Simplewell昇微

Three integrated (temperature + humidity + vibration) test chamber

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Part

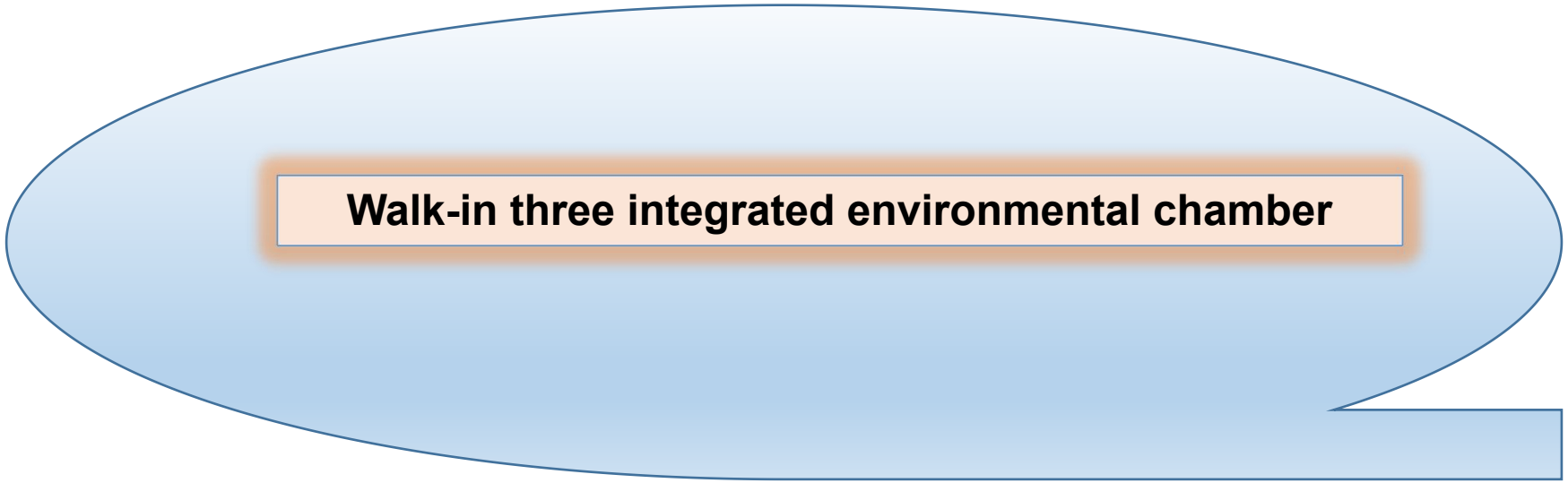
Product presentation

1.1 Product presentation

Walk-in three integrated test chamber with MB shaker for parts rattle test

Compact three integrated test chamber Provide temperature + humidity + vibration test, test samples in a combination of harsh environments of various performance indicators

1.1 Product presentation



1.1 Product presentation

Catalog

1.1 Product presentation

1.Environmental chamber design background introduction

In real life, the vibration generated by the road surface when the car is running makes the parts inside the car often produce strange noise, which affects customer satisfaction, and in order to analyze the noise when it vibrates, and since the car can produce vibration in all directions when it is running on the road, there is a need for a device that can simulate the vibration of the car running and cooperate with the detection. MB Dynamics offers a VPR+4D advanced multi-degree-of-freedom vibration detection system that can efficiently assist in the detection of automotive vibration.

If the driving environment is taken into account, constant temperature and humidity simulation equipment is needed, and Simplewell provides a new type of walk-in three-integrated environment warehouse. This is a new type of walk-in three-integrated environmental chamber, which can be used to meet the static and dry requirements of the test and the requirements of two-station movement. The environment box product noise control, uneven force in the process of moving to improve the problem. After improvement, the noise is <70dB, and the force is uniform throughout the movement.

1.1 Product presentation

2. Environmental chamber's working principle introduction

The walk-in three integrated working principle:

1. Composition: storehouse body, air-conditioning room, soundproof freezer, electric box, gantry skeleton, elevator, guide column, tank chain, shaking table.
2. Principle: walk-in three integrated environment box has two stations, general test, the environment box is in the station 1, vibration test, by the lifter to raise the library body, servo motor driven gantry casters and tank chain to make the library body to move back and forth, the test product is placed in the station 2 on the vibration table, when the library body moves to the station 2, can be given to the vibration parts of the cryogenic loading.

1.1 Product presentation

3. Environmental chamber's overall structure introduction

Air-conditioned room

Freezer cabinet

Electric box

1.1 Product presentation

3.Environmental chamber's overall structure introduction

Gantry

Speed reducer 	Connecting Shaft 	 Steering gear
 Lifting Screws	 Tow	 Connector

Lifter

Move the box up and down.

1.1 Product presentation

3.Environmental chamber's overall structure introduction

Guide post

Up and down guiding function

Tank chains

Front and rear guiding

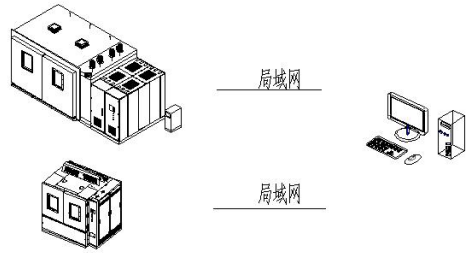
MB Shaker

在此做零部件异响试验
where parts are tested for ringing

1.1 Product presentation

4. Environmental chamber's electronic control system Introduction

1. Controller: Japan's "Mitsubishi" new generation of high-performance PX3U series PLC, 7.0-inch 600 x 480 dots TFT color LCD display, Chinese menus, touch human-machine dialogue, the control unit adopts Japan's Mitsubishi PLC module for the control of the system, temperature control is accurate, the equipment runs stably and with good quality.



2. Connected to PC (optional): through the centralized monitoring software, the test data can be recorded, automatically displayed in the PC into a curve, can be printed directly, the recording time is unlimited. The file size depends on the capacity of hard disk. PC can also be used as operation terminal to realize remote monitoring.

3.Mobile phone APP function (optional): --- Operate the equipment through mobile app terminal., set parameters and monitor the equipment status in real time through cell phone APP terminal.

4. Failure SMS function (optional): --- When the equipment fails to send a letter to the specified cell phone the content and the time of the failure.

1.1 Product presentation

Control box and panel: electrolytic plate spraying with standard color, the panel is installed with touch man-machine dialogue interface, emergency stop switch, power display light, USB, data exchange interface, over-temperature protector and other operating instructions.

5. Environmental chamber display module introduction

display screen

Brand- Panelmaster

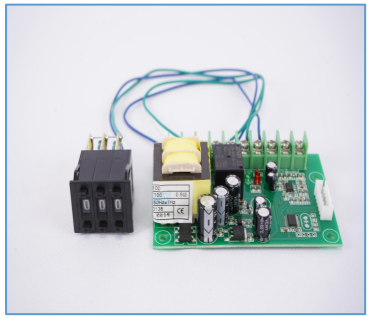
Brand- Guangzhou Benlee

Emergency Stop Switch - (Emergency Stop)

Power indicator

Brand-Guangzhou Benlee

Brand-Shanghai Aiset



Overtemperature protector

1.1 Product presentation

6. Environmental chamber door handle and door lock instroduction

Kunlong-Roller Compact Handle

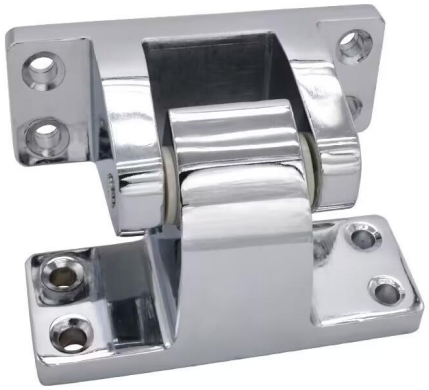
1. Interior and exterior doors open for both
2. With strong compression function
3. Leverage principle makes it easier to open and close the door.

