

MEASUREMENT INSTRUMENTS & CONTROLLERS

Series

HELIUM LEAK DETECTOR

HELEN[®] Series

Portable Model

M-212LD

M-212LD-D

M-222LD

M-222LD-D

M-232LD



BEST SEL
HEL

Vacuum components



Model:

M-212LD(-D)

Field Service-oriented!

Compact design for maneuverability

Diaphragm pump types

(compact & dry) also available



Model:

M-222LD

High Power!

Increased power realized through installing the Model 212 toughened roughing pump.



SECTION

EN[®] SERIES



Model:

M-222LD-D

High Power and Dry!
Includes drying pump
Suitable for clean environment



Model:

M-232LD

Sniffer!
Designed for Sniffing
Methods

Automobile Industry



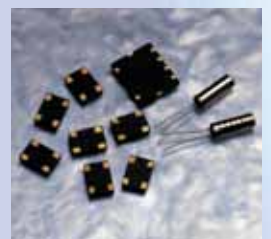
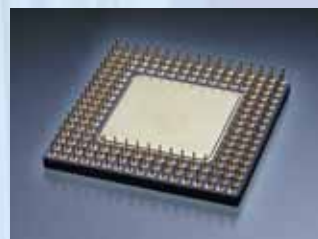
Medical Industry



Vacuum components



Electronics Devices



Portable

HELEN M-212LD(-D)/M-222LD(-D)/M-232LD



Compact!

M-212LD(-D)

- Best for inspections and field servicing of various vacuum systems
- Leak testing of various small vacuum parts

High Power!

M-222LD

- Maintenance of various vacuum systems
- Leak testing of various large vacuum chambers such as particle accelerators
- Analyses of leak testing systems

Dry! & High Power!

M-222LD-D

- Adaptable to clean rooms
- Supports oil-free leak testing
- Maintenance of various vacuum systems

Sniffer!

M-232LD

- Leak testing of automobile parts, air-conditioned refrigerators
- Leak testing of food and medicine packaging
- Leak testing of water and gas pipe systems

Outline

HELEN portable series products have been conceptually developed with the emphasis on compactness, lightness, and portability.

The M-212LD, a lightweight and general-purpose model, is specifically intended for use in the field. The diaphragm-pump driven type M-212LD-D is also available.

As the M-222LD is equipped with a large roughing vacuum pump it can implement leak testing on large vacuum vessels itself, without the need for any pump installation on the equipment. In addition, the highly-sensitive type M-222LD-H is also available. And with the M-222LD-D type vacuum vessels (or vacuum system parts) can be protected from oil contamination with the dry pump in the exhaust system.

The functions of the Model M-232LD are concentrated on the sniffer method, and is thus most suited to a variety of gas piping systems and pressurized parts.

Select the most suitable model for your intended applications from the variety of models provided in the HELEN series.

Features

1) Easy Operation

Operation from start up to measuring is performed by a single button. Measurement is performed by setting the leak detector to the optimum conditions that correspond to the conditions for each type of test item. Also, sensitivity calibration, etc., is performed automatically.

3) Easy Carry

HELEN series have been fitted with large casters and handles to devise an optimum user interface for moving from place-to-place.



analyzer head

2) Worlds ' top level Sensitivity, Stability and Response realized. Utilizes a 180° magnetic deflection mass spectrometer tube. Furthermore, an MCP (Micro-Channel Plate with a secondary-electron multiplier) has been installed for amplifying helium ions. As a result, even standard models can realize sensitivity as high as 10^{-12} Pa·m³/s and are coupled with high stability throughout a long-term service period.

4) Robust Design

The HELEN series are completed with each type of safety feature for instant response to operator errors and environmental failures. By using a long life tungsten filament, high sensitivity measurements can be performed over an extensive period of time under normal operating conditions. Also, each part has been purposely solidly designed for connecting the HELEN series to 24-hour operating systems.

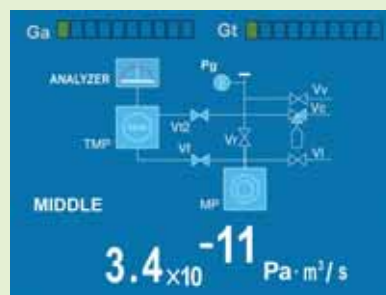
5) Versatile functions

These new types are based on the easy operation of former models, and thus users can still operate them by simply pushing the start/stop button. Additionally, modifications can be flexibly made to satisfy specific customer requests for more complicated settings. The display consists of a 3.8-inch color LCD (320 x 240 dots), increasing legibility. The standard, status and trend screens are shown below. As an example of the functions, reading internal temperature variations and compensating for temperature drift of the preamplifier have realized improved precision of measurements. (M-212LD, M-222LD)

