

NOY

NOY Technology

Comprehensive solution for leak detection



Anhui NOY Technology Co.,LTD

Catalogue

1) Company Profile.....	1
2) Company Honors.....	2
3) Customer Case.....	4
4) Application Fields.....	5
5) Product Introduction	
1. NLD200 Module Leak Detector.....	6
2. NHJ400M series Helium Hydrogen Mass Spectrometer Leak Detector.....	7
3. NHJ480 series Helium Hydrogen Mass Spectrometer Leak Detector.....	8
4. NHJ600 series Helium Hydrogen Mass Spectrometer Leak Detector.....	10
5. NHJ800D series Helium Hydrogen Mass Spectrometer Leak Detector.....	12
6. New Energy NHJ400series Helium Mass Spectrometer Leak Detector.....	14
7. NFJ150 Heavy Fluorine Oil Leak Detector.....	16
8. NFY260 Pressure Equipment.....	17
9. NJT01 Helium Mass Spectrometry Leak Detection System.....	18
6) Other information	
1. Leak detection accessories.....	19
2. Leak detection method.....	22

Anhui NOY Technology Co., LTD.

Company profile



Anhui NOY Technology Co., Ltd. is a high-tech enterprise with a registered capital of 32.2 million yuan and a standalone factory building. We specialize in the research and development, production, and sales of helium mass spectrometry leak detectors, helium leak detection vacuum boxes and recovery systems, airtightness leak detectors, and non-standard airtightness leak detection systems. Obtained Primary metering agent certificate for Primary Standard Laboratory of Vacuum. The leak detector has been exported to South Korea, India, Thailand, the Philippines and other countries, and has been highly praised. The company has invested in research and development, and has obtained many patents such as software, design and invention.

The company's products are widely used in the fields of aerospace, refrigeration and related supporting, automobile manufacturing, power battery, nuclear industry, vacuum system, biochemistry, environmental protection, food fermentation, petroleum processing, organic chemistry, Chinese and western medicine, scientific research and the like. Since its establishment, strict implementation of international standards of products and industry standards are devoted to the research of high-quality, high-performance and high-reliability of precision instruments, applying modern management ideas and management tools, and having strong technical support and advanced production and detection equipment. The NOY brand precision instrument products with good stability, high precision, high efficiency and complete functions are carefully manufacture. With the enterprise spirit of "being positive, optimistic, brave, willing, and striving for perfection", we have developed into an influential enterprise with a wide business scope among similar enterprises in China step by step.

Corporate honours





Customer Case



Cell testing



Air conditioning
pipe fittings inspection



TO packaging
inspection



High voltage DC relay
detection



Valve inspection



Heat exchanger inspection



Accelerator detection



Refrigerator condenser



Coating machine inspection



Square cover plate inspection



Research helium detection



Testing of power



Pressure vessel



Automated

A

pplication

New energy industry	Lithium battery cover plate, battery cell, module, water-cooled plate, PACK package, hydrogen energy, etc
Automotive industry	Power system, fuel system, braking system, steering system, transmission system, exhaust system, etc
Semiconductor industry	Packaging, chip manufacturing, vacuum machines, epitaxial wafers, wafers, connectors, filters, photovoltaics, etc
Power industry	Sleeve, fuse tube, lightning arrester, density meter, dynamic seal, etc
Refrigeration industry	Evaporator, condenser, air conditioning pipeline, compressor, four-way valve, heat pump, etc
Medical industry	Airtightness testing of medical equipment, such as respiratory airbags, B-ultrasound handles, ventilators, punctures, plasma perfusion devices, etc
Traditional vacuum industry	Pump valve, casting, vacuum tube, vacuum furnace, vacuum coating, accelerator, bellows
Other industries	Aerospace, research institutes, etc

NLD 200 module



Configuration combination

Model	Name	Quantity	
NLD200	Host leak detection module	×1	
	Display module	×1	
	Power module	×1	
	data line	×2	Customizable
	Standard leakage hole	×1	Optional

◎Performance description

NLD 200 module leak detector is a modular type leak detector, small volume can be flexible with the vacuum system, a variety of air combination, can be applied to a variety of detection requirements.

