Documentation

Leak Detection Unit LDU22 T.. / P.. (../..)

For tanks and pipes at petrol stations

Read instructions prior to commencing any work

As of: 01/2023

Item no.: 603342

Design Variations

The leak detectors in the detection unit LDU22 series are available in different versions that are described more precisely by the letters attached to them. The levels of availability and the possible combinations depend on the device. Please contact our sales team: T +49 271 48964-0, E sgb@sgb.de

LDU22 T../P.. (../..) FC M H 8S

Up to 8 leak detection probes can be connected to the leak detector to monitor access chambers, sumps, etc.

“Heating”: With this option, operating temperatures of up to -40 °C are possible.

"Manometer": The leak detector is equipped with a digital pressure indicator (upper housing area, inside).

"Filter Control": The leak detector is equipped with a dry filter monitoring system which issues a separate signal when the dry material has been used up.

Placeholders in brackets "(..)" stand for the number of interstitial spaces

"T../P.." = Numerical value that stands for the alarm pressure of the leak detector. The alarm pressures range from 50 mbar to 3000 mbar. T stands for the alarm pressure tank/tank; P stands for the alarm pressure pipeline/pipe.

“Leak Detection Unit“: a leak detector in a floor-standing housing. The leak detector operates with overpressure towards the atmosphere.

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1. General

1.1 Information

These instructions provide important notes on using the leak detector LDU22.. In versions
LDU22 T .. (..) for tanks (tanks),
LDU22 P .. (..) for pipelines (pipes),
LDU22 T .. / P .. (../..) for tanks and pipelines.
The placeholder ".." stands for the respective alarm pressure. The values in brackets stand for the number of connected interstitial spaces, e.g., LDU22 T330 (6), LDU22 T330/P1.1 (3/6).

Workplace safety requires all the safety and handling instructions specified in this manual to be adhered to.

Furthermore, any local regulations for preventing accidents at the site where the leak detector is used and general safety instructions must be complied with.

1.2 Explanation of Symbols

In these instructions, warnings are marked with the adjacent symbol.

The signal word expresses the level of hazard.

DANGER:
Imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING:
Potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION:
Potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

INFORMATION:
Emphasizes useful tips, recommendations, and information.

1.3 Limitation of Liability

All information and notes in this documentation were compiled with due consideration for the applicable standards and regulations, state-of-the-art technology, as well as our longstanding experience.

SGB does not assume any liability in the case of:

- Noncompliance with these instructions
- Improper use
- Use of unqualified personnel
- Unauthorized modifications
- Connection to systems not approved by SGB

1.4 Copyright

1.5 Warranty Conditions

We provide warranty for the leak detector LDU22 for a period of 24 months from the day of installation on site in accordance with our General Terms & Conditions.

The maximum warranty period is 27 months from our date of sale.

Warranty is subject to submission of the functional/test report on initial commissioning by qualified personnel.
The serial number of the leak detector must be stated.

The warranty obligation shall cease to exist in the case of
- Inadequate or improper installation
- Improper use
- Modifications/repairs without consent of the manufacturer

No liability is accepted for delivery parts that wear or are exhausted prematurely due to their material properties or application (e.g., pumps, valves, seals, etc.). We do not assume responsibility for corrosion damage due to a humid installation site.

1.6 Customer Service

Our customer service is available for any inquiries.

For information on contacts please refer to our website sgb.de or the label of the leak detector.

2. Safety

2.1 Intended Use

- Pressure leak detector for double-walled tanks and pipelines, where pressure is maintained via a pump.
- Combination of interstitial spaces **only in the case of below-ground interstitial spaces**, in each case tank and pipeline interstitial spaces separately.
  The connection of tank interstitial spaces with pipeline interstitial spaces is not permitted.
- Components that can generate explosive vapors must be contained within double-walled tanks, tubs, or surface sealings whose medium-side walls are permeation-tight.

  Note/exclusion: If a permeation into the interstitial space that can lead to formation of an explosive atmosphere in the interstitial space occurs due to the stored material and the material composition of the inside tank walls (e.g., in the case of double-walled GRP tanks), the detection unit LDU22 leak detector must NOT be used. Alternative solutions can be worked out with SGB. Please contact us!
- Tank: The alarm pressure must be at least 30 mbar higher than any pressure against the interstitial space (from inside and/or outside).

- Pipelines: The alarm pressure must be at least 1 bar higher than any pressure against the interstitial space. Note for Germany: Filling lines with at least 2 bar alarm pressure!

- Possible vapors are classified in explosion group IIA / IIB and temperature class T 1 to T3 and the vapors must be heavier than air.
- Grounding / equipotential bonding (if applicable) in accordance with applicable regulations[1].
- Tightness of the interstitial space according to specifications in this documentation.
- The total volume of the interstitial spaces for tanks or pipelines does not exceed 4000 liters each.
- Assembly outside of the potentially explosive area.
- Leak detector (electric) cannot be turned off.
- Conduits for feeding through the pneumatic connection lines in dome or inspection chambers and the electrical connection lines must be sealed gas-tight.
- Ambient temperature -10 °C to max. +60 °C; in the version with heating -40 °C to +60 °C.
- Pressure fluctuations in the interstitial space must be largely excluded, so that possible heating (e.g., in the scope of filling) must not exceed 20°C for tanks and 30°C for pipes.

Any claims arising from misuse are excluded.

CAUTION: The device may not be adequately protected if it is not used as specified by the manufacturer.

2.2 Obligation of the Operating Company

WARNING!
Danger in case of incomplete documentation

The leak detector LDU22 T../P.. is used in a commercial environment. The operating company is therefore subject to statutory occupational safety obligations.

In addition to the safety instructions in this documentation, all applicable safety, accident prevention, and environmental regulations must be adhered to. In particular:

- Compiling a risk assessment and implementing its results in a directive
- Performing regular checks as to whether the directive is in compliance with the current standards
- The directive includes information on how to react to an alarm that might arise
- Arranging for an annual functional check

[1] For example, in accordance with EN 1127

2.3 Qualification

WARNING!
Danger to humans and the environment in the case of inadequate qualification

The personnel must be capable of independently recognizing and avoiding potential dangers by virtue of their qualifications.

Companies that put leak detectors into operation must be trained by SGB or an authorized representative.

National guidelines must be adhered to.

For Germany:
Technical service qualification for mounting, commissioning, and maintenance of leak detection systems.

2.4 Personal Protective Equipment (PPE)

Personal protective equipment must be worn during work.

- Wear the necessary protective equipment for the work in question
- Note and comply with existing PPE signs


Entry in the "Safety Book"


Wear a safety helmet


Wear HV vest


Wear gloves – where necessary


Wear safety footwear


Wear safety goggles – where necessary

2.4.1 Personal Protective Equipment for Systems that may Present a Danger of Explosion

The points listed here refer exclusively to safety when working with systems that may be subject to a risk of explosion.

If work is performed in areas in which an explosive atmosphere must be expected, the minimum required equipment is as follows:

- Suitable clothing (risk of electrostatic charge)
- Suitable tools (in accordance with EN 1127)
- Suitable combustible gas indicator calibrated to the existing vapor-air mixture (work should be performed only at a concentration of 50 % below the lower explosion limit[2])
- Measuring equipment to determine the oxygen content of the air (Ex/O meter)

[2] Other countries' or companies' regulations may provide different percentages.

2.5 Fundamental Hazards

DANGER

From electric current

When working on the leak detector, it must be disconnected from the power supply unless stated otherwise in the documentation.

Comply with relevant regulations regarding electrical installation, explosion protection (e.g., EN 60 079-17), if necessary, and accident prevention.

DANGER

From explosive vapor-air mixtures

Ensure there is no gas present prior to performing work

Comply with explosion regulations, e.g., German Ordinance on Industrial Safety and Health (Betriebssicherheitsverordnung, BetrSichV) (and/or Directive 1999/92/EC and the laws of the respective member states resulting from this) and/or others.

DANGER

From working in chambers

The leak detectors are mounted outside the access chambers. Pneumatic connection is usually performed inside the access chamber. Therefore, the chamber must be entered in order to complete the mounting process.

Before entering, the appropriate protective measures should be taken. Ensure no gas is present and that sufficient oxygen is available.

DANGER

from interchanged hoses

Pressure and measuring lines from tanks must not be interchanged with connection lines to pipes.

CAUTION

from moving parts

If work is being carried out on the pump, it must be disconnected from the power supply. If this unit is opened in the course of a function test, keep sufficient distance from moving parts.

3. Technical Data

3.1 General Data

Dimensions and drilling pattern:	see Appendix, section 12.1
Weight (LDU22 T330/P3.5 (12/12)):	48 kg
Storage temperature range:	-40°C to +60°C
Operating temperature range: With heating:	-10°C to +60°C -40°C to +60°C
Max. height for safe operation:	≤ 2000 m above sea level
Max. relative humidity for safe operation:	95 %
Noise in summer:	> 70 dB(A) at 1 m
Housing protection class:	IP 43

3.2 Electrical Data

Power supply: optional:	100 to 240 V, 50/60 Hz 24 V DC
Input capacity (without external signal):	P max.150 W
Terminals 11…13 (voltage-free):	DC≤ 25 W or AC≤ 50 VA
Terminals 17…19 (voltage-free):	DC≤ 25 W or AC≤ 50 VA
External fuse for leak detector: Note: serves as a separating point for the device and should be attached as close as possible!	max. 10 A
Overvoltage category:	2
Degree of soiling:	PD2

3.3 Data for applications covered by the Pressure Equipment Directive (PED) in the event of a fault

Note: The leak detector, installation kits, and manifolds are pressure accessories without a safety function

Leak detector volumes:	< 0.25 liter for T < 0.25 liter for P
Maximum operating pressure:	see section 3.4 Switching value "Pump OFF"

3.4 Switching Values

Type LDU22	p_{TS} [mbar]	p_{AE} [mbar]	p_{PA} [mbar]	$P_{ÜDV1}$[3] [mbar]	$P_{PRÜF}$ [mbar]
T230	200	> 230	< 310	360 ± 10	≥ 400
T280	250	> 280	< 330	360 ± 10	≥ 400
T330	300	> 330	< 410	465 ± 20	≥ 500
Type LDU22	p_F [bar]	P_{AE} [bar]	p_{PA} [bar]	$P_{ÜDV1}$[4] [bar]	$p_{PRÜF}$ [bar]
P1.1	0.1	> 1.1	< 1.45	---	≥ 5.0
P2.0	1.0	> 2.0	< 2.4	---	≥ 5.0
P3.5	2.5	> 3.5	< 4.4	4.6 ± 0.1	≥ 6.5
	Special switching values agreed to by SGB and customers				

The following abbreviations are used in the table:

p_{FD} Maximum feed pressure in inner pipe

p_{TS} Maximum pressure on the tank floor, incl. overburden pressure

p_{AE} Switching value "Alarm ON"; the alarm will be triggered at this pressure level at the latest

p_{PA} Switching value "Pump OFF" (= operating pressure)

$p_{ÜDV1}$ Opening pressure for overpressure valve 1 (interstitial space)

$p_{PRÜF}$ Minimum test pressure of the interstitial space

Supplement to the table:

p_{AA} Switching value "Alarm OFF"; the alarm will be deactivated if this value is exceeded
The switching value "Alarm OFF" is approx. 15 mbar (tanks) or 100 mbar (pipes) higher than the switching value "Alarm ON".

p_{PE} Switching value "Pump ON"
The switching value "Refilling ON" is approx. 15 mbar (tanks) or 100 mbar (pipes) lower than the switching value "Refilling OFF".

