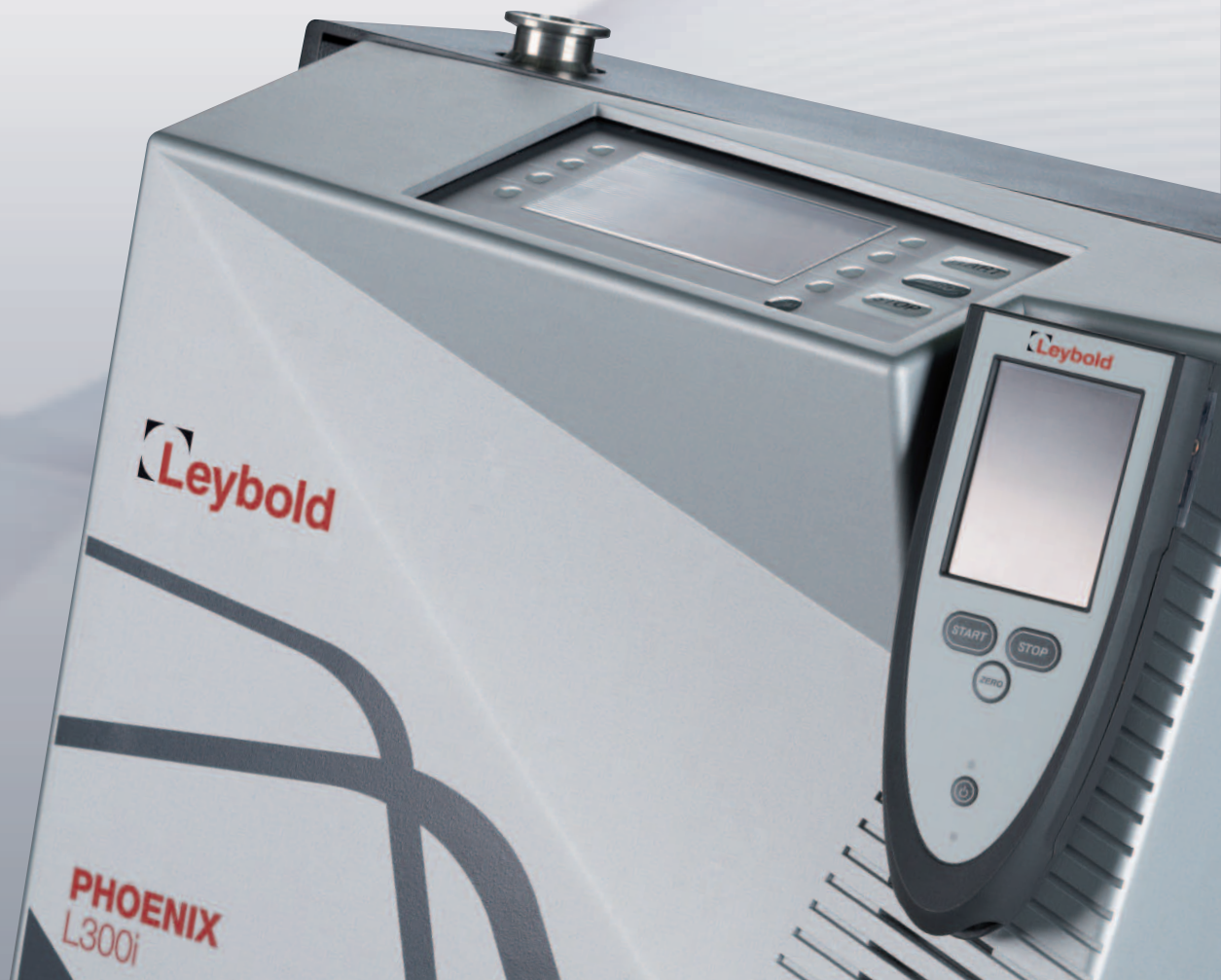




PHOENIX L300i

Best-in-class
Helium Leak Detectors



PHOENIX L300i

The perfect Helium leak detector matching your demands

The PHOENIX L300i helium leak detector opens up new dimensions of productivity and reliability for your applications.

The PHOENIX L300i excels through ruggedness, rapid entry into the measurement mode, high measurement accuracy and reliability as well as flexibility of use.

Being a mobile helium leak detector, the PHOENIX L300i is equally suited for use on mass production lines and service work.

It excels through its rapid entry into the measurement mode and an extremely short response time thereby fulfilling the requirements of industrial series production testing – for example in the refrigerating and air conditioning industry.

The oil-free gas inlet system allows the use of this leak detector in testing of optical systems, in analytical systems or in the semiconductor industry.

