

HONGCE

**SAND AND DUST TEST CHAMBER
HH0810**

USER MANUAL

H & H

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A large, semi-transparent watermark of the H&H logo is centered on the page. It features a stylized 'H' and '&' symbol in yellow and cyan, with a cyan arrow pointing left, all enclosed in a cyan circular outline.

H & H

I Foreword

Thanks for purchasing and using our products! In order to ensure safety and proper usage of this product, please read this entire user manual before operating the product.

The user manual contains unpacking checking, the main technical parameters, installation and commissioning method and the instrument parameter settings and etc. We have worked hard to ensure the completeness and accuracy of the contents of this document. If you have any questions or different understandings during the usage, or find any shortcomings and mistakes, welcomes to contact with our company or our authorized agents directly.


Please keep this user manual in order to ensure the normal use of the instrument.


The logo consists of the letters 'H', '&', and 'H' in a bold, cyan-colored, sans-serif font. The letters are large and centered horizontally. A large, faint cyan watermark of a circular arrow is visible in the background behind the logo.


II Safety Attention


1. Symbol of security:

In order to prevent accidents and danger, please observe the following danger, warning or note:




Danger:
 Item as shown here, represented as if non-compliance, the operator might be harmed.

Warning:
 Item as shown here, represented as if non-compliance, The instrument may be damaged

Note:
 Item as shown here, represented as it will be likely to affect the test results and quality.

【Note】
 Item as shown here, it indicates that the auxiliary statement of the product used in the operation.

2, On this instrument, the following marks indicate the note, warning.

	Warning mark	This mark indicates that where should be necessary to refer to the operating manual.
	Dangerous voltages mark	This mark indicates high voltage danger.
	Ground protection mark	It represents the ground terminal of this instrument.

III Product Introduction

The sand and dust test chamber is designed and manufactured according to IEC60529-2001 < Degrees of protection provided by enclosure (IP code)> Fig 2, IEC60598-1-2008 and etc. It artificially simulates the dust environment to test the dust-proof ability of the test samples.

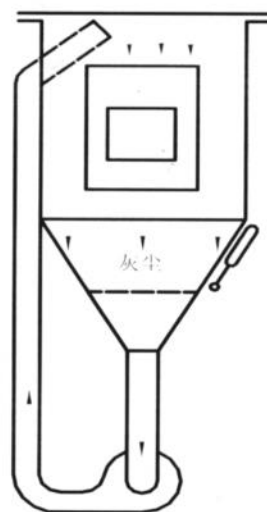
The test device is suitable for electrical products' sand and dust test of first characteristic numeral 5 and 6 (IPX5 and IPX6). It is used to test sealing parts and enclosure's sand and dust resistance capacity of the electrical and electronic products, car and motorcycles spare parts and seals. In order to detect the use, storage, transport performance of the electrical and electronic products, car and motorcycles spare parts and seals under the sand and dust environment.

The chamber can provide a non-laminar flow of dust-loaded vertically circulating air, can be timed controlled; also be equipped with a vacuum pump which can vacuum the test sample, the exhaust volume and pressure can be adjusted; in addition, the inside chamber is configured with a airflow temperature control device, to ensure that the test is under standard environmental conditions.

The test equipment uses intelligent and humanized PLC control system, the inner of the test equipment is made of high quality SUS304 stainless steel, the enclosure is A3 plate electrostatic spraying. And it is also having large observation window and manual wiper device. The security protection is good.

Function parameters:

Model	HH0810	
Working size (mm)	W1000*D1500*H800	
Outer size (mm)	L1850*W1350*H1800	
Main technical parameters	Temperature range	Room temperature
	Test dust	dry talc which can go through the sieve of 75 μ m and the square sieve of wire diameter 50 μ m.
	Test sand (or talc) dosage	2kg/m ³
	Vacuum pump	Ultimate vacuum:2Pa
	Air pressure meter	0~-1.0Mpa
	Sample rack height adjustment range	0~750MM
	Timing range	0~99 hours 59 min
	Timing accuracy	± 1min
	Load cycle control	0~99 hours 59 min
	Ash blowing cycle control	1s~9999 min
	Sand and dust concentration	2~4kg/m ³
	Air flow speed	≤2m/s



