LD 500/510 - Leak detector with camera - indicates leakage rate in l/min and costs in €

The LD 500 meets the requirements of Class I „Standard Test Method for Leaks with ultrasound“ (ASTM Int. - E1002-5)

Find out your leak rate (l/min) and potential saving (€/year)

Find the smallest leaks in far distance

Auto level: adapts the sensitivity automatically to the environment and eliminates the ambient noise reliably

Photograph leaking parts

Describe the leak and necessary actions

Transmit the leak details via USB to your desktop software

Create an ISO 50001 report

Seek the leak the whole day (9 hours)

Costs per year						
Pressure	Leak size - Diameter (mm)					
	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.

LD 500/510 is a consistent advancement

The new leak meters LD 500/510 with integrated camera and leakage calculation are ideal measuring instruments which help to find and document even smallest leakages (0.1 l/min corresponds to approx. 1 € per year) easily even in far distances.

LD 510 is the worldwide first leak meter with an additional freely assignable sensor input for all CS sensors. In addition to the leakage measurement and detection also all necessary measurements with regards to dew point, flow, pressure, and temperature ... can be carried out.

Leak detection at:

- Compressed air, gas, steam and vacuum sytems
- Steam Traps
- Seals

The noise-proof headset enables the leak detection also in EXTREMELY loud ambient. The ambient noise will be faded out, the leakage (inaudible ultrasonic sound) will be transformed to an audible signal. The laser grants an exact locating.

Accessories

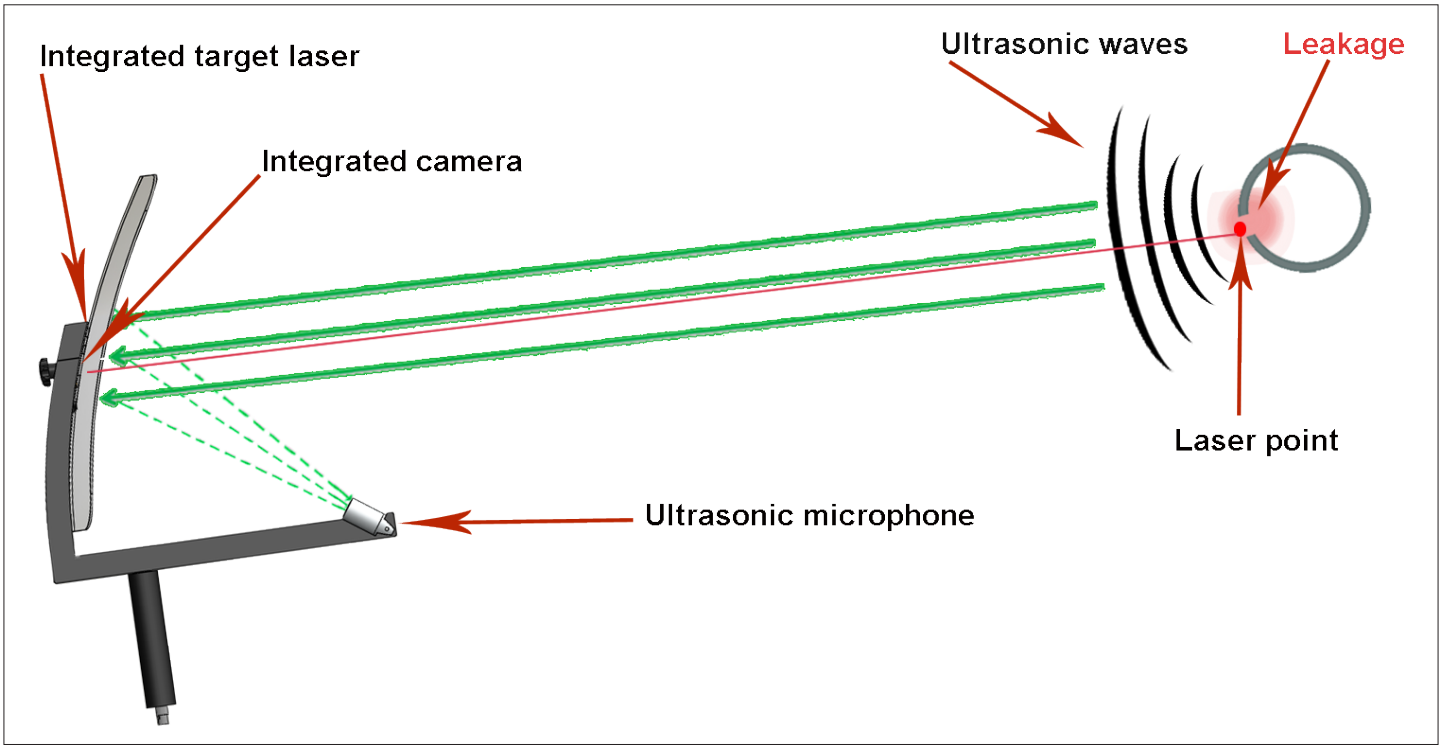
Acoustic trumpet
bundles the acoustic waves of smallest leakages, disturbing ambient noise will be eliminated