Product Highlights

Best-in-class:

- Lowest detectable leak rate for helium $< 5 \times 10^{-12}$ mbar l/s
- Quick start up (107 seconds) for high process efficiency
- Highest helium pumping speed for fastest measurements:
 - Pumping speed in Fine mode 3.1 l/s
- Excellent long-term stability without measurement deviations
- Energy-saving at a maximum power consumption of 420 W
- Fast internal calibration for efficient testing (38 seconds only)

Excellent performance:

- Leak detection starting at an inlet pressure of 15 mbar and from 1000 mbar inlet pressure when operated with a partial flow system
- Easy and mobile use due to its low weight (40 kg)
- Short recovering time after helium contamination
- High detection sensitivity for the measurement of smallest detectable leak rates
- Highly reliable and accurate measuring system: The outstanding quality ensures a long product life



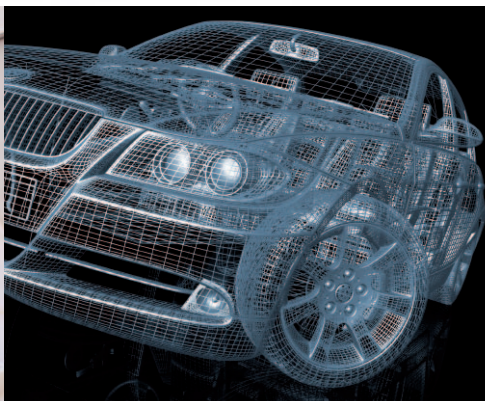
Premium class Helium leak detectors

System integration of a PHOENIX Modul with external backing pump for fully-automated leak testing of diaphragm bellows © W-Tech Automatisierungstechnik GmbH, A-6890 Lustenau

Refrigeration and air conditioning industry



Automotive industry



Professional leak detection - faster and better

The proven standard in Helium leak testing!



+ Detectable leak rate $5 \cdot 10^{-12}$ mbar l/s

+ Start-up time < 2 min.

+ Wireless

Applications

- Ideal tool for industrial series production testing, like refrigerating and air conditioning industries
- Quality assurance
- Research and development
- Power plant engineering
- Analytical instruments
- Plant engineering
- Semiconductor industry
- High and ultrahigh vacuum technology

Customer Benefits

PHOENIX L300i

- Maximum mobility through the wireless remote control RC 310 WL
- Comfortable data logging via remote control RC 310
- Oil-free gas admission system
- 10 display languages selectable
- Leak rate display and conversion in refrigerant equivalents g/a, oz/yr and ppm read out in sniffer mode
- Integrated calibrated leak and automatic calibration
- 3 freely selectable trigger thresholds
- Switchable for the detection of H_2 , 3He and He
- Trend/bargraph leak rate display
- Transportation in any orientation

Technical benefits

- Oil-sealed or dry compressing backing pumps for rapid evacuation of the device under test and for producing a high gas flow in the sniffer mode
- Specially designed turbomolecular pump for improving the pumping speed and the helium background characteristic
- The most reliable 180° mass spectrometer available providing a long-term market proven quality
- Ion source with two automatically switchable cathodes
- The optimum valve block ensures a significantly reduced recovery time after helium contamination and a high pumping speed

Maintenance-friendly and cost effective



remote control

+ Mobile workplace systems

+ Cart versions

Options

PHOENIX L300i

- Oil sealed vacuum system
- This leak detector model is suitable for most standard applications

PHOENIX L300i Dry

- Entirely oil-free vacuum system
- Integrated helium contamination protection

PHOENIX L300i Modul

- Additional forevacuum system, oil-sealed or dry, depending on the application
- For applications involving short cycles and/or for testing of large volumes
- Customer-specific configuration depending on the required leak rate, timings and gas type

PHOENIX L300i Cart

- System for mobile operation of the PHOENIX L300i
- For the PHOENIX L300i Modul the forevacuum pump can be integrated into the cart

Design Characteristics

PHOENIX L300i

- Simple and convenient operation
- Angled operating panel for easy visibility of the instrument status
- Oil level glass at the housing for simple oil level checks
- Extremely long service life of the cathodes due to their Iridium/Yttrium coating

Maintenance-friendly

The design of the PHOENIX L300i allows rapid access to all components in case of maintenance.

The internal arrangement separates the mechanical from the electrical and electronic subassemblies completely and clearly. Thus mutual influencing and interferences are reliably avoided.

All subassemblies can be removed or replaced with ease, thereby reducing servicing downtime to a minimum.

PHOENIX L300i

Smart accessories for flexible applications

Smart Interface Technology



+ Remote control + Sniffer lines + Partial flow system + Calibrated leaks

Accessories

Remote Control

The RC 310 remote control unit with touch screen operation provides convenient control of PHOENIX L300i units as well as predecessor models.

- Intuitive operation via color TFT 3.5-in. touch screen display
- Up to 100 m wireless operation or up to 34 m with wired transmission
- Pushbuttons for important menu functions (Start, Stop, Zero, On/Off)
- Leak rate display selectable (numeric, bar graph, circular trend)
- Data backup on internal 32 MB data logger (> 24 hours) or USB stick
- Ergonomic, rugged industrial design (IP42)
- Scroll function for measured data
- USB connection for data transfer and software updates
- Adjustable loudspeaker and headphone output
- Search function (paging) via audible signal and peak hold (max. value indication)
- For simultaneous detection of up to 10 leak detectors

Sniffer Line SL 300/SL 301

Helium sniffer lines are used for testing objects with helium overpressure.

