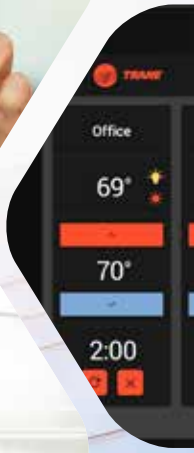
TRANE®



Systems Guide 2020

Equipment, controls and services for integrated HVAC-R solutions in commercial and industrial markets

TRANE TECHNOLOGIES

WHO WE ARE

Trane designs, manufactures and services HVAC-R systems and controls to create and sustain safe, comfortable and efficient work environments for buildings and industrial processes.

We offer a collective knowledge-based system with the applications expertise to create truly comprehensive solutions. With our broad product and service offerings plus premium aftermarket and rental services, Trane can help customers achieve their business objectives. Our integrated solutions help reduce energy use and costs while meeting the high levels of comfort and performance critical to our customer's business operations.

TOTAL LIFE CYCLE MANAGEMENT

Our capabilities span every step in your HVAC systems' life cycle. As an industry leader, we deliver Performance, Innovation, Commitment and Knowledge at every turn. A long-term relationship with Trane ensures that your original investment delivers a solid return.

At the **concept and design** stages, collaboration between Trane and the design engineering team ensures that the HVAC system specified is ideally suited to deliver long-term cost and performance benefits, based on the purpose of the building and the mission of your organization. Our **wide-ranging equipment and controls selection** offers solutions to meet every need. The recent expansion of our line of multi-pipe units is one example of Trane commitment to provide sustainable solutions to applications looking to simultaneously deliver heating and cooling.

At the installation stage, our **commissioning offerings** ensure that the new equipment or system is properly started and operates at design parameters.

With a **full range of aftermarket capabilities** and an extended service network, Trane offers parts and services to suit very specific requirements. Trane engineers and technical specialists can provide the support you need to gain the most cost-effective and beneficial performance possible from your HVAC system—from its first days of operation until the day it needs replacement.

Finally, **Trane Rental Services** is also there to keep businesses operational with emergency or planned events. Whether for short-term or long-term cooling or heating, Trane Rental Services provide fast, safe and cost-effective solutions using modern and reliable equipment.

WORKING TOWARDS HIGH PERFORMANCE BUILDINGS

Energy efficiency, system reliability, occupant health and safety, processes for environmental compliance... everything in a high performance building works in a synchronized way to support the mission and values of the organization.

Trane offers a holistic, assessment-based approach to ensure HVAC systems constantly deliver as effectively as possible. **Trane Building Advantage** provides modernization solutions that can virtually improve any existing structure.

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Trane HVAC Systems

Chillers
Air-cooled chillers, water-cooled chillers,
heat rejection devices

Heat Pumps
Air-to-water heat pumps,
water-to-water heat pumps

Multi-pipe Units

Airside and Water Terminal Products

Rooftops and Condensing Units

Controls

Building Services

What's New from Trane

RTAF Extra Efficiency air-cooled variable volume index screw chillers

A new addition to the well-known Sintesis™ family of chillers and heat pumps

- Part load efficiency improvement featuring the latest Trane screw compressor with Variable Volume Index (Variable Vi) that allows the equipment to operate at the most appropriate pressure ratio to reach remarkable efficiency levels.
- Permanent magnet motor as standard
- Integrated muffler as standard
- Multiple sound attenuation packages
- XSS design is optimized for reduced overall length
- Models RTAF XSE-XSS: 350-1250 kW
- EER up to 3.8, SEER up to 6.41

RTHF Extra Efficiency water-cooled variable volume index screw chillers

A new addition to the well-known XStream™ family of chillers and heat pumps

- Record breaking seasonal efficiency by Trane screw compressor with Variable Vi adapting to any operating condition
- Variable Vi increases part load efficiency (SEER) by 10% vs. the already high efficient fixed Vi RTHF.
- Model RTHF XSE: 2970 – 3635 kW
- SEER up to 10.1

RTWF Extra Efficiency variable volume index screw chillers and heat pumps

A new addition to the well-known XStream™ family of chillers and heat pumps

- Part load efficiency improvement featuring the latest Trane screw compressor with Variable Volume Index (Variable Vi) that allows the equipment to operate at the most appropriate pressure ratio to reach remarkable efficiency levels.
- Permanent magnet motor as standard
- Integrated muffler as standard
- Multiple sound attenuation packages
- Models RTWF XSE: 380-1260 kW
- SEER up to 9

R513A now available on all Sintesis and XStream screw and high speed centrifugal chillers and heat pumps

After being the first manufacturer to offer a full range of chillers operating with low-GWP R1234ze refrigerant, the entire Trane screw and high speed centrifugal compressor range is now also available with R513A.

Available on:

- Air-cooled models RTAF and GVAF
- Water-cooled models GVWF and RTWF

RTAF air-cooled screw chillers with <1 GWP HFO for industrial process applications

- Design dedicated to industrial process and ice rinks applications, optimized for negative temperature leaving brine (down to -12°C EG / -8°C PG)
- Near zero GWP R1234ze refrigerant, a safe alternative to natural refrigerants
- Three heat recovery options to re-use process cooling energy for heating
- Model RTAF G Process: 410-755 kW

What's New from Trane (continuation)

CMAF air-to-water multi-pipe units

Trane's fourth generation of air source multi-pipe units. Ideal for electrification of heating systems, especially when there is a (seasonal) demand for simultaneous cooling and heating.

- Heating capacities: 280-660 kW
- Total Efficiency Ratio (TER) up to 7.6
- Trane Tracer™ Symbio™ 800 controller with unique multiple (6) arbitration choices
- Variable refrigerant charge management for optimal refrigerant charge in each operating mode
- Low Energy Super Subcooler System® and counter flow condenser for optimal heating performance and highest unit efficiency

Sustainability: Up to full energy recovery and use of renewable energy delivering
"Best return for every kWh of electricity used"

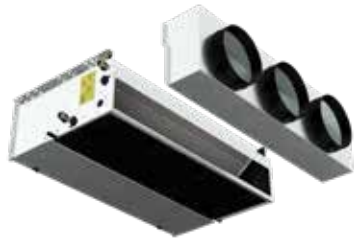
All-in-one light commercial packaged rooftops

New range of small rooftops, ideal for light commercial single zone applications:

- Model SH/SC
- Cooling and heating capacity 20-40 kW
- Airflow 4500-9000 m3/h
- Inverter-driven compressor and EC plug fan for high seasonal efficiency
- Heat recovery options

Rooftops with Adaptive Frequency™ Drive

- Compliant with Ecodesign Tier 2 requirements
- Improved comfort with tighter temperature control
- Nominal cooling and heating capacity up to 65 kW
- Airflow range up to 16,000 m3/h



D-line: low noise ducted terminals

- Model DFSL/DFEL
- Lower noise operation with up to 10 dB(A) lower sound power level versus legacy product
- Wider airflow range per size, providing more flexibility
- Extended range for EC motor version up to 12 kW

CONQUEST

R454B - Sustainable low GWP refrigerant, optional on Conquest air-cooled scroll chillers

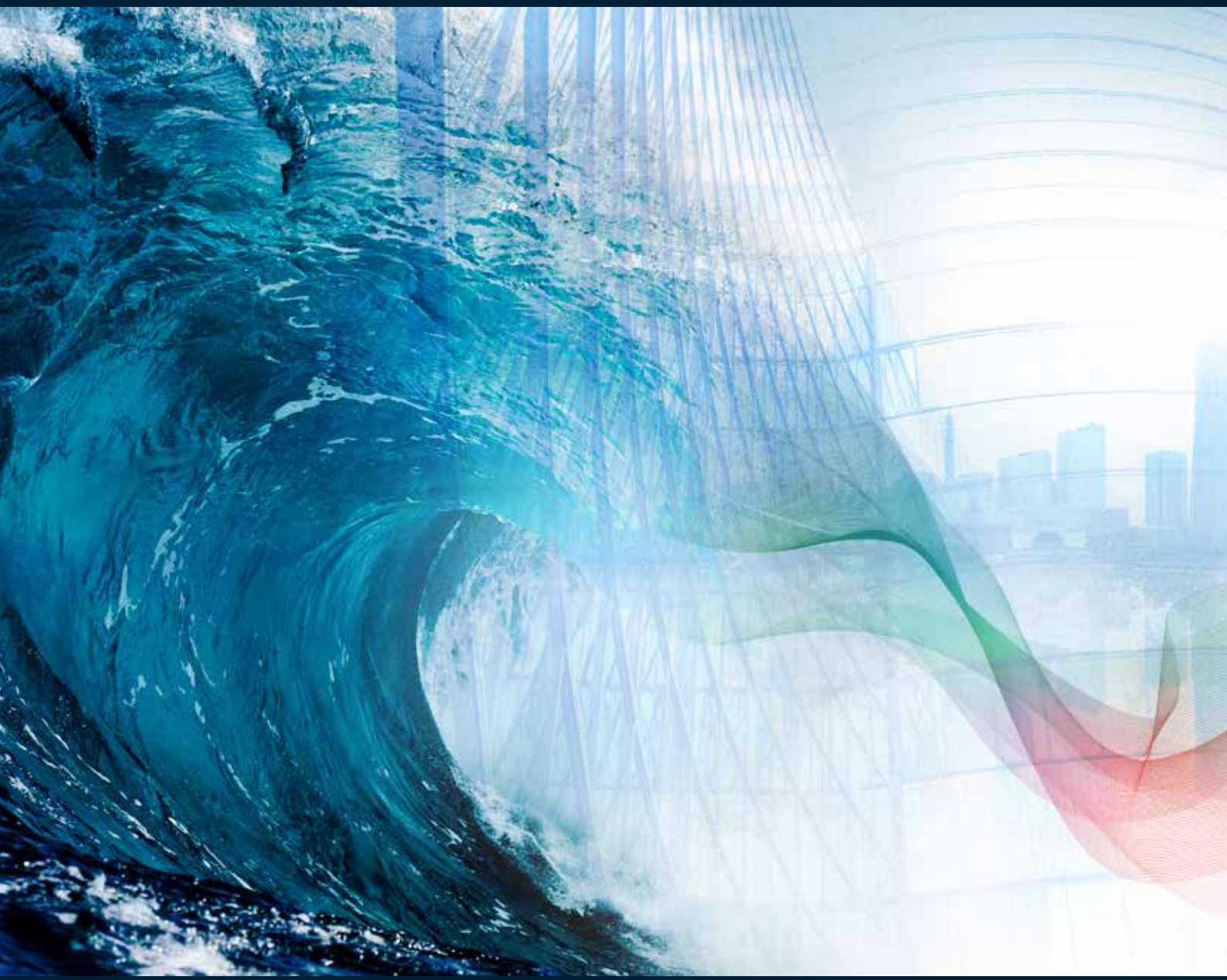
- Sustainability with new refrigerant R454B
- Lowest GWP replacement for R410A.
  R454B - GWP of 466 or 78% below R410A
- All models pass the high seasonal efficiency levels (Ecodesign SEER) mandatory from January 2021
- Excellent performance with enhanced operating map
- Proven chiller design with variable volume scroll compressors
- Short delivery times for immediate chiller replacement projects

FLEX$_2$O

Capacity extension on FLEX$_2$O chillers and heat pumps

- Chillers and heat pumps from 160–700 kW
- All models two refrigerant circuits and variable volume scroll compressors
- Trane Tracer™ Symbio™ 800 unit controller
- High full load and seasonal efficiencies, compliant with Ecodesign January 2021 thresholds (SEER)
- Easy internal transport and installation - all models a width of maximum 800 mm
- Multiple hydraulic module and sound attenuation packages available

POWERED BY TRANE
SUSTAINED **BY NATURE**



TRANE HEATING. NATURALLY.

Air-to-water heating solutions

PICCO

Scroll heat pumps with inverter
6-70 kW

FLEX

Modular scroll heat pumps
55-130 kW

TRANE CUBE

CONQUEST

Scroll heat pumps
CXB/CXAX/CXAM
14-327 kW

SINTESIS™ ADVANTAGE

Scroll heat pumps
CXAF
290-680 kW

LYRA

Scroll indoor heat pumps
CXCN
62-327 kW

BALANCE™

Multi-pipe units
CMAC (scroll)
50-880 kW

Water-to-water heating solutions

CITY

Screw heat pumps
RTSF G
220-445 kW

XSTREAM™

Screw heat pumps
RTWD/RTWF
231-2037 kW

CGWN

Scroll heat pumps
50-375 kW

FLEX O

Scroll indoor heat pumps
CXWF
60-700 kW

Air-to-air heating solutions

AIRFINITY™

Air-to-air packaged reversible heat pump rooftops
15-300 kW

= Maximum leaving hot water temperature

There is world-wide demand for sustainable and more efficient products to reduce energy and resource consumption. Trane is committed to innovating and manufacturing products which are fully compliant to EU legislation on Ecodesign and energy labelling.

Single Source Solutions for Light Commercial Applications

From retail stores to restaurants, schools to healthcare facilities or residental complexes, Trane **light commercial systems** are designed to provide reliable **comfort** to building occupants, **reduce total cost** of ownership, and **simplify installation and maintenance.**

Our products range from **heat pumps and chillers**, to **rooftops** and **water terminals**. Every one is designed to provide cost-effective comfort and reliability. Our units can feature a number of factory-installed options that increase system flexibility and reduce precious system design and installation time. And, **intelligent controls** tie everything together into a true system, maximizing efficiency, minimizing energy requirements and allowing ongoing monitoring of system performance.

Chillers, heat pumps and rooftops

PICCO 

Small capacity heat pumps with inverter compressors

- Energy efficiency class A in cooling and heating
- Stepless capacity control
- Can provide hot water for winter heating, sanitary hot water and chilled water for summer cooling
- Energy saving inverter compressors
- Compact design

Cooling 6-70 kW
Heating 6-70 kW

TRANE CUBE 

Small capacity chillers and heat pumps

- High seasonal efficiencies
- Energy efficiency class A+
- Competitive to inverter driven products
- Reduced refrigerant charge thanks to microchannel condenser (CGB)

CGB
Cooling 15-50 kW
CXB
15 - 78 kW
17 - 87 kW

TraneCube HT heat pump: optimized for medium/high temperature heating applications at low ambient air temperatures
Up to 65°C leaving water temperature at -10°C outdoor air

FLEX 

Modular chillers and heat pumps

- Design flexibility (compact)
- Hydraulic connection kit (optional) to reduce installation time and costs
- Flex HT heat pump: optimized for medium/high temperature heating applications at low ambient air temperatures
- Up to 65°C hot water temperature at -10°C outdoor air
- Unique inverter driven Flex HSE Scroll chiller with stepless capacity control

Cooling 50-135 kW
Heating 50-135 kW
Total capacity: 810 kW
with 6 units combined

CONQUEST 

Chillers and heat pumps

- Compact, reliable, dual refrigerant circuit design
- Optimized part load efficiency
- Wide operating map
- Reduced refrigerant charge
- Low energy consumption
- Optional R454B refrigerant

Cooling 40-165 kW
Heating 40-165 kW

AIRFINITY S 

Packaged rooftops

- High seasonal efficiency, for optimum performance all year round
- Free cooling and heat recovery solutions for lower total cost of ownership
- Compact and modular design with fully integrated controls
- Faster, easier, less expensive installations

Airfinity: 40-133 kW
Airfinity S: 15-40 kW

SINTESIS™ FAMILY

Trane's Sintesis™ air-cooled chiller and heat pump portfolio represents industry leading performance and flexibility. Always striving for perfect fit not only to your building and application requirements, but also to your sustainability and budget targets.

SINTESIS™ EXCELLENT

GVAF WITH HIGH SPEED CENTRIFUGAL COMPRESSORS

450-1576 kW

R1234ze R513A R134a

SINTESIS™ PRIME

RTAF WITH SCREW COMPRESSORS

300-2090 kW

R1234ze R513A R134a

SINTESIS™ ADVANTAGE

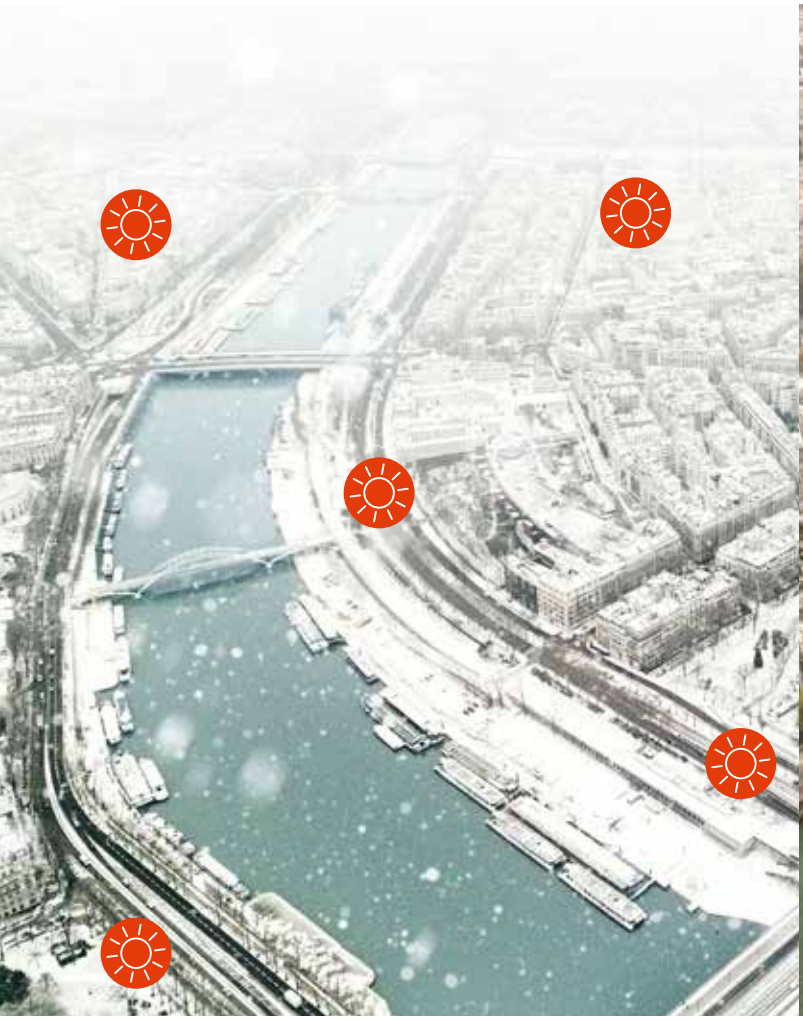
CGAF/CXAF WITH SCROLL COMPRESSORS

Cooling: 280-690 kW

Heating: 280-680 kW

R410A

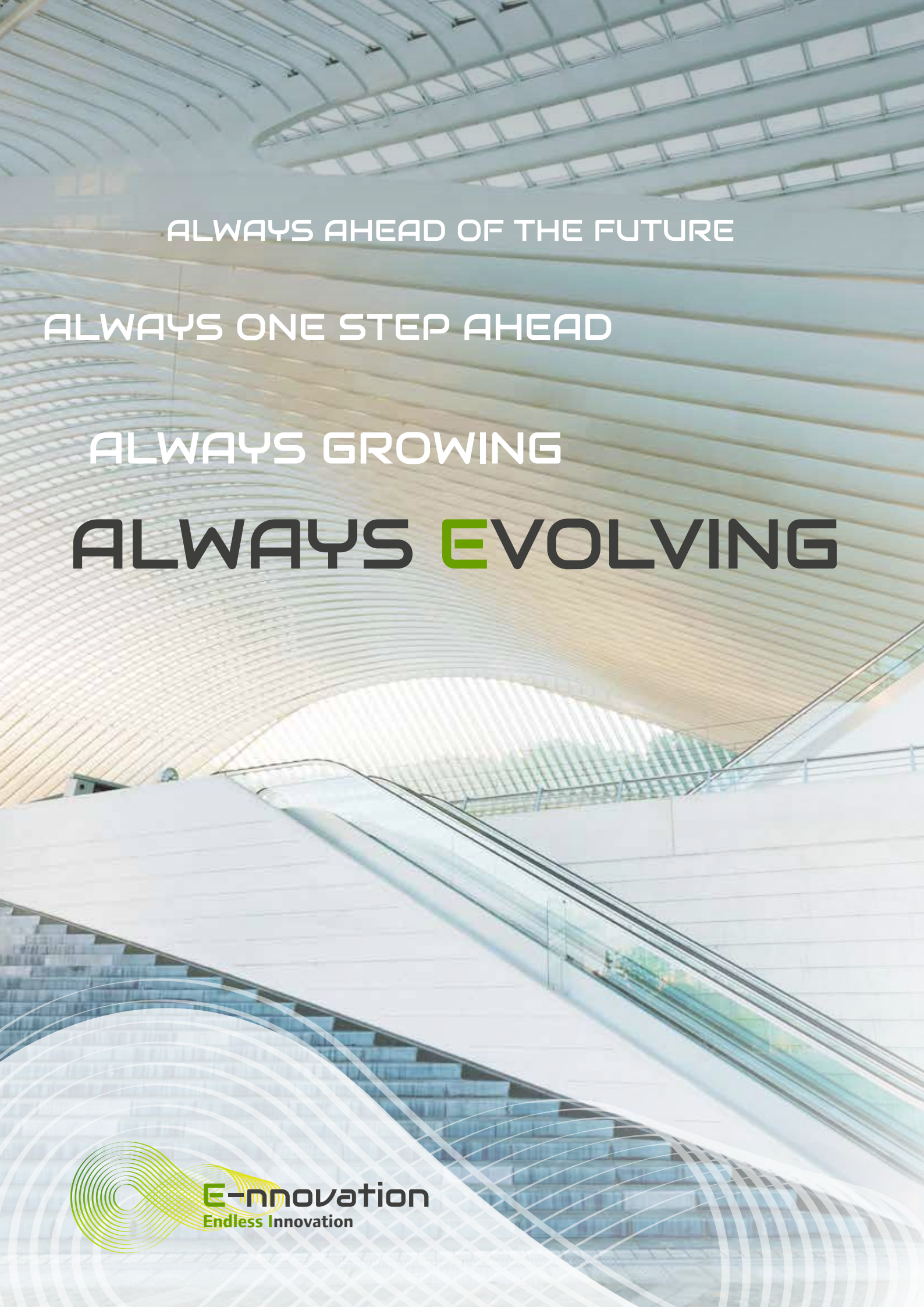
SUSTAINABLE AND RELIABLE COOLING OR HEATING. ALL YEAR ROUND.



SINTESIS™ ADVANTAGE

AIR-TO-WATER HEAT PUMPS

- One single packaged unit for winter and summer demands
- Available in High Efficiency HEat version
- Best-in-class efficiency in both full load and part load
- Highly configurable with multiple fan and low noise options
- Reliable performance, even when it's -15ºC outside
- Tested to the limits, built to last – the Trane guarantee


ALWAYS AHEAD OF THE FUTURE
ALWAYS ONE STEP AHEAD
ALWAYS GROWING
ALWAYS EVOLVING
E-nnovation
Endless Innovation

ALWAYS EVOLVING

OUR INNOVATIVE HVAC SOLUTIONS

to help European Building Owners achieve Sustainability Goals

SINTESIS™ ADVANTAGE

Air-cooled scroll chillers and air-to-water heat pumps
Ultimate flexibility
290-680 kW

SINTESIS™ PRIME

Air-cooled chillers with screw compressors
High value in comfort or process applications
320-1720 kW

SINTESIS™ EXCELLENT

Air-cooled chillers with high speed centrifugal compressors
Market-leading efficiencies
450-1613 kW

BALANCE™

Air-to-water multi-pipe units for Standard and High Efficiency versions
50-880 kW

CITY

Water-to-water screw heat pumps
Compact, sustainable and high performance
220-445 kW

XSTREAM™

Water-cooled screw chillers and water-to-water heat pumps
Unmatched high capacities
350-3670 kW

AIRFINITY™ XL

Packaged rooftops
Lower refrigerant charge thanks to microchannel coil technology
Energy Recovery solutions
120-300 kW

R1234ze Solutions available with next generation near-zero GWP refrigerant R1234ze

ErP Compliant Trane is committed to innovating and manufacturing products which are fully compliant to EU legislation on Ecodesign and energy labelling.

Learn more about Trane's E-nnovation portfolio. Contact Trane today on www.trane.eu

Our 2030 Commitments

We're leading our industry into a new age of sustainability

Global challenges inspire bold thinking, and our 2030 Commitment is changing every major facet of our business — from operations, to supply chains, to employee and community development, to governance.

TRANE TECHNOLOGIES

Customer Outcomes

Reduce customer carbon footprint by one gigaton (or one billion metric tons of CO_2e).

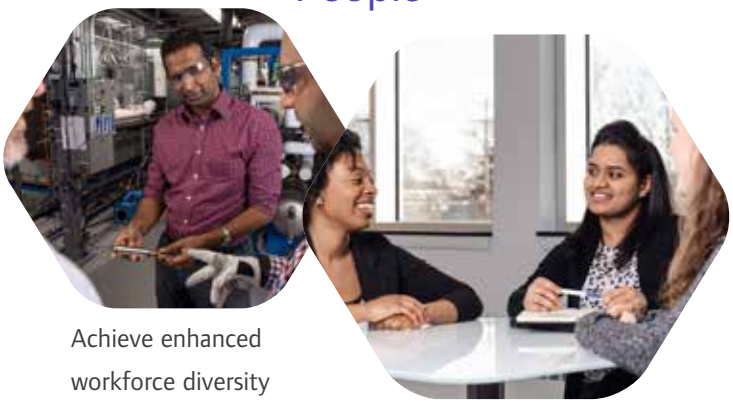
Design systems for circularity

Operations & Supply Chain

Achieve carbon-neutral operations

Deliver zero waste to landfills

People



Achieve enhanced workforce diversity reflective of our communities

Achieve gender parity in leadership roles

FIND OUT MORE ON
www.tranetechnologies.com/en/index/sustainability/our-2030-commitments.html

EcoWise™

Trane has created the EcoWise™ portfolio of products for its refrigerant-bearing products that are designed to lower environmental impact with next generation, low global warming potential (GWP) refrigerants and high efficiency operation. These products are compatible with and can use next generation low GWP refrigerants, reduce environmental impact by lowering greenhouse gas (GHG) emissions, and maintain or improve safety and energy efficiency through innovative design.

The products to earn the EcoWise endorsement are:

Trane Sintesis™ air-cooled chillers, models RTAF and GVAF

Trane XStream™ water-cooled chillers and heat pumps, models RTWF, RTHF and GVWF

Trane City™ water-cooled chillers and heat pumps, model RTSF

Trane RTWD water-cooled chillers and heat pumps

Trane Series E™ CenTraVac chillers, models CDHH and CVHH

Proven performance to make buildings work better

Businesses around the world are being challenged to improve energy efficiency. According to the World Business Council for Sustainable Development, buildings worldwide account for 40% of global energy consumption. Of that amount, between 45% and 65% is used by HVAC systems that keep building environments comfortable and healthy. The slightest inefficiencies in cooling and heating equipment create a huge energy drain and the financial impact is significant.
Trane captures emerging technologies when designing products, and develop with energy efficiency, and low operating costs in mind, to allow building owners to manage energy better. Whether it is a chiller rated Class A in the Eurovent* certification program – or water terminals equipped with an EC fan motor - saving the customer energy costs is one of Trane's priorities.

The proof is in the testing

The testing process starts in research and development. We look at environmental performance, acoustic characteristics, operating longevity, and overall operating efficiency.
At Trane, computer selection programs predict equipment performance based on laboratory testing.
Factory performance tests confirm that the actual Trane product performance matches the predicted performance and the results serve as a benchmark during the commissioning process.
We are committed to the highest level of design and manufacturing accuracy to make sure that your products performs as expected.
Trane European HVAC Research and Development Testing Facilities fully comply with European Standard EN 14511, meaning that procedures, measurements and conditions are respected to provide our customers with trustable and certified performances.
Eurovent certification of air-cooled chillers is on a voluntary basis above the cooling capacity of 600 kW. Trane's commitment to deliver guaranteed performance is demonstrated by Eurovent certification of all capacities across the range of Trane products.
After an extensive and rigorous inspection process conducted by Eurovent, Trane's test stands in Charmes, France are approved for conducting Eurovent certification tests for air-cooled chillers above 600 kW, recognizing the right to Trane to test air-cooled chillers up to 2000 kW and water-cooled chillers up to 2300 kW in his own facilities as part of the certification program.
The Eurovent certification brings clarity and transparency. It also shows the Trane commitment to deliver systems with high levels of performance and reliability.

*Eurovent, the European Association of Air Handling and Refrigerating Equipment Manufacturers, certifies the performance ratings of air conditioning and refrigeration products according to European and international standards. The objective is to build customer confidence by increasing the integrity and accuracy of industrial performance ratings.

TRANE HVAC SYSTEMS

Every building has a purpose, whether it's to nurture inventions, house masterpieces, cultivate learning or even to host birthday parties. A true high performance Heating, Ventilating and Air Conditioning (HVAC) system is one that makes your building work better for life.

Trane solutions for healthcare facilities

Understanding hospital cooling and heating needs

A smooth-running HVAC system is critical for hospitals. From staff comfort to patients' care, it has a positive effect on your operation and your bottom line. Trane has decades of experience in hospitals and understands how to ensure the highest standards of safety and comfort. We have expertise in emerging areas like distributed energy resources, digital connected technologies, and strategic energy supply and demand management. At Trane, we know that we can make a positive impact, and that is why we provide industry-leading efficiencies, sustainable solutions, world-class building automation systems and a complete energy services portfolio designed to maximize your facility potential.

Cooling

A global approach including ice storage, also used to connect heating and cooling requirements during the day, free cooling, heat recovery and variable flow ensure that healthcare operations run smoothly regardless of high outside temperatures. Capacity reduction during cooler weather enables substantial energy savings.

Sanitary Hot Water

Trane installations (4) allow fossil fuel fired boilers to be stopped during summer and air/water sourced heat pumps to be used up to 80°C to re use energy from the building, producing hot water at a fraction of the normal cost.

Trane HVAC solutions for healthcare

- Sustainable
- Low carbon footprint
- Industry-leading efficiencies
- High reliability
- The highest standards of safety and comfort
- Innovative air- and water-cooled platforms
- HFO refrigerant available on all Trane units (150 kW to 14 MW)
- Minimize environmental impact
- World-class building automation systems
- Expertise in emerging areas
- Complete energy services to maximize your facility potential
- Equipment as a Service: Renting equipment instead of investing capital in it

Cooling
State-of-the-art, proven technologies:
1 = Ice storage
2 = Free cooling
3 = Heat recovery

Sanitary Hot Water
4 = Air/water sourced heat pumps (up to 80°C to produce sanitary hot water at a fraction of the normal cost)

5 = Ice storage and chiller plant management control.

SINTESIS™

R1233zd R1234ze XSTREAM

CenTraVac™

Our sustainable portfolio

- Innovative air- and water-cooled platforms
- Minimize environmental impact
- HFO refrigerant on all Trane units (150 kW to 14 MW)

Trane solutions for the food and beverage industry

Sustainable low temperature HVAC systems

Trane has decades of experience providing customers in the food and beverage industry with the right solution for their application ranging from warehousing to food processing plants.

Maintaining the Cold Chain

The Cold Chain that stretches from processing to distribution through packaging and storage should provide an uncompromising level of quality and safety. Trane low temperature systems meet all hygrometry and glycol water supply requirements down to -8°C with monopropylene and -12°C with monoethylene.

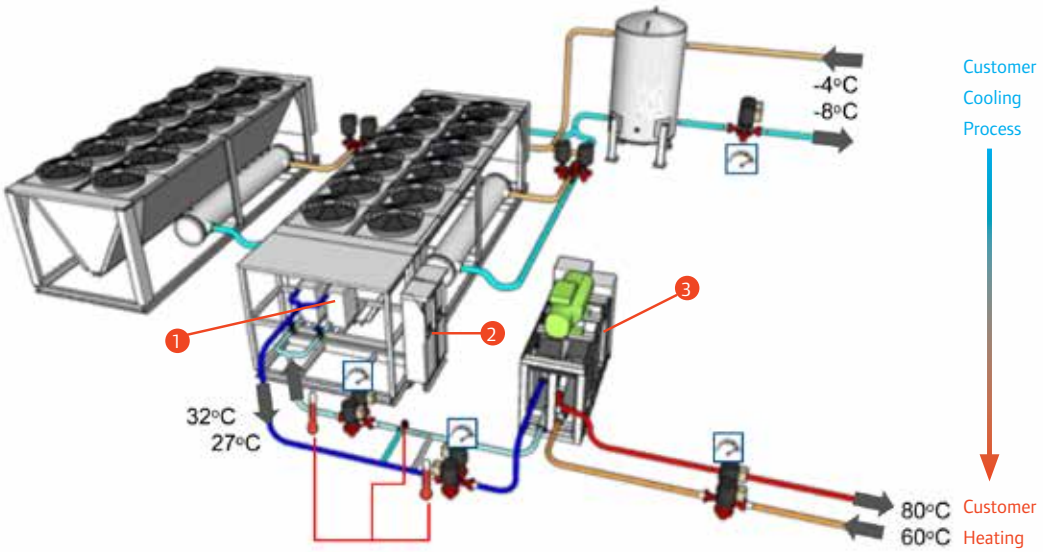
Cooling

Trane system solutions ensure the conservation of perishable foods (cooling and freezing) and offer market-leading economy in energy consumption.
One of the many examples could be a cold room with a storage temperature of 2° to 4° C created by a propylene glycol cooling system at -8°C.

Hot water production

Trane cooling systems offer «Free Heating» while cooling. By reusing the energy extracted from the cooling process elevated to temperatures up to 80°C, consumption of fossil fuel and the related CO_2 footprint can be significantly reduced.
No compromises in Safety, Sustainability or Performance

- Ozone impact: 0 ODP (Ozone Depletion Potential)
- Global Warming Potential: GWP <1 (less than CO_2)
- No TriFluoracetic Acid (TFA) production
- Non-flammable R1234ze at room temperature below 30°C (Class 2L)
- Non-toxic (Class A)



- **2 x RTAD150 / -4/-8°C + THR + VFD**
- **Hot water production 80/60°C (CITY)**

1 = Heat Recovery Kit
2 = VFD reducing compressor energy
3 = HFO City RTSF heat pump

Trane innovation continues during product lifetime

Trane Cooling and Heating systems are renowned for their long service life, so we have developed upgrade kits to make state-of-the-art performance achievable even half way through the system lifetime.

A food processing facility using 2 RTAD air-cooled chillers to keep their cold storage at + 2° / + 4°C needed hot water for daily washing. An upgrade solution was created by Trane Building Advantage Total Heat Recovery (re-using the energy from the cooling process) and a Variable Frequency Drive on the compressors (Efficiency improvement). A City RTSF heat pump was added to further boost temperature to 80°C. The total installation performance and reliability is optimized at all working conditions by Trane Chiller Plant Manager.

- Proven savings based on 1200 hours operation: **€11,120 / year**
- Proven savings by Trane Chiller Plant Manager: **€15,000 / year**
- Sanitary water production cost: **50% reduction** compared to the use of boilers

Trane solutions for the lodging industry

Reaching for perfection

Maintaining a high and consistent level of comfort is critical in the lodging industry. Hotels succeed or fail based on their ability to achieve high occupancy levels at profitable rate levels. The prime influence on this occupancy rate is guest satisfaction. A room that is uncomfortable creates a powerful negative impression. Trane has both experience and a portfolio of products to help managers of hotels attract and retain guests.

Trane Balance™ high efficiency multipipe units provide simultaneous delivery of 0 - 100% heating and/or cooling all year round, increasing guest comfort in each hotel room, and significantly reducing energy costs.

Trane has decades of experience working with the lodging industry, from individual hotels to global chains. Energy is the second-highest operating cost component in the lodging industry. From 50 to 80 percent of the energy costs in lodging are related to HVAC system operation and Trane has innovative, sustainable solutions to keep your energy costs to a minimum with efficient equipment and high performance building management systems.

1 = Heating and Cooling plant: 2 Balance™ multi-pipe units with factory-mounted UC800 controller
2 = Fresh air control: AHU with Trane factory mounted-control (UC400/UC600)
3 = Room comfort: DFE with EC fan motor and Trane control (UC400)
4 = Humidity air control for gym and swimming pool: AHU with UC600
5 = Building systems operations and management: Trane Tracer Ensemble™ and Tracer® Synchrony web-based solutions
6 = Access and room booking systems integration: through standard BACnet® protocol

Control systems improve comfort, simplify maintenance and optimize operation

Within your lodging facility, there are areas with varying requirements. Guest rooms, lobby areas, dining areas and recreation zones all have different environmental requirements. Food preparation areas need extensive ventilation and to be kept separate from other areas. Pools and gymnasiums also have special temperature requirements and need effective dehumidification year round. Part of the solution is quality equipment, properly sized, and correctly installed. The other part is a control system that can keep all areas operating in harmony.

A control system also makes it possible to optimize equipment operation. For example, in a chilled beams system, the primary air conditions (temperature/humidity) can be reset according to the most demanding zone.

Comfort systems and the bottom line

Trane's international organization appreciates that different regions have varying comfort needs, building codes, and engineering practices. Our vast local sales and service support teams, with their extensive local experience and customer relationships, add value to your plans. Regardless of the size or scale of your lodging business, we're ready to help.

Building operation at your fingertips

With Trane web-based Controls solutions, the overall building operation can be monitored and managed from anywhere. Alarms and events are routed to operators' smartphones and computers, wherever they sit, no matter how many users there are.

Trane solutions for retail businesses

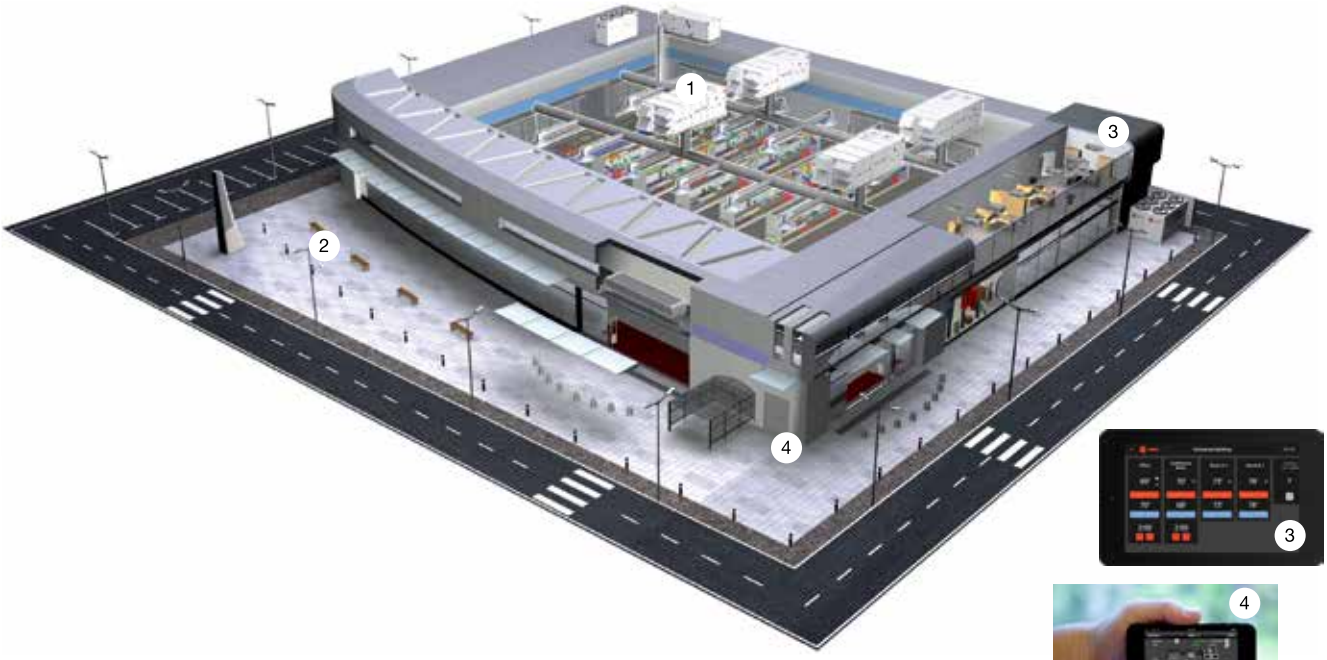
Creating the perfect atmosphere

From simple stores to modern shopping complexes, Trane has experience in the retail business. We know that the temperature, humidity and ventilation management needs of stores are different than for other buildings. Leveraging our experience, we can help you identify specific areas for energy and comfort improvement and keep your buildings operating at their design levels. And with contingency planning and our thousands of equipment and controls technicians, we can help you reduce the risk of sales lost due to comfort system failure.

Delivered system

Trane controls system address systems from very simple applications to large retail complexes.
Trane Tracer Concierge comes as a factory-installed solution. It is set up in a matter of minutes and offers advanced controls features such as zone management, allowing daily users to manage multiple units serving one single area in the building as ''One Unit''. It also offers time of day scheduling with exception days and vacation periods planning.
Not only does it address daily user ease of use concerns, it also provides service features, only accessible by authorized users, giving access to information about system status, unit detailed information and allows for eventual alarms diagnostics and reset.

With all these features, Tracer Concierge provides energy savings, which can reach up to 15% savings compared to an uncontrolled system.
Tracer Concierge might evolve up to multiple user displays in the building, system remote access from any mobile device connected to the Internet, and even to a full BMS capability, including advanced reporting, trending and archiving.



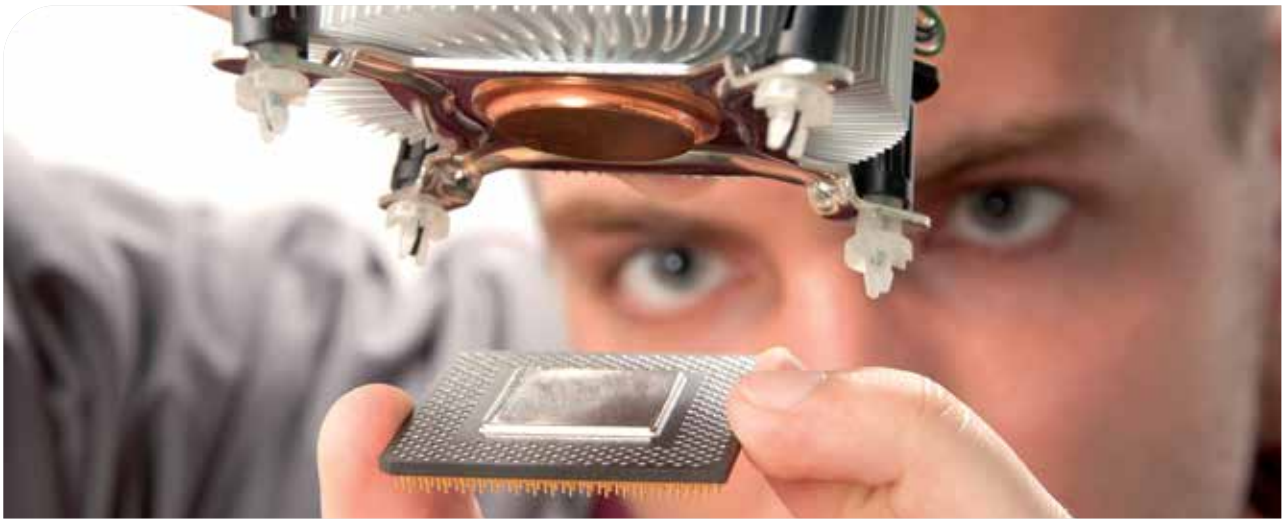
1 = Tracer Concierge controller: factory-installed
2 = Built-in parking lot lighting: On / Off control
3 = Tracer Concierge display: easily accessible by daily users
4 = Tracer Concierge Remote option: Access to the system from remote location through secured internet access

The advantage of single sourcing

Trane's delivered system offers an additional perspective, since every piece of the puzzle comes from the same manufacturer. It is far easier to coordinate equipment delivery, commissioning and fine tuning, since only one contact is involved for this. On top of this, Trane personnel are well trained for the entire system components, ensuring efficiency in commissioning, and fast response.

Energy savings

Various pre-engineered tactics, such as setpoint reset, time-of-day scheduling and duty cycle, have been implemented in the system to improve system energy efficiency, without altering system comfort management capability. Trane's system is easy to install, set up and use. This means that system updates, daily operations and maintenance can be done by operation personnel very easily, requiring very little training. Trane's system also has the capability to control ancillary equipment, such as lights, parking lots, energy meters, and any equipment controlled by to a time-of-day schedule. Trane's delivered BMS for commercial applications is a powerful answer to customers who want a very easy-to-use system, capable of simplifying their life all along the project life cycle.



Trane solutions for industries

Reliable Trane systems your industry can count on

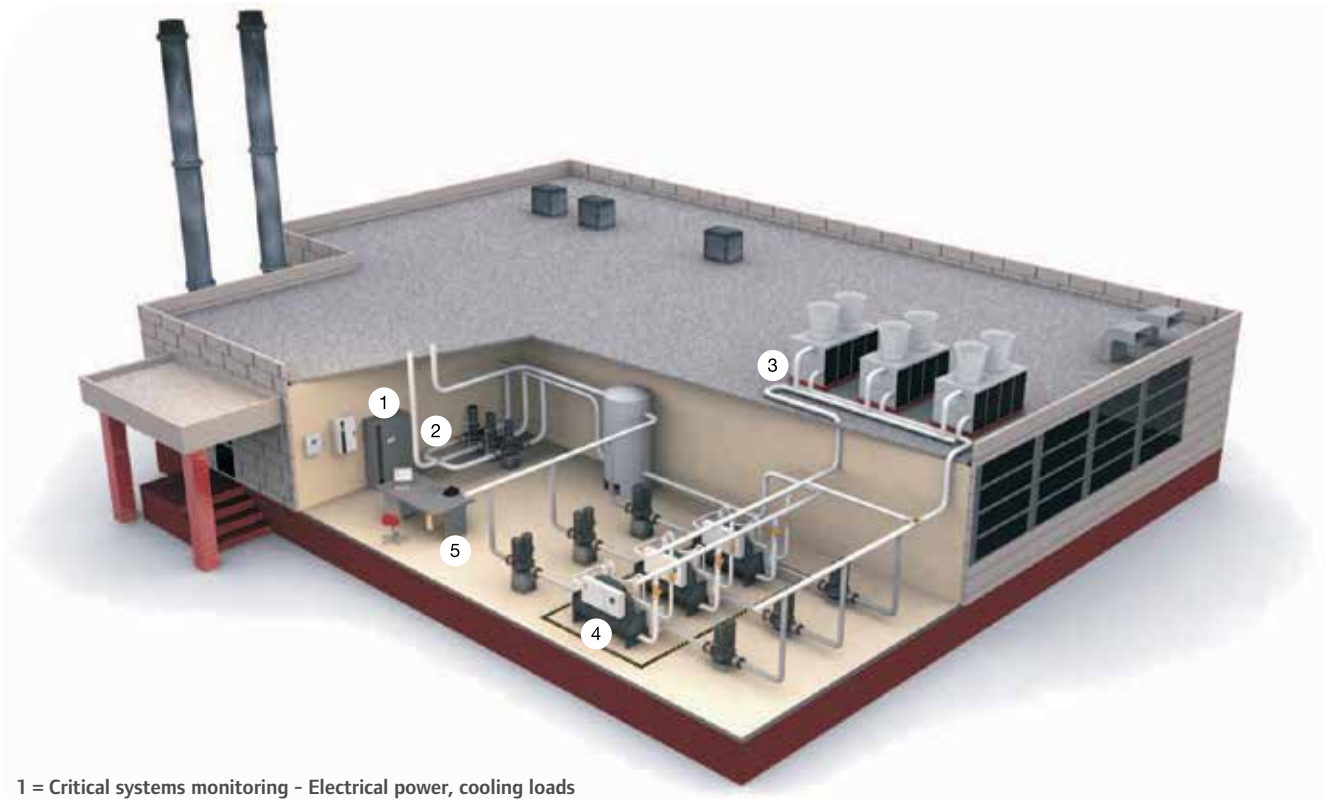
Trane has a wide experience in industrial control applications, starting from simple chillers to complex systems that are optimized for improved efficiency.
One of the highest priorities of Trane engineers when designing an industrial application is to ensure a system that is reliable. Trane proposes systems that can revert to a safe standalone running mode should any issue such as communication troubles arise, continuing to deliver cooling capacity until the issue has been analyzed and fixed.
In addition, Trane always proposes simple-to-use user interfaces which offer just the right amount of information about system status and running conditions. Since every piece of equipment is hooked up to a network, the user can access system and units information at any time, allowing for easy diagnosis, and easy understanding of system reactions.

Comfort is key in industry, too

Customers trust Trane Rooftop air-to-air cooling and heating solutions to achieve year-round optimum temperature and humidity levels for the comfort of factory operators and workers in facility storage areas.
In a comfortable environment, workers can focus with confidence, speed and accuracy.

Variable Primary Flow (VPF) capabilities

VPF systems provide building owners with multiple cost savings derived directly from pump operation. Trane chillers are designed to make VPF easy to use.
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.



1 = Critical systems monitoring - Electrical power, cooling loads
2 = System water flow control - Variable frequency pump control: VarioTrane TR200
3 = Chiller condenser operation - Cooling towers control: UC600
4 = Chiller plant control: 3 XStream™ helical-rotary chillers with factory-mounted UC800, Twin pump control for each chiller: Tracer® Synchrony
5 = System monitoring and control - Supervision: web-based Trane Tracer Ensemble™ and Tracer® Synchrony

Chiller Plant Management

Application is a pre-engineered function within Trane controllers, as to deliver a consistent, reliable and repeatable performance from project to project, with a minimum commissioning time.

Personalized optimization

Chiller technology and unit sizes arrangement are analyzed so you get the best result of their installation, according to their system load profile. Chiller Plant sequencing is a powerful pre-engineered function that only requires parameters to be able to drive the installation at its highest level of optimization.

Technical services

Trane proposes its simulation and solution evaluation software. Using this tool, you can easily evaluate the best alternative for solving a problem, by viewing the solutions from different angles, such as economical aspects, technical aspects, safety and reliability.

Trane Building Services

It is easy to get assistance from Trane in concluding a maintenance and service contract including HVAC and BMS equipment/software. This way, system fluctuations, fine tuning etc. can be done by people working in sync with those teams that have originally developed the application. This ensures service continuity as well as efficiency in answering any request of system improvement or adaptation.

Trane solutions for commercial and office buildings

Each commercial building is unique but has common needs: cooling, heating, domestic hot water, ventilation and energy recovery.
Choosing the most appropriate HVAC system for a commercial building is a major technical challenge.
When designing new buildings or during major renovations, it is important to consider the achievable energy saving potential, to properly select the main types of HVAC systems and equipment to create a healthy environment for the occupants while guaranteeing the lowest operating costs.
Our energy efficient equipment and solutions can meet all these specific needs.
Our equipment ranges are designed to achieve the best energy efficiency in order to meet the heating and cooling production systems needs and respect the highest environmental requirements.

Trane has a long-standing expertise in designing energy-efficient air-conditioning systems and solutions for commercial and office buildings.
Our experts help you during the design by selecting the equipment and smart solutions which best suit to your needs and those of your customers.

1 = Weather information
2 = Chilled water plant: helical-rotary chillers with factory-mounted UC800: chiller plant control application
3 = Primary air control: AHU with factory-mounted UC600
4 = Open space comfort: Fan coil units with factory-mounted controller
5 = Environmental comfort: Lighting control, Sunblind control
6 = Tenant interface: setpoint and room conditions information: web server
7 = Web server application (Tracer® Synchrony/ Tracer Ensemble™) broadcasting web pages to any workstation in the building
8 = Variable air flow control AHU and VariTrane™ valves: UC600, UC400 and UC210
9 = Hot water plant: heat pump control application
10 = Electrical power monitoring
11 = Interoperability: access control system monitoring: BACnet®, LonTalk® and ModBus

System efficiency

Trane excels in developing HVAC equipment.

Trane's engineers go further to consider the equipment in their global environment.

To ensure optimal operation of its equipment, Trane has developed the Tracer System Controller range with pre-engineered functions such as heating and cooling plant control, air system control, etc. and for managing most of the components of a HVAC system.

This means that on top of ensuring equipment safeties and running condition efficiency, care has been taken to ensure a high level of system efficiency and energy savings.

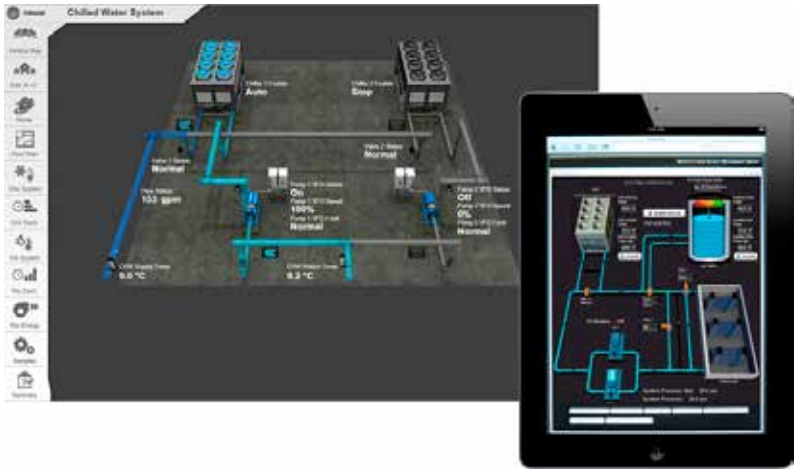
This can be seen from different angles:

Perfect equipment coordination - Each piece of Trane HVAC equipment comes with its own factory-mounted controller and can be easily connected to the system controller which maximizes the heat recovery potential during simultaneous heating and cooling demand periods.

Real time data exchanges - To align the respective working conditions.

Efficient commissioning - Minimum programming is required to set up these functions and the Controls project engineers can spend more time in fine-tuning the system rather than developing the applications from scratch.

