

# ALWAYS **AHEAD** OF THE FUTURE

We do what matters. We know that what we do makes an **impact on our world**. This is why we provide a breadth of offerings that include industry **leading efficiencies**, **low global warming** potential solutions, world class automation systems, and a complete **energy services** portfolio. Our **solutions matter** for everything that happens **inside and beyond the building**.

Trane offers **solutions** at every stage within the **life cycle of the building**. We know how to **maximize the potential of a building** when it's first built and every day afterwards.

# Trane, a brand of Ingersoll Rand

Ingersoll Rand possesses expertise to address the most pressing world challenges such as energy consumption, climate change and industrial productivity. It supports all of its brands, including Trane, to innovate to solve customer problems and make buildings better.

Key guidance for Trane is given by the Ingersoll Rand Climate Commitment, market demand, customers' requirements and all European regulations. We listen to our customers who are looking for sustainable solutions to enhance their brand reputation and to behave as green citizens.



## The Ingersoll Rand Climate Commitment



50%

Reduction in the greenhouse gas refrigerant footprint of our products by 2020, and incorporating alternatives with lower GWP across the company's product portfolio by 2030.



35%

Reduction in greenhouse gas footprint of our own operations by 2020.



\$ 500M

Investment in product-related research and development by 2020 to fund the long-term reduction of GHG emissions.

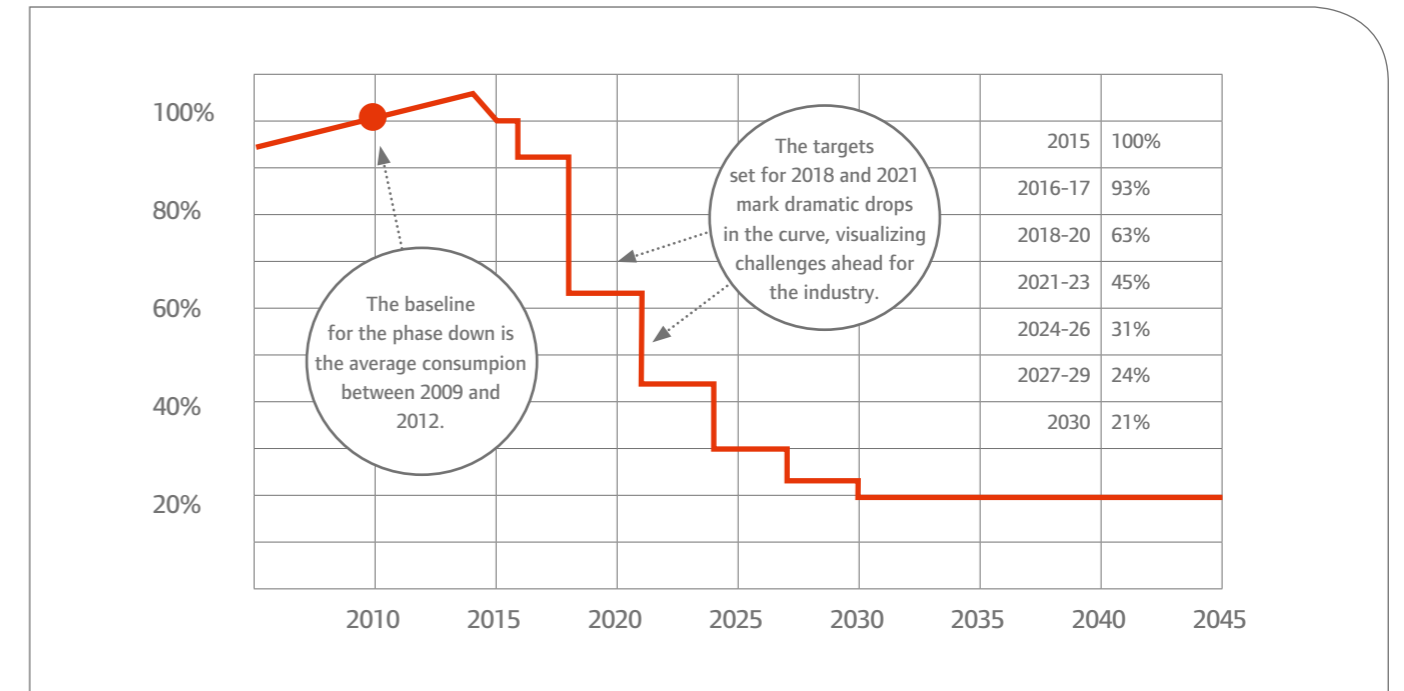
**EcoWise™**

The Ingersoll Rand EcoWise™ portfolio of products designed to lower environmental impact with next-generation, low global warming potential (GWP) refrigerants and high efficiency operation is part of our climate commitment to increase energy efficiency and reduce the greenhouse gas emissions (GHG) related to our operations and products.

