



UL1000 Fab

Helium Leak Detector

REFINED PRECISION FOR THE SEMICONDUCTOR
LEAK DETECTION ENVIRONMENT



UL1000 Fab Helium Leak Detector meets semiconductor requirements

The INFICON UL1000 Fab Mobile Helium Leak Detector is specially designed to meet the exacting requirements of the semiconductor industry:

testing flexibility, high sensitivity, fast and accurate results, quick start-up, mobility and system reliability. The UL1000 Fab is optimized to provide quick leak testing results for preventive maintenance, unscheduled repair, gas lines, and other leak testing applications.

The UL1000 Fab meets the requirements of the micro-electronics market. Features range from its sturdy metal housing, with cleanroom compatible wheels, to I-CAL*, the unbeatable algorithm for eliminating long averaging times for leak rates in the ultra-sensitive 10^{-11} and 10^{-12} leak rate ranges.

The system software includes advanced self-diagnosis routines with troubleshooting instructions. Protective functions can be called up to prevent contamination with helium or process gases. The ceiling-to-floor air-flow commonly found in cleanrooms is not disturbed by the ventilation system of the UL1000 Fab. The pumping speed and compression of the turbomolecular pump reduce and rapidly eliminate helium contamination.

ULTRAFAST DETECTION DUE TO I-CAL

Using a special software algorithm called I-CAL, the UL1000 Fab provides measurements at unsurpassed speed in the 10^{-12} mbar l/s range, making that decade truly usable. While other leak detectors have to average the signals over minutes to achieve adequate stability, the UL1000 Fab with I-CAL responds with unparalleled speed and stability in this low measurement range.

For example, starting from a background reading of 1×10^{-12} mbar l/s, an ultra-tiny leak of 1×10^{-10} mbar l/s is displayed in less than a second.

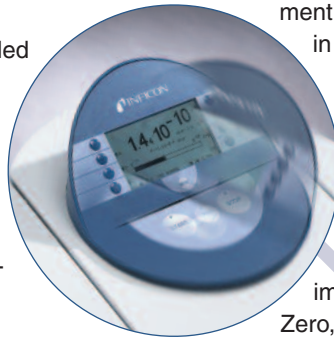
* Intelligent Calculation Algorithm of Leak rates

CONVENIENT ROTATABLE DISPLAY

The UL1000 Fab offers a rotatable control interface.

The integrated display presents measurement results and status information in large characters with excellent clarity, so that readings can be observed conveniently from considerable distances.

The display mode can be selected as digital, bar graph, trend or circular. The most important basic functions (Start, Zero, Stop) are available at the press of a button. The software is menu-controlled and easy-to-use. Parts of the menu can be protected against unauthorized use or unintended modifications.



MOBILE FOR ADDED CONVENIENCE

A low center of gravity, large wheels, ergonomically positioned handle and sleek profile ensure mobility throughout the facility.

The instrument's maneuverability is uncompromised by rolling vibrations on the floor grid or by barriers such as small steps, door thresholds or cables.

TESTING FACILITY

The test chamber TC1000 turns the UL1000 Fab into a reliable and user-friendly workstation for testing hermetically sealed parts (acc. to MIL-STD 843, Method 1014) and is available as an option.



CONNECTIONS TO ONE SIDE

To simplify installation, all the electrical and mechanical connections are located together on one side of the instrument.

UL1000 Fab specially designed for cleanroom applications

VACUUM SYSTEM FOR ADDED CONFIDENCE

The vacuum system consists of a dry backing pump and a powerful turbomolecular pump with a high compression ratio.

With high pumping speed plus the turbopump's high inlet pressure, the system quickly reaches levels below the reject leak rate and leak checking can begin.

The multiple gas inlet on the turbopump allows optimization of detection limits to the pressure conditions in the component being tested.

Built-in system protection ensures the mass spectrometer and ion source are protected from air blasts, contamination and other events that can shorten filament life or compromise the integrity and cleanliness of the mass spectrometer.