As an example, instead of using a boiler to produce domestic hot water, the system can manage a City™ heat pump in coordination with the chillers to produce domestic hot water or when the system is designed and used in cascade with traditional heat pumps or multi-pipe units, replace a traditional fossil fuel boiler.



Chiller plant system applications

Trane's proven expertise in chillers has led to the development of advanced chiller plant control applications within its Building Management System. The system is also fully capable of handling heating plants.

Trane is the expert in providing advanced HVAC applications knowledge. For example, our Variable Primary Flow system enables savings both on the equipment capital costs and operational costs. The use of other solutions, like ice storage, condensing pressure optimization, free cooling, heat recovery, multi-pipe units, water source heat pump systems, can bring your process up to 60% in energy savings. Trane will help you in selecting, designing and documenting the best systems for your building needs.

Most efficient results can be achieved with well-prepared piping arrangement. Trane specialists in hydraulics and chillers application always review the system drawings before any proposal is made. This helps Trane to clearly point out what the installation is really capable of delivering, and to position these capabilities regarding what is expected.

Once this is clear, Chilled Water System Management adds advanced capabilities to the customer's installation:

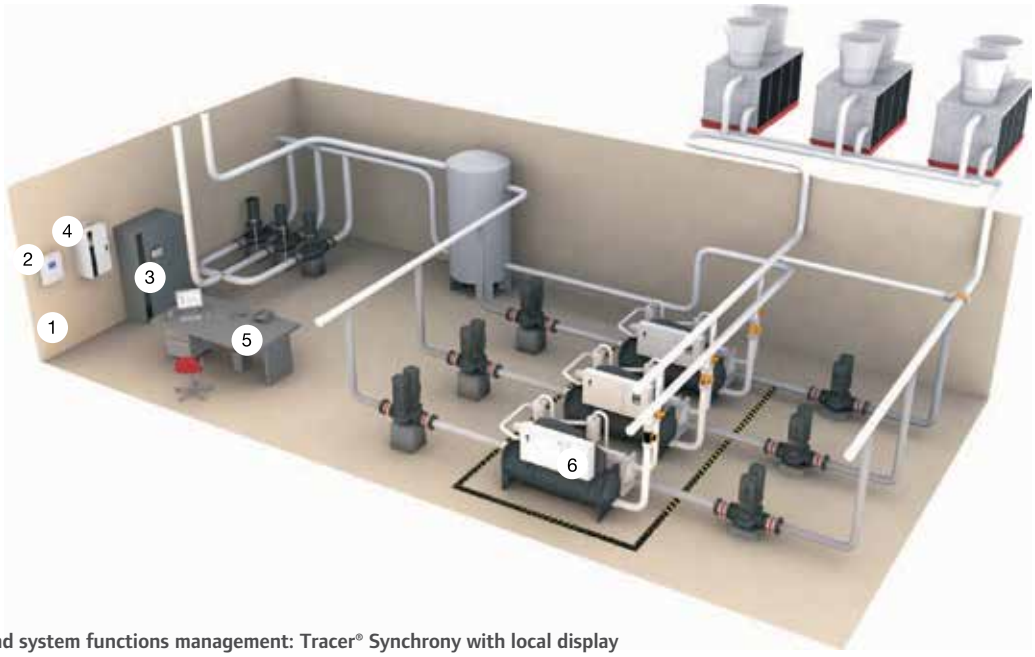
Flexibility

Chilled Water System Management offers flexible interfaces to operate a chiller plant. By a few mouse clicks, units can be turned into maintenance, sequence numbers can be adjusted and rotation can be initiated. The same interface also helps operation personnel exactly know what the installation has been doing, is currently doing and will be doing in the near future. At any time, the operator can anticipate system reactions. System graphics for plant operation can be monitored from anywhere, using a web browser.

Energy savings

Chilled Water System Management, including Variable Primary Flow, always ensures that chillers are used in their most efficient operation conditions. Unit technology and environment conditions are monitored by Chilled Water System Management, which adjusts parameters according to changes in the system running conditions.

Should there be a change, the system anticipates and adds/subtracts chillers accordingly. The system also controls all ancillaries such as pumps, cooling towers, and dry coolers.



1 = Data and system functions management: Tracer® Synchrony with local display
2 = Ancillaries control (pumps, cooling towers, etc ...) field-programmable controllers (UC400, UC600)
3 = Plant control panel monitoring: field-programmable controllers (UC400, UC600)
4 = Water flow control: VarioTrane VFD's (TR200 series)
5 = User interface: local touchscreen PC, or any PC connected through web browser, web pages served by Tracer® Synchrony
6 = 3 RTHD helical-rotary chillers with Tracer UC800 Controller and TD7 Interface

Reliability

Chilled water production is crucial for your process and Trane's system ensures continuous delivery of chilled water. Every chiller is equipped with its own electronic controller embedded with an adaptive control algorithm.
Each controller is fully compatible with the Building Management System and communicates over a standard protocol, sharing all its running conditions. This allows the management system to not only turn on/off chillers according to temperatures or temperature differences, but also consider current running conditions of chillers, such as maximum capacity reached, limit conditions, and so on, in order to know system capacity at all times.

Interoperability/integration

Trane systems are fully capable of communicating with any equipment and/or management system through the use of open standard protocols, such as BACnet®, or LonTalk®. Modbus is also supported allowing for a wide range of integration and data sharing with ancillaries, such as pumps, sensors or PLC's. Trane systems are capable of integrating either LonTalk®, BACnet® MS/TP or IP controllers, as well as Modbus RTU or TCP devices.

Protection

Trane systems offer a high level of protection against unexpected system operation. Operators can be authorized to monitor data only, write setpoint and other parameters, create graphics or just view them, modify system layout, and so on. Every action on the system is recorded in an event log. Events can then be monitored, filtered by date/operator/device, etc. Events can be seen either from any device equipped with a web browser and allowed to be connected to the system, or from a local touchscreen available in the plant room.

Assistance

Trane systems allow for system remote monitoring. Alarms can also be forwarded remotely. Trends, event log, system status can be accessed from any location where an access to the Internet/intranet is possible. After commissioning, Trane personnel can get connected to the system and monitor/fine tune parameters to adapt the overall system performance.

Notes

CHILLERS

More than half of the large buildings in the world today have a Trane chiller at their core. Not only do our chillers help create comfort, they alwso help reduce your cost of operation, provide energy efficiency and minimize environmental impact.

CGB

Air-cooled scroll chiller

Customer benefits

- Unique self-adaptive defrosting system
- Dynamic Logic Control manages the differential of the inlet water temperature on the basis of the speed of its variation, ensuring fewer compressor starts and energy savings
- Dynamic Set Point function allows changing the setpoint simultaneously to always achieve the conditions of best comfort and maximum energy savings

Main features

- Scroll compressor
- Axial fans
- Airside heat exchanger with seamless copper tubes and aluminium fins
- Waterside heat exchanger steel brazed plate fitted with differential pressure switch and antifreeze protection electric heater
- Low ambient condensing pressure control with variable fan speed modulation
- Electrical panel with main switch
- Casing and panels in galvanized and painted steel

Options

- Low ambient temperature kit (down to -10°C)
- Low water temperature kit (down to -6°C)
- Hydraulic module with water pump with or without water tank
- Compressors sound attenuating jackets (low noise version)
- Soft - starter
- Control panel electric heater with thermostat
- Phase failure protection relay
- Epoxy coated condensing coils

Accessories

- Remote control panel
- Communication card RS485
- Flow switch
- Automatic water filling
- Rubber anti-vibration mounts

Controls

- Microprocessor-based controller to manage unit on/off mode, operating mode setting, parameters setting, and error code display

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

Operating outdoor air temperature range (min./max.) (1)	(°C)	-5 (-10)*/+43
Leaving water temperature range (min./max.)	(°C)	-6/18
Power supply	(V/Ph/Hz)	400/3+n/50

CGB		**017**	**020**	**025**	**028**	**033**	**036**	**039**	**045**	**050**
Cooling capacity (1)	(kW)	16.4	19.0	24.6	28.3	32.5	35.5	38.1	44.5	49.6
Total power input (1)	(kW)	5.6	6.7	7.9	9.2	11.0	12.8	14.1	15.4	18.2
EER (1)		2.93	2.83	3.11	3.08	2.95	2.77	2.70	2.89	2.72
P rated (2)	(kW)	16.4	19.0	24.6	28.3	32	35	38	45	50
ηs,c (2)		166%	165%	167%	168%	155%	150%	149%	159%	163%
SEER (2)		4.22	4.20	4.24	4.28	3.96	3.83	3.79	4.06	4.15
Sound power level (ISO 9614) (3)	(db(A))	74	74	77	76	77	78	78	79	79
Sound pressure level at 10 m (4)	(db(A))	42	42	45	44	45	46	46	47	47
Number of circuits		1	1	1	1	1	1	1	1	1
Number of compressors per circuit		2	2	2	2	2	2	2	2	2
Dimensions and weights (operating)										
Length	(mm)	1807	1807	1807	2061	2061	2061	2061	2061	2061
Depth	(mm)	779	779	779	779	779	779	779	779	779
Height	(mm)	1687	1687	1687	1687	1687	1687	1687	1687	1687
Weight (5)	(kg)	290	294	327	367	378	378	380	530	540
Weight water tank	(kg)	190	190	190	195	195	195	195	195	195

* With low ambient temperature option.
(1) At Eurovent conditions: 12/7°C entering/leaving water temperature and 35°C ambient temperature according to EN 14511-2018.
(2) Seasonal efficiency according to EN 14825-2018.
(3) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(5) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above certified sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with five exposed face areas.
(5) Excluding water tank.

Flex II

Air-cooled modular scroll chiller

Customer benefits

- Ultimate flexibility: up to 6 units can be combined into one system in order to reach the required capacity
- Units can be easily lifted and moved, and fit through doorways and into standard elevators, which make them a perfect choice for challenging replacement projects in older buildings and confined spaces

Main features

- Tandem scroll compressors for high part load efficiency
- Sustainability - very low refrigerant charge microchannel condenser coils
- Waterside plate heat exchanger with differential pressure switch and antifreeze protection electric heater
- Condensing and evaporating pressure control with variable fans speed modulation
- Electronic expansion valve
- Casing and panels in painted galvanized steel

Options

- Partial or total heat recovery
- Low noise or super low noise versions
- Hydraulic connection kits
- Power factor correction
- Low ambient temperature kit
- High static pressure EC fans, up to 100 Pa

Accessories

- Remote display
- Signal amplification card
- Flow switch
- Automatic water filling
- Water strainer
- Water gauges
- Rubber or spring anti-vibration mounts

Controls

- Microprocessor-based controller to manage unit on/off mode, operating mode setting, parameters setting, and error code display
- Modbus communication card RS485

FlexMaster controller (optional)

- Connect up to 6 Flex of equal or different capacities to one single master controller
- Easy connection and specifically designed for *modular* capacity expansion of the chiller and/or heat pump plant
- Controls the main functions, operating modes of the units, and hydraulic kit of external water pumps or water pumps integrated in each unit
- Allows for continuous operation: in case of maintenance on one Flex unit, all other units keep on running

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

Operating outdoor air temperature range (min./max)	(°C)	-20/+43°C
Leaving water temperature range (min./max)	(°C)	-6/15°C
Power supply	(V/Ph/Hz)	400/3/50

Flex II		**55**	**60**	**65**	**70**	**75**	**77**
Cooling capacity (1)	(kW)	54.2	60.1	63.2	66.6	72.4	76.0
Total power input (1)	(kW)	18.0	20.5	21.7	23.8	25.5	27.4
EER (1)		3.01	2.94	2.91	2.79	2.85	2.77
SEER (1)		4.00	3.84	3.81	3.81	3.91	3.83
ηs,c		157	151	149	149	154	150
Sound power level (ISO 9614) - standard noise (2)	(db(A))	81	82	82	82	83	83
Sound pressure level at 10 m (3)	(db(A))	49	50	50	50	51	51
Number of circuits		1	1	1	1	1	1
Number of compressors per circuit		2	2	2	2	2	2
Dimensions and weights (operating)							
Length	(mm)	2489	2489	2489	2489	2489	2489
Depth	(mm)	1004	1004	1004	1004	1004	1004
Height	(mm)	2354	2354	2354	2354	2354	2354
Weight	(kg)	589	596	599	611	637	639
Electrical data							
Maximum amps	(A)						
Start-up amps	(A)						

Flex II		**80**	**100**	**115**	**125**	**135**
Cooling capacity (1)	(kW)	79.5	98.1	112.3	122.5	132.3
Total power input (1)	(kW)	29.4	33.8	39.5	44.0	48.7
EER (1)		2.71	2.90	2.84	2.79	2.72
SEER (1)		3.81	3.98	3.86	3.89	3.81
ηs,c		149	156	151	152	149
Sound power level (ISO 9614) - standard noise (2)	(db(A))	83	86	87	87	87
Sound pressure level at 10 m (3)	(db(A))	52	54	55	55	55
Number of circuits		1	1	1	1	1
Number of compressors per circuit		2	2	2	2	2
Dimensions and weights (operating)						
Length	(mm)	2489	2489	2489	2489	2489
Depth	(mm)	1004	1004	1004	1004	1004
Height	(mm)	2354	2354	2354	2354	2354
Weight	(kg)	642	783	827	830	834
Electrical data						
Maximum amps	(A)					
Start-up amps	(A)					

(1) At Eurovent conditions: 12/7°C entering/leaving water temperature and 35°C ambient temperature according to EN 14511-2018.
(2) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(3) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above certified sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with five exposed face areas.

Flex HSE

Air-cooled modular scroll chiller

Customer benefits

- High performance modular chillers for applications requiring highest seasonal efficiency
- Up to 6 units can be combined into one system in order to reach the required capacity

Main features

- Inverter driven scroll compressors
- Excellent acoustic comfort levels with statically and dynamically balanced axial EC fans
- Super low noise (optional), equipped with condensing control with variable fan speed modulation, muffler on the compressor delivery lines and compressor soundproof box
- Water side plate heat exchanger with differential pressure switch and antifreeze protection electric heater
- Air-cooled microchannel condenser coils, full aluminum (100% recyclable)
- Condensing pressure control with variable fan speed modulation
- Electronic expansion valve

Options

- Hydraulic kit (optional) including 1 or 2 pumps, expansion vessel and a choice of 3 available head pressures: 150/250/450 kPa
- Inverter water pumps, available 150/250/450 kPa
- Power factor correction to cos phi 0.91
- Low outdoor air temperature kit for operation down to -10°C
- Control panel electric heater with thermostat
- Serial card with BACnet™ Protocol MS/TP or TCP/IP
- Gateway Modbus, LonTalk™
- Soft-starter (only for on/off compressors)
- High static pressure EC fans, up to 100 Pa
- Automatic circuit breakers

Accessories

- Multi-manager controller to control up to 6 chillers in modular configuration
- Compressor sound attenuating jackets (low noise version)
- Remote control display
- Flow switch
- Automatic water filling
- Water gauges
- Rubber or spring anti-vibration mounts

Controls

- Microprocessor-based controller to manage unit on/off mode, variable speed driven operating mode setting, parameters setting, and error code display

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

Operating outdoor air temperature range (min./max)	(°C)	-10/+46
Leaving water temperature range (min./max)	(°C)	-6/+18
Power supply	(V/Ph/Hz)	400/3/50

FLEX HSE - Standard noise		**150 ZC**	**170 ZC**	**180 ZC**	**1115 ZC**	**2135 ZC**	**2150 ZC**	**2185 ZC**	**2215 ZC**	**2230 ZC**
Total cooling capacity (1)	(kW)	48.4	67.8	80.9	114	134	151	183	214	232
Compressors power input (1)	(kW)	13	20	22.1	31	39.3	41.4	47.9	59.9	66.4
Total EER (1)		3.02	2.95	3.04	3.08	2.97	2.99	3.05	2.98	2.96
Eurovent class		B	B	B	B	B	B	B	B	B
Water flow	(m^3/h)	8.3	11.7	13.9	19.6	23.1	26	31.5	36.8	39.9
Water pressure drop	(kPa)	30.5	26.4	35.9	23.7	29	34.2	29.5	42.4	38.3
Seasonal efficiency in cooling according to EN14825 (2)										
SEER		4.21	4.34	4.29	4.35	4.11	4.13	4.15	4.12	4.1
ηs,c (3)	(%)	165	171	169	171	161	162	163	162	161
Number of compressors		1	1	2	2	2	4	4	4	4
Number of refrigerant circuits		1	1	1	1	2	2	2	2	2
Type of compressor(s) per circuit		1 VSD scroll		1 VSD scroll + 1 fixed speed scroll		1 VSD scroll	1 VSD scroll + 1 fixed speed scroll			
Type of regulation		Stepless								
Minimum capacity step		37%	37%	21%	23%	19%	10%	9%	7%	10%
Refrigerant charge	(kg)	8	8.4	12.3	16.5	16.6	23.9	32.1	32.1	32.5
Number of fans		2	2	3	4	4	6	8	8	8
Air flow	(m^3/h)	35200	35200	52800	70400	70400	105600	140800	140800	140800
Power input for each fan	(kW)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Sound power level (ISO 3744)	(dB(A))	87	92	88	93	95	91	92	94	96
Sound pressure level at 10 m	(dB(A))	55	60	56	61	63	59	60	62	64
Dimensions and weights (operating)										
Length	(mm)	2461	2461	3599	2257	2257	3421	4550	4550	4550
Depth	(mm)	1100	1100	1100	2146	2146	2138	2244	2244	2244
Height	(mm)	2179	2179	2179	2175	2175	2469	2458	2458	2458
Weight	(kg)	598	657	954	1226	1283	1897	2297	2421	2543

(1) Outdoor air temperature 35°C and chilled water temperature 12/7°C according to EN 14511-2018.
(2) Ecodesign rating for comfort chiller. Outdoor air temperature 35°C and chilled water temperature in/out: 12°C/7°C.
(3) ηs,c/SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016.

CGAX

Air-cooled scroll chiller

Customer benefits

The best value chiller, now with improved performances:

- Low energy consumption: optimized part load efficiency in cooling and in heating
- Silent operation: discreet, even in the most sound sensitive applications
- No compromise: efficiency maintained when sound decreases
- Compact design: easier jobsite integration
- Reliability: main components designed and manufactured by Trane
- User-friendly control interface and interoperability with building automation systems
- Reduced refrigerant charge

Main features

- Compact design: reduced footprint and low profile design
- High quality finish
- Two acoustic packages: SN, LN with no compromise on efficiency
- Single and/or dual circuit offering
- Microchannel condenser coils
- Wide operating map: airside and waterside

Options

- Various integrated hydraulic modules: single/dual pump, low/high head pressure
- Buffer tank for reliable and smooth operation
- Low temperature process cooling (<4°C)
- Low ambient operation (-18°C)
- E-coated condenser coil
- Partial heat recovery (PHR)
- External protection grill
- High efficiency version (HE)
- Smart Flow Control (Variable-Primary Flow)
- High external static pressure (HESP)
- Supplemental heat

Accessories

- Elastomeric isolators

Controls

- Trane light commercial controller
- Standard 6 navigation button LCD display
- Optional deluxe display
  - Easy to read 7-inch color touchscreen display
  - Industry leading algorithms
  - Open protocol design
  - Adaptive control
- SmartCom interface: LonTalk®, Modbus®, BACnet® communication capabilities

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

Operating outdoor air temperature range (min./max.) (1)	(°C)	-18/+46°C
Leaving water temperature range (min./max.) (2)	(°C)	-12/20°C
Power supply	(V/Ph/Hz)	400/3/50

CGAX Standard and High Efficiency		**015**	**017**	**020**	**023**	**026**	**030**	**036**	**039**	**045**	**035**	**040**	**046**	**052**	**060**
Net cooling capacity (3)	(kW)	45	51	60	67	75	84	101	113	130	100	118	132	149	166
Total power input (3)	(kW)	15	17	19	22	26	29	33	38	42	35	39	47	51	58
EER - SE & HE versions		3.07	2.94	3.14	3.00	2.92	2.85	3.07	2.99	3.09	2.85	3.00	2.84	2.90	2.85
Eurovent class		B	B	B	B	B	C	B	B	B	C	B	C	C	C
Seasonal space efficiency (ηs,c) - SE version	(%)	173	165	163	163	164	162	177	178	174	170	163	158	164	162
SEER - SE version		4.40	4.20	4.15	4.15	4.18	4.13	4.49	4.51	4.44	4.32	4.15	4.02	4.16	4.12
Seasonal space efficiency (ηs,c) - HE version		174	165	170	168	166	163	180	169	171	181	181	163	166	163
SEER - HE version	(%)	4.42	4.20	4.32	4.29	4.23	4.15	4.58	4.31	4.35	4.59	4.59	4.16	4.23	4.16
Number of circuit(s)		1	1	1	1	1	1	1	1	1	2	2	2	2	2
Number of compressors per circuit		2	2	2	2	2	2	3	3	3	2	2	2	2	2
Sound power level (standard noise) (5)	(dB(A))	83	83	85	85	85	86	84	85	87	86	88	88	88	89
Sound pressure level (standard noise) (6)	(dB(A))	53	53	55	55	55	55	54	54	56	55	57	57	57	58
Sound power level (low noise) (5)	(dB(A))	77	77	79	79	79	80	79	80	82	81	82	82	82	83
Sound pressure level (low noise) (6)	(dB(A))	47	47	49	49	49	50	48	49	51	50	51	51	51	52
Dimensions and weights (operating)															
Length	(mm)	2346	2346	2346	2346	2346	2346	2327	2327	2327	2327	2327	2327	2327	2327
Width	(mm)	1285	1285	1285	1285	1285	1285	2250	2250	2250	2250	2250	2250	2250	2250
Height (standard noise)	(mm)	1524	1524	1524	1524	1524	1524	1524	1524	1524	1524	1524	1524	1524	1524
Height (low noise)	(mm)	1747	1747	1747	1747	1747	1747	1747	1747	1747	1747	1747	1747	1747	1747
Weight	(kg)	497	509	552	557	587	599	819	824	879	887	973	983	1004	1029

(1) With low ambient temperature option.
(2) With process cooling option.
(3) At Eurovent conditions: 12/7°C entering/leaving water temperature and 35°C ambient temperature according to EN 14511-2018.
(4) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(5) According to EN14825:2018. Ecodesign rating for comfort chiller – fan coil application.
(6) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above certified sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with five exposed face areas.

CGCN

Indoor air-cooled scroll chiller with plug fan

Customer benefits

- Air to water chiller for indoor installation in buildings, with ducted air intake and discharge
- Superior sustainability with high efficiency EC plug fans and microchannel condenser coils for strong reduction of the refrigerant charge
- Excellent acoustic comfort levels
- Dynamic set point function allows changing the set point simultaneously to always achieve the best comfort and maximum energy saving conditions

Main features

- Hermetic scroll compressors, low vibration and low sound level
- EC plug fans for improved capacity modulation and energy savings. Fan external static pressure up to 300 Pa
- State-of-the-art full aluminum microchannel condensers
- Water side plate heat exchanger with differential pressure switch and antifreeze protection electric heater
- Horizontal or vertical air flow
- Casing and panels in galvanized and painted steel
- Numbered wires

Options

- Partial heat recovery
- Compressor sound attenuating jackets (low noise version)
- Soft starter
- Different hydraulic modules available with on/off or inverter driven pumps
- Serial communication card RS485
- Serial card with BACnet™ Protocol MS/TP or TCP/IP
- Gateway Modbus LonTalk™
- Electronic expansion valve
- Power factor correction to cos phi = 0.91
- Automatic circuit breakers
- Over/under voltage + phase failure protection relay
- Special treatments for condenser coils

Accessories

- Remote control panel
- G4-EU4 condenser inlet air filters
- Flow switch
- Automatic water filling
- Water strainer
- Water and/or gas gauges
- Rubber or spring anti-vibration mounts

Controls

- Microprocessor-based controller to manage unit on/off mode, operating mode setting and parameters setting

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

Operating outdoor air temperature range (min./max.) (1)	(°C)	5/45
Leaving water temperature range (min./max.) (2)	(°C)	-6/18
Power supply	(V/Ph/Hz)	400/3+n/50

CGCN		50	65	80	95	105	120	135	150	160	185	205	225	245
Total cooling capacity (1)	(kW)	52.2	65.7	81.9	92.7	105.9	120.5	133.3	147.7	160.2	184.7	203.3	224.3	244.7
Total power input (1)	(kW)	19.5	25.9	30.5	36.5	40.0	46.0	53.2	56.3	63.4	71.3	81.1	95.3	109.7
Total EER (1)		2.67	2.54	2.68	2.54	2.65	2.62	2.51	2.62	2.53	2.59	2.51	2.35	2.23
Seasonal efficiency in cooling mode (2)														
P rated (2)	(kW)	52.2	65.7	81.9	92.7	105.9	120.5	133.3	147.7	160.2	184.7	203.3	224.3	244.7
ηs,c	(%)	152	149	152	149	153	152	149	153	149	151	149	153	149
SEER (2)		3.88	3.80	3.87	3.80	3.90	3.87	3.80	3.90	3.80	3.85	3.80	3.90	3.80
Number of compressors		2	2	2	2	2	2	2	2	2	2	2	4	4
Number of refrigerant circuits		1	1	1	1	1	1	1	1	1	1	1	2	2
Number of part load steps		3	3	2	3	3	3	3	3	2	3	2	8	8
Minimum capacity steps	(%)	38	48	50	43	38	44	40	45	50	43	50	22	20
Total refrigerant charge (3)	(kg)	8.2	8.6	12.5	12.5	16.2	17.2	17.2	20.9	20.9	24.9	24.9	25.6	25.6
Total oil charge (3)	(kg)	6.3	6.6	7.2	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	26.8	26.8
Number of plug fans		2	2	3	3	4	4	4	5	5	6	6	6	6
Air flow	(m^3/h)	22987	24936	34861	36641	46143	48177	50041	60148	62080	72950	75526	79970	79970
Sound power level (ISO 9614)	(db(A))	91	91	93	93	95	95	95	96	96	97	98	97	97
Sound pressure level at 10 m	(db(A))	59	59	61	61	62	63	63	63	63	65	65	64	64
Dimensions and weights														
Length	(mm)	2350	2350	3346	3346	4456	4456	4456	5456	5456	6676	6676	6676	6676
Width	(mm)	1106	1106	1306	1306	1306	1306	1306	1306	1306	1306	1306	1306	1306
Height	(mm)	2095	2095	2095	2095	2145	2145	2145	2145	2145	2145	2145	2145	2145
Weight (shipping), standard unit	(kg)	912	950	1403	1430	1807	1802	1827	2110	2135	2388	2392	2562	2613

(1) At Eurovent conditions. Chilled water temperature 12°C/7°C (in/out) and outdoor air temperature 35°C, according to EN 14511-2018.
(2) Ecodesign rating for comfort chiller. Outdoor air temperature 35°C and chilled water temperature in/out: 12°C/7°C. The ηs,c/SEER in accordance to EU Commission Regulation (EU) N° 2016/2281, dated 20 December 2016.
(3) Refrigerant and oil charges are not binding. Check the effective quantity of refrigerant/oil on unit nameplate.

CGAM

Air-cooled scroll chiller

Customer benefits

- Life cycle effectiveness
- Improved part load efficiency thanks to new variable speed fans
- Efficiency and sound level without compromise
- All year round operation
- Extreme reliability and durability
- Wide application flexibility for comfort and process applications to fit the exact requirements
- Ease of installation and serviceability

Main features

- 2 efficiency levels: high or standard
- 3 acoustic versions: standard, low noise or comprehensive acoustic package treatment
- High efficiency scroll compressors
- Trane design low sound level fans mounted on hinges
- Electronic expansion valve
- Brazed plates heat exchangers
- Disconnect switch/transformer
- Water strainer and flow switch
- Powder coated components

Options

- Integrated hydraulic module with or without buffer tank
- Single or double pump package
- Variable frequency drive for pump flow rate adjustment
- Freeze protection control
- Black epoxy condenser coil coating
- Architectural louvered panels

Accessories

- Neoprene isolators
- Grooved pipe connection kit

Tracer™ CH530 Control

Adaptive Control™ microprocessor featuring:

- Easy-to-use operator interface panel
- External auto/stop
- External interlock
- Chilled water pump control
- Ice-making card (optional)
- Chilled water and current-limit remote setpoint card (optional)
- LonTalk®, Modbus®, BACnet® communication capabilities

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

Operating outdoor air temperature range (min./max.) (1)	(°C)	-18/+52
Leaving water temperature range (min./max.) (2)	(°C)	-12/+18
Power supply	(V/Ph/Hz)	400/3/50

CGAM HE Comprehensive Acoustic Package		**060**	**070**	**080**	**090**	**100**	**110**	**120**
Net cooling capacity (3)	(kW)	168	194	228	258	281	307	348
Total power input net (3)	(kW)	52	65	74	80	89	102	114
EER net (3)		3.21	2.97	3.08	3.23	3.16	3.00	3.04
Eurovent class		A	B	B	A	B	B	B
SEER (4)		4.51	4.52	4.61	4.68	4.50	4.57	4.56
Seasonal space cooling efficiency ηsc (4)		177	178	181	184	177	180	180
Number of refrigerant circuits		2	2	2	2	2	2	2
Number of compressors		4	4	4	4	4	4	4
Sound power level (5)	(dB(A))	81	84	83	83	84	85	86
Sound pressure level (6)	(dB(A))	50	52	50	51	51	52	54
Dimensions and weight (operating)								
Length	(mm)	3819	3819	4230	4230	4230	5145	5145
Width	(mm)	2266	2266	2273	2273	2273	2273	2273
Height	(mm)	2150	2150	2344	2344	2344	2344	2344
Weight	(kg)	2131	2168	2596	2804	2918	3172	3279

CGAM HE Super Quiet		**060**	**070**	**080**	**090**	**100**	**110**	**120**
Net cooling capacity (3)	(kW)	171.1	198.5	231.6	256.3	287.2	318.7	347.4
Total power input net (3)	(kW)	52.4	64.8	72.8	81.7	87.2	102.0	117.2
EER net (3)		3.26	3.06	3.18	3.14	3.29	3.13	2.96
Eurovent class		A	B	B	B	A	B	B
SEER (4)		4.34	4.39	4.46	4.52	4.42	4.44	4.40
Seasonal space cooling efficiency ηsc (4)		171	173	175	178	174	175	173
Number of refrigerant circuits		2	2	2	2	2	2	2
Number of compressors		4	4	4	4	4	4	4
Sound power level (5)	(dB(A))	84	87	88	88	88	89	90
Sound pressure level (6)	(dB(A))	53	55	56	56	56	57	58
Dimensions and weight (operating)								
Length	(mm)	3819	3819	3647	3647	4230	4230	4230
Width	(mm)	2266	2266	2273	2273	2273	2273	2273
Height	(mm)	2150	2150	2344	2344	2344	2344	2344
Weight	(kg)	2041	2078	2378	2503	2804	2821	2821

CGAM HE Compact		**060**	**070**	**080**	**090**	**100**	**110**	**120**
Net cooling capacity (3)	(kW)	171.1	198.5	231.6	256.3	287.2	318.7	347.4
Total power input net (3)	(kW)	52.4	64.8	72.8	81.7	87.2	102.0	117.2
EER net (3)		3.26	3.06	3.18	3.14	3.29	3.13	2.96
Eurovent class		A	B	B	B	A	B	B
SEER (4)		4.34	4.36	4.43	4.50	4.39	4.42	4.38
Seasonal space cooling efficiency ηsc (4)		171	172	174	177	173	174	172
Number of refrigerant circuits		2	2	2	2	2	2	2
Number of compressors		4	4	4	4	4	4	4
Sound power level (5)	(dB(A))	86	89	90	90	90	91	92
Sound pressure level (6)	(dB(A))	58	59	59	59	60	60	61
Dimensions and weight (operating)								
Length	(mm)	3819	3819	3647	3647	4230	4230	4230
Width	(mm)	2266	2266	2273	2273	2273	2273	2273
Height	(mm)	2150	2150	2344	2344	2344	2344	2344
Weight	(kg)	2041	2078	2378	2503	2804	2821	2821

(1) With low ambient and / or high ambient temperature option.
(2) With process cooling option.
(3) At Eurovent conditions: 12/7°C entering/leaving water temperature and 35°C ambient temperature according to EN 14511-2018.
(4) According to EN14825:2018. Ecodesign rating for comfort chiller – fan coil application.
(5) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(6) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above certified sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with five exposed face areas.

CGAM Standard Efficiency Comprehensive Acoustic Package		060	070	080	090	100	110	120
Net cooling capacity (3)	(kW)	155.6	181.1	215.6	235.1	254.2	292.4	330.8
Total power input net (3)	(kW)	57.4	69.7	79.0	89.4	99.6	110.7	120.5
EER net (3)	(kW/kW)	2.71	2.60	2.73	2.63	2.55	2.64	2.74
Eurovent class		C	D	C	D	E	D	C
SEER (4)	(kW/kW)	4.17	4.08	4.26	4.20	4.04	4.22	4.30
Seasonal space cooling efficiency ηsc (4)	(%)	164	160	167	165	159	166	169
Number of refrigerant circuits		2	2	2	2	2	2	2
Number of compressors		4	4	4	4	4	4	4
Sound power level (5)	(dB(A))	80	84	85	84	84	86	85
Sound pressure level (6)	(dB(A))	56	52	53	53	53	54	53
Dimensions and weight (operating)								
Length	(mm)	2905	3819	3819	3647	4230	4230	4230
Width	(mm)	2266	2266	2266	2273	2273	2273	2273
Height	(mm)	2150	2150	2150	2344	2344	2344	2344
Weight	(kg)	1734	2076	2151	2471	2664	2754	2898

CGAM Standard Efficiency Super Quiet		060	070	080	090	100	110	120
Net cooling capacity (3)	(kW)	159	185	221	245	267	293	334
Total power input net (3)	(kW)	58	70	82	89	99	115	123
EER net (3)	(kW/kW)	2.74	2.64	2.71	2.76	2.71	2.54	2.70
Eurovent class		C	D	C	C	D	E	C
SEER (4)	(kW/kW)	3.89	3.83	3.84	4.02	3.78	3.84	3.98
Seasonal space cooling efficiency ηsc (4)	(%)	152	150	151	158	148	151	156
Number of refrigerant circuits		2	2	2	2	2	2	2
Number of compressors		4	4	4	4	4	4	4
Sound power level (5)	(dB(A))	86	88	90	90	90	92	90
Sound pressure level (6)	(dB(A))	56	57	59	59	58	60	59
Dimensions and weight (operating)								
Length	(mm)	2905	2905	3819	3819	3819	3647	3647
Width	(mm)	2266	2266	2266	2266	2266	2273	2273
Height	(mm)	2150	2150	2150	2150	2150	2344	2344
Weight	(kg)	1734	1775	2034	2165	2283	2475	2597

CGAM Standard Efficiency Compact		060	070	080	090	100	110	120
Net cooling capacity (3)	(kW)	161	188	223	247	271	298	339
Total power input net (3)	(kW)	58	69	80	87	97	113	121
EER net (3)	(kW/kW)	2.76	2.71	2.77	2.83	2.79	2.65	2.81
Eurovent class		C	D	C	C	D	C	C
SEER (4)	(kW/kW)	3.74	3.82	3.83	4.03	3.78	3.87	4.01
Seasonal space cooling efficiency ηsc (4)	(%)	147	150	150	158	148	152	158
Number of refrigerant circuits		2	2	2	2	2	2	2
Number of compressors		4	4	4	4	4	4	4
Sound power level (5)	(dB(A))	92	93	94	94	94	96	94
Sound pressure level (6)	(dB(A))	60	60	62	62	62	63	61
Dimensions and weight (operating)								
Length	(mm)	2905	2905	3819	3819	3819	3647	3647
Width	(mm)	2266	2266	2266	2266	2266	2273	2273
Height	(mm)	2150	2150	2150	2150	2150	2344	2344
Weight	(kg)	1734	1775	2034	2165	2283	2475	2597

(1) With low ambient and / or high ambient temperature option.
(2) With process cooling option.
(3) At Eurovent conditions: 12/7°C entering/leaving water temperature and 35°C ambient temperature according to EN 14511-2018.
(4) According to EN14825:2018. Ecodesign rating for comfort chiller – fan coil application.
(5) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(6) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above certified sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with five exposed face areas.

Save energy with total or partial heat recovery factory-fitted options on CGAM

- Reduced operating cost
- Preheat sanitary water (for commercial buildings) or kitchen and laundries water (in hotels and resorts)
- Reduced carbon footprint

Total heat recovery - model CGAM HE compact

	Unit power input (1)	Cooling capacity in cooling (1)	Heating capacity (2)	Heat recovered (2)	Maximum hot water temperature
Unit size	**(kW)**	**(kW)**	**(kW)**	**(%)**	**(°C)**
070	63.8	194.4	146.1	75	60
080	73.1	225.4	169.6	75	60
090	81	255.6	182.2	71	60
100	91	284.1	193.7	68	60
110	98.8	312.9	218.5	70	60
120	108.6	333.7	228.2	68	60

Partial heat recovery - model CGAM HE compact

	Unit power input (1)	Cooling capacity in cooling (1)	Heating capacity (2)	Heat recovered (2)	Maximum hot water temperature
Unit size	**(kW)**	**(kW)**	**(kW)**	**(%)**	**(°C)**
070	64.0	194.1	59.3	31	60
080	74.3	224.7	60.6	27	60
090	82.3	254.9	75.4	30	60
100	92.4	283.4	77.4	27	60
110	100.3	312.2	89.2	29	60
120	110.2	332.6	101.5	31	60

(1) At Eurovent conditions: 12/7°C entering/leaving water temperature and 35°C ambient air temperature.
(2) At 40/45°C entering/leaving water temperature.

CGWF - CCUF

Water-cooled packaged and condenserless scroll chillers

Customer benefits
- Scalable up to 930 kW total cooling capacity
- Large operating map to address specific design criteria of applications like in hospitals, office buildings, larger apartment buildings, warehouses and industrial applications:
- Chilled water temperatures between -7°C and +25°C

Range description
CGWF: packaged chiller
CCUF: condenserless chiller

Main features
- High efficiency scroll compressors
- Single refrigerant circuit with electronic expansion valve
- Evaporator stainless steel brazed plate type externally insulated equipped with differential pressure switch and antifreeze protection electric heater
- Condenser stainless steel brazed plate type externally insulated equipped with differential pressure switch (without on CCUF)

Options
- Standard (SE) or high efficiency (HE)
- Low noise (LN) and super low noise (SLN)
- Power factor correction
- Automatic circuit breakers for compressors
- Control panel electric heater with thermostat
- TP serial card with BACnet protocol MS/TP or TCP/IP
- Phase failure protection relay
- Condensing control with modulating 2/3 way valve
- Electrical power supply 400V/3ph without neutral
- Soft starter
- Anti-freeze protection for hydraulic versions
- Hydraulic module on user side with single or dual water pumps (low or high pressure) and /or water buffer tank (CGWF/CCUF)
- Hydraulic module on source side with single or dual water pumps (low or high pressure) and/or water buffer tank
- Water pumps with automatic changeover
- Oversized water pump seal for operation with glycol > 25%
- Condenserless unit CCUF can be supplied with integrated hydraulic evaporator and condenser modules, for simplified, faster and cheaper installation

Accessories
- Remote control display
- Flow switch
- Automatic water filling
- Water strainer
- Water gauges
- Rubber or spring anti-vibration mounts

Controls
Microprocessor-controller to manage on/off mode, operating mode, parameters setting and error code display
- Modbus communication card RS485
- Interface with FlexMaster controller (optional)

FlexMaster controller (optional)
- Connect up to 6 Flex of equal or different capacities to one single master controller
- Easy connection and specifically designed for modular capacity expansion of the chiller and/or heat pump plant
- Controls the main functions, operating modes of the units, and hydraulic kit of external water pumps or water pumps integrated in each unit
- Allows for continuous operation: in case of maintenance on one Flex unit, all other units keep on running

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

CGWF High Efficiency (HE) chillers										
Unit size		**055**	**060**	**070**	**085**	**095**	**110**	**130**	**140**	**155**
Total cooling capacity (1)	(kW)	53.5	61.1	68.6	84.2	95.2	112.1	127.9	142.3	155.1
Total power input (1)	(kW)	11.1	12.9	14.7	18.0	19.8	23.8	27.4	30.3	33.4
Total EER (1)		4.8	4.7	4.7	4.7	4.8	4.7	4.7	4.7	4.7
Eurovent class (1)		B	B	B	B	B	B	B	B	B
Total cooling capacity (2)	(kW)	76.4	87.0	97.3	119.1	134.8	158.1	180.3	200.1	217.8
Total power input (2)	(kW)	10.6	12.5	14.4	18.0	19.8	23.7	27.1	30.6	34.2
Total EER (2)		7.2	7.0	6.7	6.6	6.8	6.7	6.7	6.6	6.4
P rated (3)	(kW)	53.5	61.1	68.6	84.2	95.2	112.1	127.9	142.3	155.1
ηs.cooling (3)	(%)	2.1	2.2	2.1	2.2	2.3	2.4	2.3	2.4	2.3
SEER (3)		5.52	5.58	5.55	5.68	5.87	6.11	6.02	6.15	6.03
Number of compressors / refrigerant circuit(s)		2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1
Number of part load steps		3	3	3	3	2	3	2	3	2
Minimum capacity step	(%)	45%	39%	45%	44%	50%	43%	50%	44%	50%
Refrigerant charge	(kg)	8.4	8.9	9.4	13.0	12.2	13.0	15.5	16.1	16.6
Sound power level (ISO 9614)	(db(A))	78	79	80	81	82	84	86	86	86
Sound pressure level at 10 m	(db(A))	47	48	49	50	46	48	50	50	50
Sound power level (ISO 9614) - low noise model	(db(A))	75	76	77	78	79	81	83	83	83
Sound pressure level at 10 m - low noise model	(db(A))	44	45	46	47	43	45	47	47	47
Sound power level (ISO 9614) - super low noise	(db(A))	73	74	75	76	77	79	81	81	81
Sound pressure level at 10 m - super low noise	(db(A))	42	43	44	45	41	43	45	45	45
Dimensions and weights (operating)										
Length	(mm)	1555	1555	1555	1555	1555	1755	1755	1755	1755
Width	(mm)	676	676	676	676	676	810	810	810	810
Height	(mm)	1417	1417	1417	1417	1417	1407	1407	1407	1407
Weight	(kg)	448	450	455	465	510	692	738	747	749

CGWF Standard Efficiency (SE) chillers										
Unit size		**050**	**060**	**065**	**080**	**090**	**110**	**125**	**135**	**150**
Total cooling capacity (1)	(kW)	52.0	59.1	65.8	80.0	91.2	108.2	124.4	136.6	148.5
Total power input (1)	(kW)	11.7	13.5	15.5	19.3	20.7	24.9	28.1	31.2	34.3
Total EER (1)		4.5	4.4	4.2	4.2	4.4	4.4	4.4	4.4	4.3
Eurovent class (1)		C	C	D	D	C	C	C	C	C
Total cooling capacity (2)	(kW)	73.4	82.9	92	112.4	128.2	152.1	174.9	191.8	208.2
Total power input (2)	(kW)	11.6	13.7	15.8	20.1	21.3	25.5	28.4	32.2	36.1
Total EER (2)		6.3	6.1	5.8	5.6	6.0	6.0	6.2	6.0	5.8
P rated (3)	(kW)	52.0	59.1	65.8	80.0	91.2	108.2	124.4	136.6	148.5
ηs.cooling (3)	(%)	2.1	2.1	2.0	2.1	2.1	2.2	2.2	2.2	2.2
SEER (3)		5.34	5.35	5.30	5.40	5.56	5.79	5.79	5.80	5.70
Number of compressors / refrigerant circuit(s)		2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1
Number of part load steps		3	3	3	3	2	3	2	3	2
Minimum capacity step	(%)	45	39	45	44	50	43	50	44	50
Refrigerant charge	(kg)	5.6	5.6	5.6	5.6	8.4	9.1	12.2	12.2	12.2
Sound power level (ISO 9614)	(db(A))	78	79	80	81	82	84	86	86	86
Sound pressure level at 10 m	(db(A))	47	48	49	50	46	48	50	50	50
Sound power level (ISO 9614) - low noise model	(db(A))	75	76	77	78	79	81	83	83	83
Sound pressure level at 10 m - low noise model	(db(A))	44	45	46	47	43	45	47	47	47
Sound power level (ISO 9614) - super low noise	(db(A))	73	74	75	76	77	79	81	81	81
Sound pressure level at 10 m - super low noise	(db(A))	42	43	44	45	41	43	45	45	45
Length	(mm)	1555	1555	1555	1555	1555	1755	1755	1755	1755
Width	(mm)	676	676	676	676	676	810	810	810	810
Height	(mm)	1417	1417	1417	1417	1417	1407	1407	1407	1407
Operating weight	(kg)	427	429	434	457	482	622	687	690	693

(1) Cooling EN 14511 value LWT 7°C. (2) Cooling EN 14511 value LWT 18°C. (3) Seasonal efficiency in cooling according to EN 14825-2018.

CCUF condenserless units										
		050	**055**	**065**	**075**	**085**	**100**	**115**	**130**	**140**
Total cooling capacity (1)	(kW)	48.0	54.8	61.3	75.9	84.9	101.6	115.5	127.5	139.1
Total power input (1)	(kW)	13.0	14.8	16.7	20.2	22.7	27.0	31.2	34.2	37.2
Total EER (1)		3.7	3.7	3.7	3.8	3.7	3.8	3.7	3.7	3.7
Total cooling capacity (2)	(kW)	44.8	51.3	57.6	70.9	79.3	94.9	107.9	119.0	130.0
Total power input (2)	(kW)	14.5	16.5	18.6	22.5	25.4	30.1	34.8	38.1	41.5
Total EER (2)		3.1	3.1	3.1	3.2	3.1	3.2	3.1	3.1	3.1
Number of compressors / refrigerant circuit(s)		2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1
Number of part load steps		3	3	3	3	2	3	2	3	2
Minimum capacity step	(%)	45	39	45	44	50	43	50	44	50
Sound power level (ISO 9614)	(db(A))	78	79	80	81	82	84	86	86	86
Sound pressure level at 10 m		47	48	49	50	46	48	50	50	50
Sound power level (ISO 9614). low noise model	(db(A))	75	76	77	78	79	81	83	83	83
Sound pressure level at 10 m - low noise model		44	45	46	47	43	45	47	47	47
Sound power level (ISO 9614) - super low noise	(db(A))	73	74	75	76	77	79	81	81	81
Sound pressure level at 10 m - super low noise		42	43	44	45	41	43	45	45	45
Dimensions and weights (operating)										
Length	(mm)	1555	1555	1555	1555	1555	1755	1755	1755	1755
Width	(mm)	676	676	676	676	676	810	810	810	810
Height	(mm)	1417	1417	1417	1417	1417	1407	1407	1407	1407
Weight	(kg)	399	401	405	420	425	564	603	606	608
Dimensions and weights (operating)										
Length	(mm)	1555	1555	1555	1555	1555	1755	1755	1755	1755
Width	(mm)	676	676	676	676	676	810	810	810	810
Height	(mm)	1417	1417	1417	1417	1417	1407	1407	1407	1407
Weight	(kg)	448	450	455	465	510	692	738	747	749

(1) Evaporator water temperature in/out 12/7°C - Condenser water temperature in/out 30/35°C. (2) Evaporator water temperature in/out 23/18°C - Condenser water temperature in/out 30/35°C.

CGWN - CCUN

Water-cooled packaged and condenserless scroll chillers

Customer benefits

- Improved part load efficiency to be compliant with EcoDesign regulations
- Compact chiller with packaged hydraulic module (available as an option) for easier and faster installation
- Wide application flexibility for comfort and process applications: fits your exact requirements
- State of the art control to guarantee superior dependability: lower cost of ownership

Range description

CGWN: packaged chiller

CCUN: condenserless chiller

Main features

- High efficiency hermetic scroll compressors with low vibration and sound levels and full internal overheating protections
- External sheet metal parts are galvanized and finished with powder paint RAL 9002
- Access panels are quickly removable using a square key and mounted handles
- Designed for indoor and outdoor installation
- Maximum condenser leaving water temperature: 60°C
- 380, 400 and 415V power voltage
- 400/110V transformer for the control
- Phase & unbalanced detection

Options

- High efficiency version
- Soft starter
- Evaporator + water pump command - single or double
- Condenser + water pump command - single or double
- Compressor sound attenuating jackets
- High and low pressure gauges
- Hydraulic module including:
  - Single or dual evaporator pump including water filter and pressure tabs
  - Speed inverter condenser pumps including flow control, condenser return and leaving water temperature
  - Combinations of hydraulic modules available: evaporator only, condenser only or both

Tracer™ CH530 Control

Adaptive Control™ microprocessor-based control featuring:

- Easy-to-use operator interface
- External linear reset, auxiliary and external water setpoint
- Compressor kW limiting (optional)
- Alarm indicator programmable relays (options)
- Ice making controls (optional)
- LonTalk®, Modbus®, BACnet® communication interface (optional)
- Leaving condenser water temperature control (optional)

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

Condenser leaving water temperature (min./max.)	(°C)	25/60
Condenser saturated discharge temperature (min./max.)	(°C)	25/60
Evaporator leaving water temperature range (min./max.)	(°C)	-7/+15
Power supply	(V/Ph/Hz)	400/3/50

CGWN		205	205HE	206	206HE	207	207HE	208	209	210	211
Net cooling capacity (1) (4)	(kW)	182	193	216	227	250.5	262	282	311	341	372
Net power input (1) (4)	(kW)	45	41	53	50	60.4	58	64	73	82	90
Net EER/Eurovent class (1) (4)		4.07/C	4.65/C	4.09/C	4.56/C	4.15/C	4.53/C	4.41/C	4.27/C	4.17/C	4.14/C
SEER		4.29	5.10	4.84	5.38	4.60	5.12	4.95	4.76	4.93	4.84
Number of refrigerant circuits							2				
Number of compressors/capacity steps							4				
Sound power level (3)	(dB(A))	82	82	82	82	83	83	83	84	84	84
Weights and dimensions (operating) (5)											
Length	(mm)	2545	2545	2545	2545	2545	2545	2545	2545	2545	2545
Width	(mm)	880	880	880	880	880	880	880	880	880	880
Height	(mm)	1842	1842	1842	1842	1842	1842	1842	1842	1842	1842
Weight	(kg)	1360	1460	1300	1450	1420	1420	1500	1650	1710	1790

CGWN		212	213	214	215
Net cooling capacity (1) (4)	(kW)	397.0	430.0	464.0	506.0
Net power input (1) (4)	(kW)	101.02	110.82	121.78	117.95
Net EER (1) (4)		3.93	3.88	3.81	4.29
SEER		6.09	6.10	6.44	6.11
Number of refrigerant circuits			2		
Number of compressors/capacity steps			6		
Sound power level (3)	(dB(A))	87	88	88	90
Weights and dimensions (operating) (5)					
Length	(mm)	2808	2808	2808	2808
Width	(mm)	878	878	878	878
Height	(mm)	1950	1950	1950	1950
Weight	(kg)	2232	2442	2525	2640

(1) Evaporator 12/7°C and 0.044m2K/kW, and condenser at 30/35°C and 0.044m2K/kW.
(2) Evaporator 12/7°C and 0.044m2K/kW, and condenser 45°C saturating subcooling 5K.
(3) At full load and in accordance with ISO9614 and without compressor enclosure.
(4) Net performances calculated as per EN 14511-2013.
(5) Without hydraulic module or pumps.

