

### Detection of leaks and other ultrasonic sources

LDE-10 is an excellent instrument for location leaks in any pressure and vacuum system by detecting ultrasound generated by a gas or liquid when flowing through a small restrictive opening.

Tightness control in non-pressurized compartments such as containers, tanks, cars, etc. with the LDE-10 requires the use of the ultrasonic transmitter LDF-13.

### Function description

Turn the SENSITIVITY control to the right for maximum sensitivity. Scan the suspected area until you hear a tone in the earphones indicating the presence of the ultrasonic noise. Simultaneously, the LED-array will light up. As the instrument is moved closer to the ultrasonic source, more LEDs will light up and the frequency of the tone will increase.

Reduce the sensitivity of the instrument by turning the control to the left and continue to search for the exact location of the leak, which will be found in the area characterized by the highest indications.

### Use of controls

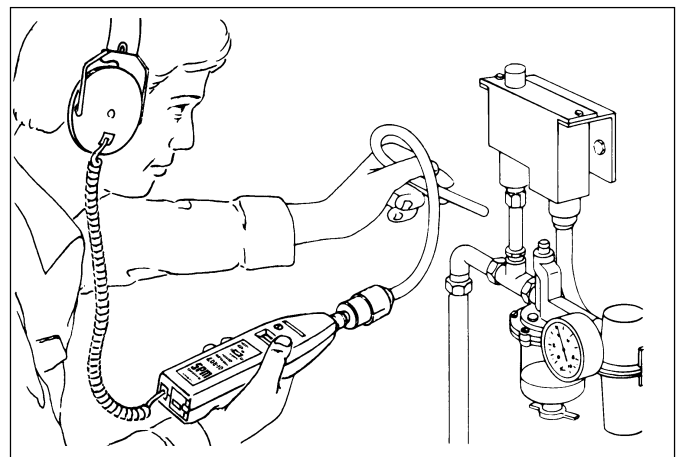
**Volume control:** Turn clockwise to increase volume.

**LED-array:** Shows the intensity of the ultrasonic noise.

**On/Off Sensitivity control:** Turn to the right to switch on the instrument. This will also increase the instrument sensitivity.

### External leak detection with the Ultrasonic Microphone

Connect the ultrasonic microphone to the instrument and proceed as above. The extension tube LDF-11, when connected to the ultrasonic microphone, will reduce the influence from other ultrasonic noise sources and increase the directional sensitivity of the instrument.

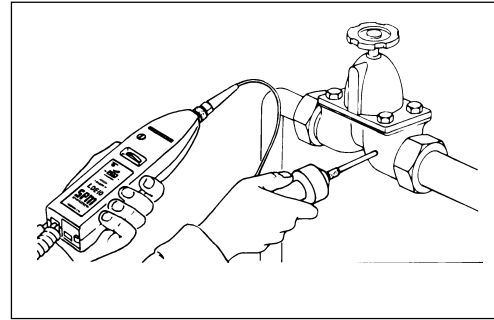


## Internal leak detection with the Ultrasonic Probe

Connect the probe cable to the instrument and use suitable probe tip. Hold the probe steady and press it against the area where an internal leak may exist.

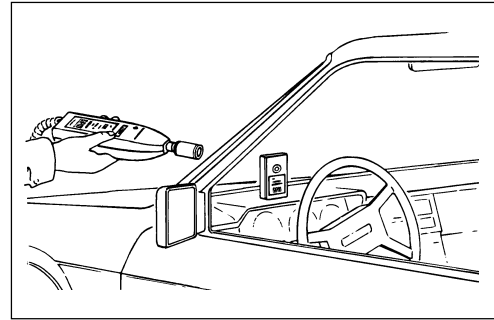
## Function control of steam traps with the Ultrasonic Probe

The Leak Detector is an ideal instrument for checking steam traps. Press the probe LDF-12 against the steam trap housing. The instrument indicates a change in the ultrasonic noise level when the steam trap switches from bypass mode to open or vice versa. If the steam trap is permanently open (internal leakage) the level of the ultrasonic noise will not change.



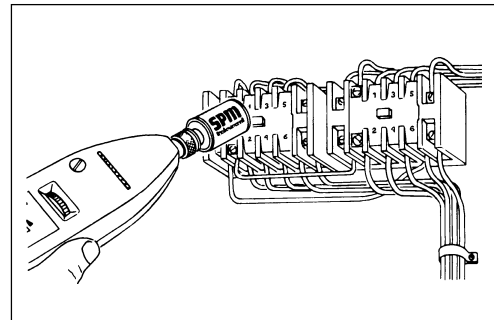
## Leak detection and tightness control in non-pressurized compartments

The ultrasonic transmitter LDF-13 is placed inside the compartment under investigation. Its function is to supply the non-pressurized compartments with an ultrasonic signal. This signal will pass through the leaks, cracks and other holes which thus can be located with the ultrasonic microphone in the usual manner.



## Electrical discharge detection

The leak detector LDE-10 with attached ultrasonic microphone LDF-10, can also be used for the detection of the ultrasound caused by electrical discharge from high voltage cables, insulators, contactors, transformers and any other electrical equipment. Proceed according to the rules for leak detection. Electrical discharge inside oil filled transformers is detected by using the ultrasonic probe LDF-12.



**CAUTION: It is highly dangerous to bring the microphone or probe close to or in contact with high voltage equipment! Always consult or work with a licensed electrician!**

## Changing batteries

**Leak detector LDE-10:** Slide the cover off the battery compartment. Note the polarity markings. Use only 9V alkaline batteries, IEC Type 6LF22. A battery should last for about 30 hours of normal operation. Store the Leak Detector at room temperature. Remove the battery before storing the instrument for a long period of time. Battery leakage may cause damage.

**Ultrasonic transmitter LDF-13:** Remove the four screws and lift the front cover. Use only 9V alkaline batteries, IEC type 6LF22.

## Technical data

### Leak Detector LDE-10

Visual indicator: LED-array  
Audible indicator: VCO 0 - 5 kHz  
Sensitivity: Adjustable 50 dB  
Min. detectable sound pressure: 1 nbar in the 25 - 40 kHz range  
Casing: ABS moulding  
Temperature range: 0° to + 55° C  
Battery: 9 V, IEC type 6LF22  
Dimensions: 215 X 50 X 40 mm  
Weight: 240 g

### Ultrasonic Transmitter LDF-13

Frequency: 35 kHz  
Casing: ABS moulding  
Battery: 9 V, type 6LF22  
Temperature range: -30° to + 55° C  
Dimensions: 100 x 50 x 20 mm  
Weight: 100 g

## Ordering numbers

LDE-10 Leak Detector  
LDF-10 Ultrasonic microphone  
LDF-11 Extension type  
LDF-12 Ultrasonic probe  
ELT-10 Probe tips, 60 and 290 mm  
LDF-13 Ultrasonic transmitter  
EAR-10 Earphone, incl. cable CAB-10  
CAB-10 Cable

