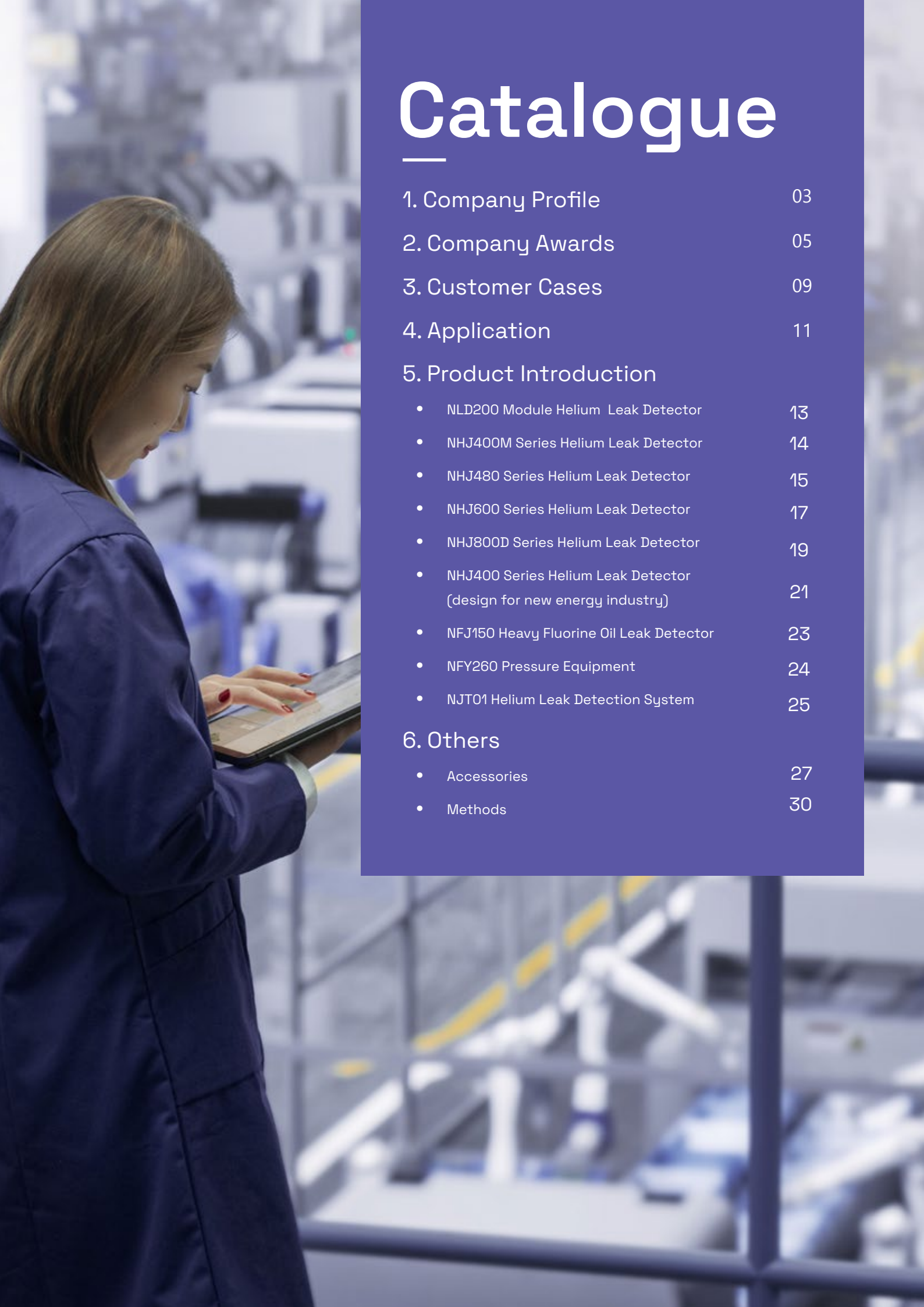
Total Solution For Leak Detection

NOY

Part of Atlas Copco Group

Anhui NOY Technology Co.,LTD



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01

Company Profile

Anhui NOY Technology Co., Ltd. is a leading Chinese enterprise dedicated to the development and manufacturing of helium mass spectrometer leak detectors. Our products are designed to detect gas leakage with exceptional sensitivity and precision, utilizing helium as a tracer gas. Even the smallest leaks can be rapidly and accurately identified, ensuring the highest standards of reliability.