CGAF

Air-cooled scroll chiller

Customer benefits

- High efficiency (Eurovent Class A or B)
- Easy handling and installation
- Wide application flexibility for comfort and process
- User-friendly control interface and interoperability with building automation systems
- Reduced footprint and refrigerant charge compared to legacy products

Main features

- Three efficiency levels: Standard efficiency (SE), High efficiency (HE), Extra high efficiency (XE)
- Three acoustic packages: Standard noise (SN), Low noise (LN), Extra low noise (XLN)
- AC, EC or EC axitop fans
- Microchannel condenser coil

Options

- Pumps and buffer tanks fully integrated into design
- Total and partial heat recovery
- Free cooling (direct and glycol-free)
- High ambient operation (up to 52°C)
- Low ambient operation (down to -20°C)

Controls

- Ultimate control: Trane UC800
  - Easy to read 7-inch color touchscreen display
  - Industry leading algorithms
  - Open protocol design
  - Adaptive control
- Rapid restart
- SmartCom interface: LonTalk, Modbus, BACnet communication capabilities
- Energy metering
- Leak detection

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

Operating outdoor air temperature range (min./max.) (1)	(°C)	-20/+52°C
Leaving water temperature range (min./max.) (2)	(°C)	-12/18°C
Power supply	(V/Ph/Hz)	400/3/50

CGAF Standard Efficiency (SE)		**080**	**090**	**100**	**110**	**130**	**140**	**150**	**165**	**180**	**190**
Cooling capacity (3)	(kW)	/	318	351	391	431	480	513	553	621	661
Total power input (3)	(kW)	/	105	119	138	157	168	185	204	211	230
EER	(kW/kW)	/	3.04	2.94	2.83	2.74	2.85	2.78	2.71	2.94	2.88
Eurovent class		/	B	B	C	C	B	C	C	B	C
SEER	(kW/kW)	/	4.17	4.13	4.18	4.13	4.21	4.22	4.30	4.32	4.31
Seasonal space cooling efficiency ηsc (4)	(%)	/	164	162	164	162	166	166	169	170	169
Sound power level (standard noise) (5)	(dB(A))	/	92	94	95	95	94	95	96	97	97
Sound power level (low noise) (5)	(dB(A))	/	89	90	91	92	91	92	92	93	94
Sound power level (extra low noise) (5)	(dB(A))	/	87	88	89	89	89	89	90	91	91

CGAF High Efficiency (HE)		**080**	**090**	**100**	**110**	**130**	**140**	**150**	**165**	**180**	**190**
Cooling capacity (3)	(kW)	293	334	371	416	459	513	548	587	641	682
Total power input (3)	(kW)	90	102	115	132	149	161	176	194	205	222
EER	(kW/kW)	3.25	3.28	3.22	3.16	3.09	3.18	3.11	3.03	3.12	3.07
Eurovent class		A	A	A	A	B	A	A	B	A	B
SEER	(kW/kW)	4.36	4.31	4.34	4.39	4.46	4.26	4.30	4.42	4.39	4.39
Seasonal space cooling efficiency ηsc (4)	(%)	171	169	171	172	175	167	169	174	172	173
Sound power level (standard noise) (5)	(dB(A))	89	92	94	95	95	94	95	96	97	97
Sound power level (low noise) (5)	(dB(A))	87	90	91	92	92	91	92	93	94	94
Sound power level (extra low noise) (5)	(dB(A))	86	88	89	89	90	89	90	90	91	91

CGAF Extra High Efficiency (XE)		**080**	**090**	**100**	**110**	**130**	**140**	**150**	**165**	**180**	**190**
Cooling capacity - Standard & Low noise (3)	(kW)	297	333	374	423	471	520	560	604	653	699
Cooling capacity - Extra low noise (3)	(kW)	295	333	374	419	464	518	553	593	647	689
Total power input - Standard & Low noise (3)	(kW)	88	99	112	128	144	157	172	188	200	216
Total power input -Extra Low noise (3)	(kW)	87	99	112	127	142	156	170	185	198	213
EER	(kW/kW)	3.39	3.38	3.34	3.30	3.26	3.31	3.26	3.21	3.27	3.23
Eurovent class		A	A	A	A	A	A	A	A	A	A
SEER	(kW/kW)	4.87	4.92	4.79	4.75	4.77	5.03	4.89	4.87	4.95	4.91
Seasonal space cooling efficiency ηsc (4)	(%)	192	194	189	187	188	198	193	192	195	193
Sound power level (standard noise) (5)	(dB(A))	90	92	94	95	96	94	96	96	97	98
Sound power level (low noise) (5)	(dB(A))	88	90	91	92	93	91	93	94	94	95
Sound power level (extra low noise) (5)	(dB(A))	85	87	88	89	89	88	89	90	90	91

Number of circuits / compressors		2/4	2/4	2/4	2/4	2/4	2/6	2/6	2/6	2/6	2/6
Number of condenser fans - SE		/	6	6	6	6	8	8	8	10	10
Number of condenser fans - HE & XE version		6	8	8	8	8	10	10	10	12	12

Dimensions and weights (operating)											
Length - SE version	(mm)	/	3395	3395	3395	3395	4520	4520	4520	5645	5645
Length - HE and XE versions	(mm)	3395	4520	4520	4520	4520	5645	5645	5645	6770	6770
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height (6)	(mm)	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526
Weight - SE version	(kg)	/	2145	2260	2330	2400	2915	3100	3175	3550	3630
Weight - HE version	(kg)	2085	2480	2615	2700	2770	3315	3500	3540	3910	3975
Weight - XE version	(kg)	2145	2560	2695	2780	2850	3415	3600	3640	4030	4095

(1) With low ambient and / or high ambient temperature option.
(2) With process cooling option.
(3) At Eurovent conditions: 12/7°C entering/leaving water temperature and 35°C ambient temperature according to EN 14511-2018.
(4) According to EN14825:2018. Ecodesign rating for comfort chiller – fan coil application.
(5) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(6) Height without EC Axitop fans. With EC Axitop option, add 146 mm to unit height.

RTAF

Air-cooled helical-rotary chiller

Customer benefits

The lowest Total Cost of Ownership thanks to:

- Low energy consumption: high full (EER) and part load efficiencies
- Trane screw compressor with Variable Volume Index (XSE/XSS) to reach remarkable efficiency levels
- Silent operation: discreet, even in the most sound sensitive applications
- Unique feature: efficiency increases when sound decreases
- Reliability: main components designed and manufactured by Trane
- User-friendly control interface and interoperability with building automation systems
- Reduced refrigerant charge

Range description

RTAF: R134a/R513A chiller

RTAF G: R1234ze chiller

Main features

- 5 efficiency levels: SE, HE, XE, HSE/HSS and XSE/XSS
- 5 acoustic packages: SN, LN with no loss of efficiency; XLN with improved efficiency, AC XLN and WLN on XSE/XSS
- Trane Adaptive Frequency™ Drive on compressors (HSE, HSS, XSE, XSS)
- Electronically Commutated condenser fans (XE, HSE, HSS, XSE, XSS)
- Variable Volume Index compressors with permanent magnet motor and integrated muffler (XSE/XSS)
- Trane patented flooded evaporator CHIL (Compact - High performance - Integrated design - Low charge)
- Microchannel condenser coils

Options

- Integrated water pump: dual pump standard or high head pressure with optional VPF
- Partial and total heat recovery
- Low temperature process cooling (<4°C)
- Ice storage
- High ambient operation (55°C)
- Low ambient operation (-18°C)
- E-coated condenser coil
- Optiplant: unit sequencer
- Partial Free Cooling - Direct or Glycol Free
- Total Free Cooling - - Direct or Glycol Free

Accessories

- Flow-switch
- Neoprene isolators

Controls

- Ultimate control: Trane UC800
  - Easy to read 7-inch color touchscreen display
  - Industry leading algorithms
  - Open protocol design
  - Adaptive control
- Feedforward adaptive control
- Softloading
- Rapid restart
- SmartCom interface: LonTalk®, Modbus®, BACnet® communication capabilities
- Energy metering

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

		RTAF SE/HE/XE/HSE/HSS	RTAF XSE
Operating outdoor air temperature range (min./max.) (1)	(°C)	-18/+55°C	-18/+46°C
Leaving water temperature range (min./max.) (2)	(°C)	-12/20°C	-12/20°C
Power supply	(V/Ph/Hz)	400/3/50	400/3/50

RTAF XSE - Extra Low Noise - R134a		**100**	**165**	**200**	**265**	**330**
Cooling capacity (1)(2)	(kW)	369	604	727	980	1219
Total power input (1)(2)	(kW)	97	165	206	273	339
EER (1)(2)		3.80	3.67	3.53	3.59	3.60
Eurovent class		A	A	A	A	A
SEER (3)		6.16	6.38	5.82	6.11	6.39
Space cooling efficiency ηsc (3)	(%)	243	252	230	241	253
Number of circuit(s)		1	1	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	79	93	68/66	78/86	93/86
Number of compressors		1	1	2	2	2
Dimensions and weights (operating)						
Length	(mm)	5645	6900	7895	10143	12393
Width	(mm)	2220	2220	2220	2220	2220
Height	(mm)	2672	2672	2672	2672	2672
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000
Weight	(kg)	3670	4320	5645	7220	8200
Electrical data						
Maximum amps	(A)	218	362	416	566	715
Start-up amps	(A)	218	362	416	566	715

RTAF XSE - Standard and Low Noise - R134a		**100**	**165**	**200**	**265**	**330**
Cooling capacity (1)(2)	(kW)	369	604	729	984	1223
Total power input (1)(2)	(kW)	98	167	208	275	341
EER (1)(2)		3.76	3.61	3.51	3.58	3.58
Eurovent class		A	A	A	A	A
SEER (3)		5.97	6.40	5.77	6.15	6.41
Space cooling efficiency ηsc (3)	(%)	236	253	228	243	253
Number of circuit(s)		1	1	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	79	93	68/66	78/86	93/86
Number of compressors		1	1	2	2	2
Dimensions and weights (operating)						
Length	(mm)	5645	6900	7895	10143	12393
Width	(mm)	2220	2220	2220	2220	2220
Height	(mm)	2526	2526	2526	2526	2526
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000
Weight	(kg)	3520	4150	5405	6940	7900
Electrical data						
Maximum amps	(A)	218	362	416	566	715
Start-up amps	(A)	218	362	416	566	715

(1) Evaporator 12/7°C and 0.0 m²K/kW, and Condenser air temperature 35°C.
(2) Net performances calculated as per EN 14511-2018 & 14825:2018.
(3) ηs,c / SEER as defined in Directive 2009/125/CE of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 30 November 2016.

RTAF XSS - Extra Low Noise - R134a		100	165	200	265	330
Cooling capacity (1)(2)	(kW)	355	570	696	929	1168
Total power input (1)(2)	(kW)	107	185	223	305	372
EER (1)(2)		3.31	3.07	3.12	3.04	3.14
Eurovent class		A	B	A	B	A
SEER (3)		5.13	5.39	5.07	5.22	5.50
Space cooling efficiency ηsc (3)	(%)	202	213	200	206	217
Number of circuit(s)		1	1	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	66	80	61/60	69/78	81/80
Number of compressors		1	1	2	2	2
Dimensions and weights (operating)						
Length	(mm)	4520	4650	5645	7524	9396
Width	(mm)	2220	2220	2220	2220	2220
Height	(mm)	2526	2526	2526	2526	2526
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000
Weight	(kg)	2970	3550	4865	6060	7015
Electrical data						
Maximum amps	(A)	206	350	404	548	697
Start-up amps	(A)	206	350	404	548	697

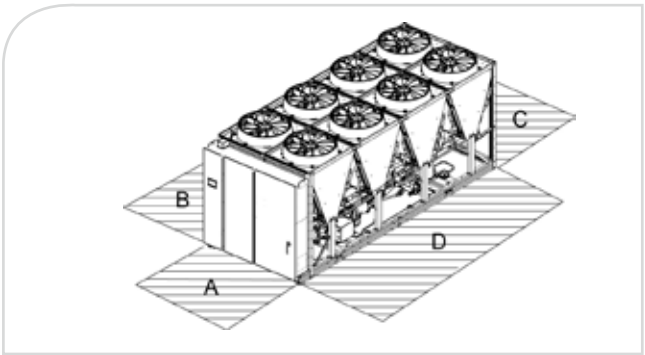
RTAF XSS - Standard and Low Noise - R134a		100	165	200	265	330
Cooling capacity (1)(2)	(kW)	358	576	702	937	1179
Total power input (1)(2)	(kW)	108	186	224	305	372
EER (1)(2)		3.31	3.11	3.14	3.07	3.17
Eurovent class		A	A	A	B	A
SEER (3)		4.95	5.21	4.97	5.13	5.38
Space cooling efficiency ηsc (3)	(%)	195	205	196	202	212
Number of circuit(s)		1	1	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	66	80	61/60	69/78	81/80
Number of compressors		1	1	2	2	2
Dimensions and weights (operating)						
Length	(mm)	4520	4650	5645	7524	9396
Width	(mm)	2220	2220	2220	2220	2220
Height	(mm)	2526	2526	2526	2526	2526
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000
Weight	(kg)	2920	3500	4765	5960	6915
Electrical data						
Maximum amps	(A)	212	358	414	560	713
Start-up amps	(A)	212	358	414	560	713

(1) Evaporator 12/7°C and 0.0 m²K/kW, and Condenser air temperature 35°C.
(2) Net performances calculated as per EN 14511-2018 & 14825:2018.
(3) ηs,c / SEER as defined in Directive 2009/125/CE of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 30 November 2016.

RTAF High Seasonal Efficiency - Extra Low Noise - R134a		090	105	125	145	155	175	190	205	245	250
Cooling capacity (3)	(kW)	333	387	454	536	581	644	704	764	879	893
Total power input (3)	(kW)	101	101	101	101	101	101	101	101	101	101
EER (3)		3.31	3.23	3.15	3.24	3.2	3.18	3.26	3.22	2.88	3.18
Eurovent class		A	A	A	A	A	A	A	A	C	A
SEER (6)		4.63	4.60	4.63	4.86	4.89	4.84	5.05	5.04	4.83	4.67
Space cooling efficiency ηsc (6)	(%)	182	181	182	191	193	191	199	199	190	184
Sound power level (4)	(dB(A))	88	88	88	89	91	91	92	92	97	93
Sound pressure level (5)	(dB(A))	55	55	55	56	58	58	59	59	64	60
Number of circuit(s)		2	2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	43/41	42/40	45/41	48/46	50/44	60/46	62/56	66/62	66/62	108/43
Number of compressors		2	2	2	2	2	2	2	2	2	3
Dimensions and weights (operating)											
Length	(mm)	5645	5645	5645	6770	6770	6770	7895	7895	7895	9396
Width	(mm)	2200	2200	2200	2200	2200	2200	2400	2200	2200	2200
Height	(mm)	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	3810	3845	4025	4455	4605	4930	5310	5510	5620	7067
Electrical data											
Maximum amps	(A)	230	263	310	360	401	438	478	515	542	623
Start-up amps	(A)	230	263	310	360	401	438	478	515	542	713

RTAF High Seasonal Efficiency - Extra Low Noise - R134a		280	310	350	370	380	400	410	450	510	550	600
Cooling capacity (3)	(kW)	1012	1132	1262	1427	1374	1535	1484	1614	1839	1921	2093
Total power input (3)	(kW)	314	314	314	314	314	314	314	314	314	314	805
EER (3)		3.22	3.21	3.22	3.19	3.23	3.03	3.16	2.93	3.14	3.04	2.6
Eurovent class		A	A	A	A	A	B	A	B	A	B	D
SEER (6)		4.6	4.71	5.03	4.87	4.82	4.73	5.01	4.77	5.05	5.06	4.7
Space cooling efficiency ηsc (6)	(%)	181	185	198	192	190	186	197	188	199	199	184
Sound power level (4)	(dB(A))	94	95	95	101	95	106	95	103	102	105	107
Sound pressure level (5)	(dB(A))	61	62	62	68	62	73	62	70	69	72	78
Number of circuit(s)		2	2	2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	104/53	112/54	102/96	112/54	103/108	112/54	107/110	107/110	140/140	140/140	140/140
Number of compressors		3	3	4	3	4	3	4	4	4	4	4
Dimensions and weights (operating)												
Length	(mm)	10143	11268	12393	11268	13518	11268	13518	13518	13518	13518	13518
Width	(mm)	2200	2200	2200	2220	2200	2200	2200	2200	2220	2220	2220
Height	(mm)	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	7548	7998	9369	8278	9574	8278	9519	9955	9799	9799	10244
Electrical data												
Maximum amps	(A)	703	783	888	897	972	1028	1046	1149	1149	1280	1288
Start-up amps	(A)	817	897	978	1011	1086	1142	1160	1263	1263	1394	1394

(3) At Eurovent conditions: 12/7°C entering/leaving water temperature (0.0 m^2K/kW) and 35°C ambient temperature according to EN 14511-2018.
(4) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(5) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above certified sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with five exposed face areas.
(6) ηsc/ SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 30 November 2016.



RTAF High Seasonal Efficiency - Standard and Low Noise - R134a		090	105	125	145	155	175	190	205	245	250
Cooling capacity (3)	(kW)	334	387	455	537	582	644	704	758	880	893
Total power input (3)	(kW)	102	102	102	102	102	102	102	102	102	102
EER (3)		3.28	3.2	3.13	3.21	3.17	3.14	3.22	3.17	2.86	3.15
Eurovent class		A	A	A	A	A	A	A	A	C	A
SEER (6)		4.58	4.55	4.58	4.8	4.83	4.77	4.99	4.98	4.77	4.62
Space cooling efficiency ηsc (6)	(%)	180	179	180	189	190	188	197	196	188	182
Sound power level (4)	(dB(A))	94	94	95	96	98	98	99	99	104	99
Sound pressure level (5)	(dB(A))	62	62	63	63	65	65	66	66	71	66
Sound power level (low noise) (4)	(dB(A))	91	91	92	93	95	95	96	96	101	96
Sound pressure level (low noise) (5)	(dB(A))	59	59	60	60	62	62	63	63	68	63
Number of circuit(s)		2	2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	43/41	42/40	45/41	48/46	50/44	60/46	62/56	66/62	66/62	108/43
Number of compressors		2	2	2	2	2	2	2	2	2	3
Dimensions and weights (operating)											
Length	(mm)	5645	5645	5645	6770	6770	6770	7895	7895	7895	9396
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	3810	3845	4025	4455	4605	4930	5310	5510	5620	7067
Electrical data											
Maximum amps	(A)	230	263	310	360	401	438	478	515	542	623
Start-up amps	(A)	230	263	310	360	401	438	478	515	542	713

RTAF High Seasonal Efficiency - Standard and Low Noise - R134a		280	310	350	370	380	400	410	450	510	550	600
Cooling capacity (3)	(kW)	1013	1132	1263	1420	1375	1524	1495	1618	1828	1907	2075
Total power input (3)	(kW)	318	318	318	318	318	318	318	318	318	318	814
EER (3)		3.18	3.17	3.19	3.14	3.2	2.98	3.12	2.88	3.09	2.99	2.55
Eurovent class		A	A	A	A	A	B	A	C	B	B	D
SEER (6)		4.56	4.66	4.97	4.83	4.76	4.69	4.93	4.71	5.01	5.02	4.66
Space cooling efficiency ηsc (6)	(%)	179	183	196	190	187	185	194	185.4	197.4	197.8	183
Sound power level (4)	(dB(A))	100	101	101	104	102	107	102	107	104	107	109
Sound pressure level (5)	(dB(A))	67	68	68	71	69	78	69	78	71	78	80
Sound power level (low noise) (4)	(dB(A))	97	98	98	103	98	107	99	104	104	107	109
Sound pressure level (low noise) (5)	(dB(A))	64	65	65	70	65	74	66	71	71	74	80
Number of circuit(s)		2	2	2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	104/53	112/54	102/96	112/54	103/108	112/54	107/110	107/110	140/140	140/140	140/140
Number of compressors per circuit		3	3	4	3	4	3	4	4	4	4	4
Dimensions and weights (operating)												
Length	(mm)	10143	11268	12393	11268	13518	11268	13518	13518	13518	13518	13518
Width	(mm)	2200	2200	2200	2220	2200	2220	2200	2200	2220	2220	2220
Height	(mm)	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	7548	7998	9369	8278	9574	8278	9519	9955	9799	9799	10244
Electrical data												
Maximum amps	(A)	703	783	888	972	1046	1149	897	1028	1149	1280	1288
Start-up amps	(A)	817	897	978	1086	1160	1263	1011	1142	1263	1394	1394

(3) At Eurovent conditions: 12/7°C entering/leaving water temperature (0.0 m²K/kW) and 35°C ambient temperature according to EN 14511-2018.

(4) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.

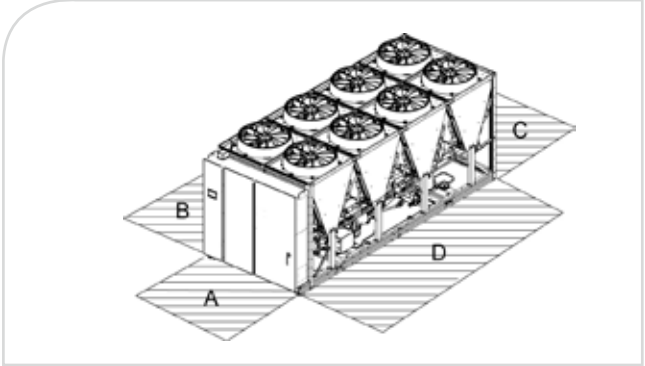
(5) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above certified sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with five exposed face areas.

(6) ηsc/ SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 30 November 2016.

RTAF High Seasonal Short - Extra Low Noise - R134a		090	105	125	140	145	150	155	170	175	185
Cooling capacity (3)	(kW)	334	382	447	514	532	550	573	587	623	663
Total power input (3)	(kW)	105	124	150	176	170	199	190	224	212	235
EER (3)		3.18	3.09	2.99	2.92	3.13	2.77	3.02	2.62	2.94	2.82
Eurovent class		A	B	B	B	A	C	B	D	B	C
SEER (6)		4.52	4.48	4.49	4.56	4.66	4.55	4.75	4.5	4.68	4.71
Space cooling efficiency ηsc (6)	(%)	178	176	177	179	183	179	187	177	184	185
Sound power level (4)	(dB(A))	88	89	89	89	89	90	90	90	90	91
Sound pressure level (5)	(dB(A))	56	57	57	57	56	58	58	58	58	58
Number of circuit(s)		2	2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	41/39	40/38	42/38	42/40	45/43	44/38	47/41	54/40	57/43	56/50
Number of compressors		2	2	2	2	2	2	2	2	2	2
Dimensions and weights (operating)											
Length	(mm)	4520	4520	4520	4520	5645	4520	5645	4520	5645	5645
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	3515	3545	3725	3885	4205	4155	4470	4590	4735	4960
Electrical data											
Maximum amps	(A)	224	257	304	348	354	389	395	423	430	465
Start-up amps	(A)	224	257	304	348	354	389	395	423	430	465

RTAF High Seasonal Short - Extra Low Noise - R134a		190	200	205	245	250	280	310	350	380	410
Cooling capacity (3)	(kW)	684	717	739	838	874	982	1080	1212	1330	1452
Total power input (3)	(kW)	227	260	250	308	295	332	379	425	457	497
EER (3)		3.02	2.76	2.96	2.72	2.96	2.96	2.85	2.85	2.91	2.92
Eurovent class		B	C	B	C	B	B	C	C	B	B
SEER (6)		4.90	4.61	4.80	4.71	4.66	4.70	4.68	4.55	4.56	4.62
Space cooling efficiency ηsc (6)	(%)	193	181	189	185	183	185	184	179	179	182
Sound power level (4)	(dB(A))	91	91	91	97	93	94	94	94	95	95
Sound pressure level (5)	(dB(A))	58	58	58	64	60	61	61	61	62	62
Number of circuit(s)		2	2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	59/53	60/56	63/59	63/59	93/45	96/49	97/52	94/91	98/100	107/104
Number of compressors		2	2	2	2	3	3	3	4	4	4
Dimensions and weights (operating)											
Length	(mm)	6770	5645	6770	6770	8271	9396	9396	10143	11268	12393
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	5220	4990	5255	5365	6747	7248	7378	8724	8994	9229
Electrical data											
Maximum amps	(A)	471	500	506	536	617	697	768	876	960	1037
Start-up amps	(A)	471	500	506	536	707	811	882	966	1074	1151

(3) At Eurovent conditions: 12/7°C entering/leaving water temperature (0.0 m^2K/kW) and 35°C ambient temperature according to EN 14511-2018.
(4) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(5) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above certified sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with five exposed face areas.
(6) ηsc/ SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 30 November 2016.
* Not available for comfort applications for countries adopting the Ecodesign Directive.



RTAF High Seasonal Short - Standard and Low Noise - R134a		090	105	125	140	145	150	155	170	175	185
Cooling capacity (3)	(kW)	334	382	448	514	532	551	574	588	624	664
Total power input (3)	(kW)	107	109	151	178	172	200	192	225	214	237
EER (3)		3.13	3.05	2.96	2.89	3.09	2.75	2.99	2.61	2.91	2.80
Eurovent class		A	B	B	C	B	C	B	D	B	C
SEER (6)		4.47	4.43	4.44	4.50	4.68	4.48	4.69	4.42	4.61	4.64
Space cooling efficiency ηsc (6)	(%)	176	174	175	177	184	176	185	174	181	183
Sound power level (4)	(dB(A))	95	95	95	96	96	96	96	97	97	97
Sound pressure level (5)	(dB(A))	63	63	63	64	64	64	64	65	65	64
Sound power level (low noise) (4)	(dB(A))	92	92	92	93	93	93	93	94	94	94
Sound pressure level (low noise) (5)	(dB(A))	60	60	60	61	61	62	61	62	62	61
Number of circuit(s)		2	2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	41/39	40/38	42/38	42/40	45/43	44/38	47/41	54/40	57/43	56/50
Number of compressors		2	2	2	2	2	2	2	2	2	2
Dimensions and weights (operating)											
Length	(mm)	4520	4520	4520	4520	5645	4520	5645	4520	5645	5645
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	3515	3545	3725	3885	4205	4155	4470	4590	4735	4960
Electrical data											
Maximum amps	(A)	224	257	304	348	354	389	395	423	430	465
Start-up amps	(A)	224	257	304	348	354	389	395	423	430	465

RTAF High Seasonal Short - Standard and Low Noise - R134		190	200	205	245	250	280	310	350	380	410
Cooling capacity (3)	(kW)	684	713	739	839	875	982	1081	1213	1331	1452
Total power input (3)	(kW)	230	262	252	311	299	335	381	429	462	501
EER (3)		2.98	2.72	2.93	2.70	2.93	2.93	2.84	2.83	2.88	2.90
Eurovent class		B	C	B	C	B	B	C	C	C	B
SEER (6)		4.84	4.54	4.74	4.65	4.61	4.64	4.63	4.50	4.50	4.57
Space cooling efficiency ηsc (6)	(%)	191	179	187	183	181	183	182	177	177	180
Sound power level (4)	(dB(A))	97	97	97	104	99	100	101	101	101	102
Sound pressure level (5)	(dB(A))	64	65	64	71	66	67	68	68	68	69
Sound power level (low noise) (4)	(dB(A))	94	94	94	101	96	97	98	98	98	99
Sound pressure level (low noise) (5)	(dB(A))	61	61	61	68	63	64	65	65	65	66
Number of circuit(s)		2	2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	59/53	60/56	63/59	63/59	93/45	96/49	97/52	94/91	98/100	107/104
Number of compressors per circuit		2	2	2	2	3	3	3	4	4	4
Dimensions and weights (operating)											
Length	(mm)	6770	5645	6770	6770	8271	9396	9396	10143	11268	12393
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	5220	4990	5255	5365	6747	7248	7378	8724	8994	9229
Electrical data											
Maximum amps	(A)	471	500	506	536	617	697	768	876	960	1037
Start-up amps	(A)	471	500	506	536	707	811	882	966	1074	1151

(3) At Eurovent conditions: 12/7°C entering/leaving water temperature (0.0 m²K/kW) and 35°C ambient temperature according to EN 14511-2018.

(4) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.

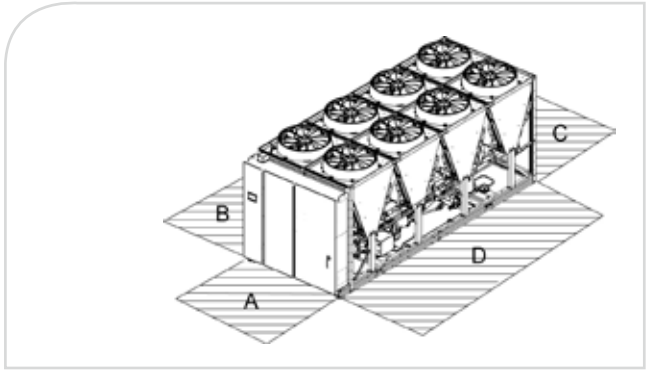
(5) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above certified sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with five exposed face areas.

(6) ηsc/ SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 30 November 2016.

RTAF Extra Efficiency - Extra Low Noise - R134a		090	105	125	145	155	175	190	205	245
Cooling capacity (3)	(kW)	329	384	451	532	575	640	697	759	827
Total power input (3)	(kW)	97	116	138	159	177	199	215	235	250
EER (3)		3.38	3.32	3.26	3.35	3.24	3.22	3.25	3.23	3.31
Eurovent class		A	A	A	A	A	A	A	A	A
SEER (6)		4.38	4.33	4.36	4.47	4.42	4.34	4.33	4.29	4.65
Space cooling efficiency ηsc (6)	(%)	172	170	171	176	174	171	170	169	183
Sound power level (4)	(dB(A))	88	88	88	89	90	90	91	91	95
Sound pressure level (5)	(dB(A))	56	56	56	57	58	58	58	58	62
Number of circuit(s)		2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	43/41	42/40	45/41	48/46	50/44	60/46	62/56	66/62	66/62
Number of compressors		2	2	2	2	2	2	2	2	2
Dimensions and weights (operating)										
Length	(mm)	5645	5645	5645	6770	6770	6770	7895	7895	7895
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2672	2672	2672	2672	2672	2672	2672	2672	2672
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	3710	3740	3920	4350	4615	4775	5225	5365	5445
Electrical data										
Maximum amps	(A)	237	275	329	385	426	465	506	545	545
Start-up amps	(A)	284	339	422	478	519	579	620	659	659

RTAF Extra Efficiency - Extra Low Noise - R134a		250	280	310	350	355	380	410	450
Cooling capacity (3)	(kW)	889	1005	1123	1256	1229	1379	1485	1622
Total power input (3)	(kW)	271	302	343	378	378	417	461	513
EER (3)		3.28	3.33	3.27	3.32	3.25	3.31	3.22	3.16
Eurovent class		A	A	A	A	A	A	A	A
SEER (6)		4.67	4.92	4.74	5.12	5.06	5.12	5.07	5.13
Space cooling efficiency ηsc (6)	(%)	184	194	187	202	199	202	200	202
Sound power level (4)	(dB(A))	93	94	95	95	99	95	95	100
Sound pressure level (5)	(dB(A))	60	61	62	62	66	62	62	67
Number of circuit(s)		2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	108/43	104/53	112/54	102/96	112/54	103/108	107/110	107/110
Number of compressors		3	3	3	4	3	4	4	4
Dimensions and weights (operating)									
Length	(mm)	9393	10143	11268	12393	11268	13518	13518	13518
Width	(mm)	2200	2200	2200	2200	2220	2200	2200	2220
Height	(mm)	2672	2672	2672	2672	2672	2672	2672	2672
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	6847	7298	7748	9129	7833	9334	9279	9399
Electrical data									
Maximum amps	(A)	649	729	813	914	813	998	1076	1076
Start-up amps	(A)	742	843	927	1004	927	1112	1190	1190

(3) At Eurovent conditions: 12/7°C entering/leaving water temperature (0.0 m²K/kW) and 35°C ambient temperature according to EN 14511-2018.
(4) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(5) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above certified sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with five exposed face areas.
(6) ηsc/ SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 30 November 2016.



RTAF Extra Efficiency - Standard and Low Noise - R134a		090	105	125	145	155	175	190	205	245
Cooling capacity (3)	(kW)	330	384	452	533	576	640	697	760	827
Total power input (3)	(kW)	98	116	139	160	178	200	216	237	252
EER (3)		3.37	3.3	3.25	3.34	3.23	3.2	3.23	3.21	3.28
Eurovent class		A	A	A	A	A	A	A	A	A
SEER (6)		4.34	4.29	4.33	4.44	4.39	4.31	4.30	4.26	4.55
Space cooling efficiency ηsc (6)	(%)	171	169	170	175	173	169	169	167	179
Sound power level (4)	(dB(A))	94	94	95	96	97	97	98	98	99
Sound pressure level (5)	(dB(A))	62	62	63	64	65	65	65	65	66
Sound power level (low noise) (4)	(dB(A))	91	91	92	93	94	94	95	95	97
Sound pressure level (low noise) (5)	(dB(A))	59	59	60	61	62	62	62	62	64
Number of circuit(s)		2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	43/41	42/40	45/41	48/46	50/44	60/46	62/56	66/62	66/62
Number of compressors		2	2	2	2	2	2	2	2	2
Dimensions and weights (operating)										
Length	(mm)	5645	5645	5645	6770	6770	6770	7895	7895	7895
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2526	2526	2526	2526	2526	2526	2526	2526	2526
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	3710	3740	3920	4350	4615	4775	5225	5365	5445
Electrical data										
Maximum amps	(A)	237	275	329	385	426	465	506	545	545
Start-up amps	(A)	284	339	422	478	519	579	620	659	659

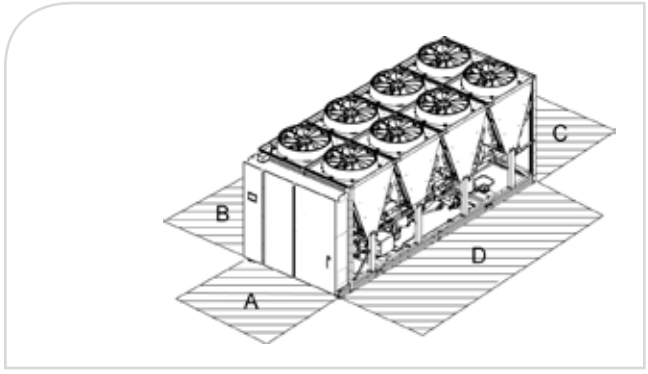
RTAF Extra Efficiency - Standard and Low Noise - R134a		250	280	310	350	355	380	410	415	450
Cooling capacity (3)	(kW)	889	1005	1123	1257	1229	1379	1485	1502	1622
Total power input (3)	(kW)	275	306	348	384	383	422	467	474	518
EER (3)		3.23	3.29	3.23	3.27	3.21	3.27	3.18	3.17	3.13
Eurovent class		A	A	A	A	A	A	A	A	A
SEER (6)		4.61	4.86	4.54	5.05	4.94	5.05	5.00	5.00	4.99
Space cooling efficiency ηsc (6)	(%)	181	191	179	199	195	199	197	197	197
Sound power level (4)	(dB(A))	99	100	101	101	101	102	102	103	102
Sound pressure level (5)	(dB(A))	66	67	68	68	68	69	69	70	69
Sound power level (low noise) (4)	(dB(A))	96	97	98	98	100	98	99	100	101
Sound pressure level (low noise) (5)	(dB(A))	63	64	65	65	67	65	66	67	68
Number of circuit(s)		2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	108/43	104/53	112/54	102/96	112/54	103/108	107/110	107/110	107/110
Number of compressors per circuit		3	3	3	4	3	4	4	4	4
Dimensions and weights (operating)										
Length	(mm)	9393	10143	11268	12393	11268	13518	13518	13518	13518
Width	(mm)	2200	2200	2200	2200	2220	2200	2200	2220	2220
Height	(mm)	2526	2526	2526	2526	2526	2526	2526	2526	2526
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	6847	7298	7748	9129	7833	9334	9279	9279	9399
Electrical data										
Maximum amps	(A)	649	729	813	914	813	998	1076	1076	1076
Start-up amps	(A)	742	843	927	1004	927	1112	1190	1190	1190

(3) At Eurovent conditions: 12/7°C entering/leaving water temperature (0.0 m²K/kW) and 35°C ambient temperature according to EN 14511-2018.
(4) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(5) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above certified sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with five exposed face areas.
(6) ηsc/ SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 30 November 2016.

RTAF High Efficiency - Extra Low Noise AC - R134a		090	105	125	145	155	175	190	205	245
Cooling capacity	(kW)	333	386	454	536	579	634	692	752	821
Total power input	(kW)	102	119	141	162	180	201	216	237	253
EER		3.26	3.25	3.22	3.31	3.21	3.16	3.20	3.17	3.24
Eurovent class		A	A	A	A	A	A	A	A	A
SEER (6)		4.14	4.17	4.26	4.31	4.28	4.21	4.19	4.19	4.58
Space cooling efficiency ηsc (6)	(%)	163	164	167	169	168	165	165	165	180
Sound power level	(dB(A))	90	90	90	90	90	90	91	91	95
Sound pressure level	(dB(A))	58	58	58	57	58	58	58	58	62
Number of circuit(s)		2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	43/41	42/40	45/41	48/46	50/44	60/46	62/56	66/62	66/62
Number of compressors		2	2	2	2	2	2	2	2	2
Dimensions and weights (operating)										
Length	(mm)	5645	5645	5645	6770	6770	6770	7895	7895	7895
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2526	2526	2526	2526	2526	2526	2526	2526	2526
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	3710	3740	3920	4350	4615	4775	5225	5365	5445
Electrical data										
Maximum amps	(A)	236	274	328	384	425	464	505	544	544
Start-up amps	(A)	283	338	421	477	518	578	619	658	658

RTAF High Efficiency - Extra Low Noise AC - R134a		250	280	310	350	355	380	410	450
Cooling capacity	(kW)	877	992	1109	1241	1216	1361	1462	1603
Total power input	(kW)	273	304	342	382	384	420	466	522
EER		3.21	3.26	3.24	3.25	3.17	3.24	3.14	3.07
Eurovent class		A	A	A	A	A	A	A	B
SEER (6)		4.41	4.68	4.56	4.88	4.86	4.89	4.87	4.97
Space cooling efficiency ηsc (6)	(%)	173	184	179	192	191	193	192	196
Sound power level	(dB(A))	93	94	95	95	99	95	96	100
Sound pressure level	(dB(A))	60	61	62	62	66	62	63	67
Number of circuit(s)		2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	108/43	104/53	112/54	102/96	112/54	103/108	107/110	107/110
Number of compressors		3	3	3	4	3	4	4	4
Dimensions and weights (operating)									
Length	(mm)	9393	10143	11268	12393	11268	13518	13518	13518
Width	(mm)	2220	2220	2220	2220	2220	2220	2220	2220
Height	(mm)	2526	2526	2526	2526	2526	2526	2526	2526
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	6847	7298	7748	9129	7833	9334	9279	9399
Electrical data									
Maximum amps	(A)	647	727	811	912	811	996	1074	1074
Start-up amps	(A)	740	841	925	1002	925	1110	1188	1188

(3) At Eurovent conditions: 12/7°C entering/leaving water temperature (0.0 m^2K/kW) and 35°C ambient temperature according to EN 14511-2018.
(4) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(5) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above certified sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with five exposed face areas.
(6) ηsc/ SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 30 November 2016.



RTAF High Efficiency - Standard and Low Noise - R134a		090	105	125*	145	155	175	190*	205	245
Cooling capacity (3)	(kW)	334	387	457	539	583	639	697	759	827
Total power input (3)	(kW)	105	121	143	165	183	202	219	240	254
EER (3)		3.18	3.19	3.19	3.27	3.19	3.16	3.18	3.16	3.25
Eurovent class		A	A	A	A	A	A	A	A	A
SEER (6)		3.83	3.98	4.09	4.19	4.18	4.11	4.09	4.12	4.50
Space cooling efficiency ηsc (6)	(%)	150	156	161	165	164	161	161	162	177
Sound power level (4)	(dB(A))	95	95	96	96	97	97	98	98	99
Sound pressure level (5)	(dB(A))	63	63	64	64	65	65	65	65	66
Sound power level (low noise) (4)	(dB(A))	93	93	93	93	94	94	95	95	97
Sound pressure level (low noise) (5)	(dB(A))	60	60	60	60	61	61	62	62	64
Number of circuit(s)		2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	43/41	42/40	45/41	48/46	50/44	60/46	62/56	66/62	66/62
Number of compressors		2	2	2	2	2	2	2	2	2
Dimensions and weights (operating)										
Length	(mm)	5645	5645	5645	6770	6770	6770	7895	7895	7895
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2526	2526	2526	2526	2526	2526	2526	2526	2526
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	3710	3740	3920	4350	4615	4775	5225	5365	5445
Electrical data										
Maximum amps	(A)	247	285	339	397	438	477	520	559	559
Start-up amps	(A)	294	349	432	490	531	591	634	673	673

RTAF High Efficiency - Standard and Low Noise - R134a		250	280	310	350	355	380	410	450
Cooling capacity (3)	(kW)	885	1001	1119	1252	1224	1373	1477	1616
Total power input (3)	(kW)	276	307	346	385	385	424	469	523
EER (3)		3.21	3.26	3.23	3.25	3.18	3.24	3.15	3.09
Eurovent class		A	A	A	A	A	A	A	B
SEER (6)		4.33	4.54	4.44	4.58	4.76	4.62	4.63	4.86
Space cooling efficiency ηsc (6)	(%)	170	179	175	180	187	182	182	191
Sound power level (4)	(dB(A))	99	100	101	101	101	102	102	102
Sound pressure level (5)	(dB(A))	66	67	68	68	68	69	69	69
Sound power level (low noise) (4)	(dB(A))	96	97	98	98	100	98	99	101
Sound pressure level (low noise) (5)	(dB(A))	64	65	65	65	67	65	66	68
Number of circuit(s)		2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	108/43	104/53	112/54	102/96	112/54	103/108	107/110	107/110
Number of compressors		3	3	3	4	3	4	4	4
Dimensions and weights (operating)									
Length	(mm)	9393	9393	11268	12393	11268	13518	13518	13518
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2220
Height	(mm)	2526	2526	2526	2526	2526	2526	2526	2526
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	6847	7298	7748	9129	7833	9334	9279	9399
Electrical data									
Maximum amps	(A)	665	747	833	936	833	1022	1100	1100
Start-up amps	(A)	758	861	947	1026	947	1136	1214	1214

(3) At Eurovent conditions: 12/7°C entering/leaving water temperature (0.0 m²K/kW) and 35°C ambient temperature according to EN 14511-2018.
(4) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(5) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above certified sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with five exposed face areas.
(6) ηsc/ SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 30 November 2016.
* Not available for comfort applications for countries adopting the Ecodesign Directive.

RTAF Standard Efficiency - Extra Low Noise - R134a		090	105	125	140	145	150*	155	170*	175	185*	190
Cooling capacity (3)	(kW)	330	379	444	511	529	548	570	587	622	663	683
Total power input (3)	(kW)	102	119	143	169	163	190	183	214	204	226	219
EER (3)		3.24	3.19	3.10	3.03	3.24	2.88	3.12	2.75	3.05	2.93	3.12
Eurovent class		A	A	A	B	A	C	A	C	B	B	A
SEER (6)		4.27	4.20	4.21	4.11	4.28	4.04	4.23	3.81	4.20	4.00	4.22
Space cooling efficiency ηsc (6)	(%)	168	165	165	161	168	159	166	149	165	157	166
Sound power level (4)	(dB(A))	88	89	89	89	89	90	90	90	90	91	91
Sound pressure level (5)	(dB(A))	55	56	56	56	56	57	57	57	57	58	58
Number of circuit(s)		2	2	2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	41/39	40/38	42/38	42/40	45/43	44/38	47/41	54/40	57/43	56/50	59/53
Number of compressors		2	2	2	2	2	2	2	2	2	2	2
Dimensions and weights (operating)												
Length	(mm)	4520	4520	4520	4520	5645	4520	5645	4520	5645	5645	6770
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	3410	3445	3620	3780	4100	4045	4365	4370	4525	4700	4970
Electrical data												
Maximum amps	(A)	231	269	323	373	379	414	420	449	459	494	500
Start-up amps	(A)	278	333	416	466	472	507	513	539	573	608	614

RTAF Standard Efficiency - Extra Low Noise - R134a		200*	205	245	250	280	310	350	355	380	410	450
Cooling capacity (3)	(kW)	716	740	813	871	986	1090	1211	1191	1342	1468	1595
Total power input (3)	(kW)	250	241	258	287	327	373	415	398	455	494	528
EER (3)		2.86	3.07	3.15	3.03	3.02	2.92	2.92	2.99	2.95	2.97	3.02
Eurovent class		C	B	A	B	B	B	B	B	B	B	B
SEER (6)		3.92	4.17	4.56	4.35	4.53	4.34	4.65	4.79	4.68	4.76	5.00
Space cooling efficiency ηsc (6)	(%)	154	164	179	171	178	171	183	189	184	187	197
Sound power level (4)	(dB(A))	91	91	95	93	94	94	94	99	95	95	100
Sound pressure level (5)	(dB(A))	58	58	62	60	61	61	61	66	62	62	67
Number of circuit(s)		2	2	2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	60/56	63/59	63/59	93/45	96/49	97/52	94/91	97/52	98/100	107/104	107/104
Number of compressors		2	2	2	3	3	3	4	3	4	4	4
Dimensions and weights (operating)												
Length	(mm)	5645	6770	6770	8271	9396	9396	10143	9396	11268	12393	12393
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	4730	5000	5080	6527	6998	7123	8484	7208	8754	8989	9269
Electrical data												
Maximum amps	(A)	533	539	801	643	723	801	902	801	986	1070	1070
Start-up amps	(A)	647	653	915	736	837	915	992	915	1100	1184	1184

(3) At Eurovent conditions: 12/7°C entering/leaving water temperature (0.0 m²K/kW) and 35°C ambient temperature according to EN 14511-2018.
(4) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(5) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above certified sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with five exposed face areas.
(6) ηsc/ SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 30 November 2016.
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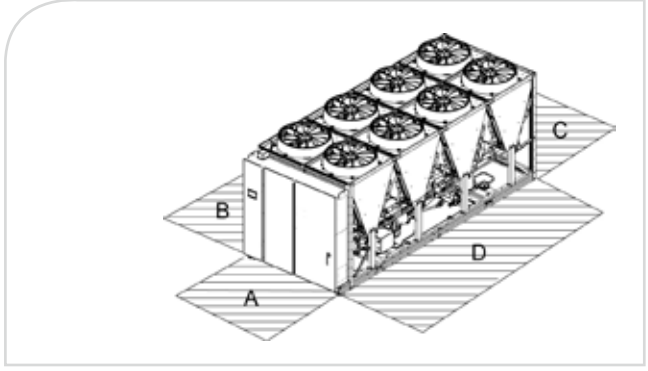

RTAF Standard Efficiency - Extra Low Noise AC - R134a		90	105	125	140*	145	150*	155	170*	175	185*	190
Cooling capacity	(kW)	328	376	440	504	524	540	564	577	615	654	676
Total power input	(kW)	102	120	145	171	165	193	184	216	206	229	221
EER		3.21	3.14	3.03	2.95	3.18	2.8	3.06	2.67	2.98	2.86	3.06
Eurovent class		A	A	B	B	A	C	B	D	B	C	B
SEER (6)		4.17	4.11	4.13	4.03	4.16	3.96	4.12	3.72	4.12	3.92	4.13
Space cooling efficiency ηsc (6)	(%)	164	161	162	158	163	155	162	146	162	154	162
Sound power level	(dB(A))	88	89	89	89	89	90	90	90	90	91	91
Sound pressure level	(dB(A))	55	56	56	56	56	57	57	57	57	58	58
Number of circuit(s)		2	2	2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	41/39	40/38	42/38	42/40	45/43	44/38	47/41	54/40	57/43	56/50	59/53
Number of compressors		2	2	2	2	2	2	2	2	2	2	2
Dimensions and weights (operating)												
Length	(mm)	4520	4520	4520	4520	5645	4520	5645	4520	5645	5645	6770
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	3410	3445	3620	3780	4100	4045	4365	4370	4525	4700	4970
Electrical data												
Maximum amps	(A)	231	269	322	372	378	413	419	448	458	493	499
Start-up amps	(A)	278	333	415	465	471	506	512	538	572	607	613

RTAF Standard Efficiency - Extra Low Noise AC - R134		200*	205*	245	250	280	310	350	355	380	410	450
Cooling capacity	(kW)	705	732	805	861	974	1075	1194	1178	1323	1448	1578
Total power input	(kW)	254	244	260	291	330	377	422	406	460	499	539
EER		2.78	3.00	3.10	2.96	2.95	2.85	2.83	2.90	2.88	2.90	2.93
Eurovent class		C	B	A	B	B	C	C	B	C	B	B
SEER (6)		3.84	4.09	4.47	4.22	4.32	4.24	4.46	4.61	4.52	4.58	4.83
Space cooling efficiency ηsc (6)	(%)	151	161	176	166	170	167	175	181	178	180	190
Sound power level	(dB(A))	3.67	3.88	4.05	4.05	4.16	4.07	4.14	4.29	4.20	4.23	4.33
Sound pressure level	(dB(A))	91	91	94	93	94	94	95	100	95	96	100
Number of circuit(s)		58	58	61	60	61	61	62	67	62	63	67
Refrigerant charge ckt1/ckt2	(kg)	60/56	63/59	63/59	93/45	96/49	97/52	94/91	97/52	98/100	107/104	107/104
Number of compressors		2	2	2	3	3	3	4	3	4	4	4
Dimensions and weights (operating)												
Length	(mm)	5645	6770	6770	8271	9396	9396	10143	9396	11268	12393	12393
Width	(mm)	2200	2200	2200	2220	2220	2220	2220	2220	2220	2220	2220
Height	(mm)	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	4730	5000	5080	6527	6998	7123	8484	7208	8754	8989	9269
Electrical data												
Maximum amps	(A)	532	538	538	642	721	799	900	799	984	1068	1068
Start-up amps	(A)	646	652	652	735	835	913	990	913	1098	1182	1182

(3) At Eurovent conditions: 12/7°C entering/leaving water temperature (0.0 m^2K/kW) and 35°C ambient temperature according to EN 14511-2018.
(4) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(5) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above certified sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with five exposed face areas.
(6) ηsc/ SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 30 November 2016.
* Not available for comfort applications for countries adopting the Ecodesign Directive.

RTAF Standard Efficiency - Standard and Low Noise - R134a		090	105	125*	140*	145*	150*	155*	170*	175*	185*	190*
Cooling capacity (3)	(kW)	330	379	444	510	528	548	570	586	622	662	683
Total power input (3)	(kW)	104	122	146	171	167	193	186	216	207	230	223
EER (3)		3.16	3.12	3.04	2.98	3.17	2.84	3.07	2.71	3.00	2.88	3.06
Eurovent class		A	A	B	B	A	C	B	C	B	C	B
SEER (6)		3.93	4.00	4.04	4.01	4.08	3.95	4.05	3.73	4.08	3.89	4.08
Space cooling efficiency ηsc (6)	(%)	154	157	159	157	160	155	159	146	160	153	160
Sound power level (4)	(dB(A))	95	95	95	96	96	96	96	97	97	97	97
Sound pressure level (5)	(dB(A))	62	62	62	63	63	63	63	64	64	64	64
Sound power level (low noise) (4)	(dB(A))	92	92	92	93	93	93	93	94	94	94	94
Sound pressure level (low noise) (5)	(dB(A))	59	59	59	60	60	60	60	61	61	61	61
Number of circuit(s)		2	2	2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	41/39	40/38	42/38	42/40	45/43	44/38	47/41	54/40	57/43	56/50	59/53
Number of compressors		2	2	2	2	2	2	2	2	2	2	2
Dimensions and weights (operating)												
Length	(mm)	4520	4520	4520	4520	5645	4520	5645	4520	5645	5645	6770
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	3410	3445	3620	3780	4100	4045	4365	4370	4525	4700	4970
Electrical data												
Maximum amps	(A)	239	277	331	381	389	422	430	457	469	504	512
Start-up amps	(A)	286	341	424	474	482	515	523	547	583	618	626

RTAF Standard Efficiency - Standard and Low Noise - R134a		200*	205*	245	250	280	310	350	355	380	410	450
Cooling capacity (3)	(kW)	715	740	812	870	985	1089	1209	1190	1340	1466	1594
Total power input (3)	(kW)	254	245	262	293	332	378	423	405	461	500	537
EER (3)		2.82	3.02	3.10	2.97	2.97	2.88	2.86	2.94	2.91	2.93	2.97
Eurovent class		C	B	A	B	B	C	C	B	B	B	B
SEER (6)		3.83	4.06	4.44	4.15	4.24	4.25	4.27	4.58	4.34	4.42	4.72
Space cooling efficiency ηsc (6)	(%)	150	159	175	163	167	167	168	180	171	174	186
Sound power level (4)	(dB(A))	97	97	99	99	100	101	101	101	101	102	102
Sound pressure level (5)	(dB(A))	64	64	66	66	67	68	68	68	68	69	69
Sound power level (low noise) (4)	(dB(A))	94	94	97	96	97	98	98	100	98	99	101
Sound pressure level (low noise) (5)	(dB(A))	61	61	64	63	64	65	65	67	65	66	68
Number of circuit(s)		2	2	2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	60/56	63/59	63/59	93/45	96/49	97/52	94/91	97/52	98/100	107/104	107/104
Number of compressors		2	2	2	3	3	3	4	3	4	4	4
Dimensions and weights (operating)												
Length	(mm)	5645	6770	6770	8271	9396	9396	10143	9396	11268	12393	12393
Width	(mm)	2200	2200	2200	2220	2220	2220	2220	2200	2220	2220	2220
Height	(mm)	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	4730	5000	5080	6527	6998	7123	8484	7208	8754	8989	9269
Electrical data												
Maximum amps	(A)	543	551	551	657	739	817	920	817	1006	1092	1092
Start-up amps	(A)	657	665	665	750	853	931	1010	931	1120	1206	1206

(3) At Eurovent conditions: 12/7°C entering/leaving water temperature (0.0 m^2K/kW) and 35°C ambient temperature according to EN 14511-2018.
(4) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(5) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above certified sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with five exposed face areas.
(6) ηsc/ SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 30 November 2016.
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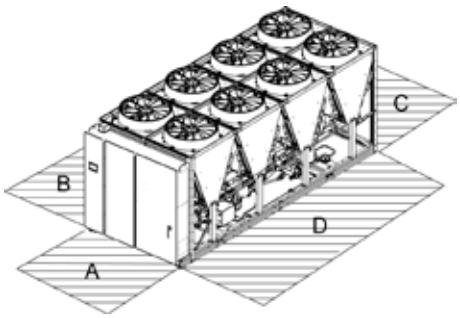


RTAF G High Seasonal Efficiency - Extra Low Noise - R1234ze		090	100	110	120	130	145	155	185	200	225
Cooling capacity (3)	(kW)	327	358	394	427	460	510	554	607	718	812
Total power input (3)	(kW)	98	109	121	129	138	152	169	185	225	272
EER (3)		3.32	3.29	3.25	3.30	3.34	3.36	3.28	3.28	3.19	2.98
Eurovent class		A	A	A	A	A	A	A	A	A	B
SEER (6)		4.53	4.59	4.64	4.72	4.82	4.90	4.87	4.65	4.95	4.83
Space cooling efficiency ηsc (6)	(%)	178	181	183	186	190	193	192	183	195	190
Sound power level (4)	(dB(A))	91	91	92	91	91	91	91	92	96	98
Sound pressure level (5)	(dB(A))	58	58	59	58	58	58	58	59	63	65
Number of circuit(s)		2	2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	44/42	43/41	43/41	44/45	45/43	58/48	58/48	63/49	66/62	66/62
Number of compressors		2	2	2	2	2	2	2	2	2	2
Dimensions and weights (operating)											
Length	(mm)	5645	5645	5645	5645	5645	6770	6770	7895	7895	7895
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	3815	3850	3850	4450	4625	4770	4795	4875	4875	4895
Electrical data											
Maximum amps	(A)	259	281	302	338	374	412	445	451	516	587
Start-up amps	(A)	259	281	302	338	374	412	445	451	516	587

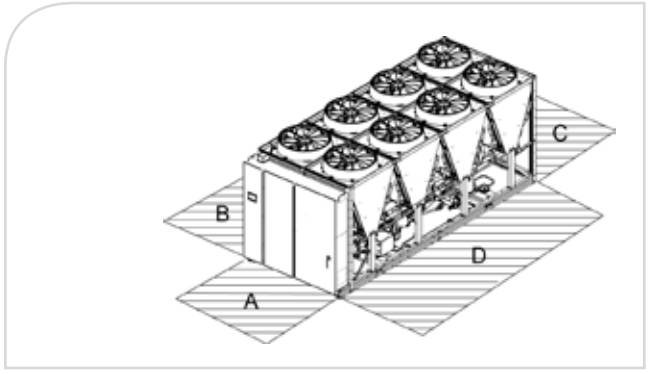
RTAF G High Seasonal Efficiency - Extra Low Noise - R1234ze		210	230	265	275	300	285	305	340	385	405	470
Cooling capacity (3)	(kW)	741	838	894	1000	1026	1095	1117	1199	1307	1404	1618
Total power input (3)	(kW)	225	255	278	320	307	360	343	369	410	457	572
EER (3)		3.29	3.29	3.22	3.13	3.34	3.04	3.26	3.25	3.19	3.07	2.83
Eurovent class		A	A	A	A	A	B	A	A	A	B	C
SEER (6)		4.83	4.91	4.95	4.87	4.94	5.15	5.09	5.13	5.00	5.00	4.72
Space cooling efficiency ηsc (6)	(%)	190	193	195	192	195	203	201	202	197	197	186
Sound power level (4)	(dB(A))	94	94	94	97	98	95	95	95	97	98	101
Sound pressure level (5)	(dB(A))	61	61	61	64	65	62	62	62	64	65	68
Number of circuit(s)		2	2	2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	98/40	104/49	104/49	108/51	108/53	100/92	102/96	102/102	108/108	107/110	112/110
Number of compressors		3	3	3	3	3	4	4	4	4	4	4
Dimensions and weights (operating)												
Length	(mm)	9390	10135	10135	10135	11260	12385	12385	13510	13510	13510	13510
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	7475	7975	7995	7995	8625	9670	9895	10225	10110	10110	10110
Electrical data												
Maximum amps	(A)	597	668	668	748	828	819	884	890	970	1044	1195
Start-up amps	(A)	747	818	818	898	978	969	1034	1040	1120	1194	1195

(3) At Eurovent conditions: 12/7°C entering/leaving water temperature (0.0 m^2K/kW) and 35°C ambient temperature according to EN 14511-2018.
(4) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(5) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above certified sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with five exposed face areas.
(6) ηsc/ SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 30 November 2016.
* Not available for comfort applications for countries adopting the Ecodesign Directive.