It has the characteristics of short start time, fast leak detection speed, high sensitivity, strong ability to clear helium and no pollutant removal.

Compact structural design to facilitate integration into leak detection systems according to customer needs.

Double iridium ion source, strong antioxidant capacity and long service life.

◎Technical parameter

最小可检漏率	Minimum leak detection rate	$3 \times 10^{-13} \text{ Pa} \cdot \text{m}^3/\text{s}$
最大进气口压强	Maximum intake pressure	$\leq 2000 \text{ Pa}$
启动时间	Start time	$\leq 90 \text{ S}$
响应时间	Response time	$\leq 0.5 \text{ S}$
可探测气体	Detectable gas	He4, He3, H2
通讯	Communication	RS232, RS485, USB
校准	Calibration	Internal automatic/external manual
语言	Language	Chinese/English
接口尺寸	Interface dimensions	DN KF25/DN KF16
电源/电压	Power / Voltage	DC24V, 240W
前级泵	Backing pump	$\geq 2.5 \text{ L/s}$
重量	Weight	22 Kg
尺寸	Size	(430*270*245) mm
工作环境	Work environment	Temperature (5~40) °C Humidity: $\leq 80\% \text{ RH}$
最大工作电流	Maximum working current	14.6A

NHJ 400M series helium hydrogen mass



◎Performance description

NHJ400M leak detector is a modular type leak detector, small volume can be flexible with the vacuum system, a variety of air combination, can be applied to a variety of detection requirements.

Compact structural design to facilitate integration into leak detection systems according to customer needs.

Mass spectrometry room: 180 degree non-uniform magnetic field U-shaped magnet design, good signal stability, and strong resistance to strong magnetic interference.

◎Technical parameters

真空最小可检漏率	Vacuum minimum leak detection rate	$3 \times 10^{-13} \text{ Pa} \cdot \text{m}^3/\text{s}$
真空漏率显示范围	Vacuum leakage rate display range	$(1 \times 10^{-1} \sim 1 \times 10^{-13}) \text{ Pa} \cdot \text{m}^3/\text{s}$
吸枪最小可检漏率	Minimum leak detection rate for sniffer gun	$5 \times 10^{-9} \text{ Pa} \cdot \text{m}^3/\text{s}$
吸枪漏率显示范围	Range of leakage rate of sniffer gun	$(1 \times 10^{-2} \sim 1 \times 10^{-9}) \text{ Pa} \cdot \text{m}^3/\text{s}$ (zero)
可探测气体	Detectable masses	He4, He3, H2
启动时间	Start time	$\leq 100 \text{ S}$
响应时间	Response time	$\leq 0.5 \text{ S}$
检漏口压力	Leak Pressure	$\leq 2000 \text{ Pa}$
主机电源/电压	Mainframe Power/ Voltage	DC24V, 350W
工作环境	Work environment	Temperature: $(5 \sim 40) ^\circ \text{C}$ Humidity: $\leq 80\% \text{RH}$
语 言	Language	中文/English
尺 寸	Size	$(420 \times 275 \times 359) \text{ mm}$
重 量	Weight	26 Kg
显示单位	Display units	$\text{Pa} \cdot \text{m}^3/\text{s}$ 、 $\text{mbar} \cdot \text{l/s}$ 、 $\text{atm} \cdot \text{cc/s}$ 、 $\text{Torr} \cdot \text{L/s}$ 、 ppm

