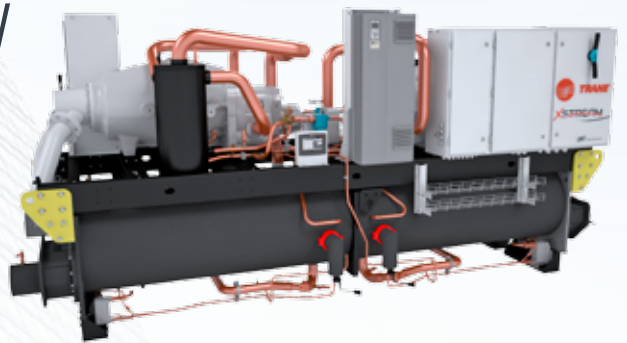




Water-Cooled Screw Chillers and Water/Water Heat Pumps

XSTREAM

Model RTWF 940 – 1800 kW
Model RTHF 1150 – 2250 kW



Trane XStream™

Water-Cooled Chillers and Water/Water Heat Pumps

There is world-wide demand for increasingly efficient products to reduce energy and resource consumption. As part of our sustainable product policy, Trane has always been committed to respecting the environment by reducing energy consumption through the delivery of high performing and efficient products and systems.

Trane XStream™ series provides reliable temperature control in the most demanding applications. Exceptional efficiency keeps your operating costs and environmental impact low. Smart and easy to use controls ensure you get the best out of your system day after day, year after year.

XStream chillers and heat pumps are ideal for

- Cooling and heating applications
- High and medium temperature industrial process applications



Office buildings



Healthcare



Data Centers



Automotive industry



Pharmaceutical industry



Plastic industry



Hospitality industry



District Cooling
District Heating

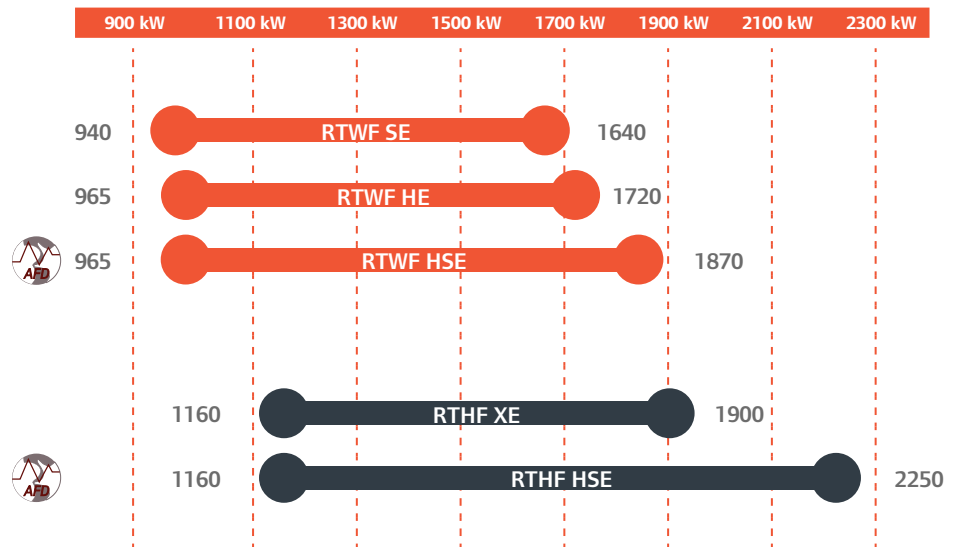
Where you need

- An extremely **reliable** source of chilled and/or hot water
- An extremely **efficient** system which can minimize your operating costs
- An extremely **versatile** system which adapts to your real building or cooling/heating requirements
- **Simple and dynamic** control over your system for dependable performance - day in, day out.

Range Description

A model for every need

Whether your priority is to reach ultra high efficiencies, benefit from low first costs, or have a quicker return on investment, there is a model in the Trane XStream range that will meet your needs.



Outstanding energy efficiency



The design of our new XStream chillers and heat pumps has been guided by the need to achieve the lowest energy consumption. Units deliver market leading part load and full load efficiency performance.

You can choose from four efficiency levels:

- Standard Efficiency (SE)
- High Efficiency (HE)
- Extra High Efficiency (XE)
- High Seasonal Efficiency (HSE) with integrated variable speed: Trane Adaptive Frequency™ Drive.