[3] The table lists the opening pressure for overpressure protection at which the volume flow of the pump is diverted. The operating pressure (initial opening) is lower.
[4] The table lists the opening pressure for overpressure protection at which the volume flow of the pump is diverted. The operating pressure (initial opening) is lower.

3.5 Field of Application

3.5.1 Interstitial space requirements

- Proof of pressure resistance of the interstitial space (see section 3.4 Switching Values, column "$p_{PRÜF}$" Minimum test pressure of the interstitial space)
- Proof of suitability of the interstitial space (for Germany: proof of usability from construction authority)
- Sufficient passage in the interstitial space
- Tightness of the interstitial space according to this documentation
- The number of interstitial spaces of **below-ground tanks** to be monitored depends on the total interstitial space volume. According to EN 13160, 8 m^3 may not be exceeded. To make it possible to test the tightness of the interstitial space, it is recommended not to exceed 4 m^3.

3.5.2 Tanks / Pipelines

- Underground above-ground double-walled steel tanks[5], without leak detection liquid in the interstitial space, in factory or on-site production design, whose interstitial space is suitable for connection of a LDU22 T.. in accordance with section 3.4.
- Below-ground double-walled steel or plastic pipes whose interstitial space is suitable for the connection of an LDU22 P.. according to section 3.4.

3.5.3 Stored material

Mineral oil products commonly stored and used at the service station and AdBlue. The following points must be taken into account:

- The leak detection medium (air) must not react with the stored material.
- Vapor-air mixtures, arising from
  - the stored liquid,
  - the stored liquid combined with air/humidity or condensation,
  - the stored liquid combined with components (materials) with which the liquid comes into contact

  must be classifiable in gas group II A and II B as well as in temperature code T1 to T3.

Attention must be paid to the permeation tightness of the inner wall.

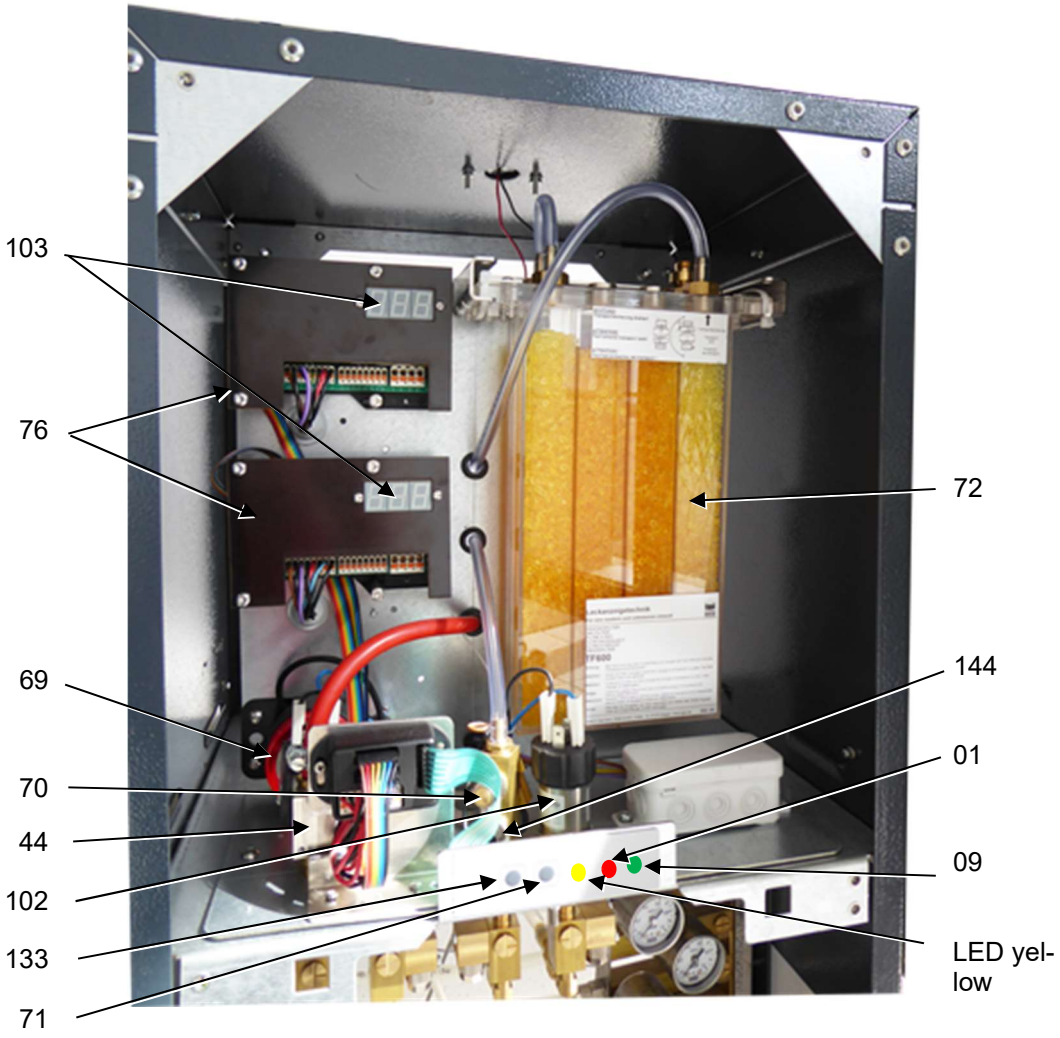
[5] If plastic tanks are used, the question of permeation must be clarified with the manufacturer of the leak detector.

4. Design and Function

4.1 System Design

The LDU22 T/P leak detector has two independent monitoring systems so that the tank and pipelines are monitored completely separately. The electronic controls and overpressure pumps as well as the dry filter are located in the upper part of the housing.

4.1.1 Upper part, front view



Interior view with:

01	Signal lamp "Alarm", red
09	Signal lamp "Operation", green
44	Solenoid valve, pipeline
69	Buzzer
70	Overpressure valve (tank)
71	"Mute" button
72	Dry filter
76	Main board for tank (bottom) and pipe monitoring (top)
102	Pressure sensor (left for pipe, right for tank)
103	Display
133	Key “Acknowledge dry filter signal”
144	Temperature switch, frost protection

LED yellow depending on the version, alarm pipeline or dry filter message

4.1.2 Upper part, rear view

17 Overpressure pump, tank top and pipeline bottom
128 Switching power supply

4.1.3 Access to the rear from the front through a suspended mounting plate

120 Flashing light

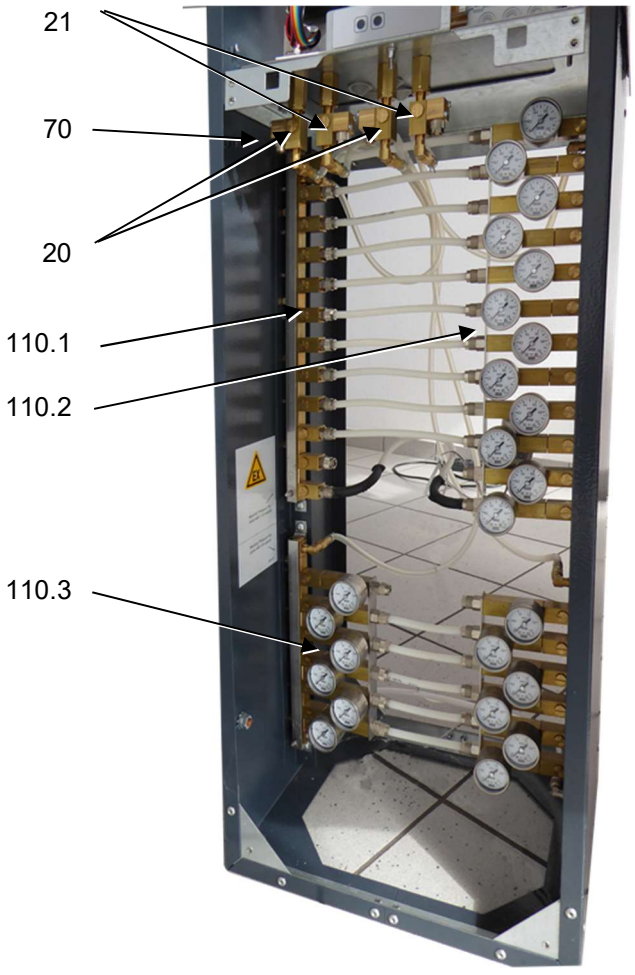
4.1.4 Bottom part (pneumatic connection)

All manifolds for connecting the interstitial spaces are located in the lower part of the housing.

Three-way valves in the pressure and measuring lines (mounted in the bottom to the upper part of the housing) are used to connect manometers or testing devices for the annual functional check.

The upper manifolds are for tanks. A maximum of 12 tanks can be monitored. The pressure connections are on the left side and the measuring connections with a manometer in each outlet are on the right side. The number of outflows can vary from 2 to 12 (steps of 2).

The lower manifolds are for pipelines. A maximum of 24 pipelines can be monitored. The outlets (each with shut-off valve and manometer) for the interstitial spaces 2 to 12 (from top to bottom) are on the left side; 14 to 24 (steps of 2) are on the right side.



20	Three-way valve in the pressure line (right for tank, left for pipeline)
21	Three-way valve in the measuring line (right for tank, left for pipeline)
70	Overpressure valve (pipeline, if necessary)
110	Manifold
110.1	Manifold “pressure” (tank)
110.2	Manifold “measuring” (tank)
110.3	Manifold pipeline

The LDU22 pressure leak detector works according to the overpressure principle, i.e., the monitoring pressure is higher than all pressures applied to the interstitial space (e.g., conveying pressure, liquid pressure from stored goods or groundwater). This means that both walls are permanently monitored for leaks.

To build pressure, an integrated pump takes in external air through a dry filter and forwards it to the interstitial space.

The dry filter will dry the external air to a relative humidity of approximately 10 %. Drying is necessary to prevent moisture or condensation accumulation in the interstitial space. Used dry filter fillings must be regenerated or exchanged.

Note for devices with an alarm pressure > 590:

- Values of less than 50 mbar or less than 0.73 PSI will not be displayed.
- Values between 50 and 999 mbar will be displayed in mbar without any decimal places.
- Values from 1 bar are displayed in bar with two decimals.

Values in PSI are displayed with one or two decimal(s).

4.2 Normal Operating Condition

The pressure leak detector is connected with the interstitial space(s) via the pressure and measuring lines. The overpressure generated by the pressure generator is measured and controlled by a pressure sensor.

When the operating pressure is reached (Refilling OFF), the pressure generator shuts off. The pressure drops off slowly due to unavoidable leaks in the leak detector system. When the "Refilling ON" switching value is reached, the pressure generator will be turned on and the operating pressure will be built up again.

Under normal operating conditions, the leak detector will move between these two pressure values, with short run times and longer idle times, depending on the degree of impermeability and temperature variations of the overall system.

4.3 Function in Case of Leaks

If there is a leak in one of both walls, air will leak from the interstitial space. The pressure will fall until the pressure generator is turned on to reestablish the operating pressure. If the volume flow exiting the leak is larger than the refilling output, the pressure in the system will fall even though the pressure generator is activated.

An enlargement of the leak will lead to a further drop in pressure until the alarm pressure is reached. This triggers the visual and audible alarms. Switch the potential-free contacts.

4.4 Dry Filter

The air supplied to the interstitial space is fed through a dry filter in the suction line. The dry filter dries the air to about 10 % relative

humidity to avoid corrosion and condensation accumulation[6] in the interstitial space.

It is essential to open the transport seal of the dry filter before commissioning the Leak Detector LDU22!

The dry filter is designed for one year as long as it is used as intended and no additional temperature variances occur.

