

Leak protection lining

Systematic tank protection



Leak protection linings make your fuel oil tank perfect and safe.



Is your tank safe?

Escaping fuel oil is a hazard to the groundwater

A reliable leak detection system is indispensable for each fuel oil tank because tank owners/tank operators are liable for all damage resulting from escaping fuel oil.

Despite this risk, many tank systems are neglected. Owners/operator often have a false sense of being on the safe side because corrosion damage is not immediately visible from the outside in many cases. For aboveground tanks, a double-walled

design is highly recommended, underground tanks must be double-walled.

The simplest and most cost-effective way to do this is to significantly extend the service life of a tank from the outset and thus rule out damage: With an AFRISO leak protection lining, a single-walled tank is turned into a double-walled with leak monitoring.

Safe fuel oil tanks – the **processional** solution

Over time, unprotected steel tanks are affected by internal electrochemical corrosion due to a mixture of condensation water and aging residues of the fuel oil. The result: leaks in the tank. The plastic inner lining is a second tank wall that reliably inhibits contact of the tank bottom with condensation water and fuel oil resi-

dues. The tank is cleaned thoroughly prior to installation. In this way, even advanced corrosion can be stopped permanently and the tank is safe again.

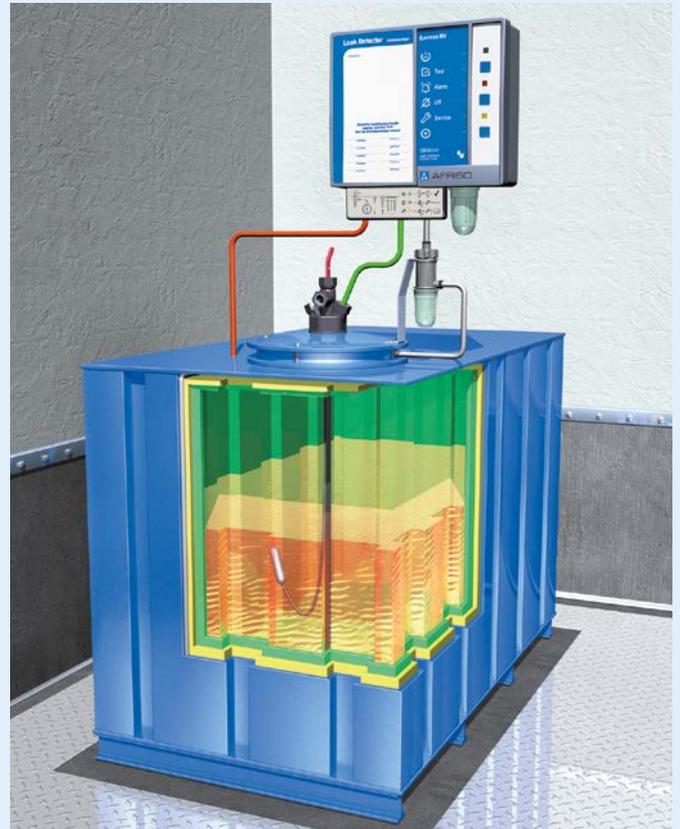
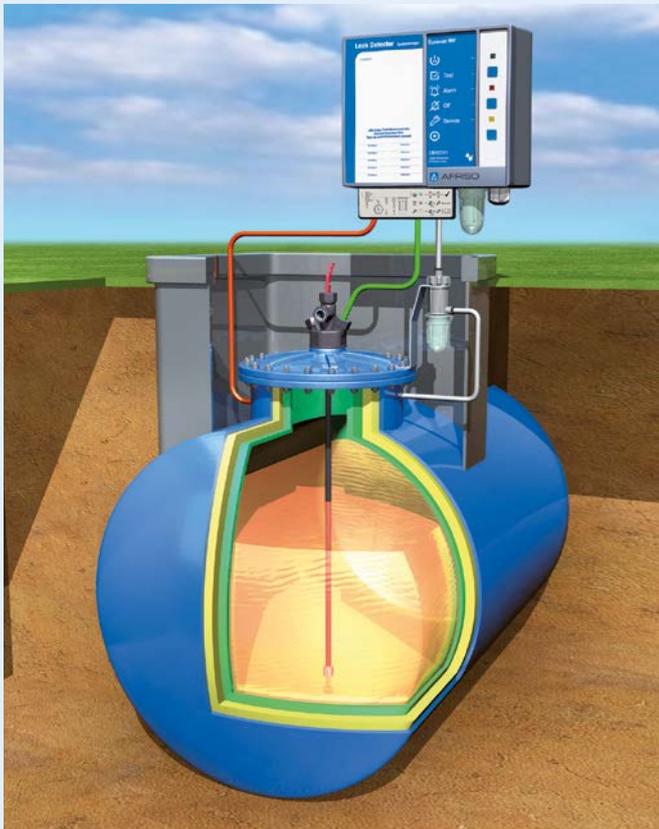


How the **tank protection system** works

The fuel oil is contained in the plastic inner lining. Oil cannot escape even if there is a leak in the outer tank wall.