Trane exceptional reliability



With equipment as critical as an HVAC system or industrial process, quality is non-negotiable. At Trane we manufacture and design the core components and put our systems through extremely rigorous performance and reliability tests. All Trane units are given a complete test before leaving our factory. As a result, Trane customers benefit from proven, industry-leading reliability and durability.

Extreme versatility



Whether you have seasonal comfort requirements or a sensitive industrial application there is a model from the XStream range that will satisfy your needs.

By selecting the appropriate efficiency version, you can minimize your Total Cost of Ownership.

For even greater system efficiency, Trane XStream units are fully compatible with *Variable Primary Flow (VPF) applications and Series chiller arrangements.*

XStream chillers:

the smart choice for cooling applications

Because chillers rarely operate at design conditions, Trane developed the XStream range to achieve industry-leading part load efficiencies without compromising the environment.

Unique and innovative features



- Multiple compressor design allows outstanding part load efficiencies by switching compressors off while utilizing the entire heat exchanging surface for the remaining compressor(s)
- XStream chillers and heat pumps take advantage of crossflow serial heat exchanger design to reduce compressor workload under all operating conditions.

Variable Primary Flow (VPF) capabilities

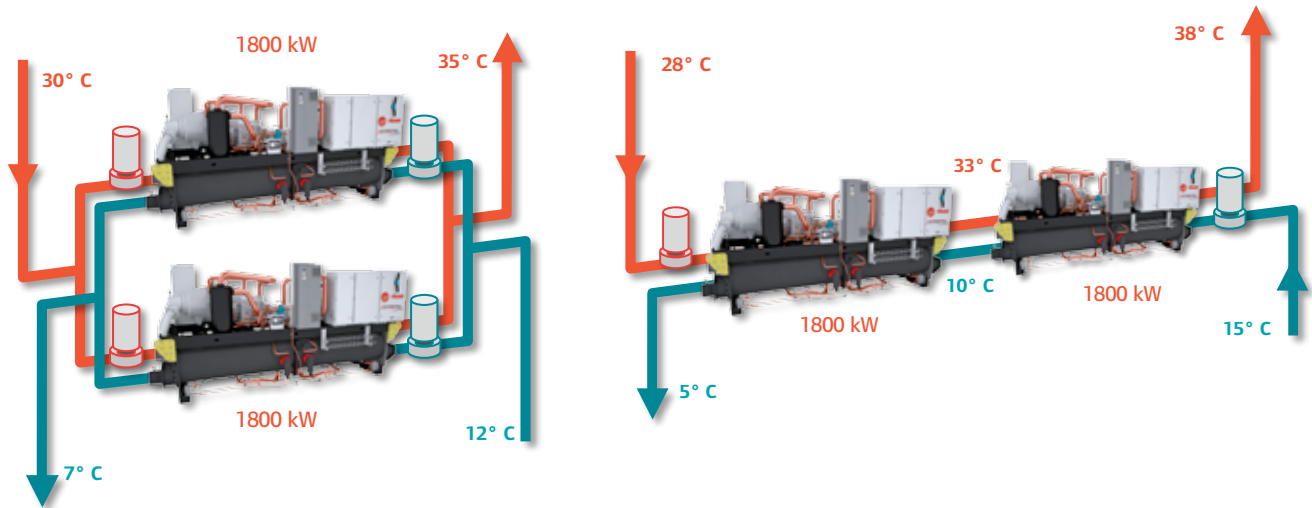


VPF systems provide building owners with multiple cost savings derived directly from pump operation. The XStream series is designed to make VPF easy to use.

- The evaporator on the XStream series can run safely with up to 50% water flow reduction
- The microprocessor and capacity control algorithms are designed to handle a maximum of 10% change in water flow rate per minute in order to maintain $\pm 0.3^{\circ}\text{C}$ temperature control leaving the evaporator.
- For applications in which system energy savings are the priority and tight temperature control is classified as $\pm 1.1^{\circ}\text{C}$, up to 30% change in flow per minute is possible.
- With the help of a TRANE software analysis tool, you can determine whether the anticipated energy savings justify the use of VPF in a particular application.

