

# Designed for your confidence. Configured for your application.

Agilent HLD helium mass spectrometer leak detectors





# Because leaks are inevitable

## The Agilent Helium Leak Detector

Given that leaks are a fact of life, the critical question facing engineers often becomes, "how much is too much?"

To address this question, Agilent has developed the new Helium Leak Detector (HLD), which incorporates key Agilent innovations in the areas of user interface, application-optimized performance, and cost of ownership.

### Unprecedented ease of optimization

The Agilent HLD was designed for ease-of-use and optimized performance—no more guessing, wasted time, or costly mistakes. For the most common applications (sniffing, spray helium, high sensitivity, auto sequencer, etc.) users can go to the appropriate application screen and be guided in setting the proper parameters.

An intuitive touch screen offers eight languages and selectable security levels for operators, process engineers, and maintenance technicians. Dry configurations employ our patented dual-pump design for superior pumping speed and helium handling performance, even in high-background environments.

### Trusted Agilent reliability

Everything in the HLD is Agilent-made and supported. A two-year warranty is standard (with an option for a third year), and the solution is backed by a global service and global spare parts network, as well as a variety of proactive service contracts.

In terms of cost of ownership, real application performance, ease-of-use, and more—the Agilent Helium Leak Detector is setting new standards for confidence.



# The Agilent HLD: innovation and confidence

Helium mass spectrometry leak detection provides a rapid, sensitive, and reliable approach for locating or precisely quantitating leaks that impact the quality or longevity of a very wide range of parts and systems.

Representing our latest refinement of this approach, the Agilent HLD incorporates innovations designed to maximize ease-of-use, performance, reliability, and peace of mind.

## Agilent HLD features for optimal performance and efficiency

- **Six different application setup guides** help users correctly configure their instrument for the best performance:

Spray helium	High sensitivity
Sniffing	PPM sniffing
Auto sequencer	Split flow
- **Agilent mass spec quality/reliability** that's backed by a two-year warranty.
- **Wireless hand-held remote** allows leak testing large systems by one person, with a range of up to 100 meters.
- **Eight languages** enhance global usability.
- **Large work surface** provides plenty of room for test parts, tools, etc.
- **A startup wizard** helps users set up the instrument on first-time power up.
- **A refined power-off process** keeps the spectrometer under vacuum and protects the pump.
- **Easy access** simplifies service.
- **Nitrogen vent** is standard.
- **Analog, RS232, and discrete IO interface** options help you stay connected.



**An 8.4" touch screen**

(largest in the industry) rotates 180° for ideal viewing.

**Extremely quiet, high-performance**

oil-free dry pump configurations improve the laboratory environment.

**Highest oil-free rough pump performance**

with patented two-stage design, gives faster times to test and better background stability.

**New configurations**

enable fast pump down of large vacuum systems.



**Cleaner, more intuitive user interface**

provides immediate access to often used features and a flatter menu structure.

**Enhanced charting capabilities**

include zoom for closer inspection of data, color-coded setpoints, and time-based plotting of leak rate and pressure.

**Improved maneuverability**

allows easier transport across the factory floor and access to narrow service areas.