Hand Controller



Standard screen



Status screen



Trend screen



Hand Controller



Analog screen

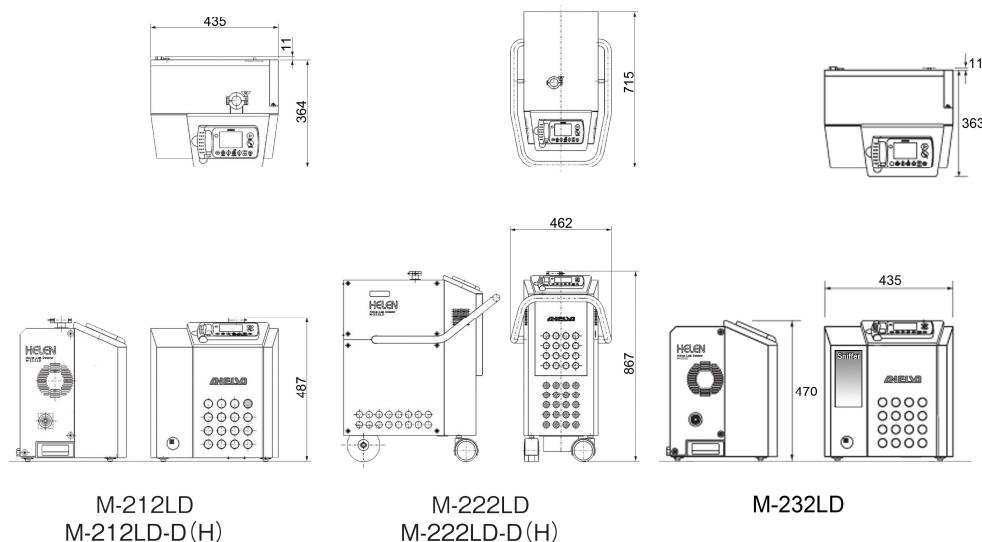
Specifications

Type	M-212LD(-H)	M-212LD-D	M-222LD(-H)	M-222LD-D(H)	M-232LD
Version	Compact	Compact dry	High power	High power & dry	Sniffer
Quantitative measurement range (Pa·m3/s)	$10^{-12} \sim 10^{-3}$ (-H: $10^{-13} \sim 10^{-3}$)	$10^{-12} \sim 10^{-3}$	$10^{-12} \sim 10^{-3}$ (-H: $10^{-13} \sim 10^{-3}$)	$10^{-12} \sim 10^{-3}$ (-H: $10^{-13} \sim 10^{-3}$)	$10^{-8} \sim 10^{-1}$ ($10^{-2} \sim 10^5$ ppm)
Inlet port exhaust speed(He) (L/s)	0.5 (Gross Mode) 2.0 (Middle Mode) (5.0 (-H: Fine Mode))	0.2 (Gross Mode) 0.3 (Middle1 Mode) 1.3 (Middle2 Mode) 3.0 (Fine Mode)	1.8 (Gross Mode) 2.0 (Middle Mode) (5.0 (-H: Fine Mode))	2.0 (Gross Mode) 2.0 (Middle Mode) (5.0 (-H: Fine Mode))	Probe suction speed 0.3 Pa·m3/s
Inlet port shape	NW25 (ISO)	NW25 (ISO)	NW25 (ISO)	NW25 (ISO)	—
Main pump	TMP 50L/s				
Roughing pump	RP 30L/min	Diaphragm pump 20L/min	RP 142L/min*1	Dry Pumps 250L/min	RP 30L/min + DRP
External interface	RS-232C Analog I/O				
Display	Color LCD				
Sniffer probe	Option				Standard
Power requirements*2	AC 100V 8A	AC 100V-115V, 6.3A	AC 100V-115V, 15A	AC 100V-115V, 10A	AC 100V 8A
Dimensions (W×H×D)(mm)	435×487×363		462×867×715		435×487×363
Weight (kg)	42	39	75		42

*1: Can be optionally upgraded to the roughing pump with a pumping rate of 275 L/min at the maximum.

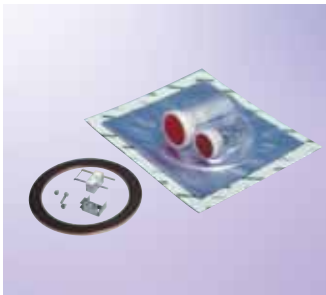
*2: Can be optionally changed to overseas voltage specifications.

External Dimensions Drawing



Other

Versatile Accessories (Optional)



Filament Maintenance Kit
(consists of filament assy,
ion chamber 114CF gasket)



Various cart



Sniffer probe



Flex Tube and Reducer (KF40_KF25)



He STD Leak Device



Bombing System



Special pc software



Helium Spray Gun

Ordering Information

Product code	Product name		Remarks
	Model	Description	
26610	M-212LD	Helium leak detector (HELEN 212)	100 V AC, Compact type
26611	M-212LD-D	Helium leak detector (HELEN 212D)	100 V AC, Compact, Dry Pump type
26620	M-222LD	Helium leak detector (HELEN 222)	100 V AC, High Power type
26621	M-222LD-D	Helium leak detector (HELEN 222D)	100 V AC, Dry Pump type
26622	M-222LD-H	Helium leak detector (HELEN 222H)	100 V AC, High Power, High Sensitivity type
26623	M-222LD-M1	Helium leak detector (HELEN 222M1)	100 V AC, Sniffer-dedicated type
26630	M-232LD	Helium leak detector (HELEN 232)	100 V AC, Sniffer-dedicated type
26302	SNC1E1T1	Sniffer probe CAN, 5SR9 NIPPLEPENCIL	
26801	981-9361	ASL25V Helium calibration leakage	NW25, calibrated leak rate with valve: 5×10^{-9} to 2×10^{-8} Pa · m ³ /s
26802		ASL25V Helium calibration leakage	NW25, calibrated leak rate: 5×10^{-9} to 2×10^{-8} Pa · m ³ /s
26810	981-9370	Sniffer probe for HELEN 212	Suction rate: 0.1 Pa · m ³ /s (compatible with HELEN 212)
26811	981-9371	Sniffer probe for HELEN 222	Suction rate: 0.3 Pa · m ³ /s (compatible with HELEN 222)
26830	981-9790	Helium spray gun	
26850	981-9351	HELEN Filament maintenance kit	Filament assembly, gasket, and ion chamber: One each (compatible with HELEN/ALD)
26851	981-9350	HELEN Filament assembly	Filament only
26681		HELEN 212 Transport case	On casters
26682		HELEN 222 Transport case	On casters

Canon ANELVA Corporation is constantly improving, its products, hence specifications are subject to change without notice.

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