Multiple chiller plants III

Overall efficiency can be further improved by using an alternative chiller lay-out to the conventional parallel-piped configuration. For example, chillers can be piped in series, on the evaporator side, on the condenser side or both.



This layout provides the opportunity for

- Lower chilled water design temperature with larger ΔT
- Reduced design flow
- Installation and operational cost savings by fewer installed pumps and valves, reduced pipe diameters and chiller downsizing
- Maximized system efficiency
- Continuous temperatures allow better stability of controls

By combining series configuration with Variable Primary Flow (VPF) it is possible to further increase system efficiency.



XStream heat pumps:

ideal for heating applications

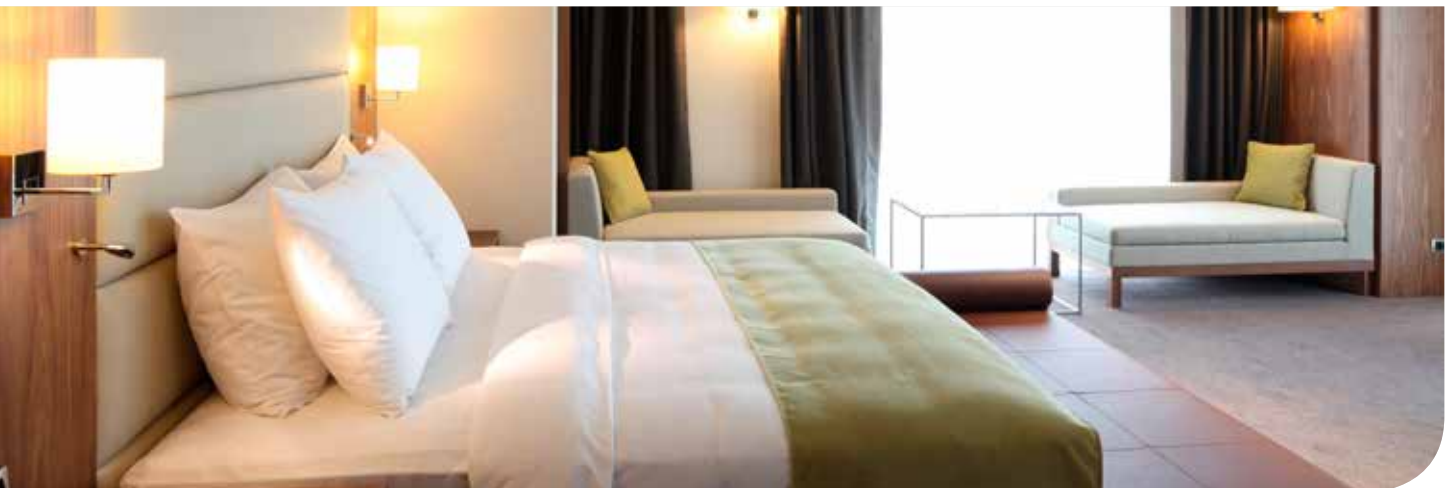
The market for heat pumps in Europe has grown substantially year over year as the advantages of heat pumps are proven. Trane introduces new technologies creating sustainable solutions using renewable energy.

Unique and innovative features



Trane XStream heat pumps are a smart alternative to traditional boilers with features which effectively address the needs of geothermal and district heating applications:

- Compressors specially designed for high temperature applications
- Large capacities (up to 2250 kW)
- High condensing water temperatures of up to 65°C (RTWF) allowing operation as a high temperature heat pump or a high condensing temperature cooling system.
- High performance (COP up to 4.5 at 45°C)
- Operates down to 8% part load requirements.