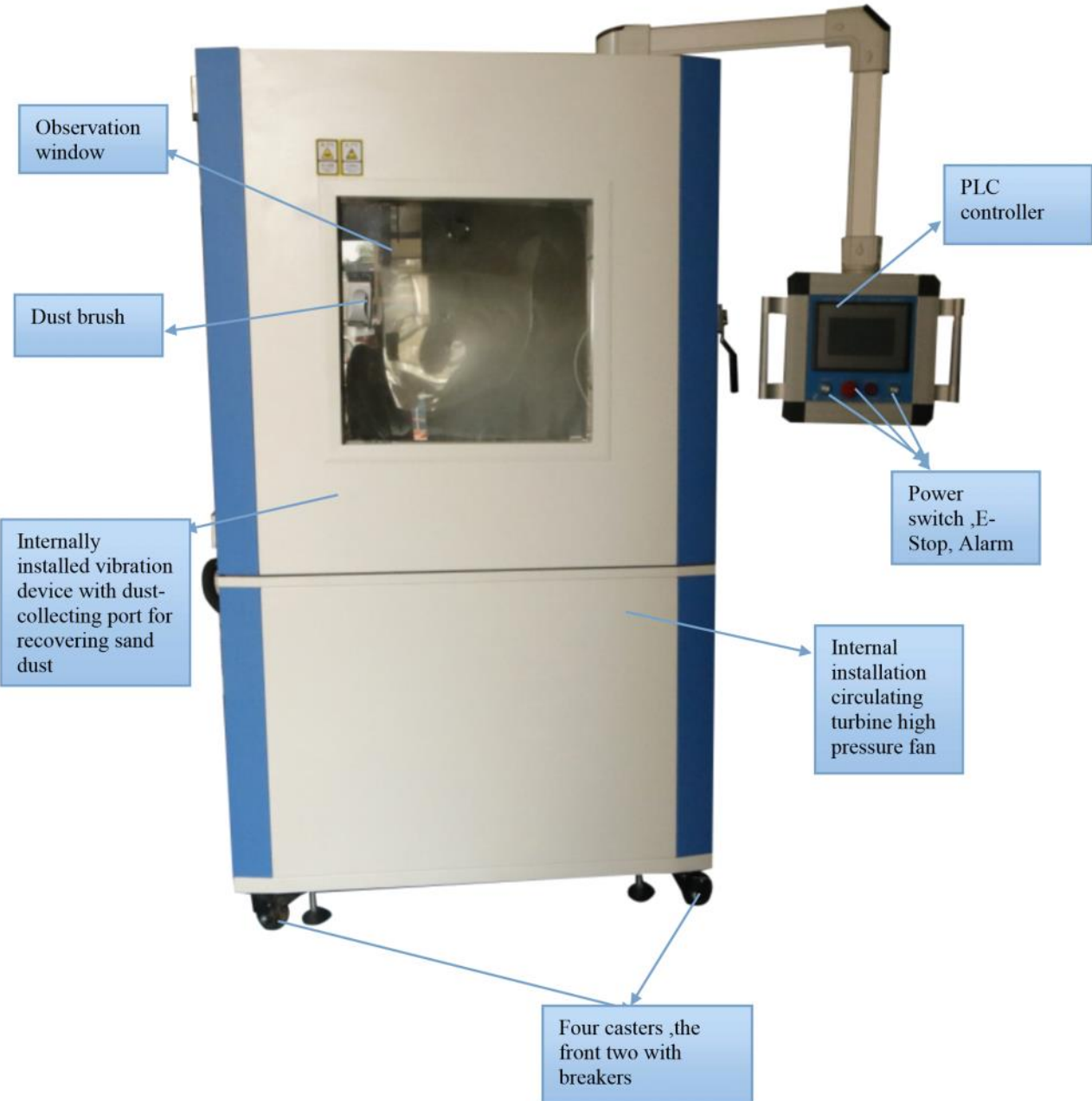
- Sample
 - Observation window
 - Vibrator
 - Protection net
- Product main configuration**

