Helium Leak Detection Systems

Best-in-class Technology for your Quality Assurance.

Custom. Cost-effective. Efficient.

PFEIFFER VACUUM

Helium Leak Detection Systems

The efficient system for your application

Are you looking for the ideal system for your application?

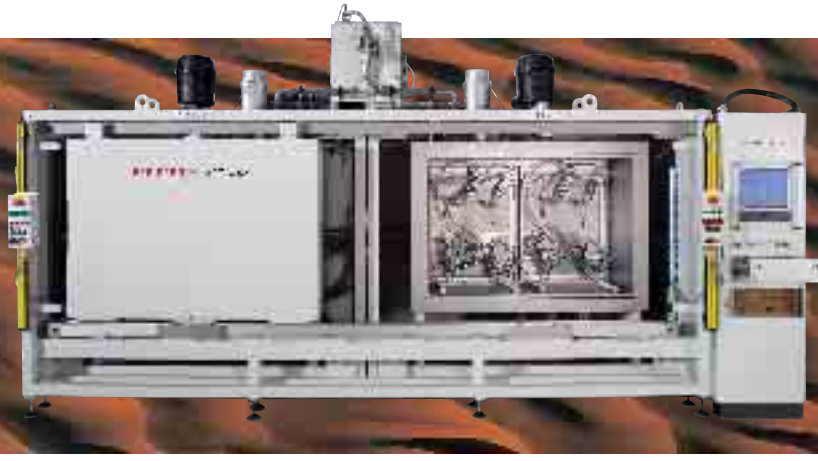
Whether integrated in a production line or as a stand-alone testing station – we develop and build helium leak detection systems that are tailored to your needs. The numerous systems sold for the automotive industry, refrigeration/air conditioning and packaging technology are indicative of our know-how.

We build complete systems for you, with our vacuum components such as the SmartTest Helium Leak Detector as the centerpiece. With pumping unit, test chamber, control technology, including all handling systems and full documentation.

What you get: Best-in-class system technology – And you get it all from Pfeiffer Vacuum!

Proven in any number of fields

Testing fuel tanks



Testing air conditioning lines

Applications

- Automotive industry
  (e.g. airbags, aluminum rims, fuel tank system assemblies, air conditioning and air suspension system components)
- Refrigeration/air conditioning technology
  (e.g. evaporators, compressors)
- Vacuum and pressurization technology
  (e.g. valves and fittings)
- Packaging technology
  (e.g. for pharmaceutical products, foods)

Fuel tanks

Air conditioning lines

Airbags (generators, igniters)

Refrigeration compressors

Evaporators

Valves

Advantages at a glance

- Optimum sensitivity in detecting even the smallest leaks
- Dry testing instead of bubble testing
- Automated measurement method
- Minimizes testing times and operating costs
- Compliance with quality and environmental requirements
- Fully automated test procedure

Testing expansion valves

Testing compressors

Helium recovery

- Significant reduction in operating costs
- Recovery rates of up to 98 %
- Stand-alone system
- Small footprint
- Fully automated operation
- Suitable for employment with multiple test stations

SmartTest Helium Leak Detector – The heart of every system

With its modular design, ease of operation and modern optics, the SmartTest is setting new standards in vacuum leak detection.

A broad selection of interfaces affords simple system integration. The key advantages for you are its minimum service requirements, robust engineering and optimum reliability.

Fast, reliable results, lowest detectable leak rates as well as a short recovery time are what characterize the SmartTest.

SmartTest Helium Leak Detector – the heartbeat of the system!

Automotive industry

Semiconductor production

Lamp manufacturing

Refrigeration/ air conditioning

reddot design award
winner 2005

Winner of the 2005 reddot design award in the "product design" category.

DESIGNPREIS 2006

NOMINEE
for the 2006 Federal Republic of Germany design award.

Helium Leak Detection Systems

The right test method for every application

In helium leak detection, a distinction is made between two different test methods – local and integral leak detection.

Testing is performed with the aid of sniffer or vacuum leak detection under either of these fundamental concepts.

