

# Leak Detector [HELIOT 900 Series]

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## Option

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The HELIOT900 is our helium leak detector with; high speed pumping capability, user-friendly operation and guaranteed top performance in all kinds of leak testing situations.



## Features

- ▶ High speed pumping capability:  
5L/s pumping speed for helium IN ULTRA flow mode.
- ▶ Tablet type controller:  
Wireless remote control is standard specification.
- ▶ Intuitive operation:  
Simple with high-definition and eye-friendly test screen.
- ▶ Various backing pumps available:  
Oil rotary vane and dry scroll pumps in different sizes.
- ▶ Mobile-friendly with maneuverable cart (HELIOT904\_):  
Low height type is also available (HELIOT901\_).
- ▶ Ease of maintenance:  
Tool-free removal maintenance panel, easy internal access for maintenance and maintenance instructions built in.
- ▶ Possible to detect hydrogen as well as helium gas by vacuum method.

## Applications

- ▶ Piping assemblies and separate parts.
- ▶ Vacuum components and systems.
- ▶ Automotive parts, air conditioning, heat exchanger parts and assemblies.
- ▶ Packaging for food, pharmaceuticals, etc.
- ▶ Flow and permeation rate measurement of helium and hydrogen.

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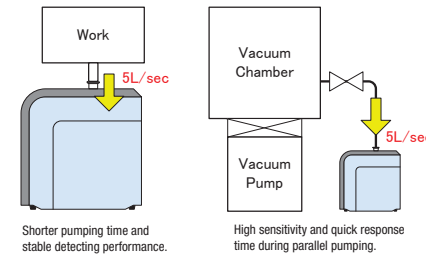
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## Features

### High helium pumping speed

High helium pumping speed at 5L/s is realized by ULTRA flow mode. High helium pumping speed can make it possible to decrease back ground quickly and control stability. Increased helium introduction to the leak detector helps to detect smaller leaks even when the leak detector is used along with other pumping systems.



### User friendly tablet type controller

7" tablet type capacitance touch panel controller is standard accessory and flex mount with stand. Wireless remote control function makes tablet possible to use as a handy remote control.



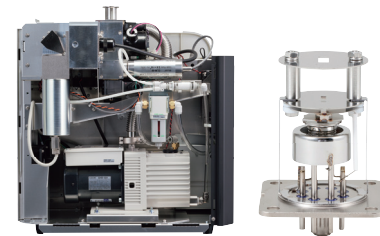
### Simple and intuitive operation screen

Simplified but clearly recognizable test screen. Familiar symbols (■ and ▶) are used to start and stop testing and so it is easy to use for everybody even if it is first time use of HELIOT900 series. Clearly visible graph makes it possible to view test result.



### Easy for maintenance

<Easy access for maintenance> No tool is required to take off external panels for maintenance. Internal configuration is also designed for easy maintenance. Anyone can perform maintenance without experience, follow instructions and pictures on the controller.  
<Cartridge type ion source> Minimum down time with quick changing of filament and alignment.

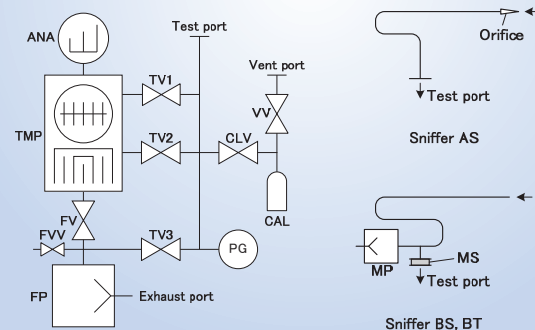


### Convenient mobile cart design

This feature complies with customers input. Slim design allows easy pass through, convenient stepper to run over bumps. Large wheels, thick tread, foot-operated brake/covers, etc. (standard cart) Low height cart for the HELIOT901series is also available. The controller can be fastened on the mobile standard cart and low height cart during movement. Optional storage box is available to store the controller.