Our solutions are widely adopted in industries with stringent sealing requirements, including lithium batteries (power and consumer), semiconductor packaging, automotive components, semiconductor equipment and parts, artificial intelligence applications, Liquid-cooled Data Center, and biopharmaceuticals.

Since the commercial launch of our products in 2018, NOY has achieved a cumulative installation base of exceeded 7,000 units across China by December 2025, ranking among the first tier in annual sales within the Chinese market. We are proud to serve many leading companies across multiple industries.

In 2024, NOY became a wholly owned subsidiary of the globally renowned Atlas Copco Group, headquartered in Sweden. This strategic integration enables us to leverage global synergies—enhancing R&D capabilities, optimizing supply chains, and expanding our worldwide market reach and service network.

At NOY, we are committed to continuous innovation, delivering reliable, efficient, and cutting-edge leak detection solutions that empower the future of advanced manufacturing.

Tagline:
Precision Beyond Boundaries, Innovating Leak Detection

NOY
诺益科技

02

Corporate Awards

Corporate Awards

Corporate Awards

Corporate Awards

03

Customer Cases

T0 packaging detection

High voltage DC
relay detection

Valve detection

Heat exchanger
detection

Battery cell detection

Air conditioning pipe
fittings detection

Accelerator detection

Customer Cases

Refrigerator condenser detection

Pressure vessel detection

Automated detection

Coating machine detection

Square cover plate detection

Science & Research detection

Electrical Insulation Components Detection

04

Application

New Energy	Lithium battery: covers, cells, modules, cold plates, PACKs, hydrogen energy, etc.
Automotive	Power systems, fuel systems, braking systems, steering systems, transmission systems, exhaust systems, etc.
Semiconductor	Packaging, chip manufacturing, vacuum chambers/tools, epitaxial wafers, wafers, connectors, filters, etc.
Power	Bushings, fuse cutouts, arresters, density relays, dynamic seals, etc.
Refrigeration	Evaporators, condensers, air conditioning tubing, compressors, four-way valves, heat pumps, etc.
Medical	Medical device leak testing: resuscitation bags, ultrasound probes, ventilators, trocars, plasma perfusion devices, etc.
General Vacuum	Pumps/valves, castings, vacuum tubes, vacuum furnaces, vacuum coating, accelerators, bellows, etc.
Others	Liquid-cooled data center, aerospace, research institutes, photovoltaics, etc.

05

Product Introduction

NLD200 Modular Helium Leak Detector

Introduction

NLD 200 Modular Helium Mass Spectrometer 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 Parameters	
Minimum Leak Detection Rate	3×10^{-13} Pa·m³/s
Helium Pumping Speed	2.5 L/s
Inlet Pressure	≤2000 Pa
Start-up Time	≤90 s
Response Time	≤0.5 s
Detectable Gas	^4He,^3He,H_2
Communication	RS232,RS485,USB
Calibration	Internal Automatic/External Manual
Language	Chinese/English
Interface Dimensions	DN KF25/DN KF16
Power / Voltage	DC24V,350W
Weight	22 kg
Dimensions	(430×270×245)mm
Work Environment	Temperature (5~40) °C
Backing Pump	/
Maximum Working Current	14.6A

Configuration table			
NLD200	Host leak detection module	×1	
	Display module	×1	
	Power module	×1	
	Data line	×2	Customizable
	Standard leakage hole	×1	Optional