- Accurate pin-pointing of leaks
- Status LEDs red and green (SL 300)
- ZERO pushbutton (SL 300)
- Easy filter exchange
- Very fast response
- Extremely low detection limit $< 1 \times 10^{-7}$ mbar l/s
- Rigid sniffer tip 120 mm
- Very rugged industrial design

Helium Sniffer QT 100

For sniffer leak detection within larger distances up to 50 meters between test object and leak detector.

LeakWare PC Software

Software for operating the leak detector through a PC as well as for displaying and processing the measured leak rate data.

Hardware requirements: Windows Software > 486 DX, 8 MB RAM

Partial Flow System

The PHOENIX L300i and MODUL can be supplemented by a partial flow system, providing the following benefits:

- Significantly faster pump down times and ready to measure
- Most suitable for large test volumes
- Faster response times
- Ready to measure already at an inlet pressure of 1000 mbar
- More rapid venting of large test objects or in mass production

Transport Case 300

For impact protected transportation or storage of the PHOENIX L 300; including strong carrying handles, plastic castors and a separate case for accessories.

Calibrated Leaks

We provide a wide range of calibrated leaks for PHOENIX L leak detectors.

Technical Data

Ordering Information

| Helium Leak Detector | PHOENIX | L300i | L300i Dry | L300i Modul |
|---|-------------------|-------------------------|-------------------------|--|
| Lowest detectable helium leak rate | | | | |
| Vacuum operation | mbar l/s | $\leq 5 \cdot 10^{-12}$ | $\leq 3 \cdot 10^{-11}$ | $\leq 5 \cdot 10^{-12}$ a) / $8 \cdot 10^{-12}$ b) |
| Sniffer operation | mbar l/s | $\leq 1 \cdot 10^{-7}$ | $\leq 1 \cdot 10^{-7}$ | $\leq 1 \cdot 10^{-7}$ |
| Maximum measurable helium leak rate | | | | |
| Vacuum operation | mbar l/s | > 0.1 | > 0.1 | > 0.1 |
| Measurement ranges | | 12 decades | 12 decades | 12 decades |
| Maximum permissible inlet pressure | mbar | 15 | 15 | 15 |
| Pumping speed during pumpdown, 50 Hz/ 60 Hz | m ³ /h | 2.5 / 3 | 1.6/1.8 | depending on pump configuration ^{c)} |
| Helium pumping speed in the vacuum mode | l/s | > 2.5 | > 2.5 | > 2.5 |
| Time constant for the leak rate signal | s | < 1 | < 1 | < 1 |
| Time until ready for operation | min | ≤ 2 | ≤ 2 | ≤ 2 |
| Power consumption | VA | 420 | 350 | 200 ^{c)} |
| Inlet flange | | DN 25 KF | DN 25 KF | DN 25 KF |
| Dimensions (W x H x D) | mm | 495 x 456 x 314 | 495 x 456 x 314 | 495 x 456 x 314 |
| Weight | kg | 40 | 35.5 | 30 ^{c)} |

a) with rotary vane pump TRIVAC D 25 B 25 m³/h [50 Hz]

b) with scroll pump 30 m³/h

c) for the complete range of appropriate vacuum pumps, please refer to the Leybold full line catalog, chapter leak detecting instruments.

| Ordering Information | PHOENIX | L300i | L300i Dry | L300i Modul |
|---|-------------------------|-------------------|-----------------------|-------------------|
| Helium leak detector | | | | |
| 230 V, 50/60 Hz | EU model | 250000V01 | 250001V01 | 250002V01* |
| 115 V, 60 Hz | US model | 251000V01 | 251001V01 | 250002V01* |
| 100 V, 50/60 Hz | Japan model | 251100V01 | 251101V01 | 250002V01* |
| PHOENIX CART 300 without E box | | 252 005 | 252 005 | 252 005 |
| with E box | EU version / US version | 252 006 / 252 007 | 252 006 / 252 007 | 252 006 / 252 007 |
| Accessories: | | | | |
| Helium sniffer line with rigid sniffer tip 120 mm | | | | |
| SL 300 with LED and Zero button, 4 m cable | | | 252 003 | |
| SL 301 , 4 m cable / 10 m cable | | | 252 025 V01 / 252 026 | |
| QT 100 Helium sniffer quick test | | | 155 94 | |
| LeakWare , data acquisition PC software | | | 140 90 | |
| Partial flow system , 100 - 240 V, 50/60 Hz | | 140 20 | – | 140 20 |
| Exhaust filter AF 16-25 for partial flow system | | 189 11 | – | 189 11 |
| Transport case | | | 252 004 V01 | |
| Remote control | | | | |
| RC 310 C , with connection cable (4 m) | | | 252 013 V01 | |
| RC 310 WL wireless, including wireless transmitter, battery charging power supply for integrated battery and additional connection cable (4 m) | | | 252 014 V01 | |
| Wireless transmitter with connection cable for additional leak detector operation | | | 252 015 V01 | |
| Extension cable for remote control (max. 3 extensions possible), 10 m | | | 140 22 | |

* without backing pump. Alternatively oil sealed or dry forevacuum pump possible

For detailed information and for the complete range of accessories, please refer to the Leybold full line catalog.



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