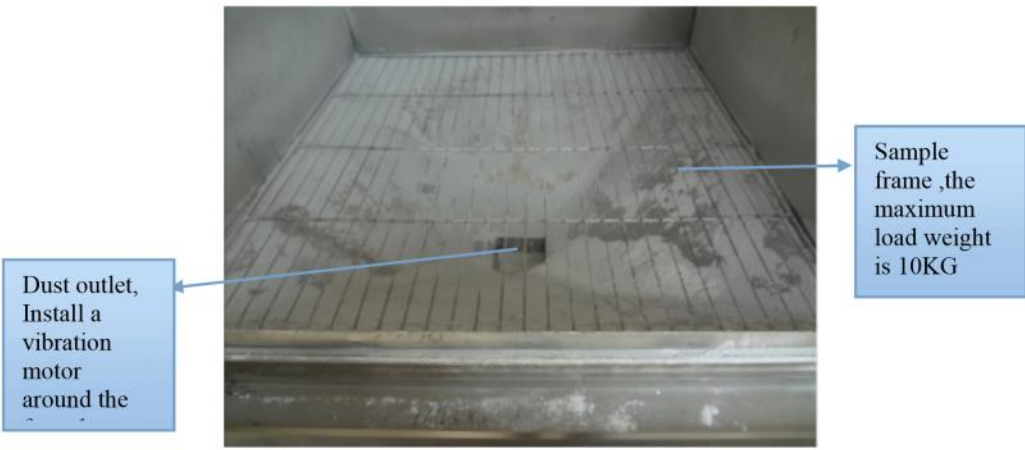
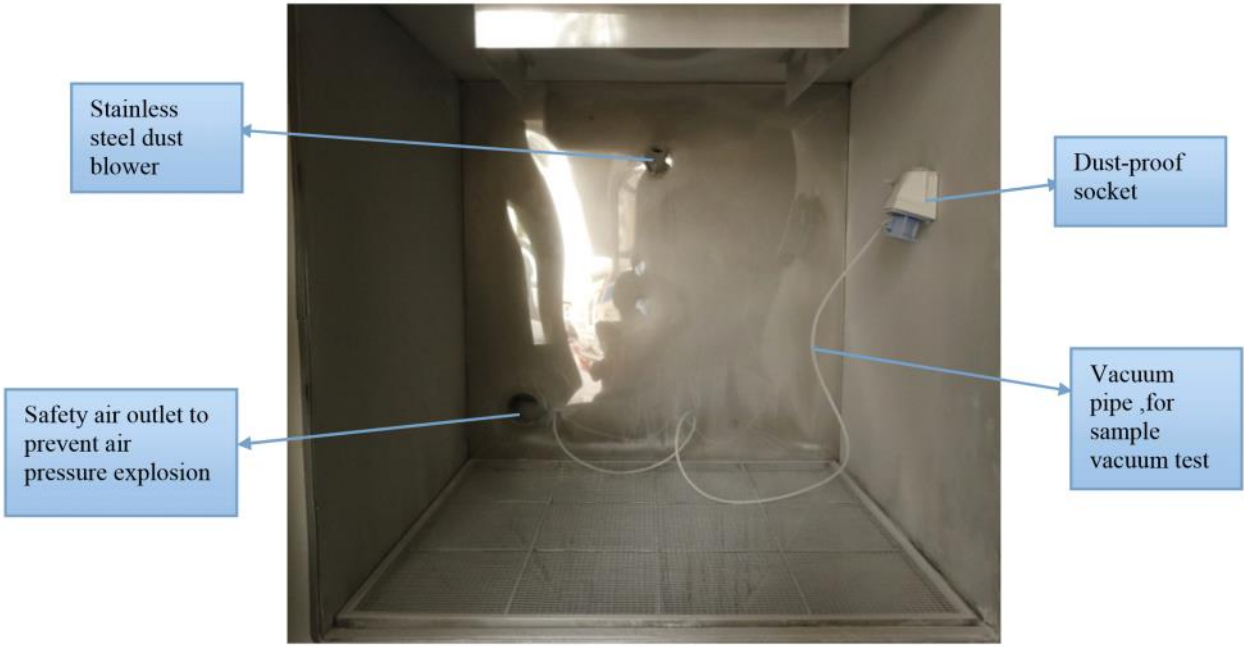
Device Name	Dust and Sand Test Chamber		
Main configuration	Cabinet	Enclosure material	Baking paint
		Inner material	SUS201 Stainless steel
		Lead hole	It is for test sample's power cord to be connected to the external power supply
		Observation window	large observation window in the middle of the door
	Electrical control system	Controller	PLC Control: A. blowing dust time (stop, blowing) can be adjusted B. Cycle: arbitrary adjustable C. Preset test time: 0.1H-9999.9H arbitrary adjustable D. Power: On-off- On E. There are accumulating function and power-off protection function
	Vacuum system	Equipped with a vacuum pump, pressure gauge, air filter, pressure regulator, connecting pipe	
Security Protection Device	Power overload, short-circuit protection		
	Ground Protection		
	Voltage Protection		
	Motor phase loss protection		
	Alarm beep prompt		

Pictures for reference:



IV Structure Description





During the test, the vibration of the motor shakes the dust into the pipe and sends it to the top of the inner box.