A used dry filter, which is orange in the beginning, will become colorless (or green). Exchange or regenerate used drying material immediately!

- For the FC option (FC = Filter Control/dry filter monitoring), see section 4.4.1 Devices with FC

Size of the dry filter as standard:

- LDU22 (M) T or P or T/P: TF 300
- LDU22 FC (M) T or P or T/P: TF 600

4.4.1 Devices with FC (dry filter monitoring)

Role

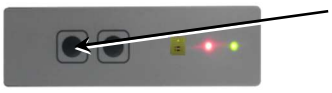
There is a sensor installed in the pump suction line, between the pump and the dry filter, which measures the moisture in the air that is drawn in.

The increase in relative humidity when the dry material has been used up is detected by the sensor. In the event of insufficient drying capacity, the visual, audible, and potential-free signals will be triggered.

The message is displayed visually and acoustically, see 4.6.1 and 4.6.2. The potential-free signal is indicated at terminals 31 to 34:
31/32 Contact opens in the event of a signal
31/34 Contact closes in the event of a signal

Replacing the dry material

When a "Dry filter used up" signal is triggered, the dry material should be replaced within a reasonable time.



The audible signal can be acknowledged by pressing the key briefly. The visual and potential-free signals will continue.

To reset the dry filter signal completely, press and hold the key on the left until an audible signal sounds. When the pump is next activated (or, if this function is performed while the pump is running, after approx. 30 seconds), the signal will be triggered again if the residual moisture is too high.

Once the dry material has been replaced, the dry filter signal must be acknowledged as described.

Usage limits

The following usage limits must be observed with regard to the dry filter monitoring system:

[6] Condensation accumulations in the interstitial space can result in an impermissible rise in pressure.

1. The pump must run for at least 30 seconds in order to obtain a meaningful measurement. During or after commissioning of the leak detector, the time between pump ON and OFF should be measured to establish whether this minimum run time is achieved.

2. It is not possible to obtain meaningful measurement results at low temperatures (below 5°C). The measurement function is therefore deactivated below 5°C.

4.5 Overpressure valves

The overpressure valve installed in the pressure line is intended to protect the interstitial space from impermissibly high overpressures (exceeding the test pressure) caused by the leak detector. Impermissibly high overpressures can also occur due to:

- Temperature increase resulting from environmental influences (e.g., sunlight)
- Temperature increase resulting from hot filling (it is essential to contact the manufacturer!)

The installer/operating company must determine whether protective measures are to be taken in consideration of the interstitial space volume.

4.5.1 Tank

An overpressure valve is provided in accordance with the test pressure (see section 3.4).

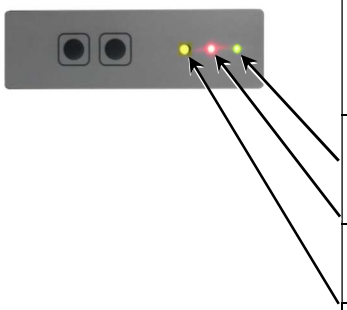
4.5.2 Pipeline

For pressure stages P 1.1, P 2.0 and P 3.5, no overpressure valve is provided between the pump and the solenoid valve, since the maximum delivery heads of the pump are below the required test pressure of the pipeline.

An overpressure valve is provided after the test valve only for pressure stage P 3.5.

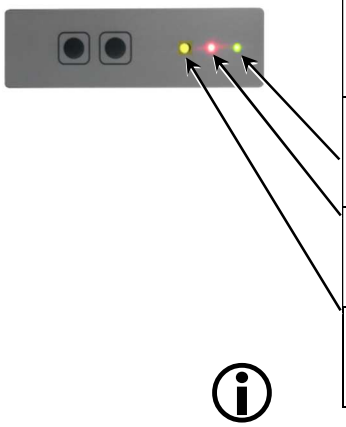
4.6 Displays and controls

4.6.1 Display for LDU22 FC(M) T.. or LDU22 FC(M) P..



Indicator light	Operating condition	Alarm state	Alarm, audible alarm acknowledged	Dry filter message (if present)	Dry filter message acknowledged	Device fault (cannot be acknowledged)
OPERATION: green	ON	ON	ON	ON	ON	ON
ALARM: red	OFF	ON	FLASHING	OFF	OFF	ON
LED yellow	OFF	OFF	OFF	ON	FLASHING	OFF

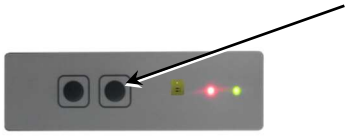
4.6.2 Display for LDU22 FC(M) T/P (combined device)



Indicator light	Operating condition	Alarm, tank	Alarm, pipeline	Dry filter message (if present)	Device fault (cannot be acknowledged)
OPERATION: green	ON	ON	ON	FLASHING	ON
ALARM: red	OFF	ON (FLASHING)	OFF	OFF (FLASHING)	ON
LED yellow	OFF	OFF	ON (FLASHING)	OFF	OFF

Note: Bracket expression indicates the state at "sound off"

4.6.3 "Turn off audible alarm signal" function

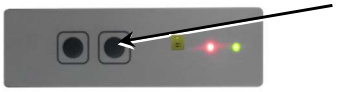


Briefly press "Mute" button once; audible signal turns off, and the red LED flashes.

Pressing the button again will turn the audible signal on.

This function is not available during normal operating conditions and malfunctions.

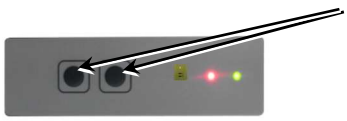
4.6.4 "Testing the visual and audible alarm signal" function



Press and hold the "Mute" button (for about 10 seconds). The alarm will be triggered until the button is released.

This inquiry is only possible if the pressure in the system has exceeded the "Alarm OFF" pressure.

4.6.5 "Tightness inquiry" function



Press and hold the "Sound off" key until the "Alarm" indicator light starts flashing rapidly, then release it. A value for the tightness is indicated as follows:

a) without display (T or P): by pressing the right button the indicator light "Alarm" will flash between 0 and 10 times or

a) without display (T/P): T: by pressing the right button and P: by pressing the left button by flashing the respective indicator light "Alarm" between 0 and 10 times

or

b) With display (M): The numerical value will be displayed digitally.

This display disappears after 10 seconds and the current pressure in the system is displayed again.

For the "Tightness inquiry" function, the leak detector must have performed at least 1 automatic refilling interval in normal operating conditions (i.e., without external filling/evacuation, e.g., by an installation pump) to achieve a valid statement.

This inquiry is recommended before performing a regular functional check of a leak detector. In this way, it is possible to estimate immediately whether it is necessary to look for leaks.

Number of flash signals	Assessment of tightness
0	Very tight
1 to 3	Tight
4 to 6	Sufficiently tight
7 to 8	Maintenance recommended
9 to 10	Maintenance urgently recommended

The smaller the above value, the tighter the system. The significance of this value also depends on temperature fluctuations and should thus be considered a reference point.

5. Mounting the System

5.1 Basic Instructions

- Prior to commencing work, the documentation must be read and understood. In case of ambiguities, please ask the manufacturer.
- Comply with the safety instructions in this documentation.
- Only qualified service companies may be used for installation[7].
- Comply with relevant regulations for prevention of accidents.
- Comply with explosion regulations (if required), e.g., BetrSichV (and/or Directive 1999/92/EC and the laws of the respective member states resulting therefrom) and/or other laws.
- Before entering inspection chambers, the oxygen content must be tested and the inspection chamber flushed if necessary.
- If metallic connection lines are used, it must be ensured that the power supply grounding is at the same potential as the tank to be monitored.
- Follow the instructions regarding personal protective equipment (PPE) in sections 2.4 and 2.4.1.
- Lead-throughs (e.g., protective tubes) for pneumatic and electrical connection lines through which a carry-over of the explosion atmosphere into the housing of the leak detector can occur must be sealed gas-tight.

[7] For Germany: Specialist service companies as per German water legislation that also have basic knowledge in the area of fire and explosion protection.

5.2 Leak Detector

(1) Mounting on an on-site concrete base using dowels and screws.

(2) For housing and base dimensions as well as drilling patterns, see sections 12.1 and 12.2.

(3) Preferably outdoors, if installation is carried out indoors, then an assessment of the explosion hazards must be carried out.

(4) **NOT in potentially explosive areas**.

(5) The distance between the leak detector and the interstitial space should be kept to a minimum.

(6) Prior to closing the housing lid, make sure that the function of the overpressure valve is not impeded.

5.3 Dry filter

(1) The dry filter is mounted in the device housing.

(2) Turn over the transport lock for the dry filter (ventilation cap).

5.4 Requirements for Pneumatic Connection Lines (Between Leak Detector and Tank)

(1) generally Plastic pipes (PA pipes) with a pressure resistance at least corresponding to the test pressure in the interstitial space. Also applies to fittings and screwed connections. Note temperature range, especially when using plastic.

(2) Make sure that the correct screw connections and matching threads are used.

(3) Inside clearance min. 6 mm.

(4) A distance of 50 m should not be significantly exceeded, but if this happens: Install pipe/tube with greater inside clearance using appropriate transition pieces.

(5) Color coding:
- Measuring line: red
- Pressure line: white (or clear)

(6) The full cross section must be maintained. Do not push in or bend[8].

(7) Install metal or plastic pipes that are installed underground or overground exposed on the surface in protective pipes.

(8) Bur and clean it prior to the connection of cut pipes (free of swarf).

(9) Seal the protective pipe gas-tight and protect from moisture.

(10) Avoid the buildup of electrostatic charges (e.g., while inserting and pulling lines).

(11) At least PN 10, over the total temperature range

[8] If necessary, install commercially available fittings for plastic pipes (specified bending radii).

5.5 Completing pneumatic connections

5.5.1 Clamping ring screw connection for metal and plastic pipes

(1) Insert support sleeve into end of the pipe

(2) Insert pipe with support sleeve all the way to the stop

(3) Tighten the screw connection by hand until resistance becomes noticeable, then tighten a further 1 ¾ turns with a wrench

(4) Loosen nut

(5) Tighten the nut by hand up to a noticeable stop

(6) Final assembly of the screw connection by tightening a ¼ turn

5.5.2 Quick screw connections for PA tubing

(1) Cut PA pipe to length at a right angle

(2) Unfasten union nut and slide over the end of the pipe

(3) Slide pipe onto nipple up to the beginning of the thread

(4) Hand-tighten union nut

(5) Wrench-tighten union nut until need for increased force is noticeable (approx. 1 to 2 turns)

5.6 Electrical Connection

(1) Power supply: 230 V. Open spring clip (press upwards) and insert cable (10 mm stripped) and press down clip.

(2) Recommended cable type: NYM 3 x 1.5 mm^2

(3) Fixed wiring, i.e., no plug or switch connections.

(4) Close protective pipe gas-tight.

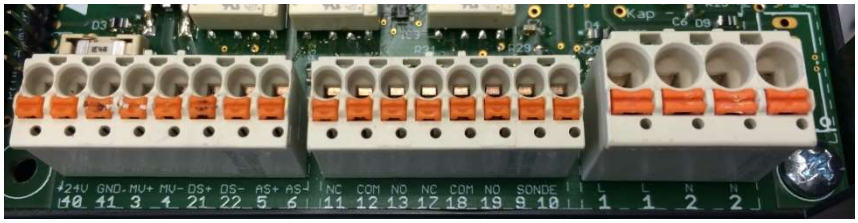
(5) When using armored cables, use suitable cable glands for insertion into the upper part of the housing.

(6) The potential equalization must be integrated into the housing; use earthing bolts in the lower part of the housing for this purpose.