Local leak detection

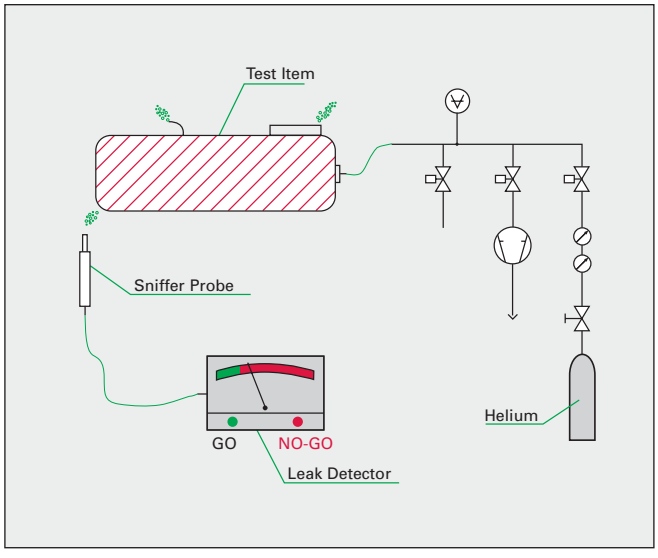
Systems that incorporate helium sniffer probes are employed for precise localization of the leak. After the item to be tested has been evacuated and filled with helium, a sniffer probe is used to localize and analyze any leaks. The sniffer leak test can identify leaks of down to 10^{-6} mbar l/s* and provides precise information about the size and location of the leak.

- Precise localization of the leak site
- Indication of the exact size of the leak
- High measurement accuracy
- Easy identification of repetitive production defects
- Dry test

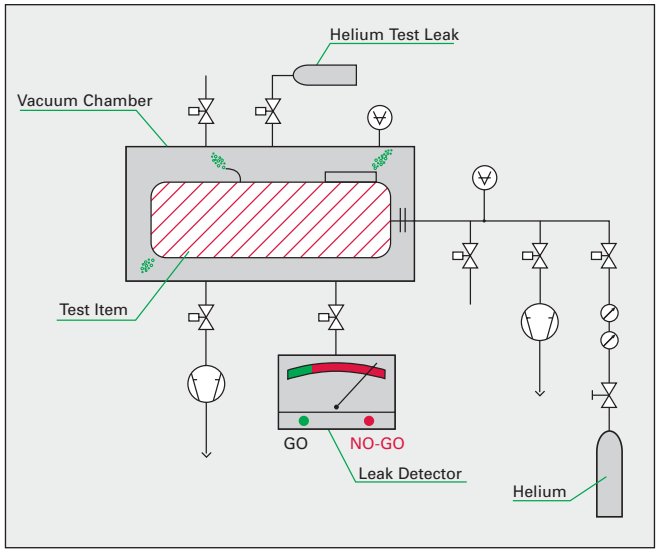
Integral leak detection

For systems that specify the total leak rate, the object is placed in a test chamber, filled with helium under test pressure and tested for leaks. The helium that escapes through the smallest leaks penetrates to the heart of the helium leak detector, so that leak rates as small as 10^{-9} mbar l/s* can be detected.

- Measurement of the total leak rate (integral)
- Clear GO/NO-GO indication
- Highest measurement accuracy
- Short cycle time
- Dry test



Sniffer leak test principle



Integral helium leak detection principle

* 1 mbar l/s = 0.1 Pa m³/s = 0.987 sccs

Pfeiffer Vacuum

Vacuum is nothing, but everything to us!

For over 100 years, Pfeiffer Vacuum has been setting technological milestones in creating, measuring and analyzing vacuum. Our comprehensive product portfolio ranges from individual components right through to complex vacuum systems.

Quality and service around the world from the inventor of the turbopump: Pfeiffer Vacuum is the international market leader with more than 250,000 turbopumps sold to date.

Would you like further information about helium leak detection? Simply ask us!

Sales, consulting and service

- Worldwide on-site service
- Comprehensive training programs, including on-site customer training
- Modular service system, ranging from parts to maintenance contracts

PFEIFFER VACUUM

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