## Vacuum System Diagram



ANA	Analyzer tube
TMP	Turbo molecular pump
FV	Fore line valve
FVV	Fore line vent valve
FP	Fore and roughing pump
TV1	Test valve 1 (ULTRA flow port)
TV2	Test valve 2 (FINE flow port)
TV3	Test valve 3 (GROSS flow port)
PG	Pirani vacuum gauge
CAL	Calibrated leak
CLV	Calibrated leak valve
VV	Vent valve
MP	Membrane pump for sniffing
MS	Micro separator

## Specifications

Model	901W1	901D2	904W2	904D3
Type	Base type			Mobile type
Detectable gas	<sup>4</sup> He, <sup>2</sup> H <sub>2</sub>			
Minimum detectable leak rate( <sup>4</sup> He)	<5E-13 Pa·m <sup>3</sup> /sec	<5E-12 mbar·L/sec	<3.75E-12 Torr·L/sec	
Leak rate display range	<sup>4</sup> He ULTRA	0.01E-12 ~ E-6 Pa·m <sup>3</sup> /sec	0.01E-11 ~ E-5 mbar·L/sec	0.01E-11 ~ E-5 Torr·L/sec
	FINE	0.01E-10 ~ E-5 Pa·m <sup>3</sup> /sec	0.01E-9 ~ E-4 mbar·L/sec	0.01E-9 ~ E-4 Torr·L/sec
	GROSS	0.01E-8 ~ E-3 Pa·m <sup>3</sup> /sec	0.01E-7 ~ E-2 mbar·L/sec	0.01E-7 ~ E-2 Torr·L/sec
<sup>2</sup> H <sub>2</sub>	FINE	0.01E-8 ~ E-5 Pa·m <sup>3</sup> /sec	0.01E-7 ~ E-4 mbar·L/sec	0.01E-7 ~ E-4 Torr·L/sec
	ULTRA	5 L/sec		
	FINE	1 L/sec		
Inlet pumping speed for <sup>4</sup> He	ULTRA	<2 Pa	<0.02 mbar	<0.015 Torr
	FINE	<100 Pa	<1 mbar	<0.75 Torr
	GROSS	<1200 Pa	<12 mbar	<9 Torr
Main pump Pumping speed	Turbo molecular pump 31 L/sec			
Fore pump Pumping speed (50Hz/60Hz)	Oil rotary pump 30/36 L/min   1.8/2.2 m <sup>3</sup> /h   1.1/1.3 cfm	Dry scroll pump 90/108 L/min   5.4/6.5 m <sup>3</sup> /h   3.2/3.8 cfm	Oil rotary pump 135/162 L/min   8.1/9.7 m <sup>3</sup> /h   4.8/5.7 cfm	Dry scroll pump 250/300 L/min   15/18 m <sup>3</sup> /h   8.8/10.6 cfm
Weight (including floor cart)	Approx. 33 kg (Approx.46 kg)	Approx. 37 kg (Approx. 50 kg)	Approx. 77 kg	Approx. 74 kg
Power consumption	600 VA	500 VA	1100 VA	650 VA
Input power supply	100-120 V or 200-240 V			
Inlet port flange	NW25 (ISO)			
Startup time	< 2 min			
External interface	RS232C, RS485, analog DC, digital I/O.			
Language	English, Japanese, Korean, Simple Chinese, Traditional Chinese, German, Spanish			
Controller unit	7inch tablet type (wireless standard: IEEE 802.11 b/g/h) (*1)			
Operation range	Wired	Cable length: 2m (standard), 5m (optional)		
	Wireless	40 m (*2)		
	Battery lasting time	3-8 hrs (*3)		
Applicable standard	CE, IP30			CE
Operating temperature range	10-40 °C (non condensing)			

\*1) Applicable radio law. Tablet: Teleg, CE, FCC. Main unit: Teleg, CE, FCC, IC, C-TICK. \*2) May change depending on operating environment. \*3) May change depending on communication condition, brightness, volume, etc.