Kunlong- Heaven and Earth lock

1. Leverage principle makes it easier to open and close the door
2. Adjusting the seat can realize the function of airtight compression door

Kunlong- Panel lock

1. Configuration of lock cylinder, good operability, with dust sheet and key
2. Waterproof type (0-ring, gasket)



Kunlong- Door hinge

1. Adjustable door mounting position for different seal thicknesses
2. According to the use of requirements, can realize the compression or pressure relief function

1.1 Product presentation

7. Environmental chamber external parts introduction

Window glass

Features: Insulating glass, buried defrost heating wire, high and low temperature resistance, without fogging and condensation when test.

Features: With heat dissipation, waterproof, dustproof and corrosion-resistant function, to prevent the fire caused by high humidity.

PVC Waterproof Junction Box

Illuminated lamp

Features: waterproof and dustproof, good sealing type, high and low temperature resistance, variable angle, free adjustment, good heat dissipation.

Features: ONN indicator. The base is removable, the angle can be freely adjusted, comes with beeping, multi-layer and multi-color.

Tricolor

1.1 Product presentation

8. Environmental chamber internal box parts introduction

humidifying tube

Material 304 stainless steel tube, perforated around the distribution.

Increase the return pipe, can save energy. Add sealing plate around to ensure air intake.

With flange type motor, can be waterproof, good sealing performance.

Motor

Evaporator

Electronic temperature sensor

Material 321 stainless steel pipe.

PT100 temperature sensing rod (imported from Switzerland/Finland), generally used two.

Switzerland/Finland imported sensor to measure the humidity of the inner box.

Heating Tube

Electronic humidity sensor

1.1 Product presentation

9. Environmental chamber components inside freezer introduction

Humidifying water tank

Water tank humidifier

External rotor fan (MAER)

1.1 Product presentation

10. Environmental chamber refrigerating components introduction

1.France Tecumseh/Germany BITZER, BOCK full/semi sealed low noise piston compressor, reliable and stable performance

4.Guangzhou UAR Liquid storage tank - Storing Refrigerant, reducing condenser load

Liquid storage tank

3.Condenser-- Guangzhou UAR

5. Denmark Danfoss magnetic valve/thermal expansion valve is adopted to effectively prevent refrigerant migration of the refrigeration system during shutdown.

2.Emerson's high-efficiency oil separator is used to separate the lubricating oil in the high-pressure vapor discharged from the refrigeration compressor to ensure the safe and efficient operation of the refrigeration system.

6. Brand-Yuanzhuo/Hanke/Xinsu neng

Plate heat exchanger

1.1 Product presentation

11. Environmental chamber electronic components introduction

Flame-retardant wire

Overload protector (Schneider)

Solid state relay (CARLOGAVAZZI)

Contactor (Schneider)

Fuseless switch (Schneider)

PLC Controller (Mitsubishi)

1.1 Product presentation

12. Environmental chamber water tower introduction

Water tower

water tank

Ball Valve

Y-filter

Ball Valve

Check Valve

Pressure gauge

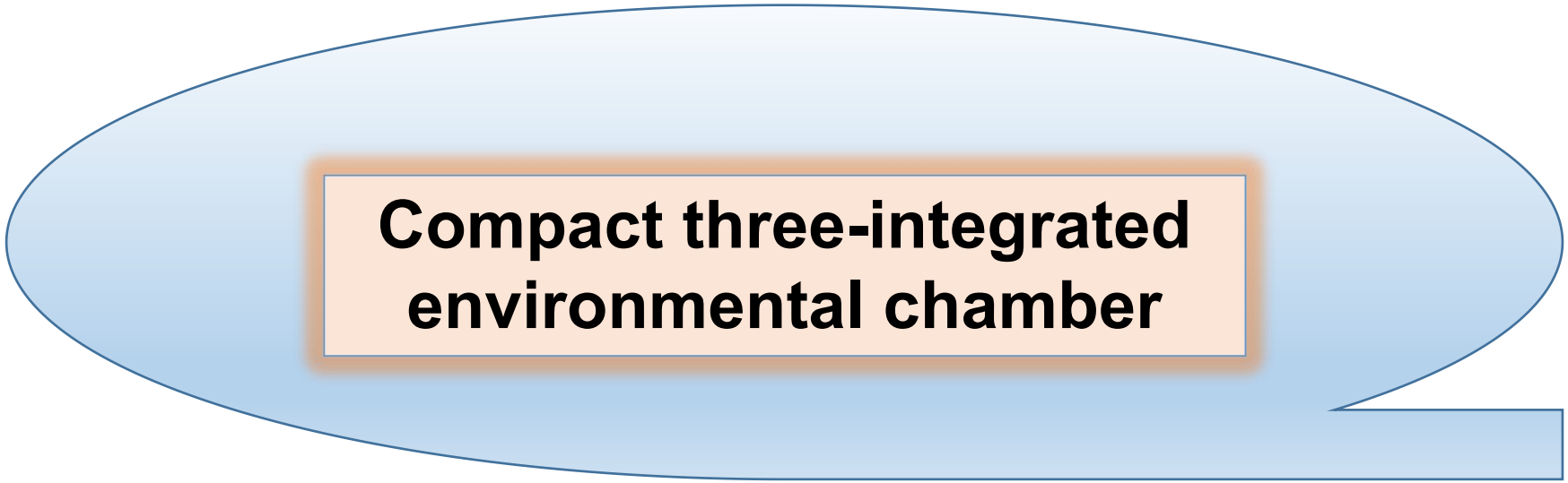
Ball Valve

Water filter (optional)

Flow meter (optional)

Work Description:
GLT series round countercurrent cooling tower is GRP cooling tower, adopting countercurrent airflow exchange technology, the filler adopts high-quality PVC diagonal wave film, with large drenching area, realizing uniform and efficient water distribution through rotating water distribution, enhancing the cooling effect, and running reliably, durably, and conveniently assembled. Widely used in a variety of cooling and heat dissipation places, in air conditioning and refrigeration, air pressure station, heating furnace and condensing process and other cooling water circulation system is particularly suitable.

1.1 Product presentation

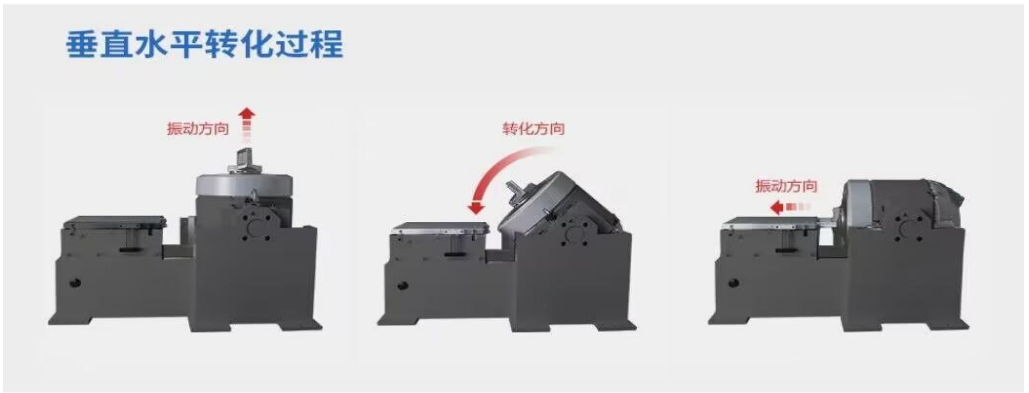


1.1 Product presentation

Catalog

1.1 Product presentation

1.Environmental chamber working principle introduction



Compact three integrated working principle:

1. Composition: internal and external box, freezer cabinet, electrical box, scissor and fork mobile lifting table, vibration table, guide rail chain.
2. Principle: Compact three integrated test chamber has three base plates, respectively ordinary constant temperature and humidity test, vertical vibration constant temperature and humidity test, horizontal vibration constant temperature and humidity test. For vertical vibration test, lifting platform to raise the test box, open the connection latch, replace the vertical required base plate, then the lifting platform is lowered; For horizontal vibration test, the lifting platform raise the environmental box, replace the base plate, through the T-wheel, move to the horizontal vibration table, and lower for the test.

