LD 500R– Leak detector with camera

- Find the smallest leaks at large distances
- Enormous time saving compared to classic leak detectors
- One sensor for all gases (Refrigerant gas, Nitrogen, CO2, Ammonia, H2,…) And vacuum systems
- Auto level: Automatically adapts the sensitivity to the environment and reliably eliminates ambient noise
- Photograph leaking parts for customer documentation or warranty claims
- Transmit the leakage data via USB to your desktop software
- 9 hours of continuous operation possible
- Fatigue-free work – ergonomic, one-hand operation – low weight

The LD 500R meets the requirements of class I instruments for the norm **"Standard Test Method for Leaks with Ultrasound"** (ASTM Int. - E1002-05)

Minimal detectable leak size (kg / month) *					
	Nitrogen (N2)	**CO2**	**R134A**	**R410A**	**R507**
Quick search (5m distance)	1.20	1.19	18.28	13.0	17.7
Normal search (2m distance)	0.048	0.047	0.731	0.52	0.71
Intensive search	0.0005	0.0005	0.00731	0.005	0.007

*The detectable leak size is calculated based on field experience with the LD 500R. Every leak is different and the true leak rate is often unknown.
High system pressures (minimum Δp 0,3bar) cause louder leaks which can be detected more easily. This makes the LD 500R a strong tool for detecting refrigerant leaks while the system is in operation, during a nitrogen pressure test and on vacuumed systems.

Display and function in detail

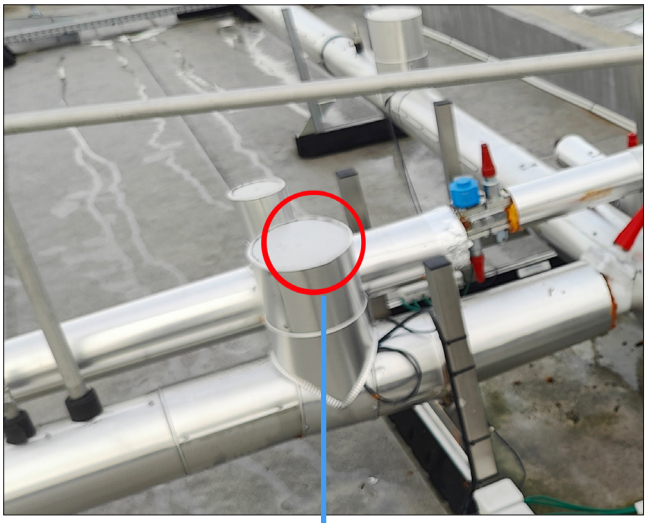
Search for leaks

The ultrasound, which is inaudible to the human ear, is made audible via headphones. Loud ambient noises are faded out.

Advantage over the classic leak detectors:

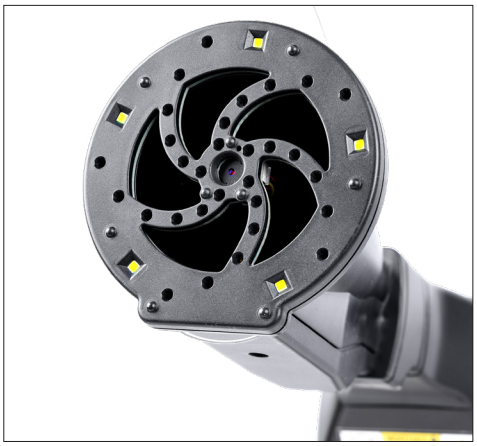
Visual representation of the leakage in the live image, even in noisy environments during production at multiple meters distance.

Detect all types of pressurized gases and vacuum with high accuracy. Also possible in windy conditions. One sensor for all gases without the need for calibration or start up times beforehand. Document the leak to quote your customers or help with warranty claims on your installations. All while the system remains fully operational.



DESCRIPTION	ORDER NO.
LD 500R set consisting of:	0500 0002
LD 500R leak detector with acoustic trumpet and integrated camera,100 leak tags for marking the leaks on site	0560 0105R
Transport case	0554 0106
Sound-proof headset	0554 0104
Focus tube with focus tip	0530 0104
AC adapter plug	0554 0009
Spiral cable for connecting the ultrasonic sensor, length 2m (extended)	020001402
Holster with shoulder strap for LD 500R	020001795

UltraCam LD 500R – Visualises the leaks directly in the image



- 30 MEMS microphones create the image of the leaks
- Find the smallest leaks at large distances
- Enormous time saving compared to classic leak detectors
- One sensor for all gases (Refrigerant gas, Nitrogen, CO2, Ammonia, H2,…)
- Auto level: Automatically adapts the sensitivity to the environment and reliably eliminates ambient noise
- Photograph leaking parts for customer documentation or warranty claims
- Transmit the leakage data via USB to your desktop software
- 9 hours of continuous operation possible
- Fatigue-free work – ergonomic, one-hand operation – low weight