Focus tube with focus tip
for precise locating of smallest leakages in narrow areas

Optionally available:
Gooseneck enables a positining of the leakage on the spot – even in case of hardly accessile locations. Noise is hidden.

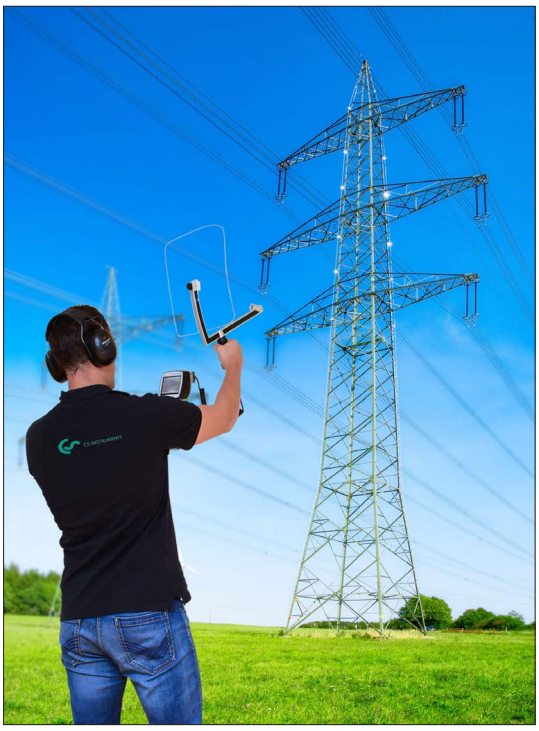
Parabolic mirror:
for leak detection at long distances. Laser pointer and camera integrated.

Professional accessory parabolic mirror



By bundling the ultrasonic waves in the parabolic mirror, even the smallest leaks of 0.8 l / min (ca. 8 € p.a.) at a distance of up to 10 ... 15 m can be localized with pinpoint accuracy (± 15 cm). The shape of the parabolic mirror ensures that only ultrasonic waves of the targeted leak are evaluated. Disterbing noise is reduced to a minimum.

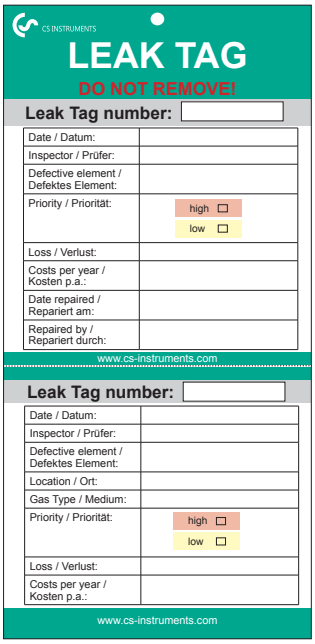
Accurate leak detection during operation with laser pointer and integrated camera



Checking high voltage overhead lines for corona discharge

Leakage files stored in LD 500 are exported to a USB stick for issuing a report by software

If the leakage is detected and stored, the following data are also stored in the LD 500 and will be available after the export to the CS Leak Reporter software to issue a report:



CS INSTRUMENTS

LEAK TAG

DO NOT REMOVE!