1.1 Product presentation

2. Environmental chamber overall structure introduction

Air-conditioned room

Freezer

Electric box

1.1 Product presentation

2. Environmental chamber overall structure introduction

Vibro-bench, also named as vibration exciter or vibration generator, it utilize electrodynamic, electrohydraulic, piezoelectric, or other principles to obtain mechanical vibration. It can vibrate horizontally and vertically. With constant temperature and humidity box, it is widely used in national defense, aerospace, communications, electronics, automotive, household appliances and other industries.

1.1 Product presentation

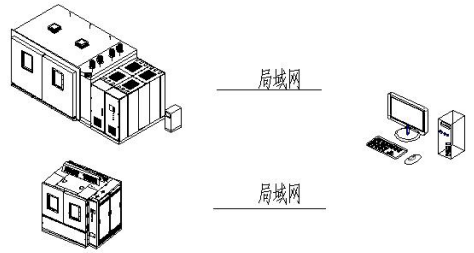
2. Environmental chamber overall structure introduction

Scissor-fork mobile lift: scissor-fork steel frame as the main lifting guide mechanism, under the action of hydraulic power to realize the platform lifting movement, driven by the reducer, horizontal movement on the guide rail.

1.1 Product presentation

3.Environmental chamber electronic control system introduction

1. Controller: "Japan Mitsubishi" a new generation of high-performance FX3U series PLC, 7.0-inch 600x480 dot-matrix TFT color LCD display, Chinese menus, touch human-machine dialogue, control unit using Japan Mitsubishi PLC module for all systems control, accurate temperature control. The equipment is in stable operation and good quality.



2. Connect with PC (optional): through the centralized monitoring software, can record test data, automatically display in the PC into a curve, and print directly, No limit to record time. File size depends on the capacity of hard disk, PC can be used as operation terminal to realize remote monitoring.
3. Cell phone APP function (optional): ----Set parameters and monitor the equipment status in real time through cell phone APP terminal.
4. Failure SMS function (optional): ---- When the equipment fails, can send message to the specified cell phone of fault content and fault time.

1.1 Product presentation

Control box and panel: electrolytic plate spraying with standard color, the panel is installed with touch man-machine dialogue interface, emergency stop switch, power display light, USB, data exchange interface, over-temperature protector and other operating instructions.

4. Environmental chamber display screen module introduction

Brand-Guangzhou Benlee

Display screen

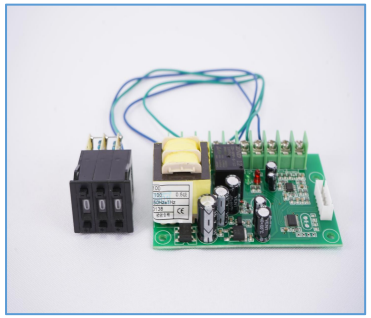
Brand-Guangzhou Benlee

Power indicator

Brand-Guangzhou Benlee

Emergency stop switch-(Emergency stop)

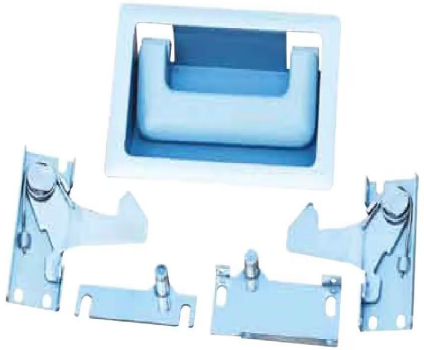
Brand-Shanghai Aiset



Overtemperature protector

1.1 Product presentation

5. Environmental chamber door handle and door lock introduction



II type pull handle(optional)

Approach handle(optional)

Door hinge

Buckle latch

1.1 Product presentation

6. Environmental chamber external parts introduction

Window glass

Features: Insulating glass, buried defrost heating wire, high and low temperature resistance, without fogging and condensation when test.

Features: stainless steel 304 material, good corrosion resistance, solid construction and rounded handle design,easy to grip

Stainless steel pull handle

Illuminated lamp

Features: waterproof and dustproof, good sealing, high temperature resistance, low humidity resistance, variable angle, free adjustment, good heat dissipation

Features: ONN indicator. The base is removable, the angle can be freely adjusted, comes with beeping, multi-layer and multi-color.

Tricolor

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7. Environmental chamber internal box parts introduction

Humidifying tube

Material 304 stainless steel tube, perforated around the distribution.

Evaporator

Material 321 stainless steel pipe.

Heating tube

Increase the return pipe, can save energy. Add sealing plate around to ensure air intake.

PT100 temperature sensing rod (imported from Switzerland/Finland) generally used two.

Motor

Flange type motor, with waterproof, good sealing performance.

Electronic temperature sensor

Switzerland/Finland imported sensor to measure the humidity of the inner box.

Electronic humidity sensor

1.1 Product presentation

8. Environmental chamber components inside freezer introduction

Humidifying water tank

Water tank humidifier

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9. Environmental chamber refrigerating components introduction

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Liquid storage tank

3.Condenser-- Guangzhou UAR

5. Denmark Danfoss magnetic valve/thermal expansion valve is adopted to effectively prevent refrigerant migration of the refrigeration system during shutdown.

2.Emerson's high-efficiency oil separator is used to separate the lubricating oil in the high-pressure vapor discharged from the refrigeration compressor to ensure the safe and efficient operation of the refrigeration system.

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Plate heat exchanger

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10. Environmental chamber electronic components introduction

Flame-retardant wire

Overload protector (Schneider)

Solid state relay (CARLOGAVAZZI)

Contactor (Schneider)

Fuseless switch (Schneider)

PLC Controller (Mitsubishi)

1.2 Product standard introduction

一个周期(见图 1)持续 720 min (12 h),由下面的温度 – 空气湿度的曲线构成:

— 60 min, 升温相位,	温度为＋80℃,相对湿度为 80%.
— 240 min, 保持时间	温度为＋80℃,相对湿度为 80%
— 120 min, 降温相位,	在－40℃处, 当达到冻点附近约 30%空气湿度时, 从 T＜0℃起保持空气湿度不变, 即不再调节温度, (由于设备条件的限制, 从 T＜10℃开始, 湿度调节失效是允许的).
— 240 min, 保持时间,	在－40℃左右, 保持空气温度不变, 不调节温度.
— 60 min, 升温相位,	在＋23℃处,约在 T=0℃时, 相对湿度调到 30%.

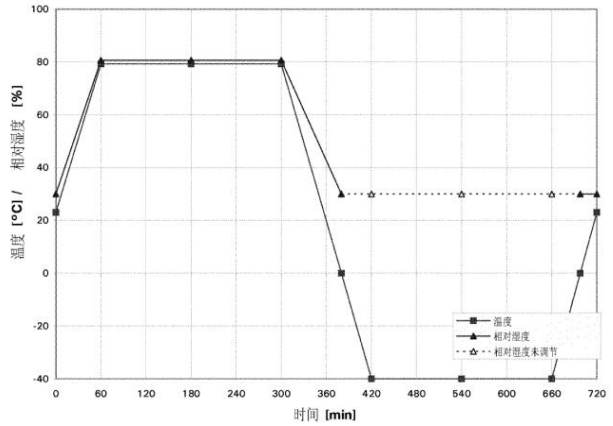


图 1. PV 1200 试验周期

PV1200 standard, at -40 ℃, relative humidity <30% RH, the difficulty below 0 ℃ begin non-control of humidity, and relative humidity maintain <30% RH (plus comparison of 1200 2055)

Interior parts of high and low temperature humid heat environment chamber meet the mainstream car companies and industry standards on automotive parts, materials environmental testing requirements are as follows (optional):