NHJ 480 series helium hydrogen mass



◎ Technical parameter

真空最小可检漏率	Vacuum minimum leak detection rate	$3 \times 10^{-13} \text{ Pa} \cdot \text{m}^3/\text{s}$
真空漏率显示范围	Vacuum leakage rate display range	$1 \times 10^{-1} \sim 1 \times 10^{-13} \text{ Pa} \cdot \text{m}^3/\text{s}$
吸枪最小可检漏率	Minimum leak detection rate for sniffer gun	$5 \times 10^{-9} \text{ Pa} \cdot \text{m}^3/\text{s}$
吸枪漏率显示范围	Range of leakage rate of sniffer gun	$(1 \times 10^{-2} \sim 1 \times 10^{-9}) \text{ Pa} \cdot \text{m}^3/\text{s}$ (zero)
可探测气体	Detectable masses	He4, He3, H2
启动时间	Start time	$\leq 90 \text{ S}$
响应时间	Response time	$\leq 0.5 \text{ S}$
检漏口压力	Leak Pressure	$\leq 2000 \text{ Pa}$
主机电源/电压	Mainframe Power/ Voltage	(200~240) V、50Hz
工作环境	Work environment	Temperature (5~40) °C Humidity: $\leq 80\% \text{ RH}$
语 言	Language	中文/English
尺 寸	Size	(620*370*1027) mm
重 量	Weight	110 Kg
显示单位	Display units	$\text{Pa} \cdot \text{m}^3/\text{s}$ 、 $\text{mbar} \cdot \text{l/s}$ 、 $\text{atm} \cdot \text{cc/s}$ 、 $\text{Torr} \cdot \text{L/s}$ 、ppm

◎ Performance description

The NHJ480 series leak detector is a fully automatic mobile helium mass spectrometer leak detector with a silent wheel design, suitable for many demanding industries.

Utilizing helium mass spectrometry and reverse diffusion principles, using a 180 ° non-uniform magnetic field and fully automatic control technology, automatic helium peak scanning, automatic calibration, and automatic range switching have been achieved.

It has the characteristics of short startup time, fast calculation speed, high detection sensitivity, and strong anti-interference ability.

◎ Performance characteristics

Unique gas path design, can avoid dust into the instrument interior. Multi-mode function input, output, easy to connect a variety of automation equipment.

Double iridium ion source, strong antioxidant capacity and long service life.

The machine is effectively separated from the circuit, avoiding the interference of temperature, electromagnetic field and so on, which makes the leak detector run more stable and reliable.

NOY APP: use mobile phone APP remote over-control leak detector to start, stop, zero. Real-time monitoring leak detector shows leakage rate.

◎ NHJ480 Series Configuration table

Detailed Model		NHJ 480
机械泵	Vacuum pump	Ultra high power dual stage rotary vane mechanical pump
分子泵	Molecular pump	Genuine Import
电磁阀	Vacuum valve	Customized German original imported leak detector
7 寸彩色触摸屏	Display screen	●
WIFI	WIFI	○
手持器（150 米）	Remote controler	○
吸枪	Suction gun	○
大漏检测功能	Big leak detection	●
大漏保护功能	Large leakage protection	●
分子泵温度报警	Molecular pump Temperature alarm	○
机械泵温度报警	Vacuum pump Temperature alarm	○
外置标漏	External leak	●
内置标漏	Built-in leak	○
数据保存	Data saving	●
自动调零	Auto-zero	●
显示界面	Display interface	Curve chart, histogram, numerical display
输入/输出接口	I/O interfaces	RS232, RS485, USB External control input/output, analog output interface