(7) Regulations of power supply companies must be adhered to.[9]

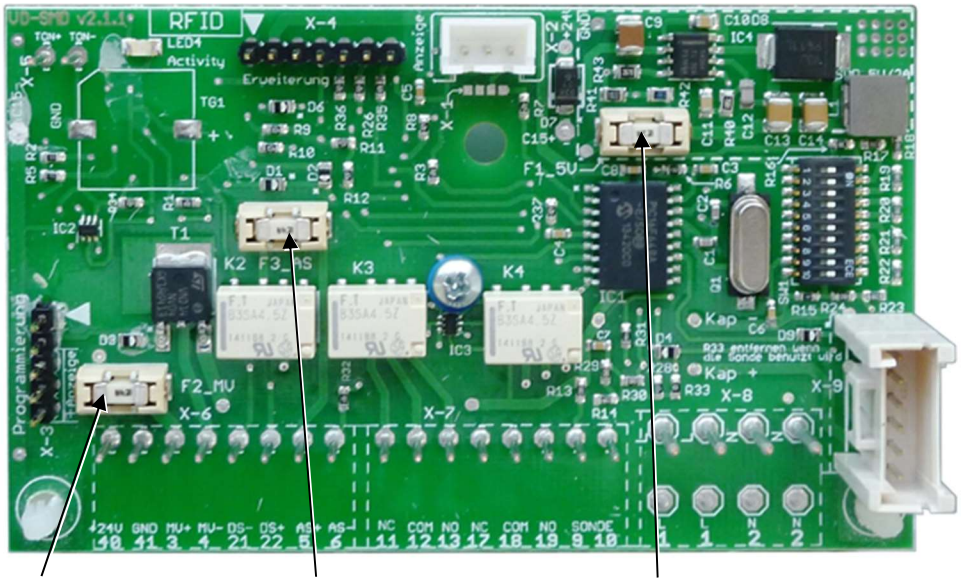
[9] For Germany: also, VDE regulations

5.6.1 Terminal layout for T and P as well as also T/P



1/2	100–240 V AC power connection
3/4	Occupied (with internal pump)
5/6	External signal (24 V DC in case of alarm, can be turned off by activating the "Sound off" key)
11/12	Potential-free contacts (opened in the event of an alarm or loss of power)
12/13	Potential-free contacts (closed in case of alarm or loss of power)
17/18	Potential-free contacts (opened in the event of active refilling)
18/19	Potential-free contacts (closed in the event of active refilling)
21/22	Occupied with internal sensor
40/41	24 V DC power connection

