Technik für Umweltschutz

Messen. Regeln. Überwachen.

EN

Operating instructions

Pressure type leak detector

Europress

Type: Europress without protective housing
Type: Europress in protective housing
Type: Europress in protective housing with heatin

CE

AFRISO

MVV TB C2,
App. C 2.15.15

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1 About these operating instructions

These operating instructions describe the pressure type leak detector "Europress" (also referred to as "product" in these operating instructions). These operating instructions are part of the product.

- You may only use the product if you have fully read and understood these operating instructions.
- Verify that these operating instructions are always accessible for any type of work performed on or with the product.
- Pass these operating instructions as well as all other product-related documents on to all owners of the product.
- If you feel that these operating instructions contain errors, inconsistencies, ambiguities or other issues, contact the manufacturer prior to using the product.

The manufacturer shall not be liable in any form whatsoever for direct or consequential damage resulting from failure to observe these operating instructions or from failure to comply with directives, regulations and standards and any other statutory requirements applicable at the installation site of the product.

2 Information on safety

2.1 Safety messages and hazard categories

These operating instructions contain safety messages to alert you to potential hazards and risks. In addition to the instructions provided in these operating instructions, you must comply with all directives, standards and safety regulations applicable at the installation site of the product. Verify that you are familiar with all directives, standards and safety regulations and ensure compliance with them prior to using the product.

Safety messages in these operating instructions are highlighted with warning symbols and warning words. Depending on the severity of a hazard, the safety messages are classified according to different hazard categories.

DANGER

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

NOTICE

NOTICE indicates a hazardous situation, which, if not avoided, can result in equipment damage.

In addition, the following symbols are used in these operating instructions:

This is the general safety alert symbol. It alerts to injury hazards or equipment damage. Comply with all safety instructions in conjunction with this symbol to help avoid possible death, injury or equipment damage.

This symbol alerts to hazardous electrical voltage. If this symbol is used in a safety message, there is a hazard of electric shock.

2.2 Intended use

The product is a leak detector for pressure systems, class I as per EN 13160-1 and EN 13160-2.

This product may only be used to detect leaks in tanks which are not pressurised (i.e. operated under atmospheric conditions) and which are used for the aboveground or underground storage of liquids.

Tanks

- Double-walled steel tanks as per EN 12285-1 (DIN 6608) EN 12285-2 (DIN 6616), of tank class B and C, as well as vertical cylindrical tanks as per DIN 6619-2, vertical tanks as per DIN 6623-2, and cylindrical horizontal tanks as per DIN 6624-2.
- Steel or plastic tanks, double-walled or single-walled with leak protection lining or leak protection jacket, with suitable interstitial space as per EN 13160-7 and with a test pressure of 600 mbar in the interstitial space.

The product may be connected to a single aboveground tank or to several underground tanks with a total interstitial space volume of 4 m³, depending on the drying capacity of the drying filters, see chapter "Drying filter". Installation in the manhole of underground tanks is only permissible with the approval of the authorities.

Liquids

- Steel tanks: Water-polluting liquids
- Plastic tanks: Water-polluting liquids
- AdBlue® (urea solution 32.5 %) as per DIN 70070

The permissible density of the liquid depends on the tank used and its content:

Tank height / tank diameter	Permissible density of the stored liquid (with standard switching points, for example, part 43790)
≤ 2.00 m	≤ 1900 kg/m³
≤ 2.50 m	≤ 1740 kg/m³
≤ 2.60 m	≤ 1670 kg/m³
≤ 2.76 m	≤ 1580 kg/m³
≤ 2.84 m	≤ 1530 kg/m³
≤ 2.90 m	≤ 1500 kg/m³

Limitations concerning the permissible tank height depending on the density of the stored liquid apply to a special version with different switching points.

Calculation of the switching point:

maximum permissible tank height (in cm)
= value of "Alarm On" -20 mbar / density

Any use other than the application explicitly permitted in these operating instructions is not permitted and causes hazards.

Verify that the product is suitable for the application planned by you prior to using the product. In doing so, take into account at least the following:

- All directives, standards and safety regulations applicable at the installation site of the product
- All conditions and data specified for the product
- The conditions of the planned application

In addition, perform a risk assessment in view of the planned application, according to an approved risk assessment method, and implement the appropriate safety measures, based on the results of the risk assessment. Take into account the consequences of installing or integrating the product into a system or a plant.

When using the product, perform all work and all other activities in conjunction with the product in compliance with the conditions specified in the operating instructions and on the nameplate, as well as with all directives, standards and safety regulations applicable at the installation site of the product.

2.3 Predictable incorrect application

The product must never be used in the following cases and for the following purposes:

- Hazardous area (EX)
  - If the product is operated in hazardous areas, sparks may cause deflagrations, fires or explosions
- Operation without drying filter or operation with exhausted drying granules
- In conjunction with products which are used for health-saving or life-saving purposes or whose operation may incur hazards to humans, animals or property
- Electrical connection with switch or plug connection
- Use with excessively high tanks where the maximum static pressure of the liquid at the bottom of the tank is higher than the value for "Alarm On", see chapter "Intended use"

2.4 Qualification of personnel

This product may only be mounted, commissioned, maintained and decommissioned by a qualified, specialised company which has all required certifications and which meets the following requirements:

- Compliance with all directives, standards and safety regulations concerning handling of water-polluting substances as applicable at the installation site of the product.
- In Germany: Certification as per § 62 "Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen" (AwSV) (Ordinance on Installations for Handling Water-Polluting Substances).

These persons must have sufficient technical training, knowledge and experience and be able to foresee and detect potential hazards that may be caused by using the product.

All persons working on and with the product must be fully familiar with all directives, standards and safety regulations that must be observed for performing such work.

2.5 Personal protective equipment

Always wear the required personal protective equipment. When performing work on and with the product, take into account that hazards may be present at the installation site which do not directly result from the product itself.

2.6 Modifications to the product

Only perform work on and with the product which is explicitly described in these operating instructions. Do not make any modifications to the product which are not described in these operating instructions.

3 Transport and storage

The product may be damaged as a result of improper transport or storage.

NOTICE

INCORRECT HANDLING

- Verify compliance with the specified ambient conditions during transport or storage of the product.
- Use the original packaging when transporting the product.
- Store the product in a clean and dry environment.
- Verify that the product is protected against shocks and impact during transport and storage.

Failure to follow these instructions can result in equipment damage.

4 Product description

The product contains the following elements in an impact-resistant plastic housing: display elements and controls as well as all electronic components.