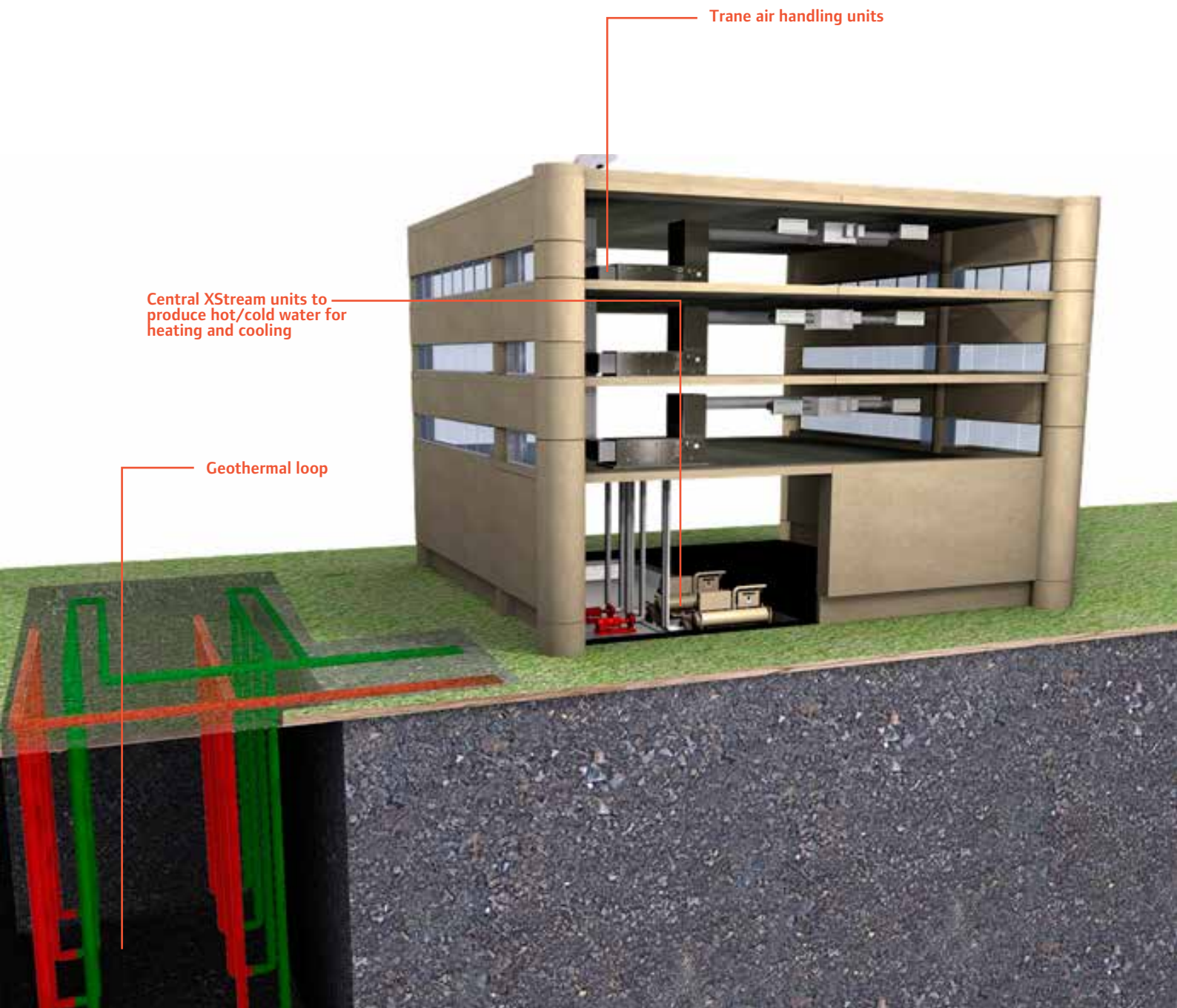
Peace of mind while saving energy costs



With water reaching 65°C leaving the condensers on model RTWF, costly auxiliary heating sources to treat Legionella bacteria can now be scaled back or totally eliminated.

Geothermal applications

The technologies built into Trane's XStream series heat pumps make them ideally suited to geothermal applications.