● Standard Configuration ○ Optional

NHJ 600 series helium hydrogen mass



Technical parameter

真空最小可检漏率	Vacuum minimum leak detection rate	$3 \times 10^{-13} \text{ Pa} \cdot \text{m}^3/\text{s}$
真空漏率显示范围	Vacuum leakage rate display range	$(1 \times 10^{-1} \sim 1 \times 10^{-13}) \text{ Pa} \cdot \text{m}^3/\text{s}$
吸枪最小可检漏率	Minimum leak detection rate for sniffer gun	$5 \times 10^{-9} \text{ Pa} \cdot \text{m}^3/\text{s}$
吸枪漏率显示范围	Range of leakage rate of sniffer gun	$(1 \times 10^{-2} \sim 1 \times 10^{-9}) \text{ Pa} \cdot \text{m}^3/\text{s}$ (zero)
可探测气体	Detectable masses	He4, He3, H2
启动时间	Start time	$\leq 90 \text{ S}$
响应时间	Response time	$\leq 0.5 \text{ S}$
检漏口压力	Leak Pressure	$\leq 2000 \text{ Pa}$
主机电源/电压	Mainframe Power/ Voltage	(100~120) V、60Hz/ (200~240) V、50Hz
工作环境	Work environment	Temperature: (5~40) °C Humidity: $\leq 80\% \text{ RH}$
语 言	Language	中文/English
尺 寸	Size	(620*370*480) mm
重 量	Weight	55 Kg
显示单位	Display units	$\text{Pa} \cdot \text{m}^3/\text{s}$ 、 $\text{mbar} \cdot \text{l/s}$ 、 $\text{atm} \cdot \text{cc/s}$ 、 $\text{Torr} \cdot \text{L/s}$ 、 ppm

◎ Performance description

NHJ 600 series leak detector is a fully automatic portable helium mass spectrum leak detector, small volume, suitable for precision, fast and portable vacuum industry and research institutes.

Using helium mass spectrometry and inverse diffusion principle, using 180° inhomogeneous magnetic field and automatic control technology. Automatic helium peak scanning, automatic calibration and automatic range switching are realized.

It has the characteristics of portable, fast start, fast operation, high sensitivity, accurate and rapid.

◎ Performance characteristics

Stripping metal button, one-click automatic emptying.

Hand-held remote control unit, up to 150 meters remote detection.

Ram wifi connection, noi tech app, remote control.

Automatic zero-adjusting, automatic range switching.

The custom software of the leak detector can be compiled according to the customer's request.

◎ NHJ600 Series Configuration table

Detailed Model		NHJ 600
机械泵	Vacuum pump	Genuine Import
分子泵	Molecular pump	Genuine Import
电磁阀	Vacuum valve	Customized German original imported leak detector
7 寸彩色触摸屏	Display screen	●
WIFI	WIFI	○
推车	Cart	○
手持器（150 米）	Remote controler	○
吸枪	Sniffer gun	○
大漏检测功能	Big leak detection	●
大漏保护功能	Large leakage protection	●
分子泵温度报警	Molecular pump Temperature alarm	○
机械泵温度报警	Vacuum pump Temperature alarm	○
外置标漏	External leak	●
内置标漏	Built-in leak	○
数据保存	Data saving	●
自动调零	Auto-zero	●
显示界面	Display interface	Curve chart, histogram, numerical display
输入/输出接口	I/O interfaces	RS232, RS485, USB External control input/output, analog output interface

● 标配

○ 选配

NHJ800D series helium hydrogen mass



◎ Technical parameter

真空最小可检漏率	Vacuum minimum leak detection rate	$3 \times 10^{-13} \text{ Pa} \cdot \text{m}^3/\text{s}$
真空漏率显示范围	Vacuum leakage rate display range	$(1 \times 10^{-1} \sim 1 \times 10^{-13}) \text{ Pa} \cdot \text{m}^3/\text{s}$
吸枪最小可检漏率	Minimum leak detection rate for sniffer gun	$5 \times 10^{-9} \text{ Pa} \cdot \text{m}^3/\text{s}$
吸枪漏率显示范围	Range of leakage rate of sniffer gun	$(1 \times 10^{-2} \sim 1 \times 10^{-9}) \text{ Pa} \cdot \text{m}^3/\text{s}$ (zero)
可探测气体	Detectable masses	He4, He3, H2
启动时间	Start time	$\leq 90 \text{ S}$
响应时间	Response time	$\leq 0.5 \text{ S}$
检漏口压力	Leak Pressure	$\leq 2000 \text{ Pa}$
主机电源/电压	Mainframe Power/ Voltage	(100~120) V、60Hz/ (200~240) V、50Hz
工作环境	Work environment	Temperature (5~40) °C Humidity: $\leq 80\% \text{ RH}$
语 言	Language	中文/English
尺 寸	Size	(620*370*1027) mm
重 量	Weight	110 Kg
显示单位	Display units	$\text{Pa} \cdot \text{m}^3/\text{s}$ 、 $\text{mbar} \cdot \text{l/s}$ 、 $\text{atm} \cdot \text{cc/s}$ 、 $\text{Torr} \cdot \text{L/s}$ 、 ppm

◎ Performance description

NHJ 800D Series Leak Detector: A silent, portable, eco-friendly helium mass spectrometer featuring oil-free compressed air exhaust with no oil mist pollution.