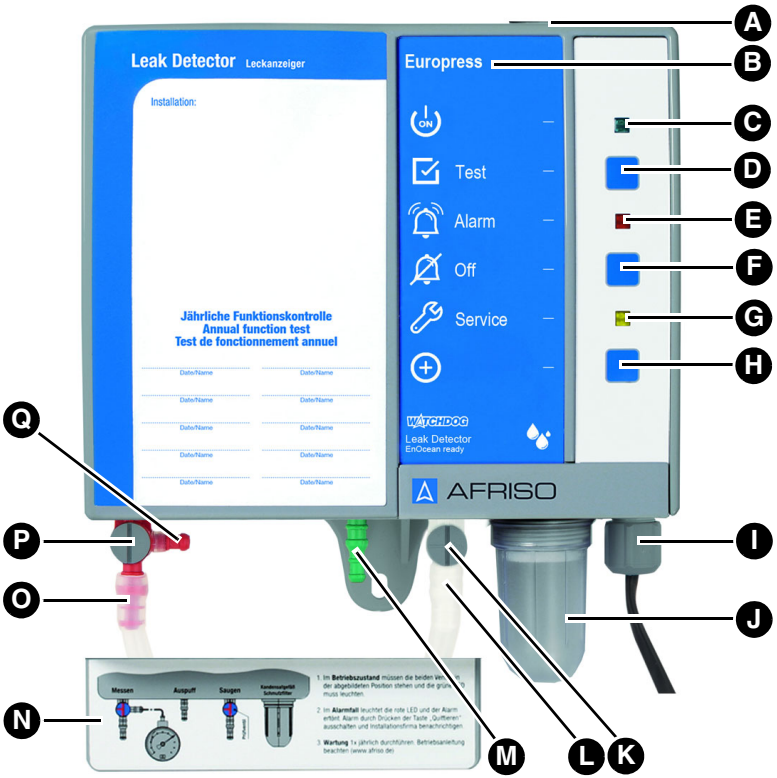
Two hose connections are available for the pneumatic connection to the interstitial space of the tank. The third hose line connection is used for connection to the drying filter.

The product maintains a constant overpressure in the interstitial space of the tank and triggers an alarm if the overpressure drops.

A drying filter (not included) is used to dry the air and to remove dust particles. This air is pumped into the interstitial space of the tank. Pressure fluctuations in the interstitial space are compensated for by the pump and the safety valve.

The product can be retrofitted with an EnOcean® wireless module.

4.1 Overview



A. Rubber grommet
B. Type designation of the product
C. Green LED
D. Test key
E. Red LED
F. Acknowledge key
G. Yellow LED
H. LRN key
I. Cable gland
J. Condensate trap with filter
K. Test valve
L. Pressure line connection
M. Suction line connection
N. Cover for line connections
O. Measuring line connection
P. Measurement valve
Q. Test port

4.1.1 Pictograms

Symbol	Meaning/function
	**Indication** When power is supplied to the product, the green LED next to the symbol indicates that the product is ready for operation.
	**Key** The test key allows you to check the visual and audible alarms.
	**Indication** The red LED to the right of the symbol indicates an alarm.
	**Key** This key allows you to mute the audible alarm.
	**Indication** The yellow LED to the right of the symbol indicates that the annual service must be performed if the service indicator is active.
	**Key** If the LRN key is pressed, the product sends a LRN telegram (LRNTEL) to connect to the AFRISOhome gateway.

4.2 Dimensions

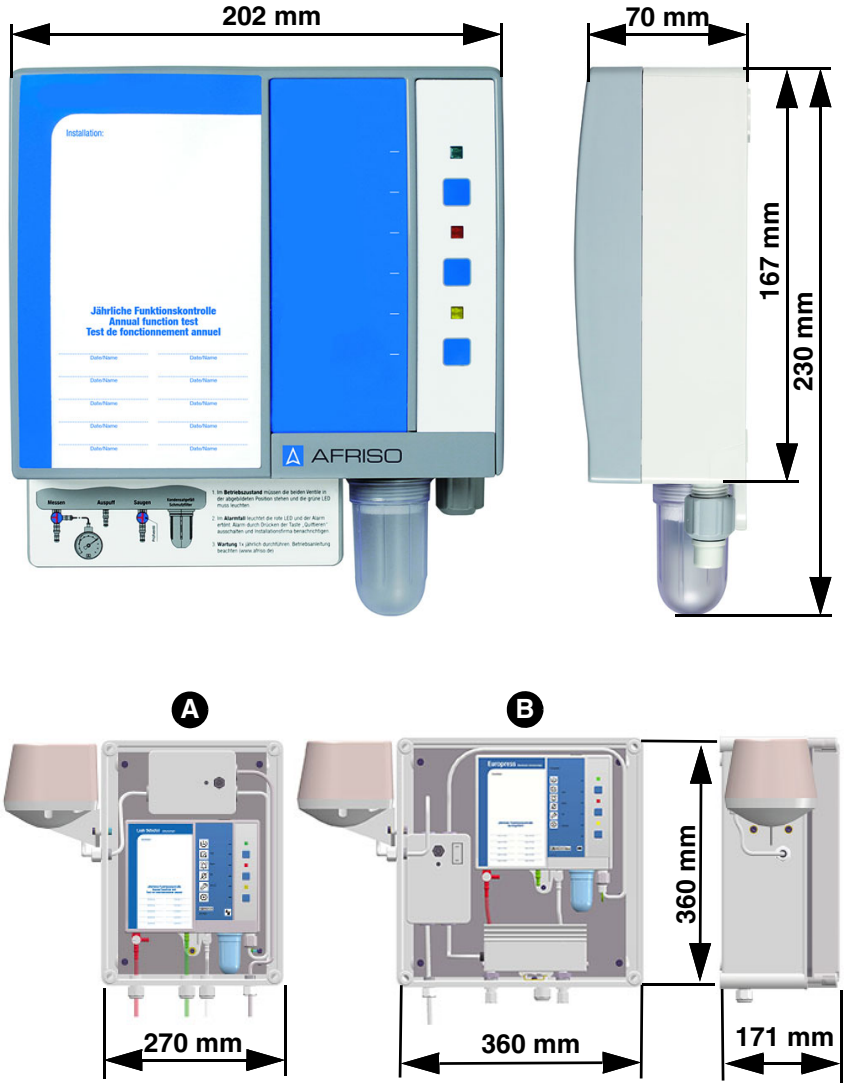
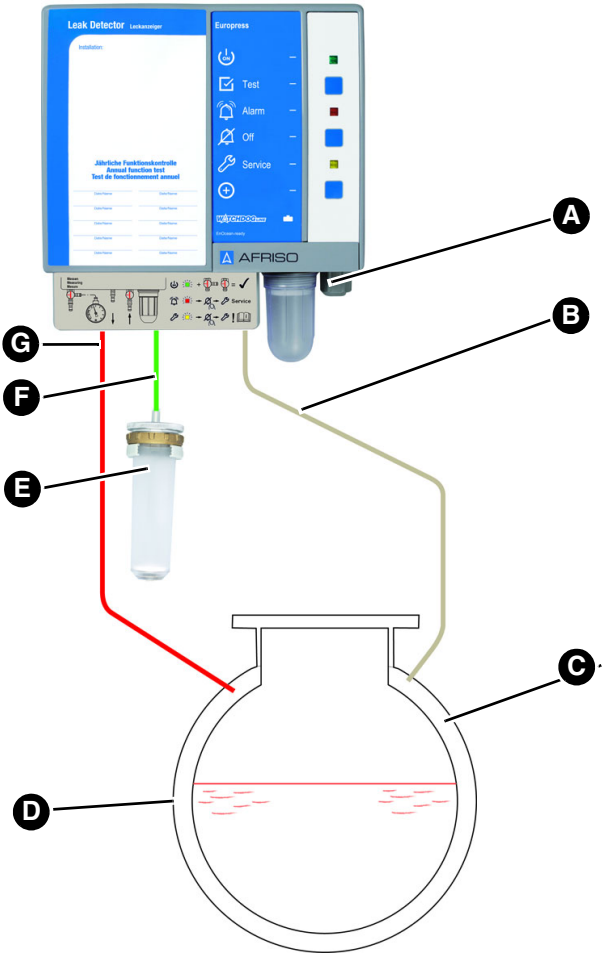
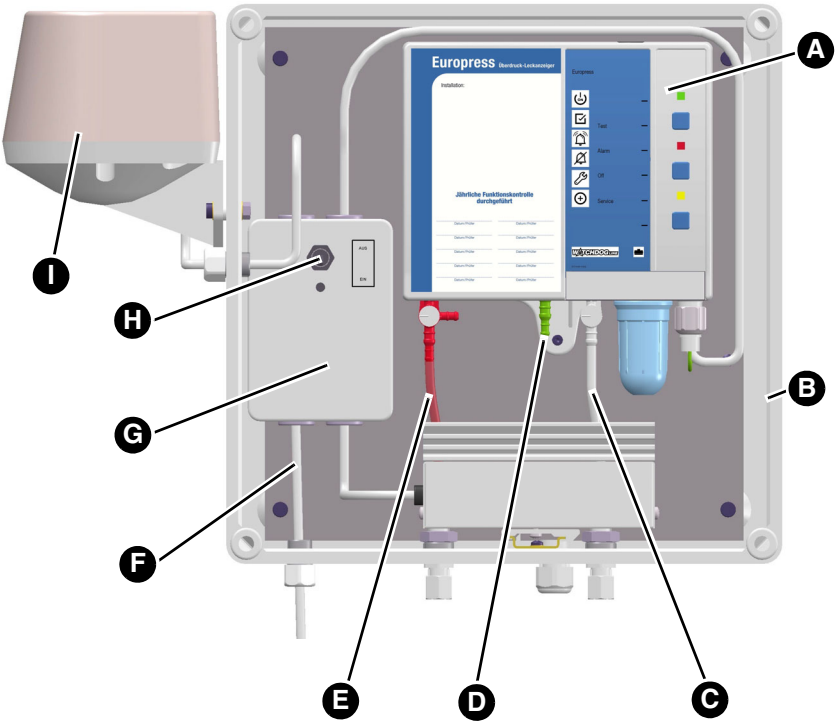