**Guide to Agilent HLD model nomenclature**

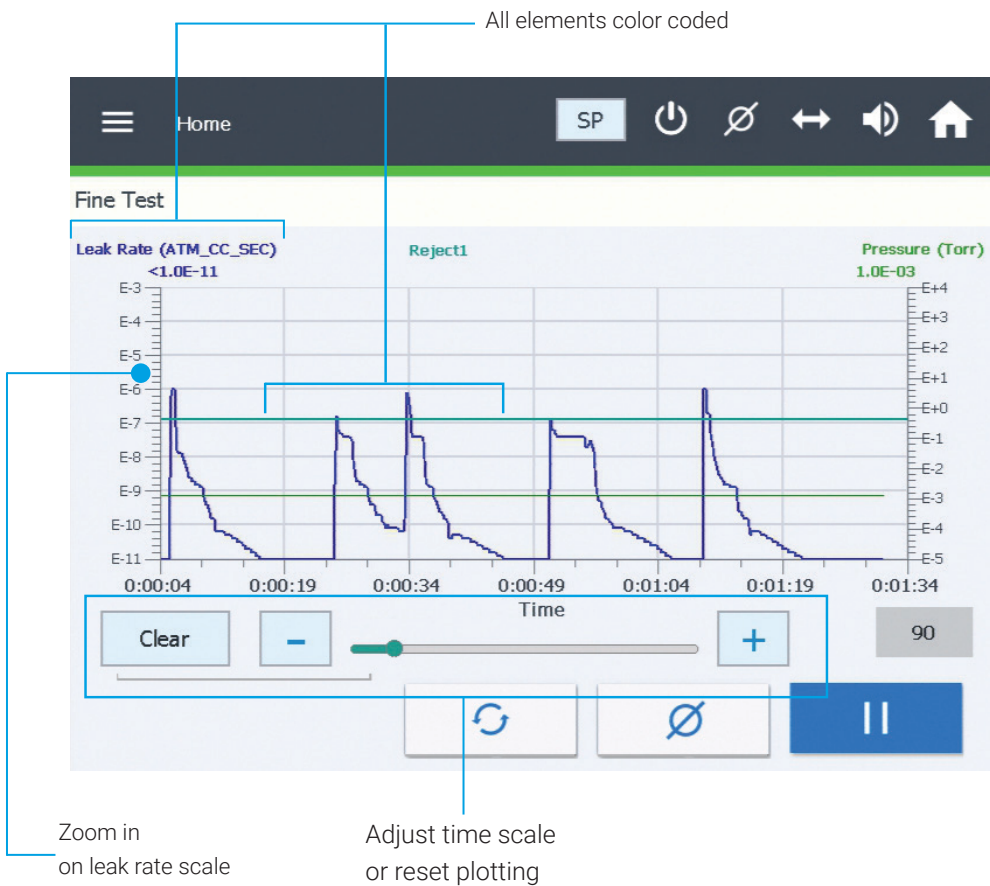
**Example:** MR30 is a mobile, rotary vane pumped configuration with a pumping speed of 30 m<sup>3</sup>/hr.

Mobility	Pump type	Pumping Speed – Rotary Vane Pump	Pumping Speed – Dry Scroll Pump
P = portable	D = dry pump(s)	02 = 2 m <sup>3</sup> /hr (DS 40M)	03 = 3 m <sup>3</sup> /hr (IDP-3)
B = bench	R = rotary vane pump	15 = 15 m <sup>3</sup> /hr (DS-302)	15 = 15 m <sup>3</sup> /hr (IDP-15)
M = mobile		30 = 30 m <sup>3</sup> /hr (DS-602)	30 = 30 m <sup>3</sup> /hr (TriScroll 620)



## Your results, your way

Superior outcomes depend on fast, clear access to critical information. The Agilent HLD user interface features two home screen views offering test or data interpretation to suit your needs.





One-button access to the application setup page

Top-level controls for often-used features

Home SP [Power] [Mute] [Home]

HLD instrument status

Fine Test

1 2 3 4 5 6 7 8 9 10  $E-08$

Test port pressure

1.0E-03 Torr

5.8E-08 atm·cc/sec

Status box for all programmed set points

Set Points

- >1.0E-07 Leak Rate
- >5.0E-09 Audio

Vent Zeroing Test/hold

Alphanumeric leak rate

# Configured for your success



Successful leak detection solutions are highly dependent on application conditions. Here are some examples of common applications and the optimal configured solutions for getting the highest confidence in your results.