Utilizes helium mass spectrometry and inverse diffusion principles, incorporating a 180° non-uniform magnetic field and full automation technology.

Features short startup time, fast processing speed, high sensitivity, reliable performance, and no pollutant emissions.

◎ Performance characteristics

Large Leak Detection: Alarms automatically if preset pressure is not reached during evacuation.

Multiple Units & Data Export: Select measurement units, view real-time data, export directly to Excel.

Rotatable 7" Touchscreen: Adjust orientation comfortably for optimal viewing.

Large Leak Protection: Safeguards ion source from oxidation pump from atmospheric exposure.

◎ NHJ800D Series Configuration table

Detailed Model		NHJ 800D
机械泵	Vacuum pump	Original imported dry pump
分子泵	Molecular pump	Genuine Import
电磁阀	Vacuum valve	Customized German original imported leak detector
7 寸彩色触摸屏	Display screen	●
WIFI	WIFI	○
推车	Cart	●
手持器 (150 米)	Remote controler	○
吸枪	Sniffer gun	○
大漏检测功能	Big leak detection	●
大漏保护功能	Large leakage protection	●
分子泵温度报警	Molecular pump Temperature alarm	○
机械泵温度报警	Vacuum pump Temperature alarm	○
外置标漏	External leak	●
内置标漏	Built-in leak	○
数据保存	Data saving	●
自动调零	Auto-zero	●
显示界面	Display interface	Curve chart, histogram, numerical display
输入/输出接口	I/O interfaces	RS232, RS485, USB External control input/output, analog output interface

● 标配

○ 选配

New Energy NHJ400series helium mass spectrometer leak detector



© Technical parameter

真空最小可检漏率	Vacuum minimum leak detection rate	$5 \times 10^{-13} \text{ Pa} \cdot \text{m}^3/\text{s}$
真空漏率显示范围	Vacuum leakage rate display range	$(1 \times 10^{-1} \sim 1 \times 10^{-13}) \text{ Pa} \cdot \text{m}^3/\text{s}$
吸枪最小可检漏率	Minimum leak detection rate for sniffer gun	$5 \times 10^{-9} \text{ Pa} \cdot \text{m}^3/\text{s}$
吸枪漏率显示范围	Range of leakage rate of sniffer gun	$(1 \times 10^{-2} \sim 1 \times 10^{-9}) \text{ Pa} \cdot \text{m}^3/\text{s}$ (zero)
可探测气体	Detectable masses	He, H ₂
启动时间	Start time	$\leq 100 \text{ S}$
响应时间	Response time	$\leq 0.5 \text{ S}$
检漏口压力	Leak Pressure	$\leq 2000 \text{ Pa}$
主机电源/电压	Mainframe Power/ Voltage	AC220V $\pm$ 10%, 50Hz
语 言	Language	Chinese
尺 寸	Size	(590*312*380) mm
重 量	Weight	100 Kg
显示单位	Display units	$\text{Pa} \cdot \text{m}^3/\text{s}$ 、 $\text{mbar} \cdot \text{l/s}$ 、 $\text{atm} \cdot \text{cc/s}$ 、ppm
工作环境	Work environment	Temperature (5~40) °C Humidity: $\leq 80\%$

◎ Performance description

NHJ-400 is a fully automatic mobile helium mass spectrometer, simple structure, superior performance, suitable for many industries. Using the principle of helium mass spectrum and inverse diffusion, using 180°non-uniform magnetic field and automatic control technology, automatic helium peak scanning, automatic zero adjustment and automatic range switching are realized, which have the characteristics of high detection speed, high detection sensitivity and strong anti-interference ability. Large leakage detection function: can be through the preset pressure, empty time, cannot reach the preset value, leak detector automatic alarm prompt.