Fig. 1: Europress in protective housing, without (A) or with heating (B), pre-assembled and ready to be connected. The horn is connected to the output relay.

4.3 Application example



A. Electrical connection
B. Pressure line (transparent)
C. Interstitial space
D. Outer wall of tank
E. Drying filter
F. Suction line (green)
G. Measuring line (red)



A. Product
B. Protective housing
C. Pressure line (transparent)
D. Suction line (green)
E. Measuring line (red)
F. Mains cable
G. Heating with thermostat
H. Acknowledge key for horn "HPW 2"
I. Horn "HPW 2"

4.4 Function

The product draws in air via the drying filter and pumps it via the pressure line to the interstitial space of the tank until the operating pressure has been built up.

The pressure switch measures the pressure in the interstitial space via the measuring line and keeps it at a constant level together with the pump.

If a leak occurs in the inner wall or outer wall of the tank either above or below the level of the stored liquid or the ground water, and if this leak is greater than the pumping capacity of the pump, the overpressure will drop. When the alarm threshold for the switching point is reached, the red LED lights permanently and the audible alarm is activated. The relay is energised. The audible alarm can be muted with the Acknowledge key. The switching point for "Alarm on" must be at least 30 mbar higher than the static pressure of the stored liquid and the groundwater.

The product triggers visual and audible alarms. The alarm signal can be transmitted to additional equipment (for example, horn or warning light with rotating reflector) via the output relay.

Products with EnOcean® wireless module

The AFRISOhome gateway allows for automatic transmission of messages in the case of an alarm.

4.5 Relay output

The product features a voltage-free changeover contact. If no alarm is present, the relay is de-energised. In case of an alarm, the relay is energised and switches the changeover contact.

The product can be operated with or without additional equipment, for example:

- Visual and audible alarm units
- Remote alarm equipment
- Building control systems

4.6 Approvals, conformities, certifications

The product complies with:

- EMC Directive (2014/30/EU)
- Low Voltage Directive (2014/35/EU)
- Construction Products Directive (EU) No. 305/2011 and No. 574/2014
- RoHS Directive (2011/65/EU)

4.7 Technical data

Parameter	Value	
General specifications		
Weight	1.2 kg	
Emission/alarm sound	Min. 70 dB(A) A-weighted sound level of the audible alarm at a distance of one metre	
Additional connections	1 output relay (changeover contact)	
Breaking capacity output relay	Max. 250 V, 2 A, resistive load	
Relay fuse	T 2 A	
	Standard version	Special version
Operating pressure in interstitial space	Approx. 510 mbar	See nameplate on product.
Switching point Alarm On	470 ±10 mbar	
Switching point Alarm Off	500 ±10 mbar	
Switching point Pump On	500 ±10 mbar	
Switching point Pump Off	530 ± 0 mbar	
Safety valve opens	≥ 570 mbar	
Hose line standard	PVC hose 6 x 2 mm	
Length of hose line	Max. 50 m	

Parameter	Value
Ambient conditions	
Ambient temperature operation	-5 ... 60 °C
Ambient temperature outdoor installation with protective housing and heating	-25 ... 60 °C
Ambient temperature storage	-25 ... 60 °C
Electrical data	
Nominal voltage	AC 100 ... 240 V
Nominal power	< 10 VA
Protection class (EN 60730-1)	II
Degree of protection (EN 60529)	IP 30
Degree of protection in protective housing	IP 65
Mode of operation and additional mode of operation	Type 1.B
Emitted interference	CISPR 22
Noise immunity	EN 61000
EnOcean® wireless	
Frequency	868.3 MHz
Transmission power	Max. 10 mW
Range	See chapter "Information on EnOcean® wireless"
EnOcean®-Equipment Profile (EEP)	A5-30-04

5 Mounting

In the case of underground tanks, the hydrostatic pressure of the ground water acting on the tank bottom must not exceed 435 mbar.

The hydrostatic pressure of the stored liquid including any overlay pressure must not exceed 435 mbar.

5.1 Preparing mounting

⇨ Verify that the audible alarm signal of the control unit can always be heard, even in the case of ambient noise.

If audibility cannot be ensured, you must install an additional alarm unit at a suitable location in the building (for example, additional alarm unit ZAG 01, horn KH 1 or combined alarm light and horn from AFRISO).