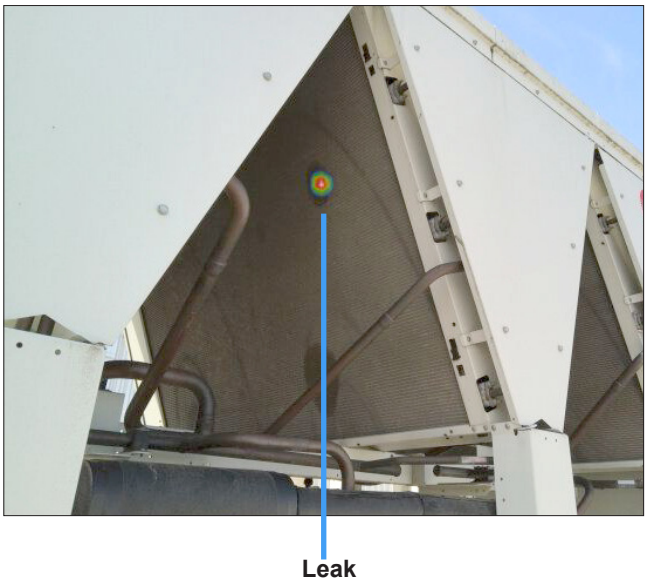
The UltraCam LD 500R meets the requirements of class I instruments for the norm **"Standard Test Method for Leaks with Ultrasound"** (ASTM Int. - E1002-05)

Display and function in detail

The UltraCam LD 500R uses 30 MEMS microphones to calculate and visual-ise the ultrasound image. In addition, the device makes inaudible ultrasound audible.

Advantage over the **classic leak detectors**:
Visual representation of the leakage in the live image, even in noisy environments during production at multiple meters distance.

Detect all types of pressurized gases and vacuum with high accuracy. Also possible in windy conditions. One sensor for all gases without the need for calibration or start up times beforehand. Document the leak to quote your customers or help with warranty claims on your installations. All while the system remains fully operational.



DESCRIPTION	ORDER NO.
Set UltraCam with leak detector LD 500R:	0500 0003
LD 500R leak detector with UltraCam, integrated camera, 30 ultrasonic microphones for visualisation of the leakage on the screen, incl. 100 leak tags	0560 0205R
Transport case	0554 0106
Sound-proof headset	0554 0104
Focus tube with focus tip	0530 0104
AC adapter plug	0554 0009
Spiral cable for connecting the ultrasonic sensor, length 2m (extended)	020001402
Holster with shoulder strap for LD 500R	020001795

Accessories included in the set:

Headset

The noise-proof headset enables leak detection even in an extremely loud environment. The ambient noise is faded out, and the leakage (inaudible ultrasonic sound) is transformed into an audible signal.

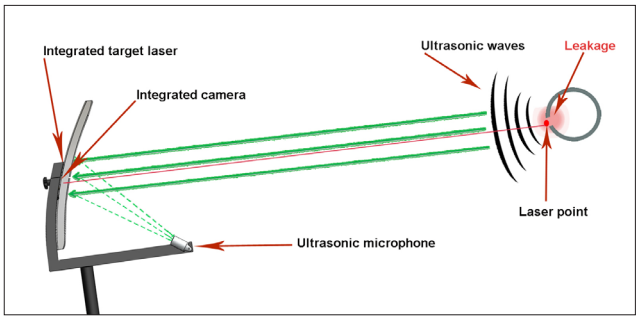
Holster with shoulder strap

For the LD 500R, enables ergonomic and safe work and the ability to scale ladders and stairs with both hands available.

Focus tube with focus tip

For pinpoint detection of the smallest leaks in confined spaces.

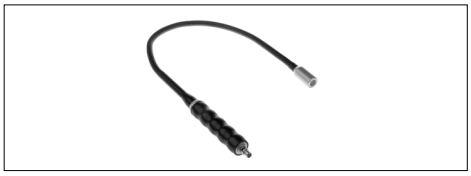
Professional accessory – parabolic mirror



By focusing the ultrasonic waves in the parabolic mirror, even the smallest leaks can be located with pinpoint precision (± 15 cm) at a distance of up to 10 to 15 m.

The shape of the parabolic mirror ensures that only ultrasonic waves of the targeted leak are evaluated. Background noise is reduced to a minimum.

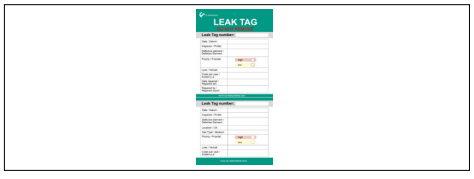
Accessories



DESCRIPTION	ORDER NO.
Gooseneck High Sensitivitiy for leak detection on vacuum systems and for leak testing (length: 600 mm)	0530 0110

DESCRIPTION	ORDER NO.
Parabolic mirror with laser distance measurement for leak detection in long distances, incl. transport case	0530 0206
Parabolic mirror for leak detection at long distances, incl. transport case	0530 0106

DESCRIPTION	ORDER NO.
Ultrasonic tone generator for leak testing. A handy ultrasonic tone gen-erator is available for detecting leaks in systems that are not under pres-sure. 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 500R	0554 0103



DESCRIPTION	ORDER NO.
500 leak tags for marking the leaks on site	0530 0107

DESCRIPTION	ORDER NO.
UltraCam – funnel with integrated camera, 30 ultrasonic microphones for visualisation of leakages - for retrofitting to existing LD 500R	Z554 5500

TECHNICAL DATA OF THE LD 500R	
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)
Display:	3.5" touch screen
Interface:	USB interface
Data logger:	16 GB SD memory card (100 million values)
Power supply:	Internal rechargeable Li-Ion batteries, approx. 9 h continuous operation (without UltraCam), 6 h continuous operation (with UltraCam) 4 h charging time
Operating temperature:	-20…+50 °C
EMC:	DIN EN 61326
Auto level:	Automatically adapts the sensitivity to the environment and reliably eliminates ambient noise
Weight without headset:	540 grams (without UltraCam), 698 grams (with UltraCam)