5.6.2 Location of fuses and their values

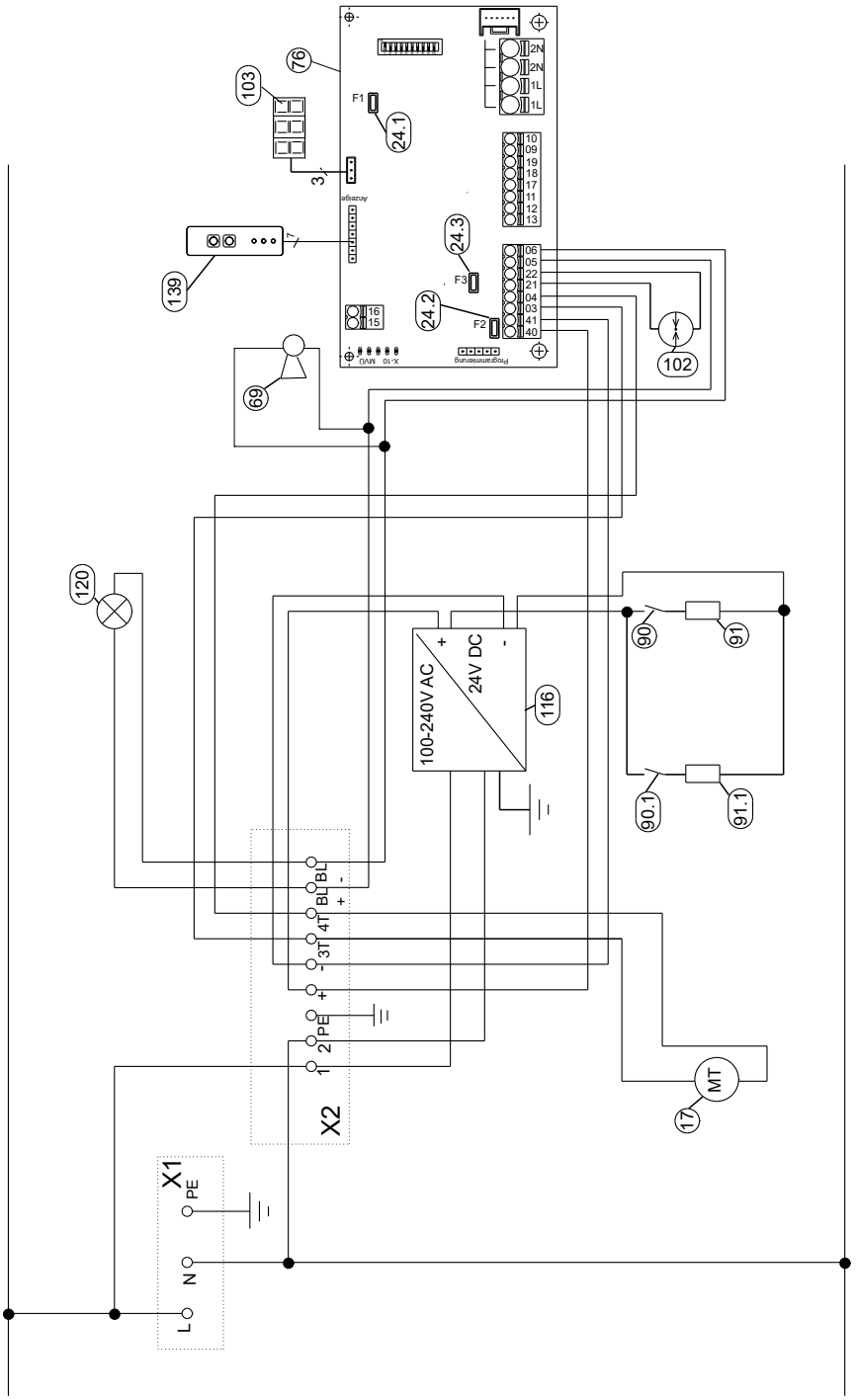


Fuse 1,5 A for pump

Fuse 1 A for external signal AS

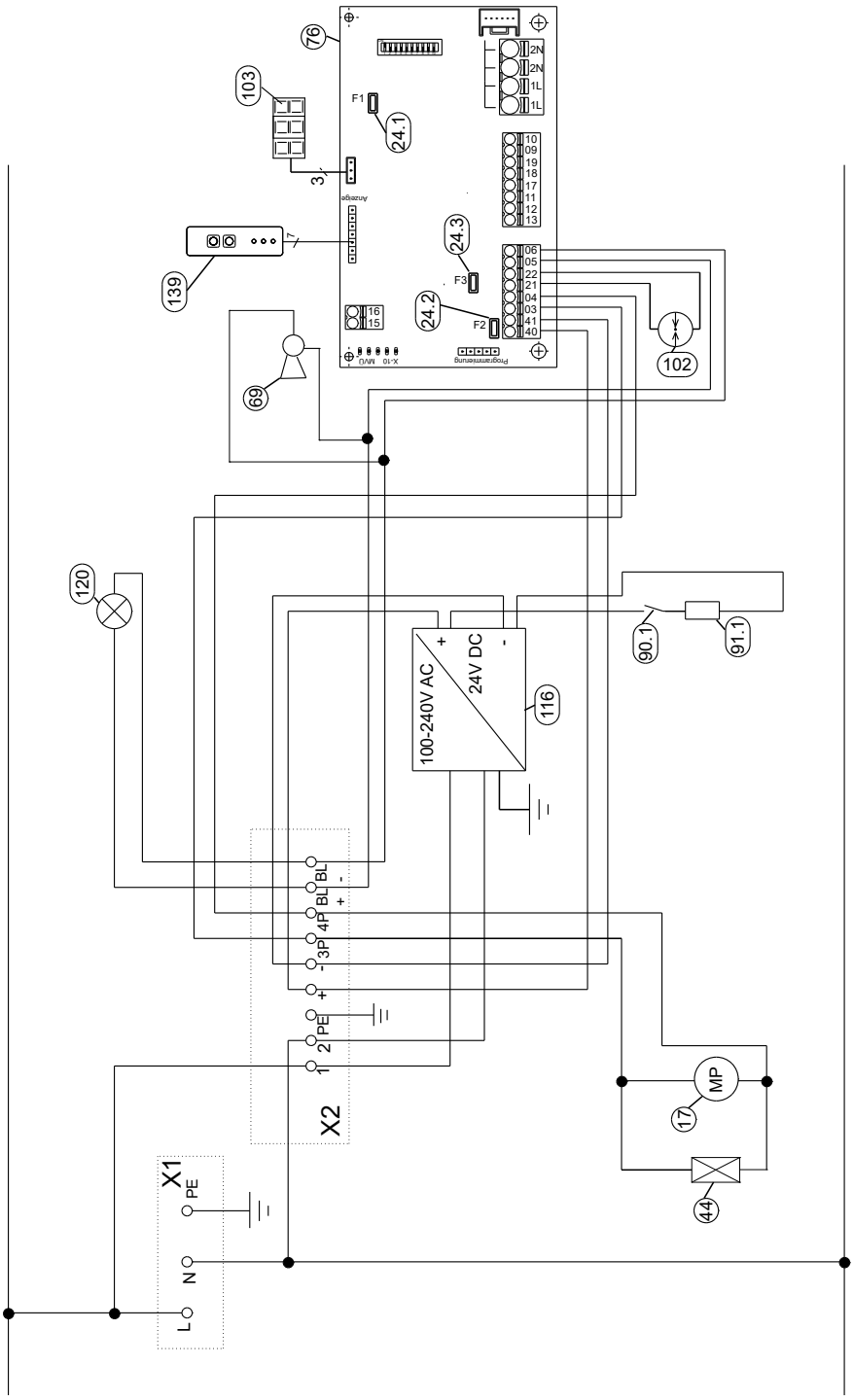
Fuse 2 A for 24 V power supply

5.6.3 Circuit Diagram LDU22 FCM T.. (SL-855000)



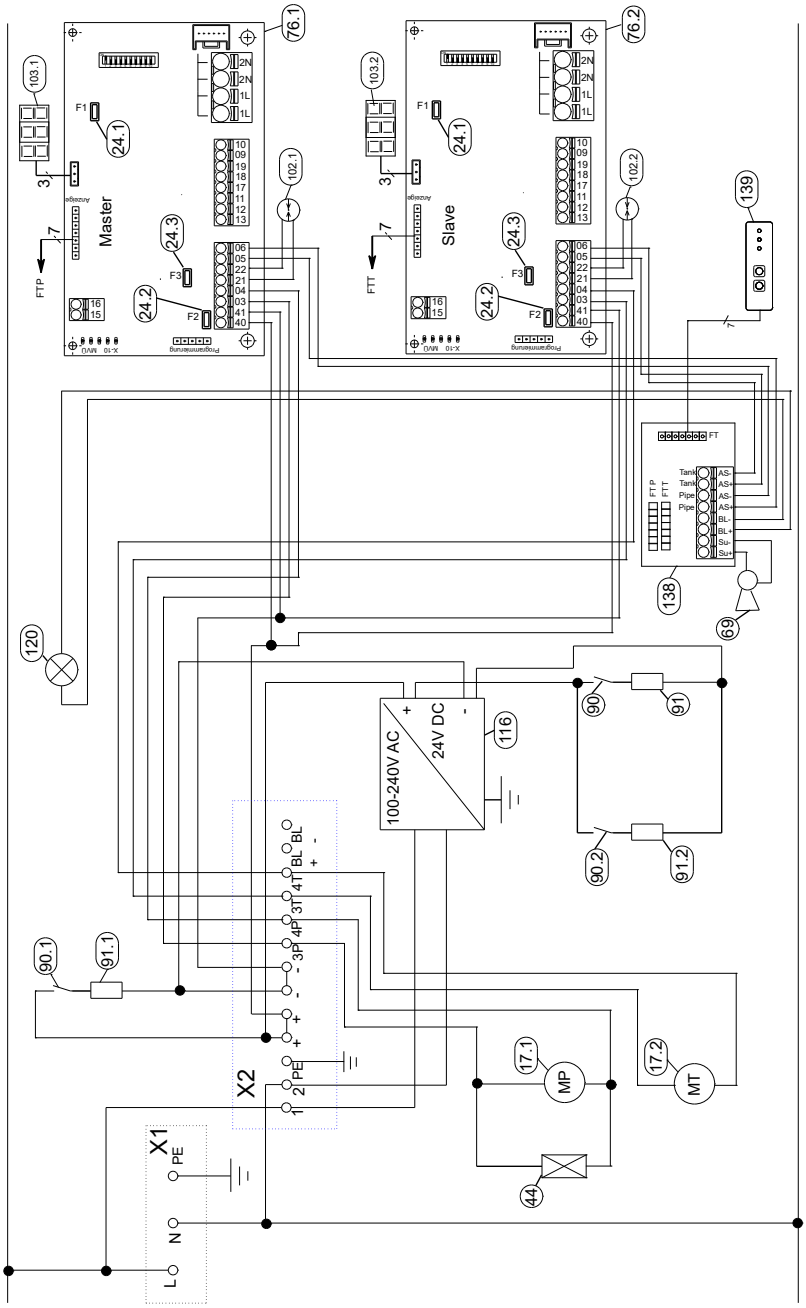
17	Overpressure pump
24.1	Fuse 2 A for 24 V power supply
24.2	Fuse 1.5 A for Pump
24.3	Fuse 1 A for external signal AS
69	Buzzer
76	Main board
90	Thermostat overpressure valve (ÜDV)
90.1	Thermostat pump
91	Heating overpressure valve (ÜDV)
91.1	Heating pump
102	Pressure sensor
103	Display
116	24 VDC power supply unit
120	Flash light horn
139	Keypad

5.6.4 Circuit Diagram LDU22 FCM P.. (SL-855001)



17	Overpressure pump
24.1	Fuse 2 A for 24 V power supply
24.2	Fuse 1.5 A for pump
24.3	Fuse 1 A for external signal AS
44	Solenoid valve
69	Buzzer
76	Main board
90.1	Thermostat pump
91.1	Heating pump
102	Pressure sensor
103	Display
116	24 VDC power supply unit
120	Flash light horn
139	Keypad

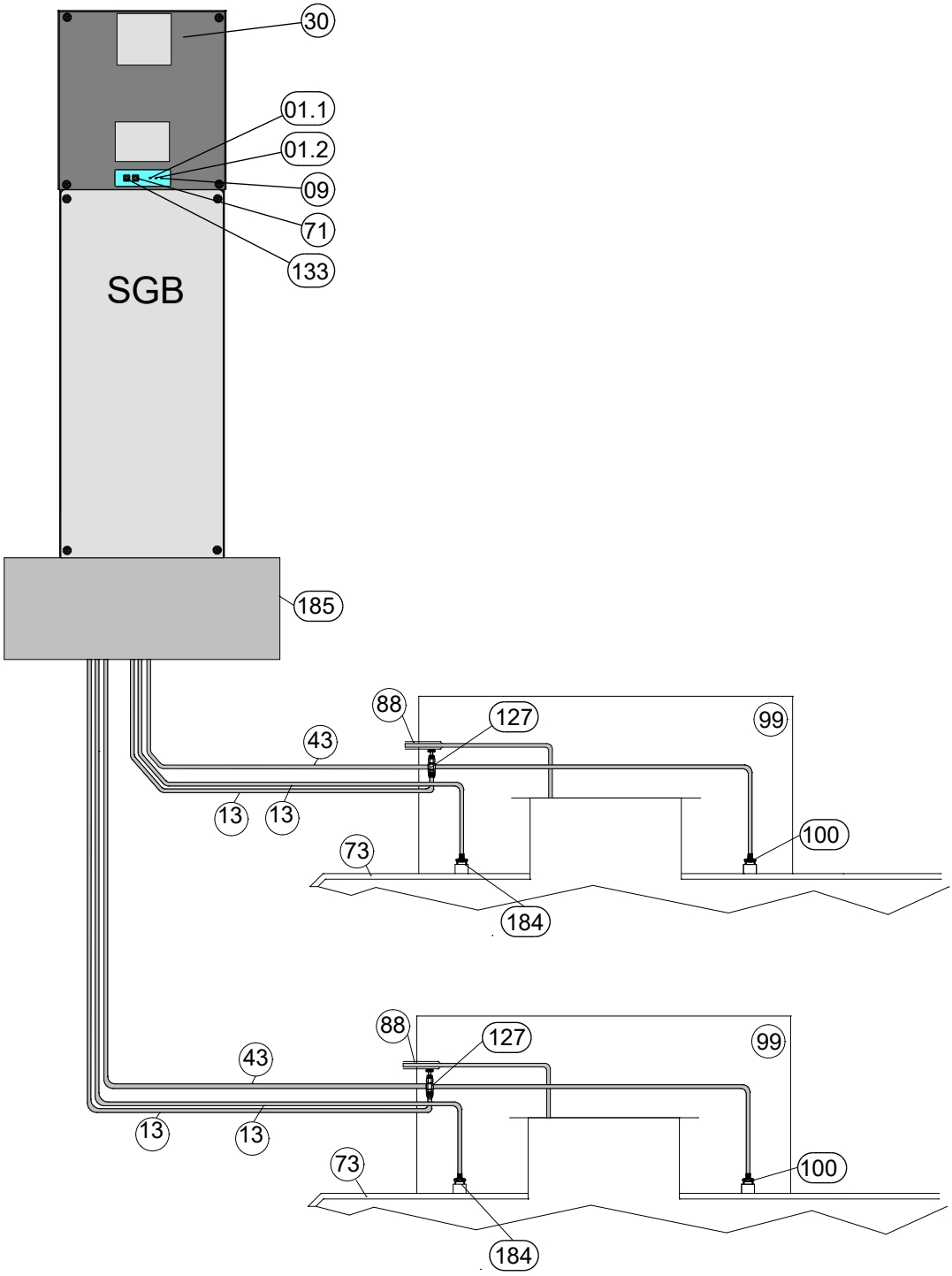
5.6.5 Circuit Diagram LDU22 FCM T../P.. (SL-855002)



17.1 Overpressure pump pipe (P)
17.2 Overpressure pump tank (T)
24.1 Fuse 2 A for 24 V power supply
24.2 Fuse 1.5 A for pump
24.3 Fuse 1 A for external signal AS
44 Solenoid valve
69 Buzzer
76.1 Board pipe (P)
76.2 Board tank (T)
90 Thermostat overpressure valve (ÜDV)
90.1 Thermostat pump pipe (P)
90.2 Thermostat pump tank (T)
91 Heating overpressure valve (ÜDV)
91.1 Heating pump pipe (P)
91.2 Heating pump tank (T)
102.1 Pressure sensor pipe (P)
102.2 Pressure sensor tank (T)
103.1 Display pipe (P)
103.2 Display tank (T)
116 24 VDC power supply unit
120 Flash light horn
138 Connection module for combined versions LDU22 T../P..
139 Keypad

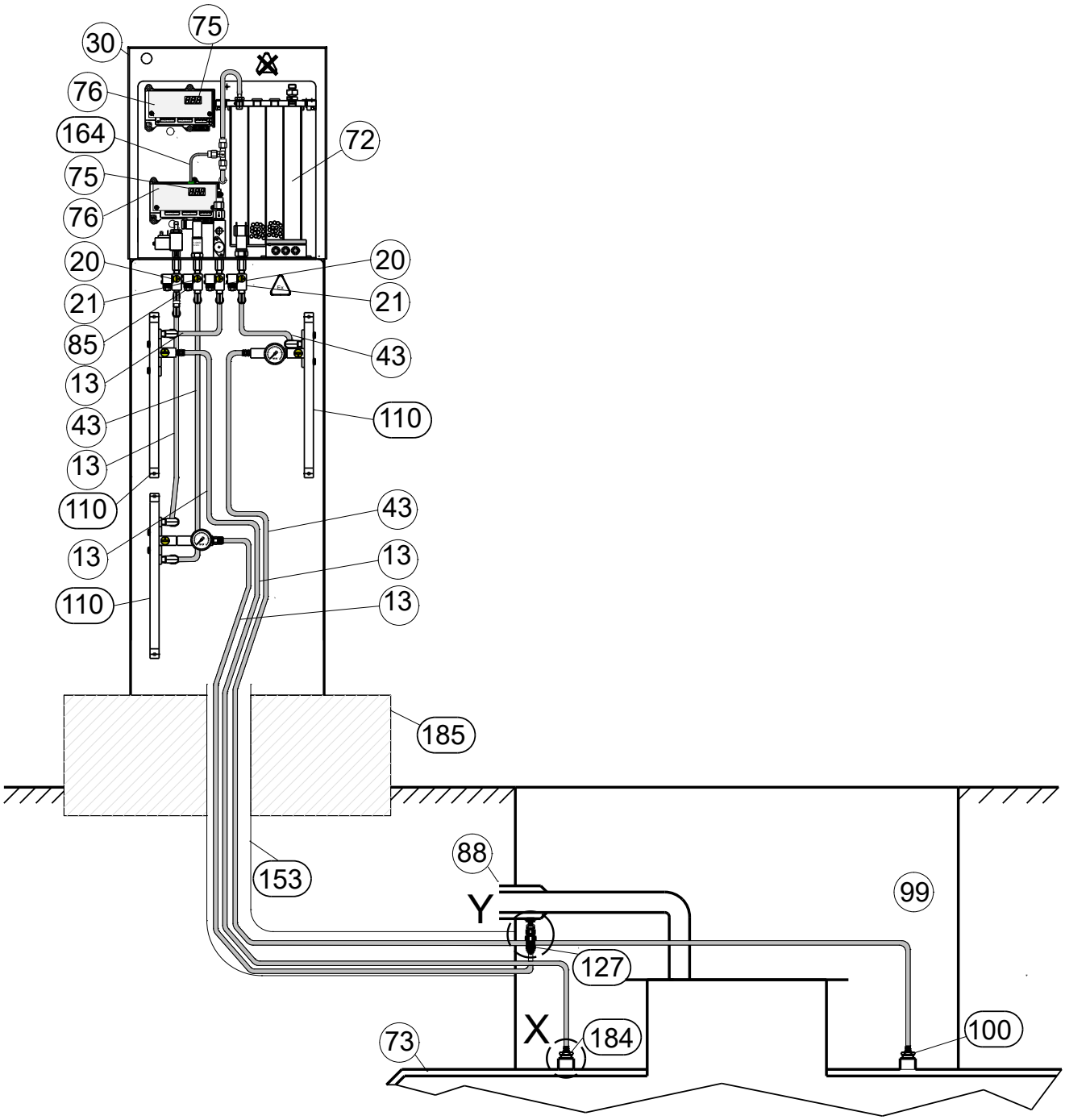
5.7 Installation examples

5.7.1 LDU22 on tank and pipeline - housing outside



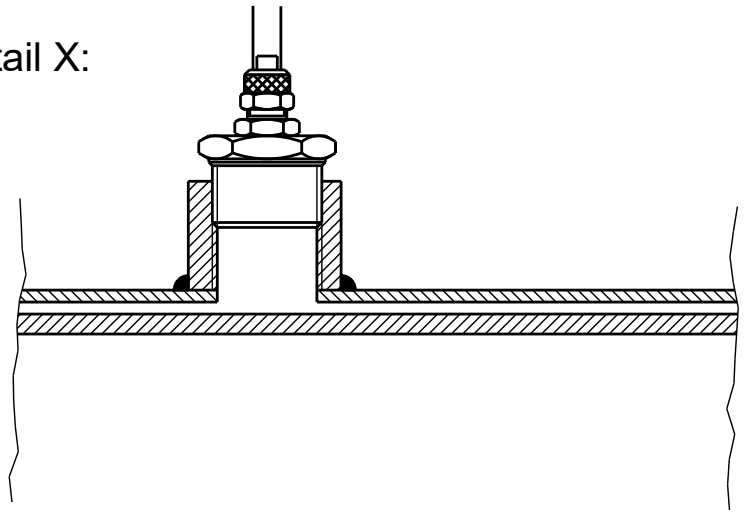
01.1	LED yellow, alarm 2	88	Double-walled pipe
01.2	"Alarm" indicator light, red	99	Inspection chamber
09	"Operation" indicator light, green	100	Measuring connection
13	Pressure line	127	Pipe connection
30	Housing	133	Key “Acknowledge dry filter message”
43	Measuring line	184	Pressure connection
71	"Sound off" key	185	Housing base
73	Interstitial space		

