

# ELD500 PRECISION LEAK DETECTOR

**EDWARDS**





ELD500: your perfect  
partner in leak detection

Efficient and reliable performance.

**The Edwards ELD500 fully automated leak detector is designed for fast, accurate leak detection in a wide range of applications and is fully mobile with an easy to use control interface.**

- Low cost of ownership
- Ready to go mobile solution
- Customisable for any application
- High stability and accuracy



# Applications



## — Analytical Instruments

- Electron microscopy
- Leak detection
- Mass spectrometry
- Surface analysis

## — Research and development

- Space simulation
- Cryogenic research
- Nanotechnology
- Coating systems



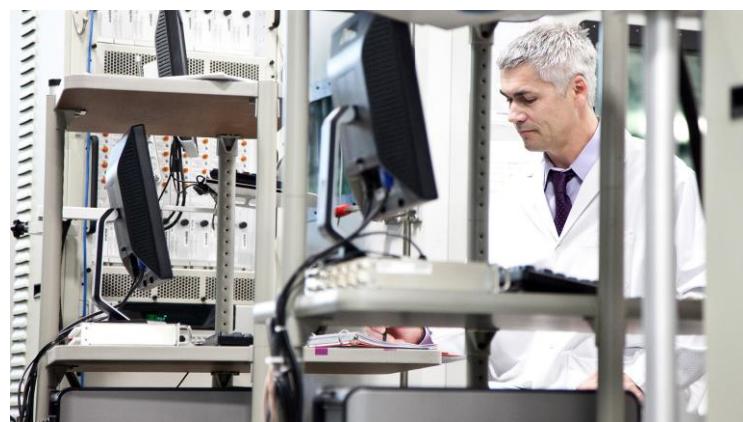


## Semiconductor

- Load lock
- Transfer
- Metrology
- Lithography
- PVD (physical vapour deposition)
- Plasma etching
- Implant source
- CVD (chemical vapour deposition)
- Flat panel display
- LED

## Industrial

- Industrial leak detection
- Electron beam welding
- Lamp and tube manufacturing
- Glass coating
- Brake line and air conditioning
- Refrigeration system manufacturers
- Heat treatment
- Power
- Vacuum furnaces



## High energy physics

- Beam lines
- Accelerators
- Fusion
- Laser evacuation

# Features



## — Low cost of ownership

**The proven design of the ELD500 leak detector, combined with low energy consumption, extended warranty and even longer life ion source, ensures exceptional low cost of ownership with no compromise on performance.**

- High efficiency and low operating power consumption
- Highly reliable product with long maintenance intervals and low part replacement requirements
- Long life Ion source with a 30 month warranty

## — Ready to go mobile solution

**... in under two minutes from power on. Users can benefit from simple pass/fail readings through to detailed analysis via the easy to read control interface, and due to the low weight and integrated carry handles, it is mobile enough to be bench top or trolley mounted.**

- Large clear graphical display with direct access to key functions for incredible ease of use
- Truly portable with weight from only 30 kg and accessories including a trolley with space for an additional pump and a helium gas bottle
- The leak detector can be transported in any orientation and can be ordered with an optional transport case on wheels for true portability
- Rapid start up, from power on to first measurements in only 107 seconds





## Customisable for any application

With three variants in the range: ELD500, ELD500 DRY and ELD500 FLEX, plus an extensive catalogue of accessories, the versatile ELD500 leak detector is ideal across all applications. At the push of a button the ELD500 can easily be set to work in either vacuum mode for precise measurement of leak rate or sniffer mode for identifying leak location.

All models feature a rugged turbomolecular pump optimised for the rigours of portable leak detection

Variants include:

- ELD500 version with an integrated oil sealed rotary vane pump
- ELD500 DRY version with an integrated helium optimised diaphragm pump
- ELD500 FLEX version without a primary pump, ideal for trolley mounting along with a larger primary pump such as an Edwards nXDS scroll pump

## Flexible remote control options, features include

- Colour touch screen control with local graphical display
- Audible leak indication via loudspeaker or headphones
- Data logging to local memory or USB stick
- Wired or wireless models available
- Wireless model allows simultaneous control of up to 10 leak detectors





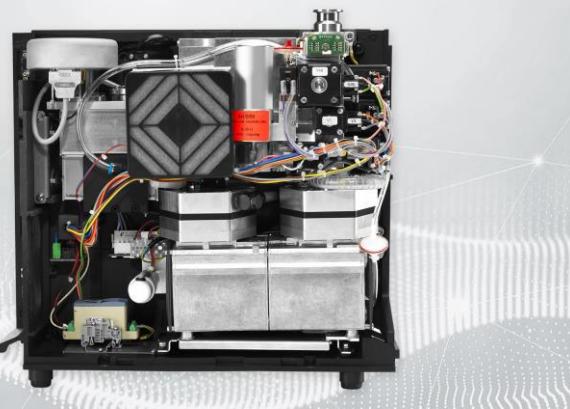
— **Partial flow kit for effective pump down of large or contaminated volumes**