RTAF G High Seasonal Efficiency - Standard and Low Noise - R1234ze		090	100	110	120	130	145	155	185	200	225
Cooling capacity (3)	(kW)	326	359	395	427	461	511	555	607	718	812
Total power input (3)	(kW)	100	110	123	131	139	153	171	188	228	275
EER (3)		3.28	3.26	3.22	3.27	3.31	3.33	3.25	3.23	3.15	2.95
Eurovent class		A	A	A	A	A	A	A	A	A	B
SEER (6)		4.38	4.56	4.61	4.68	4.78	4.86	4.83	4.61	4.87	4.76
Space cooling efficiency ηsc (6)	(%)	171	179	181	184	188	191	190	181	192	187
Sound power level (4)	(dB(A))	96	96	97	97	96	96	96	97	101	103
Sound pressure level (5)	(dB(A))	63	63	64	64	63	63	63	64	68	70
Sound power level (low noise) (4)	(dB(A))	91	94	94	94	94	94	94	95	98	100
Sound pressure level (low noise) (5)	(dB(A))	58	61	61	61	61	61	61	62	65	67
Number of circuit(s)		2	2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	44/42	43/41	43/41	44/45	45/43	58/48	58/48	63/49	66/62	66/62
Number of compressors		2	2	2	2	2	2	2	2	2	2
Dimensions and weights (operating)											
Length	(mm)	5645	5645	5645	5645	5645	6770	6770	7895	7895	7895
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	3815	3850	3850	4450	4625	4770	4795	4875	4875	4895
Electrical data											
Maximum amps	(A)	259	281	302	338	374	412	445	451	516	587
Start-up amps	(A)	259	281	302	338	374	412	445	451	516	587

RTAF G High Seasonal Efficiency - Standard and Low Noise - R1234ze		210	230	265	275	300	285	305	340	385	405	470
Cooling capacity (3)	(kW)	743	839	895	1002	1097	1028	1120	1200	1309	1407	1613
Total power input (3)	(kW)	231	261	283	324	366	314	349	376	417	464	578
EER (3)		3.22	3.22	3.16	3.09	3.00	3.27	3.21	3.19	3.14	3.03	2.79
Eurovent class		A	A	A	B	B	A	A	A	A	B	C
SEER (6)		4.76	4.86	4.77	4.80	4.87	5.03	4.95	4.98	4.96	4.96	4.60
Space cooling efficiency ηsc (6)	(%)	187	191	188	189	192	198	195	196	195	195	181
Sound power level (4)	(dB(A))	99	99	99	102	103	100	100	100	103	103	106
Sound pressure level (5)	(dB(A))	66	66	66	69	70	67	67	67	70	70	73
Sound power level (low noise) (4)	(dB(A))	97	97	97	99	101	98	98	98	100	101	104
Sound pressure level (low noise) (5)	(dB(A))	64	64	64	66	68	65	65	65	67	68	71
Number of circuit(s)		2	2	2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	98/40	104/49	104/49	108/51	108/53	100/92	102/96	102/102	108/108	107/110	112/110
Number of compressors		3	3	3	3	3	4	4	4	4	4	4
Dimensions and weights (operating)												
Length	(mm)	9390	10135	10135	10135	11260	12385	12385	13510	13510	13510	13510
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	7475	7975	7995	7995	8625	9670	9895	10225	10110	10110	10110
Electrical data												
Maximum amps	(A)	597	668	668	748	828	819	884	890	970	1044	1195
Start-up amps	(A)	747	818	818	898	978	969	1034	1040	1120	1194	1195

(3) At Eurovent conditions: 12/7°C entering/leaving water temperature (0.0 m^2K/kW) and 35°C ambient temperature according to EN 14511-2018.
(4) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(5) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above certified sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with five exposed face areas.
(6) ηsc/ SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 30 November 2016.



RTAF G High Seasonal Short - Extra Low Noise - R1234ze		090	100	110	120	130	145	155	185	200	225
Cooling capacity (3)	(kW)	320	349	386	417	448	501	543	601	709	801
Total power input (3)	(kW)	101	112	125	134	144	156	174	188	231	283
EER (3)		3.18	3.11	3.10	3.12	3.11	3.22	3.11	3.20	3.07	2.83
Eurovent class		A	A	B	A	A	A	A	A	B	C
SEER (6)		4.46	4.49	4.55	4.60	4.64	4.79	4.76	4.61	4.86	4.75
Space cooling efficiency ηsc (6)	(%)	175	177	179	181	183	189	187	181	191	187
Sound power level (4)	(dB(A))	91	91	92	92	92	91	92	92	96	98
Sound pressure level (5)	(dB(A))	59	59	60	60	60	58	59	59	63	65
Number of circuit(s)		2	2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	41/39	40/38	40/38	41/42	42/40	55/45	55/45	60/46	63/59	63/59
Number of compressors		2	2	2	2	2	2	2	2	2	2
Dimensions and weights (operating)											
Length	(mm)	4520	4520	4520	4520	4520	5645	5645	6770	6770	6770
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	3515	3550	3550	4150	4325	4470	4495	4575	4575	4595
Electrical data											
Maximum amps	(A)	253	275	296	332	368	406	439	445	510	581
Start-up amps	(A)	253	275	296	332	368	406	439	445	510	581

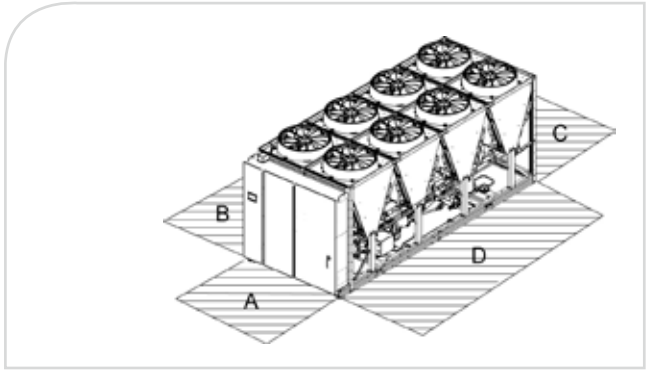
RTAF G High Seasonal Short - Extra Low Noise - R1234ze		210	230	265	275	300	285	305	340	385	405
Cooling capacity (3)	(kW)	735	818	884	989	1075	1009	1095	1180	1296	1391
Total power input (3)	(kW)	228	265	283	327	378	315	355	378	417	467
EER (3)		3.23	3.08	3.12	3.02	2.84	3.20	3.08	3.12	3.11	2.98
Eurovent class		A	B	A	B	C	A	B	A	A	B
SEER (6)		4.80	4.73	4.88	4.79	4.87	5.09	5.02	5.07	4.92	4.94
Space cooling efficiency ηsc (6)	(%)	189	186	192	189	192	201	198	200	194	195
Sound power level (4)	(dB(A))	94	94	94	97	98	95	95	95	98	99
Sound pressure level (5)	(dB(A))	61	61	61	64	65	62	62	62	65	66
Number of circuit(s)		2	2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	90/40	93/44	93/49	96/51	96/51	90/88	94/91	94/96	108/100	107/104
Number of compressors		3	3	3	3	3	4	4	4	4	4
Dimensions and weights (operating)											
Length	(mm)	8265	8265	9390	9390	9390	10135	10135	11260	12385	12385
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	7125	7295	7670	7670	8005	9095	9255	9570	9975	9975
Electrical data											
Maximum amps	(A)	591	656	662	742	816	807	872	878	964	1038
Start-up amps	(A)	741	806	812	892	966	957	1022	1028	1114	1188

(3) At Eurovent conditions: 12/7°C entering/leaving water temperature (0.0 m^2K/kW) and 35°C ambient temperature according to EN 14511-2018.
(4) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(5) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above certified sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with five exposed face areas.
(6) ηsc/ SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 30 November 2016.

RTAF G High Seasonal Short - Standard and Low Noise - R1234ze		090	100	110	120	130	145	155	185	200	225
Cooling capacity (3)	(kW)	321	350	386	418	449	502	543	602	709	801
Total power input (3)	(kW)	101	113	125	135	145	157	175	190	233	286
EER (3)		3.17	3.10	3.08	3.10	3.10	3.20	3.10	3.16	3.04	2.80
Eurovent class		A	A	B	A	A	A	A	A	B	C
SEER (6)		4.44	4.46	4.51	4.56	4.60	4.74	4.70	4.55	4.80	4.69
Space cooling efficiency ηsc (6)	(%)	175	175	177	179	181	187	185	179	189	185
Sound power level (4)	(dB(A))	97	97	97	97	97	96	96	97	101	103
Sound pressure level (5)	(dB(A))	65	65	65	65	65	63	63	64	68	70
Sound power level (low noise) (4)	(dB(A))	94	94	95	94	94	94	94	95	98	101
Sound pressure level (low noise) (5)	(dB(A))	62	62	63	62	62	61	61	62	65	68
Number of circuit(s)		2	2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	41/39	40/38	40/38	41/42	42/40	55/45	55/45	60/46	63/59	63/59
Number of compressors		2	2	2	2	2	2	2	2	2	2
Dimensions and weights (operating)											
Length	(mm)	4520	4520	4520	4520	4520	5645	5645	6770	6770	6770
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	3515	3550	3550	4150	4325	4470	4495	4575	4575	4595
Electrical data											
Maximum amps	(A)	253	275	296	332	368	406	439	445	510	581
Start-up amps	(A)	253	275	296	332	368	406	439	445	510	581

RTAF G High Seasonal Short - Standard and Low Noise - R1234ze		210	230	265	275	300	285	305	340	385	405
Cooling capacity (3)	(kW)	737	820	886	991	1078	1012	1099	1183	1299	1395
Total power input (3)	(kW)	233	270	288	331	382	321	360	384	423	473
EER (3)		3.17	3.04	3.08	2.99	2.82	3.15	3.05	3.08	3.07	2.95
Eurovent class		A	B	B	B	C	A	B	B	B	B
SEER (6)		4.73	4.69	4.72	4.98	4.79	4.98	4.90	4.94	4.89	4.90
Space cooling efficiency ηsc (6)	(%)	186	185	186	196	189	196	193	195	193	193
Sound power level (4)	(dB(A))	99	99	99	102	103	100	100	101	103	104
Sound pressure level (5)	(dB(A))	66	66	66	69	70	67	67	68	70	71
Sound power level (low noise) (4)	(dB(A))	97	97	97	99	101	98	98	98	100	102
Sound pressure level (low noise) (5)	(dB(A))	64	64	64	66	68	65	65	65	67	69
Number of circuit(s)		2	2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	90/40	93/44	93/49	96/51	96/51	90/88	94/91	94/96	108/100	107/104
Number of compressors		3	3	3	3	3	4	4	4	4	4
Dimensions and weights (operating)											
Length	(mm)	8265	8265	9390	9390	9390	10135	10135	11260	12385	12385
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526
Clearance A/B/C/D	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	7125	7295	7670	7670	8005	9095	9255	9570	9975	9975
Electrical data											
Maximum amps	(A)	591	656	662	742	816	807	872	878	964	1038
Start-up amps	(A)	741	806	812	892	966	957	1022	1028	1114	1188

(3) At Eurovent conditions: 12/7°C entering/leaving water temperature (0.0 m^2K/kW) and 35°C ambient temperature according to EN 14511-2018.
(4) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(5) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above certified sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with five exposed face areas.
(6) ηsc/ SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 30 November 2016.



RTAF G Extra Efficiency - Extra Low Noise - R1234ze		090	100	110	120	130	145	155
Cooling capacity (3)	(kW)	329	360	395	427	459	509	552
Total power input (3)	(kW)	98	108	119	128	136	148	163
EER (3)		3.36	3.34	3.31	3.35	3.38	3.43	3.38
Eurovent class		A	A	A	A	A	A	A
SEER (6)		4.18	4.22	4.26	4.34	4.45	4.62	4.51
Space cooling efficiency ηsc (6)	(%)	164	166	167	171	175	182	177
Sound power level (4)	(dB(A))	91	91	92	91	91	91	91
Sound pressure level (5)	(dB(A))	58	58	59	58	58	58	58
Number of circuit(s)		2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	44/42	43/41	43/41	44/45	45/43	58/48	58/48
Number of compressors		2	2	2	2	2	2	2
Dimensions and weights (operating)								
Length	(mm)	5645	5645	5645	5645	5645	6770	6770
Width	(mm)	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2672	2672	2672	2672	2672	2672	2672
Clearance A	(mm)	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	3710	3745	3745	4345	4520	4665	4690
Electrical data								
Maximum amps	(A)	270	293	316	337	358	405	446
Start-up amps	(A)	368	410	433	465	486	555	596

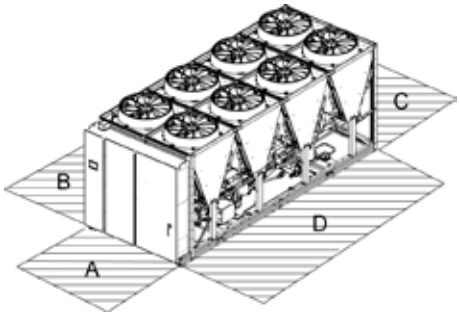
RTAF G Extra Efficiency - Extra Low Noise - R1234ze		185	210	230	265	285	305	340
Cooling capacity (3)	(kW)	613	740	835	899	1025	1115	1204
Total power input (3)	(kW)	181	223	249	273	305	337	364
EER (3)		3.38	3.32	3.35	3.29	3.36	3.31	3.31
Eurovent class		A	A	A	A	A	A	A
SEER (6)		4.40	4.73	4.80	4.96	4.89	4.89	5.16
Space cooling efficiency ηsc (6)	(%)	173	186	189	195	193	193	203
Sound power level (4)	(dB(A))	92	94	94	94	95	95	95
Sound pressure level (5)	(dB(A))	59	61	61	61	62	62	62
Number of circuit(s)		2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	63/49	98/40	104/49	104/49	100/92	102/96	102/102
Number of compressors		2	3	3	3	4	4	4
Dimensions and weights (operating)								
Length	(mm)	7895	9390	10135	10135	12385	12385	13510
Width	(mm)	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2672	2672	2672	2672	2672	2672	2672
Clearance A	(mm)	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	4770	7035	7515	7535	9140	9365	9675
Electrical data								
Maximum amps	(A)	452	582	670	670	804	886	892
Start-up amps	(A)	602	732	820	820	954	1036	1042

(3) At Eurovent conditions: 12/7°C entering/leaving water temperature (0.0 m^2K/kW) and 35°C ambient temperature according to EN 14511-2018.
(4) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(5) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above certified sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with five exposed face areas.
(6) ηsc/ SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 30 November 2016.
* Not available for comfort applications for countries adopting the Ecodesign Directive.

RTAF G Extra Efficiency - Standard and Low Noise - R1234ze		090	100	110	120	130	145	155
Cooling capacity (3)	(kW)	329	360	396	427	460	509	553
Total power input (3)	(kW)	99	109	121	129	137	150	165
EER (3)		3.33	3.31	3.28	3.32	3.35	3.40	3.35
Eurovent class		A	A	A	A	A	A	A
SEER (6)		4.14	4.19	4.22	4.30	4.39	4.58	4.46
Space cooling efficiency ηsc (6)	(%)	163	165	166	169	173	180	175
Sound power level (4)	(dB(A))	96	96	97	97	96	96	96
Sound pressure level (5)	(dB(A))	63	63	64	64	63	63	63
Sound power level (low noise) (4)	(dB(A))	93	94	94	94	94	94	94
Sound pressure level (low noise) (5)	(dB(A))	60	61	61	61	61	61	61
Number of circuit(s)		2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	44/42	43/41	43/41	44/45	45/43	58/48	58/48
Number of compressors		2	2	2	2	2	2	2
Dimensions and weights (operating)								
Length	(mm)	5645	5645	5645	5645	5645	6770	6770
Width	(mm)	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2526	2526	2526	2526	2526	2526	2526
Clearance A	(mm)	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	3710	3745	3745	4345	4520	4665	4690
Electrical data								
Maximum amps	(A)	270	293	316	337	358	405	446
Start-up amps	(A)	368	410	433	465	486	555	596

RTAF G Extra Efficiency - Standard and Low Noise - R1234ze		185	210	230	265	285	305	340
Cooling capacity (3)	(kW)	613	742	837	900	1027	1118	1205
Total power input (3)	(kW)	184	228	255	279	312	344	371
EER (3)		3.33	3.25	3.28	3.23	3.29	3.25	3.25
Eurovent class		A	A	A	A	A	A	A
SEER (6)		4.32	4.68	4.76	4.91	4.84	4.84	5.10
Space cooling efficiency ηsc (6)	(%)	170	184	187	193	191	191	201
Sound power level (4)	(dB(A))	97	99	99	99	100	100	100
Sound pressure level (5)	(dB(A))	64	66	66	66	67	67	67
Sound power level (low noise) (4)	(dB(A))	95	97	97	97	98	98	98
Sound pressure level (low noise) (5)	(dB(A))	62	64	64	64	65	65	65
Number of circuit(s)		2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	63/49	98/40	104/49	104/49	100/92	102/96	102/102
Number of compressors		2	3	3	3	4	4	4
Dimensions and weights (operating)								
Length	(mm)	7895	9390	10135	10135	12385	12385	13510
Width	(mm)	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2526	2526	2526	2526	2526	2526	2526
Clearance A	(mm)	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	4770	7035	7515	7535	9140	9365	9675
Electrical data								
Maximum amps	(A)	452	582	670	670	804	886	892
Start-up amps	(A)	602	732	820	820	954	1036	1042

(3) At Eurovent conditions: 12/7°C entering/leaving water temperature (0.0 m^2K/kW) and 35°C ambient temperature according to EN 14511-2018.
(4) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(5) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above certified sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with five exposed face areas.
(6) ηsc/ SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 30 November 2016.



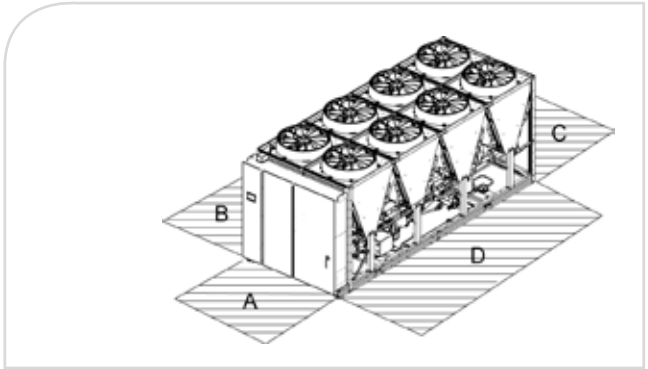
RTAF G High Efficiency - Extra Low Noise AC - R1234ze		100	110	120	130	145	155	185	210	265	285	305	340
Cooling capacity (3)	(kW)	365	397	429	462	511	555	611	737	895	1020	1108	1199
Total power input (3)	(kW)	113	122	130	139	152	167	182	224	275	306	339	367
EER (3)		3.24	3.24	3.29	3.33	3.37	3.32	3.36	3.29	3.26	3.33	3.27	3.27
Eurovent class		A	A	A	A	A	A	A	A	A	A	A	A
SEER (6)		3.85	4.01	4.14	4.26	4.29	4.32	4.30	4.51	4.52	4.63	4.57	4.67
Space cooling efficiency ηsc (6)	(%)	151	157	163	167	169	170	169	177	178	182	180	184
Sound power level (4)	(dB(A))	92	92	92	92	92	92	92	94	94	95	95	95
Sound pressure level (5)	(dB(A))	59	59	59	59	59	59	59	61	61	62	62	62
Number of circuit(s)		2	2	2	2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	43/41	43/41	44/45	45/43	58/48	58/48	63/49	98/40	104/49	100/92	102/96	102/102
Number of compressors		2	2	2	2	2	2	2	3	3	4	4	4
Dimensions and weights (operating)													
Length	(mm)	5645	5645	5645	5645	6770	6770	7895	9390	10135	12385	12385	13510
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526
Clearance A	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	3745	3745	4345	4520	4665	4690	4770	7035	7535	9140	9365	9675
Electrical data													
Maximum amps	(A)	292	315	336	357	404	445	451	580	668	802	884	890
Start-up amps	(A)	409	432	464	485	554	595	601	730	818	952	1034	1040

RTAF G High Efficiency - Standard and Low Noise - R1234ze		130	145	155	185	210	230	265	285	305	340
Cooling capacity (3)	(kW)	464	513	558	612	740	835	898	1025	1115	1204
Total power input (3)	(kW)	141	155	170	186	228	255	279	312	344	371
EER (3)		3.28	3.30	3.27	3.30	3.24	3.27	3.22	3.28	3.24	3.24
Eurovent class		A	A	A	A	A	A	A	A	A	A
SEER (6)		4.15	4.21	4.20	4.19	4.38	4.36	4.41	4.55	4.51	4.55
Space cooling efficiency ηsc (6)	(%)	163	165	165	165	172	171	173	179	177	179
Sound power level (4)	(dB(A))	97	97	97	97	99	98	99	100	100	100
Sound pressure level (5)	(dB(A))	64	64	64	64	66	65	66	67	67	67
Sound power level (low noise) (4)	(dB(A))	94	95	95	95	96	97	97	98	98	98
Sound pressure level (low noise) (5)	(dB(A))	61	62	62	62	63	64	64	65	65	65
Number of circuit(s)		2	2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	45/43	58/48	58/48	63/49	98/40	104/49	104/49	100/92	102/96	102/102
Number of compressors		2	2	2	2	3	3	3	4	4	4
Dimensions and weights (operating)											
Length	(mm)	5645	6770	6770	7895	9390	10135	10135	12385	12385	13510
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526
Clearance A	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	4520	4665	4690	4770	7035	7515	7535	9140	9365	9675
Electrical data											
Maximum amps	(A)	368	417	458	466	598	688	688	826	908	916
Start-up amps	(A)	496	567	608	616	748	838	838	976	1058	1066

(3) At Eurovent conditions: 12/7°C entering/leaving water temperature (0.0 m²K/kW) and 35°C ambient temperature according to EN 14511-2018.
(4) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(5) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above certified sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with five exposed face areas.
(6) ηsc/ SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 30 November 2016.
* Not available for comfort applications for countries adopting the Ecodesign Directive.

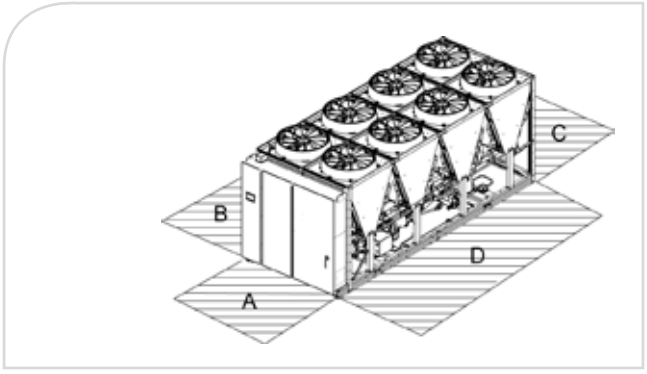
RTAF G Standard Efficiency - Extra Low Noise - R1234ze		090	100	110	120	130	145	155	185	210	230	265	285	305	340
Cooling capacity (3)	(kW)	330	361	392	424	455	507	550	607	735	817	889	1009	1094	1185
Total power input (3)	(kW)	103	114	124	133	143	154	170	183	226	260	278	314	350	373
EER (3)		3.19	3.18	3.16	3.19	3.18	3.29	3.23	3.31	3.25	3.14	3.20	3.21	3.13	3.18
Eurovent class		A	A	A	A	A	A	A	A	A	A	A	A	A	A
SEER (6)		4.09	4.14	4.14	4.23	4.24	4.45	4.29	4.39	4.47	4.50	4.72	4.54	4.93	4.72
Space cooling efficiency ηsc (6)	(%)	161	163	163	166	167	175	169	173	176	177	186	179	194	186
Sound power level (4)	(dB(A))	92	92	92	92	92	92	92	92	94	94	94	95	95	95
Sound pressure level (5)	(dB(A))	60	60	60	60	60	59	59	59	61	61	61	62	62	62
Number of circuit(s)		2	2	2	2	2	2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	41/39	40/38	40/38	41/42	42/40	55/45	55/45	60/46	90/40	93/44	93/49	90/88	94/91	94/96
Number of compressors		2	2	2	2	2	2	2	2	3	3	3	4	4	4
Dimensions and weights (operating)															
Length	(mm)	4520	4520	4520	4520	4520	5645	5645	6770	8265	8265	9390	10135	10135	11260
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672
Clearance A	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	3410	3445	3445	4045	4220	4365	4390	4470	6705	6875	7230	8605	8765	9060
Electrical data															
Maximum amps	(A)	264	287	310	331	352	399	440	446	576	658	664	792	874	880
Start-up amps	(A)	362	404	427	459	480	549	590	596	726	808	814	942	1024	1030

(3) At Eurovent conditions: 12/7°C entering/leaving water temperature (0.0 m^2K/kW) and 35°C ambient temperature according to EN 14511-2018.
(4) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(5) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above certified sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with five exposed face areas.
(6) ηsc/ SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 30 November 2016.
* Not available for comfort applications for countries adopting the Ecodesign Directive.



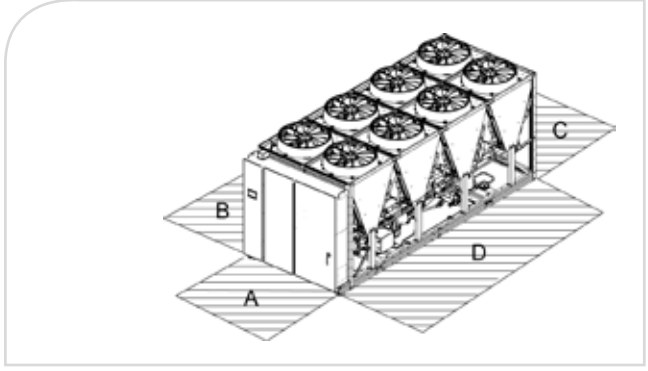
RTAF G Standard Efficiency - Extra Low Noise AC - R1234ze		090	100	110	130	145	155	185	210	230	265	285	305	340
Cooling capacity (3)	(kW)	328	359	390	451	504	546	604	730	810	885	1000	1084	1178
Total power input (3)	(kW)	104	114	125	144	155	171	184	227	262	280	316	352	376
EER (3)		3.17	3.15	3.13	3.14	3.26	3.19	3.28	3.22	3.09	3.16	3.17	3.08	3.13
Eurovent class		A	A	A	A	A	A	A	A	B	A	A	B	A
SEER (6)		3.83	3.90	3.86	4.16	4.22	4.15	4.30	4.54	4.22	4.49	4.46	4.53	4.62
Space cooling efficiency ηsc (6)	(%)	150	153	151	163	166	163	169	179	166	177	175	178	182
Sound power level (4)	(dB(A))	92	92	92	92	92	92	92	94	94	94	95	95	95
Sound pressure level (5)	(dB(A))	60	60	60	60	59	59	59	61	61	61	62	62	62
Number of circuit(s)		2	2	2	2	2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	41/39	40/38	40/38	42/40	55/45	55/45	60/46	90/40	93/44	93/49	90/88	94/91	94/96
Number of compressors		2	2	2	2	2	2	2	3	3	3	4	4	4
Dimensions and weights (operating)														
Length	(mm)	4520	4520	4520	4520	5645	5645	6770	8265	8265	9390	10135	10135	11260
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526
Clearance A	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	3410	3445	3445	4220	4365	4390	4470	6705	6875	7230	8605	8765	9060
Electrical data														
Maximum amps	(A)	264	287	310	352	398	439	445	575	657	662	790	872	878
Start-up amps	(A)	362	404	427	480	548	589	595	725	807	812	940	1022	1028

(3) At Eurovent conditions: 12/7°C entering/leaving water temperature (0.0 m^2K/kW) and 35°C ambient temperature according to EN 14511-2018.
(4) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(5) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above certified sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with five exposed face areas.
(6) ηsc/ SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 30 November 2016.



RTAF G Standard Efficiency - Standard and Low Noise - R1234ze		100	110	145	185	210	230	265	285	305	340
Cooling capacity (3)	(kW)	361	392	507	607	734	817	889	1008	1093	1185
Total power input (3)	(kW)	116	127	157	187	230	265	283	320	355	380
EER (3)		3.11	3.10	3.23	3.24	3.19	3.08	3.14	3.15	3.08	3.12
Eurovent class		A	A	A	A	A	B	A	A	B	A
SEER (6)		3.84	3.82	4.15	4.21	4.44	4.20	4.44	4.40	4.44	4.41
Space cooling efficiency ηsc (6)	(%)	151	150	163	165	175	165	175	173	175	173
Sound power level (4)	(dB(A))	97	97	97	97	99	99	99	100	100	100
Sound pressure level (5)	(dB(A))	65	65	64	64	66	66	66	67	67	67
Sound power level (low noise) (4)	(dB(A))	95	95	95	95	96	97	97	98	98	98
Sound pressure level (low noise) (5)	(dB(A))	63	63	62	62	63	64	64	65	65	65
Number of circuit(s)		2	2	2	2	2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	40/38	40/38	55/45	60/46	90/40	93/44	93/49	90/88	94/91	94/96
Number of compressors		2	2	2	2	3	3	3	4	4	4
Dimensions and weights (operating)											
Length	(mm)	4520	4520	5645	6770	8265	8265	9390	10135	10135	11260
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526
Clearance A	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Weight	(kg)	6875	7230	9060	3445	3445	4045	4220	4365	4390	4470
Electrical data											
Maximum amps	(A)	295	318	409	458	591	656	662	807	872	878
Start-up amps	(A)	412	435	559	608	741	806	812	957	1022	1028

(3) At Eurovent conditions: 12/7°C entering/leaving water temperature (0.0 m^2K/kW) and 35°C ambient temperature according to EN 14511-2018.
(4) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(5) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above certified sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with five exposed face areas.
(6) ηsc/ SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 30 November 2016.
* Not available for comfort applications for countries adopting the Ecodesign Directive.



RTAF G Process

Air-cooled helical-rotary chiller

Specially designed for process (brine) applications

- Food and beverage
- Industrial processes (plastics, pharmaceutical…)
- Ice rink
- Cold room

Customer benefits

- Environmentally responsible refrigerant with <1 GWP and no residual TFA
- Safe
- High efficiency

Main features

- Leaving evaporator water temperature down to -12°C
- 3 acoustic packages, SN, LN with no loss of efficiency; XLN with improved efficiency
- Trane Adaptive Frequency™ drive on compressors
- Electronically Commutated condenser fans

Trane patended flooded evaporator CHIL (Compact - High performance - Integrated design - low charge)

- Microchannel condenser coils
- Wide operating map: airside and brineside

Options

- Integrated brine pump: dual pump standard or high head pressure with optional VPF
- Partial, Partial + and total heat recovery
- Low ambient operation (-18°C)

Accessories

- Flow-switch
- Neoprene isolators

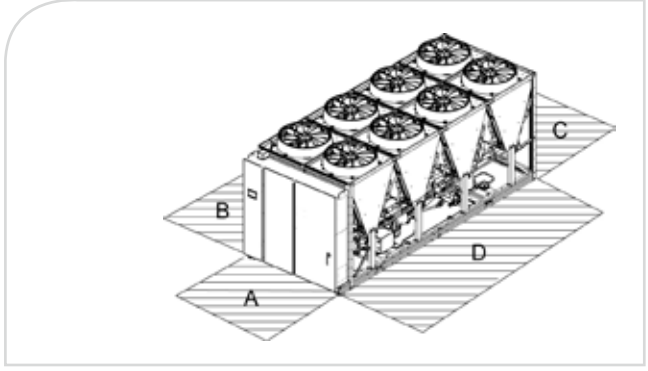
Controls

- Ultimate control: Trane UC800
  - Easy to read 7-inch color touchscreen display
  - Industry leading algorithms
  - Open protocol design
  - Adaptive control
- Feedforward adaptive control
- Softloading (HSE/HSS)
- Rapid restart
- SmartCom interface: LonTalk®, Modbus®, BACnet® communication capabilities
- Energy metering

Scan to see video
or go to https://youtu.be/EHLRYZ3BGZE

RTAF G HSE Process - R1234ze		Extra Low Noise version			Standard and Low Noise version		
Unit Size		101	141	191	101	141	191
Cooling capacity (3)	(kW)	411	599	755	420	599	755
Total power input (3)	(kW)	191	321	431	186	324	435
EER (3)		2.16	1.87	1.75	2.26	1.85	1.74
SEPR (MT) (6)		3.42	3.25	3.27	3.33	3.18	3.22
Sound power level (4)	(dB(A))	97	98	98	102	103	103
Sound pressure level (5)	(dB(A))	64	65	65	69	70	70
Sound power level (low noise) (4)	(dB(A))				99	101	101
Sound pressure level (low noise) (5)	(dB(A))				66	68	68
Number of circuit(s)		2	2	2	2	2	2
Refrigerant charge ckt1/ckt2	(kg)	43/43	102/35	98/95	43/43	102/35	98/95
Number of compressors		2	3	4	2	3	4
Dimensions and weights (operating)							
Length	(mm)	5645	8265	10135	5645	8265	10135
Width	(mm)	2200	2200	2200	2200	2200	2200
Height	(mm)	2672	2672	2672	2526	2526	2526
Clearance A	(mm)	1000	1000	1000	1000	1000	1000
Clearance B	(mm)	1000	1000	1000	1000	1000	1000
Clearance C	(mm)	1000	1000	1000	1000	1000	1000
Clearance D	(mm)	1000	1000	1000	1000	1000	1000
Weight	(kg)	4595	7735	9675	4595	7735	9675
Electrical data							
Maximum amps	(A)	575	810	1026	575	810	1026
Start-up amps	(A)	575	960	1176	575	960	1176

(3) Conditions: -2°/-8°C entering/leaving water temperature (30% EG) and 35°C ambient temperature.
(4) With 1pW reference sound power, according to ISO9614 at comfort conditions.
(5) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with fi ve exposed.
(6) SEPR MT as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Process Chillers - COMMISSION REGULATION (EU) N° 2015/1095 of 5 May 2015.



GVAF

Air-cooled chiller with high speed centrifugal compressor

Customer benefits

- Market-leading Energy Efficiency Ratio (EER) and Seasonal Energy Efficiency Ratio (SEER) with lower sound levels.
- R1234ze which has a GWP value of less than one to exceed current F-Gas legislation requirements and help customers reduce their carbon dioxide (CO_2) emissions
- Silent operation : discreet, even in the most sound sensitive applications without any drop on capacity or efficiency
- Significant reduced high in-rush current at start up
- Take advantage of low ambient conditions
- Reduced refrigerant charge
- Easy operation thanks to smart controls and a user-friendly touchscreen interface

Main features

- 3 efficiency levels: X, XP, XPG
- Three refrigerant alternatives R134a (GVAF X & XP) (R513A*) and R1234ze (GVAF XPG) with GWP<1
- Three acoustic packages: Low noise, extra low noise and night noise set back
- High speed oil-free centrifugal compressor using Magnetic bearings with integrated variable frequency drive and soft starter module
- Electronically commutated fan motors to reach higher part load efficiencies with lower sound levels
- Trane patented flooded evaporator
- Micro-channel condenser coils
- Double refrigerant circuit
- Economizer circuit
- EMC filter to avoid harmonic transfer to compressor

Options

- E-coated condenser coil
- Partial and total free-cooling
- Hydraulic module
- Constant speed pump – Variable frequency drive adjustment
- Variable speed pump – Constant differential pressure (DP)
- High performance insulated evaporator

Accessories

- Elastomeric isolators

Controls

- Ultimate control: Trane UC800
  - Easy to read 7-inch color touchscreen display
  - Industry leading algorithms
  - Open protocol design
  - Adaptive control
- Rapid restart
- SmartCom interface: LonTalk, Modbus, BACnet communication capabilities
- Energy metering

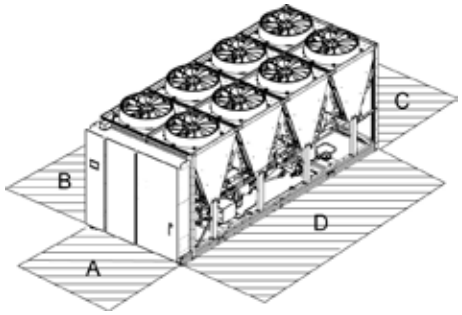
* GVAF X & XP are also available with R513A refrigerant. Please contact your local Trane Sale Office.

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

GVAF X - LN Low Noise R134a		155 LN	175 LN	205 LN	245 LN	250 LN	280 LN	310 LN	350 LN	380 LN	410 LN	450 LN
Net cooling capacity (1)	(kW)	580	642	758	846	885	1001	1119	1238	1376	1475	1580
EER (1)		3.67	3.63	3.45	3.17	3.66	3.59	3.42	3.15	3.48	3.35	3.17
SEER (4)		5.14	5.16	5.36	5.28	5.61	5.70	5.69	5.59	5.81	5.70	5.58
Space cooling efficiency ηsc (4)	(%)	203	203	212	208	221	225	225	220	229	225	220
Eurovent class		A	A	A	A	A	A	A	A	A	A	A
Sound power level (2)	(dB(A))	92	93	93	94	95	95	95	96	96	96	97
Sound pressure level (5)	(dB(A))	59	60	60	61	62	62	62	63	63	63	64
Number of circuit(s)							2					
Refrigerant charge ckt1/ckt2	(kg)		75/70				140/75				140/140	
Number of compressors per circuit		2	2	2	2	3	3	3	3	4	4	4
Dimensions and weights (operating)												
Length	(mm)	7895	7895	7895	7895	11260	11260	11260	11260	13510	13510	13510
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526
Weight (3)	(kg)	4274	4274	4274	4274	5840	5840	5840	5840	7235	7235	7235
Clearance A	(mm)						1000					
Clearance B	(mm)						1000					
Clearance C	(mm)						1000					
Clearance D	(mm)						1000					
Electrical data												
Maximum amps	(A)	514	514	514	514	764	764	764	764	1008	1008	1008

GVAF XP - LN Low Noise R134a		190 LN	205 LN	245 LN	310 LN	350 LN
Net cooling capacity (1)	(kW)	728	768	883	1117	1243
EER (1)		3.64	3.62	3.66	3.56	3.53
SEER (4)		5.56	5.50	5.61	5.99	5.89
Space cooling efficiency ηsc (4)	(%)	220	217	221	236	233
Eurovent class		A	A	A	A	A
Sound power level (2)	(dB(A))	94	94	94	96	96
Sound pressure level (5)	(dB(A))	61	61	61	63	63
Number of circuit(s)				2		
Refrigerant charge ckt1/ckt2	(kg)		140/75		140/140	
Number of compressors per circuit		3	3	3	4	4
Dimensions and weights (operating)						
Length	(mm)	11260	11260	11260	13510	13510
Width	(mm)	2200	2200	2200	2200	2200
Height	(mm)	2526	2526	2526	2526	2526
Weight (3)	(kg)	5840	5840	5840	7235	7235
Clearance A	(mm)			1000		
Clearance B	(mm)			1000		
Clearance C	(mm)			1000		
Clearance D	(mm)			1000		
Electrical data						
Maximum amps	(A)	764	764	764	1008	1008

(1) At Eurovent conditions: 12/7°C entering/leaving water temperature (0.0 m²K/kW) and 35°C ambient temperature according to EN 14511-2018.
(2) At Eurovent conditions, with 1pW Reference Sound Power, according to ISO9614.
(3) Without options.
(4) ηsc/ SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016.
(5) At 10 m in free field, Calculated from the above sound power level according to the formula Lp = Lw-10logS.



GVAF XPG - LN Low Noise R1234ze		125 LN	145 LN	155 LN	175 LN	190 LN	205 LN	245 LN	250 LN	280 LN	310 LN	350 LN
Net cooling capacity (1)	(kW)	457	541	583	646	698	760	881	961	1001	1121	1242
EER (1)		4.03	3.91	3.79	3.50	4.01	3.94	3.69	3.41	3.90	3.75	3.44
SEER (4)		5.62	5.59	5.79	5.76	6.18	6.17	6.09	5.98	6.40	6.23	6.08
Space cooling efficiency ηsc (4)	(%)	222	221	229	228	244	244	241	236	253	246	240
Eurovent class		A	A	A	A	A	A	A	A	A	A	A
Sound power level (2)	(dB(A))	88	89	90	91	90	91	92	93	92	93	94
Sound pressure level (5)	(dB(A))	55	56	57	58	57	58	59	60	59	60	61
Number of circuit(s)							2					
Refrigerant charge ckt1/ckt2	(kg)		75/70				140/75				140/140	
Number of compressors per circuit		2	2	2	2	3	3	3	3	4	4	4
Dimensions and weights (operating)												
Length	(mm)	7895	7895	7895	7895	11260	11260	11260	11260	13510	13510	13510
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526
Weight (3)	(kg)	4274	4274	4274	4274	5840	5840	5840	5840	7235	7235	7235
Clearance A	(mm)						1000					
Clearance B	(mm)						1000					
Clearance C	(mm)						1000					
Clearance D	(mm)						1000					
Electrical data												
Maximum amps	(A)	382	382	382	382	566	566	566	566	744	744	744

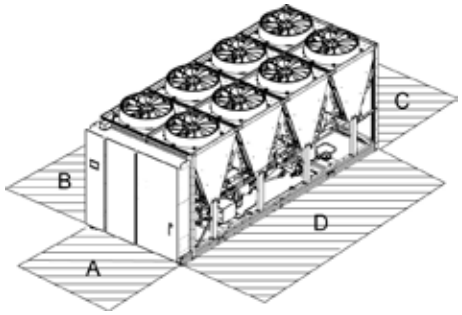
GVAF X - XLN Extra Low Noise R134a		155 XLN	175 XLN	205 XLN	245 XLN	250 XLN	280 XLN	310 XLN	350 XLN	380 XLN	410 XLN	450 XLN
Net cooling capacity (1)	(kW)	581	642	759	849	885	1001	1117	1235	1376	1475	1580
EER (1)		3.73	3.68	3.49	3.19	3.72	3.64	3.46	3.18	3.50	3.36	3.17
SEER (4)		5.23	5.24	5.45	5.36	5.70	5.75	5.77	5.65	5.86	5.76	5.63
Space cooling efficiency ηsc (4)	(%)	206	207	215	212	225	227	228	223	232	227	222
Eurovent class		A	A	A	B	A	A	A	A	A	A	A
Sound power level (2)	(dB(A))	90	91	91	92	93	93	93	94	94	94	95
Sound pressure level (5)	(dB(A))	57	58	58	59	60	60	60	61	61	61	62
Number of circuit(s)							2					
Refrigerant charge ckt1/ckt2	(kg)		75/70				140/75				140/140	
Number of compressors per circuit		2	2	2	2	3	3	3	3	4	4	4
Dimensions and weights (operating)												
Length	(mm)	7895	7895	7895	7895	11260	11260	11260	11260	13510	13510	13510
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672
Weight (3)	(kg)	4274	4274	4274	4274	5840	5840	5840	5840	7235	7235	7235
Clearance A	(mm)						1000					
Clearance B	(mm)						1000					
Clearance C	(mm)						1000					
Clearance D	(mm)						1000					
Electrical data												
Maximum amps	(A)	514	514	514	514	764	764	764	764	1008	1008	1008

(1) At Eurovent conditions: 12/7°C entering/leaving water temperature (0.0 m²K/kW) and 35°C ambient temperature according to EN 14511-2018.
(2) At Eurovent conditions, with 1pW Reference Sound Power, according to ISO9614.
(3) Without options.
(4) ηsc/ SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016.
(5) At 10 m in free field, Calculated from the above sound power level according to the formula Lp = Lw-10logS.

GVAF XP - XLN Extra Low Noise R134a		190 XLN	205 XLN	245 XLN	310 XLN	350 XLN
Net cooling capacity (1)	(kW)	727	767	883	1117	1241
EER (1)		3.69	3.67	3.72	3.62	3.58
SEER (4)		5.61	5.60	5.69	6.06	5.96
Space cooling efficiency ηsc (4)	(%)	221	221	225	240	236
Eurovent class		A	A	A	A	A
Sound power level (2)	(dB(A))	92	92	92	94	94
Sound pressure level (5)	(dB(A))	59	59	59	61	61
Number of circuit(s)				2		
Refrigerant charge ckt1/ckt2	(kg)		140/75		140/140	
Number of compressors per circuit		3	3	3	4	4
Dimensions and weights (operating)						
Length	(mm)	11260	11260	11260	13510	13510
Width	(mm)	2200	2200	2200	2200	2200
Height	(mm)	2672	2672	2672	2672	2672
Weight (3)	(kg)	5840	5840	5840	7235	7235
Clearance A	(mm)			1000		
Clearance B	(mm)			1000		
Clearance C	(mm)			1000		
Clearance D	(mm)			1000		
Electrical data						
Maximum amps	(A)	764	764	764	1008	1008

GVAF XPG - XLN Extra Low Noise R1234ze		125 XLN	145 XLN	155 XLN	175 XLN	190 XLN	205 XLN	245 XLN	250 XLN	280 XLN	310 XLN	350 XLN
Net cooling capacity (1)	(kW)	457	541	583	646	698	760	881	961	1001	1121	1242
EER (1)		4.09	3.96	3.85	3.55	4.06	4.00	3.75	3.46	3.95	3.80	3.49
SEER (4)		5.70	5.67	5.88	5.87	6.24	6.23	6.15	6.05	6.48	6.32	6.19
Space cooling efficiency ηsc (4)	(%)	225	224	232	232	247	246	243	239	256	250	244
Eurovent class		A	A	A	A	A	A	A	A	A	A	A
Sound power level (2)	(dB(A))	88	89	90	91	90	91	92	93	92	93	94
Sound pressure level (5)	(dB(A))	55	56	57	58	57	58	59	60	59	60	61
Number of circuit(s)							2					
Refrigerant charge ckt1/ckt2	(kg)		75/70				140/75				140/140	
Number of compressors per circuit		2	2	2	2	3	3	3	3	4	4	4
Dimensions and weights (operating)												
Length	(mm)	7895	7895	7895	7895	11260	11260	11260	11260	13510	13510	13510
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	(mm)	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672
Weight (3)	(kg)	4274	4274	4274	4274	5840	5840	5840	5840	7235	7235	7235
Clearance A	(mm)						1000					
Clearance B	(mm)						1000					
Clearance C	(mm)						1000					
Clearance D	(mm)						1000					
Electrical data												
Maximum amps	(A)	382	382	382	382	566	566	566	566	744	744	744

(1) At Eurovent conditions: 12/7°C entering/leaving water temperature (0.0 m²K/kW) and 35°C ambient temperature according to EN 14511-2018.
(2) At Eurovent conditions, with 1pW Reference Sound Power, according to ISO9614.
(3) Without options.
(4) ηsc/ SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016.
(5) At 10 m in free field, Calculated from the above sound power level according to the formula Lp = Lw-10logS.



RTSF G

Water-cooled helical-rotary chiller

Customer benefits

- Compact and modular. City particularly fits in restricted spaces. 920 mm width only
- Near zero GWP (<1) refrigerant R1234ze
- Wide operating range
  From -12°C to 30°C leaving temperature on the evaporator side
  From 10°C to 80°C leaving temperature on the condenser side
- Sustainable and durable solution for applications below 400 kW
- High efficiencies both in cooling and heating
- 99.5% reliability rate
- Great versatility to adapt to varying applications requirements

Main features

- Single screw compressor and Adaptive Frequency™ Drive
- Brazed plate heat exchangers

Options

- Process cooling - leaving evaporator water temperature down to -12°C
- Sound attenuation panels (up to 9 dB(A) attenuation)
- VPF operation
- Ice making

Accessories

- Flow switch
- Anti-vibration neoprene isolators

Controls

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

Trane™ UC 800 controller

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

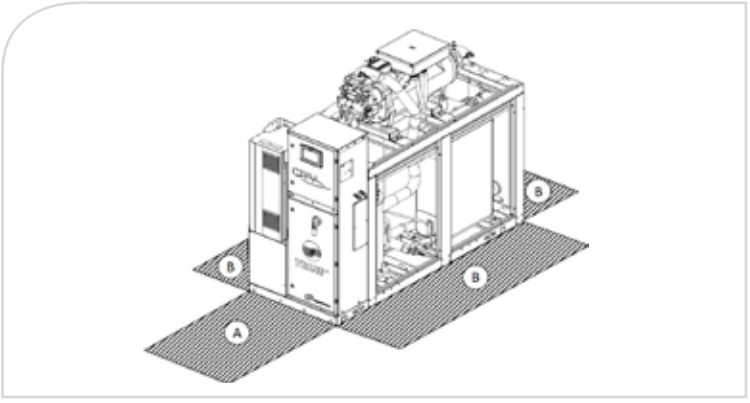
Connectivity

- Full interoperability via SmartCom interface
- BACnet™ (IP and MSTP), LonTalk®, Modbus Master/Slave Operation
- Full remote control capability via Trane BMS or Chiller Plant Controls

Condenser leaving water temperature (min./max.)	(°C)	+10/+80
Evaporator leaving water temperature range (min./max.)	(°C)	-12/+30
Power supply	(V/Ph/Hz)	400/3/50

RTSF G		**050 G**	**060 G**	**070 G**	**090 G**	**100 G**	**110 G**
Net cooling capacity (1) (5)	(kW)	184	220	264	315	362	387
Net power input (1) (5)	(kW)	36.5	43.1	52.6	63.7	79.6	89.1
Net EER/Eurovent class (1) (5)		5.03/B	5.10/A	5.02/B	4.94/B	4.55/B	4.34/B
SEER (7)		6.69	6.94	7.02	7.48	7.19	6.37
Space cooling efficiency ηs,c (7)	(%)	260	270	273	291	280	247
Number of refrigerant circuits				1			
Number of compressors				1			
Sound power level (3)	(dB(A))	93	93	98	98	98	94
Weights and dimensions (operating) (6)							
Length	(mm)	2240	2240	2240	2240	2240	2240
Width	(mm)	900	900	900	900	900	900
Height	(mm)	1940	1940	1960	1960	1960	1960
Weight	(kg)	1690	1770	2020	2130	2130	2130
Clearance A	(mm)	1000	1000	1000	1000	1000	1000
Clearance B	(mm)	800	800	800	800	800	800
Electrical data							
Maximum amps	(A)	102	117.6	140.4	169.2	206.4	280.8
Start-up amps	(A)	102	118	140.4	169.2	206.4	280.8

(1) Evaporator 12/7°C and 0.0 m²K/kW, and condenser at 30/35°C and 0.0 m²K/kW.
(3) At full load and in accordance with ISO9614 without sound attenuating enclosure.
(5) Net performances calculated as per EN 14511-2013.
(6) Maximum dimensions and weight for this size.
(7) ηs,c / SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016.



