



LDS3000 AQ Accumulation Leak Detector

Detects liquid leaks as
reliably as in a vacuum



Inspired by visions. Proven by success.



Performance you can depend on

INFICON offers the world's leading technology in the field of measuring technology, sensor technology and process control for sophisticated vacuum processes in highly specialized industries. INFICON products for gas leak detection are used, in particular, in the refrigeration and air conditioning sectors, in semiconductor manufacturing and in automobile production.

With INFICON, you have a competent service representative at your side who knows the challenges of your industry and who, together with you, will find the optimal solution for your requirements. INFICON ensures the best service and the greatest possible support for your company through our specialized experts in numerous branch offices worldwide. INFICON's state-of-the-art production facilities are located in the USA, Europe and Asia.

The all-rounder – closing the gap between air and vacuum testing

The LDS3000 AQ is the second leak detector from INFICON that is used for simple accumulation testing. While the INFICON T-Guard® leak detection sensor is based on helium as the tracer gas, the new LDS3000 AQ can be operated with low-cost forming gas or helium. Forming gas is a commonly used gas mixture, consisting mainly of nitrogen (95%) – with 5% hydrogen as the actual tracer gas. The LDS3000 AQ detects leaks down to a range of 10^{-5} mbar·l/s with both gas options.

With the LDS3000 AQ, INFICON is closing the gap between air testing (also known as pressure drop testing) and helium vacuum testing. Compared with air testing, the INFICON accumulation method not only detects smaller leak rates, it also has another important advantage: In contrast to air testing, the test results are not influenced by temperature or moisture. The LDS3000 AQ constantly supplies extremely reliable test results with high repeatability.

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This low-cost accumulation leak detector developed by INFICON uses a simple accumulation chamber which meets, for example, much lower leak rate and durability requirements than a conventional vacuum chamber. Furthermore, there is no need for large and expensive pumps to generate the vacuum in the chamber. The part being tested is filled with tracer gas, either forming gas or helium, and put into the accumulation chamber. The tracer gas that escapes from potential leaks accumulates in the chamber and is distributed uniformly by the fans. The leak rate is determined by the quantity of tracer gas which has accumulated in the chamber over a particular time interval. The low-cost and reliable accumulation method is well suited to finding liquid leaks, such as oil or water leaks, even in larger components.

YOUR BENEFITS AT A GLANCE

Invest with confidence

The LDS3000 AQ is a future-proof investment. The ability to reliably perform leak testing not just with helium, but also with forming gas, means that you can be confident in the decision you take today. Another special feature of the LDS3000 AQ is that with a simple change of operating mode, the leak detector can also be used for a vacuum system. One device that offers several solutions.

Reliably detects liquid leaks

With the accumulation method, INFICON is closing the gap between air and vacuum testing, while still achieving measurement results quickly and without any effect from temperature or moisture. The minimum detectable leak rate is down to a range of 10^{-5} mbar·l/s.

Easy operation

The special accumulation software of the LDS3000AQ allows customers to easily define the measuring period. Just a few parameters have to be entered, such as the chamber size, type of gas, leak rate etc., and the device then calculates a suggested measuring period, which simply has to be accepted.

High flexibility

The LDS3000 AQ is highly flexible to provide solutions to customers. The LDS3000 AQ and the accumulation method allow customers to meet high quality requirements, save costs and minimize investment all at the same time. With its variety of modern interfaces, the LDS3000 AQ already provides you with a future-proof solution today.



CU1000 CONTROL UNIT



BM1000 BUS MODULE



I/O1000 MODULE



INLET SYSTEM





MASS SPECTROMETER SYSTEM

- ▣ Allows the detection of very low leak rates down to 10^{-5} mbar·l/s
- ▣ Downtime due to sensor contamination is virtually eliminated
- ▣ The 3-year warranty on the ion source speaks for itself
- ▣ Easy switching from helium to hydrogen to reduce operating costs

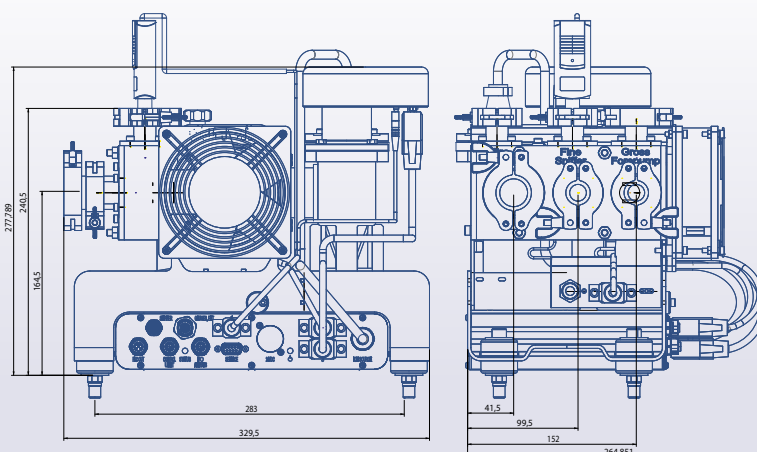
ACCUMULATION METHOD

- ▣ Low cost entry into leak testing
- ▣ Insensitive to temperature and moisture
- ▣ Fast, reliable measurement results

INDUSTRY 4.0-READY INTERFACES

- ▣ Recording of statistics
- ▣ Connection to higher-level quality assurance systems
- ▣ RS232, RS485, USB and fieldbus systems

DIMENSIONAL DRAWING



TECHNICAL SPECIFICATIONS

Minimum detectable leak rate of forming gas or helium	1 x 10 ⁻⁶ mbar l/s
Measurement range	5 decades
Test chamber pressure	Atmosphere (standard pressure)
Response time	< 1 s
Detection system	180° sector field mass spectrometer
Start time	< 3 min
Field buses available	PROFIBUS, PROFINET, DeviceNet, EtherNet/IP
Connections	ISO-KF DN16
Ion source	2 yttrium/iridium long-life cathodes (3 year warranty)
Digital inputs/outputs	10 inputs, 8 outputs (when used with I/O1000 module)
Control input	PLC compatible (max. 35 V)
Recorder output	lin/log 0 – 10 V
Serial interface	RS232, RS485 or fieldbus systems
Dimensions (L x W x H)	330 x 240 x 280 mm

ORDERING INFORMATION

BASE UNITS

PRODUCT	CAT. NO.	PRODUCT	CAT. NO.
LDS3000 AQ (incl. inlet system and special accumulation software)	560-600	Diaphragm pump for LDS3000 AQ	560-630
I/O1000 module (input/output module)	560-310	Snap-on mounting rail power supply unit 24 V, 10 A	560-324
BM1000 bus module			
Profibus	560-315		
Profinet	560-316		
DeviceNet	560-317		
EtherNet/IP	560-318		
Data cable (MSB-I/O1000/CU1000)			
2 m cable length	560-332		
5 m cable length	560-335		
10 m cable length	560-340		

An I/O1000 module or BM1000 module as well as a data cable are necessary for the operation of an LDS3000 AQ.

The data cables can be used for connecting to an I/O1000 module or a BM1000 bus module and the CU1000 control unit.

OPTIONS

CU1000 control unit	560-320
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