A variety of units of measurement selection, detection data real-time update, direct output to generate Excel tables.

Multiple large leakage protection modes to adequately protect ionic sources from being oxidized and exposed to atmosphere when molecular pumps are not impacted.

◎ Performance characteristics

The unique gas path design improves the pumping speed of helium, shortens the cleaning time of helium background, and effectively prevents helium contamination.

Leak detection port equipped with: custom precision filter device, can effectively avoid debris particles or copper powder into the instrument inside.

Multi-mode function input, output, easy to connect a variety of automation equipment.

The machine is effectively separated from the circuit, avoiding the interference of temperature, electromagnetic field and so on, which makes the leak detector run more stable and reliable.

The minimum leak detection rate is low, the sensitivity is high, and the detection range reaches grade 11.

◎ NHJ400 series Configuration table

Detailed model		NHJ 400
机械泵	Vacuum pump	German Leybold
分子泵	Molecular pump	German Leybold
电磁阀	Vacuum valve	Customized German original imported leak detector
7 寸彩色触摸屏	Display screen	●
推车	Cart	●
手持器 (150 米)	Remote controler	○
吸枪	Sniffer gun	○
大漏检测功能	Big leak detection	●
大漏保护功能	Large leakage protection	●
外置标漏	External leak	●
内置标漏	Built-in leak	○
数据保存	Data saving	●
输入/输出接口	I/O interfaces	RS232, RS485, USB External control input/output, analog output interface

● Standard Configuration ○ Optional

NFJ 150 Heavy Fluorine Oil Leak



◎ Technical parameter

电压/功率	Power	220V/1000W
加热温度	Heating temperature	$\leq 125^{\circ}\text{C} \pm 5^{\circ}\text{C}$
升温速率	Heating rate	$\leq 2^{\circ}\text{C}/\text{min}$
油箱容积	Tank volume	6L
尺寸	Size	(530*270*370) mm
重量	Weight	22Kg

◎ Performance description

NFJ 150 Fluorine oil leak detector is suitable for coarse leak detection of discrete electronic devices, semiconductor devices and microcircuit packages with inner cavity.

The tank is treated as a dark, non-reflective black background, the left and right lighting into direct parallel light, the observation port with a magnifying glass to enlarge the micro bubbles.

- ✧ Accurate temperature control controller, can accurately set the required temperature
- ✧ Concave switch, power supply, increase the safety of operation.
- ✧ The high-permeable observation window is equipped with a movable magnifying glass to clearly determine the location of each leak.
- ✧ Mobile upper cover, by its own weight, hinder the distance from high temperature.

NFY260 Pressure Equipment



© Technical parameter

电压/功率	Power	220V/900W
最高使用压力	Withstand voltage	$\leq 1\text{Mpa}$
真空压力	Vacuum pressure	$\leq 50\text{Pa}$
压力罐容积	Tank volume	$\Phi 260\text{mm} \times 227\text{mm}$
外形尺寸	Size	(1080×720×822) mm
重量	Weight	200Kg

© Performance description

NFY260 The equipment adopts double tank structure, double tank container is equipped with fluorine tank, it is upper and lower structure, fluorine tank is under pressure tank

Equipped with touch screen, pressure, liquid level, fluorine oil level height and other data are displayed in the screen.

- ✧ Large capacity, double pressure tank design, improve the efficiency of detection.
- ✧ Front button to achieve one-click automatic work.
- ✧ Platform operation to facilitate the placement of workpieces.
- ✧ Mobile casters, light placement equipment position.
- ✧ Large screen LCD display, can clearly display each workflow.

NJT01 Helium detection system



© Performance description

Helium mass spectrometry leak detection system can be customized according to customer requirements, can automatically complete the workpiece plugging and leak detection process. It has the characteristics of simple operation, convenient use and high working efficiency.