## Large vacuum systems

**Examples:** Vacuum furnaces, coating systems

**Suggested configurations:** MR15 or MR30

**Application setup:** Spray helium with wireless remote option

**Accessories:** Spray helium accessory, hand-held wireless remote, connection hardware (flex hose and valve)



## Scientific research

**Examples:** Product development, R&D labs

**Suggested configurations:** PD03 or MD15/30

**Application setup:** High-sensitivity, but also sniffing or spray helium

**Accessories:** Connection hardware, universal test fixture



## Power plants

**Examples:** Power plants of all types, large heat exchangers

**Suggested configurations:** MR15

**Application setup:** Spray helium with wireless remote option

**Accessories:** Harsh environment probe, hand-held wireless remote





### Sealed part testing

**Examples:** Automotive components, medical devices

**Suggested configurations:** BR15/30 or BD15/30

**Application setup:** Automated test cycles and/or high sensitivity

**Accessories:** IO card, universal test fixture, external calibrated leaks



### Helium sniffing

**Examples:** Valve testing (ISO 15848), oil and gas testing, or any pressurized system

**Suggested configurations:** MR15

**Application setup:** Sniffing or PPM sniffing

**Accessories:** Agilent Power Probe sniffer (3, 7.6, 15, and 18 m lengths)



HLD BD15 bench leak detector with IDP-15 dry scroll pump connected.

### Best-in-class dry leak detectors

Hydrocarbon contamination can pose serious problems in sophisticated vacuum systems. Agilent provides totally contamination-free leak detection using high-throughput, dry, scroll-type roughing/backing pumps combined with oil-free turbomolecular high-vacuum pumps. Our patented dual rough pump arrangement offers fast helium cleanup and superior resistance to helium backstreaming.

Agilent's oil-free solution helps ensure the cleanliness of the component under test, as well as the mass spectrometer. And there's no need to add/change pump oil or dispose of oil waste, which reduces operating costs and improves the work environment.

**Examples:** Semiconductor processing, pharmaceutical manufacturing, implantable medical devices, scientific research

**Suggested configurations:** Any—we offer dry-pumped models from 3 to 30 m<sup>3</sup>/hr

## Select your Agilent HLD leak detector configuration

### Rotary vane pumped leak detectors

Configuration	Model	Order #	Pump type and nominal speed	Common applications	Choose this configuration when:
Portable	PR02	G8610A	Rotary vane 2 m <sup>3</sup> /hr	<ul style="list-style-type: none"> <li>Product R&amp;D</li> <li>Small systems</li> </ul>	You need a compact all-in-one solution and/or have supplemental pumping systems
Bench	BR15	G8612A	Rotary vane 15 or 30 m <sup>3</sup> /hr	<ul style="list-style-type: none"> <li>Refrigeration systems and components</li> <li>Automotive parts</li> </ul>	You require a fast pumping work station for testing sealed components
	BR30	G8612D			
Mobile	MR15	G8611A	Rotary vane 15 or 30 m <sup>3</sup> /hr	<ul style="list-style-type: none"> <li>Vacuum furnaces</li> <li>Industrial coaters</li> <li>Pressure vessels</li> <li>Power plants</li> </ul>	You have large systems to test, need the performance of additional pumping, or need a shared instrument to be mobile
	MR30	G8611D			

### Dry pumped leak detectors

Configuration	Model	Order #	Pump type and nominal speed	Common applications	Choose this configuration when:
Portable	PD03	G8610B	Dry scroll + Diaphragm 3 m <sup>3</sup> /hr	<ul style="list-style-type: none"> <li>University and scientific research</li> <li>Small systems</li> </ul>	You need a clean, dry, compact all-in-one solution and/or have supplemental pumping systems
Bench	BD15	G8612C	Dry scroll + Diaphragm 15 or 30 m <sup>3</sup> /hr	<ul style="list-style-type: none"> <li>Medical devices</li> <li>Electronic components</li> </ul>	You require a dry, fast pumping work station for testing sealed components
	BD30	G8612B			
Mobile	MD15	G8611C	Dry scroll + Diaphragm 15 or 30 m <sup>3</sup> /hr	<ul style="list-style-type: none"> <li>Large scientific research chambers</li> <li>Bioprocess systems</li> <li>Semiconductor fabs</li> </ul>	You have large systems to test, need the performance of additional pumping, or need a shared instrument to be mobile
	MD30	G8611B			