5.2 Mounting the product

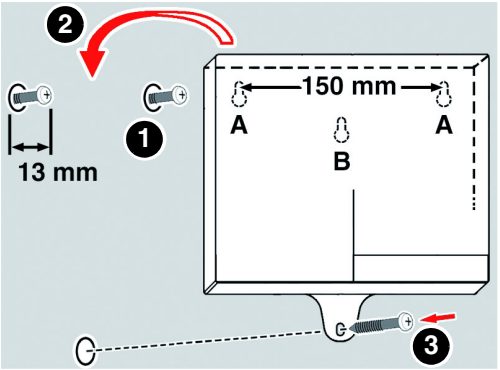
⇨ Verify that the product is mounted to an even, rigid and dry wall at eye level.

⇨ Verify that the product is accessible and easy to oversee at all times.

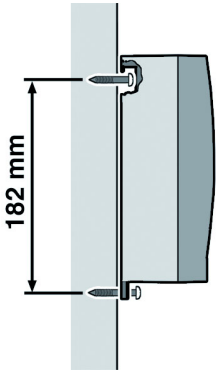
⇨ Verify compliance with the permissible ambient conditions at the product.

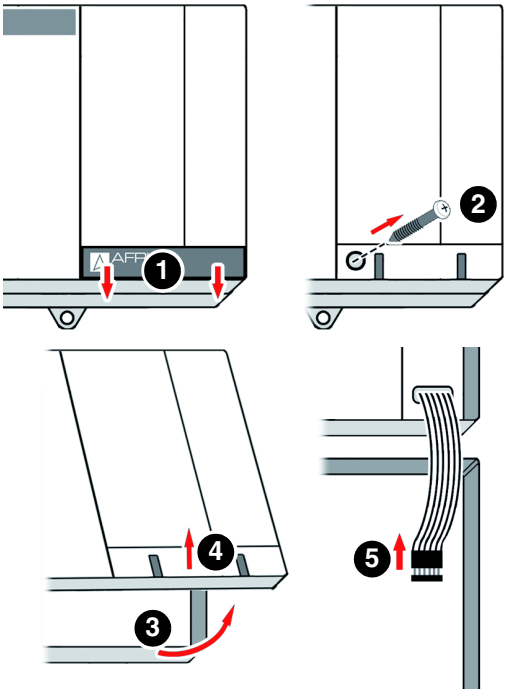
⇨ Verify that the product is protected against water and splash water.

⇨ Verify that the product is protected from direct atmospheric influences if it is installed outdoors.
- Use an AFRISO protective housing.

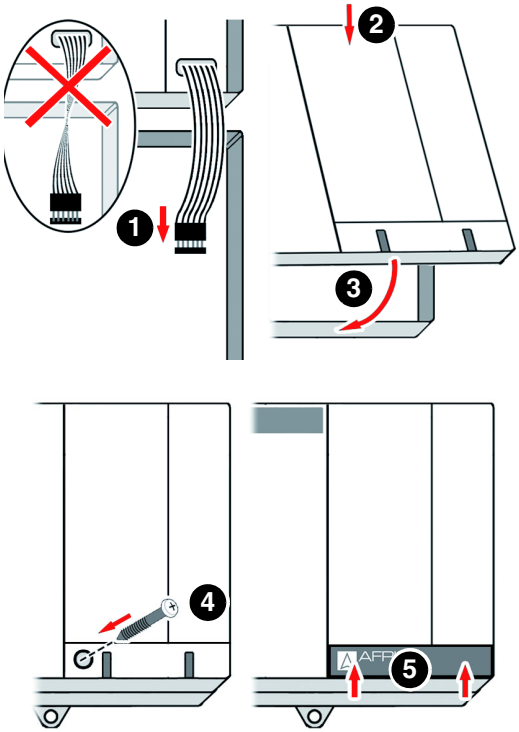


1. Mount the product to the wall using mounting type A or B.
   - Use the enclosed drilling template.





2. Open the product.
3. Connect the product as described in chapter "Electrical connection".



4. Close the product.

5.3 Electrical connection

DANGER

ELECTRIC SHOCK

- Verify that the degree of protection against electric shock (protection class, double insulation) is not reduced by the type of electrical installation.
- Verify that the product is connected by means of a permanently installed cable connection.

Failure to follow these instructions will result in death or serious injury.

DANGER

ELECTRIC SHOCK CAUSED BY LIVE PARTS

- Disconnect the mains voltage supply before performing the work and ensure that it cannot be switched on.
- Verify that no hazards can be caused by electrically conductive objects or media.

Failure to follow these instructions will result in death or serious injury.

NOTICE

UNAVAILABLE MONITORING FUNCTION

- Do not install mains plugs or switches in the supply line to the product.
- Only power on/power off the product via the on-site mains fuse.

Failure to follow these instructions can result in equipment damage.

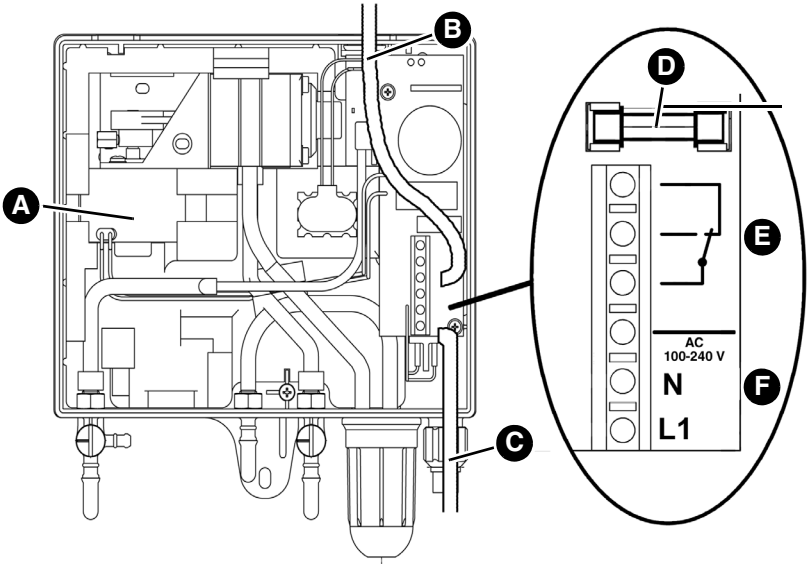
5.4 Supply voltage

⇨Verify that the product is connected to mains by means of a suitable, permanently installed cable (for example, NYM-J 2 x 1.5 mm²).

⇨Verify that the power supply to the control unit is separately fused (16 A maximum).

1. Open the product.
2. If you want to route the mains cable or relay cable through the top of the housing, replace the rubber grommet at the top of the housing by the enclosed cable gland.
3. Route the mains cable through the upper or bottom cable gland into the product.
4. Connect the phase to terminal L1 and the neutral conductor to terminal N.
5. Close any cable glands of the product that are not used by means of the enclosed plugs.