RTWD - RTUD

Water-cooled packaged and condenserless helical-rotary chiller

Customer benefits

High performance chiller based on:

- R1234ze which has a GWP value of less than one to exceed current F-Gas legislation requirements and help customers reduce their carbon dioxide (CO_2) emissions
- Falling film evaporator: higher performances with lower refrigerant charge
- State-of-the-art control to guarantee superior dependability and low cost of ownership
- Optional Trane Adaptive Frequency™ Drive (AFD) for part load efficiency enhancement

Range description

RTWD: R134a packaged chiller

RTWD G: R1234ze packaged chiller

RTUD: condenserless chiller

Main features

- Low-speed, direct-drive semi-hermetic helical rotary compressor featuring only 3 moving parts, suction-gas-cooled motor
- Fully modulating load control (15-100%)
- 3 different levels of efficiency
- Control of the leaving condenser water temperature from CH530
- Maximum condenser temperature 75°C with R1234ze (63°C with R134a)
- Compact physical footprint - fits through standard single-width door
- Bolt-together construction for easy unit disassembly
- Simplified piping - the only piping required is for the evaporator and condenser connections
- Single power connection - reduced wiring costs
- Factory-mounted star-delta starter panel

Tracer™ CH530 Control

Adaptive Control™ microprocessor-based control featuring:

- Easy-to-use operator interface
- Chilled water pump control

Control options:

- Control of the leaving condenser water temperature
- Programmable relays
- Reset of setpoints by analog signal
- Condenser refrigerant pressure output
- LonTalk®, BACnet®, Modbus® communication interfaces

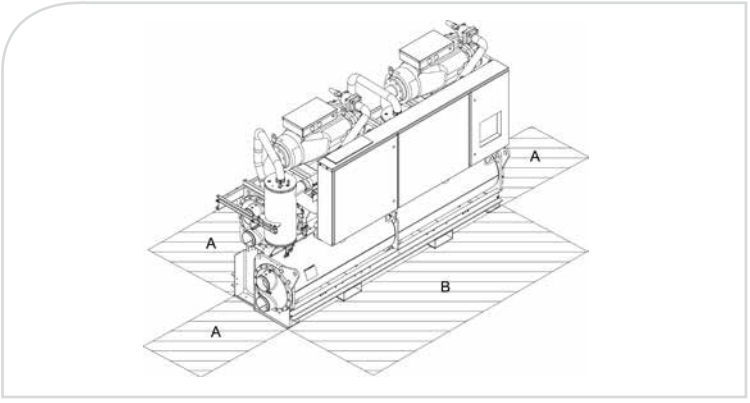
This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

		R134a	R1234ze
Condenser leaving water temperature (min./max.) RTWD	(°C)	14/63	14/75
Condenser saturated discharge temperature (min./max.) RTUD	(°C)	20/67	
Evaporator leaving water temperature range (min./max.)	(°C)	-12/+18	-12/+20
Power supply	(V/Ph/Hz)	400/3/50	

RTWD/RTUD - R134a		60 HE	70 HE	80 HE	90 HE	100 HE	110 HE	120 HE	130 HE	140 HE	160 HE
Net cooling capacity RTWD (1) (5)	(kW)	239.4	282.2	323.3	372.1	397.6	426.3	461.8	503.2	546	590.4
Net power input RTWD (1) (5)	(kW)	46.6	55.2	63.9	72.7	77.0	81.6	88.9	94.7	102.8	112.2
Net EER/Eurovent class RTWD (1) (5)		5.14/A	5.11/A	5.06/A	5.12/A	5.16/A	5.22/A	5.19/A	5.32/A	5.31/A	5.26/A
SEER RTWD (7)		6.08	6.33	6.25	6.15	6.30	6.38	6.40	6.55	6.55	6.55
Space cooling efficiency ηs,c RTWD (7)	(%)	235	245	242	238	244	247	248	254	254	254
IPLV (8)		7.117	7.074	7.074	6.621	7.060	7.103	7.117	7.004	7.032	7.103
Number of refrigerant circuits							2				
Number of compressors							2				
Sound power level RTWD (3)	(dB(A))	90	90	97	99	99	99	98	96	96	96
Weights and dimensions (operating) (6)											
Length	(mm)	3210	3210	3210	3230	3320	3230	3240	3400	3400	3400
Width	(mm)	1070	1070	1070	1060	1060	1060	1060	1280	1280	1280
Height	(mm)	1940	1940	1940	1960	1960	1960	1960	1950	1950	1950
Weight	(kg)	2650	2658	2673	2928	2970	3008	3198	3771	3802	3874
Clearance A	(mm)						920				
Clearance B	(mm)	920	920	920	920	920	920	920	920	920	1020
Electrical data											
Maximum amps	(A)	102	124	142	161	176	192	209	227	244	261
Start-up amps (4)	(A)	164	192	207	225	261	277	314	331	373	423

RTWD/RTUD - R134a		180 HE	200 HE	220 HE	250 HE	160 XE	180 XE	200 XE	160 SE*	170 SE*	190 SE*	200 SE*
Net cooling capacity RTWD (1) (5)	(kW)	650.9	713.7	781.5	853.5	606.4	667.9	720.0	585.1	647.1	725.3	796.6
Net power input RTWD (1) (5)	(kW)	124.9	136.4	148.9	164.1	110.5	123.6	133.8	128.6	142.9	155.7	169.3
Net EER/Eurovent class RTWD (1) (5)		5.21/A	5.23/A	5.25/A	5.2/A	5.49/A	5.40/A	5.38/A	4.55/C	4.53/C	4.66/B	4.70/B
SEER RTWD (7)		6.48	6.63	6.75	6.75	6.22	6.28	6.46	5.50	5.42	5.72	5.82
Space cooling efficiency ηs,c RTWD (7)	(%)	251	257	262	262	241	243	250	212	209	221	225
IPLV (8)		7.060	7.046	7.018	6.921	7.433	7.402	7.249	6.104	5.990	6.147	6.125
Number of refrigerant circuits							2					
Number of compressors							2					
Sound power level RTWD (3)	(dB(A))	101	101	101	101	96	101	101	101	101	101	101
Weights and dimensions (operating) (6)												
Length	(mm)	3490	3490	3490	3490	3760	3810	3490	3490	3490	3490	3490
Width	(mm)	1310	1310	1310	1310	1280	1310	1310	1310	1310	1310	1310
Height	(mm)	1970	2010	2010	2010	2010	2010	2010	1970	1970	1970	1970
Weight	(kg)	4042	4488	4504	4579	4172	4408	4625	3874	4049	4086	4125
Clearance A	(mm)						920					
Clearance B	(mm)	1020	1020	1020	1020	1020	1020	1020	1020	1020	1020	1020
Electrical data												
Maximum amps	(A)	286	311	343	374	261	286	311	286	311	343	374
Start-up amps (4)	(A)	423	447	510	542	391	423	447	423	447	510	542

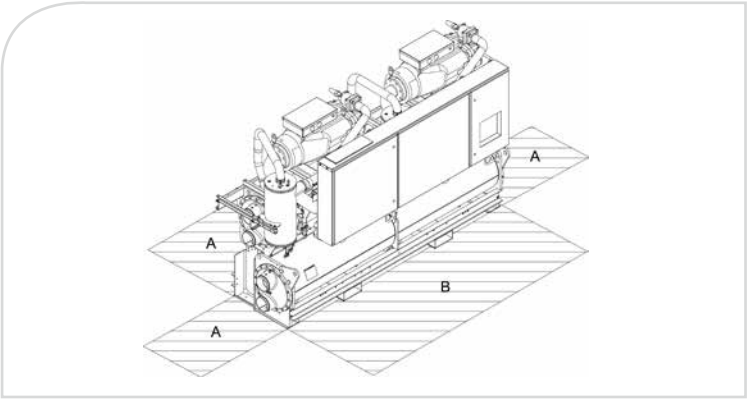
* Not available for comfort applications for countries adopting the Ecodesign directive.
(1) Evaporator 12/7°C and 0.0 m²K/kW, and condenser at 30/35°C and 0.0 m²K/kW.
(2) Evaporator 12/7°C and 0.0 m²K/kW, and condenser 45°C saturating subcooling 5K.
(3) At full load and in accordance with ISO9614 without sound attenuating enclosure.
(4) Inrush current in star connection.
(5) Net performances calculated as per EN 14511-2018.
(6) Maximum dimensions and weight for this size.
(7) ηs,c/SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016.
(8) According to AHRI Standard 550/590, based on TOPSS (Trane Official Selection Software).



RTWD/RTUD - R134a		060 HSE	070 HSE	080 HSE	090 HSE	100 HSE	110 HSE	120 HSE	130 HSE	140 HSE
Net cooling capacity RTWD (1) (5)	(kW)	243.6	286.0	328.9	379.6	405.1	433.8	467.7	501.9	546.6
Net power input RTWD (1) (5)	(kW)	48.4	57.2	66.8	76.6	80.6	85.0	91.6	98.4	106.6
Net EER/Eurovent class RTWD (1) (5)		5.03/B	5.00/B	4.92/B	4.96/B	5.03/B	5.11/A	5.11/A	5.10/A	5.13/A
SEER RTWD (7)		6.41	6.62	6.61	6.67	6.70	6.95	6.62	7.15	7.15
Space cooling efficiency ηs,c RTWD (7)	(%)	249	257	257	259	260	270	257	278	278
IPLV (8)		7.937	7.874	7.813	7.937	8.000	8.130	8.197	8.333	8.197
Number of refrigerant circuits						2				
Number of compressors						2				
Sound power level RTWD (3)	(dB(A))	90	90	97	99	99	99	98	96	96
Weights and dimensions (operating) (6)										
Length	(mm)	3210	3210	3210	3223	3318	3223	3235	3395	3395
Width	(mm)	1131	1131	1131	1118	1118	1118	1118	1302	1302
Height	(mm)	1938	1938	1938	1955	1955	1955	1955	1943	1943
Weight	(kg)	2788	2796	2829	3102	3144	3182	3372	3945	3996
Clearance A	(mm)					920				
Clearance B	(mm)					920				
Electrical data										
Maximum amps	(A)	89	105	121	138	145	153	167	182	201
Start-up amps (4)	(A)	3	3	4	4	5	5	6	6	7

RTWD/RTUD - R134a		160 HSE	180 HSE	200 HSE	220 HSE	250 HSE	260 HSE	270 HSE
Net cooling capacity RTWD (1) (5)	(kW)	611.4	671.0	720.5	776.8	844.5	923.0	1002.9
Net power input RTWD (1) (5)	(kW)	114.0	127.2	138.6	156.3	169.6	198.3	214.6
Net EER/Eurovent class RTWD (1) (5)		5.36/A	5.27/A	5.20/A	4.97/B	4.98/B	4.66/B	4.67/B
SEER RTWD (7)		7.22	7.22	7.35	7.26	7.43	7.22	7.32
Space cooling efficiency ηs,c RTWD (7)	(%)	281	281	286	282	289	281	285
IPLV (8)		8.403	8.403	8.264	8.065	8.130	7.752	7.692
Number of refrigerant circuits					2			
Number of compressors					2			
Sound power level RTWD (3)	(dB(A))	96	101	101	101	101	101	101
Weights and dimensions (operating) (6)								
Length	(mm)	3752	3811	3489	3489	3489	3489	3489
Width	(mm)	1302	1332	1341	1341	1341	1341	1341
Height	(mm)	2004	2004	2004	2004	2004	2004	2004
Weight	(kg)	4386	4622	4839	4718	4793	4718	4793
Clearance A	(mm)				920			
Clearance B	(mm)				1020			
Electrical data								
Maximum amps	(A)	325	363	402	438	473	523	568
Start-up amps (4)	(A)	7	8	8	9	9	14	14

(1) Evaporator 12/7°C and 0.0 m²K/kW, and condenser at 30/35°C and 0.0 m²K/kW.
(2) Evaporator 12/7°C and 0.0 m²K/kW, and condenser 45°C saturating subcooling 5K.
(3) At full load and in accordance with ISO9614 without sound attenuating enclosure.
(4) Inrush current in star connection.
(5) Net performances calculated as per EN 14511-2018.
(6) Maximum dimensions and weight for this size.
(7) ηs,c/SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016.
(8) According to AHRI Standard 550/590, based on TOPSS (Trane Official Selection Software).



RTWD G - R1234ze		100 HE G	110 HE G	120 HE G*	130 HE G	140 HE G	160 HE G	170 HE G
Net cooling capacity (1) (5)	(kW)	363.6	399.1	436.0	475.7	533.9	583.5	635.4
Net power input (1) (5)	(kW)	78.2	85.4	92.7	97.3	101.4	111.9	122.5
Net EER/Eurovent class (1) (5)		4.65/B	4.67/B	4.70/B	4.89/B	5.26/A	5.21/A	5.19/A
SEER (7)		5.55	5.57	5.61	6.18	6.72	6.74	6.75
Space cooling efficiency ηsc (7)	(%)	214	215	216	239	261	262	262
IPLV (8)		5.939	6.083	6.003	6.583	6.858	6.983	6.866
Number of refrigerant circuits					2			
Number of compressors					2			
Sound power level (3)	(dB(A))	95	95	95	101	101	101	101
Weights and dimensions (operating) (6)								
Length	(mm)	3400	3400	3400	3400	3490	3490	3490
Width	(mm)	1280	1280	1280	1280	1310	1310	1310
Height	(mm)	1950	1950	1950	1950	1970	1970	1970
Weight	(kg)	3820	3820	3820	3820	4525	4525	4525
Clearance A	(mm)				920			
Clearance B	(mm)				920			
Electrical data								
Maximum amps	(A)	160	177	194	207	220	245	270
Start-up amps (4)	(A)	258	294	311	335	348	395	420

RTWD G - R1234ze		100 HSE G	110 HSE G	120 HSE G	130 HSE G	140 HSE G	160 HSE G	170 HSE G	180 HSE G	200 HSE G	220 HSE G	250 HSE G
Net cooling capacity (1) (5)	(kW)	364.7	399.1	438.9	477.3	533.6	586.0	640.9	688.1	717.2	764.8	813.5
Net power input (1) (5)	(kW)	78.8	86.6	94.5	99.6	104.5	115.5	126.6	141.5	151.9	166.1	180.5
Net EER/Eurovent class (1) (5)		4.63/C	4.61/C	4.65/B	4.79/B	5.10/A	5.07/A	5.06/A	4.86/B	4.72/B	4.60/C	4.51/C
SEER (7)		5.82	5.83	5.95	6.25	6.51	6.51	6.59	6.49	6.41	6.30	6.23
Space cooling efficiency ηsc (7)	(%)	225	225	230	242	252	252	256	252	248	244	241
IPLV (8)		6.550	6.572	6.572	6.848	7.207	7.059	6.952	6.809	6.556	6.417	6.292
Number of refrigerant circuits							2					
Number of compressors							2					
Sound power level (3)	(dB(A))	95	95	95	101	101	101	101	102	102	103	103
Weights and dimensions (operating) (6)												
Length	(mm)	3395	3395	3395	3395	3810	3810	3810	3810	3490	3490	3490
Width	(mm)	1300	1300	1300	1300	1330	1330	1330	1330	1340	1340	1340
Height	(mm)	1945	1945	1945	1945	2005	2005	2005	2005	2005	2005	2005
Weight	(kg)	4030	4030	4030	4189	4720	4720	4720	4720	4780	4780	4780
Clearance A	(mm)						920					
Clearance B	(mm)						920					
Electrical data												
Maximum amps	(A)	148	165	182	196	210	230	250	276	303	324	346
Start-up amps (4)	(A)	6	7	7	8	8	9	9	14	14	14	14

* Not available for comfort applications for countries adopting the Ecodesign directive.
(1) Evaporator 12/7°C and 0.0 m²K/kW, and condenser at 30/35°C and 0.0 m²K/kW.
(2) Evaporator 12/7°C and 0.0 m²K/kW, and condenser 45°C saturating subcooling 5K.
(3) At full load and in accordance with ISO9614 without sound attenuating enclosure.
(4) Inrush current in star connection.
(5) Net performances calculated as per EN 14511-2018.
(6) Maximum dimensions and weight for this size.
(7) ηs,c/SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016.
(8) According to AHRI Standard 550/590, based on TOPSS (Trane Official Selection Software).

RTHD^{evo}

Water-cooled packaged helical-rotary chiller

Customer benefits

Industry leading efficienties thanks to:

- Falling film evaporator: superior performances with low refrigerant charge
- New Trane control for optimal system reliability and human interface
- Trane helical-rotary compressor - designed to perform, built to last
- Optional Trane Adaptive Frequency™ Drive (AFD) for part load efficiency enhancement

Main features

- 4 efficiency levels: SE, HE, XE and new HSE fitted with Trane AFD with enhanced part load efficiencies
- Low-speed, direct-drive semi-hermetic helical rotary compressor featuring only 3 moving parts, suction-gas-cooled motor
- Fully modulating load control (15-100%)
- Compact physical footprint - fits through standard double-width doors
- Bolt-together construction for easy unit disassembly
- Factory-mounted star-delta starter panel
- Simplified piping - the only piping required is for the evaporator and condenser grooved pipe connections
- Single power connection - reduced wiring costs

Options

- Insulation on evaporator, water boxes, suction line, motor housing
- Fused or non-fused power disconnect switch
- Under/over voltage protection

Accessories

- Outside air temperature sensor
- Condenser valves

Control

- Ultimate control: UC800
  - Easy to read 7-inch color touchscreen display
  - Industry leading algorithms
  - Open protocol design
  - Adaptive control
- Feedforward adaptive control
- Softloading (HSE)
- Rapid Restart
- SmartCom interface: LonTalk®, BACnet®, Modbus® communication interfaces
- Energy metering

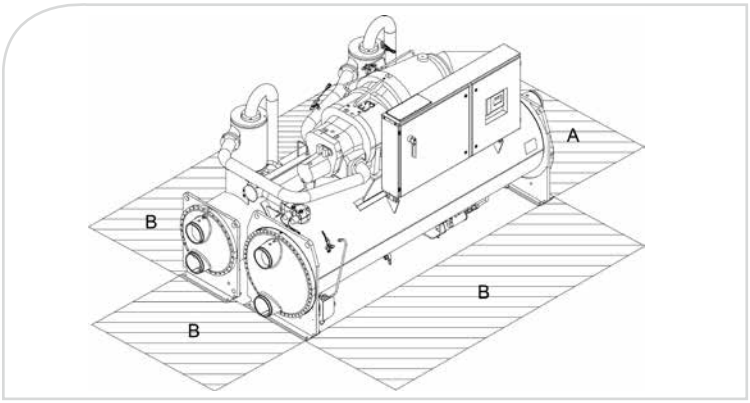
This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

Condenser leaving water temperature (min./max.)	(°C)	20/+50
Evaporator leaving water temperature range (min./max.)	(°C)	-12/+18
Power supply	(V/Ph/Hz)	400/3/50

RTHD Standard Efficiency		**225**	**250**	**300***	**325***	**350***	**375***
Net cooling capacity (1) (3)	(kW)	769	886	1049	1145	1216	1342
Net power input (1) (5)	(kW)	149.0	176.2	208.6	221.1	240.2	279.0
Net EER/Eurovent class (1) (3)		5.16/A	5.03/B	5.03/B	5.18/A	5.06/A	4.81/B
SEER (4)		5.88	6.00	5.43	5.73	5.75	5.18
Space cooling efficiency ηs,c (4)	(%)	227	232	209	221	222	199
IPLV (5)		6.54	6.68	6.38	6.66	6.53	6.06
Number of refrigerant circuits				1			
Number of compressors				1			
Sound power level (2)	(dB(A))	98	98	97	97	97	101
Weights and dimensions (operating)							
Length	(mm)	3290	3290	3290	3290	3290	3290
Width	(mm)	1600	1600	1600	1600	1600	1600
Height	(mm)	1940	1940	1940	1940	1940	1940
Weight	(kg)	2510	2510	2510	2510	2510	2510
Clearance A	(mm)	1000	1000	1000	1000	1000	1000
Clearance B	(mm)	5891	6833	6335	6522	6553	6655
Electrical data							
Maximum amps	(A)	349	349	455	455	455	488
Start-up amps	(A)	480	480	748	748	748	748

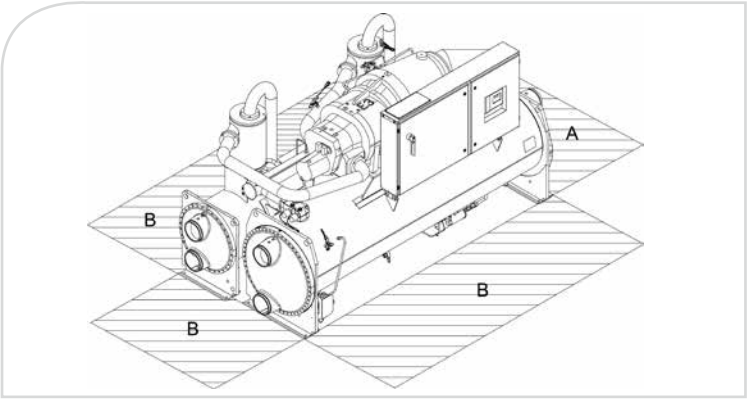
RTHD High Efficiency		**150**	**175**	**225**	**250**	**300***	**350**	**375**	**400**
Net cooling capacity (1) (3)	(kW)	545	595	778	896	1074	1196	1278	1411
Net power input (1) (5)	(kW)	99.3	109.6	145.2	170.3	198.1	211.6	228.3	265.7
Net EER/Eurovent class (1) (3)		5.49/A	5.43/A	5.36/A	5.26/A	5.42/A	5.65/A	5.60/A	5.31/A
SEER (4)		6.04	6.33	6.02	6.21	5.77	6.14	6.22	5.59
Space cooling efficiency ηs,c (4)	(%)	233	245	233	241	223	238	241	215
IPLV (5)		6.78	6.94	6.70	6.86	6.70	7.12	6.97	6.52
Number of refrigerant circuits					1				
Number of compressors					1				
Sound power level (2)	(dB(A))	98	98	98	98	97	97	97	97
Weights and dimensions (operating)									
Length	(mm)	3170	3170	3290	3290	3290	3690	3690	3690
Width	(mm)	1600	1600	1600	1600	1600	1600	1600	1600
Height	(mm)	1850	1850	1940	1940	1940	1940	1940	1940
Weight	(kg)	2530	2530	2510	2510	2510	2970	2970	2970
Clearance A	(mm)	1000	1000	1000	1000	1000	1000	1000	1000
Clearance B	(mm)	4361	4361	6030	6030	6612	7558	7589	7767
Electrical data									
Maximum amps	(A)	233	233	349	349	455	455	455	488
Start-up amps	(A)	412	412	480	480	748	748	748	748

* Not available for comfort applications for countries adopting the Ecodesign directive.
(1) Evaporator 12/7°C and 0.0176 m²K/kW, and condenser at 30/35°C and 0.044m²K/kW.
(2) At full load and in accordance with ISO9614.
(3) Net performances calculated as per EN 14511-2018.
(4) ηs,c/SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016.
(5) According to AHRI Standard 550/590, based on TOPSS (Trane Official Selection Software).



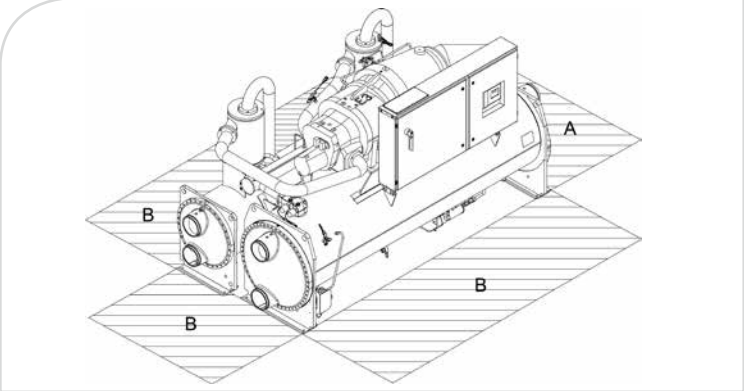
RTHD eXtra High Efficiency		150	175	225	275	325	350	375	425
Net cooling capacity (1) (3)	(kW)	559	614	797	937	1119	1203	1294	1453
Net power input (1) (5)	(kW)	98.3	107.9	140.3	159.9	188.4	204.6	217.8	253.1
Net EER/Eurovent class (1) (3)		5.69/A	5.69/A	5.68/A	5.86/A	5.94/A	5.88/A	5.94/A	5.73/A
SEER (4)		6.16	6.62	6.47	6.73	6.28	6.36	6.48	5.96
Space cooling efficiency ηs,c (4)	(%)	239	257	251	261	243	246	251	230
IPLV (5)		6.98	7.22	6.92	7.32	7.16	7.23	7.10	6.8
Number of refrigerant circuits						1			
Number of compressors						1			
Sound power level (2)	(dB(A))	98	98	98	98	97	97	97	97
Weights and dimensions (operating)									
Length	(mm)	3640	3640	3290	3670	3850	3850	3850	3850
Width	(mm)	1600	1600	1600	1600	1800	1800	1800	1800
Height	(mm)	1850	1850	1940	1940	2035	2040	2040	2040
Weight	(kg)	2990	2990	2510	2980	3130	3130	3130	3130
Clearance A	(mm)	1000	1000	1000	1000	1000	1000	1000	1000
Clearance B	(mm)	4756	4756	6355	6833	8951	9196	9384	9741
Electrical data									
Maximum amps	(A)	233	233	349	349	455	455	455	488
Start-up amps	(A)	412	412	480	480	748	748	748	748

(1) Evaporator 12/7°C and 0.0176 m²K/kW, and condenser at 30/35°C and 0.044m²K/kW.
(2) At full load and in accordance with ISO9614.
(3) Net performances calculated as per EN 14511-2018.
(4) ηs,c/SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016.
(5) According to AHRI Standard 550/590, based on TOPSS (Trane Official Selection Software).



RTHD High Seasonal Efficiency		150	175	225	275	325	350	375	425
Net cooling capacity (1) (3)	(kW)	559	614	797	937	1119	1203	1294	1453
Net power input (1) (5)	(kW)	101.5	111.5	144.9	164.9	194.6	211.5	225.0	261.8
Net EER/Eurovent class (1) (3)		5.51/A	5.50/A	5.50/A	5.67/A	5.75/A	5.69/A	5.75/A	5.55/A
SEER (4)		7.15	7.93	7.77	8.45	8.60	8.07	8.82	8.27
Space cooling efficiency ηs,c (4)	(%)	278	309	303	330	336	315	345	323
IPLV (5)		8.37	8.68	8.25	8.97	8.85	8.65	9.13	9.09
Number of refrigerant circuits						1			
Number of compressors						1			
Sound power level (2)	(dB(A))	98	98	98	98	97	97	97	97
Weights and dimensions (operating)									
Length	(mm)	3640	3640	3290	3670	3850	3850	3850	3850
Width	(mm)	1600	1600	1600	1600	1800	1800	1800	1800
Height	(mm)	1850	1850	1940	1940	2035	2040	2040	2040
Weight	(kg)	2990	2990	2510	2980	3130	3130	3130	3130
Clearance A	(mm)	1000	1000	1000	1000	1000	1000	1000	1000
Clearance B	(mm)	4756	4756	6355	6833	8951	9196	9384	9741
Electrical data									
Maximum amps	(A)	218	218	314	314	421	421	421	452
Start-up amps	(A)	11	11	16	16	21	21	21	23

(1) Evaporator 12/7°C and 0.0176 m²K/kW, and condenser at 30/35°C and 0.044m²K/kW.
(2) At full load and in accordance with ISO9614.
(3) Net performances calculated as per EN 14511-2018.
(4) ηs,c/SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016.
(5) According to AHRI Standard 550/590, based on TOPSS (Trane Official Selection Software).



RTWF

Water-cooled packaged helical-rotary chiller

Customer benefits

- R1234ze which has a GWP value of less than one to exceed current F-Gas legislation requirements and help customers reduce their carbon dioxide (CO_2) emissions
- Extended and unmatched capacities
- High efficiencies
- Reliability : Trane helical-rotary compressor
- State-of-the-art control to guarantee superior dependability and low cost of ownership
- Optional Trane Adaptive Frequency™ Drive (AFD) for part load efficiency enhancement.

Range description

RTWF: R134a/R513A chiller

RTWF G: R1234ze chlller

Main features

- 3 different levels of efficiency (SE – HE – HSE)
- Multiple compressors
- Low-speed, direct-drive semi-hermetic helical rotary compressor, suction-gas-cooled motor
- Trane patented CHIL Evaporator
- Fully modulating load control (15 – 100%)
- Adaptive Control™ microprocessor system enhances chiller by providing the latest chiller control technology
- Variable Primary Flow full compatibility

Options

- High Condenser leaving water temperature up to 85°C with R1234ze (68°C with R134a)
- Brine applications down to -12°C leaving water
- Ice Making
- Right hand or Left hand connections

Accessories

- Flow Switch
- Anti-vibration accessories : neoprene isolators

Controls

- Ultimate control: UC800
  - Easy to read 7-inch color touchscreen display
  - Industry leading algorithms
  - Open protocol design
  - Adaptive control
- Variable Primary Flow control at evaporator and/or condenser
- Feedforward Adaptive control
- Softloading (HSE)
- Rapid Restart
- SmartCom interface: BACnet® MSTP, BACnet® IP, BACnet® RTU, Modbus® RTU and LonTalk® communication interfaces
- Master/Slave operation
- Energy metering

* RTWF SE and HE are also available with R513A refrigerant. Contact your local sales office.

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

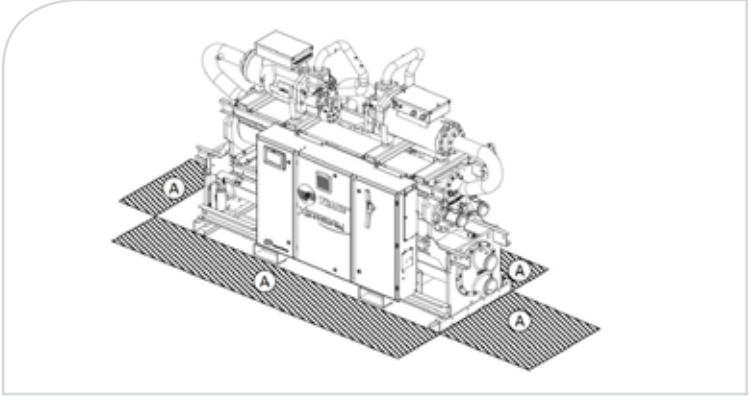
		R134a/R513A	R1234ze
Condenser leaving water temperature (min./max.)	(°C)	+15/+68 (a) +10/+68 (b)"	+15/+80 (a) +10/+85 (b)
Evaporator leaving water temperature range (min./max.)	(°C)	-12/+20	-12/+27 (a) -12/+28 (b)
Power supply	(V/Ph/Hz)	400/3/50	

(a) Single circuit units
(b) Double circuit units

RTWF Standard Efficiency - R134a		100 SE	120 SE	140 SE	150 SE	170 SE	180 SE	190 SE	210 SE	230 SE
Net cooling capacity (1) (3)	(kW)	368.0	417.0	487.0	544.0	591.0	646.0	702.0	777.0	845.0
Net power input (1) (5)	(kW)	71.0	81.6	97.0	105.6	113.7	125.7	141.0	154.5	168.7
Net EER/Eurovent class (1) (3)		5.18/A	5.11/A	5.02/B	5.15/A	5.20/A	5.14/A	4.98/B	5.03/B	5.01/B
SEER (4)		6.83	6.85	6.90	6.93	7.03	7.03	7.00	6.95	6.88
Space cooling efficiency ηs,c (4)	(%)	265	266	268	269	273	273	272	270	267
Number of refrigerant circuits						1				
Number of compressors						2				
Sound power level (2)	(dB(A))	99	99	96	96	96	99	101	101	101
Weights and dimensions (operating)										
Length	(mm)	3080	3080	3080	3080	3080	3160	3160	3160	3160
Width	(mm)	1190	1190	1190	1190	1190	1225	1250	1250	1250
Height	(mm)	1900	1900	1900	1935	1935	1935	2035	2035	2080
Weight	(kg)	2622	2641	3048	3194	3215	3456	3783	3884	3988
Clearance A	(mm)					800				
Clearance B	(mm)					2590				
Electrical data										
Maximum amps	(A)	162.1	190.1	222.9	242.7	262.5	290.4	318.3	348.1	377.9
Start-up amps	(A)	223.8	273.8	327.2	347	389	416.9	448.9	478.7	541.7

RTWF Standard Efficiency - R134a		275 SE	290 SE	310 SE	330 SE	370 SE	410 SE	450 SE	490 SE
Net cooling capacity (1) (3)	(kW)	939.0	983.0	1043.0	1112.0	1250.0	1397.0	1537.0	1676.0
Net power input (1) (5)	(kW)	192.4	202.3	213.7	227.9	258.8	285.1	315.0	342.7
Net EER/Eurovent class (1) (3)		4.88/B	4.86/B	4.88/B	4.88/B	4.83/B	4.90/B	4.88/B	4.89/B
SEER (4)		6.90	6.88	6.78	6.95	6.90	7.38	7.43	7.33
Space cooling efficiency ηs,c (4)	(%)	268	267	263	270	268	287	289	285
IPLV (5)		7.266	7.243	7.145	7.311	7.243	7.819	7.702	7.525
Number of refrigerant circuits					2				
Number of compressors		3	3	3	3	3	4	4	4
Sound power level (2)	(dB(A))	100	100	101	101	101	102	102	102
Weights and dimensions (operating)									
Length	(mm)	4754	4754	4784	4784	4784	4774	4774	4774
Width	(mm)	1727	1727	1727	1727	1727	1823	1823	1823
Height	(mm)	2032	2032	2032	2032	2032	2135	2135	2135
Weight	(kg)	5276	5273	5456	5511	5574	6945	7025	7109
Clearance A	(mm)				4000				
Clearance B	(mm)				1000				
Electrical data									
Maximum amps	(A)	402	416	442	469	532	586	646	706
Start-up amps	(A)	547	561	587	647	710	731	824	884

(1) Evaporator 12/7°C and 0.0 m²K/kW, and condenser at 30/35°C and 0.0 m²K/kW.
(2) At full load and in accordance with ISO9614.
(3) Net performances calculated as per EN 14511-2018.
(4) ηs,c/SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016.
(5) According to AHRI Standard 550/590, based on TOPSS (Trane Official Selection Software).



RTWF High Efficiency - R134a		100 HE	120 HE	140 HE	150 HE	170 HE	180 HE	190 HE	210 HE	230 HE
Net cooling capacity (1) (3)	(kW)	371.0	429.0	499.0	552.0	600.0	658.0	716.0	787.0	854.0
Net power input (1) (5)	(kW)	69.6	80.2	95.8	103.0	110.5	123.7	138.2	151.1	166.8
Net EER/Eurovent class (1) (3)		5.33/A	5.35/A	5.21/A	5.36/A	5.43/A	5.32/A	5.18/A	5.21/A	5.12/A
SEER (4)		6.93	7.03	7.10	7.13	7.20	7.23	7.13	7.03	6.93
Space cooling efficiency ηs,c (4)	(%)	269	273	276	277	280	281	277	273	269
Number of refrigerant circuits						1				
Number of compressors						2				
Sound power level (2)	(dB(A))	99	99	96	96	96	99	101	101	101
Weights and dimensions (operating)										
Length	(mm)	3080	3080	3080	3160	3160	3160	3160	3160	3160
Width	(mm)	1190	1190	1190	1215	1215	1250	1250	1250	1250
Height	(mm)	1900	1935	1935	2055	2055	2080	2080	2080	2080
Weight	(kg)	2696	2819	3196	3490	3564	3790	3969	4139	4139
Clearance A	(mm)					800				
Clearance B	(mm)					2590				
Electrical data										
Maximum amps	(A)	162.1	190.1	222.9	242.7	262.5	290.4	318.3	348.1	377.9
Start-up amps	(A)	223.8	273.8	327.2	347	389	416.9	448.9	478.7	541.7

RTWF High Efficiency - R134a		275 HE	290 HE	310 HE	330 HE	370 HE	410 HE	450 HE	490 HE
Net cooling capacity (1) (3)	(kW)	957.0	1003.0	1066.0	1134.0	1267.0	1423.0	1563.0	1706.0
Net power input (1) (5)	(kW)	181.9	190.7	203.4	216.4	242.7	269.0	298.9	326.2
Net EER/Eurovent class (1) (3)		5.26/A	5.26/A	5.24/A	5.24/A	5.22/A	5.29/A	5.23/A	5.23/A
SEER (4)		7.33	7.30	7.15	7.28	7.20	7.75	7.68	7.53
Space cooling efficiency ηs,c (4)	(%)	285	284	278	283	280	302	299	293
IPLV (5)		7.666	7.666	7.550	7.719	7.676	8.152	7.954	7.750
Number of refrigerant circuits						2			
Number of compressors		3	3	3	3	3	4	4	4
Sound power level (2)	(dB(A))	100	100	101	101	101	102	102	102
Weights and dimensions (operating)									
Length	(mm)	4754	4754	4784	4784	4784	4774	4774	4774
Width	(mm)	1727	1727	1727	1727	1727	1823	1823	1823
Height	(mm)	2032	2032	2032	2032	2032	2135	2135	2135
Weight	(kg)	5687	5683	5886	5950	6123	7446	7571	7694
Clearance A	(mm)					4000			
Clearance B	(mm)					1000			
Electrical data									
Maximum amps	(A)	402	416	442	469	532	586	646	706
Start-up amps	(A)	547	561	587	647	710	731	824	884

(1) Evaporator 12/7°C and 0.0 m²K/kW, and condenser at 30/35°C and 0.0 m²K/kW.
(2) At full load and in accordance with ISO9614.
(3) Net performances calculated as per EN 14511-2018.
(4) ηs,c/SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016.
(5) According to AHRI Standard 550/590, based on TOPSS (Trane Official Selection Software).

RTWF High Seasonal Efficiency - R134a		100 HSE	120 HSE	140 HSE	150 HSE	170 HSE	180 HSE	190 HSE	210 HSE	230 HSE	250 HSE
Net cooling capacity (1) (3)	(kW)	374.0	432.0	501.0	555.0	603.0	658.0	716.0	782.0	849.0	930.0
Net power input (1) (5)	(kW)	71.4	81.8	96.7	104.3	111.7	126.3	140.7	153.3	169.1	191.8
Net EER/Eurovent class (1) (3)		5.24/A	5.28/A	5.18/A	5.32/A	5.4/A	5.21/A	5.09/A	5.10/A	5.02/B	4.85/B
SEER (4)		6.95	7.15	7.20	7.25	7.33	7.33	7.20	7.10	7.18	7.13
Space cooling efficiency η,c (4)	(%)	270	278	280	282	285	285	280	276	279	277
Number of refrigerant circuits						1					
Number of compressors						2					
Sound power level (2)	(dB(A))	99	99	96	96	96	99	101	101	101	103
Weights and dimensions (operating)											
Length	(mm)	3080	3080	3080	3160	3160	3160	3160	3160	3160	3160
Width	(mm)	1260	1260	1260	1285	1285	1380	1380	1380	1380	1380
Height	(mm)	1900	1935	1935	2055	2055	2080	2080	2080	2080	2080
Weight	(kg)	2796	2919	3296	3590	3670	3890	4069	4239	4239	4239
Clearance A	(mm)					800					
Clearance B	(mm)					2590					
Electrical data											
Maximum amps	(A)	159.7	183.7	214.1	231.6	251.4	281.2	309.1	333.6	363.4	405.5
Start-up amps	(A)	221.4	267.4	318.4	335.9	377.9	407.7	439.7	464.2	527.2	569.3

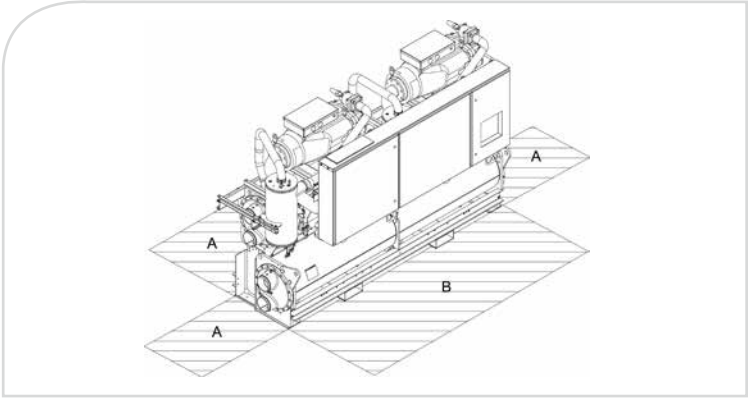
RTWF High Seasonal Efficiency - R134a		275 HSE	290 HSE	310 HSE	330 HSE	370 HSE	410 HSE	450 HSE	490 HSE	515 HSE
Net cooling capacity (1) (3)	(kW)	959.0	1005.0	1066.0	1134.0	1258.0	1423.0	1563.0	1697.0	1859.0
Net power input (1) (5)	(kW)	185.5	194.4	208.2	221.5	246.7	274.2	303.5	330.2	375.6
Net EER/Eurovent class (1) (3)		5.17/A	5.17/A	5.12/A	5.12/A	5.10/A	5.19/A	5.15/A	5.14/A	4.95/B
SEER (4)		7.33	7.35	7.53	7.48	7.48	7.58	7.40	7.38	7.33
Space cooling efficiency ηs,c (4)	(%)	285	286	293	291	291	295	288	287	285
IPLV (5)		7.829	7.827	7.895	7.831	8.055	8.289	7.987	8.030	7.999
Number of refrigerant circuits						2				
Number of compressors		3	3	3	3	3	4	4	4	4
Sound power level (2)	(dB(A))	100	100	101	101	101	102	102	102	107
Weights and dimensions (operating)										
Length	(mm)	4754	4754	4784	4784	4784	4774	4774	4774	4774
Width	(mm)	1727	1727	1727	1727	1727	1823	1823	1823	1823
Height	(mm)	2032	2032	2032	2032	2032	2135	2135	2135	2135
Weight	(kg)	5862	5858	6100	6164	6337	7660	7785	7908	7907
Clearance A	(mm)					4000				
Clearance B	(mm)					1000				
Electrical data										
Maximum amps	(A)	381	398	420	450	509	566	626	685	750
Start-up amps	(A)	526	543	565	628	687	711	804	863	928

(1) Evaporator 12/7°C and 0.0 m²K/kW, and condenser at 30/35°C and 0.0 m²K/kW.
(2) At full load and in accordance with ISO9614.
(3) Net performances calculated as per EN 14511-2018.
(4) ηs,c/SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016.
(5) According to AHRI Standard 550/590, based on TOPSS (Trane Official Selection Software).

RTWF G Standard Efficiency - R1234ze		95 SE G	105 SE G	125 SE G	135 SE G	155 SE G	165 SE G
Net cooling capacity (1) (3)	(kW)	343.0	374.0	449.0	480.0	524.0	582.0
Net power input (1) (5)	(kW)	79.0	86.6	99.8	106.0	115.4	124.6
Net EER/Eurovent class (1) (3)		4.34/C	4.32/C	4.50/C	4.53/C	4.54/C	4.67/C
SEER (4)		5.60	5.68	6.15	6.18	6.35	6.50
Space cooling efficiency ηs,c (4)	(%)	216	219	238	239	246	252
Number of refrigerant circuits				1			
Number of compressors				2			
Sound power level (2)	(dB(A))	96	96	95	93	93	93
Weights and dimensions (operating)							
Length	(mm)	3080	3080	3160	3160	3160	3160
Width	(mm)	1190	1190	1225	1225	1250	1250
Height	(mm)	1900	1900	1935	1935	2035	2080
Weight	(kg)	2959	2959	3128	3164	3452	3579
Clearance A	(mm)			800			
Clearance B	(mm)			2590			
Electrical data							
Maximum amps	(A)	285	310	370	405	444	483
Start-up amps	(A)	358	383	460	492	531	594

RTWF G Standard Efficiency - R1234ze		220 SE G	240 SE G	280 SE G	300 SE G	320 SE G	360 SE G
Net cooling capacity (1) (3)	(kW)	736.0	789.0	877.0	996.0	1084.0	1187.0
Net power input (1) (5)	(kW)	157.6	170.0	191.1	209.7	232.6	253.6
Net EER/Eurovent class (1) (3)		4.67/B	4.64/C	4.59/C	4.75/B	4.66/B	4.68/B
SEER (4)		5.88	5.93	5.88	6.45	6.50	6.63
Space cooling efficiency ηs,c (4)	(%)	227	229	227	250	252	257
IPLV (5)		6.505	6.441	6.540	6.654	6.721	6.679
Number of refrigerant circuits				2			
Number of compressors		3	3	3	4	4	4
Sound power level (2)	(dB(A))	96	96	96	97	97	97
Weights and dimensions (operating)							
Length	(mm)	4784	4784	4784	4784	4784	4784
Width	(mm)	1727	1727	1727	1823	1823	1823
Height	(mm)	2032	2032	2032	2135	2135	2135
Weight	(kg)	5135	5228	5373	6554	6676	6885
Clearance A	(mm)			4000			
Clearance B	(mm)			1000			
Electrical data							
Maximum amps	(A)	606	645	723	807	885	963
Start-up amps	(A)	696	759	837	897	999	1077

(1) Evaporator 12/7°C and 0.0 m²K/kW, and condenser at 30/35°C and 0.0 m²K/kW.
(2) At full load and in accordance with ISO9614.
(3) Net performances calculated as per EN 14511-2018.
(4) ηs,c/SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016.
(5) According to AHRI Standard 550/590, based on TOPSS (Trane Official Selection Software).



RTWF G High Efficiency - R1234ze		95 HE G	105 HE G	125 HE G	135 HE G	155 HE G	165 HE G
Net cooling capacity (1) (3)	(kW)	356.0	391.0	461.0	494.0	545.0	595.0
Net power input (1) (5)	(kW)	78.2	85.7	98.1	104.0	114.0	120.9
Net EER/Eurovent class (1) (3)		4.55/C	4.56/C	4.70/B	4.75/B	4.78/B	4.92/B
SEER (4)		5.75	5.83	6.28	6.15	6.53	6.65
Space cooling efficiency ηs,c (4)	(%)	222	225	243	238	253	258
Number of refrigerant circuits				1			
Number of compressors				2			
Sound power level (2)	(dB(A))	96	96	95	93	93	93
Weights and dimensions (operating)							
Length	(mm)	3080	3080	3160	3160	3160	3160
Width	(mm)	1190	1190	1225	1225	1250	1250
Height	(mm)	1935	1935	1935	1935	2035	2080
Weight	(kg)	3176	3176	3271	3307	3622	3796
Clearance A	(mm)			800			
Clearance B	(mm)			2590			
Electrical data							
Maximum amps	(A)	285	310	370	405	444	483
Start-up amps	(A)	358	383	460	492	531	594

RTWF G High Efficiency - R1234ze		220 HE G	240 HE G	280 HE G	300 HE G	320 HE G	360 HE G
Net cooling capacity (1) (3)	(kW)	747.0	802.0	893.0	1010.0	1101.0	1206.0
Net power input (1) (5)	(kW)	153.1	163.7	183.7	200.8	221.5	241.7
Net EER/Eurovent class (1) (3)		4.88/B	4.90/B	4.86/B	5.03/B	4.97/B	4.99/B
SEER (4)		6.15	6.35	6.25	6.48	6.60	6.78
Space cooling efficiency ηs,c (4)	(%)	238	246	242	251	256	263
IPLV (5)		6.624	6.610	6.757	6.842	6.922	6.873
Number of refrigerant circuits				2			
Number of compressors		3	3	3	4	4	4
Sound power level (2)	(dB(A))	96	96	96	97	97	97
Weights and dimensions (operating)							
Length	(mm)	4784	4784	4784	4784	4784	4784
Width	(mm)	1727	1727	1727	1823	1823	1823
Height	(mm)	2032	2032	2032	2135	2135	2135
Weight	(kg)	5517	5610	5804	7007	7129	7353
Clearance A	(mm)			4000			
Clearance B	(mm)			1000			
Electrical data							
Maximum amps	(A)	606	645	723	807	885	963
Start-up amps	(A)	696	759	837	897	999	1077

(1) Evaporator 12/7°C and 0.0 m²K/kW, and condenser at 30/35°C and 0.0 m²K/kW.
(2) At full load and in accordance with ISO9614.
(3) Net performances calculated as per EN 14511-2018.
(4) ηs,c/SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016.
(5) According to AHRI Standard 550/590, based on TOPSS (Trane Official Selection Software).

RTWF G High Seasonal Efficiency - R1234ze		095 HSE G	105 HSE G	125 HSE G	135 HSE G	155 HSE G	165 HSE G	185 HSE G	205 HSE G
Net cooling capacity (1) (3)	(kW)	356	392	461	495	548	598	646	695
Net power input (1) (5)	(kW)	78.4	86.5	99.6	106.9	115.9	126.4	136.3	151.1
Net EER/Eurovent class (1) (3)		4.54	4.53	4.63	4.69	4.73	4.87	4.74	4.6
SEER (4)		5.75	5.625	5.925	5.975	6.025	6.15	6.125	6.075
Space cooling efficiency ηs,c (4)	(%)	222	217	229	231	233	238	237	235
IPLV (5)									
Number of refrigerant circuits						1			
Number of compressors						2			
Sound power level (2)	(dB(A))	96	96	95	93	93	93	95	97
Weights and dimensions (operating)									
Length	(mm)	3080	3080	3160	3160	3160	3160	3160	3160
Width	(mm)	1260	1260	1350	1350	1380	1380	1380	1380
Height	(mm)	1935	1935	1935	1935	2035	2080	2080	2080
Weight	(kg)	3276	3276	3371	3407	3722	3896	4025	4025
Electrical data									
Maximum amps	(A)	580	619	690	781	859	930	960	960
Start-up amps	(A)	670	733	804	871	973	1044	1074	1074

(1) Evaporator 12/7°C and 0.0 m²K/kW, and condenser at 30/35°C and 0.0 m²K/kW.
(2) Net performances calculated as per EN 14511-2013.
(3) ηs,c / SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016.

RTWF G High Seasonal Efficiency - R1234ze		220 HSE G	240 HSE G	280 HSE G	300 HSE G	320 HSE G	360 HSE G	380 HSE G	420 HSE G
Net cooling capacity (1) (3)	(kW)	747	803	898	1010	1101	1211	1308	1417
Net power input (1) (5)	(kW)	154.0	163.9	185.5	201.6	222.0	243.2	272.5	300.8
Net EER/Eurovent class (1) (3)		4.85/B	4.90/B	4.84/B	5.01/B	4.96/B	4.98/B	4.80/B	4.71/B
SEER (4)		6.20	6.20	6.13	6.28	6.40	6.55	6.50	6.43
Space cooling efficiency ηs,c (4)	(%)	240	240	237	243	248	254	252	249
IPLV (5)		6.892	6.364	6.885	6.811	6.807	6.868	7.024	6.916
Number of refrigerant circuits						2			
Number of compressors		3	3	3	4	4	4	4	4
Sound power level (2)	(dB(A))	96	96	96	97	97	97	99	101
Weights and dimensions (operating)									
Length	(mm)	4784	4784	4784	4784	4784	4784	4784	4784
Width	(mm)	1727	1727	1727	1823	1823	1823	1823	1823
Height	(mm)	2032	2032	2032	2135	2135	2135	2135	2135
Weight	(kg)	5731	5824	6018	7221	7343	7567	7567	7653
Clearance A	(mm)					4000			
Clearance B	(mm)					1000			
Electrical data									
Maximum amps	(A)	580	619	690	781	859	930	960	960
Start-up amps	(A)	670	733	804	871	973	1044	1074	1074

* Not available for comfort applications for countries adopting the Ecodesign directive.
(1) Evaporator 12/7°C and 0.0 m²K/kW, and condenser at 30/35°C and 0.0 m²K/kW.
(2) At full load and in accordance with ISO9614.
(3) Net performances calculated as per EN 14511-2018.
(4) ηs,c/SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016.
(5) According to AHRI Standard 550/590, based on TOPSS (Trane Official Selection Software).


TRANE

RTHF

Water-cooled packaged helical-rotary chiller

Customer benefits

- Extended and unmatched capacities
- High efficiencies
- Reliability: Trane helical-rotary compressor and double refrigerant circuit
- State-of-the-art control to guarantee superior dependability and low cost of ownership
- Optional Trane Adaptive Frequency™ Drive (AFD) for part load efficiency enhancement

Range description

- RTHF: R134a chiller
- RTHF G: R1234ze chiller

Main features

- 2 different levels of efficiency (XE – HSE)
- Dual circuit and Dual compressor
- Low-speed, direct-drive semi-hermetic helical rotary compressor, suction-gas-cooled motor
- Trane patented CHIL Evaporator
- Fully modulating load control (15 – 100%)
- Adaptive Control™ microprocessor system enhances chiller by providing the latest chiller control technology
- Variable Primary Flow full compatibility

Options

- Brine applications down to -12°C leaving water
- Ice Making
- Right hand or Left hand connections
- Dual Power Connection

Accessories

- Flow Switch
- Anti-vibration accessories : neoprene isolators

Controls

- Ultimate control: UC800
  - Easy to read 7-inch color touchscreen display
  - Industry leading algorithms
  - Open protocol design
  - Adaptive control
- **Variable Primary Flow control at evaporator and/or condenser**
- Feedforward Adaptive control
- Softloading (HSE)
- Rapid Restart
- SmartCom interface: BACnet® MSTP, BACnet® IP, BACnet® RTU, Modbus® RTU and LonTalk® communication interfaces
- Master/Slave operation
- Energy metering

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

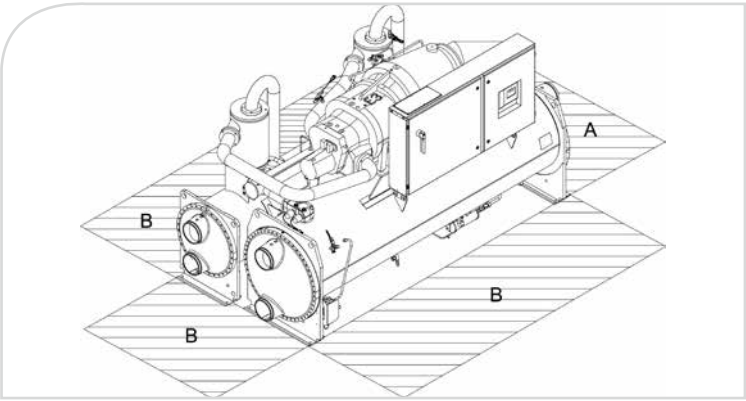
Condenser leaving water temperature (min/max)	(°C)	+10/+50
Evaporator leaving water temperature (min/max)	(°C)	-12/20
Power supply	(V/Ph/Hz)	400/3/50

* up to 50°C with capacity limitation depending on model and size

RTHF Extra Efficiency - R134a		330 XE	360 XE	410 XE	460 XE	500 XE	540 XE
Net cooling capacity (1) (3)	(kW)	1156	1268	1467	1584	1777	1897
Net power input (1) (5)	(kW)	193.6	217.2	251.6	272.6	308.6	328.8
Net EER/Eurovent class (1) (3)		5.97	5.84	5.83	5.81	5.76	5.77
SEER (4)		7.53	7.40	7.35	7.30	7.43	7.53
Space cooling efficiency ηs,c (4)	(%)	293	288	286	284	289	293
Number of refrigerant circuits				2			
Number of compressors				2			
Sound power level (2)	(dB(A))	97	97	98	98	99	99
Weights and dimensions (operating)							
Length	(mm)	4585	4585	4585	4585	4585	4585
Width	(mm)	1840	1840	1840	1840	1840	1840
Height	(mm)	2395	2395	2395	2395	2395	2395
Weight	(kg)	7350	7450	8590	8590	9630	9680
Clearance A	(mm)	3000	3000	3000	3000	3000	3000
Clearance B	(mm)			1000			
Electrical data							
Maximum amps	(A)	466	466	582	582	698	698
Start-up amps	(A)	649	649	765	765	833	833

RTHF Extra Efficiency - R134a		600 XE	650 XE	700 XE	750 XE	800 XE	840 XE
Net cooling capacity (1) (3)	(kW)	2109	2249	2509	2644	2825	3008
Net power input (1) (5)	(kW)	339.6	373.0	408.0	439.2	480.4	521.3
Net EER/Eurovent class (1) (3)		6.21	6.03	6.15	6.02	5.88	5.77
SEER (4)		8.03	7.88	8.00	7.60	7.55	7.35
Space cooling efficiency ηs,c (4)	(%)	313	307	312	296	294	286
Number of refrigerant circuits				2			
Number of compressors				2			
Sound power level (2)	(dB(A))	102	103	103	103	103	103
Weights and dimensions (operating)							
Length	(mm)	5250	5250	5250	5250	5250	5250
Width	(mm)	2090	2090	2090	2090	2090	2090
Height	(mm)	2455	2455	2455	2455	2455	2455
Weight	(kg)	13080	13380	13380	13380	13490	13610
Clearance A	(mm)	3500	3500	3500	3500	3500	3500
Clearance B	(mm)			1000			
Electrical data							
Maximum amps	(A)	804	910	910	910	943	976
Start-up amps	(A)	1097	1203	1203	1203	1236	1236

(1) Evaporator 12/7°C and 0.0 m²K/kW, and condenser at 30/35°C and 0.0m²K/kW.
(2) At full load and in accordance with ISO9614.
(3) Net performances calculated as per EN 14511-2018.
(4) ηs,c/SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016.