# European F-Gas regulation 517/2014/EU

## F-Gas Regulation

- Objective: reduce by **79%**, the production of all HFC's by **2030**
- Entry into force: **January 2015**



## Refrigerant cost impact

CO<sub>2</sub> Equivalent: kg (of fluid) x GWP;

- GWP: Global Warming Potential
- HFCs are impacted



GWP 1430



## A sustainable portfolio

As part of the Ingersoll Rand Climate Commitment, the EcoWise portfolio of products is designed to lower environmental impact with next generation, low GWP refrigerant options. They are designed to help our customers meet sustainability goals without compromising efficiency, reliability, or safety.

Trane is leading, having been the first to bring a centrifugal chiller with near-zero GWP refrigerant to the market. And since then, customers benefit from a full screw chiller portfolio with a near-zero GWP, and continuous additional innovations.

Today, Trane serves virtually **every industry** with our **broad offerings**.



## Products designed to suit comfort cooling, process cooling and heating applications

Trane chillers and heat pumps with R1234ze are designed as solutions to the specific challenges found in applications such as comfort cooling, process cooling and heating applications.

The products with new Honeywell near-zero GWP refrigerants can be perfect fits in applications that were out-of-reach in the past, with HFC's.

### Comfort applications

For traditional comfort applications in cooling and heating up to 55°C



Office buildings



Hospitality industry



District Cooling/  
Heating



Data Centers

### Process cooling applications

Trane chillers, specially designed for operation with R1234ze are not only safe and efficient, but also environmentally responsible. There are no trade offs. For applications down to -12°C.



Food and beverage



Warehouses  
Cold Storage



Ice Rink

### Heating applications

For applications above 55°C and up to 85°C.



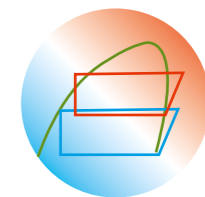
High temperature  
Heating



Sanitary  
Hot Water



District  
Heating



Heat recovery  
Cascade

## Trane Air-Cooled Chillers with R1234ze refrigerant

**SINTECIS™**  
PRIME



### Sintesis™ Prime RTAF G

- Cooling capacity: 330-1721 kW
- Efficiency up to 3.4 net EER and 5.15 SEER
- Fixed speed or variable speed screw compressor
- 2 refrigerant circuits
- Free-cooling
- Heat recovery
- Hydraulic module
- Shell and tube heat exchanger
- 5 efficiency levels
- 3 acoustic package levels
- Minimum/maximum ambient air temperature: -20 to 55°C
- Minimum/maximum leaving water temperature: -12 to 27°C

**SINTECIS™**  
EXCELLENT



### Sintesis™ Excellent GVAF XPG

- Cooling capacity: 453-1243 kW
- High speed oil-free centrifugal compressor using magnetic bearings
- Efficiency up to 4.1 net EER and 6.3 SEER
- 2 refrigerant circuits
- Free-cooling
- Shell and tube heat exchanger
- Minimum/maximum ambient air temperature: -20 to 47°C
- Minimum/maximum leaving water temperature: 4.4 to 18°C



## Trane Water-Cooled Chillers with R1234ze refrigerant

**CITY™**



### City™ RTSF G

- Cooling capacity: 175-390 kW
- Efficiency up to 5.1 net EER and 6.3 SEER
- Variable speed screw compressor with Trane Adaptive Frequency™ Drive
- 1 refrigerant circuit
- Brazed plate heat exchangers
- Compact design make them a perfect choice for older buildings and confined spaces (city centers...)
- Minimum/maximum condenser leaving water: 10 to 80°C
- Minimum/maximum evaporator leaving water: -12 to 30°C