Leak Tag number:

Date / Datum:	
Inspector / Prüfer:	
Defective element / Defektes Element:	
Priority / Priorität:	high ☐ low ☐
Loss / Verlust:	
Costs per year / Kosten p.a.:	
Date repaired / Repariert am:	
Repaired by / Repariert durch:	

www.cs-instruments.com

Leak Tag number:

Date / Datum:	
Inspector / Prüfer:	
Defective element / Defektes Element:	
Location / Ort:	
Gas Type / Medium:	
Priority / Priorität:	high ☐ low ☐
Loss / Verlust:	
Costs per year / Kosten p.a.:	

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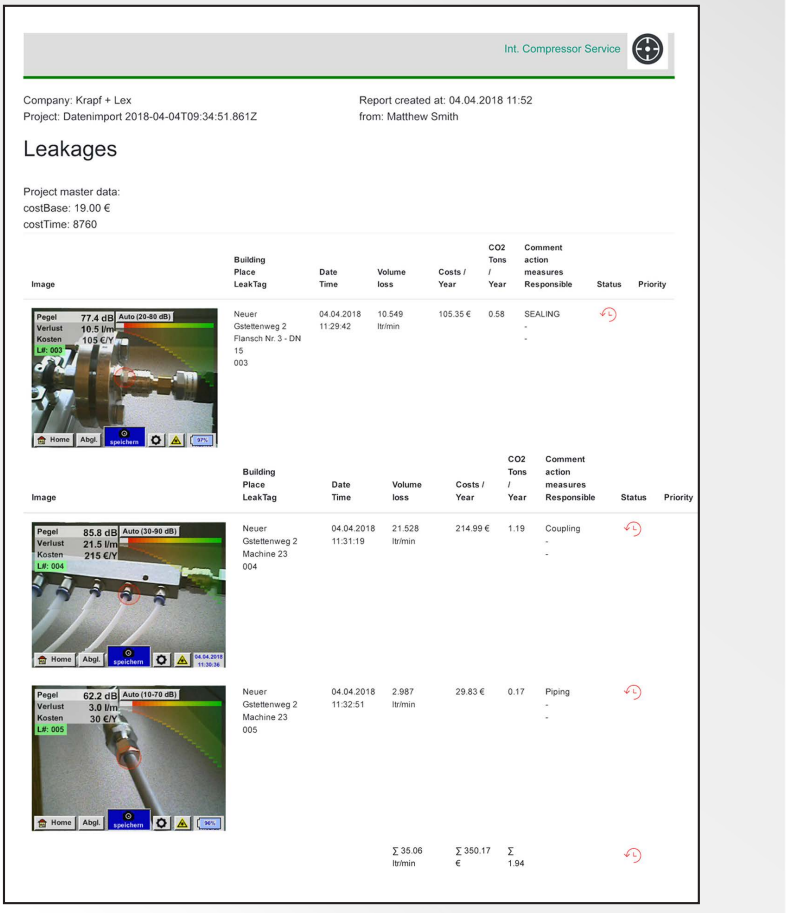
Leak Tags in hardcopies for documentation on-site

- Photo of the leakage
- Date / time
- Company name / department / machine
- Size of the leakage in liters/min (unit selectable)
- Costs of the leakage per year in € (currency selectable)

Detailed reports can be issued via PC software, which can be placed at the disposal of the operators of compressed air systems resp. the head of the respective department.

The report can be issued for the whole company or for each department and it documents the detected leakages easily and clearly. Due to the summation at the end of the report it is easy to get an overview on the whole leakage amount in liters/min as well as the total leakage costs per year.