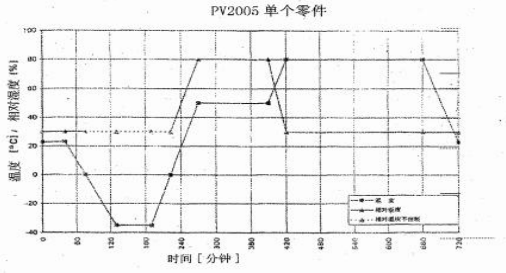
PV2005、PV1200

PR303、PR308

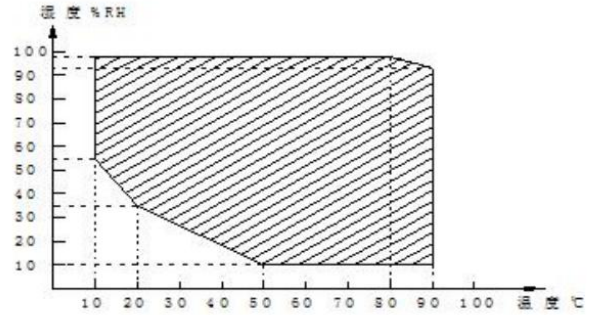
1 个循环持续 12 个小时（见过程图 1）包括以下温度和气候条件

－ 40 分钟	保持时间	+23℃，30％相对湿度
－ 90 分钟	冷却过程	从+23 到－35℃，30％相对湿度
－ 60 分钟	保持时间	－35℃，最大相对湿度 30％
－ 80 分钟	加热过程	升温到＋50℃，80％相对湿度
－ 120 分钟	保持时间	＋50℃，80％相对湿度
－ 30 分钟	加热过程	升至＋80℃，30％相对湿度
－ 240 分钟	保持时间	＋80℃，30％相对湿度
－ 60 分钟	冷却过程	至＋23℃，30％相对湿度

在升温过程－升至＋80℃，30％相对湿度，空气中的实际含水量不得超过 95g/m³进行汽车内饰件试验时，在任何时间都不能出现露水。

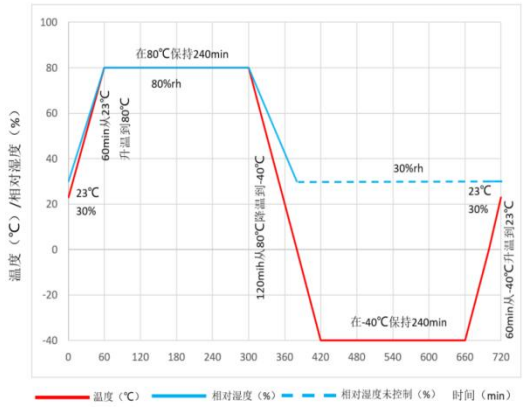


PV2005, at -40℃, relative humidity <30%RH, the difficulty below 0℃ begin no-control of humidity and keep relative humidity <30%RH, to start humidity control at 0℃ when warming up linearly from the low temperature of -40℃.

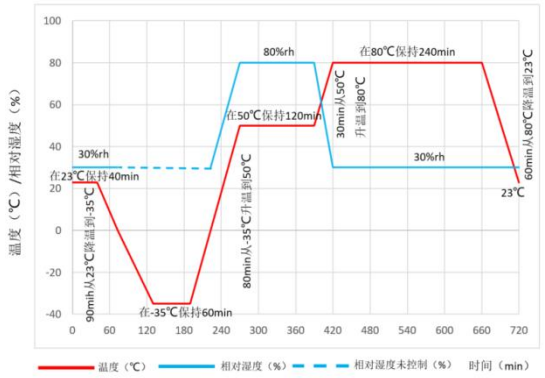


1.2 Product standard introduction

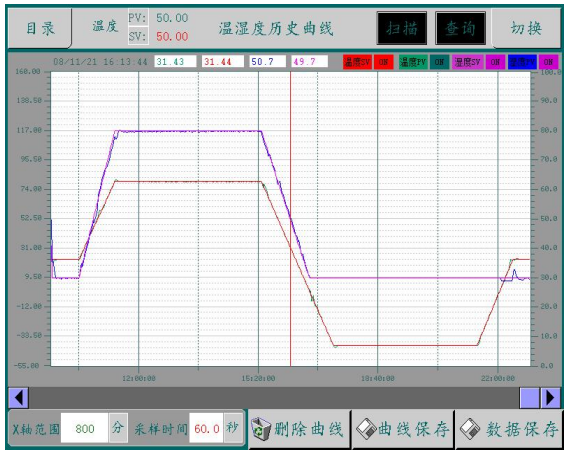
PV 1200

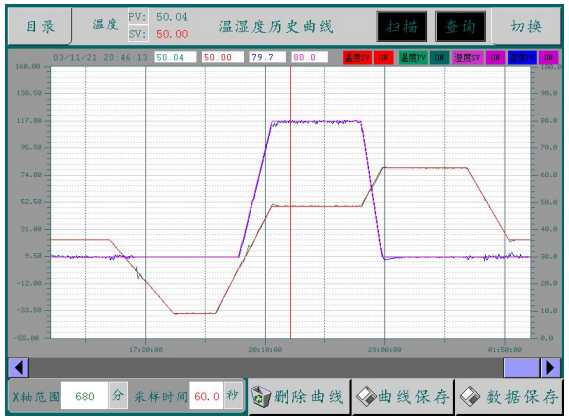


PV 2005

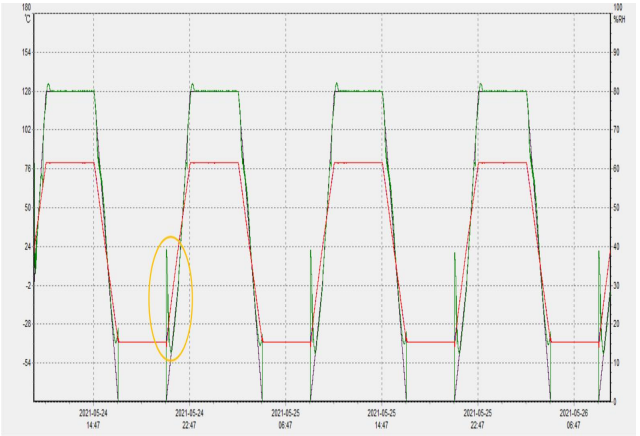


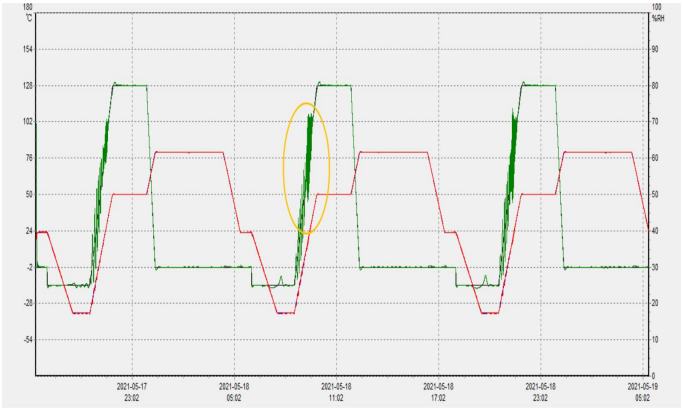
Simplewell curved line





Other suppliers' curved line

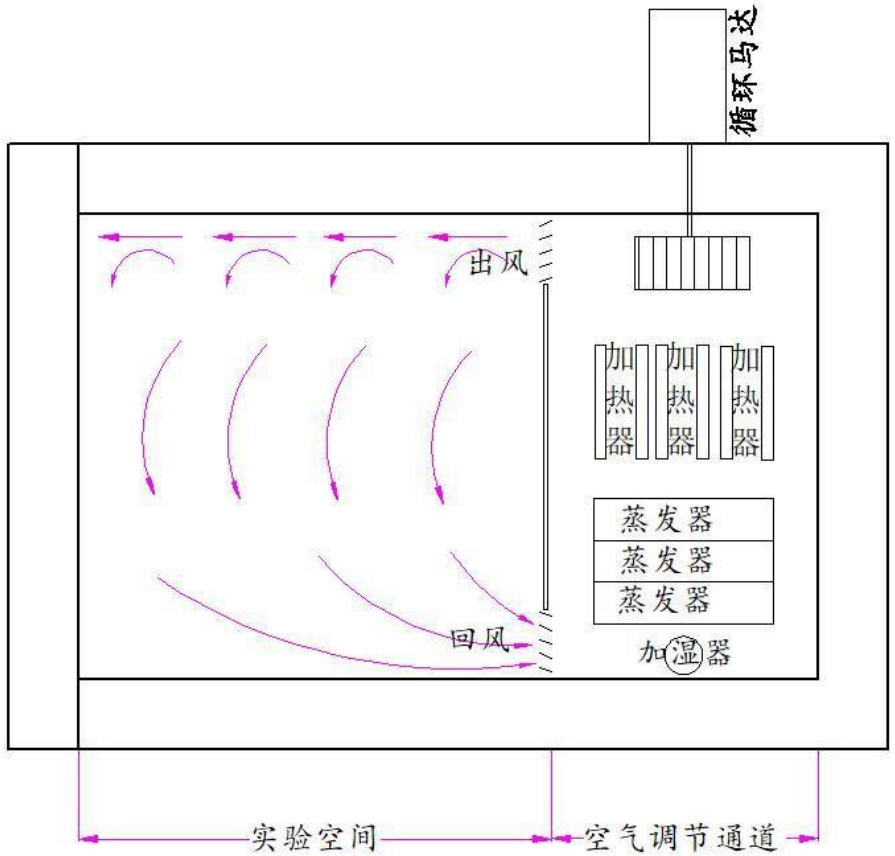




2. Product feature

Catalog

2.1 Air circulation system structure



How it works:

1. Using the method as shown diagram to carry out the transfer of heat to ensure the uniformity of humidity in the test space. Centrifugal fan placed on the top of the air conditioning channel is the power source of air circulation. Air from the bottom of the air conditioning channel into the channel, through the heater, evaporator and heater for heat exchange, centrifugal wind wheel stirr and blow out, and through the split outlet evaporator, into the inner box.

2.2 Sound and noise reduction structure

A sound insulation and noise reduction structure

Example: 6FE-44Y compressor test results
*When place outside, the noise of one compressor is measured as follows when place outside:

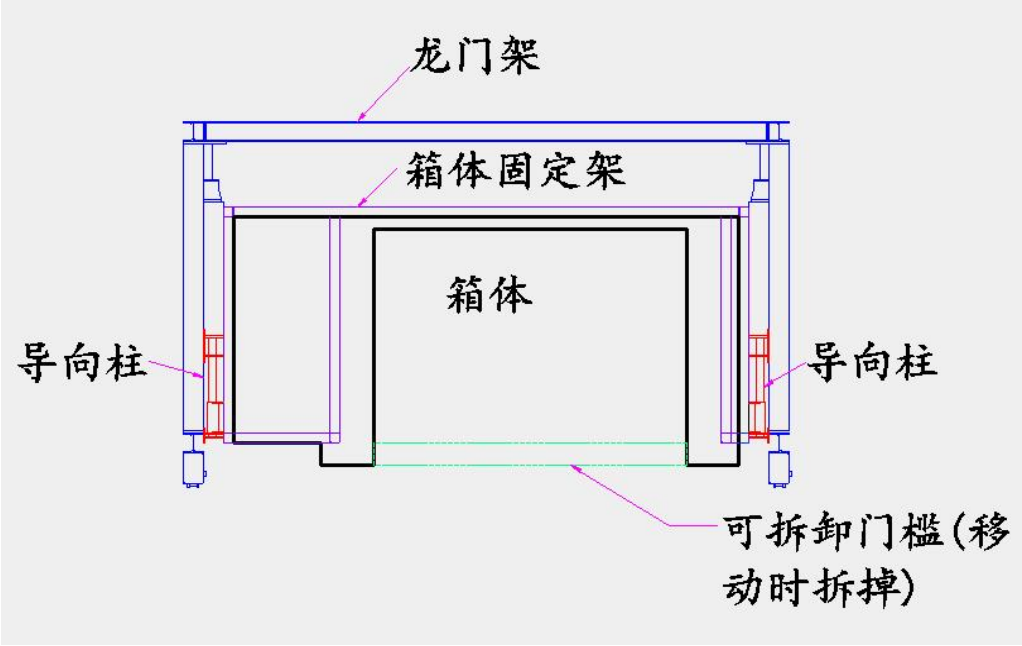
Sound Pressure Level@1m(-10℃/45℃) 74.8db
Sound Pressure Level@1m(-35℃/40℃) 82.5db
Sound Pressure Level@1m(-10℃/45℃)R134a 72.8db
Sound Intensity Level(-10℃/45℃) 82.8db
Sound Intensity Level(-35℃/40℃) 90.5db
Sound Intensity Level(-10℃/45℃)R134a 72.8db

*When place in enviromental chamber, taking GAC Honda for case, noise measurement of two built-in compressors:
Measured at the front door＜68db

This structure is designed in the freezing part of the environmental test chamber, under the requirement of high cooling rate with large load, the noise can be effectively controlled below 68dB, make the environmental noise from equipment during using to be effectively controlled. And also meet the heat dissipation requirements of the electronic control box, meet the requirements of the parts of the vibration test rattles, this technology has applied for a patent.

2.3 Guide column structure

A guide column structure



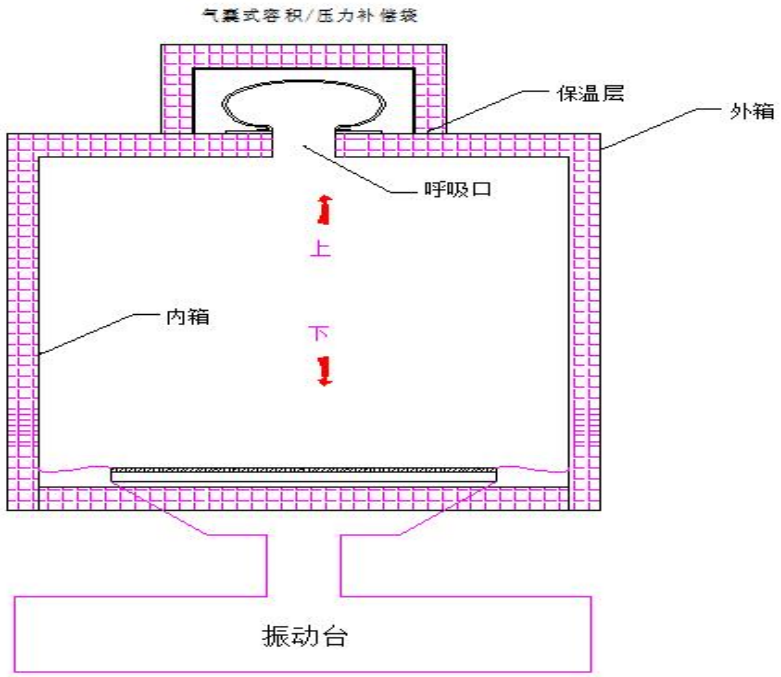
Sketch

Test chamber is divided into box, gantry, vibration table, guiding column, when not working, environmental test box and vibration table separation, vibration test can be done alone at the vibration table, when need for constant temperature and humidity testing, open the door, remove the threshold, the gantry on the lifting screw to stretch the environmental chamber, moving to the vibration table. Lifting screw down, during the whole process, the guiding column make the chamber and the outer frame only in the vertical direction of the movement, so the overall structure of chamber without deformation, after put down, it can fit seamless with ground and dismantled threshold .

This technology has been applied for patent.

2.4 Pressure compensator structure

A pressure compensation device structure



Sketch

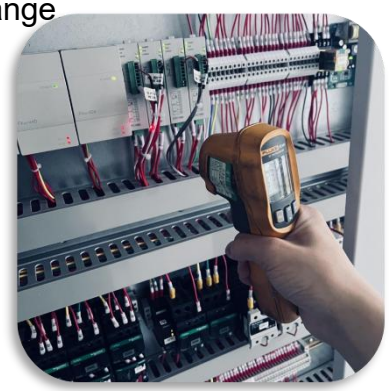
Installed in the top of the box a pressure compensation bag, through the breathing holes + insulation piping connected to the inner box, the external grille protective cover + insulation layer is well isolated from the outside environment, to avoid the influence of external environment on the temperature and humidity inside the box, when the vibration platform up and down movement, the pressure compensation bag with the pressure change, free expansion and contraction, make the pressure inside the experimental box to balance, avoid the outside air due to the sealing of the box to enter the inside of the test box and the evaporator, and impact the temperature and humidity inside the test box,
this technology has been applied for a patent.

