Severe Operating Conditions
7. Strain Relief
8. Polymeric Enclosure Parts
9. Mold Stress-relief Distortion
10. Impact
11. Severe Conditions
12. Strain-relief after Mold stress-relief distortion
13. Abnormal Operation
14. Thermoplastic Motor Insulation Systems

## Conclusion

The product covered by this report has been tested, examined, and found to comply with the applicable requirements of UL 1017, Standard for Safety Vacuum Cleaners, Blower Cleaners, and Household Floor Finishing Machines, Tenth Edition, Dated September 15, 2017.

Prepared By:

Nico Zhu

Nico Zhu  
Project Engineer,

Mike Wu

Mike Wu  
Reviewer  
Shenzhen Huaxia Testing Technology Co., Ltd.



---End of Report---