Leak detector LD 450

If gases escape through leaks in pressurized pipe systems (e.g. non-tight screwed connections, corrosions and so on), ultrasonic noises are generated. By means of LD 450, even the smallest leakages which cannot be heard by the human ear and which are not visible due to their size can be detected even from distances of several meters. LD 450 transforms the inaudible signals into a frequency which can be identified by human beings. By means of the comfortable sound-proof headset, these noises can be detected even in extremely noisy environments. The LD 450 leak detector is the advancement of the proven LD 300 and LD 400 and it impresses with its significantly refined sensor technology and its improved support in the tracing of leaks. By means of the integrated laser pointer, which serves for target heading, the leak can be localised more accurately.

The LD 450 meets the requirements of class I instruments for the norm **"Standard Test Method for Leaks with Ultrasound"** (ASTM Int. - E1002-05)

Applications

Leak detection on:

- compressed air, gas and vacuum systems
- Door seals



LD 450 with straightening tube and straightening tip for accurate detection.



Acoustic trumpet

Sound-proof headset:
Enables leak detection in an extremely loud environment

Costs per year						
	Size of leakage - diameter (mm)					
Pressure	**0.5 mm**	**1.0 mm**	**1.5 mm**	**2.0 mm**	**2.5 mm**	**3.0 mm**
3 bar	€90	€361	€812	€1,444	€2,256	€3,248
4 bar	€113	€451	€1,015	€1,805	€2,820	€4,061
5 bar	€135	€541	€1,218	€2,166	€3,384	€4,873
6 bar	€158	€632	€1,421	€2,527	€3,948	€5,685
7 bar	€180	€722	€1,624	€2,888	€4,512	€6,497
8 bar	€203	€812	€1,827	€3,248	€5,076	€7,309

Table: Leakage costs within one year in case of operation 24 h/365 days, calculated with compressed air costs of 1.9 ct/Nm³.

Through the use of a specially designed acoustic trumpet, a better bundling of the sound waves is achieved. This trumpet acts like a directional microphone, which bundles ultrasonic waves and thus improves the acoustic behavior.
Due to the special design of the acoustic trumpet, the use of the laser pointer is not hindered.
Leak test:
A handy ultrasonic transmitter is available for detecting leaks in pressureless systems. The transmitter is positioned so that the sound can enter the pipe system. The ultrasonic signal penetrates the smallest openings, which can then be detected with the LD 450.

Special features

- Robustness and low weight ensure fatigue-free use in industrial environments
- Improved detection of leakages with the acoustic trumpet
- Modern Li-Ion battery with high capacity, external charger
- Minimum operating time 10 h
- Easy operation via membrane keypad
- Adjustable sensitivity





LD 450 is available either as standalone device or in a complete set. The set includes a robust impact-proof transportation case which contains all necessary components and accessories.

DESCRIPTION	ORDER NO.
Set LD 450 consisting of:	0601 0204
LD 450 leak detector for compressed air systems	0560 0204
Transport case	0554 0106
Sound-proof headset	0554 0104
Focus tube with focus tip	0530 0104
AC adapter plug	0554 0009
Acoustic trumpet	0530 0109
Accessories not included in the set:	
Ultrasonic transmitter	0554 0103

TECHNICAL DATA LD 450	
Operating frequency:	40 kHz ± 2 kHz
Connections:	3.5 mm stereo jack for headset. Power supply socket for connecting an external charger
Laser:	Wavelength: 630…660 nm Output power: < 1 mW (laser class 2)
Operating time:	>10 h
Charging time:	max. 4h
Operating temperature:	-5 °C to 50 °C
Storage temperature:	-20 °C to +60 °C