NHJ400M Series Helium Leak Detector

Introduction

NHJ400M Helium Mass Spectrometer 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	
Min. Detectable Leak Rate of Vacuum Mode	3×10^{-13} Pa·m³/s
Vacuum Leakage Rate Display Range	(1×10^{-2} ~ 1×10^{-13})Pa·m³/s
Min. Detectable Leak Rate of Sniffer Mode	5×10^{-9} Pa·m³/s
Range of Leakage Rate of Sniffer	(1×10-2 ~1×10-⁹)Pa·m³/s (zero)
Helium Pumping Speed	2.5 L/s
Detectable Gas	^4He,^3He,H_2
Start-up Time	≤90 s
Response Time	≤0.5 s
Inlet Pressure	≤2000 Pa
Mainframe Power/ Voltage	DC24V,350W
Work Environment	Temperature: (5~40) ⁰C
Language	Chinese / English
Dimensions	(420×275×359)mm
Weight	26 kg
Backing Pump	/
Display units	Pa·m³/s,mbar·l/s, atm·cc/s, Torr·l/s, ppm

NHJ480 Series Helium Mass Spectrometer Leak Detector

Introduction

The NHJ480 Series Helium Mass Spectrometer 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.

Technical Parameters	
Min. Detectable Leak Rate of Vacuum Mode	3×10^{-13} Pa·m³/s
Vacuum leakage rate display range	1×10^{-2} ~ 1×10^{-13} Pa·m³/s
Min. Detectable Leak Rate of Sniffer Mode	5×10^{-9} Pa·m³/s
Range of Leakage Rate of Sniffer	(1×10^{-2} ~1×10^{-9})Pa·m³/s (zero)
Helium Pumping Speed	2.5 L/s
Detectable Gas	^4He,^3He,H_2
Backing Pump Speed	16 m³/h
Start-up Time	≤90 s
Response Time	≤0.5 s
Inlet Pressure	≤2000 Pa
Mainframe Power/ Voltage	(200~240) V,50Hz
Work Environment	Temperature: (5~40) °C
Language	Chinese / English
Dimensions	(620×370×1027)mm
Weight	110 kg
Display Units	Pa·m³/s,mbar·l/s, atm·cc/s, Torr·l/s, ppm

Configuration table	
Vacuum pump	Oil-Sealed Rotary Vane Pump
Molecular pump	Genuine Import
Vacuum valve	Original imported leak detector, specially customized
Display screen	●
WIFI	○
Remote controler	○
Suction gun	○
Big leak detection	●
Large leakage protection	●
External leak	●
Built-in leak	○
Data saving	●
Auto-zero	●
Display interface	Curve chart, histogram, numerical display
I/O interfaces	RS232, RS485, USB External control input/output, analog output interface

● Standard Configuration ○ Optional

NHJ600 Series Helium Mass Spectrometer Leak Detector

Introduction

NHJ600 Series Helium Mass Spectrometer 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.

Technical Parameters	
Min. Detectable Leak Rate of Vacuum Mode	3×10^{-13} Pa·m³/s
Vacuum leakage rate display range	1×10^{-2} ~ 1×10^{-13} Pa·m³/s
Min. Detectable Leak Rate of Sniffer Mode	5×10^{-9} Pa·m³/s
Range of Leakage Rate of Sniffer	(1×10^{-2} ~1×10^{-9})Pa·m³/s (zero)
Helium Pumping Speed	2.5 L/s
Detectable Gas	^4He,^3He,H_2
Backing Pump Speed	2.5 m³/h
Start-up Time	≤90 s
Response Time	≤0.5 s
Inlet Pressure	≤2000 Pa
Mainframe Power/ Voltage	(200~240) V 50Hz
Work Environment	Temperature (5~40)
Language	Chinese / English
Dimensions	(620x370x480)mm
Weight	47 kg
Display Units	Pa·m³/s,mbar·l/s, atm·cc/s, Torr·l/s, ppm

Configuration table	
Vacuum pump	Genuine Import
Molecular pump	Genuine Import
Vacuum valve	Original imported leak detector, specially customized
Display screen	●
WIFI	○
Cart	○
Remote controler	○
Sniffer	○
Big leak detection	●
Large leakage protection	●
External leak	●
Built-in leak	○
Data saving	●
Auto-zero	●
Display interface	Curve chart, histogram, numerical display
I/O interfaces	RRS232, RS485, USB External control input/output,analog output interface

● Standard Configuration ○ Optional

NHJ800D Series Helium Mass Spectrometer Leak Detector

Introduction

NHJ800D Series Helium Mass Spectrometer 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.