5.7.2 Sectional view through the housing (FCM version), base with empty pipes and MBS on pipeline

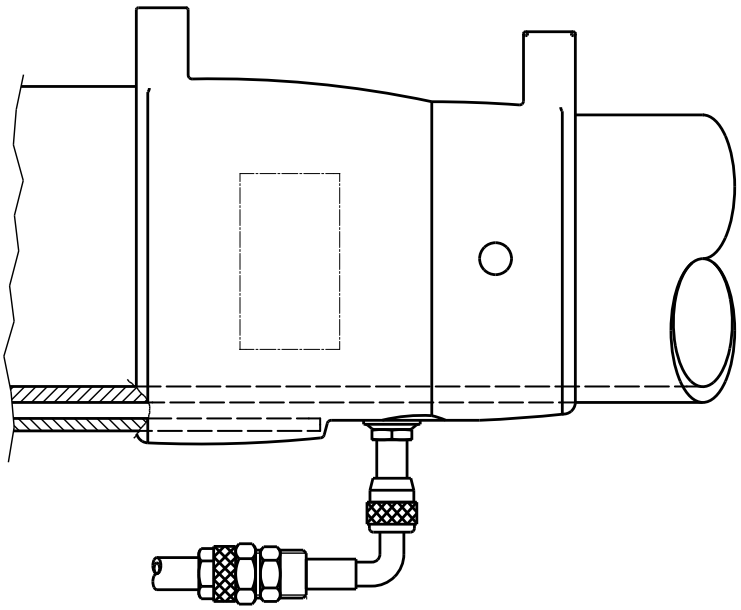


13	Pressure line	88	Double-walled pipe
20	Three-way valve in the pressure line	99	Inspection chamber
21	Three-way valve in the measuring line	100	Measuring connection
30	Housing	110	Manifold
43	Measuring line	127	Pipe connection
72	Dry filter	153	Protective tube / conduit
73	Interstitial space	164	Moisture sensor
75	Display board	184	Pressure connection
76	Main board	185	Housing base
85	Test port for gauge		

Detail X:



Detail Y



Detail X shows an example of the connection of the leak detector or its assembly kit to a double-walled steel tank.

Detail Y represents an example of the connection of the leak detector via a assembly kit to a double-walled plastic pipe with Schrader valve.

6. Commissioning

(1) Only perform commissioning once the steps in chapter 5 “Mounting” have been fulfilled.

(2) If a leak detector is placed into operation on a tank that is already filled, special protective measures must be taken (for example, testing for the presence of gas in the leak detector and/or the interstitial space). Additional measures may be necessary, depending on the local conditions, and must be assessed by qualified personnel.
The same applies to pipes that are or were in operation.

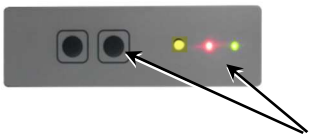
6.1 Tightness Test

Prior to commissioning, ensure the leak-tightness of the interstitial space.

In the case of larger interstitial spaces, the pressure build-up should be achieved with the aid of an external pump (use dry filter!) or a nitrogen cylinder (use suitable pressure reducer!).

The test is generally considered to be passed if the overpressure does not drop by more than 1 mbar within a test period (in minutes) calculated from the interstitial space volume divided by 10.
Example: Interstitial space volume = 800 liters
Thus: 800/10 = 80
Thus: Test for 80 minutes for max. 1 mbar pressure drop.

6.2 Commissioning the leak detector

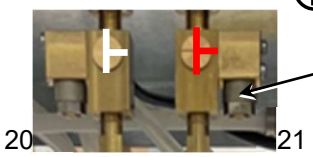


(1) Tightness of the interstitial space prior to commissioning is assumed.

(2) After completion of the pneumatic connection, connect the power.

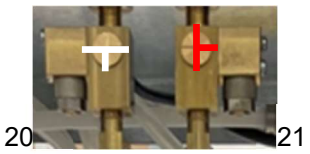
(3) Ascertain lighting of "Operation" and "Alarm" indicator lights and sounding of the audible alarm. Press "Sound off" key.

ⓘ Note: use the following points for “T” as well as “P”.



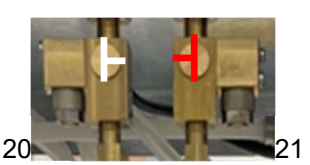
(4) Turn three-way valve 21 180°. Connect the measuring gauge.

(5) Apply the operating pressure to the leak detection system according to the "Switching values" table, section 3.4, page 11. (Use the installation pump with sufficiently dimensioned dry filter (!))



(6) Pressure can be built up with the installation pump directly via the pressure line or via three-way valve 20. In this case, turn the valve 90° clockwise.

ⓘ **Note:** If no pressure build-up is achieved with the installation pump connected, the leak must be located and corrected (check the performance of the installation pump as well if necessary).



(7) When the operating pressure of the leak detector has been reached (pump in the leak detector will turn off), reconnect the pressure line. Return both three-way valves to the operating position. Remove the measuring gauge. Functional check as per 7.3.

7. Functional Check and Maintenance

7.1 General Information

(1) If the leak detection system has been properly installed and is free of leaks, trouble-free operation can be assumed.

(2) Frequent switching on or continuous running of the pump indicates leaks, which should be corrected within a reasonable period of time.

(3) In the event of an alarm, determine the cause and fix it quickly.

(4) The leak detector must be disconnected from the power when performing any repairs.

(5) A loss of power is indicated by the "Operation" indicator light going off. Alarm signals are triggered via the potential-free relay contacts (if used for alarm transmission) if contacts 11 and 12 were used.
After the power loss, the green indicator light lights up again and the potential-free contacts no longer generate an alarm (unless the power loss has caused the pressure to drop below the alarm pressure).

(6) At regular intervals, the operating company must
a) check the function of the "Operation" indicator light
b) check consumption of the dry filter. Used material – color change from orange to colorless/green, or from dark blue to pink – needs to be exchanged or regenerated.

(7) Use a moist cloth to clean the leak detector.

7.2 Maintenance

- Maintenance work and functional checks must be performed by trained personnel only[10]
- Once a year to ensure functional and operational safety
- Test scope according to section 7.3 "Functional check"
- Compliance with the conditions in sections 5 and 6 must also be tested.
- Comply with explosion regulations, if required, e.g., BetrSichV (and/or Directive 1999/92/EC and the laws of the respective member states resulting therefrom) and/or others.

7.3 Functional Check

The functional and operational safety check must be performed:

- After each commissioning
- In accordance with the time intervals listed in section 7.2[11]
- Each time a malfunction has been corrected

7.3.1 Test scope

(1) Coordinate the work to be performed with those responsible for operation on site, if necessary

[10] For Germany: Technical knowledge regarding installation service leak detection systems or under the supervision of a responsible expert in accordance with currently valid regulations.
[11] For Germany, national regulations must also be observed (e.g., AwSV).

(2) Observe the safety instructions for working with the product to be stored / conveyed.

(3) Regenerating or replacing the filter filling

(4) Checking the free passage of air in the interstitial space (section 7.3.2)

(5) Testing the switching values (section 7.3.3)

(6) Checking the overpressure valve (section 7.3.4)

(7) Tightness test after commissioning / fault rectification (section 7.3.5)

(8) Tightness inquiry at the beginning of the annually recurring functional check (section 7.3.6)

(9) Achieving the operating conditions (section 7.3.7)

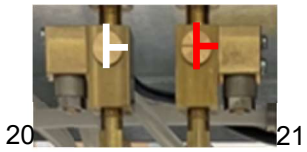
(10) A qualified person must complete a test report, confirming functional and operational safety.

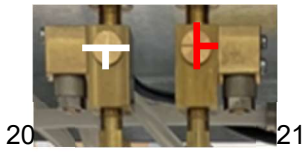
7.3.2 Checking the free passage of air in the interstitial space

Checking the free passage of air ensures that an interstitial space is connected to the leak detector and that the interstitial space has sufficient passage to cause an air leak to trigger an alarm.

If several interstitial spaces are connected, each interstitial space must be checked for free passage.

7.3.2.1 Tanks





(1) If several interstitial spaces are each connected via a manifold in the pressure and measuring line with a shut-off device, close all shut-off valves on the manifolds.

Attach the measuring gauge to the connection on three-way valve 21 and turn the valve 180°.

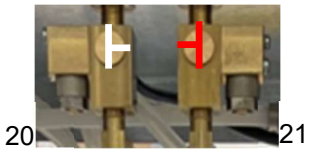
(2) Turn three-way valve 20 by 90° clockwise so that the pressure line and interstitial space(s) are ventilated.

(3) Open shut-off valves of the first (following) tank (measuring and pressure line in pairs).

(4) Check whether the measuring gauge registers a pressure drop. If no pressure drop occurs, locate and correct the cause.

(5) Close the shut-off valves opened in (4).

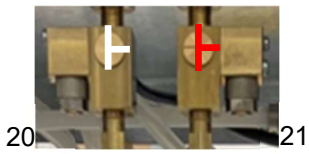
(6) Perform procedure in (5) to (7) with each additional tank.



(7) Return three-way valves 20 and 21 to the operating position. Remove the measuring gauge.

(8) Open all shut-off valves on the manifolds with a connected tank.

7.3.2.2 Pipelines



(1) If several interstitial spaces are connected via one distribution shut-off valve each, close all shut-off valves of the distributions.

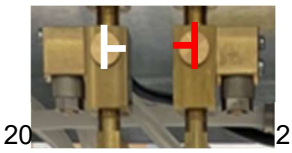
(2) Attach the measuring gauge to the connection on three-way valve 21 and turn the valve 180°.

(3) Open the shut-off valve of the first (following) pipe.

(4) Open the test valve at the end of the pipe far from the leak detector.

(5) Check the pressure drop on the measuring instrument and close the test valve again.
If no pressure drop occurs, locate and correct the cause.

(6) Close the shut-off valves opened in (3).