Leakage - report for ISO 50001 Audits



Int. Compressor Service

Company: Krapf + Lex
Project: Datenimport 2018-04-04T09:34:51.861Z

Report created at: 04.04.2018 11:52
from: Matthew Smith

Leakages

Project master data:
costBase: 19.00 €
costTime: 8760

Image	Building Place LeakTag	Date Time	Volume loss	Costs / Year	CO2 Tons / Year	Comment action measures Responsible	Status	Priority
Pegel 77.4 dB Auto (20-80 dB) Verlust 10.5 l/m Kosten 105 €/Y L#: 003 Home Abgl. speichern	Neuer Gstettenweg 2 Flansch Nr. 3 - DN 15 003	04.04.2018 11:29:42	10.549 ltr/min	105.35 €	0.58	SEALING - -		
Pegel 85.8 dB Auto (30-90 dB) Verlust 21.5 l/m Kosten 215 €/Y L#: 004 Home Abgl. speichern	Neuer Gstettenweg 2 Machine 23 004	04.04.2018 11:31:19	21.528 ltr/min	214.99 €	1.19	Coupling - -		
Pegel 62.2 dB Auto (10-70 dB) Verlust 3.0 l/m Kosten 30 €/Y L#: 005 Home Abgl. speichern	Neuer Gstettenweg 2 Machine 23 005	04.04.2018 11:32:51	2.987 ltr/min	29.83 €	0.17	Piping - -		
			∑ 35.06 ltr/min	∑ 350.17 €	∑ 1.94			

DESCRIPTION	ORDER NO.
Set LD 500 consisting of:	0601 0105
LD 500 leak detector with acoustic trumpet, and integrated camera, 100 leak tags for marking the leakages on site	0560 0105
Transportation case	0554 0106
Sound-proof headset	0554 0104
Focus tube with focus tip	0530 0104
AC adapter plug	0554 0009
Helix cable for connecting the ultrasonic sound sensor, length 2 m, (extended)	020001402
Set LD 510 consisting of:	0601 0106
LD 510 leak detector incl. acoustic trumpet, with integrated camera and additional input for external sensors, 100 leak tags for marking the leakages on site	0560 0106
Transportation case	0554 0106
Sound-proof headset	0554 0104
Focus tube with focus tip	0530 0104
AC adapter plug	0554 0009
Helix cable for connecting the ultrasonic sound sensor, length 2 m, (extended)	020001402
Equipment:	
CS Leak Reporter – for detailed ISO 50001 reports. Gives an illustrated survey of the found leakages and their possible savings. Measures for elimination including status display can be defined for every leakage - License for 2 computers	0554 0105
Gooseneck for leakage detection at sites which are difficult to access (length 600 mm)	0530 0105
Gooseneck for leakage detection at sites which are difficult to access (length 1500 mm)	0530 0108
Parabolic mirror for leak detection at long distances, incl. Transportation case	0530 0106
Ultrasonic tone generator for leak testing	0554 0103
500 leak tags for marking the leakages on site	0530 0107
Calibration:	
Recalibration LD 500 / LD 510	0560 3333
Further sensors / accessories for connection to LD 510:	
FA 510 dew point sensor for mobile devices, -80…+20°Ctd, incl. mobile measuring chamber, 5 m connection cable and perforated protection cap	0699 1510
Flow sensor VA 500, Max version (185 m/s) sensor length 220 mm, incl. 5 m connection cable	0695 1124
Standard pressure sensor CS 16, 0…16 bar, ± 1 % accuracy of f. s	0694 1886
Differential pressure sensor 1.6 bar diff.	0694 3561
Connection cable for pressure, temperature or external sensors on mobile instruments, ODU / open ends, 5 m	0553 0501
CS Basic - data evaluation in graphic and table form - reading out of the measured data via USB Stickor Ethernet. License for 2 computers	0554 8040

Transportation case LD 500/510

Transportation case with Parabolic mirror

TECHNICAL DATA LD 500 / LD 510	
Working frequency:	40 kHz ± 2 kHz
Connections:	3.5 mm stereo jack for headset Power supply socket for connecting an external recharger
Laser:	Wave length: 645...660 nm Output power: < 1 mW (laser class 2)
Display:	3,5“ Touch screen
Interface:	USB interface
Data logger	8 GB SD memory card (100 million values)
Power supply:	Internal rechargeable Li-Ion batteries approx. 9 h continuous operation, 4 h charging time
Ambient temperature:	0...+50°C
EMC:	DIN EN 61326
Auto level:	Adapts the sensitivity automatically to the environment and eliminates the ambient noise reliably
Sensitivity:	min: 0.1 l/min at 6 bar, 5 m distance, approx. 1€/year compressed air costs

TECHNICAL DATA EXTERNAL SENSOR INPUT (ONLY LD 510)	
Measuring range:	Please see external CS sensors
Accuracy:	Please see external CS sensors
Voltage supply:	Output voltage: 24 VDC ± 10% Output current: 120 mA in continuous operation