



Pernicka 700H

Cumulative
Helium Leak Detector

**EASY, CLEAN, FAST & VERSATILE
MIL-STD COMPLIANT HELIUM LEAK TESTING**

Hermetic testing for the next-generation of sealed devices

Today's high-reliability space/satellite parts, implantable electronic medical devices, or semiconductor packages require rigorous new testing methods that protect your investments in design, production and development. With industry leading reliability and precision, the Pernicka 700H is a robust and cost-effective testing platform that delivers proven performance in any lab or production environment.

ULTRA HIGH VACUUM FOR ENHANCED PERFORMANCE

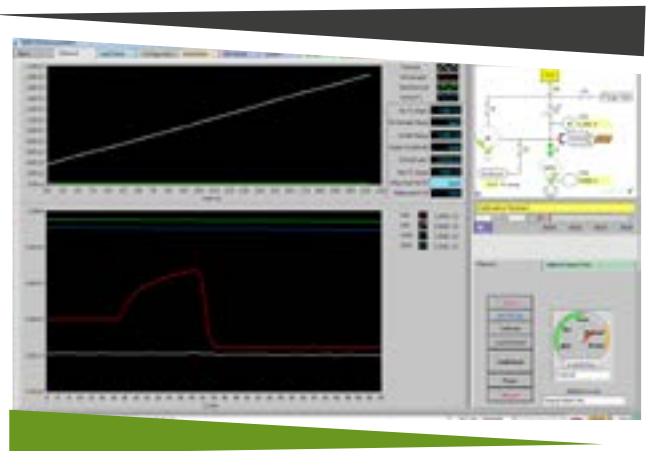
The Cumulative Helium Leak Detector (CHLD) combines mass spectrometer expertise with cryogenic ultra-high vacuum. The Pernicka 700H offers hermetic testing superior to conventional GROSS and FINE leak methods. This technique can be applied to any hermetically sealed device which either contains a gas such as nitrogen, helium, argon, krypton, xenon, etc. or can be bombed by helium.



All metal sealed and high quality vacuum system

EFFECTIVE ANALYSIS AND CONTROL

The Pernicka 700H is controlled by an onboard computer that makes it easy to analyze sealed objects and archive test data simultaneously. The database provides a historical record and facilitates the tracking of production yields.



Easy-to-read display - results and instrument status at a glance

FEATURES AT A GLANCE

- Fulfills Requirements for leak testing methods according to:
 - MILStd-740, Method 1071
 - MILStd-883, Method 1014
- Combining GROSS and FINE leak tests in one operation
- Environmentally friendly– no toxic or hazardous material required for testing
- Fast and effective test procedures for various test objects by tailored methods
- Shorter bombing time due highest sensitivity for smallest detectable leak rates
- Fast calibration cycle
- Quality assurance by recorded test data
- Simultaneous detection of fluorocarbons, nitrogen, argon, xenon, etc.
- Customer designed inlays for easier handling
- Worldwide Support & Service