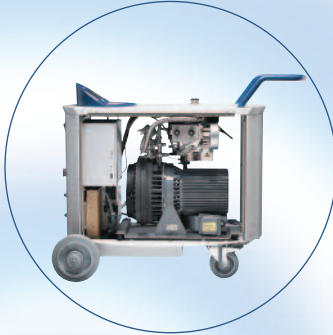
SOFTWARE UPDATES VIA E-MAIL

System software updates are available via e-mail. From your computer, the new firmware is installed via the standard interface within minutes.

3-YEAR ION SOURCE WARRANTY

INFICON ion sources carry a three year warranty. If the ion source fails, it is replaced for free. Consumable costs, down time and maintenance expense associated with typical ion source and filament changes are not a problem with the UL1000 Fab.

All other components comprise a 24 month warranty.

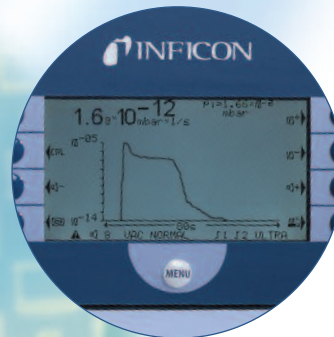


APPLICATIONS:

- ◆ maintenance work on semiconductor process tools, with or without support from their own pump
- ◆ inspections and installations of process-gas systems
- ◆ leak testing of components before they are installed in existing tools
- ◆ applications requiring high pumping speed and sensitivity plus clean testing conditions

MANUFACTURED FOR QUALITY

All INFICON components and leak detectors are manufactured under oil-free, cleanroom conditions for quality control. And each leak detector is quality tested to ensure your INFICON leak detector delivers optimum performance.



DESIGNED FOR EXCELLENT PRICE/PERFORMANCE AND RESULTS

The UL1000 Fab provides superior leak testing efficiency in semiconductor applications.

You can expect fast, accurate, stable and repeatable results and have complete confidence in the tests performed with the UL1000 Fab.

CONTROL AND DATA LOGGING VIA PC

The optional software package Leak Ware makes it possible to acquire, display and store measurement data by spreadsheet programs.



TECHNICAL DATA

Smallest detectable leak rate (per AVS 2.1 and EN 1518)	< 5 x 10 ⁻¹² mbar l/s
Smallest detectable leak rate (sniffer mode)	< 3 x 10 ⁻⁸ mbar l/s
Inlet pressure	GROSS 15 mbar FINE 2 mbar ULTRA 0.4 mbar
Pumping speed during evacuation	25 m ³ /h
He pumping speed at the inlet (EN 1518)	GROSS 8 l/s FINE 7 l/s ULTRA 2.5 l/s
Detectable masses	2, 3, 4 amu H ₂ , ³ He, He
Supply voltages	100-120 V; 220-240 V
Weight	110 kg; 242 lbs
Dimensions, incl. handle (L x W x H)	1068 x 525 x 850 mm; 42 x 21 x 33 in

ORDERING INFORMATION

UL1000 Fab, 230 volts	Cat. No. 550-100
UL1000 Fab, 115 volts	Cat. No. 550-101
Test Chamber TC1000 incl. ESD wrist band	551-005
Test leak adapter for TC1000, DN 25 KF flange	200 001 797
Remote control package:	
Hand unit	200 99 022
Cable (required), 4 m	200 99 027
Extension cable, approx. 10 m	140 22
Accessories:	
Toolbox with lock, attachable	551-000
Helium bottle holder	551-001
ESD mat	551 002
Sniffer line SL200, 4 m length	140 05
LeakWare PC software package	140 90



GLOBAL HEADQUARTERS:

Two Technology Place, East Syracuse, NY 13057 USA
Tel: +1.315.434.1100 Fax: +1.315.437.3803 E-mail: reachus@inficon.com

UNITED STATES FRANCE GERMANY LIECHTENSTEIN SWITZERLAND UNITED KINGDOM CHINA JAPAN KOREA SINGAPORE TAIWAN

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

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