RTHF High Seasonal Efficiency - R134a		330 HSE	360 HSE	410 HSE	460 HSE	500 HSE	540 HSE	590 HSE	640 HSE	600 HSE
Net cooling capacity (1) (3)	(kW)	1153	1267	1466	1581	1772	1891	2083	2104	2271
Net power input (1) (5)	(kW)	198.5	221.9	256.3	277.9	313.0	334.6	380.2	345.5	428.4
Net EER/Eurovent class (1) (3)		5.81	5.71	5.72	5.69	5.66	5.65	5.48	6.09	5.30
SEER (4)		8.73	8.73	8.70	8.83	8.88	9.05	8.88	9.63	8.73
Space cooling efficiency ηs,c (4)	(%)	341	341	340	345	347	354	347	377	341
Number of refrigerant circuits						2				
Number of compressors						2				
Sound power level (2)	(dB(A))	97	97	98	98	99	99	102	104	102
Weights and dimensions (operating)										
Length	(mm)	4585	4585	4585	4585	4585	4585	4585	4585	5250
Width	(mm)	1940	1940	1940	1940	1940	1940	1940	1940	2090
Height	(mm)	2395	2395	2395	2395	2395	2395	2395	2395	2455
Weight	(kg)	7520	7620	8820	8820	9920	9970	9960	9960	13440
Clearance A	(mm)	3000	3000	3000	3000	3000	3000	3000	3000	3500
Clearance B	(mm)					1000				
Electrical data										
Maximum amps	(A)	550	550	574	574	698	698	708	772	783
Start-up amps	(A)	11	11	18	18	18	18	18	19	22

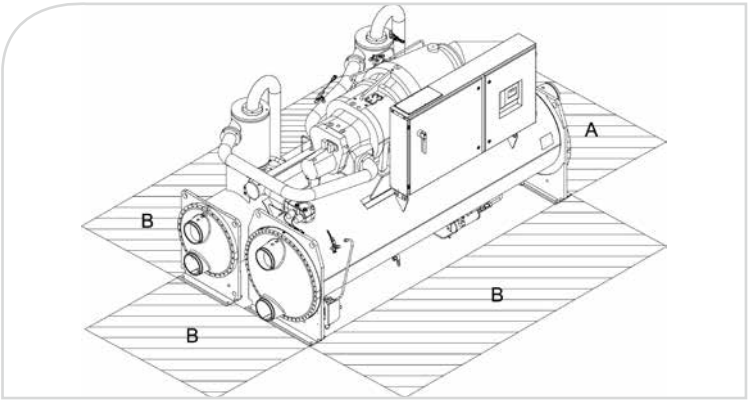
RTHF High Seasonal Efficiency - R134a		650 HSE	700 HSE	750 HSE	800 HSE	840 HSE	850 HSE	900 HSE	950 HSE	K00 HSE
Net cooling capacity (1) (3)	(kW)	2239	2499	2635	2814	2995	2995	3220	3445	3672
Net power input (1) (5)	(kW)	379.5	414.43	445.85	487.69	529.15	531.03	604.13	679.49	758.68
Net EER/Eurovent class (1) (3)		5.90	6.03	5.91	5.77	5.66	5.64	5.33	5.07	4.84
SEER (4)		9.43	9.45	9.35	9.28	9.13	9.10	8.95	8.83	8.68
Space cooling efficiency ηs,c (4)	(%)	369	370	366	363	357	356	350	345	339
Number of refrigerant circuits						2				
Number of compressors						2				
Sound power level (2)	(dB(A))	103	103	103	103	103	103	103	107	109
Weights and dimensions (operating)										
Length	(mm)	5250	5250	5250	5250	5250	5520	5520	5520	5520
Width	(mm)	2090	2090	2090	2090	2090	2280	2280	2280	2280
Height	(mm)	2455	2455	2455	2455	2455	2460	2460	2460	2460
Weight	(kg)	13740	13740	13740	13850	13970	14570	14570	14570	14570
Clearance A	(mm)	3500	3500	3500	3500	3500	3500	3500	3500	3500
Clearance B	(mm)					1000				
Electrical data										
Maximum amps	(A)	868	868	868	901	934	1360	1360	1360	1360
Start-up amps	(A)	22	22	22	23	23	35	35	35	35

(1) Evaporator 12/7°C and 0.0 m²K/kW, and condenser at 30/35°C and 0.0m²K/kW.
(2) At full load and in accordance with ISO9614.
(3) Net performances calculated as per EN 14511-2018.
(4) ηs,c/SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016.
(5) According to AHRI Standard 550/590, based on TOPSS (Trane Official Selection Software).

RTHF G Extra Efficiency - R1234ze		250 XE G	270 XE G	305 XE G	335 XE G	370 XE G	400 XE G
Net cooling capacity (1) (3)	(kW)	853	943	1087	1170	1313	1400
Net power input (1) (5)	(kW)	147.3	163.4	189.4	204.9	231.6	246.9
Net EER/Eurovent class (1) (3)		5.79/A	5.77/A	5.74/A	5.71/A	5.67/A	5.67/A
SEER (4)		7.25	7.13	7.15	7.26	7.06	7.17
Space cooling efficiency ηs,c (4)	(%)	282	277	278	282	274	279
Number of refrigerant circuits				2			
Number of compressors				2			
Sound power level (2)	(dB(A))	97	97	98	98	98	98
Weights and dimensions (operating)							
Length	(mm)	4586	4586	4586	4586	4586	4586
Width	(mm)	1840	1840	1840	1840	1840	1840
Height	(mm)	2395	2395	2395	2395	2395	2395
Weight	(kg)	7508	7560	8745	8745	9679	9679
Clearance A	(mm)	3000	3000	3000	3000	3000	3000
Clearance B	(mm)			1000			
Electrical data							
Maximum amps	(A)	466	466	582	582	698	698
Start-up amps	(A)	645	645	761	761	829	829

RTHF G Extra Efficiency - R1234ze		445 XE G	490 XE G	520 XE G	560 XE G	595 XE G	630 XE G
Net cooling capacity (1) (3)	(kW)	1579	1685	1882	1964	2070	2178
Net power input (1) (5)	(kW)	254.7	279.9	300.2	322.0	350.3	377.5
Net EER/Eurovent class (1) (3)		6.20/A	6.02/A	6.27/A	6.10/A	5.91/A	5.77/A
SEER (4)		7.75	7.23	7.76	7.54	7.54	7.39
Space cooling efficiency ηs,c (4)	(%)	302	281	302	294	294	288
Number of refrigerant circuits				2			
Number of compressors				2			
Sound power level (2)	(dB(A))	102	103	103	103	103	103
Weights and dimensions (operating)							
Length	(mm)	5521	5521	5521	5521	5521	5521
Width	(mm)	2088	2088	2088	2088	2088	2088
Height	(mm)	2457	2457	2457	2457	2457	2457
Weight	(kg)	12881	13356	13356	13356	13456	13566
Clearance A	(mm)	3500	3500	3500	3500	3500	3500
Clearance B	(mm)			1000			
Electrical data							
Maximum amps	(A)	804	910	910	910	943	976
Start-up amps	(A)	1097	1203	1203	1203	1236	1236

(1) Evaporator 12/7°C and 0.0 m²K/kW, and condenser at 30/35°C and 0.0m²K/kW.
(2) At full load and in accordance with ISO9614.
(3) Net performances calculated as per EN 14511-2018.
(4) ηs,c/SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016.
(5) According to AHRI Standard 550/590, based on TOPSS (Trane Official Selection Software).

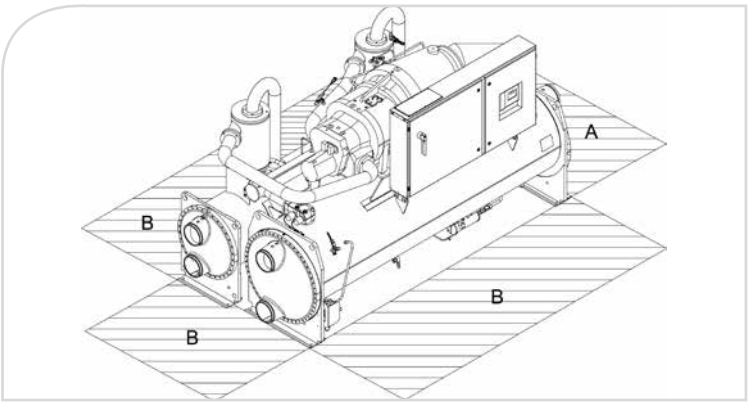


RTHF G High Seasonal Efficiency - R1234ze		270 HSE G	295 HSE G	320 HSE G	355 HSE G	405 HSE G	440 HSE G	480 HSE G
Net cooling capacity (1) (3)	(kW)	928	1016	1104	1212	1396	1523	1657
Net power input (1) (5)	(kW)	167.6	191.1	214.2	248.5	267.4	289.0	324.8
Net EER/Eurovent class (1) (3)		5.54/A	5.32/A	5.15/A	4.88/B	5.21/A	5.27/A	5.10/A
SEER (4)		7.39	7.36	7.29	7.23	7.99	8.08	7.98
Space cooling efficiency ηs,c (4)	(%)	288	286	284	281	312	315	311
Number of refrigerant circuits					2			
Number of compressors					2			
Sound power level (2)	(dB(A))	97	100	102	105	102	100	102
Weights and dimensions (operating)								
Length	(mm)	4586	4586	4586	4586	4586	4586	4586
Width	(mm)	1940	1940	1940	1940	1940	1940	1940
Height	(mm)	2395	2395	2395	2395	2395	2395	2395
Weight	(kg)	7730	7720	7720	7720	8960	9959	9959
Clearance A	(mm)	3000	3000	3000	3000	3000	3000	3000
Clearance B	(mm)				1000			
Electrical data								
Maximum amps	(A)	394	540	540	540	647	737	754
Start-up amps	(A)	394	540	540	540	647	737	754

(1) Evaporator 12/7°C and 0.0 m²K/kW, and condenser at 30/35°C and 0.0m²K/kW.
(2) At full load and in accordance with ISO9614.
(3) Net performances calculated as per EN 14511-2018.
(4) ηs,c / SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016.

RTHF G High Seasonal Efficiency - R1234ze		535 HSE G	560 HSE G	595 HSE G	630 HSE G	680 HSE G	720 HSE G	780 HSE G
Net cooling capacity (1) (3)	(kW)	1810	1964	2109	2254	2414	2587	2758
Net power input (1) (5)	(kW)	379.4	316.1	347.6	380.1	430.9	482.3	535.0
Net EER/Eurovent class (1) (3)		4.77/B	6.12/A	5.97/A	5.82/A	5.48/A	5.23/A	5.01/B
SEER (4)		7.87	8.15	8.11	8.08	8.26	8.11	8.02
Space cooling efficiency ηs,c (4)	(%)	307	318	316	315	322	316	313
Number of refrigerant circuits					2			
Number of compressors					2			
Sound power level (2)	(dB(A))	106	103	103	103	106	107	109
Weights and dimensions (operating)								
Length	(mm)	4586	5521	5521	5521	5521	5521	5521
Width	(mm)	1940	2088	2088	2088	2088	2088	2088
Height	(mm)	2395	2457	2457	2457	2457	2457	2457
Weight	(kg)	9959	13676	13816	13926	13926	13926	13926
Clearance A	(mm)	3000	3500	3500	3500	3500	3500	3500
Clearance B	(mm)				1000			
Electrical data								
Maximum amps	(A)	754	827	852	877	1086	1086	1086
Start-up amps	(A)	754	827	852	877	1086	1086	1086

(1) Evaporator 12/7°C and 0.0 m²K/kW, and condenser at 30/35°C and 0.0m²K/kW.
(2) At full load and in accordance with ISO9614.
(3) Net performances calculated as per EN 14511-2018.
(4) ηs,c / SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016.



GVWF

Water-cooled chiller with high speed centrifugal compressor

Customer benefits

- Market-leading Energy Efficiency Ratio (EER) and European Seasonal Energy Efficiency Ratio (SEER) with lower sound levels
- R1234ze which has a GWP value of less than one to exceed current F-Gas legislation requirements and help customers reduce their carbon dioxide (CO_2) emissions
- Silent operation: discreet, even in the most sound sensitive applications without any drop on capacity or efficiency
- Significant reduced high in-rush current at start up
- No compromise: You can count on Trane's legendary reliability
- Reduced refrigerant charge
- Easy operation thanks to smart controls and a user-friendly touchscreen interface

Range description

- GVWF: R134a/R513A chiller
- GVWF G: R1234ze chiller

Main features

- High speed oil-free centrifugal compressor using Magnetic bearings with integrated variable frequency drive and soft starter module
- Trane patented flooded evaporator
- Double refrigerant circuit
- Economizer circuit
- EMC filter to avoid harmonic transfer to compressor

Options

- Right hand or Left hand connections
- Dual Power Connection

Accessories

- Flow Switch
- Anti-vibration accessories: neoprene isolators

Controls

- Ultimate control: UC800
  - Easy to read 7-inch color touchscreen display
  - Industry leading algorithms
  - Open protocol design
  - Adaptive control
- Variable Primary Flow control at evaporator and/or condenser
- Rapid Restart
- SmartCom interface: BACnet® MSTP, BACnet® IP, BACnet® RTU, Modbus® RTU and LonTalk® communication interfaces
- Master/Slave operation
- Energy metering

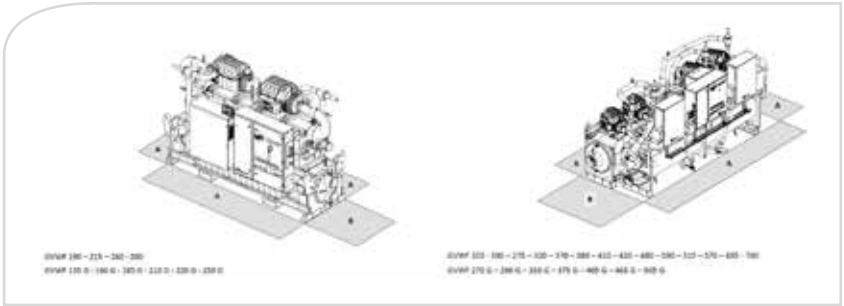
This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

Condenser leaving water temperature (min./max.)	Low Lift units	(°C)	+20/+42
	High Lift units	(°C)	+20/+55
Evaporator leaving water temperature range (min./max.)		(°C)	+5/+20
Power supply		(V/Ph/Hz)	400/3/50

GVWF - R134a		**190**	**215**	**260**	**300**	**325**	**390**	**275**	**320**	**370**
Compressor Lift		High	High	High	Low	Low	Low	High	High	Low
Maximum Capacity (1)	(kW)	684	828	972	1076	1230	1425	1031	1167	1424
Performances at optimum SEER										
Net cooling capacity (1) (3)	(kW)	546	620	776	824	855	875	1087	1280	1113
Net power input (1) (5)	(kW)	104.2	115.0	144.2	148.7	157.2	157.1	192.4	227.0	197.3
Net EER/Eurovent class (1) (3)		5.24/A	5.39/A	5.38/A	5.54/A	5.44/A	5.57/A	5.65/A	5.64/A	5.64/A
SEER (4)		8.30	8.40	8.28	9.23	8.58	9.05	9.30	9.48	9.43
Space cooling efficiency ηs,c (4)	(%)	324	328	323	361	335	354	364	371	369
Number of refrigerant circuits						2				
Number of compressors		2	2	2	2	2	2	3	3	3
Sound power level (2)	(dB(A))	87	88	89	92	96	99	88	90	95
Weights and dimensions (operating)										
Length	(mm)	2976	2976	2976	3476	4730	4804	4730	4730	4804
Width	(mm)	1125	1125	1125	1125	1700	1800	1700	1700	1800
Height	(mm)	1920	1920	1920	1920	2032	2135	2032	2032	2135
Weight	(kg)	2310	2810	3020	3370	4094	4954	4110	4102	5177
Clearance A	(mm)	800	800	800	800	1000	1000	1000	1000	1000
Clearance B	(mm)	1780	1780	1780	2290	3000	3000	3000	3000	3000
Electrical data										
Maximum amps	(A)	291	377	463	375	400	423	438	524	503

GVWF - R134a		**380**	**410**	**420**	**480**	**590**	**515**	**570**	**695**	**760**
Compressor Lift		High	Low	Low	Low	Low	High	Low	Low	Low
Maximum Capacity (1)	(kW)	1439	1697	1582	1776	2069	1924	2123	2432	2656
Performances at optimum SEER										
Net cooling capacity (1) (3)	(kW)	1425	1271	1106	1347	1538	2122	1861	1943	1863
Net power input (1) (5)	(kW)	250.0	215.4	195.8	238.8	273.2	419.4	317.6	331.6	330.9
Net EER/Eurovent class (1) (3)		5.70/A	5.90/A	5.65/A	5.64/A	5.63/A	5.06/A	5.86/A	5.86/A	5.63/A
SEER (4)		9.50	9.63	9.43	9.48	9.28	9.15	9.95	9.78	9.90
Space cooling efficiency ηs,c (4)	(%)	372	377	369	371	363	358	390	383	388
Number of refrigerant circuits						2				
Number of compressors		3	3	3	3	3	4	4	4	4
Sound power level (2)	(dB(A))	91	96	93	96	100	92	96	99	101
Weights and dimensions (operating)										
Length	(mm)	4730	4804	4730	4804	5245	4804	4804	5444	5444
Width	(mm)	1700	1800	1700	1800	2141	1800	1800	2141	2141
Height	(mm)	2032	2135	2032	2135	2315	2135	2135	2315	2315
Weight	(kg)	4317	5177	4317	5177	8076	5401	5574	8263	8323
Clearance A	(mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000
Clearance B	(mm)	3000	3000	3000	3000	3500	3000	3000	3500	3500
Electrical data										
Maximum amps	(A)	696	675	564	587	632	927	751	796	843

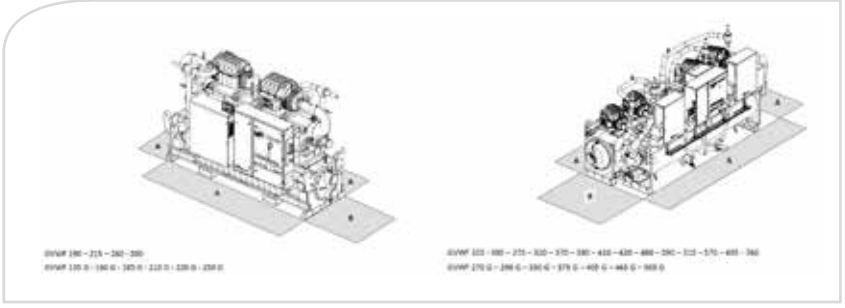
(1) Evaporator 12/7°C and 0.0 m²K/kW, and condenser at 30/35°C and 0.0 m²K/kW.
(2) At full load and in accordance with ISO9614.
(3) Net performances calculated as per EN 14511-2018.
(4) ηs,c/SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016.



GVWF G - R1234ze		135 G	160 G	185 G	210 G	220 G	250 G	270 G
Compressor Lift		High	High	High	Low	Low	Low	High
Maximum Capacity (1)	(kW)	497	589	682	733	787	850	1023
Performances at optimum SEER								
Net cooling capacity (1) (3)	(kW)	397	530	613	733	786	847	716
Net power input (1) (5)	(kW)	73.7	105.0	118.8	147.5	154.4	161.3	121.0
Net EER/Eurovent class (1) (3)		5.39/A	5.05/A	5.16/A	4.97/A	5.09/A	5.25/A	5.92/A
SEER (4)		8.05	7.95	7.98	7.75	7.80	7.63	9.48
Space cooling efficiency ηs,c (4)	(%)	314	310	311	302	304	297	371
Number of refrigerant circuits					2			
Number of compressors		2	2	2	2	2	2	3
Sound power level (2)	(dB(A))	86	88	89	92	96	98	90
Weights and dimensions (operating)								
Length	(mm)	2976	2976	2976	2976	2976	3476	4730
Width	(mm)	1125	1125	1125	1125	1125	1125	1700
Height	(mm)	1920	1920	1920	1920	1920	1920	2032
Weight	(kg)	2130	2280	2420	2740	3000	3380	4025
Clearance A	(mm)	800	800	800	800	800	800	1000
Clearance B	(mm)	1780	1780	1780	1780	1780	2290	3000
Electrical data								
Maximum amps	(A)	213	272	331	275	296	317	498

GVWF G - R1234ze		290 G	350 G	375 G	405 G	465 G	505 G
Compressor Lift		Low	Low	High	Low	Low	Low
Maximum Capacity (1)	(kW)	1107	1221	1365	1477	1676	1818
Performances at optimum SEER							
Net cooling capacity (1) (3)	(kW)	885	1120	1016	1477	1352	1668
Net power input (1) (5)	(kW)	155.8	210.1	169.6	276.6	249.5	282.7
Net EER/Eurovent class (1) (3)		5.68/A	5.33/A	5.99/A	5.34/A	5.42/A	5.90/A
SEER (4)		9.18	9.23	9.48	9.18	9.43	9.73
Space cooling efficiency ηs,c (4)	(%)	359	361	371	359	369	381
Number of refrigerant circuits					2		
Number of compressors		3	3	4	4	4	4
Sound power level (2)	(dB(A))	93	99	91	95	100	101
Weights and dimensions (operating)							
Length	(mm)	4730	4730	4804	4804	4804	5444
Width	(mm)	1700	1700	1800	1800	1800	2141
Height	(mm)	2032	2032	2135	2135	2135	2315
Weight	(kg)	4085	4304	5002	5128	5556	8239
Clearance A	(mm)	1000	1000	1000	1000	1000	1000
Clearance B	(mm)	3000	3000	3000	3000	3000	3500
Electrical data							
Maximum amps	(A)	414	477	663	551	635	634

(1) Evaporator 12/7°C and 0.0 m²K/kW, and condenser at 30/35°C and 0.0 m²K/kW.
(2) At full load and in accordance with ISO9614.
(3) Net performances calculated as per EN 14511-2018.
(4) ηs,c/SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016.
(5) According to AHRI Standard 550/590, based on TOPSS (Trane Official Selection Software).




TRANE

CVHH - CDHH

Water-cooled centrifugal packaged chillers
Series E™ CenTraVac™ chiller

Customer benefits

- Reliability
- Efficiency
- Low emissions

Range description

- CVHH = three-stage (50 Hz) or two-stage (60 Hz) single compressor
  - 4500 to 7000 kW – 50 Hz
  - 3000 to 7000 kW – 60 Hz
- CDHH = three-stage (50 Hz) or two-stage (60 Hz) dual compressor
  - 9500 to 14000 kW – 50 Hz
  - 6300 to 14000 kW – 60 Hz

Main features

- Next generation, low GWP refrigerant R1233zd(E)
- Direct drive multistage compressors
- Semi-hermetic compressor design
- Economizer
- Rapid restart after power failure

Options

As with all CenTraVac™ chillers, selection options result in a unit built to your specifications. From energy saving options to the enhanced electrical package to a variety of low and medium voltage options, your Trane chiller is customized for you.

- Low voltage (<600V) options include unit and remote-mounted wye delta or solid state starters, or a unit-mounted Adaptive Frequency™ drive.
- Medium voltage (3.3-6.6kV or 10-11kV) options include unit and remote-mounted across-the-line, primary reactor or auto transformer starters, or a remote-mounted Adaptive Frequency™ Drive.

Energy-saving options include:

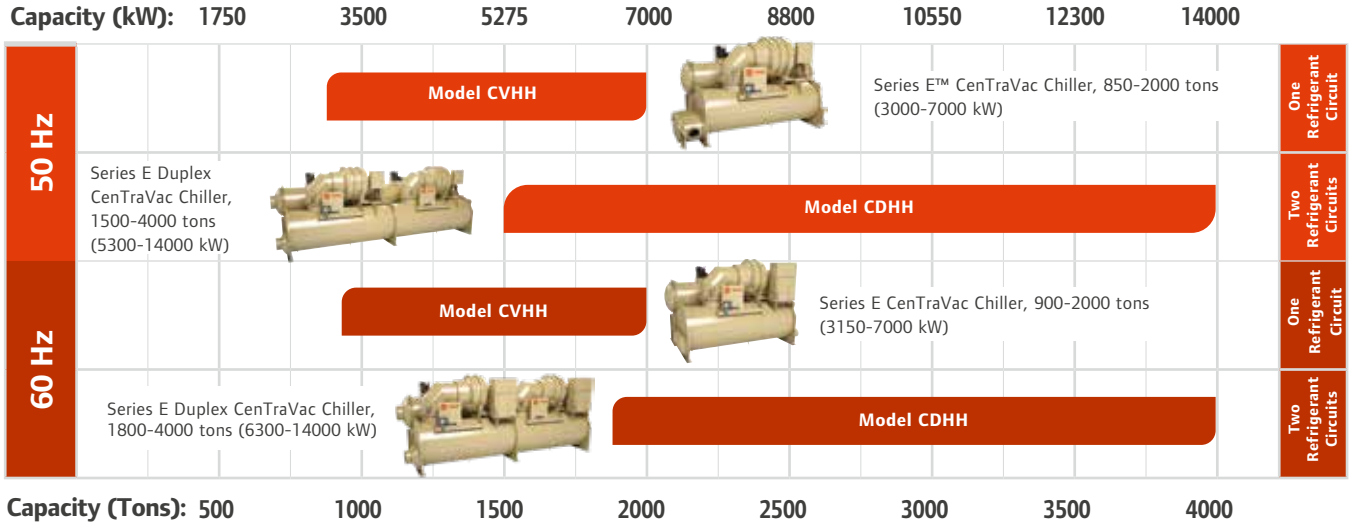
- Heat pump capabilities up to 60°C leaving condenser water
- Full heat recovery (full heat recovery double bundle heat exchanger)
- Auxiliary condenser (partial heat recovery)
- Thermal storage (down to -7.8°C)
- Free cooling

Controls

- Tracer AdaptiView™ Controls
  - Providing the intelligence behind CenTraVac Chillers, Trane Adaptive Control™ strategies respond to a variety of conditions to maintain efficient chiller plant operation for all applications, with patented control algorithms that maximize performance in variable primary flow systems.
  - The open protocol design works with any building automation system without the need for gateways (BACnet®, Modbus RTU and LonTalk®)

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

Trane Centrifugal Chiller Product Portfolio



Heat Rejection Systems

Trane customized solutions

To complete your chiller system, Trane proposes different types of heat rejection solutions. You clearly benefit – from the design phase to installation of your system – when you partner with a single-source supplier.

Air-cooled condensers

- Horizontal or V-type design
- To operate with Trane model CCUN or RTUD condenserless chillers, either with R407C, R410A or R134a depending on the type
- Available with various fan-speed combinations to meet the most severe acoustical requirements
- Including different levels of unit mounted control options to optimize the performances of the entire system

Dry coolers

- Horizontal or V-type design
- To operate with all Trane water-cooled chillers
- Available with various fan-speed combinations to meet the most severe acoustical requirements
- Including different levels of unit mounted control options to optimize the performances of the entire system

Cooling towers

- Open or closed type
- With axial or centrifugal fans
- To operate with all Trane water-cooled chillers
- Available with different levels of acoustic packages to meet the most severe acoustical environments

Contact your local Trane Sales Office to support you in the selection of the most appropriate solution for your application.

HEAT PUMPS

In response to the growing demand for energy saving systems, and to reassert our position as a key heating systems provider through the use of the most energy efficient technology available and the continuous design of sustainable solutions, Trane is proud to offer a full range of air-to-water and water-to-water heat pumps.

Picco

Air-to-water scroll heat pump with inverter

Customer benefits

- Designed for light commercial applications
- Seamless operation with radiant and fan coil systems using network or renewable sourced power supply
- Can provide hot water for winter heating, sanitary hot water at 58°C (up to 65°C with auxiliary electric heater) and chilled water for summer cooling
- The DC inverter compressors allow saving up to 25% in power consumption. The inverter compressors optimized for heat pump operation under heavy conditions with a steam injection system to provide a high level of comfort with low energy consumption even in the winter season (down to -25°C ambient air temperature)

Main features

- Twin rotary DC inverter compressors
- DC inverter driven axial fans
- Heat exchanger: Brazed stainless steel plate to AISI 316
- Condenser coil with hydrophilic aluminium fins and copper piping
- Copper piped refrigerant circuit with condensing control, EEV, reverse valve, high/low pressure switch, liquid separator and receiver, maintenance and control valves, double inlet pressure, high and low pressure transducers
- Overheat protection and electronic expansion valve (EEV)
- Integral hydraulic system with high efficiency brushless pump, expansion tank, flow switch, air valve, pressure relief valve, pressure gauge and water valve for charging/discharging the system
- Conto termico 2.0 eligible. Class A in cooling and heating. Available for all regional subsidy programs

Options

- Low temperature version
- Integrated defrosting kit
- Buffer tanks: 50/75/95 l

Accessories

- Protection module
- DC fan
- EC brushless circulator
- Predisposition for external pump
- Auto-adaptive circulator
- AC inverter pump
- Plant management module
- Low noise and Super low noise versions
- Serial Communication Module for Modbus Supervisor
- Anti-corrosion fin guard treatment
- Sequence control device, phase failure, min and max voltage relay
- Remote fancoil control (hi-T control required)
- Remote wall controller
- Rubber shock absorbers
- Sanitary water probe
- Metallic guards for condenser

Control

- Customized microprocessor control system
- Multifunction touch screen remote controller

		Cooling	Heating
Operating outdoor air temperature range (min./max.)	(°C)	-20/46	
Leaving water temperature range (min./max.)	(°C)	6/58	
Power supply	(V/Ph/Hz)	230/1/50*	

* 400/3/50 for sizes 14T and 16T

		06	08	10	12	14	14T	16	16T
(1) Cooling capacity (50 Hz)*	(kW)	6.87	8.52	10	11.9	13.8	13.8	15.69	15.69
(1) Power input	(kW)	1.69	2.18	2.26	2.65	2.93	2.93	3.20	3.20
(1) EER		4.06	3.91	4.43	4.49	4.72	4.72	4.90	4.90
(2) Cooling capacity at nominal compressor capacity (50 Hz)*	(kW)	5.07	6.12	7.56	8.49	11.46	11.46	14.64	14.64
(2) Power input	(kW)	1.74	2.11	2.43	2.74	3.7	3.7	4.52	4.52
(2) EER		2.91	2.9	3.11	3.1	3.1	3.1	3.24	3.24
(5) SEER		3.59	3.61	4.63	4.73	4.51	4.51	4.77	4.77
(3) Heating capacity (50 Hz)*	(kW)	6.57	8.01	10	12.1	13.76	13.76	15.21	15.21
(3) Power input	(kW)	1.47	1.85	2.26	2.89	3.2	3.2	3.45	3.45
(3) COP		4.47	4.33	4.43	4.19	4.3	4.3	4.41	4.41
(4) Heating capacity at nominal compressor capacity (50 Hz)*	(kW)	6.15	7.92	9.51	11.3	13.55	13.55	15.17	15.17
(4) Power input	(kW)	1.83	2.4	2.74	3.32	4.04	4.04	4.38	4.38
(4) EER		3.36	3.31	3.47	3.41	3.35	3.35	3.46	3.46
(6) SCOP		3.84	3.83	4.24	4.31	4.01	4.01	4.07	4.07
Sound power (7)	(dB(A))	62.0	62.5	63	63.5	65.5	65.5	66.0	66.0
Width	(mm)	925	925	1047	1047	1060	1060	1060	1060
Depth	(mm)	380	380	465	465	455	455	455	455
Height	(mm)	785	785	913	913	1405	1405	1405	1405
Shipping weight	(kg)	63.4	63.4	95.5	95.5	115.5	115.5	126.3	126.3

* Min./max. compressor speed varies per unit model. For performance data at ≈30 Hz or ≈58 Hz, contact your local sales office.
(1) Cooling: ambient air temperature 35°C, in/out temperature water 23/18°C.
(2) Cooling: outdoor air temperature 35°C; inlet/outlet water temperature 12/7°C.
(3) Heating: ambient air temperature 7°C dry bulb 6°C wet bulb water temp in/out 30/35°C.
(4) Heating: outdoor air temperature 7°C DB 6°C WB; inlet/outlet temperature 40/45°C.
(5) Cooling: temperature in/out water 23/18°C.
(6) Heating: average climatic conditions: Tbiv = -7°C, Water Temp in/out 30/35°C.
(7) Sound power, heating mode condition (3); value determined on the basis of measurements taken in accordance with the UNI EN ISO 9614.2, in compliance with the requirements of the Eurovent certification.

		Cooling	Heating
Operating outdoor air temperature range (min./max.)	(°C)	-20/46	
Leaving water temperature range (min./max.)	(°C)	6/58	
Power supply	(V/Ph/Hz)	400/3/50	

		0125	0135	0250F	0250	0260	0270	LT 0125	LT 0235	LT 0250
(1) Cooling capacity (50 Hz)*	(kW)	30.65	36.37	49.32	49.32	57.14	70.76	30.67	36.37	47.56
(1) Power input	(kW)	6.82	8.91	12.71	12.52	13.97	18.18	7.34	8.91	12.52
(1) EER		4.46	4.08	3.90	3.90	4.09	3.76	4.18	4.08	3.80
(2) Cooling capacity (50 Hz)*	(kW)	21.15	27.04	36.36	36.36	42.97	53.4	22.5	26.9	37.6
(2) Power input	(kW)	6.46	9.10	11.96	12.90	13.77	17.6	7.26	9.10	12.83
(2) EER		3.26	2.96	3.08	2.80	3.12	2.83	3.10	2.96	2.93
(2) SEER		4.06	4.50	4.32	3.66	4.41	3.97	3.93	4.04	3.91
(3) Heating capacity (50 Hz)*	(kW)	24.57	32.65	48.25	48.25	52.04	65.2	25.8	32.5	49.26
(3) Power input	(kW)	5.62	8.02	11.77	11.87	12.59	16.07	6.17	7.98	12.93
(3) COP		4.40	4.07	4.14	4.10	4.13	3.78	4.18	4.07	3.81
(4) Heating capacity (50 Hz)*	(kW)	22.05	32.33	41.07	41.07	49.33	60.45	4.18	4.07	3.81
(4) Power input	(kW)	6.44	9.92	14.7	12.40	15.12	19.56	7.27	9.97	14.4
(4) COP		3.44	3.26	3.22	3.34	3.26	3.08	3.53	3.26	3.28
(3) SCOP		3.83	3.95	3.99	3.82	3.82	3.84	4.02	4.03	3.82
Width	(mm)	1198	1198	1198	1198	1198	1198	1198	1198	1198
Depth	(mm)	1198	1198	1198	1198	1198	1198	1198	1198	1198
Height	(mm)	1673	1673	1741	1741	1741	1741	1673	1673	1741
Height - extra low noise version	(mm)	1906	1906	1906	1906	1906	1906	1906	1906	1906
Shipping weight - extra low noise version	(kg)	355	382	428	428	454	460	355	412	428

* For performance data at ≈58 Hz, contact your local sales office.
(1) Cooling: ambient air temperature 35°C, inlet/outlet temperature water 23/18°C.
(2) Cooling: ambient air temperature 35°C, inlet/outlet temperature water 12/7°C.
(3) Heating: ambient air temperature 7°C dry bulb 6°C wet bulb, Water Temp inlet/outlet 30/35°C.
(4) Heating: ambient air temperature 7°C dry bulb 6°C wet bulb, Water Temp inlet/outlet 40/45°C.

CXB

Air-to-water scroll heat pump

Customer benefits

- Unique self-adaptive defrosting system
- Dynamic Logic Control manages the differential of the inlet water temperature on the basis of the speed of its variation, ensuring fewer compressor starts and energy savings
- Dynamic Set Point function allows changing the setpoint simultaneously to always achieve the best comfort conditions and maximum energy savings

Main features

- High performance variable volume scroll compressors
- Airside heat exchanger with seamless copper tubes and aluminium fins
- Waterside heat exchanger steel brazed plate fitted with differential pressure switch and antifreeze protection electric heater
- Low ambient condensing pressure control with variable fan speed modulation
- Electrical panel with main switch
- Casing and panels in galvanized and painted steel

Options

- Low ambient temperature kit (down to -15°C) in heating mode
- Low ambient temperature kit (down to -10°C) in cooling mode.
- Low water temperature kit (down to -6°C)
- Hydraulic module with water pump with or without water tank
- Compressors sound attenuating jackets (low noise version)
- Soft starter
- Control panel electric heater with thermostat
- Over/under voltage + phase failure protection relay
- Special treatments on condenser coils
- Oversized water pump for operation with glycol > 25%
- Automatic circuit breakers
- Anti-freeze protection kit

Accessories

- Remote control panel
- Communication card RS485
- Serial card with BACnet Protocol MS/TP or TCP/IP
- Flow switch
- Automatic water filling
- Rubber anti-vibration mounts
- Victaulic kit
- 3-way valve for hot sanitary water production

Control

- Microprocessor-based controller to manage unit on/off mode, operating mode setting, parameters setting, and error code display

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

Sizes 017 - 050

		Cooling	Heating
Operating outdoor air temperature range (min./max.)	(°C)	5 (-10)/43	-5 (-15)/20
Leaving water temperature range (min./max.)	(°C)	-7/18	28/55
Power supply	(V/Ph/Hz)	400/3+n/50	

Sizes 055 - 090

		Cooling	Heating
Operating outdoor air temperature range (min./max.) (1)	(°C)	5 (-10)/+46	-5 (-15)/25
Leaving water temperature range (min./max.)	(°C)	-7/18	28/55

Values within parentheses require options

CXB		017	020	025	028	033	036	039	045	050	055	065	080	090
Cooling according to EN 14511 (1)														
Total cooling capacity	(kW)	15.1	17.0	22.0	25.2	28.5	31.1	33.3	40.4	45.0	50.1	57.8	71.2	78.4
Total power input	(kW)	5.8	6.9	8.4	9.9	11.9	14.0	15.5	16.6	19.7	17.8	21.8	25.0	28.5
Total EER		2.60	2.47	2.62	2.55	2.39	2.22	2.15	2.44	2.29	2.82	2.65	2.84	2.75
Heating according to EN 14511 (2)														
Total heating capacity	(kW)	17.4	20.1	26.5	31.0	35.7	39.6	42.5	48.6	54.4	57.1	66.5	79.0	87.4
Total power input	(kW)	5.4	6.1	8.0	9.1	10.5	12.0	12.9	15.0	17.0	17.4	21.2	24.9	28.0
Total COP		3.23	3.29	3.32	3.40	3.40	3.30	3.30	3.24	3.20	3.27	3.13	3.17	3.13
Seasonal efficiency, according EN 14825 (2)														
P rated	(kW)	15.0	18.0	23.0	27.0	31.0	35.0	37.0	39.8	44.7	48.6	53.5	67.7	69.6
ηs heating	(%)	146	146	145	143	148	149	148	154	149	132	137	127	130
SCOP		3.73	3.73	3.70	3.65	3.78	3.80	3.78	3.93	3.80	3.38	3.49	3.24	3.33
Eurovent class		A+	A+	A+	A+	A+	A+	A+	A++	A+	A+	A+	A+	A+
Compressors														
Number of compressors		2	2	2	2	2	2	2	2	2	2	2	2	2
Number of refrigerant circuits		1	1	1	1	1	1	1	1	1	1	1	1	1
Minimum capacity step	(%)	50	50	50	50	50	50	50	45	38	38	50	44	50
Refrigerant charge (3)	(kg)	13.0	13	13	15	15	15	15	17	17	31.5	31.5	31.5	31.5
Sound level (4)														
Sound pressure level at 10 m	(db(A))	42	42	45	44	45	46	46	47	47	49	50	52	53
Sound pressure level at 10 m (low noise version)	(db(A))	-	-	-	42	42	42	42	44	45	48	49	51	51
Dimensions and weights (operating)														
Length (A)	(mm)	1807	1807	1807	2061	2061	2061	2061	2061	2061	2524	2524	2524	2524
Width (B)	(mm)	779	779	779	779	779	779	779	779	779	1038	1038	1038	1038
Height (C)	(mm)	1687	1687	1687	1687	1687	1687	1687	1687	1687	1995	1995	1995	1995
Weight	(kg)	328	331	365	385	396	396	398	580	590	726	737	809	815
Weight (low noise version)	(kg)	-	-	-	392	403	403	405	591	601	742	753	825	831

(1) Cooling: outdoor air temperature 35°C and chilled water temperature 12°C/7°C. Heating: outdoor air temperature 7°C/90% RH and hot water 40/45°C.
(2) Ecodesign rating at low temperature heating conditions. Outdoor temperature: 7°C dry bulb/6°C wet bulb and hot water temperature in/out: 30°C/35°C. ηs,h / SCOP as defined in Ecodesign requirements for Space heaters with Prated < 400kW - REGULATION (EU) N° 813/2013 of 2 August 2013.
(3) Refrigerant charge values are not binding, please check the effective quantity of refrigerant shown on unit nameplate.
(4) Sound data based on units without optional hydraulic module.

CXB HT (High Temperature)

Air-to-water scroll heat pump

Customer benefits

- Optimized for medium/high temperature heating applications at low ambient air temperatures: Up to 65°C leaving water temperature at -10°C outdoor air
- Exceptionally wide heating operating map
- Unique self-adaptive defrosting system
- Dynamic Logic Control manages the differential of the inlet water temperature on the basis of the speed of its variation, ensuring fewer compressor starts and energy savings
- Dynamic Set Point function allows changing the setpoint simultaneously to always achieve the best comfort conditions and maximum energy savings

Main features

- Scroll compressor with innovative vapor injection system, optimized for high temperature heating
- Inverter driven axial fans
- Airside heat exchanger with seamless copper tubes and aluminium fins
- Waterside heat exchanger steel brazed plate fitted with differential pressure switch and antifreeze protection electric heater
- Electronic expansion valve
- Fully compliant with many local government subsidy programs (i.e. Conto Termico...)
- Low ambient condensing pressure control with variable fan speed modulation
- Electrical panel with main switch
- Casing and panels in galvanized and painted steel

Options

- Low ambient temperature kit for heating operation with air temperatures between -10°C and -20°C
- Oversized water pump for operation with >25% glycol
- Automatic circuit breakers
- Hydraulic module with on/off or inverter driven water pump, and with or without water tank
- Soft starter
- Control panel electric heater with thermostat
- Over/under voltage + phase failure protection relay
- Electrical power supply without neutral
- Serial card with BACnet Protocol MS/TP or TCP/IP
- Auxiliary electric heater for water tank
- Special treatments on condenser coils
- Anti-freeze protection kit

Accessories

- Remote control panel
- Flow switch
- Automatic water filling
- Victaulic kit
- Rubber anti-vibration mounts
- 3 way valve for hot sanitary water production

Controls

- Microprocessor-based iPRO IPS 400D controller to manage unit on/off mode, operating mode settings
- Communication card RS485

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

		Cooling	Heating
Operating outdoor air temperature range (min./max.) (1)	(°C)	-10/48	-10 (-20*)/42
Leaving water temperature range (min./max.)	(°C)	4/18	30/65
Power supply	(V/Ph/Hz)	400/3+n/50	

CXB HT		023	029	038
Total cooling capacity (2)	(kW)	18.5	23.7	31.9
Total power input (2)	(kW)	7.1	9.3	13.2
Total EER (2)		2.61	2.55	2.41
Water flow	(m³/h)	3.18	4.08	5.49
Water pressure drop	kPa	5.7	8.5	15.7
Total heating capacity (2)	(kW)	22.5	29.2	37.7
Total power input (2)	(kW)	6.8	8.5	11.6
Total COP (2)		3.31	3.44	3.25
Water flow	(m³/h)	3.87	5.02	6.48
Water pressure drop	(kPa)	8.47	12.9	22.0
Seasonal efficiency in heating according to EN 14825 (3)				
P rated	(kW)	17.9	23.1	30.0
ηs heating	(%)	115	120	115
SCOP		2.96	3.06	2.95
Eurovent class		A+	A+	A+
Number of compressors		2	2	2
Number of refrigerant circuits		1	1	1
Type of control / part load steps			Step control / 2 steps	
Minimum capacity step	(%)	50	50	50
Refrigerant charge (4)	(kg)	11	20	19
Sound pressure level at 10 m (5)	(dB(A))	46	46	46
Dimensions and weights (operating)				
Length	(mm)	1807	2061	2061
Depth	(mm)	780	780	780
Height	(mm)	1687	1687	1687
Weight	(kg)	386	454	468

(1) In parentheses: With low ambient temperature option.
(2) Cooling: outdoor air temperature 35°C and chilled water temperature 12/7°C. Heating: outdoor air temperature 7°C/90% RH and hot water 40/45°C, according to EN 14511: 2018 or EN 14825: 2018.
(3) Ecodesign rating at low temperature heating conditions. Outdoor air temperature: 7°C dry bulb/6°C wet bulb and hot water temperature in/out: 30°C/35°C. ηs,h / SCOP as defined in Ecodesign requirements for Space heaters and combination heaters with Prated < 400kW - EU Regulation N° 813/2013 of 2 August 2013.
(4) Refrigerant charge values are not binding, the effective quantity of R410A refrigerant is provided on the unit nameplate.
(5) Sound data based on units without hydraulic module.

Flex II

Air-to-water modular scroll heat pump

Customer benefits

- Ultimate flexibility: up to 6 units can be combined into one system in order to reach the required capacity

Main features

- High performance variable volume scroll compressors
- Electronic expansion valve
- Airside heat exchanger high efficiency finned coils with seamless copper tubes expanded into corrugated aluminum
- Waterside plate heat exchanger with differential pressure switch and antifreeze protection electric heater
- Condensing and evaporating pressure control with variable fans speed modulation
- Casing and panels in painted galvanized steel

Options

- Partial heat recovery
- Low noise or super low noise versions
- Hydraulic connection kits
- Power factor correction
- Low ambient temperature kit in cooling mode (down to -10°C)
- Low ambient temperature kit in heat pump mode (down to -15°C)
- High static pressure EC fans, up to 100 Pa

Accessories

- Remote display
- Sea container kit
- Signal amplification card
- Flow switch
- Automatic water filling
- Water strainer
- Water gauges
- Rubber or spring anti-vibration mounts

Controls

- Microprocessor-based controller to manage unit on/off mode, operating mode setting, parameters setting, and error code display
- Modbus communication card RS485

FlexMaster controller (optional)

- Connect up to 6 Flex of equal or different capacities to one single master controller
- Easy connection and specifically designed for modular capacity expansion of the chiller and/or heat pump plant
- Controls the main functions, operating modes of the units, and hydraulic kit of external water pumps or water pumps integrated in each unit
- Allows for continuous operation: in case of maintenance on one Flex unit, all other units keep on running

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

		Cooling	Heating
Operating outdoor air temperature range (min./max)	(°C)	5 (-10)/46	-10(-15)/35
Leaving water temperature range (min./max)	(°C)	-7/18	26/60
Power supply	(V/Ph/Hz)	400/3+n/50	

		55	60	65	70	75	80	85	100	110	120	130
Total cooling capacity (1)	(kW)	49.0	54.3	57.1	60.4	65.3	68.3	76.0	86.6	98.3	106.6	114.4
Total power input (1)	(kW)	17.4	20.0	21.2	22.9	24.8	26.7	28.1	33.6	39.4	43.8	48.4
Total EER (1)		2.81	2.72	2.70	2.63	2.63	2.56	2.70	2.58	2.50	2.43	2.36
Total heating capacity (2)	(kW)	56.1	62.5	65.6	69.7	73.7	77.6	85.6	97.8	109.2	118.1	131.3
Total power input (2)	(kW)	17.7	19.9	20.9	22.4	23.4	24.9	27.8	32.5	36.6	39.9	44.7
Total COP (2)		3.17	3.14	3.14	3.10	3.15	3.12	3.07	3.01	2.99	2.96	2.94
Total cooling capacity (3)	(kW)	68.1	74.7	78.3	82.3	88.6	92.4	105.4	118.7	133.7	144.1	153.8
Total power input (3)	(kW)	18.8	21.5	23.2	25.1	27.2	29.3	29.9	36.3	43.1	48.3	53.8
Total EER (3)		3.63	3.47	3.38	3.27	3.26	3.16	3.53	3.27	3.10	2.98	2.86
Total heating capacity (4)	(kW)	57.7	64.2	67.3	71.4	75.4	79.3	88.0	100.2	115.7	124.9	133.7
Total power input (4)	(kW)	14.7	16.6	17.4	18.7	19.3	20.5	23.2	27.1	31.7	34.4	37.2
Total COP (4)		3.92	3.87	3.86	3.82	3.91	3.87	3.79	3.70	3.65	3.63	3.60
Seasonal efficiency in heating according to EN14825 (5)												
P rated	(kW)	51.2	51.7	52.6	50.6	59.5	67.2	73.7	87.8	95.0	90.0	106.3
ηs heating	(%)	129	131	131	130	134	133	125	127	125	128	127
SCOP		3.31	3.36	3.35	3.33	3.42	3.41	3.20	3.26	3.20	3.28	3.25
Eurovent class		A+	A+	A+	A+	A+	A+	A+	A+	A+	A+	A+
Seasonal efficiency in heating according to EN14825 (6)												
P_{rated}	(kW)	49.0	54.3	57.1	60.4	65.3	68.3	76.0	86.6	98.3	106.6	114.4
ηs cooling	(%)	157	150	146	147	153	148	148	149	149	142	136
SEER		4.00	3.83	3.73	3.75	3.89	3.77	3.78	3.81	3.79	3.63	3.47
Number of compressors		2	2	2	2	2	2	2	2	2	2	2
Number of refrigerant circuits		1	1	1	1	1	1	1	1	1	1	1
Type of control							Steps					
Number of part load steps		3	3	2	3	3	3	2	3	2	3	2
Minimum capacity step	(%)	38	45	50	48	44	46	50	43	50	44	50
Refrigerant charge (7)	(kg)	22	22	22	22	22	22	22	22	23	23	23
Sound power level (ISO 9614)	(db(A))	81	82	82	82	83	83	85	86	87	87	87
Sound pressure level at 5 m	(db(A))	54	55	55	55	56	56	58	59	60	60	60
Sound pressure level at 10 m	(db(A))	49	50	50	50	51	51	53	54	55	55	55
Dimensions and weights (operating)												
Length	(mm)	2489	2489	2489	2489	2489	2489	2489	2489	2489	2489	2489
Depth	(mm)	1004	1004	1004	1004	1004	1004	1004	1004	1004	1004	1004
Height	(mm)	2354	2354	2354	2354	2354	2354	2354	2354	2354	2354	2354
Weight	(kg)	803	810	814	822	839	846	891	946	1013	1016	1020

(1) Cooling: outdoor air temperature 35°C and chilled water temperature 12/7°C.
(2) Outdoor air temperature 7°C with 90% R.H. - hot water temperature in/out 40/45°C.
(3) Cooling: outdoor air temperature 35°C and chilled water temperature 23/18°C.
(4) Outdoor temperature 7°C 90% R.H. - hot water temperature in/out 30/35°C.
(5) Ecodesign rating at low temperature conditions. Outdoor temperature: 7°C dry bulb/6°C wet bulb and hot water temperature in/out: 30°C/35°C. ηs,h / SCOP as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Space heaters and combination heaters with P_{rated} < 400kW - COMMISSION REGULATION (EU) N° 813/2013 of 2 August 2013.
(6) Ecodesign rating for comfort chiller - Fan coil application.
Outdoor air temperature 35°C and chilled water temperature in/out: 12°C/7°C. ηs,c/SEER as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - COMMISSION REGULATION (EU) N° 2016/2281 of 20 December 2016.
(7) Refrigerant charge values are not binding, please check the effective quantity of refrigerant shown on unit nameplate.