TYPICAL APPLICATIONS

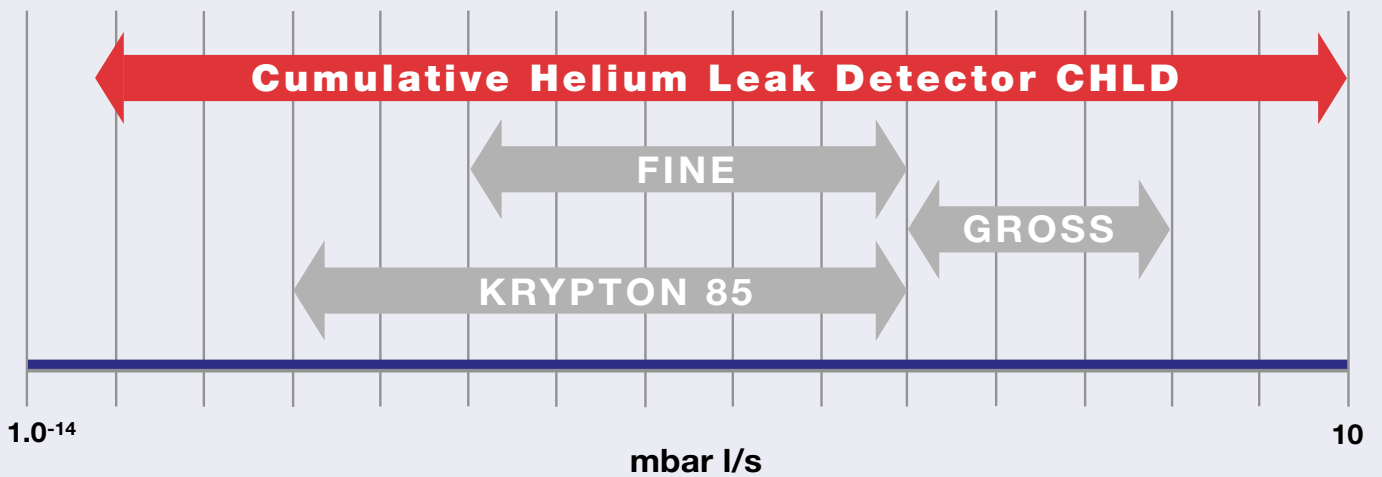
- High-reliability electronics, such as space/satellite parts
- Large Hybrid packages
- Ultra-small volume packages, such as Surface Mounted Devices (SMD)
- Implantable medical devices, such as pacemakers, cochlear implants
- Gas-filled components



Pernicka 700H probe chamber with test components



User-friendly filling of the probe chamber



SPECIFICATIONS

Minimum detectable leak rate for helium (FINE mode)	> 4 x 10 ⁻¹⁴ mbar l/s
Maximum detectable leak rate for helium (GROSS mode)	> 10 ⁻⁴ mbar l/s
Detectable masses	2 – 100
Mass spectrometer	Quadrupole type
Calibrated built-in test leak in the range	10 ⁻¹⁰ mbar l/s
Test port	DN 16 CF
Vacuum pump system	- Turbomolecular pump - Roughing pump - Cryo pump
Supply voltages unit	110/120 V, 50/60 Hz 15 A 220/240 V, 50/60 Hz 10 A 208-240 V, 50/60 Hz 10 A
Cryo compressor (air cooled)	
Gas supply	
Valve operation	Compressed air, 100 – 110 PSI
Purge gas	Argon, 0.5 – 1 PSI
Ambient conditions	Intended for indoor use only
Max. permissible height above sea level (during operation)	2000 m
Operational temperature	15 – 28°C (60 – 80°F)
Max. relative humidity	80%
Overvoltage category	II
Degree of contamination	2 (EN 61010)
Weight	245 kg (540.13)
Dimensions (W x H x T)	660 x 1390 x 870 mm (26 x 54.5 x 34.25 in.)

ORDERING INFORMATION

PART NUMBER

Pernicka 700H	
Cumulative helium leak detector system	
110 V version	550-700
230 V version	550-701

PART NUMBER

OPTIONS:

Double O-ring test chamber	
Large	551-710
Medium	551-711
Small	551-712
Small metal seal test chamber	551-715
High purity purge gas regulator for Nitrogen/Argon pressure setting max. 30 PSI	
connection to gas bottle US CGA 580	551-701
connection to gas bottle DIN 477 No. 6	551-702
connection to gas bottle DIN 477 No. 10	551-703
connection to gas bottle Chinese G5/8-14 RH-EXT	551-706
Gas regulator for valve operation pressure setting max. 250 PSI	
connection to gas bottle US CGA 580	551-705
connection to gas bottle DIN 477 No. 10	551-704
Test leak	
Air Leak Rate 10 ⁻⁵ mbar l/s	551-720
Air Leak Rate 10 ⁻⁶ mbar l/s	551-721



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Due to our continuing program of product improvements, specifications are subject to change without notice.

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