Technical Parameters	
Min. Detectable Leak Rate of Vacuum Mode	3×10^{-13} Pa·m³/s
Vacuum leakage rate display range	1×10^{-2} ~ 1×10^{-13} Pa·m³/s
Min. Detectable Leak Rate of Sniffer Mode	5×10^{-9} Pa·m³/s
Range of Leakage Rate of Sniffer	(1×10^{-2} ~1×10^{-9})Pa·m³/s (zero)
Helium Pumping Speed	2.5 L/s
Detectable Gas	^{4}He,^{3}He,H_2
Backing Pump Speed	15 m³/h
Start-up Time	≤90 s
Response Time	≤0.5 s
Inlet Pressure	≤2000 Pa
Mainframe Power/ Voltage	(100~120) V 60Hz/ (200~240)V 50Hz
Work Environment	Temperature (5~40)°C Humidity≤ 80%RH
Language	Chinese / English
Dimensions	(620x370x1027)mm
Weight	110 kg
Display Units	Pa·m³/s,mbar·l/s, atm·cc/s, Torr·l/s, ppm

Configuration table	
Vacuum pump	Original imported dry pump
Molecular pump	Genuine Import
Vacuum valve	Original imported leak detector, specially customized
Display screen	●
WIFI	○
Cart	●
Remote controler	○
Sniffer	○
Big leak detection	●
Large leakage protection	●
External leak	●
Built-in leak	○
Data saving	●
Auto-zero	●
Display interface	Curve chart, histogram, numerical display
I/O interfaces	RS232, RS485, USB External control input/output, analog output interface

● Standard Configuration ○ Optional

New Energy NHJ400 Series Helium Mass Spectrometer Leak Detector

Introduction

The NHJ400 Series Helium Mass Spectrometer Leak Detector adopts a split design featuring a mass spectrometer structure and a backing pump,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.

Technical Parameters	
Min. Detectable Leak Rate of Vacuum Mode	3×10^{-13} Pa·m³/s
Vacuum leakage rate display range	1×10^{-2} ~ 1×10^{-13} Pa·m³/s
Min. Detectable Leak Rate of Sniffer Mode	5×10^{-9} Pa·m³/s
Range of Leakage Rate of Sniffer	(1×10^{-2} ~1×10^{-9})Pa·m³/s (zero)
Helium Pumping Speed	2.5 L/s
Detectable Gas	^4He,^3He,H_2
Backing Pump Speed	16 m³/h
Start-up Time	≤90 s
Response Time	≤0.5 s
Inlet Pressure	≤2000 Pa
Mainframe Power/ Voltage	AC220V±10%,50Hz
Work Environment	Temperature(5~40) °C Humidity: ≤ 80%
Language	Chinese
Dimensions	(650×390×970)mm
Weight	100 kg
Display Units	Pa·m³/s,mbar·l/s, atm·cc/s, Torr·l/s, ppm

Configuration table	
Vacuum pump	Oil-Sealed Rotary Vane Pump
Molecular pump	Genuine Import
Vacuum valve	Original imported leak detector, specially customized
Display screen	●
Cart	●
Remote controler	○
Sniffer	○
Big leak detection	●
Large leakage protection	●
External leak	●
Built-in leak	○
Data saving	●
I/O interfaces	RS232, RS485, USB External control input/output, analog output interface

● Standard Configuration ○ Optional

NFJ150 Heavy Fluorocarbon Oil Leak

Performance description

NFJ150 Heavy Fluorocarbon 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.

Technical parameters	
Power	220V/1000W
Heating temperature	125°C±5°C
Heating rate	≥2°C/min
Tank volume	6L
Size	(530×270×370)mm
Weight	22 kg

NFY260 Pressure Equipment

Introduction

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.