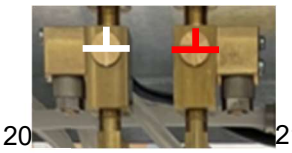
(7) Perform procedure in (3) to (6) with each additional pipe.

(8) Turn three-way valve 21 to the operating position again.
Remove the measuring gauge.

(9) Open all shut-off valves on the manifolds with a connected pipe.

7.3.3 Testing the switching values

7.3.3.1 With testing device (pipeline and tank)

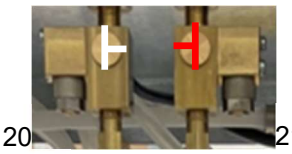


(1) Connect the testing device to the free connections on three-way valves 20 and 21. Turn three-way valve 20 90°counterclockwise and three-way valve 21 90° clockwise.

(2) Connect the measuring gauge to the testing device.

(3) Close needle valve (testing device); pressure is built up to operating pressure.

(4) Vent using the needle valve; determine "Pump ON" and "Alarm ON" switching values (visual and audible); record values.

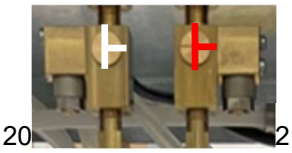


(5) Close the needle valve and determine "Alarm OFF" and "Pump OFF" switching values. Record the values. Open the needle valve a little, if necessary, so that the pressure rises slowly.

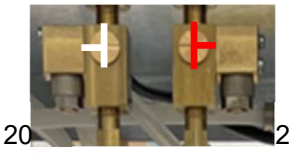
(6) Return three-way valves 20 and 21 to the operating position. Remove the testing device.

7.3.3.2 Without testing device

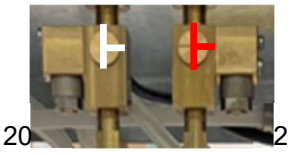
(1) If several tanks / pipes are connected via a manifold system, close all shut-off valves on the manifold except for the shut-off valves for the tank or pipe with the smallest interstitial space volume.



(2) Attach the measuring gauge to the connection on three-way valve 21.
Turn three-way valve 21 by 180°

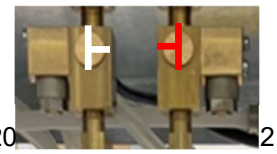


(3) *Tank:* Vent through three-way valve 20 (image), determine "Pump ON" and "Alarm ON" switching values (with visual and audible alarm) and record values.
Pipeline: Vent (slowly) via the test valve at the end of the pipe away from the leak detector and determine the switching values "Pump ON" and "Alarm ON" (with visual and audible alarm) and note the values.



(4) *Tank:* Turn three-way valve 20 to the operating position.

Pipeline: Close the test valve
Determine "Alarm OFF" and "Pump OFF" switching values.
Record the values.



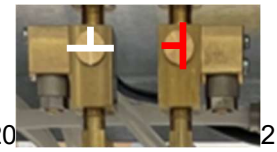
(5) Turn three-way valve 21 to the operating position. Remove the measuring gauge.

(6) Open all shut-off valves on the manifold with a connected tank or pipe.

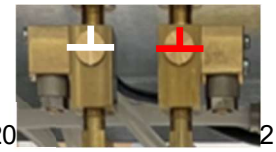
7.3.4 Testing the overpressure valve, tank and pipeline, if present

For this test, the operating pressure of the leak detector must be built up.

This test can also be used to measure the head of the pump (pipeline without overpressure valve).



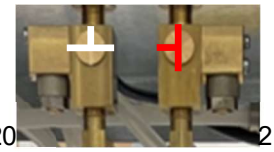
(1) Attach the measuring gauge to the connection on three-way valve 20. Turn three-way valve 20 90° counterclockwise.



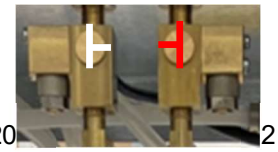
(2) Turn three-way valve 21 90° clockwise.
The pressure sensor is vented.
The pump switches on and the alarm is triggered.

(3) Determine the opening pressure of the overpressure valve (no further pressure increase), and record the value. If the opening pressure of the overpressure valve exceeds the test pressure of the tank, it must be replaced or readjusted.

Warning: Never use leak detection spray or other liquids to check the overpressure valve.



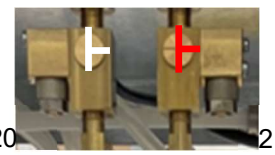
(4) Turn three-way valve 21 to the operating position.
The pump switches off.
Determine the closing pressure of the overpressure valve (no additional pressure drop[12]).
Record the value.



(5) Return three-way valve 20 to the operating position. Remove the measuring gauge.

7.3.5 Tightness test following commissioning or correction of malfunctions[13]

(1) Check that all shut-off valves with connected tank / pipe are opened.



(2) Connect the measuring gauge to three-way valve 21.
Turn three-way valve 21 180°.

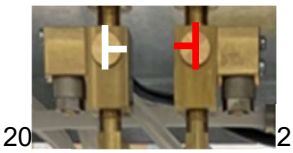
(3) Once the pressure has equalized, start the tightness test.

(4) Read off and record starting pressure and time. Wait for test time to elapse and determine pressure drop.

[12] If the pump switches on before the closing pressure is reached, determine the cause and repair it.
[13] Prerequisite: The operating pressure has been built up in the interstitial space and pressure equalization has occurred.

(5) The test is considered to be passed if the pressure does not drop by more than 1 mbar in the test time.
The test time (in minutes) is calculated by dividing the interstitial space volume in liters by 10.

Example:
Interstitial space volume: 800 liters
Thus: 800/10 = 80
Thus: Test for 80 minutes for max. 1 mbar pressure drop



(6) Once the test has been completed, return three-way valve 21 to the operating position.
Remove the measuring gauge.

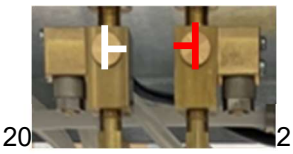
7.3.6 Tightness inquiry at the beginning of the annually recurring functional check

For the "Tightness inquiry" function, the leak detector must have performed at least 1 automatic refilling interval in normal operating conditions (i.e., without external filling/evacuation, e.g., by an installation pump) to achieve a valid statement. This means that point 7.3.6 is omitted in the case of initial commissioning.

(1) Perform a tightness inquiry (see section 4.6.5).

(2) Evaluate the displayed value (visible on the display for 10 seconds) according to section 4.6.5.

7.3.7 Achieving the operating conditions



(1) Seal the housing of the leak detector.

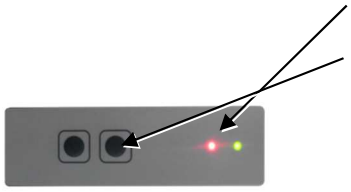
(2) Check that the three-way valves are in the correct position (operating position).

(3) If shut-off valves have been installed in the connection lines, they must be sealed in an opened position (if connected to an interstitial space).

(4) Exchange dry filter or restore original unused condition.

8. Alarm/Malfunction

8.1 Alarm



(1) The red indicator light lights up, the audible signal sounds.

(2) Turn the audible signal off.

(3) Inform the installation company immediately.

(4) Determine the cause for the alarm, fix it, and then perform a functional check for the leak detection system according to section 7.3.

8.2 Malfunction

(1) In case of a malfunction, only the red indicator light will light up (yellow is off), and at the same time the audible signal cannot be acknowledged.

8.3 How to Behave

(1) Inform the installation company immediately and state the display from the preceding paragraph.

(2) Determine the cause for the alarm, fix it, and then perform a functional check for the leak detection system according to section 7.3.

9. Spare Parts

See shop.sgb.de

10. Accessories

See shop.sgb.de

11. Disassembly

11.1 Disassembly

For disassembly of systems which can cause an explosion risk, the following points must be observed in particular:

- Make sure the unit is free of gas before and during removal.
- Seal any openings through which an explosive atmosphere can carry over so they are gas-tight.
- Avoid using spark-producing tools (saws, parting grinders, etc.) for disassembly whenever possible. If this is unavoidable, be certain to observe EN 1127.
- Avoid electrostatic charges (e.g., from rubbing of plastic parts or wearing of unsuitable work clothing).
- Properly dispose of contaminated components (danger of gas release).

11.2 Disposal

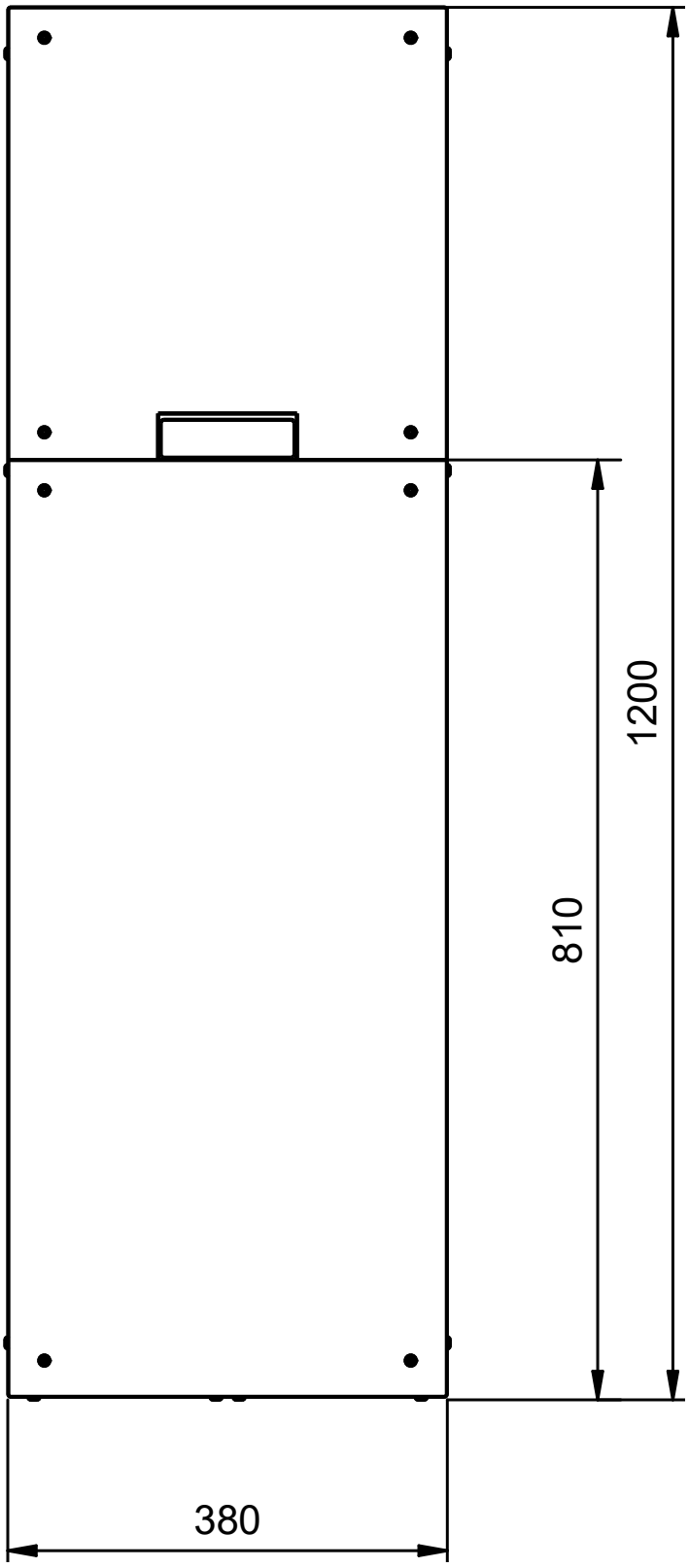
Properly dispose of contaminated components (possibility of gas release).

