



Refrigerant Management

Maximizing compliance and efficiency



Trane Care customized service solutions to building owners address operating performance, energy efficiency, and environment concerns. Refrigerant management is key in preventing refrigerants used in air conditioning or refrigeration equipment from leaking into the atmosphere.

Leak testing

Refrigerant monitor

Noise reduction

Indoor air quality

Refrigerant retrofit

Refrigerant management

Refrigerant Monitor

Installing an automatic refrigerant monitoring system protects the environment and generates savings.

Fluorinated refrigerants are controlled under the Kyoto or Montreal Protocol. Therefore, refrigerants must be contained and any leakage detected in an early stage to prevent the venting of refrigerants into the atmosphere and maximize energy efficiency. Automatic refrigerant monitors are designed to do so. In the European Union, monitors are legally mandatory. In the European Union monitors are legally mandatory as per table on the following page.

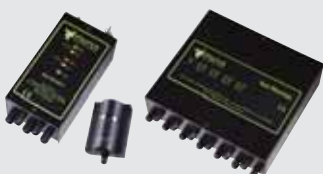
Monitoring benefits:

- Early awareness ensures earlier corrective actions

- Proactive measurement 24 hours a day, 365 days a year
- Reduction of your building and system impact on the environment and human health
- Improvement of your equipment operation: leakages impact reliability and energy efficiency
- Risk reduction of costly breakdowns
- Extension of your equipment lifetime: optimal refrigerant charge reduces component stress
- Compliance with (EU) F-Gas regulation and other national regulations



Premium monitor



Standard monitor

Trane offering – The right monitor for the right application

Standard monitor

- Technology: semi-conductor
- Integrated visible and sound alarm
- Multi-refrigerant control
- Sensitivity: 10 ppm
- Analog connectivity: free relays
- Remote alarm capability

Premium monitor

- Technology: photo-acoustic infrared
- LCD display
- Multi-refrigerant control
- Sensitivity: 1 ppm
- Digital connectivity: free relays, 4-20 mA analog output or serial communication (RS 232)
- Remote alarm capability

Both monitors can be connected to a Trane Building Management System.



Don't let an undetected leak disrupt your equipment and your business

Leak Testing

Trane Care customized service solutions offer a tailored leak testing procedure to identify where a refrigerant leak occurs. This procedure is an integral part of any Trane maintenance contract but can also be ordered as a separate service solution.

Our certified technicians are trained to find the leak, properly repair it and refill the equipment with the appropriate refrigerant charge.

The environmental benefits, operational improvements, and compliance with national and local regulations makes it worth to invest in regular leak testing.

Leak testing benefits:

- Environmental responsibility. Quick location of the leak prevents more refrigerant loss
- Compliance with local laws and regulations
- Risk reduction of costly breakdowns
- Downtime minimization
- Inspections performed by certified personnel

Trane offering:

- Highly skilled and certified technicians using portable leak detection tools
- Recovery of the refrigerant charge
- Immediate reporting with recommended action plan
- Extended Service network for quick leak repair and equipment restart.

Periodical leak testing is necessary for all systems operating with refrigerants.

EU Compliance

In the European Union, all air conditioning or refrigeration equipment containing fluorinated refrigerants must conform with the F-gas regulation or ozone regulations and have regular leak tests carried out by certified personnel.

When a permanent leakage detection system is in place, the frequency of required leak testing is reduced by 50%.

The leak detection system must be checked at least once a year.

Above 500 tonnes of equivalent CO₂, the permanent leak detection system must have remote alarm capability.



Tonnes of CO ₂ Equivalent	R134a refrigerant charge (kg) (*)	R410A refrigerant charge (kg) (*)	R407C refrigerant charge (kg) (*)	R404A refrigerant charge (kg) (*)	Mandatory inspection visit	Permanent leak detection system
5 – 50	3.5 – 35	2.4 - 24	2.8 – 28	1.3 – 13	every 12 months	
50 – 500	35 – 350	24 - 240	28 – 280	13 – 130	every 6 months	
500 and above	above 350	above 240	280	above 130	every 3 months	mandatory

(*) Per refrigerant circuit

High Performance Buildings

Your Mission. Realized.

Efficient Systems

Controls

Services

Turnkey Solutions

Services Portfolio

Trane Elite Start™



- Validate installation
- Engineering checklist for optimal start up
- Verify and record design operational parameters

Trane Select™ Contracts



- Comprehensive Service contracts for HVAC systems
- Improve reliability and efficiency
- Improve cost of ownership

Trane Extended Start



- Foundation for high performance buildings
- Benchmarking baseline parameters
- Monitor and adjust system critical parameters

Trane Controls Services



- Solutions for sustainable high performance buildings
- Maintain system fitness
- Optimize system performance

Genuine Parts and Repair Services



- Comprehensive OEM parts
- State of the art logistics
- Factory authorized technicians

Trane Care™ Services



- System enhancement service solutions
- Reliability – Energy – Environmental Solutions
- Improve comfort and operating efficiency

Trane Chiller Health Check Program



- Inspect chiller operating conditions
- Evaluate basic and critical parameters
- Recommend upgrade and improvement solutions

Trane Intelligent Services



- Remote monitoring with professional advantage
- Address key operational challenges
- Critical alarm management and event log

Trane Service Agreements



- Planned maintenance
- Minimize downtime and extend equipment life
- Reduce operating costs

Trane Rental Services



- Temporary cooling solutions
- Reliable equipment and fast service
- All building purposes



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We are committed to using environmentally conscious print practices that reduce waste.

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