2.5 Technological advantages of test chamber

1. Pipe welding process: the use of high-quality copper pipe nitrogen protection welding method, to avoid the traditional welding method caused by the inner wall of the copper pipe to produce oxide impurities into the refrigeration system damage to the compressor.

2. Shock absorption measures: compressor and pipeline bottom installed vibration damping springs and vibration soft pads combination for vibration damping.

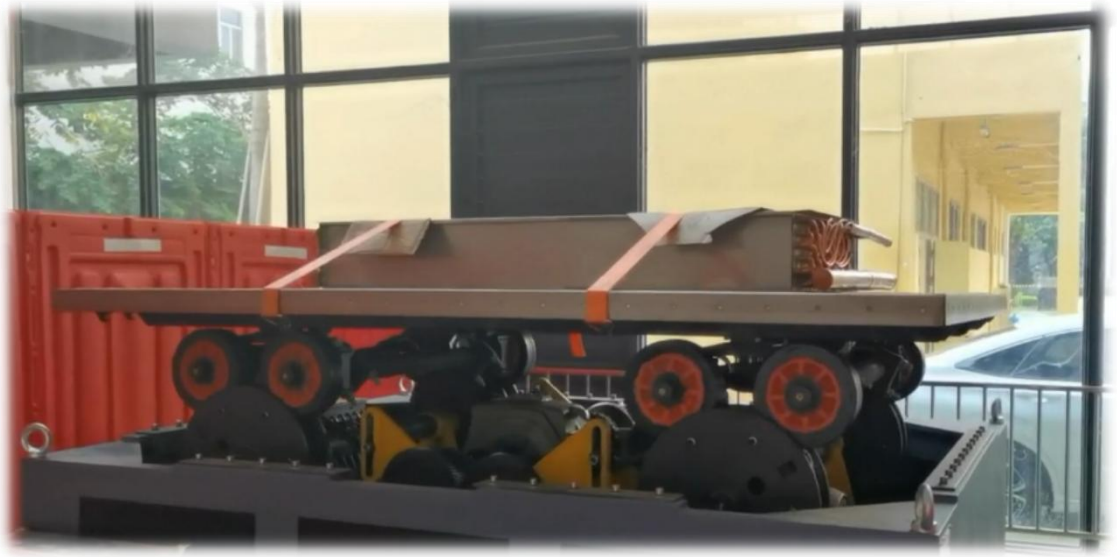
3. Pipeline protection measures: the refrigeration system pipeline adopts the way of adding vibration-proof hose and C-type elbow to avoid copper pipe and rupture caused by vibration and temperature change



5. Detect the temperature of the distribution cabinet line when the equipment is running.

4. Noise control: The condenser is equipped with low-speed, high-volume condensing fan from Germany MAER, and wave-type sound-absorbing sponges are installed around the refrigeration unit to achieve a lower noise effect.

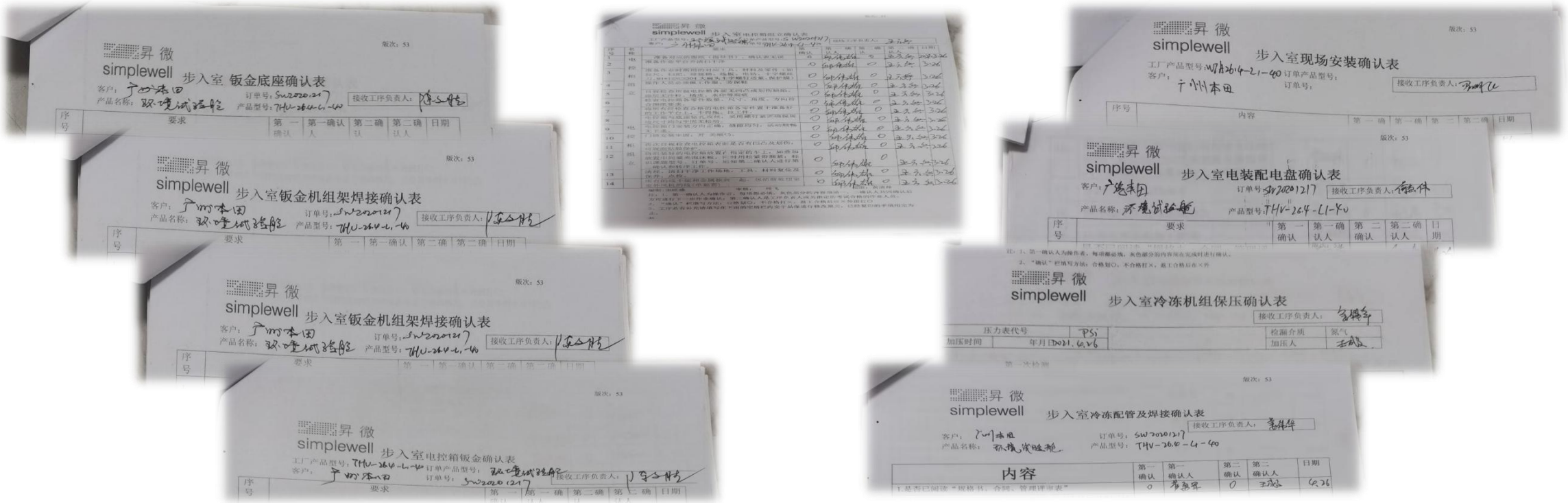
2.6 Simulated road vibration test



Vibration testing of components such as refrigeration evaporators prior to installation

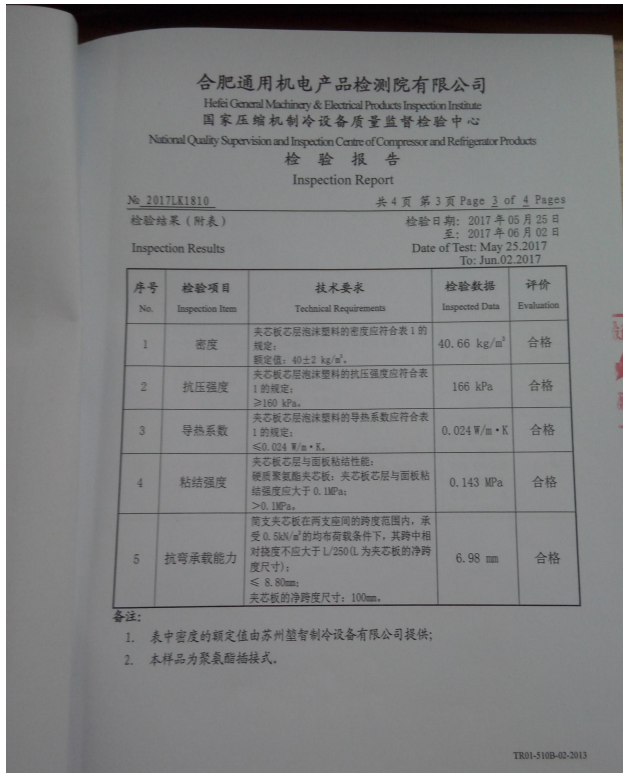
Vibration testing of small equipment prior to shipment

2.7 Confirmation of all aspects of the test chamber process



Environmental chamber from sheet metal cutting, bending, welding, electronic control wiring, refrigeration assembly, assembly, debugging, quality control, every step of the details confirmation are strictly controlled. Timely correction of problems in the production process, while tracing the root cause, optimize the production process, improve production efficiency, to ensure the quality of each set equipment produced.