Properly dispose of electronic components.

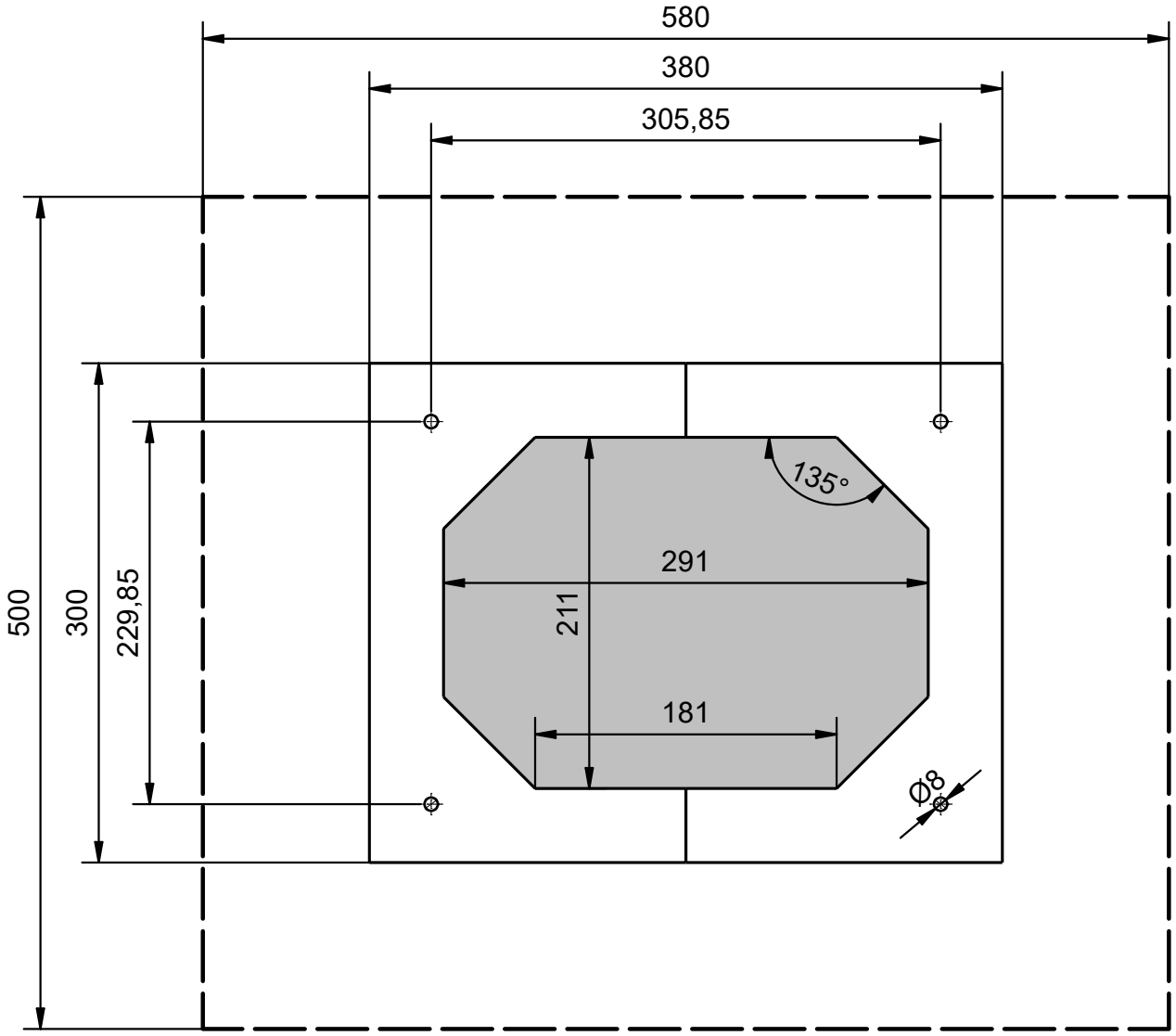
12. Appendix

12.1 Dimensions and drilling patterns

12.1.1 Housing dimension



12.1.2 Concrete base and housing base



Gray area: conduit feedthrough

380 x 300 Housing dimension

580 x 500 Recommended dimension of the concrete base

12.2 EU Declaration of Conformity

We,

SGB GmbH

Hofstr. 10

57076 Siegen, Germany,

hereby declare in sole responsibility that the leak detector

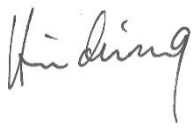
LDU22 ..

is in conformity with the essential requirements of the EU directives / regulations / UK statutory requirements listed below.

If the device is modified or used in a way that was not agreed with us, this declaration shall lose its validity.

Number/short title	Satisfied regulations
2014/30/EU EMC Directive SI 2016 No. 1091	EN 61000-6-3:2007 / A1:2011 EN 61000-6-2:2006 EN 61000-3-2:2014 EN 61000-3-3:2013
2014/35/EU Low-voltage Directive SI 1989 No. 728	EN 60335-1:2012 / A11:2014 / A13:2017 / A1:2019 / A2:2019 / A14:2019 EN 61010-1:2010 / A1:2019 EN 60730-1:2011
2014/34/EU (ATEX) Equipment for EX zones SI 2016 No. 1107	The pneumatic components of the leak detector may be connected to spaces (interstitial spaces of tanks) that require category 3 devices (DL and DLG). The following documents have been consulted: EN 1127-1:2019 The ignition hazard assessment did not result in any additional hazards.

Conformity is declared by:



ppa. Martin Hücking
(Technical Director)

As of: 09/2022

12.3 Declaration of Performance (DoP)

Number: **011 EU-BauPVO 2018**

1. Unique identification code of the product type:

   Pressure leak detector type LDU22 ..

2. Use:

   Pressure leak detector of class I for monitoring double-walled pipes and tanks

3. Manufacturer:

   SGB GmbH, Hofstraße 10, 57076 Siegen, Germany
   Tel.: +49 271 48964-0, e-mail: sgb@sgb.de

4. Authorized representative:

   N/A

5. System for assessment and verification of constancy of performance:

   System 3

6. In the event of a declaration of performance for a construction product which is covered by a harmonized standard:

   Harmonized standard: EN 13160-1-2: 2003
   Notified body: TÜV Nord Systems GmbH & Co.KG, CC Tankanlagen, Große Bahnstraße 31, 22525 Hamburg, Germany
   Identification number of the notified testing laboratory: 0045

7. Declared performance:

Essential characteristics	Performance	Harmonized standard
Pressure switch points	Passed	EN 13160-2: 2003
Reliability	10,000 cycles	
Pressure test	Passed	
Volume flow rate test in the alarm switch point	Passed	
Function and tightness of the leak detection system	Passed	
Temperature resistance	0°C to +40°C	

8. Signed for and on behalf of the manufacturer by:

   Dipl.-Ing. M. Hücking, Technical Director

   Siegen, 09/2022

12.4 Declaration of Compliance of the Manufacturer (ÜHP)

SGB
MVV TB
Anhang C 2.15.15
TÜV-NORD

Compliance of the leak detector with the Specimen Administrative Provision of the Technical Building Regulations is hereby declared.

Dipl.-Ing. M. Hücking, Technical Director

Siegen, 09/2022

12.5 TÜV-Nord Certifications

TÜV NORD

BESTÄTIGUNG

Confirmation

Document-No.: 8115395528

Zeichen ***Order no.*** --	**Auftragsdatum** ***Date of order*** **28.11.2017**	**Aktenzeichen** ***File reference*** **8115395528**	**Prüfbericht-Nr.** ***Test report no.*** **8112235824-2**

Herstellers
Manufacturer
SGB GmbH
Hofstraße 10
57076 Siegen

Fertigungsstätte
Place of manufacture
wie oben

Anforderungen
Requirements
DIN EN 13160-1:2003
Typprüfung (System 3) BauPVO

Geprüft nach
Approval acc. to
Tabelle ZA.1 im Anhang ZA im Zusammenhang mit Abschnitt C.2 im Anhang C der EN 13160-1:2003

Beschreibung des Produktes
Description of product
Leckdetektor Typ LDU-14 P und T für Überdrucksysteme Klasse I

Verwendung
use
Leckdetektor für doppelwandige unterirdische Rohrleitungen und Behälter für Anlagen zur Lagerung von wassergefährdenden Flüssigkeiten, die zum Beheizen und Kühlen und Transport (von Brennstoffen) benutzt werden

Ergebnis der Erstprüfung
Result of typtest
Hiermit wird bescheinigt, dass das oben genannte Bauprodukt entsprechend der durchgeführten Typprüfung die Anforderungen der EN 113160-1:2003 im Zusammenhang mit der EN 13160-2:2003 erfüllt. Details zur Prüfung sind im Prüfbericht Nr. 8112235824-2 ersichtlich.

Gültigkeit des Zertifikates bis
certificate valid until
01.2023

Hamburg, 19.01.2018

TÜV Nord Systems GmbH & Co. KG
Große Bahnstraße 31
D-22525 Hamburg
Germany

Tel. +49-(0) 40 8557 2102
Fax +49-(0) 40 8557 19010775
e-mail: jstraube@tuev-nord.de

notified body TÜV NORD 0045

J. Straube
Leiter Prüflabor
Laboratory Head
TÜV NORD Systems GmbH & Co. KG

BA 51 05.07 gbe

Sicherungskopie von Bestätigung-Typprüfung_EN 13160-2_2017.docx

ÜBEREINSTIMMUNGSNACHWEIS ÜHP
Nr. PÜZ-07-8115395528

Hiermit wird gemäß § 24, Abs.2, Nr. 2 der BauO für das Land Nordrhein-Westfalen bestätigt, dass das

Bauprodukt	**Leckdetektor Typ LDU 14 P und T für Überdrucksysteme**
des Herstellers	SGB GmbH Hofstraße 10 57076 Siegen
Fertigungsstätte	SGB GmbH, Hofstraße 10, 57076 Siegen

nach den Ergebnissen der von der

Prüfstelle
für Bauprodukte nach Landesbauordnung
der TÜV NORD Systems GmbH & Co. KG

durchgeführten Erstprüfung den Bestimmungen der

Anlage C 2.15.15, Abschnitt C 2

der Verwaltungsvorschrift Technische Baubestimmungen entspricht.

Der Hersteller ist somit berechtigt, das Bauprodukt sowie die Begleitdokumentation mit dem Übereinstimmungszeichen (Ü-Zeichen) gemäß der Übereinstimmungszeichen-Verordnung zu kennzeichnen. *

Hinweis: Für die werkseigene Produktionskontrolle gilt der Anhang ZA, Tabelle ZA.1 und Tabelle ZA.3 der DIN EN 13160-1. Eine regelmäßige Fremdüberwachung ist nicht bestimmt. Details zur Prüfung sind im Prüfbericht Nr. 8112235824-1 vom 10.01.2018 ersichtlich.

* Ausgenommen sind Leckdetektoren für Einrichtungen zur Lagerung von Brennstoffen, die für die Versorgung von Heizsystemen in Gebäuden bestimmt sind

Hamburg, den 19.01.2018

TÜV NORD Systems GmbH & Co. KG PÜZ für Bauprodukte

J. Straube
Leiter der Prüfstelle
-Bauprodukte nach Landesbauordnung -
der TÜV NORD Systems GmbH & Co. KG
Kennziffer: HHA02

Gültigkeitsvermerk:
Gültig bis 01/2023

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STW-ZE-PÜZ-LBO-Z-320_83_Übereinstimmungsnachweis_ÜHP_LBO_DE Rev. 03 / 2017-12

BA 51 05.07 gbe

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