- Compatible with ELD500 and ELD500 FLEX variants
- Allows automatic calculation and display of actual leak rate
- Enables leak detection from atmospheric pressure

— **Extensive range of sniffer lines for accurate pin-pointing of leaks on pressurised systems**

- Standard sniffer line enables operation up to 4m from the ELD500
- Longer sniffer lines of up to 50m can be used with the sniffer extender interface





## High stability and accuracy

Excellent repeatable accuracy is achieved by the ELD500 through calibration with the integrated test leak source and high quality mass spectrometer. Whether being used on a production line, where consistent measurement repeatability is critical, or in a laboratory environment, typically requiring the measurement of extremely low leak rates, the ELD500 is your perfect partner.

- Automated, simple, high accuracy calibration possible via the integrated long life calibrated test leak
- Optional external calibrated test leaks available for applications requiring precision accuracy traceable to international and customer/company standards
- Excellent long term stability ensured by class leading 180 degree mass spectrometer
- Fastest recovery following helium contamination thanks to highest helium pumping speed in fine mode
- High sensitivity leak detection with measurement of leak rates for Helium of less than  $5 \times 10^{-12} \text{ mbar ls-1}$  in vacuum mode and less than  $7 \times 10^{-9} \text{ mbar ls-1}$  in sniffer mode

# Technical data

## Technical data

ELD500 Leak Detector	Units	ELD500	ELD500 DRY	ELD500 FLEX
Lowest detectable helium leak rate				
Vacuum operation	mbar ls <sup>-1</sup>	Less than or equal to $5 \times 10^{-12}$	Less than or equal to $3 \times 10^{-11}$	Less than or equal to $5 \times 10^{-12}$ *
Sniffer operation	mbar ls <sup>-1</sup>	Less than or equal to $7 \times 10^{-9}$	Less than or equal to $7 \times 10^{-9}$	Less than or equal to $7 \times 10^{-9}$ **
Maximum measurable helium leak rate				
Vacuum operation	mbar ls <sup>-1</sup>	Greater than 0.1	Greater than 0.1	Greater than 0.1
Measurement ranges	decades	12	12	11
Maximum permissible inlet pressure	mbar	15	15	15
Pumping speed during pumpdown, 50 Hz/60 Hz	m <sup>3</sup> h <sup>-1</sup>	2.5/3	1.6/1.8	N/A
Helium pumping speed in the fine mode	ls <sup>-1</sup>	3.1	3.1	3.1
Time constant for leak rate signal	s	Less than 1	Less than 1	Less than 1
Time until ready for operation	mm	Less than or equal to 2	Less than or equal to 2	Less than or equal to 2
Power consumption	VA	420	350	200
Inlet flange		NW25	NW25	NW25
Protection class	IP	40	40	40
Dimensions (WxHxD)	mm	495 x 456 x 314	495 x 456 x 314	495 x 456 x 314
Weight	kg	40	35.5	30

\* Backing pump dependent

\*\* Dependent on sniffer line and ambient conditions. Leak rate display after zero: Less than or equal to  $1 \times 10^{-8}$  mbar l/s with ELD500 SL

# Ordering information

## Leak detectors, Accessories & Extended Warranty

Product Description	Order Number
<b>Leak detectors</b>	
ELD500, 200-240V, 50/60Hz	D13510903
ELD500, 100-120V, 50/60Hz	D13510904
ELD500, 100-120V, 60Hz	D13510906
ELD500 DRY, 200-240V, 50/60Hz	D13520903
ELD500 DRY, 100-120V, 50/60Hz	D13520904
ELD500 DRY, 100-120V, 60Hz	D13520906
ELD500 FLEX, 100-240V, 50/60Hz	D13530000
<b>Accessories</b>	
ELD500 RC - Wired - Remote control	D13550100
ELD500 RC - Wireless - Remote control	D13550110
ELD500 RC - Wired - 10m extension cable	14022
ELD500 RC - Wireless - Extra transmitter	D13550130
ELD500 SL - Standard sniffer line 4m	D13550300
ELD500 SL - Extended SL Interface	D13550200
ELD500 SL - Standard sniffer line 5m	14008
ELD500 SL - Standard sniffer line 20m	14009
ELD500 SL - Standard sniffer line 50m	12183
ELD500 Partial flow adaptor, 200-240V	D13550400
ELD500 Transport Case	D13550500
ELD500 Cart without Ebox	D13550600
ELD500 SG - Helium spray gun	16555
CL - Internal calibrated leak	D13550910
CL - Cal Leak Rate 0.5 to 1E-7 mbar*l/s - Screwed Socket	D13550930
CL - Calibrated leak He 4 to 6	D13550950
<b>Extended Warranty</b>	
From 18 months to 3 years	EW3AA5100
From 18 months to 5 years	EW5AA5100



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***Vacuum and Thin Film Technology***

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