### Specifications of commonly used configurations

Minimum detectable leak at 1000 ppm ambient helium	5 x 10 <sup>-12</sup> atm cc/sec: 5 x 10 <sup>-12</sup> mbar l/s: 5 x 10 <sup>-13</sup> Pa m <sup>3</sup> /sec helium
Maximum test port pressure	13 mbar, 10 Torr, 1330 Pa
Helium pumping speed @ test port (fine test)	1.8 l/s
Calibration routine	Automated or manual (internal or external)
Background suppression	Push button initiated auto zero, and auto zero<zero function
User interface	8.4" (213 mm) high-clarity color display, TFT touch screen
Selectable languages	Chinese, English, French, German, Japanese, Korean, Russian, Spanish
Automated test cycling (auto sequencer)	Programmable rough time, test time, reject setpoints, pressure settings
Response time	< 0.5 seconds
Setpoints	Standard, 5 setpoints, N/O or N/C; 3 leak rate, 1 pressure, 1 audio
Communications interface	RS232 and analog (standard), Discrete IO (optional)
Conformance standards	UL/CSA, CE
Dimensions (L x W x H)	Instrument: 625 mm x 403 mm x 517 mm Cart: 764 mm x 508 mm x 1153 mm

# Ordering information



HLD Configuration	Part no.
PR02: portable, 2 m <sup>3</sup> /hour rotary vane pump	G8610A
PD03: portable, 3 m <sup>3</sup> /hour dry pump combination	G8610B
MR15: mobile cart, 15 m <sup>3</sup> /hour rotary vane pump	G8611A
MD30: mobile cart, 30 m <sup>3</sup> /hour dry scroll pump	G8611B
MD15: mobile cart, 15 m <sup>3</sup> /hour dry scroll pump	G8611C
MR30: mobile cart, 30 m <sup>3</sup> /hour rotary vane pump	G8611D
BR15: bench mount, 15 m <sup>3</sup> /hour rotary vane pump	G8612A
BD30: bench mount, 30 m <sup>3</sup> /hour dry scroll pump	G8612B
BD15: bench mount, 15 m <sup>3</sup> /hour dry scroll pump	G8612C
BR30: bench mount, 30 m <sup>3</sup> /hour rotary vane pump	G8612D

## Configured options

Description	Part no.
Oil mist eliminator for DS 40M (PR02 only)	#100
Discrete IO interface	#101
Wireless remote, base unit	#102
1-1/8 inch compression test port	#104
Universal test fixture cable	#105
VS Harsh Environment Probe	#106

## Accessories

Description	Part no.
Wireless remote	G8600-60002
Power Probe sniffer 10 ft.	K9565306
Power Probe sniffer 25 ft.	K9565307
Power Probe sniffer 50 ft.	MSPLL10677
Power Probe sniffer 60 ft.	MSPLL10860
Universal test fixture (flapper box)	VSFLDFBNW25
Helium Spray Probe kit	K0167301

## Applications consulting and service

### Application consulting

An Agilent Application Engineer will analyze your application and make recommendations on how to optimize your leak testing process (specify part number R3754A).

### Service and support options

Agilent has a global network of service professionals and a wide array of support options that will:

- Protect your investment
- Maximize your productivity
- Ensure your instrument is fully compliant with industry regulations

Learn more:

**[www.agilent.com/chem/HLD-leak-detection](http://www.agilent.com/chem/HLD-leak-detection)**

Buy online:

**[www.agilent.com/chem/store](http://www.agilent.com/chem/store)**

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© Agilent Technologies, Inc. 2018  
Published in the USA, April 11, 2018  
5991-9065EN

