



Trane Building Advantage

# Future-proof your Building

Trane Refrigerant Retrofit Solutions





# Refrigerant Retrofit for durable upgrades

## Change is happening

Trane Building Advantage customized service solutions address operating performance, energy efficiency and environmental concerns for building owners.

A major focus today is refrigerants and global warming. The European Union is fighting climate change by limiting the consumption of Fluorinated Gases with the new F-GAS regulation implemented in 2015. F-Gases are often used as refrigerants and are known to have a global warming effect a thousand times worse than CO<sub>2</sub>. The use of HFC (hydrofluorocarbon) refrigerants is subject to an 80 % reduction by 2030 with major steps in 2018 (already -37%) and 2021 (-55%).

Naturally, this is having a significant impact on refrigerant prices and availability. The higher the global warming potential of the refrigerant, the more it is impacted.



**Trane Refrigerant Retrofit is the key to upgrading your equipment with next generation refrigerant while maintaining optimum performance and efficiency.**

## Future risks

Already, prices for certain refrigerants have increased by 500% and their availability is becoming a concern.

The inherent risks are:

- Further aggressive price hikes
- Rapidly declining stocks
- “Polluted” or illegally imported virgin refrigerant
- Unplanned equipment downtime.

In compliance with global protocols, Trane has always respected the key international environmental agreements and has operated a policy of capturing and containing all refrigerants used in service.

# Retrofit solutions for optimum performance and sustainability

## Criteria for refrigerant replacement

A replacement refrigerant must meet several criteria:

### ✓ Similar properties in terms of pressure, temperature, cooling effect and efficiency.

It must comply fully with the original equipment design to ensure equivalent cooling capacity and operating efficiency.

### ✓ Reduced GWP for Future Sustainability.

To be fully sustainable, the new refrigerant must have a significantly reduced Global Warming Potential in addition to continuing availability and compliance.

### ✓ Environmental protection.

Any new refrigerant must have a minimal effect on the environment.

### ✓ Reliability.

Total dependability is essential, especially on large capacity equipment. Oil management must be carefully checked to ensure effective compressor lubrication. Controller and component algorithms may need to be customized to optimize system management with the new refrigerant characteristics.

### ✓ No re-approval necessary.

HVAC equipment is subject to pressure vessel regulation. The use of an inappropriate refrigerant may change the system Pressure European Directive (PED) category necessitating a complete and costly re-approval process.





## Trane expertise with next generation refrigerants

As a major compressor manufacturer, Trane has decades of experience in equipment development and component qualification. Trane will ensure that all parameters have been taken into account when qualifying a next generation refrigerant.

Trane is extensively testing how our compressors perform with each refrigerant. Oil management is key to ensure equipment operates trouble free for years. Compressors are tested extensively under severe conditions to eliminate risk of failure. Next generation refrigerants may require specific control algorithms to manage the oil return and work effectively with other properties that are different. Built-in heat exchangers must be compatible for operation with the new refrigerant and to maintain equipment performance.

Trane Refrigerant Retrofit will optimize your chiller to meet your current and future operational requirements.



## Next step

Trane can provide the assistance you need to upgrade your equipment with next generation refrigerant. Contact your Trane sales office today. We will offer you a customized and sustainable solution to retrofit your chiller.



Trane – by Trane Technologies (NYSE: TT), a global climate innovator – creates comfortable, energy efficient indoor environments through a broad portfolio of heating, ventilating and air conditioning systems and controls, services, parts and supply. For more information, please visit [trane.eu](http://trane.eu) or [tranetechnologies.com](http://tranetechnologies.com).

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