5.4.1 Connecting the product

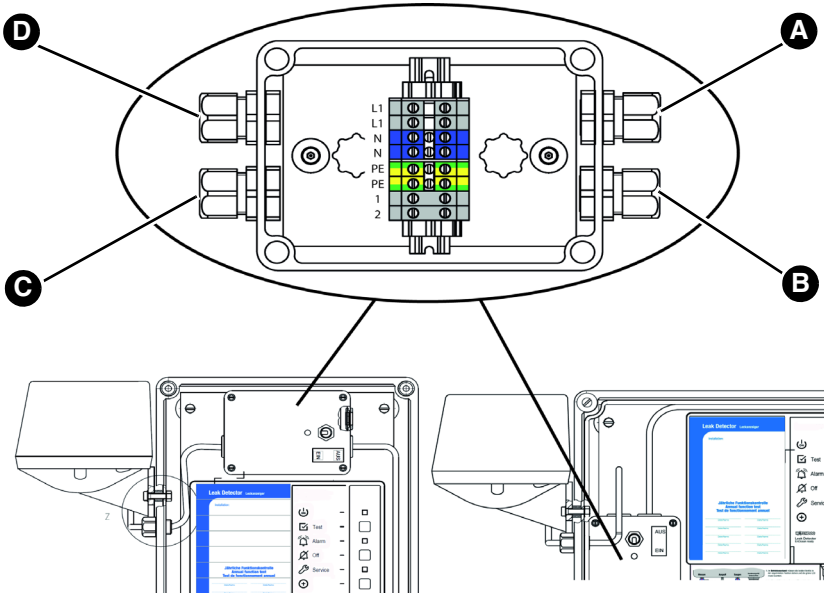


A. Pump
B. Cable routed through upper cable gland
C. Cable routed through bottom cable gland
D. Relay fuse
E. Relay connection
F. Mains connection

5.4.2 Connecting the product in protective housing

If the product is installed in a protective housing, you must observe the following:

- The product is connected via an external connection box.
- An additional audible alarm must be installed outside of the protective housing.
- In a protective housing without horn or heating, the product must be connected as in chapter 5.4.1



A. Mains connection
B. Connection Europress
C. Connection horn
D. Connection heating (optional)

5.4.3 Relay output

NOTICE

VOLTAGE PEAKS WHEN INDUCTIVE CONSUMERS ARE SWITCHED OFF

When inductive consumers are switched off, this can cause voltage peaks and can lead to adverse effects on electrical systems and may destroy the switching contact.

- Use a commercially available standard RC circuit such as 0.1 µF/100 Ohm for inductive consumers.

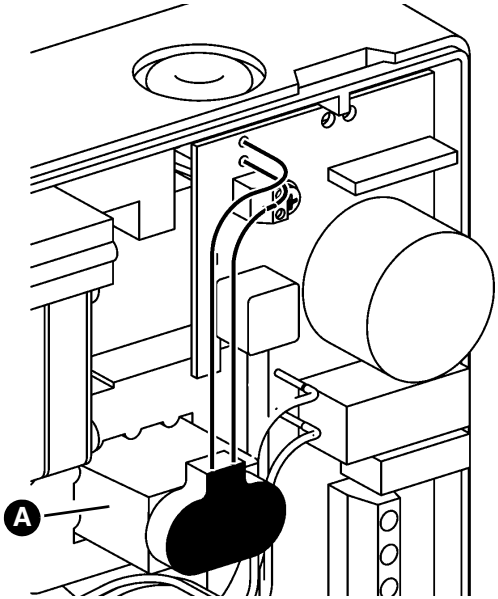
Failure to follow these instructions can result in equipment damage.

The output signal is made available via a voltage-free relay contact (changeover contact). The alarm signal can be transmitted to a connected additional alarm unit (for example, ZAG 01).

If no alarm is present, the relay is de-energised; in case of an alarm, the relay is energised.

1. The relay cable requires permanent installation.
2. Route the relay cable through the upper or bottom cable gland into the product.
3. Connect the relay cable to the terminals with the corresponding designations.
4. Verify safe separation of the relay cable.
   - The insulation characteristics of the relay cable must at least comply with IEC 60227 or IEC 60245.

5.4.4 9 V monobloc battery (for alarm in the case of power outage)



For applications in Switzerland

1. Connect the enclosed 9 V monobloc battery (A) to the product.

If a battery is connected, an alarm sound is activated in the case of a power outage. The alarm sound cannot be acknowledged; it remains on until mains supply voltage is available again. When mains supply voltage is restored, the product immediately resumes operation. If an alarm has occurred in the meantime, this is indicated.

No battery is included in the scope of delivery for operation of the product in other countries. Connection of a standard 9 V monobloc battery is optional.

5.4.5 Retrofitting an EnOcean® wireless module (optional)

DANGER

ELECTRIC SHOCK CAUSED BY LIVE PARTS

- Disconnect the mains voltage supply before performing the work and ensure that it cannot be switched on.

Failure to follow these instructions will result in death or serious injury.

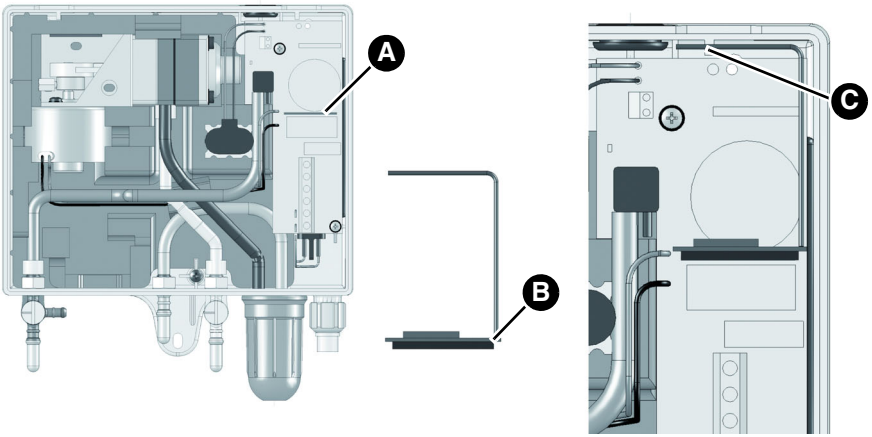
NOTICE

ELECTROSTATIC DISCHARGE

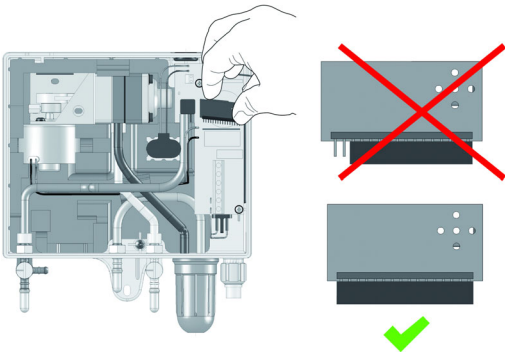
- Always earth yourself before touching electronic components.
- Do not touch the EnOcean® wireless module to plug it in; use the anti-electrostatic film to plug it into the slot.

Failure to follow these instructions can result in equipment damage.