Dust funnel, pour dust into the funnel before testing



Dust collector

Dust collection plate

Vacuum pump

Dust blower



Filter ,for filtering dust to prevent dust from entering a vacuum pump

V Operation Instructions

The structure and working principle of the sand and dust test chamber is the same as the requirements of IEC60529-2001. It is with an addition of flow heating device, in order to work under low ambient temperature and heavy humidity conditions. Firstly, put the standard dry talc ($2\text{kg} / \text{m}^3$)

into the test chamber, then put the sample into the test chamber, after that, start the fan, to achieve a high density dust cloud in the test chamber, until reach to the set running time (generally 8h).

Preparation before operation:

1. Connect to power supply

● Connect the power lines (three -phase five-wire: L, N, G, 440V/50Hz) of the test chamber to the user's power supply by peripheral protection switch. Shown as below:



● Make the earth ground terminal (at the bottom of the back of sand and dust test chamber) and ground are reliable connected.

2. Adjust the air flow direction:

● Please make sure all the button switches on the panel are all turned off. Then turn on the peripheral protection switch, after that, turn on the power switch on the side of the equipment.



Power switch on the back of the equipment

● Take 2kg dry talc and pack it with gauze, then put it into drying oven and dry more than 5 hours for backup.

● The remaining talcum powder can also be dried and placed in a sealed container.

3. Preparation for test:

● Before testing, the test sample should be placed under normal atmospheric environment for about 2 hours.

● Process visual inspection and electrical mechanical properties testing

for the test sample as per related standards.

- The sample is placed on the center of the shelf inside the test chamber.

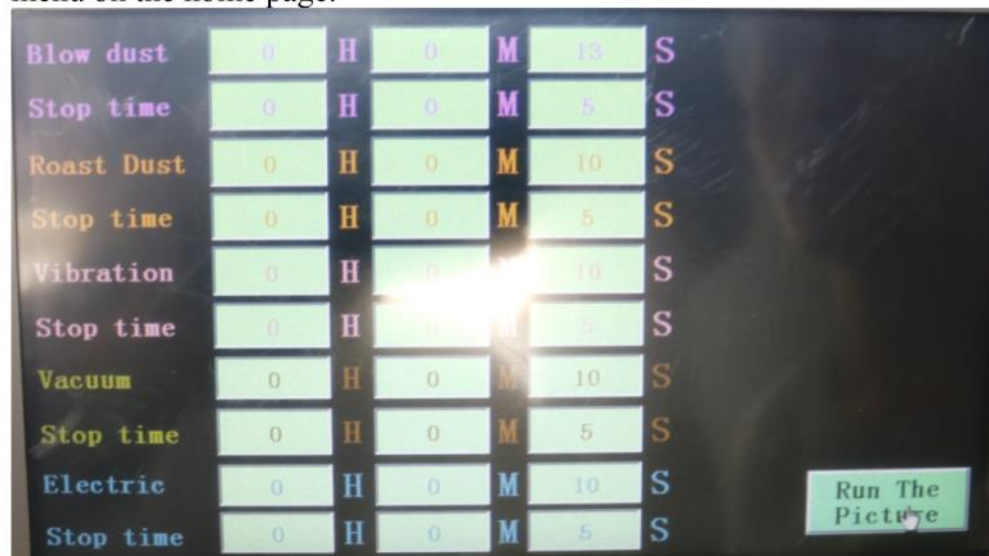
4. Test Instructions:

A. The control panel

- Turn on the “POWER” switch on the panel.
- The home page of the controller is shown.



- Go to the corresponding parameter setting interface by click related menu on the home page.



B. Parameter settings:

- Click the test time to set the test time.
- Click the blow dust to set the blow dust time.
- Click the Roast Dust to set the Roast dust time (Generally do not do roast dust, only when the dust of the long time test has a little moisture regain, set the roast dust)

- Press “START” after all parameters are set, the test equipment will stop automatically and alarm for 3 seconds after the test completion.
- Before processing next test, please reset all parameters, then click “START”, if do not need to process next test, please click “STOP”, and exit parameter setting interface.
- Press “POWER” to be off and turn off the power switch on the back of the equipment.

VI Precautions

1. Replace talc: the first time added talc should be replaced after 20 test times. Open the lower right panel of the equipment, the fan turbine box is shown, open the manual locking gate of the fan turbine box, sweep out the talc with a brush, the remaining talc on the tank wall will shed by patting the chamber. After cleaning, please lock the door.
2. In order to avoid the talc damp in a dust chamber, the talc can be pre-heated for 1h before the test runs. Should be noted that the heating temperature should not exceed 60 °C, the test should be processed after the temperature of the heating chamber returns to normal.
3. There will be talcum powder sticking phenomenon after the test, should be cleared with a brush.

VII Contact To Manufacturer

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