2.8 Test report on the performance of test chamber storeboard



合肥通用机电产品检测院有限公司
Hefei General Machinery & Electrical Products Inspection Institute
国家压缩机制冷设备质量监督检验中心
National Quality Supervision and Inspection Centre of Compressor and Refrigerator Products
检 验 报 告
Inspection Report

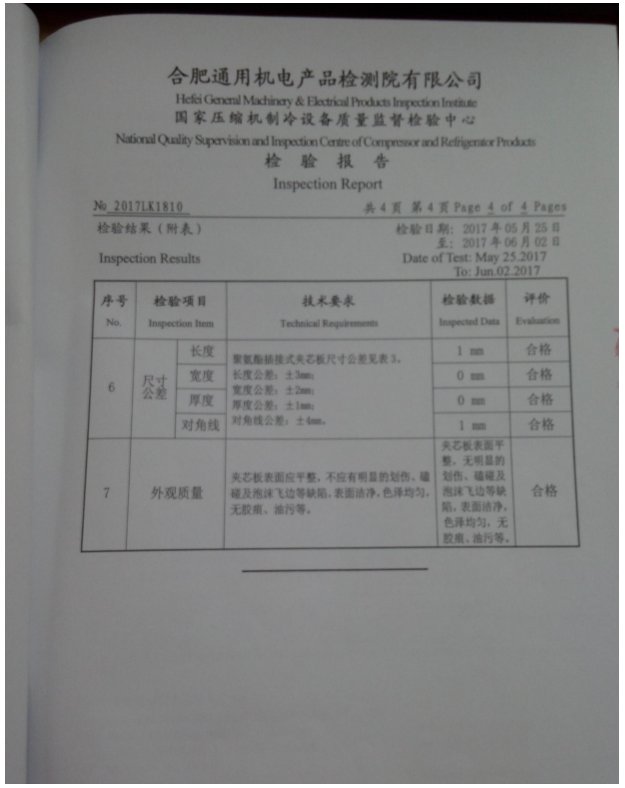
No. 2017LK1810 共 4 页 第 3 页 Page 3 of 4 Pages

检验结果（附表） 检验日期：2017 年 05 月 25 日 至：2017 年 06 月 02 日
Inspection Results Date of Test: May 25.2017 To: Jun.02.2017

序号 No.	检验项目 Inspection Item	技术要求 Technical Requirements	检验数据 Inspected Data	评价 Evaluation
1	密度	夹芯板芯层泡沫塑料的密度应符合表 1 的规定； 额定值：40±2 kg/m³。	40.66 kg/m³	合格
2	抗压强度	夹芯板芯层泡沫塑料的抗压强度应符合表 1 的规定： ≥160 kPa。	166 kPa	合格
3	导热系数	夹芯板芯层泡沫塑料的导热系数应符合表 1 的规定： ≤0.024 W/m·K。	0.024 W/m·K	合格
4	粘结强度	夹芯板芯层与面板粘结性能： 硬质聚氨酯夹芯板：夹芯板芯层与面板粘结强度应大于 0.1MPa； >0.1MPa。	0.143 MPa	合格
5	抗弯承载能力	简支夹芯板在两支座间的跨度范围内，承受 0.5kN/m² 的均布荷载条件下，其跨中相对挠度不应大于 L/250(L 为夹芯板的净跨度尺寸)： ≤ 8.80mm； 夹芯板的净跨度尺寸：100mm。	6.98 mm	合格

备注：
1. 表中密度的额定值由苏州塑智制冷设备有限公司提供；
2. 本样品为聚氨酯插接式。

TR01-510B-02-2013



合肥通用机电产品检测院有限公司
Hefei General Machinery & Electrical Products Inspection Institute
国家压缩机制冷设备质量监督检验中心
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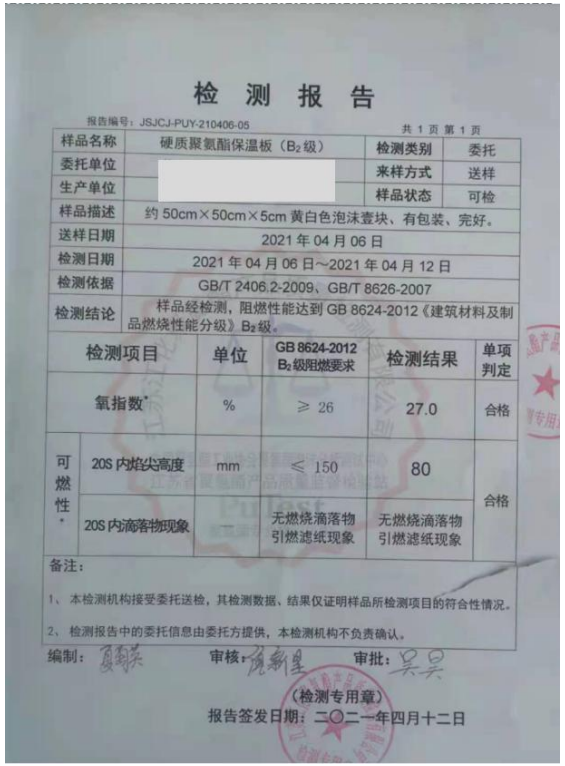
No. 2017LK1810 共 4 页 第 4 页 Page 4 of 4 Pages

检验结果（附表） 检验日期：2017 年 05 月 25 日 至：2017 年 06 月 02 日
Inspection Results Date of Test: May 25.2017 To: Jun.02.2017

序号 No.	检验项目 Inspection Item		技术要求 Technical Requirements	检验数据 Inspected Data	评价 Evaluation
6	尺寸公差	长度	聚氨酯插接式夹芯板尺寸公差见表 3。 长度公差：±3mm； 宽度公差：±2mm； 厚度公差：±1mm； 对角线公差：±4mm。	1 mm	合格
		宽度		0 mm	合格
		厚度		0 mm	合格
		对角线		1 mm	合格
7	外观质量		夹芯板表面应平整，不应有明显的划伤、磕碰及泡沫飞边等缺陷，表面洁净，色泽均匀，无胶痕、油污等。	夹芯板表面平整，无明显的划伤、磕碰及泡沫飞边等缺陷，表面洁净，色泽均匀，无胶痕、油污等。	合格



检 测 报 告

报告编号：JSJCJ-PUY-210406-05 共 1 页 第 1 页

样品名称	硬质聚氨酯保温板（B_2 级）	检测类别	委托
委托单位		来样方式	送样
生产单位		样品状态	可检
样品描述	约 50cm×50cm×5cm 黄白色泡沫壹块、有包装、完好。		
送样日期	2021 年 04 月 06 日		
检测日期	2021 年 04 月 06 日~2021 年 04 月 12 日		
检测依据	GB/T 2406.2-2009、GB/T 8626-2007		
检测结论	样品经检测，阻燃性能达到 GB 8624-2012《建筑材料及制品燃烧性能分级》B_2 级。		

检测项目		单位	GB 8624-2012 B_2 级阻燃要求	检测结果	单项判定
氧指数*		%	≥ 26	27.0	合格
可燃性*	20S 内焰尖高度	mm	≤ 150	80	合格
	20S 内滴落物现象	—	无燃烧滴落物引燃滤纸现象	无燃烧滴落物引燃滤纸现象	

备注：
1、本检测机构接受委托送检，其检测数据、结果仅证明样品所检测项目的符合性情况。
2、检测报告中的委托信息由委托方提供，本检测机构不负责确认。

编制：夏翰英 审核：顾新星 审批：吴昊

（检测专用章）
报告签发日期：二〇二一年四月十二日

Adoption of fire-retardant storeboards, the picture shows the performance test report of fire-retardant, compressive strength and bending load capacity and so on of storeboards.

2.9 Flame-retardant certificate for electrical wires of test chamber

Adoption of flame-retardant electrical wires, the picture shows the certificate of flame-retardant electrical wires

3.1 Relevant technical advancement

Energy saving

Related series of equipment refrigeration system (R404A and R23) using electronic expansion valve energy-saving control, through software automatically adjust the valve opening to achieve temperature stabilization, during low-temperature (below 0 ℃) stabilization process the heater not working, when refrigeration flow rate becomes smaller, the consumption power of compressor is reduced accordingly to achieve the purpose of energy saving. Energy-saving control effect of the relevant equipment has passed the China CQC energy-saving product certification.