Trane air handling units

Central XStream units to produce hot/cold water for heating and cooling

Geothermal loop

Mechanical features

Innovative solutions to your needs

Trane industry-leading compressor *

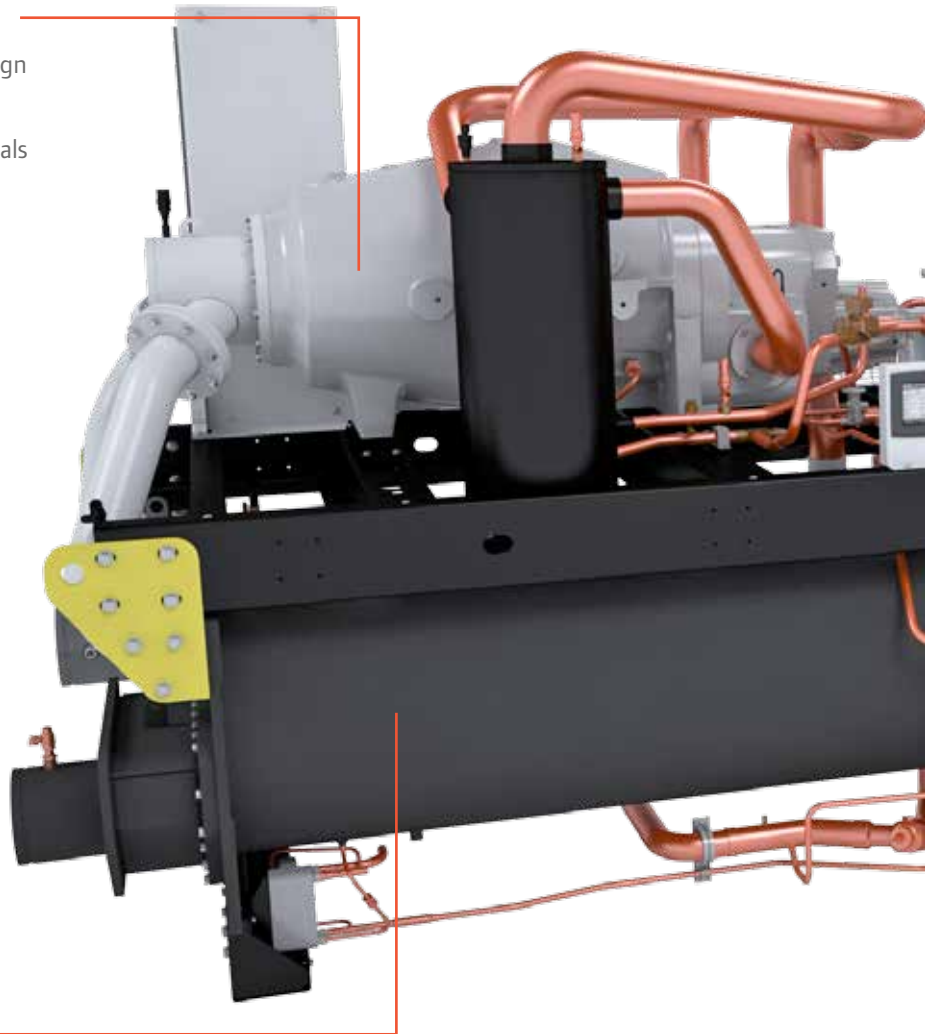
- Direct drive, twin screw helical rotary design
- Infinite capacity modulation
- Semi hermetic design eliminating shaft seals
- Trane unequaled reliability

Dual independent refrigerant circuits

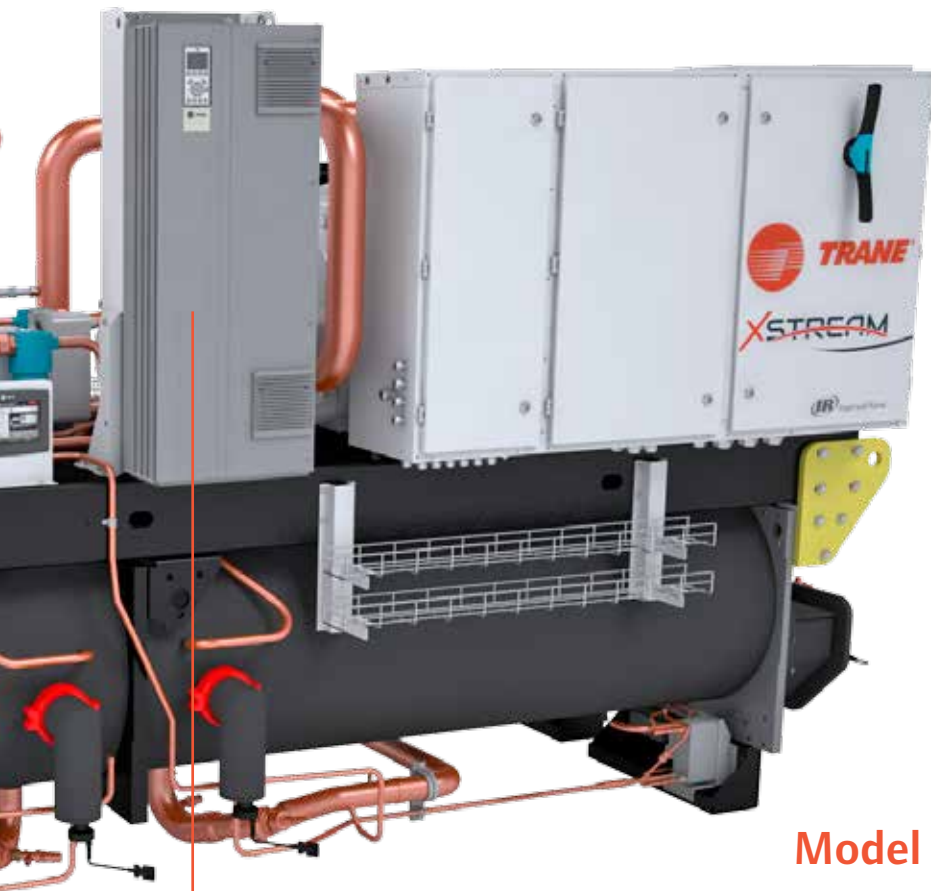
- Provide redundancy
- Reduce the impact of any failure