Technical parameters	
Power	220V/1000W
Withstand voltage	≤0.8Mpa
Vacuum pressure	≤50Pa
Tank volume	Φ260mm×227mm
Size	(1080×720×822)mm
Weight	200 kg

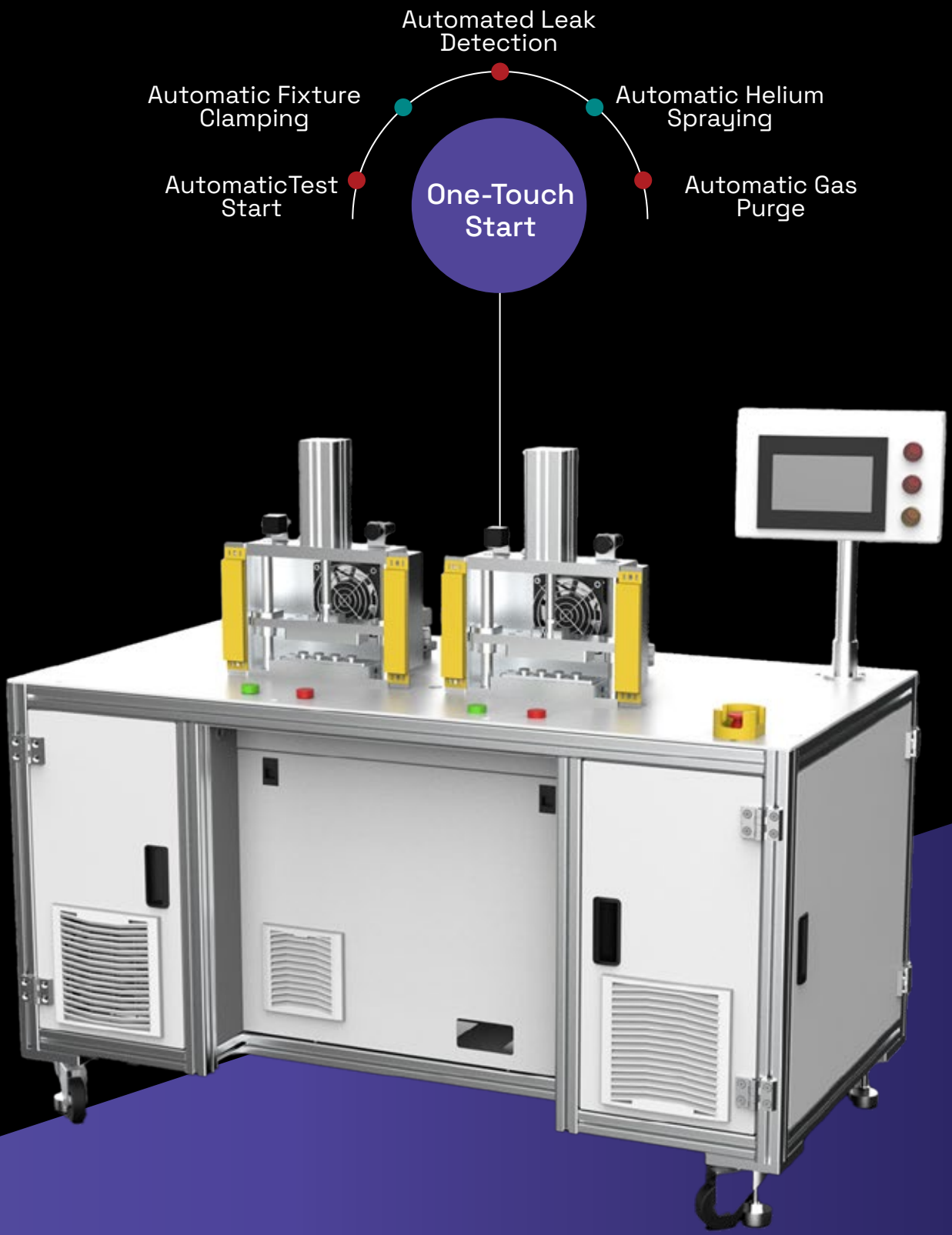
NJT01 Customized Helium Leak Detection System

Introduction

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.

NJT01 Customized Helium Leak Detection System



06

Others

01. Accessories

02. Methods

01

Accessories

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

Bombing Chamber/ Test Chamber

Accessories required for back pressure leak testing.