1. Open the product.

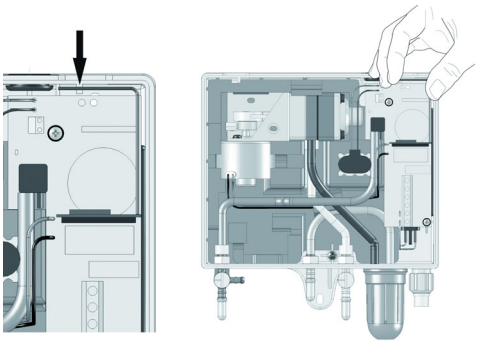


A. Slot for EnOcean® wireless module
B. Position antenna
C. Housing opening (for fastening the antenna)



2. Plug the EnOcean® wireless module into the slot.

   When plugging in the wireless module, ensure the following:
   - All pins must be inserted into the female connector.
   - The position of the antenna must be at the right side (close to the housing wall).



3. Push the antenna of the EnOcean® wireless module into the two housing openings of the product.
4. Close the cover of the product.

5.5 Connecting the hose lines

See chapter "Application example" for an example of how to route the hoses from the product to the tank.

⇨ Verify that the hoses are resistant to the stored liquid and its vapours.

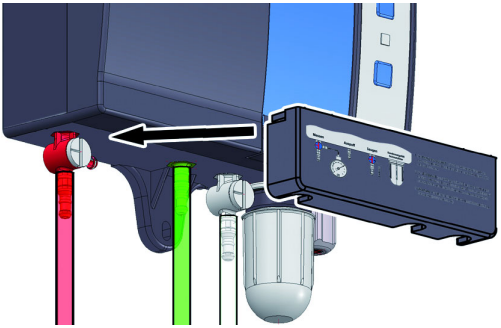
1. Use oil- and water-resistant plastic hoses 6 x 2 mm for the measuring line (red), the suction line (transparent) and the pressure line (transparent).
2. In outdoor or underground applications, install the hoses in suitable liquid-tight, shock-resistant and weather-resistant protective pipes.
3. The hose lines must have the full cross section over the entire length; there must be no bends and indentations.
4. Do not install any shut-off fittings.
5. During mounting, secure all transition and connection points of the hose lines by means of hose clamps.

You may also use quick-action couplings (shutting off at one end, for example, nominal diameter 7.2, Rectu Base type 26) at the tank side of the pressure line and the measuring line of the interstitial space. The following conditions apply to this:

- The coupling part with the shut-off element is directly and permanently mounted to the tank.
- The connection piece for the pressure line and the measuring line is secured by means of one hose clamp for each hose.
- The pressure line and measuring line must be mounted and connected in such a way as to prevent twisting.

Quick-action couplings enable factory-filling of the interstitial space with dried air which considerably reduces the time required on site for commissioning. The following must ensured:

- Only dried air may be in the interstitial space.
- The coupling part at the tank end must be clean.



6. Push the cover over the connections to protect hose line connections.

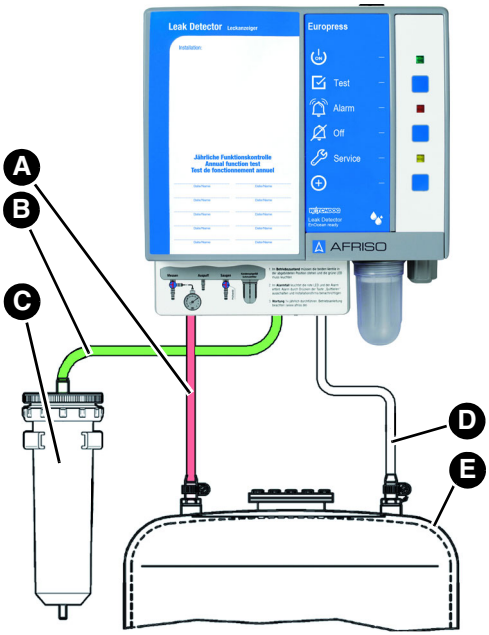
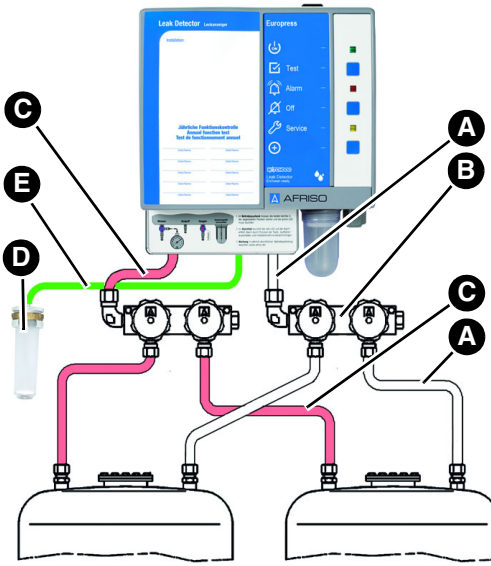


Fig. 2: Connection of an aboveground tank

A. Measuring line, red hose
B. Suction line, green hose
C. Drying filter
D. Pressure line, white or transparent hose
E. Interstitial space



A. Pressure line, white or transparent hose
B. Manifolds
C. Measuring line, red hose
D. Drying filter
E. Suction line, green hose

Fig. 3: Connection of multiple underground tanks

5.6 Tightness test

NOTICE

EXCESSIVELY HIGH TEST PRESSURE

- Verify that the tightness test is performed with a test pressure of <600 mbar.

Failure to follow these instructions can result in equipment damage.

1. Verify tightness of the hose lines (without device) prior to connection to the interstitial space.
   - Perform the tightness test with no more than 600 mbar.
2. Connect the connection lines to the interstitial space of the tank after a successful tightness test.

5.7 Basic filling

The pump of the product must not exceed the pump capacity of 100 l/h.

⇨ Verify that the intake air is dried by means of a sufficiently large drying filter.

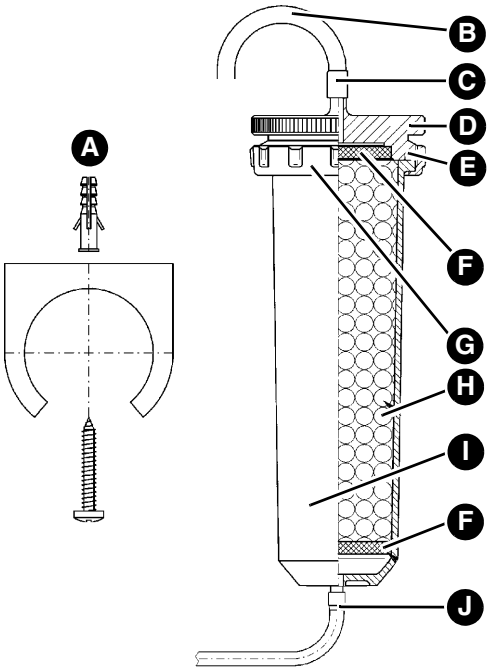
1. Fill the interstitial space to obtain a pressure of approx. 500 mbar (standard version).
   - Use an installation pump with a greater capacity for this purpose.
2. Once a pressure of 500 mbar (standard version) has been built up, disconnect the installation pump.
3. Connect the product.

5.8 Drying filter

Drying filters must be mounted in the suction line in order to dry the intake air. The drying filters are not included.