中国节能产品认证

试验报告

Product energy-saving certification report

报告编号：20210103W00644X 第 4 页 共 5 页

试验结果及判定

序号	检验项目	技术要求	型号	实测值
1	125℃耗电量（kW·h/h）	按照委托方技术要求进行检测。	NTH（AYH,ST）-420-（20～70）	0.785
2	25℃耗电量（kW·h/h）	按照委托方技术要求进行检测。	NTH（AYH,ST）-420-（20～70）	1.818
3	-25℃耗电量（kW·h/h）	按照委托方技术要求进行检测。	NTH（AYH,ST）-420-（20～70）	1.303

Energy-saving test results and judgment

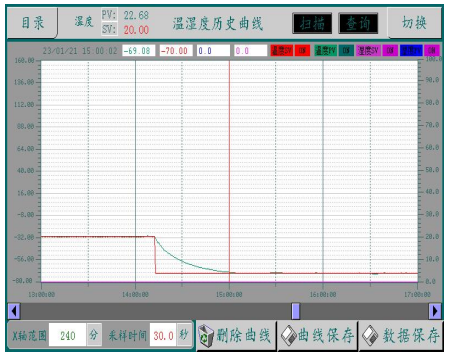
3.1 Relevant technical advancement

Simply by setting the temperature (humidity) conditions, this automatic control function can reach the set value with maximum power before reaching the set value and maintain operation with minimum power after reaching the set value. It responds quickly to the opening and closing of the door during the test and changes in the heat load to maintain a stable test environment.

Related Running Screens

Screen 1

Screen 2



Screen 3

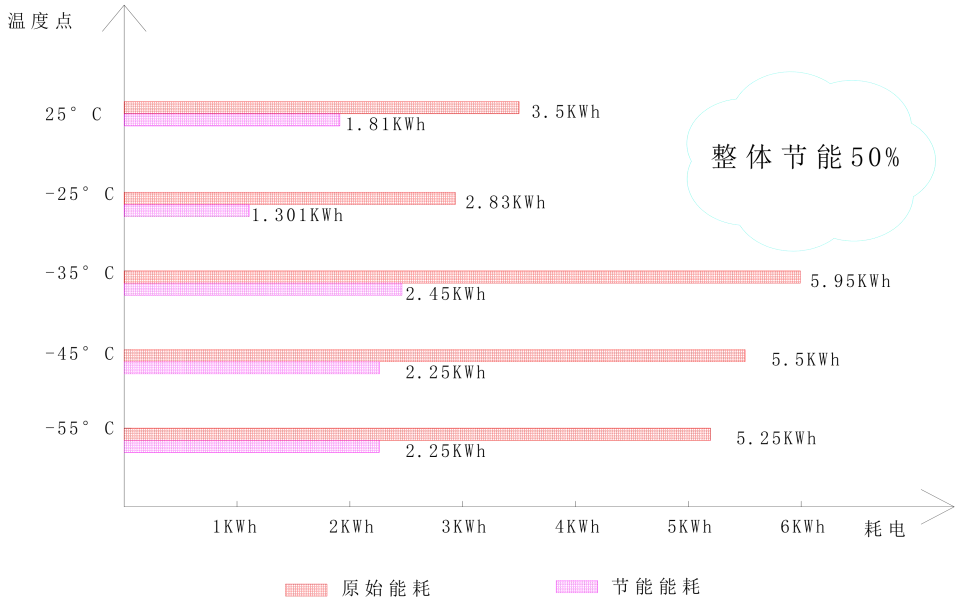
3.1 Relevant technical advancement

Temperature: the refrigeration system can control the output refrigeration capacity with high precision, realizing the goal of high performance and substantial savings in power consumption; when normal temperature and low temperature range is stable, the energy saving can be up to 50% more than the traditional mode.

STH408-70 Comparison of electricity consumption of compound stacked refrigeration unit				
NO.	Temperature point	Turn on the unit	Old model power consumption	New model power consumption
1	25℃	R404A	3.5kWh	1.81kWh
2	-25℃	R404A	2.83kWh	1.303kWh
3	-35℃	R404A+R23	5.95kWh	2.45kWh
4	-45℃	R404A+R23	5.5kWh	2.25kWh
5	-55℃	R404A+R23	5.25kWh	2.25kWh

3.1 Relevant technical advancement

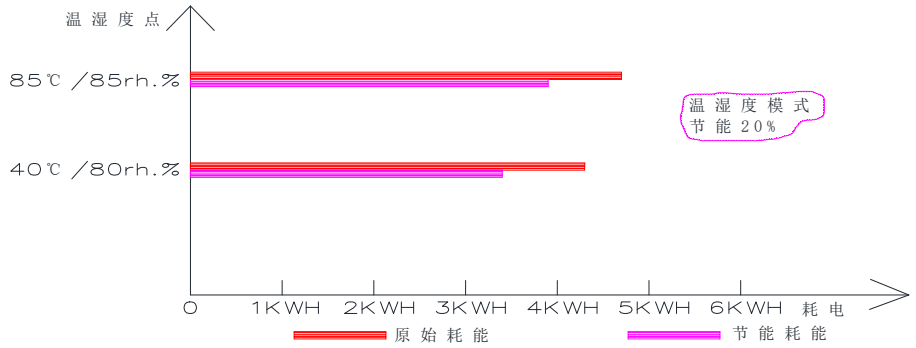
Temperature: The refrigeration system can control the output refrigeration capacity with high precision, realizing the goal of high performance and substantial savings in power consumption; when the normal temperature and low temperature range is stable, the energy saving can be up to 50% more than the traditional mode.



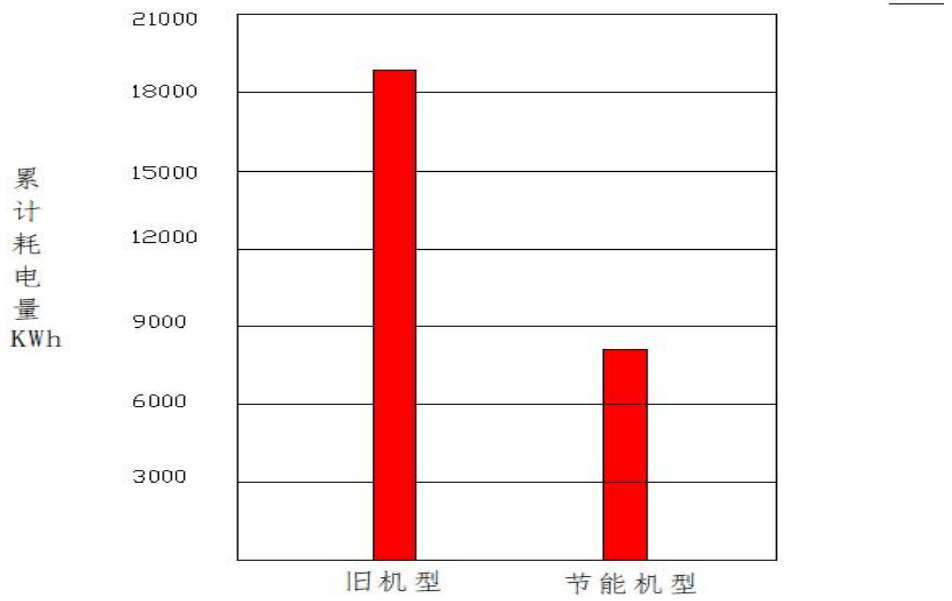
3.1 Relevant technical advancement

emperature and humidity: in the low and high humidity limit using the traditional control mode (due to the low humidity limit, humidification power itself is small; high humidity limit, the heating tube power is small); temperature and humidity in other ranges according to the set value corresponding to the dew point to adjust evaporating pressure of evaporator to control the stability of the humidity, so the heating, humidification power become smaller, due to the increasing evaporating pressure and reducing compressor exhausting, the operation power of the refrigeration system is correspondingly small, achieve energy-saving purpose.

	STH408-70Comparison of temperature and humidity energy consumption			
NO.	Temperature point	Humidity point	Old model power consumption	New model power consumption
1	85℃	85rh%	4.7kWh	3.9kWh
2	45℃	80rh%	4.3kWh	3.4kWh



3.1 Relevant technical advancement



Equipment:ESTH408-70
Control temperature at -55° C No load
Environmental temperature: 25℃ 50%RH
Electricity cost is calculated according to: 300 days * 12 * electricity

4 Some customers’ cases

Simplewell昇微

Thank you for watching

东莞市升微机电设备科技有限公司
SIMPLEWELL THCHNOLOGY CO., LTD


团队


合作

坚持

荣誉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