## Sniffer Method

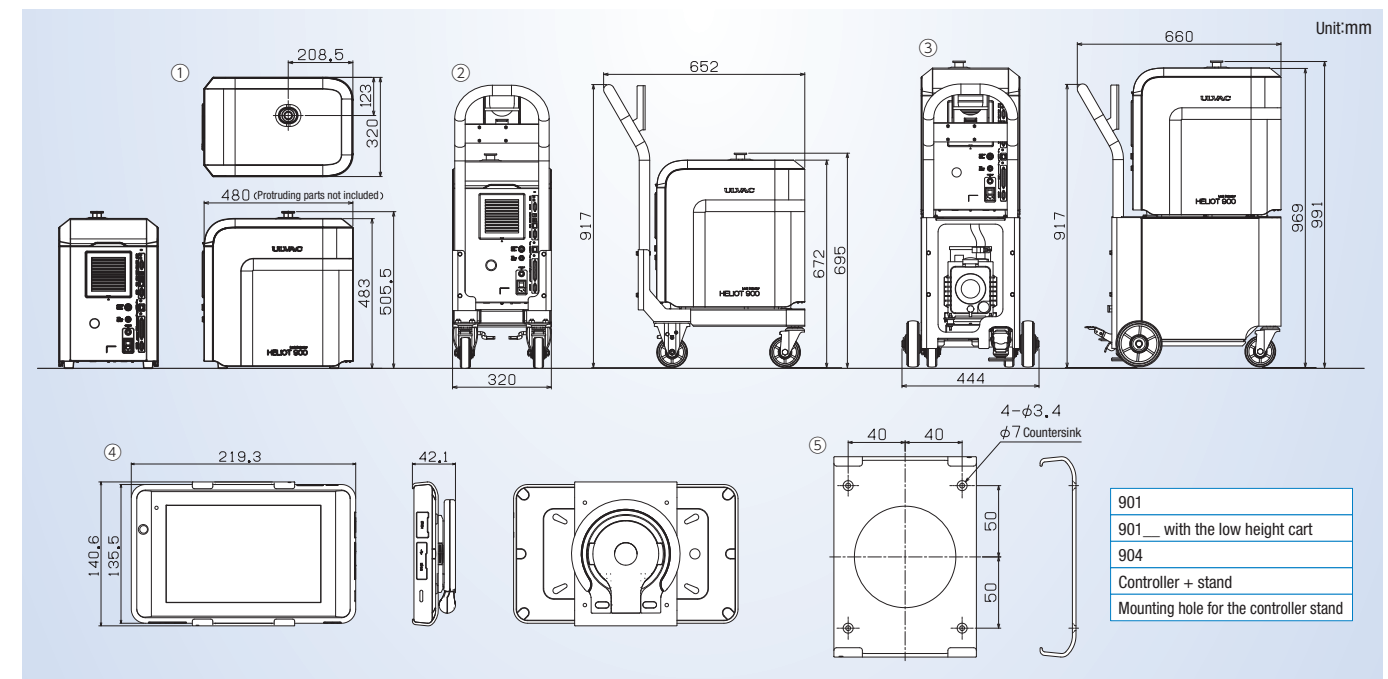
Model	AS9	BS9	BT9
Detectable gas	<sup>4</sup> He		
Minimum leak rate display range	0.01E-8 ~ E-5 Pa·m <sup>3</sup> /sec   0.01E-7 ~ E-4 mbar·L/sec   0.01E-7 ~ E-4 Torr·L/sec   0.01E-6 ~ E-2 mbar·L/sec   0.01E-6 ~ E-2 Torr·L/sec		
Flow rate	< 0.03 slm		
Sniffing inlet port	Handy probe		φ 6mm tube fitting
Tube	1-10 m (*1)		

\*1) Specified length per 1m.

## Unit, power supply and standard of power cable

90~①②③	F: Non-SI unit	F1A	F2B	F2C	F2D	J1A	J2B
① Unit of measure	F: Non-SI unit J: Japanese domestic (SI unit)	✓	✓	✓	✓	✓	✓
② Power supply	1: 100-120V 2: 200-240V	✓	✓	✓	✓	✓	✓
③ Power cable standard	A: PSE B: PSE without outlet C: CCC D: IEC	✓	✓	✓	✓	✓	✓

## Dimensions



901
901 ___ with the low height cart
904
Controller + stand
Mounting hole for the controller stand