The leak detector uses a vacuum in the interstitial space between the inner lining and the tank wall to monitor both walls for

leaks. The leak detector immediately provides visual and audible signals in the case of malfunctions and leaks.



System components

All parts of our system are approved by the DIBt (German Institute for Building Technology):

- Tailor-made inner lining
- Intermediate layer made of foamed material or fleece
- Vacuum type leak detector with visual/audible alarms, Acknowledge button, switching output and service indicator, mounting material, connection lines and protective plate

Application areas

- Aboveground and underground horizontal, cylindrical tanks made of steel or glass-fibre reinforced plastic
- Double-walled steel tanks whose inner wall, for example, is damaged by corrosion
- Steel tanks manufactured on site
- Spherical tanks

Media

- Inner lining AK-S: Fuel oil EL, diesel fuel, liquid fuels as per DIN SPEC 51603-6 and DIN/TS 51603-8, biofuel and biodiesel with up to 30 % FAME as well as paraffinic fuels HVO or GTL as an admixture or 100 %.
- Inner lining AF-S: Biodiesel, AHL, AdBlue®
- Inner linings AR-S, AR-SM: Rainwater



The **services** – the fast track to reliable tank protection

1. Tank preparation

Professional tank cleaning with corrosion check, measurement of the position and depth of the corrosion in the tank bottom. In the case of corrosion depths of up to 50 % of the floor thickness, the specialist company itself may propose and carry out suitable remedial measures; in the case of more than 50 %, an expert (for example, TÜV) must be consulted to determine the further measures.

2. Installation of the plastic inner lining

Mounting of the required connections. Mounting of the intermediate layer. Mounting of the plastic inner lining and generation of the vacuum in the interstitial space.

3. Mounting and connection of the leak detector Eurovac

4. Final inspection

Function test. Issuance of the installation test certificate by an expert.



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on material and workmanship of inner tank lining AK-S for fuel oil and diesel



Plug & play integration into the AFRISO smart home system with EnOcean® wireless module

Advantages – your benefits

Preservation of the value of your fuel oil tank

The installation of the leak protection lining turns your tank into a double-walled steel tank. Complex drip pans or collection facilities are no longer required.

Protection against environmental damage

Even small amounts of fuel oil that

get into the groundwater can lead to considerable environmental damage and high subsequent costs. After installation of the plastic inner lining, pollution of the groundwater is practically excluded.

Trust is good – control is better

The custom-made AFRISO leak protection lining is placed in the tank and attached to the manhole in a

vacuum-tight way. The interstitial space between the steel tank and the lining is evacuated. This interstitial space is automatically monitored by the vacuum type leak detector. In addition, the leak detector can be integrated into the AFRISO smart home for alarms on mobile devices.



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AFRISO – more than 150 years of expert knowledge

The company

AFRISO, founded by Adelbert Fritz in Schmiedefeld, Germany in 1869, is an innovative, medium-sized company with a total staff of more than 1,300 worldwide, over 650 of which are employed at the four German sites.



Headquarters in Güglingen (Germany)



AFRISO training centre



AFRISO logistics and service centre

Traditionally, we manufacture measuring and control devices for temperature and pressure. For more than 50 years now, we have also been manufacturing measuring, control and monitoring devices and systems for environmental protection:

- Level indicators
- Overfill prevention systems
- Leak detectors
- Valves and control technology for heating systems
- Flue gas analysers

Our leading-edge, market-oriented products and innovations result from our comprehensive know-how, a highly motivated and qualified staff and the fact that we understand what the market needs.

Our portfolio covers everything from a comprehensive range of standardised, proven off-the-shelf products all the way to high-grade customised solutions.

- Research and development
- Tools and equipment making
- Highly versatile and rational production
- Highest quality levels
- National and international approvals

AFRISO stands for leading-edge brand products to meet your requirements.

Environmental management as per ISO 14001 is a matter of course for AFRISO.



Your benefits – our strengths

Large range of products on stock

- More than 3,000 different product types with more than 1,500,000 instruments are available for ex-stock delivery.

Global sales network

- Competent sales partners offer you optimal technical and economic solutions.
- Our External Sales Engineers will advise you personally and individually.
- Our Sales and Distribution Companies ensure worldwide service.

Customer service and repairs

- Quick and reliable local service.

Powerful research and development

- Innovative product development.
- Customised solutions according to your requirements.



For the **safe storage** of **fuel oil** and convenient **operation**, we also offer:

- Level sensors for protection against overfilling
- Filler caps with integrated level sensor fitting
- Overpressure devices for tanks welded in basements
- Level indicators, including:
 - Remote indication, on request
 - with litre scale and
 - date indicator for consumption monitoring as well as
 - automatic low level alarm
- Withdrawal systems as:
 - Isolating piece with connection for the suction line, remote level indicator and venting for vacuum-type leak detector. On request
 - with floating suction system or
 - integrated tank heating
- Pull cords for remote operation of the shut-off valve
- Anti-siphon valves
- Fuel oil fine filters with large filter surface
 - and oil vent for reliable, environmentally friendly single-line mode
- Alarm units for oil and water



For additional information on our product portfolio in the area of "Tank Protection", please request our complete catalogue at www.afriso.com/catalogue.