CXAF

Air-to-water scroll heat pump

Customer benefits

- Sustainable and reliable cooling or heating, all year round
- High efficiency (Eurovent Class A or B)
- Easy handling and installation
- Wide application flexibility for comfort and process
- User-friendly control interface and interoperability with building automation systems
- Reduced footprint and refrigerant charge compared to legacy products

Main features

- Industry leading variable volume scroll compressor optimized for part-load efficiency and higher seasonal efficiency
- Fin and tube V-shaped heat exchanger
- Multi-speed outdoor fans AC, EC or EC axitop fans
- Brazed plate heat exchanger

Options

- HEat Booster with dedicated refrigerant circuit, optimized defrost management
- Hydraulic module with or without buffer tank

Controls

- Trane™ UC800 controller
  - Easy to read 7-inch color touchscreen display
  - Industry leading algorithms
  - Open protocol design
  - Adaptive control
- Rapid restart
- SmartCom interface: LonTalk, Modbus, BACnet communication capabilities
- Energy metering
- Leak detection

Cooling - Operating outdoor air temperature range (min./max.)	(°C)	-10/+52
Heating - Operating outdoor air temperature range (min./max.)	(°C)	-18/+20
Heating - Leaving water temperature range (min./max.)	(°C)	+10/+55
Power supply	(V/Ph/Hz)	400/3/50

CXAF Standard Efficiency (SE)		**080**	**090**	**100**	**110**	**130**	**140**	**150**	**165**	**180**	**190**
Fan type		AC fans (standard, other options available upon request)									
Net cooling capacity (1)	(kW)	278	306	338	384	421	467	495	527	585	619
Total power input (1)	(kW)	87	102	117	132	151	164	178	195	207	224
Net EER		3.19	3.01	2.90	2.90	2.79	2.84	2.78	2.71	2.82	2.76
Eurovent class - cooling		A	B	C	C	C	C	C	C	C	C
SEER	(kW)	4.40	4.47	4.31	4.12	4.13	4.11	4.10	4.10	4.15	4.19
Space cooling efficiency ηsc	(%)	173	176	169	162	162	161	161	161	163	165
Net heating capacity (2)	(kW)	276.47	313	343	389	421	481	508	538	599	631
Total power input (2)	(kW)	86	98	109	126	137	155	166	178	194	205
Net COP		3.21	3.20	3.16	3.10	3.07	3.09	3.06	3.02	3.08	3.07
Eurovent class - heating		A	A	B	B	B	B	B	B	B	B
Prated (heating)	(kW)	219	251	275	344	345	-	-	-	-	-
SCOP		3.38	3.44	3.43	3.29	3.34	-	-	-	-	-
Space heating efficiency ηsc	(%)	132	135	134	129	131	-	-	-	-	-

CXAF High Heat Efficiency (HEat)		**080**	**090**	**100**	**110**	**130**	**140**	**150**	**165**	**180**	**190**
Fan type		AC fans (standard, other options available upon request)									
Net cooling capacity (1)	(kW)	278	307	338	384	421	466	493	525	581	615
Total power input (1)	(kW)	87	102	117	132	150	164	179	194	206	223
EER		3.20	3.02	2.90	2.90	2.80	2.84	2.76	2.71	2.81	2.76
Eurovent class - cooling		A	B	B	B	C	C	C	C	C	C
SEER	(kW)	4.48	4.54	4.37	4.25	4.21	4.22	4.21	4.24	4.20	4.32
Space cooling efficiency ηsc	(%)	176	179	172	167	165	166	166	166	165	170
Net heating capacity (2)	(kW)	278	315	346	401	436	495	523	557	617	651
Total power input (2)	(kW)	86	98	109	126	138	156	167	179	195	206
Net COP		3.22	3.22	3.18	3.19	3.17	3.18	3.14	3.11	3.17	3.16
Eurovent class - heating		A	A	B	B	B	B	B	B	B	B
Prated (heating)	(kW)	219	250	273	337	338	-	-	-	-	-
SCOP		3.33	3.39	3.37	3.23	3.28	-	-	-	-	-
Space heating efficiency ηsc	(%)	130	133	132	126	128	-	-	-	-	-

CXAF High Efficiency (HE EC + Axi)		**080**	**090**	**100**	**110**	**130**	**140**	**150**	**165**	**180**	**190**
Fan type		EC Axitop									
Net cooling capacity (1)	(kW)	279	310	344	385	423	469	497	530	588	624
Total power input (1)	(kW)	86	100	115	132	149	162	177	194	203	221
EER		3.24	3.09	2.98	2.92	2.85	2.90	2.81	2.74	2.90	2.82
Eurovent class - cooling		A	B	B	B	C	B	C	C	B	C
SEER	(kW)	4.84	4.76	4.53	4.54	4.39	4.79	4.67	4.63	4.76	4.73
Space cooling efficiency ηsc	(%)	191	187	178	179	173	189	184	182	187	186
Net heating capacity (2)	(kW)	278	318	352	402	438	497	526	560	623	658
Total power input (2)	(kW)	85	99	111	124	137	155	166	178	197	208
Net COP	(kW/kW)	3.26	3.23	3.17	3.23	3.19	3.20	3.17	3.15	3.16	3.15
Eurovent class - heating		A	A	B	A	B	A	B	B	B	B
Pdesign,h	(kW)	219	234	280	343	345	-	-	-	-	-
SCOP	(kW/kW)	3.49	3.46	3.36	3.40	3.40	-	-	-	-	-
Space heating efficiency ηsh	(%)	136	135	131	133	133	-	-	-	-	-

Acoustic data (3)		**080**	**090**	**100**	**110**	**130**	**140**	**150**	**165**	**180**	**190**
Sound power level (SN)	(dB(A))	90	93	95	96	97	96	97	98	98	99
Sound power level (LN)	(dB(A))	87	90	91	93	94	93	94	94	95	96
Sound power level (XLN)	(dB(A))	84	86	88	90	91	90	91	91	92	93

Dimensions and weights (operating)		**080**	**090**	**100**	**110**	**130**	**140**	**150**	**165**	**180**	**190**
Length (4)	(mm)	4520	4520	4520	4520	4520	5645	5645	5645	6770	6770
Width	(mm)	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height (5)	(mm)	2526	2526	2526	2526	2526	2526	2526	2526	2526	2526
Weight (excluding options) (6)	(kg)	2835	2934	3078	3168	3235	3876	4060	4100	4554	4628

(1) At Eurovent conditions: 12/7°C entering/leaving water temperature and 35°C ambient temperature according to EN 14511:2018.
(2) At Eurovent conditions: 40/45°C entering/leaving water temperature and 7°C ambient temperature according to EN 14511:2018.
(3) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(4) Length without options. With pump package option, consider +370 mm for sizes 140-190 and +425mm for sizes 080-130.
(5) Height without EC Axitop fans. With EC Axitop option, add 146 mm to unit height.
(6) Weights are indicative and subject to change depending on options selected.

CXAX

Air-to-water scroll heat pump

Customer benefits

The best value heat pump, now with improved performances:

- Reversible operation: cooling or heating
- Low energy consumption: optimized part load efficiency in cooling and in heating
- Silent operation: discreet, even in the most sound sensitive applications
- No compromise: efficiency maintained when sound decreases
- Compact design: easier jobsite integration
- Reliability: main components designed and manufactured by Trane
- User friendly control interface and interoperability with building automation systems
- Class B version available upon request
- Eligible for local incentive schemes in Italy (Conto Termico 2.0)

Main features

- Compact design: reduced footprint and low profile design
- High quality finish
- Heating all year round: down to -15°C ambient and up to 60°C leaving water temperature
- One part load optimized efficiency level
- Two acoustic packages: SN, LN with no compromise on efficiency
- Single and/or dual circuit offering

Options

- Various integrated hydraulic modules: single/dual pump, low/high head pressure
- Buffer tank for reliable and smooth operation
- Low temperature process cooling (<4°C)
- Low ambient operation (-10°C)
- Epoxy condenser coating

Accessories

- Elastomeric isolators

Control

- Trane light commercial controller
- Standard 6 navigation button LCD display
- Optional deluxe display
  - Easy to read 7-inch color touchscreen display
  - Industry leading algorithms
  - Open protocol design
  - Adaptive control
- SmartCom interface: LonTalk®, Modbus®, BACnet® communication capabilities

This description may not include all options and accessories available. For full technical information. visit www.trane.com/litweb or contact your local sales office.

		Cooling	Heating
Operating outdoor air temperature range (min./max.)	(°C)	-10/+46 (1)	-15/+20
Heating leaving water temperature range (min./max.)	(°C)	-10/20 (2)	+20/+60
Power supply	(V/Ph/Hz)	400/3/50	

CXAX Standard and High Efficiency		**015**	**017**	**020**	**023**	**026**	**030**	**036**	**039**	**045**	**035**	**040**	**046**	**052**	**060**
Net heating capacity (3)	(kW)	44	50	58	65	71	80	96	110	121	100	116	129	142	161
Total power input (3)	(kW)	14	16	19	21	24	26	30	36	40	32	38	43	47	54
COP SE & HE versions (3)	(kW/kW)	3.11	3.08	3.02	3.05	3.01	3.03	3.20	3.09	3.03	3.16	3.05	3.01	3.01	3.00
Eurovent class - heating		**B**	**B**	**B**	**B**	**B**	**B**	**A**	**B**	**B**	**B**	**B**	**B**	**B**	**B**
Rated capacity (Pdesign_h) (4)	(kW)	39	45	51	63	64	72	85	105	108	88	103	128	126	138
Seasonal space efficiency in heating - SE version (4)	(%)	133.99	135.31	126.13	132.37	128.15	135.20	141.68	136.53	134.49	140.24	129.87	131.00	135.18	136.01
SCOP SE version	(kW/kW)	3.42	3.46	3.23	3.38	3.28	3.45	3.62	3.49	3.44	3.58	3.32	3.35	3.45	3.48
Seasonal space efficiency in heating - HE version (4)	(%)	116.45	114.82	116.19	118.19	130.23	135.79	129.01	140.07	128.46	134.37	128.63	128.82	132.33	132.94
SCOP HE version	(kW/kW)	2.99	2.95	2.98	3.03	3.33	3.47	3.30	3.58	3.29	3.43	3.29	3.30	3.38	3.40
Net cooling capacity (4)	(kW)	43	49	59	66	72	80	96	109	119	98	115	128	143	156
Total power input (4)	(kW)	14	17	19	22	25	29	32	37	42	33	37	43	50	57
EER	(kW/kW)	3.02	2.97	3.16	2.96	2.83	2.79	2.97	2.97	2.82	2.94	3.08	2.96	2.90	2.74
Eurovent class - cooling		**B**	**B**	**B**	**B**	**C**	**C**	**B**	**B**	**B**	**B**	**B**	**B**	**B**	**C**
ESEER SE version	(kW/kW)	4.25	4.25	3.99	4.09	3.86	3.87	4.41	4.29	4.12	4.40	4.14	4.15	4.13	4.03
ESEER HE version	(kW/kW)	4.46	4.27	4.14	4.22	3.90	3.88	4.56	4.45	4.25	4.39	4.30	4.26	4.11	4.05
Number of circuit(s)		1	1	1	1	1	1	1	1	1	2	2	2	2	2
Number of compressors per circuit		2	2	2	2	2	2	3	3	3	2	2	2	2	2
Acoustic data															
Sound power level (standard noise) (4)	(dB(A))	84	84	85	85	85	86	86	87	88	87	89	88	88	89
Sound pressure level (standard noise) (5)	(dB(A))	54	54	54	55	55	56	55	56	57	56	56	58	57	58
Sound power level (low noise) (4)	(dB(A))	78	78	78	80	81	80	81	81	82	81	81	83	83	84
Sound pressure level (low noise) (5)	(dB(A))	47	47	47	50	50	50	49	50	51	50	50	52	52	53
Dimensions and weights (operating)															
Length	(mm)	2346	2346	2346	2346	2346	2346	2327	2327	2327	2327	2327	2327	2327	2327
Width	(mm)	1285	1285	1285	1285	1285	1285	2250	2250	2250	2250	2250	2250	2250	2250
Height (standard noise)	(mm)	1524	1524	1524	1524	1524	1724	1524	1524	1524	1524	1524	1524	1524	1724
Height (low noise)	(mm)	1747	1747	1747	1747	1747	1947	1747	1747	1747	1747	1747	1747	1747	1947
Weight	(kg)	539	545	582	624	630	665	881	925	942	974	998	1072	1093	1163

(1) With low ambient temperature option.
(2) With process cooling option.
(3) At Eurovent conditions: 40/45°C entering/leaving water temperature and DB/WB 7°C/6°C ambient temperature according to EN 14511:2018.
(4) According to EN14825:2018. Ecodesign rating for comfort chiller – fan coil application.
(5) At Eurovent conditions: 12/7°C entering/leaving water temperature and 35°C ambient temperature according to EN 14511:2018.
(6) Average at 10 meters in a free field. This is a non-contractual data, calculated from the above certified sound power level according to the formula Lp=Lw-10logS. This is an averaged value considering the unit as a paralelopedic box with five exposed face areas.

CXCN

Indoor air-to-water scroll heat pump with plug fan

Customer benefits

- Extended operating maps
- Improved part load and full load
- Air to water heat pump for indoor installation in buildings, with ducted air intake and discharge
- Superior sustainability with direct driven high efficiency EC plug fans
- Excellent acoustic comfort levels - perfect for city centers
- Ideal for noise sensitive applications allowing the use of duct silencers
- Dynamic set point function allows changing the set point simultaneously to always achieve the best comfort and maximum energy saving conditions

Main features

- Hermetic scroll compressors, low vibration and low sound level
- EC plug fans for improved capacity modulation and energy savings. Fan external static pressure up to 300 Pa
- Water side plate heat exchanger with differential pressure switch and antifreeze protection electric heater
- Horizontal or vertical air flow
- Electronic expansion valve(s)
- Casing and panels in galvanized and painted steel
- Numbered wires

Options

- Partial heat recovery
- Compressor sound attenuating jackets (low noise version)
- Soft starter
- Different hydraulic modules available with on/off or inverter driven pumps
- Communication card RS485
- Serial card with BACnet™ Protocol MS/TP or TCP/IP
- Gateway Modbus LonTalk™
- Power factor correction to cos phi = 0.91
- Automatic circuit breakers
- Over/under voltage + phase failure protection relay
- Special treatments for condenser coils

Accessories

- Remote control panel
- G4-EU4 condenser inlet air filters
- Flow switch
- Automatic water filling
- Water strainer
- Water and/or gas gauges
- Rubber or spring anti-vibration mounts

Controls

- Microprocessor-based controller to manage unit on/off mode, operating mode setting and parameters setting

		Cooling	Heating
Operating outdoor air temperature range (min./max.)	(°C)	5/45	-10/35
Leaving water temperature range (min./max.)	(°C)	-6/18	35/55
Power supply	(V/Ph/Hz)	400/3+n/50	

CXCN		55	70	90	100	115	130	145	160	170	190	210	245	270
Cooling capacity														
Total cooling capacity (1)	(kW)	51.7	65	81.1	91.8	105	119	132	146	159	183	201	222	242
Total power input (1)	(kW)	19.5	25.9	30.5	36.5	40.0	46.0	53.2	56.3	63.4	71.3	81.1	95.3	109.7
Total EER (1)		2.65	2.51	2.66	2.51	2.63	2.59	2.48	2.60	2.50	2.56	2.48	2.33	2.21
Heating capacity														
Total heating capacity (2)	(kW)	56.0	69.8	87.0	100	115	128	142	155	170	191	210	243	268
Total power input (2)	(kW)	17.3	21.9	26.6	31.7	36.2	39.4	45.1	49.5	55.2	62.9	70.6	78.7	89.8
Total COP (2)		3.23	3.19	3.28	3.15	3.17	3.25	3.15	3.14	3.07	3.04	2.97	3.09	2.99
Seasonal efficiency in heating mode (3)														
P rated	(kW)	41.9	52.5	63.6	75.0	85.6	96.3	107	117	128	146	160	183	204
$\eta_{s,h}$	(%)	125	128	125	127	125	130	129	127	125	125	125	130	125
SCOP		3.21	3.27	3.20	3.25	3.20	3.32	3.31	3.26	3.20	3.20	3.20	3.33	3.20
Eurovent class		A+	A+	A+	A+	A+	A+	A+	A+	A+	A+	A+	A+	A+
Compressors														
Number of compressors		2	2	2	2	2	2	2	2	2	2	2	4	4
Number of refrigerant circuits		1	1	1	1	1	1	1	1	1	1	1	2	2
Number of part load steps		3	3	2	3	3	3	3	3	2	2	2	8	8
Minimum capacity step	(%)	38	48	50	43	38	44	40	45	50	43	50	22	20
Total refrigerant charge (4)	(kg)	23.5	23.8	34.2	34.2	46.7	47.6	47.6	57.9	57.9	70.7	70.7	70.0	70.0
Plug fans														
Number of fans		2	2	3	3	4	4	4	5	5	6	6	6	6
Air flow	(m^3/h)	22759	24689	34516	36278	45686	47700	49546	59552	61465	72228	74778	79178	79178
Sound level														
Sound power level (ISO 9614)	(db(A))	91	91	93	93	95	95	95	96	96	97	98	97	97
Sound pressure level at 10 m	(db(A))	59	59	61	61	62	63	63	63	63	65	65	64	64
Dimensions and weight (shipping)														
Length	(mm)	2350	2350	3346	3346	4456	4456	4456	5456	5456	6676	6676	6676	6676
Width	(mm)	1106	1106	1306	1306	1306	1306	1306	1306	1306	1306	1306	1306	1306
Height	(mm)	2095	2095	2095	2095	2145	2145	2145	2145	2145	2145	2145	2145	2145
Weight, standard unit	(kg)	1019	1053	1549	1567	2010	2036	2061	2397	2423	2742	2746	2751	2801

(1) At Eurovent conditions. Chilled water temperature 12°C/7°C (in/out) and outdoor air temperature 35°C, according to EN 14511:2018.
(2) At Eurovent conditions. Outdoor air temperature 7°C with 90% RH and leaving hot water temperature 45°C.
(3) Ecodesign rating at low temperature conditions. Outdoor air temperature: 7°C dry bulb/6°C wet bulb and hot water temperature 30°C/35°C (in/out) ηs,h/SCOP as defined in Ecodesign Regulation (EU) N° 813/2013, dated 2.August 2013, for space heaters and combination heaters with Prated <400 kW.
(4) Refrigerant and oil charges are not binding. Check the effective quantity of refrigerant/oil on unit nameplate.

CXAM

Air-to-water scroll heat pump

Customer benefits

- Improved part load efficiency thanks to new variable speed fans
- Life cycle effectiveness
- Efficiency and sound level without compromise
- All year round operation
- Extreme reliability and durability
- Wide application flexibility for comfort and process applications to fit the exact requirements
- Ease of installation and serviceability

Main features

- 2 efficiency levels: high or standard
- 3 acoustic versions: standard, low noise or comprehensive acoustic package treatment
- High efficiency scroll compressors
- Hot water leaving temperature up to +55°C
- Patented refrigerant circuit
- Trane design low sound level fans mounted on hinges
- Electronic expansion valve
- Brazed plate heat exchangers
- Powder coated components
- Disconnect switch/transformer
- Water strainer and flow switch

Options

- Partial heat recovery
  - Reclaim on average 30% of heating capacity
  - Reduced operating cost
  - Preheat sanitary water (for commercial buildings) or kitchen and laundries water (in hotels and resorts)
  - Reduced carbon footprint
- Integrated hydraulic module with or without buffer tank
- Single or double pump package
- Variable frequency drive for pump flow rate adjustment
- Freeze protection control
- Black epoxy condenser coil coating
- Architectural louvered panels, access guards

Accessories

- Neoprene isolators
- Grooved pipe connection kit

Tracer™ CH530 Control

Adaptive Control™ microprocessor featuring:

- Easy-to-use operator interface panel
- Smart defrost management
- External auto/stop
- External interlock
- Chilled water pump control
- Ice-making card (optional)
- Chilled water and current-limit remote setpoint card (optional)
- LonTalk®, Modbus®, BACnet® communication capabilities

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

		Cooling	Heating
Operating outdoor air temperature range (min./max.)	(°C)	-10/+46 (1)	-10/+20
Leaving water temperature range (min./max.)	(°C)	-10/+20 (2)	+20/+55
Power supply	(V/Ph/Hz)	400/3/50	

CXAM HE Comprehensive Acoustic Package		**060**	**070**	**080**	**090**	**100**	**110**	**120**
Net heating capacity (4)	(kW)	164	187	232	264	280	308	327
Total power input in heating net (4)	(kW)	54	59	69	80	88	97	104
COP net (4)		3.04	3.15	3.33	3.28	3.17	3.17	3.14
Eurovent class heating		B	B	A	A	B	B	B
Rated capacity (Pdesign_h)	(kW)	109	124	151	165	180	199	212
SCOP		3.68	3.65	3.80	3.89	3.58	3.57	3.60
Seasonal space heating efficiency	(%)	144	143	149	153	140	140	141
Net cooling capacity (3)	(kW)	161	185	224	256	287	314	336
Total power input net (3)	(kW)	54	66	72	84	96	102	112
EER net (3)		2.99	2.79	3.10	3.04	2.98	3.09	2.99
Eurovent class cooling		**B**	**C**	**A**	**B**	**B**	**B**	**B**
SEER		4.24	4.42	4.62	4.60	4.47	4.57	4.48
Seasonal space cooling efficiency	(%)	167	174	182	181	176	180	176
Number of refrigerant circuits		2	2	2	2	2	2	2
Number of compressors		4	4	4	4	4	4	4
Sound power level (6)	(dBA)	81	84	83	83	83	85	86
Sound pressure level (7)	(dBA)	50	52	51	51	52	53	54
Dimensions and weight (operating)								
Length	(mm)	3819	3819	4230	5145	5145	6062	6062
Width	(mm)	2266	2266	2273	2273	2273	2273	2273
Height	(mm)	2150	2150	2344	2344	2344	2344	2344
Weight (5)	(kg)	2303	2354	2851	3199	3414	3787	3800

CXAM HE Super Quiet		**060**	**070**	**080**	**090**	**100**	**110**	**120**	**140**	**150**
Net heating capacity (4)	(kW)	173	191	236	260	286	305	323	363	398
Total power input in heating net (4)	(kW)	56	62	74	82	93	101	108	129	139
COP net (4)		3.09	3.10	3.20	3.16	3.08	3.02	2.99	2.8	2.9
Eurovent class heating		B	B	A	B	B	B	C	C	C
Rated capacity (Pdesign_h)	(kW)	113	130	154	165	187	203	209	271	308
SCOP		3.43	3.42	3.52	3.55	3.35	3.32	3.37	3.35	3.37
Seasonal space heating efficiency	(%)	134	134	138	139	131	130	132	3.35	3.37
Net cooling capacity (3)	(kW)	165	191	229	254	295	312	334	385	408
Total power input net (3)	(kW)	54	65	70	82	93	103	113	138	151
EER net (3)		3.04	2.95	3.25	3.10	3.16	3.03	2.94	2.8	2.7
Eurovent class cooling		**B**	**B**	**A**	**A**	**A**	**B**	**B**	**C**	**C**
SEER		4.28	4.36	4.43	4.45	4.36	4.34	4.27	3.99	4.13
Seasonal space cooling efficiency	(%)	168	171	174	175	172	171	168	3.35	3.37
Number of refrigerant circuits		2	2	2	2	2	2	2	2	2
Number of compressors		4	4	4	4	4	4	4	6	6
Sound power level (6)	(dBA)	84	87	88	88	88	89	90	90	89
Sound pressure level (7)	(dBA)	53	55	56	56	56	57	58	57	57
Dimensions and weight (operating)										
Length	(mm)	3819	3819	4230	4230	5145	5145	5145	6062	6062
Width	(mm)	2266	2266	2273	2273	2273	2273	2273	2273	2273
Height	(mm)	2150	2150	2344	2344	2344	2344	2344	2344	2344
Weight (5)	(kg)	2213	2264	2710	2838	3300	3276	3286	3911	4005

(1) With low ambient option.
(2) With process cooling options.
(3) At Eurovent conditions: 12/7°C entering/leaving water temperature and 35°C ambient air temperature.
(4) At Eurovent conditions: 40/45°C entering/leaving water temperature and DB/WB 7°C/6°C ambient temperature according to EN 14511:2018.
(5) Indicative weight without options.
(6) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(7) At 10 m in free field, calculated from the above sound power level according to the formula Lp = Lw-10logS.

CXAM HE Compact		060	070	080	090	100	110	120	140	150
Net heating capacity (4)	(kW)	173	191	236	260	286	305	323	363	400
Total power input in heating net (4)	(kW)	55	62	73	81	91	97	106	129	140
COP net (4)		3.15	3.09	3.25	3.20	3.14	3.14	3.04	2.8	2.9
Eurovent class heating		A	B	A	B	B	B	B	C	C
Rated capacity (Pdesign_h)	(kW)	145	171	198	202	241	268	263	271	308
SCOP		3.52	3.50	3.59	3.62	3.41	3.39	3.43	3.35	3.36
Seasonal space heating efficiency	(%)	138	137	141	142	133	133	134	3.35	3.36
Net cooling capacity (3)	(kW)	165	191	229	254	295	312	334	385	408
Total power input net (3)	(kW)	54	64	70	82	93	103	113	138	151
EER net (3)		3.07	2.97	3.25	3.10	3.16	3.03	2.94	2.8	2.7
Eurovent class cooling		**B**	**B**	**A**	**A**	**A**	**B**	**B**	**C**	**C**
SEER		4.28	4.33	4.40	4.42	4.34	4.32	4.25	3.89	4.02
Seasonal space cooling efficiency	(%)	168	170	173	174	171	170	167	3.35	3.36
Number of refrigerant circuits		2	2	2	2	2	2	2	2	2
Number of compressors		4	4	4	4	4	4	4	6	6
Sound power level (6)	(dBA)	86	89	90	90	90	91	92	92	92
Sound pressure level (7)	(dBA)	58	59	59	60	60	60	61	61	61
Dimensions and weight (operating)										
Length	(mm)	3819	3819	4230	4230	5145	5145	5145	6062	6062
Width	(mm)	2266	2266	2273	2273	2273	2273	2273	2273	2273
Height	(mm)	2150	2150	2344	2344	2344	2344	2344	2344	2344
Weight (5)	(kg)	2213	2264	2710	2838	3300	3276	3286	3911	4005

CXAM SE Comprehensive Acoustic Package		060	070	080	090	100	110	120	140	150	160
Net heating capacity (4)	(kW)	160	182	214	253	276	299	329	354	384	400
Total power input in heating net (4)	(kW)	53	60	69	79	87	94	104	128	137	145
COP net (4)		3.04	3.02	3.10	3.20	3.16	3.18	3.18	2.8	2.8	2.8
Eurovent class heating		B	B	B	B	B	B	B	C	C	C
Rated capacity (Pdesign_h)	(kW)	106	120	137	161	178	199	214	217	254	293
SCOP		3.51	3.52	3.63	3.67	3.58	3.66	3.60	3.47	3.65	3.69
Seasonal space heating efficiency		138	138	142	144	140	144	141	3.47	3.65	3.69
Net cooling capacity (4)	(kW)	153	177	204	236	260	292	308	367	396	411
Total power input net (4)	(kW)	58	68	80	89	103	108	119	147	158	171
EER net (4)		2.66	2.61	2.55	2.67	2.52	2.71	2.58	2.5	2.5	2.4
Eurovent class cooling		**D**	**D**	**D**	**D**	**D**	**C**	**D**	**E**	**E**	**E**
SEER		4.15	4.20	4.21	4.31	4.18	4.35	4.22	3.88	4.24	4.21
Seasonal space cooling efficiency		163	165	165	169	164	171	166	3.47	3.65	3.69
Number of refrigerant circuits		2	2	2	2	2	2	2	2	2	2
Number of compressors		4	4	4	4	4	4	4	6	6	6
Sound power level (6)	(dBA)	81	84	85	83	83	85	86	85	85	86
Sound pressure level (7)	(dBA)	51	52	53	51	51	52	54	53	53	54
Dimensions and weight (operating)											
Length	(mm)	3819	3819	3819	4230	4230	5145	5145	6062	6062	6062
Width	(mm)	2266	2266	2266	2273	2273	2273	2273	2273	2273	2273
Height	(mm)	2150	2150	2150	2344	2344	2344	2344	2344	2344	2344
Weight (5)	(kg)	2221	2286	2337	2884	3012	3266	3356	4034	4159	4159

(1) With low ambient option.
(2) With process cooling options.
(3) At Eurovent conditions: 12/7°C entering/leaving water temperature and 35°C ambient air temperature.
(4) At Eurovent conditions: 40/45°C entering/leaving water temperature and DB/WB 7°C/6°C ambient temperature according to EN 14511:2018.
(5) Indicative weight without options.
(6) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(7) At 10 m in free field, calculated from the above sound power level according to the formula Lp = Lw-10logS.

CXAM SE Super quiet		060	070	080	090	100	110	120	140	150	160	170
Net heating capacity (4)	(kW)	161	186	219	241	281	299	317	360	378	428	445
Total power input in heating net (4)	(kW)	54	63	70	79	89	96	103	126	134	145	152
COP net (4)		3.02	2.95	3.12	3.06	3.16	3.10	3.08	2.9	2.8	3.0	2.9
Eurovent efficiency class - heating		B	C	B	B	B	B	B	D	D	D	D
Rated capacity (Pdesign_h)		131	140	156	182	194	206	107	214	248	299	302
SCOP		3.21	3.40	3.41	3.35	3.34	3.39	3.41	3.21	3.27	3.34	3.32
Seasonal space heating efficiency		125	133	133	131	131	133	133	3.21	3.27	3.34	3.32
Net cooling capacity (4)	(kW)	154	184	213	234	270	287	308	366	386	428	444
Total power input net (4)	(kW)	57	66	77	89	99	110	123	147	161	164	178
EER net (4)		2.68	2.77	2.79	2.63	2.72	2.60	2.51	2.5	2.4	2.6	2.5
Eurovent efficiency class - cooling		D	C	C	D	C	D	D	E	E	D	D
SEER		4.07	4.08	4.13	4.08	4.08	4.09	4.05	3.7	3.6	3.6	3.5
Seasonal space cooling efficiency		160	160	162	160	160	161	159	3.21	3.27	3.34	3.32
Number of refrigerant circuits		2	2	2	2	2	2	2	2	2	2	2
Number of compressors		4	4	4	4	4	4	4	6	6	6	6
Sound power level (6)	(dBA)	87	90	90	90	89	90	91	91	91	92	92
Sound pressure level (7)	(dBA)	56	58	59	59	57	58	59	59	59	60	60
Dimensions and weight (operating)												
Length	(mm)	2905	3819	3819	3819	4230	4230	4230	5145	5145	6062	6062
Width	(mm)	2266	2266	2266	2266	2273	2273	2273	2273	2273	2273	2273
Height	(mm)	2150	2150	2150	2150	2344	2344	2344	2344	2344	2344	2344
Weight (5)	(kg)	1928	2196	2247	2358	2808	2808	2925	3500	3618	4005	4005

CXAM SE Compact		060	070*	080	090	100	110	120	140*	150*	160	170
Net heating capacity (4)	(kW)	162	186	219	242	283	301	319	361	378	428	445
Total power input in heating net (4)	(kW)	55	63	74	82	92	99	104	128	136	147	155
COP net (4)		2.96	2.94	2.97	2.95	3.07	3.05	3.05	2.8	2.8	2.9	2.9
Eurovent class heating		B	B	B	B	B	B	B	C	C	C	C
Rated capacity (Pdesign_h)	(kW)	107	131	145	156	183	195	213	262	249	300	302
SCOP		3.41	3.20	3.36	3.39	3.35	3.34	3.38	3.14	3.14	3.20	3.20
Seasonal space heating efficiency	(%)	134	125	131	133	131	131	132	3.14	3.14	3.20	3.20
Net cooling capacity (4)	(kW)	155	185	214	235	272	289	311	367	387	428	445
Total power input net (4)	(kW)	58	68	78	90	98	109	121	147	161	165	178
EER net (4)		2.67	2.73	2.75	2.61	2.77	2.65	2.57	2.5	2.4	2.6	2.5
Eurovent class cooling		D	C	C	D	C	D	D	D	D	D	D
SEER		3.89	3.79	3.87	3.85	3.90	3.92	3.90	3.68	3.91	3.95	3.95
Seasonal space cooling efficiency	(%)	153	148	152	151	153	154	153	3.14	3.14	3.20	3.20
Number of refrigerant circuits		2	2	2	2	2	2	2	2	2	2	2
Number of compressors		4	4	4	4	4	4	4	6	6	6	6
Sound power level (6)	(dBA)	92	94	94	94	93	93	94	95	95	96	96
Sound pressure level (7)	(dBA)	60	62	62	62	61	61	61	63	63	63	63
Dimensions and weight (operating)												
Length	(mm)	2905	3819	3819	3819	4230	4230	4230	5145	5145	6062	6062
Width	(mm)	2266	2266	2266	2266	2273	2273	2273	2273	2273	2273	2273
Height	(mm)	2150	2150	2150	2150	2344	2344	2344	2344	2344	2344	2344
Weight (5)	(kg)	1928	2196	2247	2358	2808	2808	2835	3500	3618	4005	4005

* Not available for comfort applications for countries adopting the Ecodesign Directive.
(1) With low ambient option.
(2) With process cooling options.
(3) At Eurovent conditions: 12/7°C entering/leaving water temperature and 35°C ambient air temperature.
(4) At Eurovent conditions: 40/45°C entering/leaving water temperature and DB/WB 7°C/6°C ambient temperature according to EN 14511:2018.
(5) Indicative weight without options.
(6) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(7) At 10 m in free field, calculated from the above sound power level according to the formula Lp = Lw-10logS.

CXWF

Water-to-water scroll heat pump

Customer benefits

- Scalable up to 930 kW cooling capacity (6 units combined with FlexMaster controller)
- Large operating map to address specific design criteria of applications like in hospitals, office buildings, larger apartment buildings, warehouses and industrial applications:
- Hot water temperatures up to +60°C

Main features

- "State of the art" high efficiency scroll compressors
- Single refrigerant circuit with electronic expansion valve
- Evaporator stainless steel brazed plate type externally insulated equipped with differential pressure switch and antifreeze protection electric heater
- Condenser stainless steel brazed plate type externally insulated equipped with differential pressure switch (without on CCUF)

Options

- High efficiency (HE)
- Low noise (LN) and super low noise (SLN)
- Power factor correction
- Automatic circuit breakers for compressors
- Control panel electric heater with thermostat
- TP serial card with BACnet protocol MS/TP or TCP/IP
- Phase failure protection relay
- Condensing control with modulating 2/3 way valve
- Electrical power supply 400V/3ph without neutral
- Soft starter
- Anti-freeze protection for hydraulic versions
- Hydraulic module on user side with single or dual water pumps (low or high pressure)
- Hydraulic module on source side with single or dual water pumps (low or high pressure) and/or water buffer tank
- Water pumps with automatic changeover
- Oversized water pump seal for operation with glycol > 25%

Accessories

- Remote control display
- Flow switch
- Automatic water filling
- Water strainer
- Water gauges
- Rubber or spring anti-vibration mounts

Controls

Microprocessor-controller to manage on/off mode, operating mode, parameters setting and error code display

- Modbus communication card RS485
- Interface with FlexMaster controller (optional)

FlexMaster controller (optional)

- Connect up to 6 Flex of equal or different capacities to one single master controller
- Easy connection and specifically designed for modular capacity expansion of the chiller and/or heat pump plant
- Controls the main functions, operating modes of the units, and hydraulic kit of external water pumps or water pumps integrated in each unit
- Allows for continuous operation: in case of maintenance on one Flex unit, all other units keep on running

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

Hot water leaving water temperature (min./max.)	(°C)	20/60
Evaporator leaving water temperature range (min./max.)	(°C)	-7/12
Power supply	(V/Ph/Hz)	400/3/50

CXWF		060	070	080	095	110	125	145	160	175
Total heating capacity (1)	(kW)	63.8	73.2	82.5	101.1	113.8	134.2	153.7	170.6	186.4
Total power input (1)	(kW)	11.8	13.6	15.5	18.7	20.8	24.7	28.6	31.4	34.5
Total COP (1)		5.4	5.4	5.3	5.4	5.5	5.4	5.4	5.4	5.4
Total heating capacity (2)	(kW)	60.5	69.4	78.3	95.8	107.9	127.2	145.7	161.7	176.8
Total power input (2)	(kW)	14.4	16.5	18.8	22.7	25.4	30.1	34.8	38.2	41.8
Total COP (2)		4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
Eurovent Efficiency Class (2)		B	B	B	B	B	B	B	B	B
Total cooling capacity (3)	(kW)	53.5	61.1	68.6	84.2	95.2	112.1	127.9	142.3	155.1
Total power input (3)	(kW)	11.1	12.9	14.7	18.0	19.8	23.8	27.4	30.3	33.4
Total EER (3)		4.8	4.7	4.7	4.7	4.8	4.7	4.7	4.7	4.7
Eurovent Efficiency class (3)		B	B	B	B	B	B	B	B	B
Total cooling capacity (4)	(kW)	76.4	87.0	97.3	119.1	134.8	158.1	180.3	200.1	217.8
Total power input (4)	(kW)	10.6	12.5	14.4	18.0	19.8	23.7	27.1	30.6	34.2
Total EER (4)		7.2	7.0	6.7	6.6	6.8	6.7	6.7	6.6	6.4
P rated (5)	(kW)	68.8	82.4	88.9	109.0	122.6	144.8	165.6	180.0	200.9
ηs.heating (5)	(%)	2.38	2.36	2.33	2.40	2.40	2.41	2.37	2.41	2.38
SCOP (5)		6.15	6.10	6.03	6.19	6.19	6.23	6.13	6.24	6.15
Energy efficiency class (5)		A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++
P rated (6)	(kW)	53.5	61.1	68.6	84.2	95.2	112.1	127.9	142.3	155.1
ηs,cooling (6)	(%)	2.13	2.15	2.14	2.19	2.27	2.36	2.33	2.38	2.33
SEER (6)		5.52	5.58	5.55	5.68	5.87	6.11	6.02	6.15	6.03
Number of compressors / refrigerant circuit(s)		2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1
Number of part load steps		3	3	3	3	2	3	2	3	2
Minimum capacity step	(%)	45	39	45	44	50	43	50	44	50
Refrigerant charge	(kg)	8.4	8.9	9.4	13.0	12.2	13.0	15.5	16.1	16.6
Sound power level (ISO 9614)	(db(A))	78	79	80	81	82	84	86	86	86
Sound pressure level at 10 m	(db(A))	47	48	49	50	46	48	50	50	50
Sound power level (ISO 9614) - super low noise	(db(A))	73	74	75	76	77	79	81	81	81
Sound pressure level at 10 m - super low noise	(db(A))	42	43	44	45	41	43	45	45	45
Dimensions and weights (operating)										
Length	(mm)	1555	1555	1555	1555	1555	1755	1755	1755	1755
Width	(mm)	676	676	676	676	676	810	810	810	810
Height	(mm)	1417	1417	1417	1417	1417	1407	1407	1407	1407
Weight	(kg)	448	450	455	465	510	692	738	747	749

(1) Heating EN 14511 value - LWT 35°C.
(2) Heating EN 14511 value - LWT 45°C.
(3) Cooling EN 14511 value - LWT 7°C.
(4) Cooling EN 14511 value - LWT 18°C.
(5) Seasonal efficiency in heating according to EN14825.
(6) Seasonal efficiency in cooling according to EN 14825.

CGWN

Water-to-water scroll heat pump

Customer benefits

High performance heat pump based on:

- Compact design and packaged hydraulic module (available as an option) for easier and faster installation
- Wide application flexibility for comfort and process applications
- State of the art control to guarantee superior dependability: low cost of ownership

Main features

- High efficiency hermetic scroll compressors with low vibration and sound levels and full internal overheating protections
- Hot water leaving water temperature up to +60°C
- Control of the condenser leaving water temperature
- External sheet metal parts are galvanized and finished with powder paint RAL 9002
- Access panels are quickly removable using a square key and mounted handles
- Designed for indoor and outdoor installation
- Full factory refrigerant and oil charge
- 380, 400 and 415 V power voltage
- 400/110 V transformer for the control
- Phase & unbalanced detection

Options

- High efficiency version
- Soft starter
- Water pumps command - single or double
- Compressor kW limiting
- Compressor sound attenuating jackets
- High and low pressure gauges
- Hydraulic module including:
  - single or dual evaporator pump including water filter and pressure tabs
  - speed inverter condenser pumps including flow control, water filter and pressure tabs for winter freeze protection
  - combinations of hydraulic modules available: evaporator only, condenser only or both

Tracer™ CH530 Control

Adaptive Control™ microprocessor-based control featuring:

- Easy to use operator interface
- External linear reset, auxiliary and external water setpoint
- Compressor kW limiting (optional)
- Alarm indicator programmable relays (options)
- LonTalk®, BACnet®, or Modbus® communication interface (optional)

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

Hot water leaving temperature (min./max.)	(°C)	25/60
Evaporator water temperature range (min./max.)	(°C)	-7/15
Power supply	(V/Ph/Hz)	400/3/50

CGWN		205	205HE	206	206HE	207	207HE	208	209	210	211
Net heating capacity (1)	(kW)	214	221	255	262	296	303	329	362	401	442
Net power input (1)	(kW)	52.2	49.8	62.1	60.1	72.3	69.7	76.9	86.7	97.2	106.0
Net COP (1)		4.10	4.44	4.10	4.36	4.10	4.35	4.28	4.17	4.12	4.17
P Rated (Heating) (4)	(kW)	204	210	264	273	307	315	348	379	381	342
ηs (4)	(%)	164	183	189	197	188	211	211	196	120	160
Number of refrigerant circuits						2					
Number of compressors						4					
Sound power level (2)	(dB(A))	82	82	82	82	83	83	83	84	84	84
Dimensions and weights (operating) (3)											
Length	(mm)	2545	2545	2545	2545	2545	2545	2545	2545	2545	2545
Width	(mm)	880	880	880	880	880	880	880	880	880	880
Height	(mm)	1842	1842	1842	1842	1842	1842	1842	1842	1842	1842
Weight	(kg)	1360	1460	1300	1450	1420	1470	1500	1650	1710	1790

CGWN		212	213	214	215
Net heating capacity (1)	(kW)	479	518	557	591
Net power input (1)	(kW)	113	122	132	140
Net COP (1)		4.2	4.2	4.2	4.2
P Rated (Heating) (4)	(kW)	340	370	401	-
ηs (4)	(%)	146	149	142	-
Number of refrigerant circuits			2		
Number of compressors		5	6	6	6
Sound power level (2)	(dB(A))	87	88	88	90
Dimensions and weights (operating) (3)					
Length	(mm)	2866	2866	2866	2866
Width	(mm)	878	878	878	878
Height	(mm)	2025	2025	2025	2025
Weight	(kg)	2233	2443	2524	2639

(1) At 40/45°C entering/leaving hot water temperature.
(2) With 1pW reference sound power, according to ISO9614 and without compressor enclosure.
(3) Without hydraulic module.
(4) ηs/SCOP as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for space heaters and combination heaters with P rated <400 kW - COMMISSION REGULATION (EU) No 813/2013 of 2 August 2013: Med. temp. application 10/7°C.

RTSF G

Water-to-water helical-rotary heat pump

Customer benefits

- Compact and modular, they particularly fit in restricted spaces. 920 mm width only
- Near zero GWP (<1) refrigerant R1234ze
- Wide operating range
  From -12°C to 30°C leaving temperature on the evaporator side
  From 10°C to 80°C leaving temperature on the condenser side
- Sustainable and durable solution for applications below 400 kW
- High efficiencies both in cooling and heating
- 99.5% reliability rate
- Great versatility to adapt to varying applications requirements

Main features

- Screw compressor and Adaptive Frequency™ Drive
- Brazed plate heat exchangers

Options

- Sound attenuation panels (up to -9 dB(A) attenuation)
- Variable Primary Flow full compatibility
- Ice making

Accessories

- Flow switch
- Anti-vibration neoprene isolators

Controls

- 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

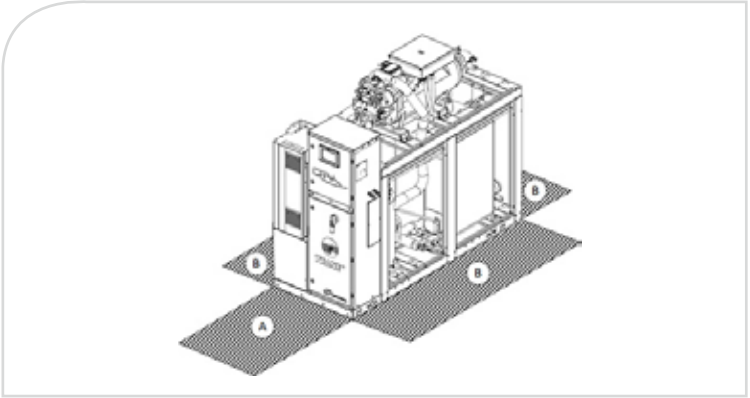
  Trane™ UC800 controller
  - New generation Trane control platform for chillers
  - Advanced algorithms for the most challenging conditions
  - Maintains efficient and reliable operation

  Connectivity
  - Full interoperability via SmartCom interface BACnet™ (IP and MSTP), LonTalk®, Modbus
  - Master/Slave Operation
  - Full remote control capability via Trane BMS or Chiller Plant Controls

Condenser leaving water temperature (min./max.)	(°C)	+10/+80
Evaporator leaving water temperature range (min./max.)	(°C)	-12/+30
Power supply	(V/Ph/Hz)	400/3/50

RTSF G		050 G	060 G	070 G	090 G	100 G	110 G
Air conditioning application (1)							
Net Heating capacity (2)	(kW)	203.7	243.0	293.6	350.6	410.0	443.9
Net COP (2)		4.50	4.59	4.57	4.55	4.34	4.32
Eurovent class - Heating		A	A	A	A	A	A
High temperature application (3)							
Net Heating capacity (2)	(kW)	182.4	220.9	255.4	308.1	365.7	420.3
Net COP (2)		3.74	3.78	3.92	3.90	3.80	3.68
SCOP (3)		4.82	4.91	5.08	5.09	5.09	5.11
Space Heating efficiency ηs,h (3)	(%)	185	188	195	196	196	196
Number of refrigerant circuits				1			
Number of compressors				1			
Sound power level (4)	(dB(A))	93	93	98	98	98	94
Dimensions and weights (operating) (3)							
Length	(mm)	2240	2240	2240	2240	2240	2240
Width	(mm)	900	900	900	900	900	900
Height	(mm)	1940	1940	1960	1960	1960	1960
Weight	(kg)	1690	1770	2020	2130	2130	2130
Clearance A	(mm)	1000	1000	1000	1000	1000	1000
Clearance B	(mm)	800	800	800	800	800	800

(1) At 10/7°C Entering/Leaving evaporator and 40/45°C Entering/Leaving condenser.
(2) According to EN14511:2018.
(3) At 10/7°C Entering/Leaving evaporator and 47/55°C Entering/Leaving condenser.
(4) At full load and in accordance with ISO9614.



RTWD

Water-to-water helical-rotary heat pump

Customer benefits

High performance heat pump based on:

- Falling film evaporator: higher performances with lower refrigerant charge
- State-of-the-art control to guarantee superior dependability and low cost of ownership
- Optional Trane Adaptive Frequency™ Drive (AFD) for part load efficiency enhancement

Range description

- RTWD: R134a water-to-water heat pump
- RTWD G: R1234ze water-to-water heat pump

Main features

- Low-speed, direct-drive semi-hermetic helical rotary compressor featuring only 3 moving parts, suction-gas-cooled motor
- Fully modulating load control (15-100%)
- 3 different levels of efficiency
- Control of the hot water leaving water temperature from CH530
- Maximum condenser temperature 75°C with R1234ze (63°C with R134a)
- Compact physical footprint - fits through standard single-width door
- Bolt-together construction for easy unit disassembly
- Single power connection-reduced wiring costs
- Factory-mounted star-delta starter panel

Tracer™ CH530 Control

Adaptive Control™ microprocessor-based control featuring:

- Easy to use operator interface
- Water pump control

Control options:

- Programmable relays
- Reset of setpoints by analog signal
- Condenser refrigerant pressure output
- LonTalk®, BACnet®, Modbus® communication interfaces

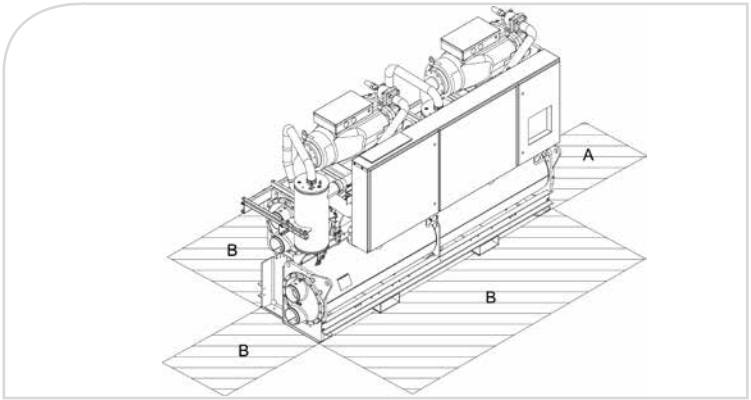
This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

		R134a	R1234ze
Condenser leaving water temperature (min./max.)	(°C)	14/63	14/75
Evaporator leaving water temperature range (min./max.)	(°C)	-12/+18	-12/+20
Power supply	(V/Ph/Hz)	400/3/50	

RTWD - R134a		60 HE	70 HE	80 HE	90 HE	100 HE	110 HE	120 HE	130 HE	140 HE	160 HE	180 HE
Air conditioning application (1)												
Net Heating capacity (2)	(kW)	263.8	311.8	357.9	410.2	438.4	469.1	509.8	550.6	601.6	654.8	723.0
Net COP (2)		4.50	4.49	4.45	4.50	4.52	4.57	4.56	4.54	4.57	4.64	4.60
Eurovent class - Heating		A	A	A	A	A	A	A	A	A	A	A
Low temperature application (3)												
Net Heating capacity (2)	(kW)	279.0	331.6	377.4	430.0	459.3	491.2	526.7	566.1	621.5	678.4	746.8
Net COP (2)		5.23	5.11	5.07	5.11	5.13	5.18	5.20	5.38	5.37	4.88	5.23
SCOP (3)		5.37	5.20	5.17	5.17	5.11	5.10	5.15	5.49	5.44	5.31	5.26
Space Heating efficiency ηs,h (3)	(%)	207	200	199	199	197	196	198	212	210	204	202
Number of refrigerant circuits							2					
Number of compressors							2					
Sound power level (5)	(dB(A))	90	90	97	99	99	99	98	96	96	96	101
Weights and dimensions (operating)												
Length	(mm)	3210	3210	3210	3230	3320	3230	3240	3400	3400	3400	3490
Width	(mm)	1070	1070	1070	1060	1060	1060	1060	1280	1280	1280	1310
Height	(mm)	1940	1940	1940	1960	1960	1960	1960	1950	1950	1950	1970
Weight	(kg)	2650	2658	2673	2928	2970	3008	3198	3771	3802	3874	4042
Clearance A	(mm)						920					
Clearance B	(mm)	920	920	920	920	920	920	920	920	920	1020	1020

RTWD - R134a		200 HE	220 HE	250 HE	160 XE	180 XE	200 XE	160 SE	170 SE	190 SE	200 SE
Air conditioning application (1)											
Net Heating capacity (2)	(kW)	791.6	870.1	950.2	668.0	736.6	794.5	672.7	743.0	831.3	910.7
Net COP (2)		4.61	4.61	4.67	4.76	4.73	4.72	4.15	4.14	4.26	4.34
Eurovent class - Heating		A	A	A	A	A	A	B	C	B	B
Low temperature application (3)											
Net Heating capacity (2)	(kW)	815.3	892.2	973.0	693.9	763.7	820.5	691.7	761.9	849.4	929.3
Net COP (2)		5.22	5.23	5.21	5.46	5.34	5.34	4.88	4.84	4.91	4.94
SCOP (3)		5.29	5.38	5.39	5.48	5.38	5.52	4.99	4.94	4.96	5.04
Space Heating efficiency ηs,h (3)	(%)	204	207	208	211	207	213	192	190	191	194
Number of refrigerant circuits						2					
Number of compressors						2					
Sound power level (5)	(dB(A))	101	101	101	96	101	101	101	101	101	101
Weights and dimensions (operating)											
Length	(mm)	3490	3490	3490	3760	3810	3490	3490	3490	3490	3490
Width	(mm)	1310	1310	1310	1280	1310	1310	1310	1310	1310	1310
Height	(mm)	2010	2010	2010	2010	2010	2010	1970	1970	1970	1970
Weight	(kg)	4488	4504	4579	4172	4408	4625	3874	4049	4086	4125
Clearance A	(mm)					920					
Clearance B	(mm)	1020	1020	1020	1020	1020	1020	1020	1020	1020	1020

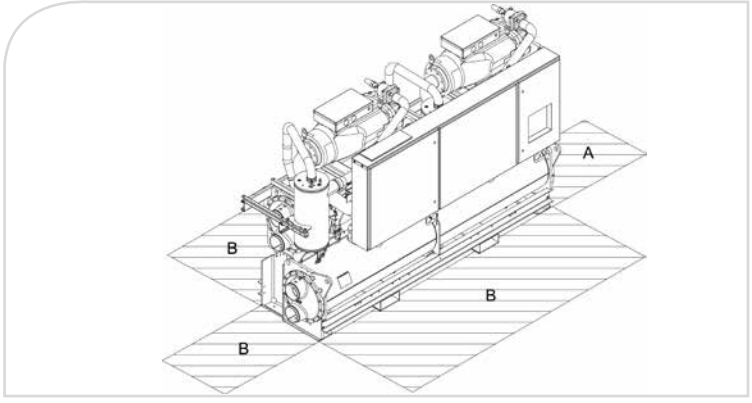
(1) At 10/7°C Entering/Leaving evaporator and 40/45°C Entering/Leaving condenser.
(2) According to EN14511:2018.
(3) At 10/7°C Entering/Leaving evaporator and 30/35°C Entering/Leaving condenser.
(4) At 10/7°C Entering/Leaving evaporator and 47/55°C Entering/Leaving condenser.
(5) At full load and in accordance with ISO9614.