Bombing Chamber (left image) is the Chamber used to introduce helium gas into the test piece.

Test Chamber(right image) with a leak detector to inspect the test piece.

Custom sizes are available.

Sniffer

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.

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

Reference Leaks

Class 10^{-8} mbar·L/s helium reference leaks.

Calibrated by National Metrology Institutes with certification issued.

Leak detector verification complies with calibration protocols.

Leak standards are classified as: integral type or portable units.

Customized Leaks

Leaks with customizable leak rates. Calibrated by national Sstandard metrology institutes with internationally recognized certificates. reference standards for Leak detector calibration. external reference leaks.

02

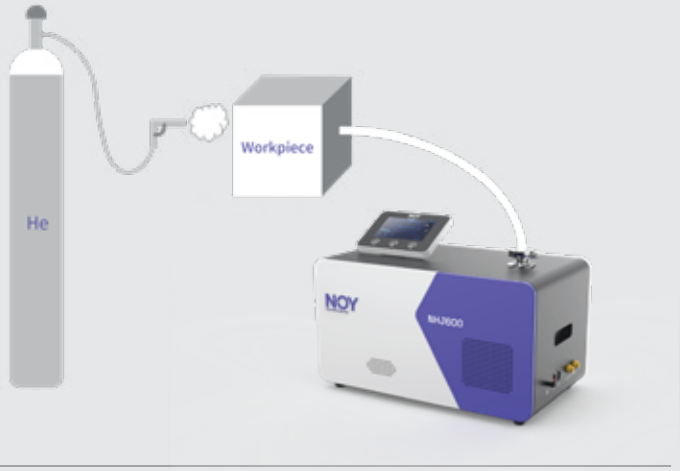
Methods

Vacuum Spray Method (Helium Spray)

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.



Pressure Probe Method (Sniffer Probe Testing)

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 method to detect the helium concentration increment in the surrounding atmosphere of the tested product

Accurate positioning of leaks can be achieved

Helium Hood Testing Method (Vacuum Accumulation)

Pressurization:The test unit is internally pressurized with helium at a specified pressure.

Leakage Path Formation:Helium migrates through any leaks into the accumulator hood surrounding the unit.

Detection & Quantification:The evacuated hood directs escaping helium to the mass spectrometer for leakage rate quantification.

Holistic Measurement:Enables cumulative leakage assessment of the entire test unit.

Bombing Testing Method (Backpressure)

1.Pressurization with Helium (Helium Bombing)

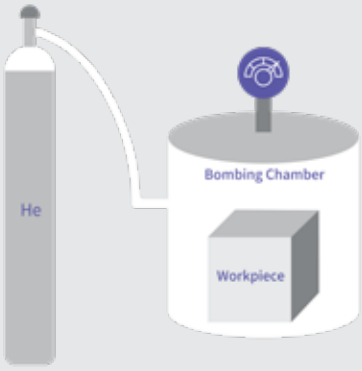
Place the test piece into the Bombing Chamber, evacuate to <100 Pa, then fill with pure helium gas (purity ≥99.99%, per GB4844-1011) with a filling duration >20 seconds. Maintain at specified pressure for the required dwell time to allow helium permeation through leaks into internal cavities.

2.Helium Purging (Decontamination)

Immediately flush surfaces for ≥ 5 minutes with dry nitrogen/air to thoroughly remove residual helium from external surfaces, crevices, and threaded connections – preventing false positives during detection.

3.Leak Detection (Testing)

Transfer the purged test object to a vacuum chamber directly connected to a helium mass spectrometer leak detector. Evacuate the chamber and monitor for the maximum leakage rate over the specified test duration (indicating internal helium leakage).



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 4.0×10^{-10}Pa•m³/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.
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 sniffer method

Detection standards for sniffer 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 Sniffer 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 sniffer 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 1.0×10^{-7} Pa•m³/s Relatively stable state.
4. Use a sniffer to perform helium detection on suspected leakage points on the workpiece. Use a sniffer 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. 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 sniffer.

Cooperative Partners

Cooperative Partners

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