Depending on the ambient conditions, the drying beads in the filter are subject to wear since they absorb humidity. Wear of the drying beads is indicated by a change in the colour from orange to colourless.

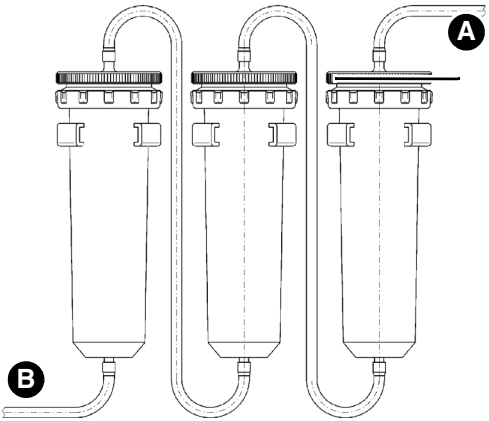
The drying beads in the filter must be replaced after one year or when the colour of the drying beads changes.



A. Holder with mounting accessories
B. Silicon hose
C. Outlet, filtered
D. Filter head, aluminium
E. O ring Ø 54 x 3 NBR
F. Sintered plastic disc 50 µm, dust filter
G. Union nut M 64 x 1.5
H. Drying beads
I. Filter cup
J. Intake opening (unfiltered air)

1. Determine the number of drying filters required on the basis of the table.
2. Fasten the drying filters close to the leak detector using pipe clamps.
   - For underground tanks: 1 x drying filter type TF 220
   - Only a single aboveground tank may be connected

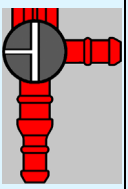
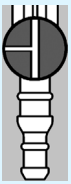
Interstitial space volume	Number of drying filters
Up to 300 litres	1 x TF 220
Up to 700 litres	2 x TF 220
Up to 1000 litres	3 x TF 220
Up to 1500 litres	4 x TF 220
Up to 1800 litres	5 x TF 220
Up to 2200 litres	6 x TF 220
Up to 2600 litres	7 x TF 220
Up to 3000 litres	8 x TF 220



A. To product
B. Intake opening

3. Connect the drying filters and the product by means of a hose connection.
4. Secure all connections by means of hose clamps
5. Fill the drying filter with orange drying beads.

5.9 Valve settings

Valve setting	Measurement valve at red measuring line connection		Test valve at white suction line connec-tion	
	Normal operation		Normal operation	
	Test with pressure gauge		Venting	
	Test safety valve		Not permissible	
	Not permissible		Not permissible	

6 Commissioning

6.1 Connecting the product to an AFRISOhome gateway (optional)

See the operating instructions of the AFRISOhome gateway or the app for detailed information on establishing a wireless connection.

⇨ Verify that the EnOcean wireless signal of the product reaches the AFRISOhome or that the AFRISOhome gateway is in the vicinity of the product.

⇨ Verify that the AFRISOhome gateway is in "Learn" mode.

1. Apply mains voltage.
   - The green LED is on.

2. Press LRN key (A).
   - The product sends a Learn telegram (LRNTEL).
   - The product is now connected to the AFRISOhome gateway.

6.2 Commissioning the product

NOTICE

INCORRECT PRESSURE IN INTERSTITIAL SPACE

- Verify that the pressure in the interstitial space of the tank corresponds to the specifications.

Failure to follow these instructions can result in equipment damage.

⇨ Verify that the product has been properly mounted and electrically connected.

⇨ Verify that the information on the nameplate of the tank has been accounted for.

⇨ Verify that the correct number of drying filters is correct.

⇨ Verify that the tightness test has been performed.

⇨ Verify that the interstitial space has been pressurised.

1. Apply voltage via the on-site mains fuse.
   - The green LED is on.
   - The pump controller keeps the pressure constant. Once the target pressure is reached, the pump switches off.
   - The system is now ready for operation.
2. Perform a function test.

The specialised company certifies the installation, commissioning and test of the product (see "Certificate of specialised company").

6.3 Function test

Perform the function test at the following occasions:

- After each commissioning
- After each alarm
- Once per year during maintenance

Have the function test performed and documented by a specialised company. A test report on the function test must be created and kept with the system documentation.

The overpressure safety valve may only be adjusted and calibrated by the manufacturer or by trained staff.

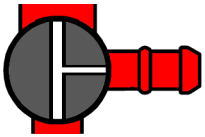
6.3.1 Function test by simulation

1. Set the test valve (white connection) to position "Vent".
   - Air is supplied to the interstitial space of the tank.
   - The pressure in the interstitial space drops and the product triggers an alarm.

2. Set the test valve (white connection) to position "Normal Operation".
   - The pressure in the interstitial space is re-established.
   - The audible alarm and the visual alarm must switch off automatically.

6.3.2 Function test by measurement

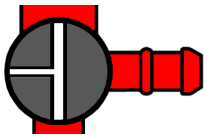
The free lateral connection of the red measurement valve is provided for connecting a pressure measuring instrument to test the system. Test reports can be found at www.afriso.de.



1. Connect the pressure measuring instrument.
2. Set the measurement valve (red connection) to position "Test".
   - The pressure measuring instrument indicates the pressure in the interstitial space.

3. Set the test valve (white connection) to position "Vent".
   - The pressure drops slowly.
4. Observe the pressure measuring instrument and document the pressure values at which the pump and the alarm signals are switched on.

5. Set the test valve (white connection) to position "Normal Operation".
   - The pressure in the system increases slowly.
6. Observe the pressure measuring instrument and document the pressure values at which the pump and the alarm signals are switched off.



7. Set the measurement valve (red connection) to position "Normal Operation".
8. Disconnect the pressure measuring instrument.

6.3.3 Function test of the indicators

1. Press the Test key.
   - The green LED, the red LED and the yellow LED light up and the audible alarm sounds.
   - The function test is terminated once you release the Test key.

7 Operation

Operating the product is limited to its regular monitoring:

- The green LED is on.
- The red LED is off.
- The audible alarm is off.

7.1 Alarm condition

In the case of a leak alarm, the red LED is permanently illuminated and the audible alarm is activated. The relay is energised.

The alarm signal can be transmitted to additional equipment via the relay output.

In the case of products with an EnOcean® wireless module, the product sends a message to the AFRISOhome gateway. The user receives a message from the AFRISO app that a leak has been detected.

7.2 Determining the tank with the leak if several tanks are connected to one leak detector

1. Close all shut-off valves of the two distributors (pressure line and measuring line).
2. Connect a pressure measuring instrument to the lateral connection of the red measuring valve.
3. Open the two shut-off valves of the first tank (pressure line and measuring line).
4. If the pressure measuring instrument does not indicate a pressure drop, close the two shut-off valves of the first tank and open the two shut-off valves of the next tank (pressure line and measuring line).
5. If the pressure measuring instrument does not indicate a pressure drop, continue with the same test at all further tanks until you have located the defective tank.
6. After the cause for the alarm has been properly removed, open all shut-off valves of the connected tanks.

7.3 Acknowledging an alarm

1. Press the Acknowledge key to mute the audible alarm.
   - The red LED remains lit.
2. Immediately notify a specialised company.