Heat exchangers *

- Single pass
- Counter flow configuration

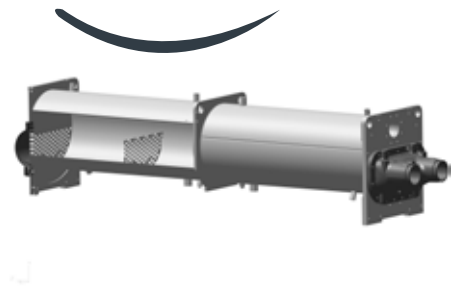


* Trane Proprietary Technology



**Compact - High performance -
Integrated design - Low charge
(CHIL) flooded evaporator ***

- Reduced refrigerant volume
- Increased efficiency
- Reduced carbon footprint



Model RTHF

Adaptive Frequency™ Drive on HSE version *

- Improved efficiency under part load conditions
- Improved capacity modulation



Control features

Innovative solutions to your needs

Trane combined smart control and interface *

- Leading TD7 touch screen with 7" color display
- Clear presentation of critical information
- Monitor settings, data trending, reports and alarms
- Simple, intuitive navigation
- Effective operation, monitoring and management
- Durable construction for both indoor and outdoor use



Tracer™ UC800 controller *

- New generation Trane control platform for chillers
- Advanced algorithms for the most challenging conditions
- Maintains efficient and reliable operation

* Trane Proprietary Technology



Model RTWF

Connectivity

- Full interoperability via SmartCom interface Lontalk®, BACnet® and Modbus
- Full remote control capability via Trane BMS or Chiller Plant Controls



LONMARK
SPONSOR



The Trane advantage



Trane is recognized as a world leader with over **100 years of experience** in creating and sustaining safe, comfortable and energy efficient environments while improving the performance of buildings and processes around the world.

Trane innovative solutions optimize indoor environments with the **broadest portfolio** of energy efficient heating, ventilating and air conditioning systems, building services, parts support and advanced controls in the industry.

To ensure your equipment continues to work at its optimum, throughout the life of the building, Trane provides a full range of service solutions, combined with in-house expertise and the **most extensive service and support network** in the industry.

And with Trane's **extensive rental fleet** all your temporary cooling and heating needs are served: we provide continuous cooling or heating during equipment changeouts or supplemental supply for those times when your cooling loads exceed your current system's capacity. For more information: www.trane-chiller-rental.eu

Ingersoll Rand recognition



Ingersoll Rand is ranked as 4th in the 2016 edition of FORTUNE'S World's Most Admired Companies list (Industrial Machinery category), based on criteria ranging from investment value to social responsibility.



Ingersoll Rand was recognized at the 2016 Climate Leadership Conference for its refrigerant phase-out efforts by the US EPA, its greenhouse gas emissions reduction goal of 35% by 2020 and its commitment to reduce the climate impact of the refrigerants used in its products by 50% by 2020.



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.



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Trane has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice.
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We are committed to using environmentally conscious print practices that reduce waste.

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