It is widely used in new energy industry, refrigeration industry, precision processing, high vacuum equipment, electric power industry and so on.

Leak Detection Fittings

◎ Pressure He Tank, Leak Tank

Back pressure method leak detection required fittings.

Pressure helium tank to detect the workpiece into the cavity of helium.

Leak detection tank is to cooperate with the leak detector to detect the workpiece.

can customize the size.



◎ Handheld Remote Controller

Remote control of the leak detector start, stop, zero.

Show the leak rate of the leak detector,

can adjust the volume of unqualified alarm.

◎ Sniffer Gun

Positive pressure method leak detection, with the leak detector leak detection accessories.

flexible pipeline design to facilitate leak detection.

Equipped with precision filtration to prevent dust clogging sniffer gun.

When using a sniffer gun, use standard helium to calibrate the leak detector .





Leak Detection Fittings

Leak Detection Fittings



◎ Standard Leak

-8 magnitude standard leak holes (He)

National Standard Unit of Measurement and Certification

Standard for Detecting Leakage Rate of Leak Detector

Standard leak can be divided into: built-in, external.

◎ Customized Leak Holes

Customizable leak size

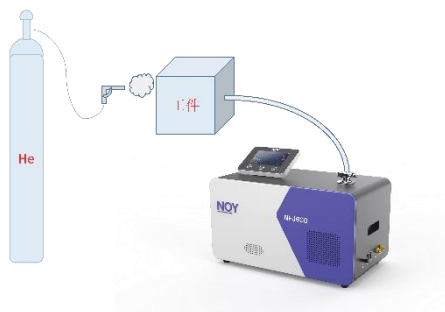
National standard units of measurement and issuance of verification certificates

Testing standards for leakage rate of leak detectors

External leakage hole



Leak Detection Method

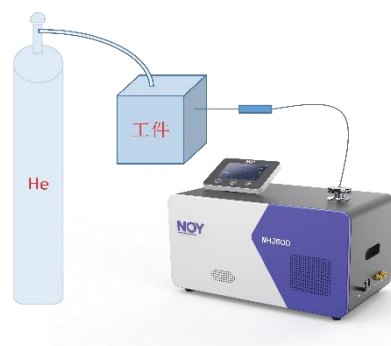


© Negative pressure method

Vacuum the sealed chamber inside the inspected product
 Apply helium gas on the outer surface of the product under inspection
 Leak detector detects changes in helium content inside the workpiece
 The precise location of the leak can be realized

© Sniffer gun method

Fill the sealed chamber with helium gas at a certain pressure inside the inspected product
 When there is a leak in the tested piece, helium gas will leak through the leak in the surrounding atmospheric environment
 When using the sniffer gun method to detect the helium concentration increment in the surrounding atmosphere of the tested product
 Accurate positioning of leaks can be achieved



◎ Helium cover method

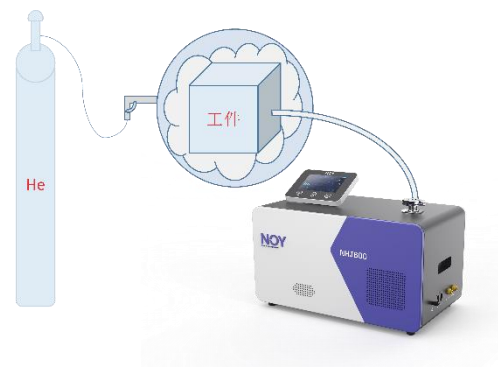
Fill the sealed chamber with helium gas at a certain pressure inside the inspected product

When there are leaks on the surface of the inspected product, helium will enter the surrounding helium cover on the inspected outer surface through the leaks

Accumulated time inside the helium hood

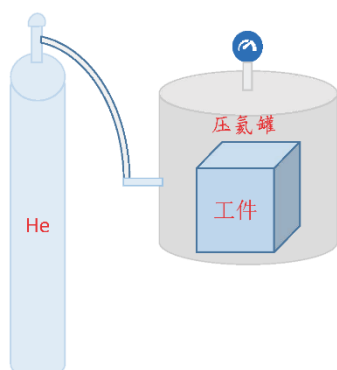
Use a sniffer gun at the upper end of the helium hood to detect the increase in helium concentration inside the tested product's helium hood

