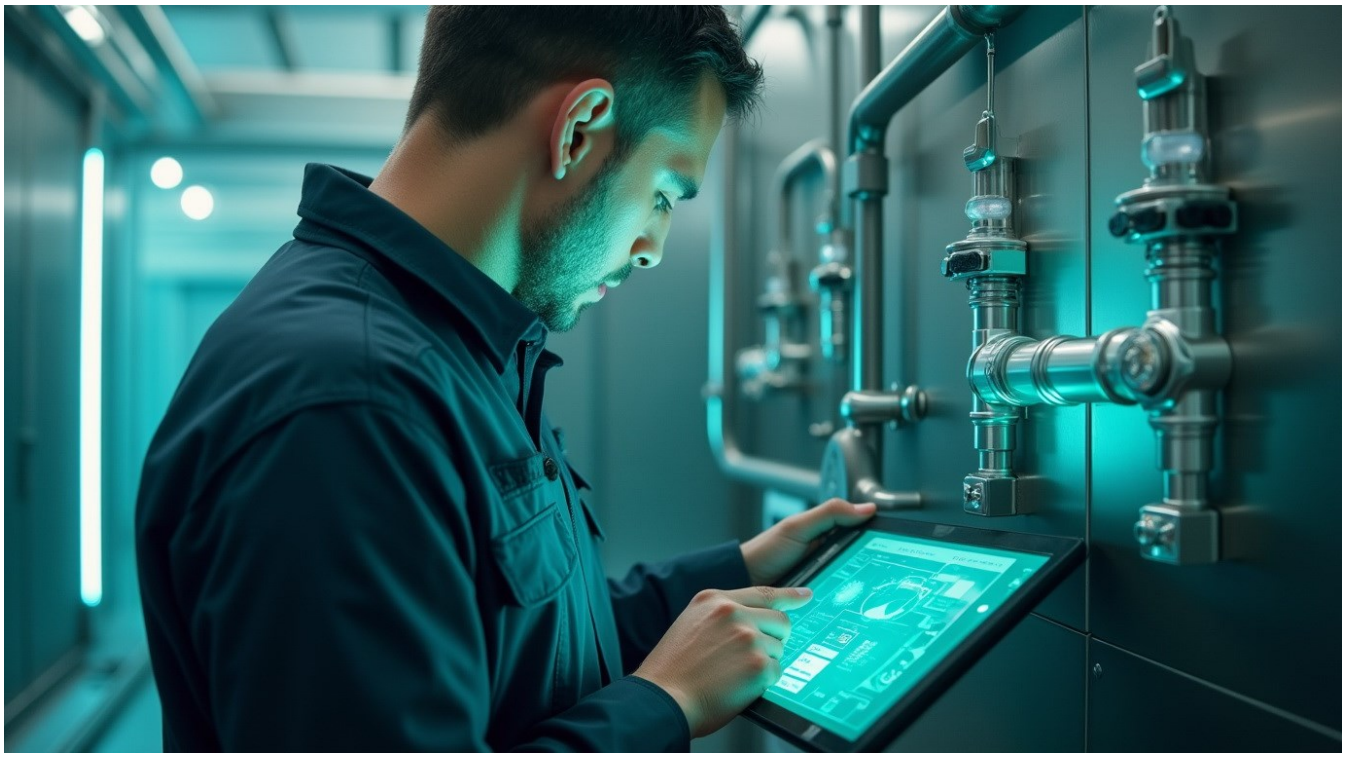
Implementation of modern systems – perspectives



The introduction of modern automatic Freon leakage control and digital monitoring systems in industrial refrigeration systems in Europe is bringing significant benefits both environmentally and economically.

The main benefits of implementing new monitoring systems are

- Reduction of refrigerant losses

Modern detectors, such as the testo 316-3 with a sensitivity of up to 4 g/year, can quickly detect even small Freon leaks, which significantly reduces the loss of expensive refrigerants and lowers refrigerant recharge costs1.

- Avoid fines and comply with regulations

Rapid leak detection and containment can avoid large fines for fluorocarbon emissions, which in the EU can reach tens of thousands of euros. This is especially true in the face of the tightening of the F-Gas Regulation and decarbonization requirements4.

- Reduced maintenance costs

Automated monitoring systems allow a shift from planned to predictive maintenance, reducing the number of unscheduled repairs and labor costs for service companies. The use of fixed sensors with the ability to change sensors without shutting down the equipment (e.g. FR02-12-buz) increases reliability and reduces operating costs5.

- Improved product safety and quality

Temperature and air quality monitoring systems in cold rooms prevent product spoilage, which reduces losses and increases consumer confidence.

- Environmental sustainability and reputation

The use of modern systems is in line with EU policy to phase out high-potential fluorocarbons and supports decarbonization programs, which improves companies' image and opens access to green finance and subsidies4.

Cost-effectiveness and profitability

- Investment in a leak detection system pays for itself in 1-2 years through reduced fines, savings on refrigerant and lower energy costs.

- Example: a portable testo 316-3 detector costs around €1,000 and a fixed system costs from €3,000, while savings on refrigerant and fines can amount to several thousand euros annually15.

- Switching to automated systems reduces overall operating costs and increases the life of the equipment.

Thus, the introduction of modern Freon leakage control and digital monitoring systems is not only an environmental necessity, but also a cost-effective solution that contributes to sustainable development and competitiveness in the European refrigeration market.