**XSTREAM™**  
EXCELLENT



### XStream™ Excellent GVWF G

- Cooling capacity: 310-1820 kW
- Efficiency up to 6.1 net EER and 8.8 SEER
- High speed oil-free centrifugal compressor using magnetic bearings
- 2 refrigerant circuits
- Shell and tube heat exchangers
- Minimum/maximum condenser leaving water: 20 to 55°C
- Minimum/maximum evaporator leaving water: 5 to 20°C

**XSTREAM™**

### XStream™ RTWF G

- Cooling capacity: 350-1420 kW
- Efficiency up to 5.1 net EER and 6.5 SEER
- Fixed speed or variable speed screw compressor
- 3 efficiency levels: Standard efficiency (fixed speed), High efficiency (fixed speed) or High Seasonal Efficiency (with Trane Adaptive Frequency™ Drive)
- 1 or 2 refrigerant circuits
- Shell and tube heat exchangers
- Minimum/maximum condenser leaving water: 10 to 85°C
- Minimum/maximum evaporator leaving water: -12 to 27°C



### RTWD G

- Cooling capacity: 360-810 kW
- Efficiency up to 5.2 net EER and 6.4 SEER
- Fixed speed or variable speed screw compressor
- 2 efficiency levels: High efficiency (fixed speed) or High Seasonal Efficiency (with Trane Adaptive Frequency™ Drive)
- 2 refrigerant circuits
- Shell and tube heat exchangers
- Minimum/maximum condenser leaving water: 14 to 75°C
- Minimum/maximum evaporator leaving water: -12 to 20°C



### XStream™ RTHF G

- Cooling capacity: 850-2760 kW
- Efficiency up to 6.2 net EER and 8.2 SEER
- Fixed speed or variable speed screw compressor
- 2 efficiency levels: Extra High efficiency (fixed speed) or High Seasonal Efficiency (with Trane Adaptive Frequency™ Drive)
- 2 refrigerant circuits
- Shell and tube heat exchangers
- Minimum/maximum condenser leaving water: 10 to 48°C
- Minimum/maximum evaporator leaving water: -12 to 20°C

# Trane Water-to-Water Heat Pumps with R1234ze refrigerant



## City™ RTSF G

- Heating capacity: 220-480 kW
- Efficiency up to 6.1 net COP
- Variable speed screw compressor with Trane Adaptive Frequency™ Drive
- 1 refrigerant circuit
- Brazed plate heat exchangers
- Compact design make them a perfect choice for older buildings and confined spaces (city centers...)
- Minimum/maximum condenser leaving water: 10 to 80°C
- Minimum/maximum evaporator leaving water: -12 to 30°C



## XStream™ RTWF G

- Heating capacity: 385-1590 kW
- Efficiency up to 4.8 net COP
- Fixed speed or variable speed screw compressor
- 3 efficiency levels: Standard efficiency (fixed speed), High efficiency (fixed speed) or High Seasonal Efficiency (with Trane Adaptive Frequency™ Drive)
- 1 or 2 refrigerant circuits
- Shell and tube heat exchangers
- Minimum/maximum condenser leaving water: 10 to 85°C
- Minimum/maximum evaporator leaving water: -12 to 27°C



## RTWD G

- Heating capacity: 265-1140 kW
- Efficiency up to 4.8 net COP
- Fixed speed or variable speed screw compressor
- 2 efficiency levels: High efficiency (fixed speed) or High Seasonal Efficiency (with Trane Adaptive Frequency™ Drive)
- 2 refrigerant circuits
- Shell and tube heat exchangers
- Minimum/maximum condenser leaving water: 14 to 75°C
- Minimum/maximum evaporator leaving water: -12 to 20°C

For more information about Trane and its products operating with near zero GWP refrigerants, go to [www.trane.eu](http://www.trane.eu), or contact your local Trane sales office.



Trane® is a brand of Ingersoll Rand®. Ingersoll Rand (NYSE:IR) advances the quality of life by creating comfortable, sustainable and efficient environments. Our people and our family of brands—including Ingersoll Rand®, Trane®, Thermo King® and Club Car® — work together to enhance the quality and comfort of air in homes and buildings; transport and protect food and perishables; and increase industrial productivity and efficiency. We are a global business committed to a world of sustainable progress and enduring results.



[trane.eu](http://trane.eu)

[ingersollrand.com](http://ingersollrand.com)