The specialised company remove the cause before the product is recommissioned.

3. Have the function test performed by a specialised company.

Power outage

No alarm is triggered in case of a power outage. When mains voltage is restored, the product immediately resumes operation. If, during the power outage, leakage has occurred, the product triggers an alarm once power is available again.

8 Maintenance

The product is safety-related equipment; maintenance may only be performed by a specialised company.

It is recommended close a maintenance agreement with a specialised company.

8.1 Service indicator

The product features an integrated service indicator. When the device is shipped, the service indicator is not active.

1. Activate the service indicator

When annual servicing of the product is required, the yellow LED flashes and the audible alarm sounds for approximately one second once per hour.

2. Press the Acknowledge key (A) to mute the audible alarm.
   - The yellow LED (B) lights solid.
3. Have the annual maintenance/service performed by a specialised company.

8.2 Maintenance intervals

When	Activity
Annually	Perform a function test (see chapter "Function test")
	Replace the drying beads
	If a 9 V battery is fitted for alarm in the case of power outage, replace the battery
	Verify that the product and its environment are clean, accessible and easy to oversee
After an alarm condition	Perform a function test after each alarm (see chapter "Function test")
If required	Replace the relay fuse F1 (T 2 A)
	Replace the drying beads

8.3 Maintenance activities

DANGER

ELECTRIC SHOCK CAUSED BY LIVE PARTS

- Disconnect the mains voltage supply before performing the work and ensure that it cannot be switched on.

Failure to follow these instructions will result in death or serious injury.

Replacing the relay fuse F1

⇨ Verify that the mains voltage is interrupted and cannot be switched on.

1. Open the upper part of the housing.
2. Remove the flat cable from the connector.
3. Remove the transparent cover from the relay fuse F1.
4. Fit a new relay fuse F1 (T 2 A).
5. Refit the transparent cover.
6. Connect the flat cable to the connector.
7. Fit the upper part of the housing and close it.
8. Apply mains voltage.

8.3.1 Reconditioning the drying beads

Used drying beads are colourless.

1. Replace the drying beads in the filter.
2. Close the drying filter after replacing the drying beads.

Unused drying beads must be stored in a tightly closed container.

9 Troubleshooting

Any malfunctions that cannot be removed by means of the measures described in this chapter may only be repaired by the manufacturer.

Problem	Possible reason	Repair
Green LED is not on	No supply voltage	Apply supply voltage
	Flat cable not connected to printed circuit board	Connect the flat cable to the printed circuit board
Red LED is on	Leak detected	Check the hose lines and hose connections Notify a specialised company
	Test/measurement valve in position "Test/ Vent"	Set the test valve and the measurement valve to position "Normal Operation"
Yellow LED flashes	Annual maintenance required	Perform annual maintenance (see chapter "Maintenance")
The drying beads have become colourless	-	Replace the drying beads
Filter polluted	-	Replace the filter
Other malfunctions	-	Contact the AFRISO service hotline

9.1 Evaluating the pump operating time

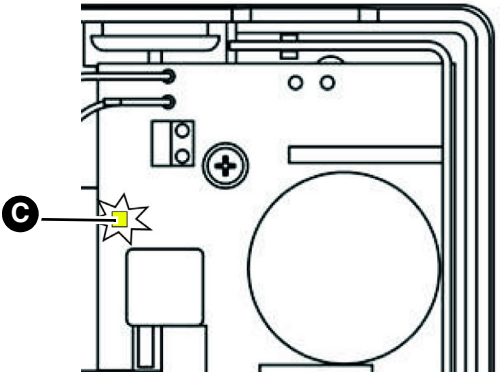
The specialised company can read out the pump operating time by pressing the Test key. This allows you to assess the tightness of the complete system.

1. Hold down the Test key (B).
   - After five seconds, the green LED (A) indicates the pump operating time.

The green LED (A) provides information on the last 5 days. The pump operating time is indicated as a total.

If the green LED (A) lights up for one second, this corresponds to a pump operating time of a total of one day during the last five days.

If the green LED (A) lights up briefly, this indicates that the pump operating time during the last five days was proportionally shorter.



If you open the device, the yellow LED (C) on the printed circuit board always displays the pump operating time (you do not need to press the Test key).

10 Decommissioning, disposal

Dispose of the product in compliance with all applicable directives, standards and safety regulations.

Electronic components must not be disposed of together with the normal household waste.

1. Disconnect the product from mains.
2. Dismount the product (see chapter "Mounting", reverse sequence of steps).
3. Dispose of the product.

11 Returning the device

Get in touch with us before returning your product (service@afriso.de).

12 Warranty

See our terms and conditions at www.afriso.com or your purchase contract for information on warranty.

13 Spare parts and accessories

NOTICE

UNSUITABLE PARTS

- Only use genuine spare parts and accessories provided by the manufacturer.

Failure to follow these instructions can result in equipment damage.

Product

Product designation	Part no.	Figure
Pressure type leak detector "Europress"	43790	
Pressure type leak detector "Europress" with drying filter	43701	
Pressure type leak detector "Europress" with different switching points	43794	
Pressure type leak detector "Europress" in protective housing with horn	43795	
Pressure type leak detector "Europress" in protective housing with horn, with heating	43796	

Spare parts and accessories

Product designation	Part no.	Figure
Mounting kit	43704	-
Drying filter "TF 220" with pipe clamp PG 42	43688	-
Can of drying beads (850 ml/680 g)	69226	-
Connection piece (G1 x ND 4/6 mm)	43698	-
Audible alarm, weather-proof	61012	-
Warning light with rotating reflector, weatherproof	61015	-
PVC hose 6 x 2 mm, 100 m, red	43662	-
PVC hose 6 x 2 mm, 100 m, green	43663	-
PVC hose 6 x 2 mm, 100 m, transparent	43664	-
Pump with motor Europress	43797	-
EnOcean® wireless module	78082	-

14 Information on EnOcean® wireless

14.1 Range of EnOcean® wireless

Visit www.enocean.com for further information on range planning with EnOcean®.

14.2 Additional information on EnOcean® wireless systems

Additional information on planning, installation and operation of EnOcean® wireless systems can be found at www.enocean.com.

- Wireless standard
- Wireless technology
- AN001
- AN102
- AN103

14.3 Features of the EnOcean® technology

Visit www.afrisohome.de for documents on EnOcean® technologies.

A variety of videos on AFRISO products can also be found on the AFRISO YouTube channel.

15 Appendix

15.1 Certificate of specialised company

This is to certify that the product was installed, commissioned and function-tested in accordance with these operating instructions.

Pump OFF: _____ mbar

Pump ON: _____ mbar

Alarm ON: _____ mbar

Alarm OFF: _____ mbar

Pressure drop entire system: _____ mbar

in _____ minutes

Tank as per standard: _____

Year of manufacture: _____

Litres: _____

Factory no.: _____

O aboveground O underground

Tank manufacturer:

_____

_____

_____

Specialised company:

_____

_____

_____

Owner/operator:

_____

_____

_____

Location of system:

_____

_____

_____

_____

Date, signature