Can measure the total leakage rate of the inspected product



◎ Back pressure method

◎ Helium pressure method



Place the inspected piece into the pressurized helium tank and vacuum the pressurized helium tank

After the pressure is below 100Pa, fill it with pure helium according to GB4844-1984, and the filling time is greater than 20s. When the pressure reaches the required helium filling pressure, maintain the pressure for the required time.

When removing the inspected piece, discharge the helium gas from the pressurized helium tank to zero gauge pressure for more than 20 seconds.

Blow the tested piece with nitrogen or dry air for more than 5 minutes.

◎ Leak detection method

Place the tested product in a helium chamber at a certain pressure and wait for a certain period of time before removing it

Remove residual helium from the surface for a certain period of time

Place the inspected product into the leak detection tank connected to the leak detector for leak detection

Detect for a certain period of time and take the maximum leakage rate value



Helium spray leak detection process

◎ Helium spray detection standard:

QJ3123-2000 "Helium Mass Spectrometry Vacuum Leak Detection Method"

GB/T 15823-2009 "Helium Leakage Inspection"

- 1) After assembling the workpiece, use the corresponding fixture to connect it to the leak detector.
- 2) After confirming the connection is OK, press the "Start" button on the leak detector to enter the vacuum leak detection state.
- 3) Observe the background value displayed on the leak detector screen to reach $4.0 \times 10^{-10} \text{Pa} \cdot \text{m}^3/\text{s}$.
- 4) Use 99.99% or 99.999% helium gas to perform helium injection detection on suspected leakage points on the workpiece.
- 5) For each suspicious leak point, spray helium for 1 second and observe the background value of the leak detector for 3-5 seconds
- 6) Follow step 5 to sequentially detect other suspicious leakage points.
- 7) The sequence of helium injection detection is from top to bottom, first confirming the major leak point,
- 8) After the inspection is completed, press the "stop" button on the leak detector first, and wait for the standby screen to appear on the detector display before disassembling the workpiece.

Leak detection process using the suction gun method

◎ Detection standards for suction gun method:

QJ3089-1999 "Helium Mass Spectrometry Positive Pressure Leak Detection Method"

QJ2862-1996 "Helium Mass Spectrometry Leak Detection Test Method for Pressure Vessel Weld Seam Suction Gun Cover Box 1"

- 1) After assembling the workpiece, use the corresponding fixture to inject a certain pressure of 99.99% or 99.999% helium gas into the workpiece.
- 2) After confirming OK, connect the suction gun to the leak detection port of the leak detector. Press the "Start" button on the leak detector to enter the vacuum leak detection state.
- 3) Observe that the background value displayed on the leak detector screen reaches around $1.0 \times 10^{-7} \text{Pa} \cdot \text{m}^3/\text{s}$ Relatively stable state.
- 4) Use a suction gun to perform helium detection on suspected leakage points on the workpiece. Use a suction gun from bottom to top, with a distance of 1-3mm from the surface of the inspected product, and move at a speed of no more than 10mm/s to detect the increase in helium concentration in the surrounding atmospheric environment of the inspected product.
- 5) Follow step 4 to sequentially detect other suspicious leakage points.
- 6) First confirm the major leakage point, handle it properly, and then detect the minor leakage point.
- 7) After the inspection is completed, press the "stop" button on the leak detector first, and wait for the standby screen to appear on the detector display before disassembling the suction gun.

NOY



Cooperative units



Comprehensive solution for leak detection



Consultation hotline: 400 1677 880

After sales hotline: 0551-65533774

Fax: 0551-65533775

Website: www.ahnoy.com.cn

Address: 14-2 Liandong U Valley International Enterprise
Port, Shushan District, Hefei City, Anhui Province