RTWD - R134a		060 HSE	070 HSE	080 HSE	090 HSE	100 HSE	110 HSE	120 HSE	130 HSE
Air conditioning application (1)									
Net Heating capacity (2)	(kW)	270.2	317.6	367.3	423.3	451.0	481.4	520.7	560.0
Net COP (2)		4.42	4.4	4.35	4.4	4.42	4.47	4.49	4.5
Eurovent class - Heating		B	B	B	B	B	A	A	A
Low temperature application (3)									
Net Heating capacity (2)	(kW)	281.4	330.9	381.0	438.1	468.2	500.7	536.8	572.5
Net COP (2)		4.96	4.88	4.84	4.87	4.91	4.98	5.12	5.25
SCOP (3)		5.55	5.19	4.96	4.96	4.97	5.00	5.16	5.30
Space Heating efficiency ηs,h (3)	(%)	214	200	191	190	191	192	198	204
Number of refrigerant circuits						2			
Number of compressors						2			
Sound power level (5)	(dB(A))	90	90	97	99	99	99	98	96
Weights and dimensions (operating)									
Length	(mm)	3210	3210	3210	3223	3318	3223	3235	3395
Width	(mm)	1131	1131	1131	1118	1118	1118	1118	1302
Height	(mm)	1938	1938	1938	1955	1955	1955	1955	1943
Weight	(kg)	2788	2796	2829	3102	3144	3182	3372	3945
Clearance A	(mm)					920			
Clearance B	(mm)					920			
Electrical data									
Maximum amps	(A)	89	105	121	138	145	153	167	182
Start-up amps	(A)	3	3	4	4	5	5	6	6

RTWD - R134a		140 HSE	160 HSE	180 HSE	200 HSE	220 HSE	250 HSE	260 HSE	270 HSE
Air conditioning application (1)									
Net Heating capacity (2)	(kW)	609.3	674.6	741.9	798.2	869.5	945.3	1049.6	1139.8
Net COP (2)		4.52	4.70	4.60	4.54	4.44	4.49	4.24	4.29
Eurovent class - Heating		A	A	A	A	B	A	B	B
Low temperature application (3)									
Net Heating capacity (2)	(kW)	627.6	701.6	772.2	829.8	899.8	977.6	1059.3	1150.6
Net COP (2)		5.20	5.29	5.28	5.34	5.14	5.15	4.89	4.90
SCOP (3)		5.29	5.35	5.47	5.82	5.23	5.43	4.99	4.98
Space Heating efficiency ηs,h (3)	(%)	204	206	211	225	201	209	192	191
Number of refrigerant circuits						2			
Number of compressors						2			
Sound power level (5)	(dB(A))	96	96	101	101	101	101	101	101
Weights and dimensions (operating)									
Length	(mm)	3395	3752	3811	3489	3489	3489	3489	3489
Width	(mm)	1302	1302	1332	1341	1341	1341	1341	1341
Height	(mm)	1943	2004	2004	2004	2004	2004	2004	2004
Weight	(kg)	3996	4386	4622	4839	4718	4793	4718	4793
Clearance A	(mm)					920			
Clearance B	(mm)					1020			

(1) At 10/7°C Entering/Leaving evaporator and 40/45°C Entering/Leaving condenser.
(2) According to EN14511:2018.
(3) At 10/7°C Entering/Leaving evaporator and 30/35°C Entering/Leaving condenser.
(4) At 10/7°C Entering/Leaving evaporator and 47/55°C Entering/Leaving condenser.
(5) At full load and in accordance with ISO9614.



RTWD G - R1234ze		100 HE G	110 HE G	120 HE G	130 HE G	140 HE G	160 HE G	170 HE G
Air conditioning application (1)								
Net Heating capacity (2)	(kW)	404.6	443.3	482.6	522.7	577.3	631.4	686.5
Net COP (2)		4.53	4.53	4.54	4.65	4.92	4.86	4.82
Eurovent class - Heating		A	A	A	A	A	A	A
Low temperature application (3)								
Net Heating capacity (2)	(kW)	433.1	474.2	516.0	558.4	618.5	676.3	734.9
Net COP (2)		5.44	5.43	5.43	5.57	5.88	5.80	5.72
SCOP (3)		5.55	5.54	5.50	5.64	5.96	5.81	5.67
Space Heating efficiency ηs,h (3)	(%)	214	214	212	218	230	224	219
High temperature application (4)								
Net Heating capacity (2)	(kW)	382.3	418.8	455.8	493.6	544.3	595.7	647.8
Net COP (2)		-	-	3.75	3.85	4.08	4.04	4.01
SCOP (4)		-	-	4.54	4.72	4.93	4.87	4.80
Space Heating efficiency ηs,h (4)		-	-	174	181	189	187	184
Number of refrigerant circuits					2			
Number of compressors					2			
Sound power level (5)	(dB(A))	95	95	95	101	101	101	101
Weights and dimensions (operating)								
Length	(mm)	3400	3400	3400	3400	3490	3490	3490
Width	(mm)	1280	1280	1280	1280	1310	1310	1310
Height	(mm)	1950	1950	1950	1950	1970	1970	1970
Weight	(kg)	3820	3820	3820	3820	4525	4525	4525
Clearance A	(mm)				920			
Clearance B	(mm)				920			

RTWD G - R1234ze		100 HSE G	110 HSE G	120 HSE G	130 HSE G	140 HSE G	160 HSE G	170 HSE G	180 HSE G	200 HSE G	220 HSE G	250 HSE G
Air conditioning application (1)												
Net Heating capacity (2)	(kW)	402.5	442.2	482.6	523.0	577.9	634.9	693.0	750.8	789.8	847.0	904.8
Net COP (2)		4.48	4.47	4.46	4.58	4.84	4.76	4.70	4.55	4.49	4.40	4.33
Eurovent class - Heating		A	A	A	A	A	A	A	A	A	B	B
Low temperature application (3)												
Net Heating capacity (2)	(kW)	433.4	475.8	518.9	560.3	619.5	680.1	741.6	800.8	838.7	897.9	957.5
Net COP (2)		5.40	5.38	5.36	5.47	5.72	5.65	5.60	5.38	5.34	5.21	5.10
SCOP (3)		5.83	5.74	5.69	5.61	5.93	5.62	5.56	5.35	5.63	5.51	5.39
Space Heating efficiency ηs,h (3)	(%)	225	221	220	216	229	217	214	206	217	212	207
High temperature application (4)												
Net Heating capacity (2)	(kW)	-	-	454.0	492.8	544.5	597.7	651.8	709.1	749.9	804.9	860.2
Net COP (2)		-	-	3.67	3.78	4.01	3.94	3.90	3.80	3.73	3.66	3.61
SCOP (4)		-	-	4.64	4.75	4.92	4.86	4.78	4.69	4.75	4.72	4.69
Space Heating efficiency ηs,h (4)		-	-	178	182	189	186	183	180	182	181	180
Number of refrigerant circuits							2					
Number of compressors							2					
Sound power level (5)	(dB(A))	95	95	95	101	101	101	101	102	102	103	103
Weights and dimensions (operating)												
Length	(mm)	3395	3395	3395	3395	3810	3810	3810	3810	3490	3490	3490
Width	(mm)	1300	1300	1300	1300	1330	1330	1330	1330	1340	1340	1340
Height	(mm)	1945	1945	1945	1945	2005	2005	2005	2005	2005	2005	2005
Weight	(kg)	4030	4030	4030	4189	4720	4720	4720	4720	4780	4780	4780
Clearance A	(mm)						920					
Clearance B	(mm)						920					

(1) At 10/7°C Entering/Leaving evaporator and 40/45°C Entering/Leaving condenser.
(2) According to EN14511:2018.
(3) At 10/7°C Entering/Leaving evaporator and 30/35°C Entering/Leaving condenser.
(4) At 10/7°C Entering/Leaving evaporator and 47/55°C Entering/Leaving condenser.
(5) At full load and in accordance with ISO9614.

RTWF

Water-to-water helical-rotary heat pump

Customer benefits

- Extended and unmatched capacities
- High efficiencies
- Reliability: Trane helical-rotary compressor
- State-of-the-art control to guarantee superior dependability and low cost of ownership
- Optional Trane Adaptive Frequency™ Drive (AFD) for part load efficiency enhancement

Range description

- RTWF: R134a/R513A water-to-water heat pump
- RTWF G: R1234ze water-to-water heat pump

Main features

- High leaving water temperature up to 85°C with R1234ze (68°C with R134a)
- 3 different levels of efficiency (SE–HE–HSE)
- Multiple compressors
- Low-speed, direct-drive semi-hermetic helical rotary compressor, suction-gas-cooled motor
- Trane patented CHIL evaporator
- Fully modulating load control (15–100%)
- Adaptive Control™ microprocessor system enhances chiller by providing the latest chiller control technology
- Variable Primary Flow full compatibility

Options

- Right hand or left hand connections

Accessories

- Flow switch
- Anti-vibration accessories: neoprene isolators

Controls

- Trane™ UC800 controller
  - Easy to read 7-inch color touchscreen display
  - Industry leading algorithms
  - Open protocol design
  - Adaptive control
- Variable Primary Flow control at evaporator and/or condenser
- Feedforward Adaptive control
- Softloading (HSE)
- Rapid Restart
- SmartCom interface: BACnet® MSTP, BACnet® IP, BACnet® RTU, Modbus® RTU and LonTalk® communication interfaces
- Master/Slave operation
- Energy metering

* RTWF SE is available with R513A refrigerant. Contact your local sales office.

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

		R134a/R513A	R1234ze
Condenser leaving water temperature (min./max.)	(°C)	+15/+68 (a) +10/+68 (b)	+15/+80 (a) +10/+85 (b)
Evaporator leaving water temperature range (min./max.)	(°C)	-12/+20	-12/+27 (a) -12/+28 (b)
Power supply	(V/Ph/Hz)	400/3/50	

(a) Single circuit units
(b) Double circuit units

RTWF Standard Efficiency - R134a		100 SE	120 SE	140 SE	150 SE	170 SE	180 SE	190 SE	210 SE	230 SE
Air conditioning application (1)										
Net Heating capacity (2)	(kW)	390	454	524	584	636	695	758	826	890
Net COP (2)		4.19	4.22	4.33	4.39	4.39	4.35	4.31	4.39	4.42
Eurovent class - Heating		B	B	B	B	B	B	B	B	B
High temperature application (4)										
Net Heating capacity (2)		373	438	493	568	600	656	716	780	841
Net COP (2)		3.56	3.62	3.58	3.78	3.67	3.64	3.61	3.67	3.68
SCOP (4)		4.650	4.825	4.975	5.050	5.075	5.000	5.000	5.100	5.050
Space Heating efficiency ηs,h (4)	(%)	178	185	191	194	195	192	192	196	194
Number of refrigerant circuits						1				
Number of compressors						2				
Weights and dimensions (operating)										
Length	(mm)	3080	3080	3080	3080	3080	3160	3160	3160	3160
Width	(mm)	1190	1190	1190	1190	1190	1225	1250	1250	1250
Height	(mm)	1900	1900	1900	1935	1935	1935	2035	2035	2080
Weight	(kg)	2622	2641	3048	3194	3215	3456	3783	3884	3988
Clearance A	(mm)					800				
Clearance B	(mm)					2590				

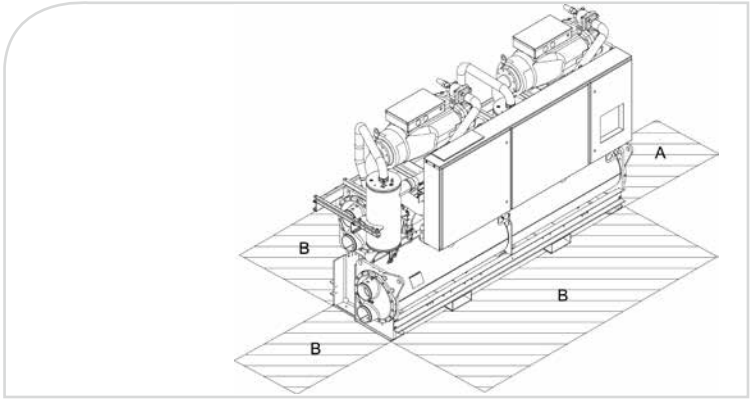
RTWF Standard Efficiency - R134a		275 SE	290 SE	310 SE	330 SE	370 SE	410 SE	450 SE	490 SE
Air conditioning application (1)									
Net Heating capacity (2)	(kW)	1035.4	1085.9	1149.3	1215.3	1346.4	1537.4	1669.7	1800.7
Net COP (2)		4.40	4.37	4.38	4.40	4.42	4.39	4.42	4.46
Eurovent class - Heating		B	B	B	B	B	B	B	A
High temperature application (4)									
Net Heating capacity (2)	(kW)	975.8	1023.9	1083.1	1146.0	1270.6	1449.0	1574.7	1699.0
Net COP (2)		3.67	3.66	3.67	3.69	3.71	3.68	3.71	3.74
SCOP (4)		5.13	5.10	5.05	5.13	5.15	5.23	5.35	5.35
Space Heating efficiency ηs,h (4)	(%)	197	196	194	197	198	201	206	206
Number of refrigerant circuits						2			
Number of compressors		3	3	3	3	3	4	4	4
Sound power level (7)	(dB(A))	100	100	101	101	101	102	102	102
Weights and dimensions (operating)									
Length	(mm)	4754	4754	4784	4784	4784	4774	4774	4774
Width	(mm)	1727	1727	1727	1727	1727	1823	1823	1823
Height	(mm)	2032	2032	2032	2032	2032	2135	2135	2135
Weight	(kg)	5276	5273	5456	5511	5574	6945	7025	7109
Clearance A	(mm)				4000				
Clearance B	(mm)				1000				

(1) At 10/7°C Entering/Leaving evaporator and 40/45°C Entering/Leaving condenser.
(2) According to EN14511:2018.
(3) At 10/7°C Entering/Leaving evaporator and 30/35°C Entering/Leaving condenser.
(4) At 10/7°C Entering/Leaving evaporator and 47/55°C Entering/Leaving condenser.
(5) At 10/7°C Entering/Leaving evaporator and 55/65°C Entering/Leaving condenser.
(6) Requires a 2 pass condenser (Optional).
(7) At full load and in accordance with ISO9614.

RTWF High Efficiency - R134a		100 HE	120 HE	140 HE	150 HE	170 HE	180 HE	190 HE	210 HE	230 HE
Air conditioning application (1)										
Net Heating capacity (2)	(kW)	391	463	534	590	642	696	750	822	893
Net COP (2)		4.27	4.38	4.46	4.54	4.56	4.61	4.66	4.68	4.73
Eurovent class - Heating		B	B	A	A	A	A	A	A	A
High temperature application (4)										
Net Heating capacity (2)	(kW)	369	443	512	564	611	657	711	778	845
Net COP (2)		3.55	3.69	3.75	3.81	3.82	3.82	3.87	3.88	3.93
SCOP (4)		4.63	4.88	5.03	5.08	5.10	4.03	5.28	4.05	5.38
Space Heating efficiency ηs,h (4)	(%)	177	187	193	195	196	153	203	154	207
Number of refrigerant circuits						1				
Number of compressors						2				
Sound power level (7)	(dB(A))	99	99	96	96	96	99	101	101	101
Weights and dimensions (operating)										
Length	(mm)	3080	3080	3080	3160	3160	3160	3160	3160	3160
Width	(mm)	1190	1190	1190	1215	1215	1250	1250	1250	1250
Height	(mm)	1900	1935	1935	2055	2055	2080	2080	2080	2080
Weight	(kg)	2696	2819	3196	3490	3564	3790	3969	4139	4139
Clearance A	(mm)					800				
Clearance B	(mm)					2590				

RTWF High Efficiency - R134a		275 HE	290 HE	310 HE	330 HE	370 HE	410 HE	450 HE	490 HE
Air conditioning application (1)									
Net Heating capacity (2)	(kW)	1045.6	1097.1	1164.3	1228.0	1352.9	1551.0	1683.2	1817.0
Net COP (2)		4.61	4.59	4.59	4.62	4.64	4.60	4.63	4.67
Eurovent class - Heating		A	A	A	A	A	A	A	A
High temperature application (4)									
Net Heating capacity (2)	(kW)	986.2	1035.3	1098.3	1158.8	1276.5	1462.8	1588.7	1715.1
Net COP (2)		3.82	3.81	3.82	3.84	3.86	3.83	3.85	3.88
SCOP (4)		5.20	5.20	5.15	5.20	5.20	5.28	5.38	5.38
Space Heating efficiency ηs,h (4)	(%)	200	200	198	200	200	203	207	207
Number of refrigerant circuits						2			
Number of compressors		3	3	3	3	3	4	4	4
Sound power level (7)	(dB(A))	100	100	101	101	101	102	102	102
Weights and dimensions (operating)									
Length	(mm)	4754	4754	4784	4784	4784	4774	4774	4774
Width	(mm)	1727	1727	1727	1727	1727	1823	1823	1823
Height	(mm)	2032	2032	2032	2032	2032	2135	2135	2135
Weight	(kg)	5687	5683	5886	5950	6123	7446	7571	7694
Clearance A	(mm)				4000				
Clearance B	(mm)				1000				

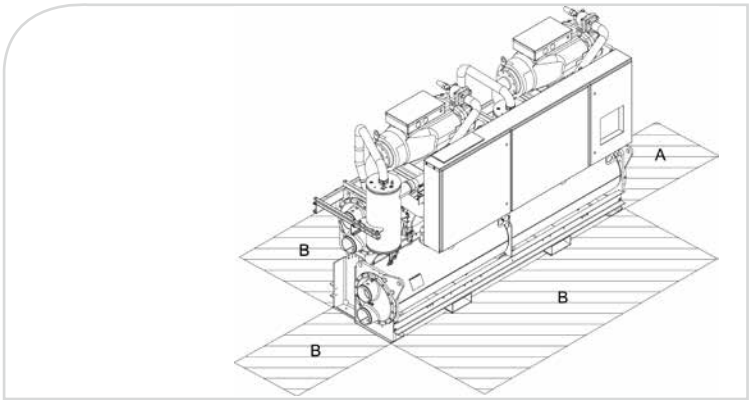
(1) At 10/7°C Entering/Leaving evaporator and 40/45°C Entering/Leaving condenser.
(2) According to EN14511:2018.
(3) At 10/7°C Entering/Leaving evaporator and 30/35°C Entering/Leaving condenser.
(4) At 10/7°C Entering/Leaving evaporator and 47/55°C Entering/Leaving condenser.
(5) At 10/7°C Entering/Leaving evaporator and 55/65°C Entering/Leaving condenser.
(6) Requires a 2 pass condenser (Optional).
(7) At full load and in accordance with ISO9614.



RTWF High Seasonal Efficiency - R134a		100 HSE	120 HSE	140 HSE	150 HSE	170 HSE	180 HSE	190 HSE	210 HSE	230 HSE	250 HSE
Air conditioning application (1)											
Net Heating capacity (2)	(kW)	397	466	534	592	644	692	747	818	889	966
Net COP (2)		4.22	4.32	4.43	4.50	4.52	4.54	4.58	4.60	4.65	4.54
Eurovent class - Heating		B	B	B	A	A	A	A	A	A	A
High temperature application (4)											
Net Heating capacity (2)	(kW)	375.5	446.2	512.8	567.3	613.8	653.8	707.8	774.0	841.0	917.5
Net COP (2)		3.50	3.63	3.73	3.78	3.79	3.73	3.78	3.79	3.85	3.78
SCOP (4)		4.60	4.75	5.00	5.00	5.03	5.10	5.10	5.13	5.23	5.15
Space Heating efficiency ηs,h (4)	(%)	176	182	192	192	193	196	196	197	201	198
Number of refrigerant circuits						1					
Number of compressors						2					
Sound power level (7)	(dB(A))	99	99	96	96	96	99	101	101	101	103
Weights and dimensions (operating)											
Length	(mm)	3080	3080	3080	3160	3160	3160	3160	3160	3160	3160
Width	(mm)	1260	1260	1260	1285	1285	1380	1380	1380	1380	1380
Height	(mm)	1900	1935	1935	2055	2055	2080	2080	2080	2080	2080
Weight	(kg)	2796	2919	3296	3590	3670	3890	4069	4239	4239	4239
Clearance A	(mm)					800					
Clearance B	(mm)					2590					

RTWF High Seasonal Efficiency - R134a		275 HSE	290 HSE	310 HSE	330 HSE	370 HSE	410 HSE	450 HSE	490 HSE	515 HSE
Air conditioning application (1)										
Net Heating capacity (2)	(kW)	1048.6	1102.1	1169.8	1233.4	1376.5	1556.6	1688.8	1841.0	2019.0
Net COP (2)		4.55	4.53	4.52	4.54	4.52	4.54	4.57	4.58	4.49
Eurovent class - Heating		A	A	A	A	A	A	A	A	A
High temperature application (4)										
Net Heating capacity (2)	(kW)	990.3	1041.5	1105.2	1165.7	1300.9	1469.8	1595.8	1739.8	1912.3
Net COP (2)		3.76	3.76	3.74	3.77	3.76	3.77	3.80	3.81	3.76
SCOP (4)		5.25	5.23	5.25	5.25	5.25	5.30	5.35	5.38	5.30
Space Heating efficiency ηs,h (4)	(%)	202	201	202	202	202	204	206	207	204
Number of refrigerant circuits						2				
Number of compressors		3	3	3	3	3	4	4	4	4
Sound power level (7)	(dB(A))	100	100	101	101	101	102	102	102	107
Weights and dimensions (operating)										
Length	(mm)	4754	4754	4784	4784	4784	4774	4774	4774	4774
Width	(mm)	1727	1727	1727	1727	1727	1823	1823	1823	1823
Height	(mm)	2032	2032	2032	2032	2032	2135	2135	2135	2135
Weight	(kg)	5862	5858	6100	6164	6337	7660	7785	7908	7907
Clearance A	(mm)					4000				
Clearance B	(mm)					1000				

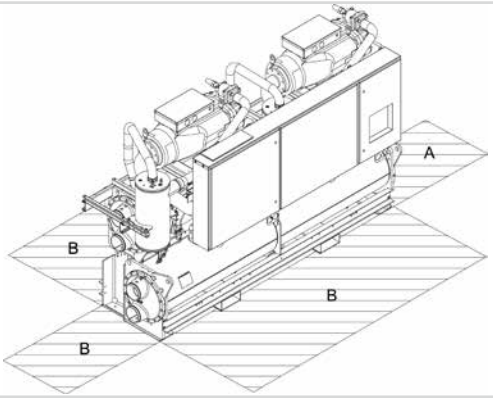
(1) At 10/7°C Entering/Leaving evaporator and 40/45°C Entering/Leaving condenser.
(2) According to EN14511:2018.
(3) At 10/7°C Entering/Leaving evaporator and 30/35°C Entering/Leaving condenser.
(4) At 10/7°C Entering/Leaving evaporator and 47/55°C Entering/Leaving condenser.
(5) At 10/7°C Entering/Leaving evaporator and 55/65°C Entering/Leaving condenser.
(6) Requires a 2 pass condenser (Optional).
(7) At full load and in accordance with ISO9614.



RTWF Standard Efficiency - R1234ze		95 SE G	105 SE G	125 SE G	135 SE G	155 SE G	165 SE G
Air conditioning application (1)							
Net Heating capacity (2)	(kW)	390	426	508	543	593	655
Net COP (2)		4.27	4.23	4.36	4.36	4.36	4.44
Eurovent class - Heating		B	C	B	B	B	B
High temperature application (4)							
Net Heating capacity (2)	(kW)	363	397	474	507	571	612
Net COP (2)		3.50	3.49	3.59	3.6	3.73	3.73
SCOP (4)		4.65	4.75	5.03	5.05	5.00	5.18
Space Heating efficiency ηs,h (4)	(%)	178	182	193	194	192	199
Number of refrigerant circuits				1			
Number of compressors				2			
Sound power level (7)	(dB(A))	96	96	95	93	93	93
Weights and dimensions (operating)							
Length	(mm)	3080	3080	3160	3160	3160	3160
Width	(mm)	1190	1190	1225	1225	1250	1250
Height	(mm)	1900	1900	1935	1935	2035	2080
Weight	(kg)	2959	2959	3128	3164	3452	3579
Clearance A	(mm)			800			
Clearance B	(mm)			2590			

RTWF Standard Efficiency - R1234ze		220 SE G	240 SE G	280 SE G	300 SE G	320 SE G	360 SE G
Air conditioning application (1)							
Net Heating capacity (2)	(kW)	819	878	979	1103	1205	1317
Net COP (2)		4.57	4.58	4.51	4.68	4.59	4.62
Eurovent class - Heating		B	B	B	A	B	B
High temperature application (4)							
Net Heating capacity (2)	(kW)	766.2	821.3	916.8	1027.4	1123.3	1227.5
Net COP (2)		3.69	3.68	3.66	3.72	3.67	3.69
SCOP (4)		4.90	4.98	4.95	5.24	5.20	5.05
Space Heating efficiency ηs,h (4)	(%)	188	191	190	202	200	194
Very High temperature application (5)							
Net Heating capacity (2)		-	-	-	-	1060.2	1158.4
Net COP (2)		-	-	-	-	2.99	3.01
Number of refrigerant circuits				2			
Number of compressors		3	3	3	4	4	4
Sound power level (7)	(dB(A))	96	96	96	97	97	97
Weights and dimensions (operating)							
Length	(mm)	4784	4784	4784	4784	4784	4784
Width	(mm)	1727	1727	1727	1823	1823	1823
Height	(mm)	2032	2032	2032	2135	2135	2135
Weight	(kg)	5135	5228	5373	6554	6676	6885
Clearance A	(mm)			4000			
Clearance B	(mm)			1000			

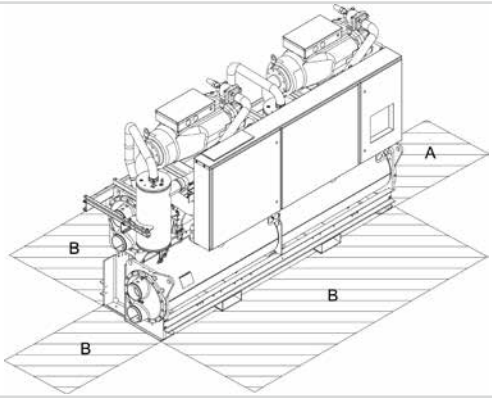
(1) At 10/7°C Entering/Leaving evaporator and 40/45°C Entering/Leaving condenser.
(2) According to EN14511:2018.
(3) At 10/7°C Entering/Leaving evaporator and 30/35°C Entering/Leaving condenser.
(4) At 10/7°C Entering/Leaving evaporator and 47/55°C Entering/Leaving condenser.
(5) At 10/7°C Entering/Leaving evaporator and 55/65°C Entering/Leaving condenser.
(6) Requires a 2 pass condenser (Optional).
(7) At full load and in accordance with ISO9614.



RTWF High Efficiency - R1234ze		95 HE G	105 HE G	125 HE G	135 HE G	155 HE G	165 HE G
Air conditioning application (1)							
Net Heating capacity (2)	(kW)	393.3	431.6	506.5	542.3	596.9	650.5
Net COP (2)		4.39	4.39	4.47	4.49	4.53	4.66
Eurovent class - Heating		B	B	A	A	A	A
High temperature application (4)							
Net Heating capacity (2)	(kW)	372	408	479	514	566	616
Net COP (2)		3.7	3.72	3.72	3.74	3.77	3.87
SCOP (4)		4.70	4.83	5.10	5.13	5.13	5.23
Space Heating efficiency ηs,h (4)	(%)	180	185	196	197	197	201
Number of refrigerant circuits							
Number of compressors							
Sound power level (7)	(dB(A))	96	96	95	93	93	93
Weights and dimensions (operating)							
Length	(mm)	3080	3080	3160	3160	3160	3160
Width	(mm)	1190	1190	1225	1225	1250	1250
Height	(mm)	1935	1935	1935	1935	2035	2080
Weight	(kg)	3176	3176	3271	3307	3622	3796
Clearance A	(mm)			800			
Clearance B	(mm)			2590			

RTWF High Efficiency - R1234ze		220 HE G	240 HE G	280 HE G	300 HE G	320 HE G	360 HE G
Air conditioning application (1)							
Net Heating capacity (2)	(kW)	824	884	986	1108	1210	1324
Net COP (2)		4.79	4.83	4.78	4.91	4.84	4.88
Eurovent class - Heating		A	A	A	A	A	A
High temperature application (4)							
Net Heating capacity (2)	(kW)	770.8	827.2	922.7	1030.4	1129.1	1234.5
Net COP (2)		3.79	3.82	3.80	3.88	3.85	3.87
SCOP (4)		4.90	5.03	4.98	5.10	5.25	5.15
Space Heating efficiency ηs,h (4)	(%)	188	193	191	196	202	198
Very High temperature application (5)(6)							
Net Heating capacity (2)		733.9	787.1	880.0	983.5	1077.8	1179.1
Net COP (2)		3.10	3.12	3.11	3.15	3.14	3.15
Number of refrigerant circuits				2			
Number of compressors		3	3	3	4	4	4
Sound power level (7)	(dB(A))	96	96	96	97	97	97
Weights and dimensions (operating)							
Length	(mm)	4784	4784	4784	4784	4784	4784
Width	(mm)	1727	1727	1727	1823	1823	1823
Height	(mm)	2032	2032	2032	2135	2135	2135
Weight	(kg)	5517	5610	5804	7007	7129	7353
Clearance A	(mm)			4000			
Clearance B	(mm)			1000			

(1) At 10/7°C Entering/Leaving evaporator and 40/45°C Entering/Leaving condenser.
(2) According to EN14511:2018.
(3) At 10/7°C Entering/Leaving evaporator and 30/35°C Entering/Leaving condenser.
(4) At 10/7°C Entering/Leaving evaporator and 47/55°C Entering/Leaving condenser.
(5) At 10/7°C Entering/Leaving evaporator and 55/65°C Entering/Leaving condenser.
(6) Requires a 2 pass condenser (Optional).
(7) At full load and in accordance with ISO9614.

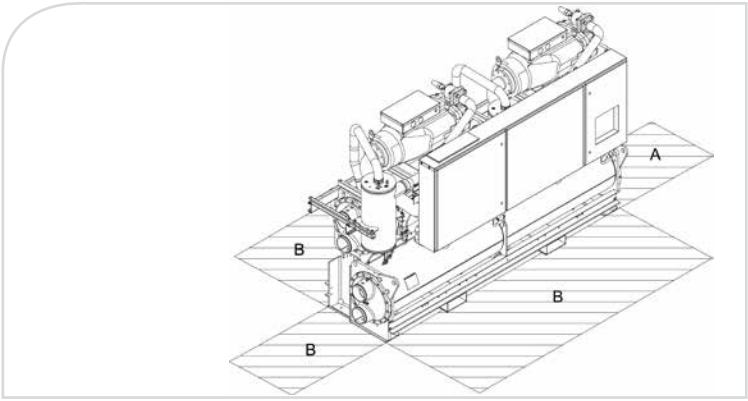


RTWF G High Seasonal Efficiency - R1234ze		095 HSE G	105 HSE G	125 HSE G	135 HSE G	155 HSE G	165 HSE G	185 HSE G	205 HSE G
Air conditioning application (1)									
Net Heating capacity (2)	(kW)	400.5	440.9	518.5	555	613.8	668.6	727.4	787.4
Net COP (2)		4.47	4.46	4.53	4.56	4.58	4.62	4.55	4.45
High temperature application (5)									
Net Heating capacity (2)	(kW)	370	408	480	514	568	618	674	731
Net COP (2)		3.61	3.61	3.69	3.71	3.71	3.82	3.77	3.7
SCOP (4)		4.8	4.9	5.075	5.1	5.1	5.2	5.1	5.1
Space Heating efficiency ηs.h (4)	(%)	184	188	195	196	196	200	196	196
Very high temperature application (5)									
Net Heating capacity (2)	(kW)	-	407.6	479.5	514.0	567.9	618.1	674.4	730.6
Net COP (2)		-	3.61	3.69	3.71	3.71	3.82	3.77	3.70
Number of refrigerant circuits						1			
Number of compressors						2			
Sound power level (7)		-	96	93	93	93	93	95	97
Weights and dimensions (operating)									
Length	(mm)	3080	3080	3160	3160	3160	3160	3160	3160
Width	(mm)	1260	1260	1350	1350	1380	1380	1380	1380
Height	(mm)	1935	1935	1935	1935	2035	2080	2080	2080
Weight	(kg)	3276	3276	3371	3407	3722	3896	4025	4025
Clearance A	(mm)					4000			
Clearance B	(mm)					1000			

(1) At 40/45°C Entering/Leaving Condenser and 10/7°C Entering/Leaving Evaporator.
(2) Net performances calculated as per EN 14511-2018.
(4) ηs,h / SCOP as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for space heaters with 400 kW maximum rated capacity - COMMISSION REGULATION (EU) N° 813/2013/EU of 2 August 2013.
(5) At 47/55°C Entering/Leaving Condenser and 10/7°C Entering/Leaving Evaporator.

RTWF High Seasonal Efficiency - R1234ze		220 HSE G	240 HSE G	280 HSE G	300 HSE G	320 HSE G	360 HSE G	380 HSE G	420 HSE G
Air conditioning application (1)									
Net Heating capacity (2)	(kW)	828	888	995	1111	1215	1333	1453	1578
Net COP (2)		4.697	4.725	4.593	4.877	4.711	4.824	4.666	4.638
Eurovent class - Heating		A	A	A	A	A	A	A	A
High temperature application (4)									
Net Heating capacity (2)	(kW)	768.5	824.9	921.9	1030.7	1129.3	1238.0	1353.2	1470.3
Net COP (2)		3.78	3.82	3.75	3.88	3.85	3.85	3.77	3.72
SCOP (4)		5.1	5.18	5.08	5.30	5.30	5.33	5.25	5.28
Space Heating efficiency ηs,h (4)	(%)	194	199	195	204	204	205	202	203
Very High temperature application (5)(6)									
Net Heating capacity (2)		731.9	785.0	875.8	983.5	1077.8	1178.5	1295.6	1407.5
Net COP (2)		3.08	3.11	3.05	3.15	3.14	3.12	3.08	3.04
Number of refrigerant circuits					2				
Number of compressors		3	3	3	4	4	4	4	4
Sound power level (7)	(dB(A))	96	96	96	97	97	97	99	101
Weights and dimensions (operating)									
Length	(mm)	4784	4784	4784	4784	4784	4784	4784	4784
Width	(mm)	1727	1727	1727	1823	1823	1823	1823	1823
Height	(mm)	2032	2032	2032	2135	2135	2135	2135	2135
Weight	(kg)	5731	5824	6018	7221	7343	7567	7567	7653
Clearance A	(mm)				4000				
Clearance B	(mm)				1000				

(1) At 10/7°C Entering/Leaving evaporator and 40/45°C Entering/Leaving condenser.
(2) According to EN14511:2018.
(3) At 10/7°C Entering/Leaving evaporator and 30/35°C Entering/Leaving condenser.
(4) At 10/7°C Entering/Leaving evaporator and 47/55°C Entering/Leaving condenser.
(5) At 10/7°C Entering/Leaving evaporator and 55/65°C Entering/Leaving condenser.
(6) Requires a 2 pass condenser (Optional).
(7) At full load and in accordance with ISO9614.



Notes

MULTI-PIPE UNITS

The continuous drive to improve energy efficiency of building systems requires an optimal balancing in the demand and supply of both heating and cooling. Trane's multi-pipe units prove to be a sustainable solution for many applications.

CMAC

Fixed speed scroll compressors

Simultaneous cooling and heating with one compact unit

- Trane Tracer™ UC800 controller with unique software designed for multi-pipe units
- Suits new construction and building renovation – from office buildings and hospitals to places of entertainment and hotels
- W-shape condenser coils to reduce unit footprint and optimize unit performance and efficiency
- High performing DSH scroll compressors, AC fans or energy saving EC fans

High efficiency and lowest cost of ownership

- Optimal use of renewable and recovered energy
- Full energy recovery for the best return on every kilowatt-hour of electricity
- Exceeds energy efficiency benchmarks based on Total Efficiency Ratio

Main features

- Up to 880 kW heating capacity in heat pump mode and even 1080 kW in full heat recovery mode
- Simultaneous cooling and heating with two completely independent water circuits, one for chilled water and one for hot water
- Precise leaving chilled/hot water temperature control
- 6 different operating modes available to optimize performance according specific customer application requirements
- One to four refrigerant circuits with precise electronic expansion valves
- Patented self-adaptive defrosting system reducing number of defrost cycles by 50%
- Stainless steel (AISI 316) brazed plate evaporator and recovery heat exchanger, externally insulated, including anti-freeze protection electric heater
- Smart pump management for outdoor freeze protection

Options

- Acoustic packages: low noise or super low noise
- Different built-in hydraulic kits available with chilled water and hot water pumps of 150/250/450 kPa and with or without stand-by pumps
- Electronically Commutated (EC) fans with innovative fan profile to reduce power input and noise emissions
- Compressor sound attenuating jackets
- Condensing coil protection grilles
- Epoxy coated condensing coils
- Power factor correction to cos phi 0.91
- High static pressure EC fans up to 100 Pa
- Control panel electric heater with thermostat
- Soft starter
- Automatic circuit breakers

Accessories

- Serial card with BACnet™ protocol TCP/IP or MS/TP
- Remote control display
- Automatic water filling
- Water gauges /gas gauges
- Rubber or spring anti-vibration mounts

Controls

- Intelligent Tracer™ UC800 controller with "state-of-the-art" software developed for multi-pipe units
- Ability to interface with main BMS systems via ModBus™ or BACnet™
- Condenser/evaporator pressure control with variable fan speed modulation to allow low ambient operation, in heating mode, down to -15°C
- Phase failure protection on compressors and fans
- Compressor rotation with FIFO logic

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

Cooling mode operating outdoor air temperature range (min./max.)	(°C)	-10/45.5
Cooling mode leaving water temperature range (min./max.)	(°C)	-6/20
Heating mode operating outdoor air temperature range (min./max.)	(°C)	-15/35
Heating mode leaving water temperature range (min./max.)	(°C)	20/56 (59)*
Power supply	(V/Ph/Hz)	400/3/50

*with capacity limitation

CMAC SE Standard Noise*		**50**	**55**	**65**	**85**	**110**	**140**	**155**	**175**
Cooling (1)									
Cooling capacity	(kW)	45.2	51.2	59.9	77.7	103	126	139	159
Power input	(kW)	17.0	19.3	23.2	29.8	41.0	49.6	56.7	62.4
EER		2.65	2.65	2.58	2.61	2.52	2.55	2.45	2.54
Seasonal efficiency (2)									
P rated,c	(kW)	45.2	51.2	59.9	77.7	103	126	139	159
ηs,c	(%)	127	132	137	126	129	131	115	122
SEER		3.24	3.39	3.50	3.23	3.30	3.35	2.96	3.12
Heating (3)									
Heating capacity	(kW)	49.1	55.8	65.7	86.2	110	138	152	174
Power input	(kW)	17.1	19.2	22.5	30.0	38.3	47.9	53.0	61.9
COP		2.88	2.91	2.92	2.87	2.86	2.89	2.86	2.82
Seasonal efficiency (4)									
P rated,h	(kW)	41.8	46.9	54.8	75.4	94.6	119	140	156
ηs,h	(%)	115	115	115	115	115	115	115	115
SCOP		2.95	2.95	2.96	2.95	2.95	2.96	2.95	2.95
Energy efficiency class		A	A	A	A	A	A	A	A
Cooling + Heating (5)									
Total cooling capacity	(kW)	43.7	50.1	59.7	74.7	106	127	143	156
Total heating capacity	(kW)	58.6	67.2	80.2	102	141	171	192	212
Total power input	(kW)	14.9	17.1	20.6	27.2	35.8	44.3	49.8	55.7
Total Efficiency Ratio (TER)		6.87	6.86	6.79	6.51	6.90	6.71	6.71	6.61
Compressors									
Number of compressors		2	2	2	2	2	2	2	2
Number of refrigerant circuits		1	1	1	1	1	1	1	1
Number of part load steps		3	3	2	2	2	2	3	2
Minimum capacity step	(%)	45	39	50	50	50	50	45	50
Fans									
Number of fans		2	2	2	3	3	4	4	6
Airflow	(m³/h)	39388	39388	39388	58988	58988	79031	79031	118168
Sound level									
Sound power level (ISO 9614)	(db(A))	82	82	83	84	87	87	89	91
Sound pressure level at 10 m	(db(A))	51	51	52	54	56	56	59	61
Dimensions and weight (operating)									
Length	(mm)	2560	2560	2560	3559	3559	2617	2617	3565
Width	(mm)	1100	1100	1100	1100	1100	2200	2200	2260
Height	(mm)	2131	2131	2131	2179	2179	2175	2175	2400
Weight	(kg)	909	913	922	1117	1199	1470	1563	2038

(1) According EN 14511-2018. Outdoor air temperature 35°C – Chilled water temperature 12/7 °C.
(2) According EN 14825-2018. Ecodesign rating for comfort chiller – fan coil application.
(3) According EN 14511-2018. Outdoor air temperature 7°C with 90% RH - Hot water temperature 40/45 °C.
(4) According EN 14825-2018. Ecodesign rating at low temperature conditions. Outdoor air temperature 7 °C dry bulb/6 °C wet bulb - Hot water temperature 30°C/35 °C.
(5) According EN 14511-2018. Heat recovery mode: Hot water temperature 40/45 °C – Chilled water temperature 12/7 °C.

* Also available in Low Noise and Super Low Noise. For a detailed selection please contact your Trane sales office.

CMAC SE Standard Noise*		210	260	305	350	370	435	495	525
Cooling (1)									
Cooling capacity	(kW)	187	227	268	314	331	382	431	454
Power input	(kW)	78.0	91.1	115	121	130	160	167	180
EER		2.39	2.49	2.34	2.60	2.55	2.39	2.58	2.52
Seasonal efficiency (2)									
P rated,c	(kW)	187	227	268	313	331	382	431	454
ηs,c	(%)	127	136	139	139	140	144	134	133
SEER		3.25	3.48	3.54	3.56	3.57	3.67	3.42	3.40
Heating (3)									
Heating capacity	(kW)	212	259	306	351	371	434	493	524
Power input	(kW)	71.2	84.3	99.2	112	119	140	168	179
COP		2.98	3.07	3.08	3.12	3.11	3.10	2.94	2.93
Seasonal efficiency (4)									
P rated,h	(kW)	177	214	254	293	309	360	-	-
ηs,h	(%)	116	118	119	120	120	119	-	-
SCOP		2.97	3.04	3.06	3.08	3.07	3.06	-	-
Energy efficiency class		A	A	A	A	A	A	-	-
Cooling + Heating (5)									
Total cooling capacity	(kW)	195	233	289	318	340	402	427	451
Total heating capacity	(kW)	260	314	385	425	455	539	581	618
Total power input	(kW)	66.0	80.2	95.9	107.3	115	138	154	166
Total Efficiency Ratio (TER)		6.88	6.82	7.03	6.93	6.93	6.83	6.56	6.43
Compressors									
Number of compressors		4	4	4	4	4	4	6	6
Number of refrigerant circuits		2	2	2	2	2	2	3	3
Number of part load steps		7	7	8	4	7	4	14	6
Minimum capacity step	(%)	14	14	23	25	13	25	21	17
Fans									
Number of fans		6	6	6	8	8	8	12	12
Airflow	(m³/h)	118168	113416	113416	152488	152488	152488	229108	229108
Sound level									
Sound power level (ISO 9614)	(db(A))	89	91	92	94	94	96	95	96
Sound pressure level at 10 m	(db(A))	59	60	61	63	64	65	64	65
Dimensions and weight (operating)									
Length	(mm)	3565	3565	3565	4535	4535	4535	7038	7038
Width	(mm)	2260	2260	2260	2260	2260	2260	2170	2170
Height	(mm)	2400	2400	2400	2400	2400	2400	2400	2400
Weight	(kg)	2241	2415	2556	3136	3153	3227	4357	4379

(1) According EN 14511-2018. Outdoor air temperature 35°C – Chilled water temperature 12/7 °C.
(2) According EN 14825-2018. Ecodesign rating for comfort chiller – fan coil application.
(3) According EN 14511-2018. Outdoor air temperature 7°C with 90% RH - Hot water temperature 40/45 °C.
(4) According EN 14825-2018. Ecodesign rating at low temperature conditions. Outdoor air temperature 7 °C dry bulb/6 °C wet bulb - Hot water temperature 30°C/35 °C.
(5) According EN 14511-2018. Heat recovery mode: Hot water temperature 40/45 °C – Chilled water temperature 12/7 °C.

* Also available in Low Noise and Super Low Noise. For a detailed selection please contact your Trane sales office.

CMAC HE Standard Noise*		50	60	70	90	120	130	145	165	180	220	260	320	355
Cooling (1)														
Cooling capacity	(kW)	48.2	55.1	65.2	84.9	110.7	122.2	131.1	150.9	164.7	199.9	239.4	290.6	321.3
Power input	(kW)	16.3	18.3	21.7	28.1	37.7	43.0	47.5	54.2	60.1	74.2	89.0	107.5	117.6
EER		2.96	3.01	3.01	3.02	2.94	2.85	2.76	2.79	2.74	2.70	2.69	2.70	2.73
Seasonal efficiency (2)														
P rated,c	(kW)	48.2	55.1	65.2	84.9	110.7	122.2	131.1	150.9	164.7	199.9	239.4	290.6	321.3
ηs,c	(%)	136	144	149	140	143	137	137	134	136	138	143	154	143
SEER		3.47	3.67	3.80	3.58	3.65	3.49	3.49	3.43	3.48	3.54	3.66	3.92	3.65
Heating (3)														
Heating capacity	(kW)	50.6	57.9	69.2	90.6	118.7	131.7	144.2	162.1	178.5	217.4	260.3	320.1	355.1
Power input	(kW)	16.6	18.6	21.8	29.3	38.0	43.3	45.9	53.4	58.6	70.6	83.3	101.5	112.2
COP		3.04	3.11	3.17	3.09	3.12	3.04	3.14	3.04	3.04	3.08	3.12	3.15	3.17
Seasonal efficiency (4)														
P rated,h	(kW)	41	47	56	75	98	111	122	133	147	179	215	258	298
ηs,h	(%)	125	127	130	125	129	125	130	125	125	127	129	130	130
SCOP		3.19	3.24	3.32	3.20	3.29	3.20	3.32	3.19	3.19	3.24	3.31	3.33	3.33
Energy efficiency class		A+	A+	A+	A+	A+	A+	A+	A+	A+	A+	A+	A+	A+
Cooling + Heating (5)														
Total cooling capacity	(kW)	45.9	52.7	62.8	79.7	107.7	117.7	130.7	149.7	164.6	199.4	241.3	297.5	321.4
Total heating capacity	(kW)	60.4	69.2	82.7	106.2	142.4	157.4	172.5	196.4	216.5	264.8	320.0	391.7	426.9
Total power input	(kW)	14.4	16.5	19.9	26.2	35.2	39.6	41.9	46.7	52.3	64.8	78.4	94.1	105.6
Total Efficiency Ratio (TER)		7.38	7.39	7.31	7.10	7.11	6.95	7.24	7.41	7.29	7.16	7.16	7.32	7.09
Compressors														
Number of compressors		1	1	1	1	1	1	2	2	2	2	2	2	2
Number of refrigerant circuits		2	2	2	2	2	2	2	2	2	4	4	4	4
Number of part load steps		3	3	2	2	2	3	2	3	2	7	7	8	4
Minimum capacity step	(%)	45	39	50	50	50	45	50	45	50	8	14	23	25
Fans														
Number of fans		2	2	2	3	3	4	4	6	6	6	6	8	8
Airflow	(m³/h)	35588	35588	35588	53380	53380	71808	71808	118168	118168	113416	107712	144628	144628
Sound level														
Sound power level (ISO 9614)	(db(A))	83	84	84	85	88	88	88	91	92	90	92	93	95
Sound pressure level at 10 m	(db(A))	51	51	51	51	51	51	51	51	51	51	51	51	51
Dimensions and weight (operating)														
Length	(mm)	2560	2560	2560	3559	3559	2617	2617	3565	3565	3565	3565	4535	4535
Width	(mm)	1100	1100	1100	1100	1100	2201	2201	2260	2260	2260	2260	2260	2260
Height	(mm)	2131	2131	2131	2179	2179	2175	2175	2400	2400	2400	2400	2400	2400
Weight	(kg)	1030	1034	1043	1289	1381	1466	1608	2202	2255	2401	2709	3144	3382

(1) According EN 14511-2018. Outdoor air temperature 35°C – Chilled water temperature 12/7 °C.
(2) According EN 14825-2018. Ecodesign rating for comfort chiller – fan coil application.
(3) According EN 14511-2018. Outdoor air temperature 7°C with 90% RH - Hot water temperature 40/45 °C.
(4) According EN 14825-2018. Ecodesign rating at low temperature conditions. Outdoor air temperature 7 °C dry bulb/6 °C wet bulb - Hot water temperature 30°C/35 °C.
(5) According EN 14511-2018. Heat recovery mode: Hot water temperature 40/45 °C – Chilled water temperature 12/7 °C.

* Also available in Low Noise and Super Low Noise. For a detailed selection please contact your Trane sales office.

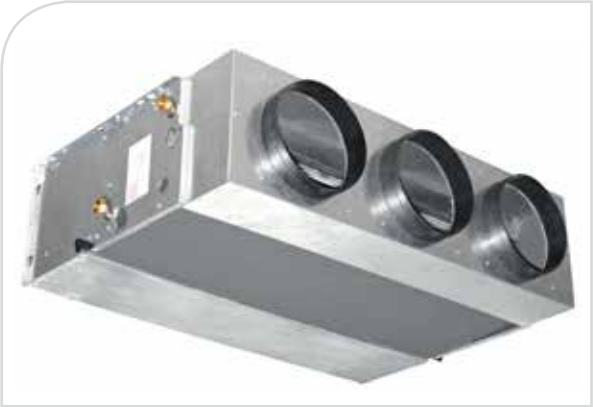
CMAC HE Standard Noise*		375	455	500	535	575	600	660	710	755	800	840	880
Cooling (1)													
Cooling capacity	(kW)	341.0	406.4	450.6	473.7	513.1	532.6	581.8	643.2	677.9	712.7	745.8	778.8
Power input	(kW)	126.1	148.0	164.3	176.8	194.0	202.4	230.4	234.8	252.4	270.1	288.9	307.6
EER		2.70	2.75	2.74	2.68	2.64	2.63	2.53	2.74	2.69	2.64	2.58	2.53
Seasonal efficiency (2)													
P rated,c	(kW)	341.0	406.4	450.6	473.7	513.1	532.6	581.8	643.2	677.9	712.7	745.8	778.8
ηs,c	(%)	144	160	139	137	141	140	147	143	142	140	136	147
SEER		3.67	4.08	3.56	3.50	3.60	3.57	3.76	3.65	3.63	3.57	3.49	3.75
Heating (3)													
Heating capacity	(kW)	376.8	454.7	500.6	534.2	575.6	598.1	662.2	710.3	753.7	797.1	839.2	881.3
Power input	(kW)	119.4	144.7	160.9	172.8	186.2	193.0	214.9	223.9	238.3	252.7	267.1	281.4
COP		3.16	3.14	3.11	3.09	3.09	3.10	3.08	3.17	3.16	3.15	3.14	3.13
Seasonal efficiency (4)													
P rated,h	(kW)	316	371	-	-	-	-	-	-	-	-	-	-
ηs,h	(%)	130	130	-	-	-	-	-	-	-	-	-	-
SCOP		3.33	3.32	-	-	-	-	-	-	-	-	-	-
Energy efficiency class		A+	A+	-	-	-	-	-	-	-	-	-	-
Cooling + Heating (5)													
Total cooling capacity	(kW)	341.3	404.9	447.3	470.8	519.0	541.2	597.7	650.9	690.7	731.5	770.4	810.2
Total heating capacity	(kW)	455.1	541.7	598.6	634.4	697.1	725.7	807.6	861.7	917.9	973.2	1028.5	1082.9
Total power input	(kW)	113.8	136.8	150.3	163.5	178.0	185.5	209.9	210.8	226.2	241.7	257.2	272.7
Total Efficiency Ratio (TER)		7.00	6.92	6.96	6.76	6.83	6.83	6.70	7.18	7.11	7.05	6.99	6.94
Compressors													
Number of compressors		2	2	3	3	3	3	3	4	4	4	4	4
Number of refrigerant circuits		4	4	6	6	6	6	6	8	8	8	8	8
Number of part load steps		7	4	14	6	14	15	6	8	20	30	20	8
Minimum capacity step	(%)	13	25	21	17	19	19	17	13	15	14	15	13
Fans													
Number of fans		8	10	12	12	12	12	12	16	16	16	16	16
Airflow	(m³/h)	144628	181104	219608	219608	219608	219608	219608	289256	289256	289256	289256	289256
Sound level													
Sound power level (ISO 9614)	(db(A))	95	97	96	97	97	98	98	98	98	99	99	100
Sound pressure level at 10 m	(db(A))	51	51	51	51	51	51	51	51	51	51	51	51
Dimensions and weight (operating)													
Length	(mm)	4535	5505	7038	7038	7038	7038	7038	8155	8155	8155	8155	8155
Width	(mm)	2260	2260	2170	2170	2170	2170	2170	2170	2170	2170	2170	2170
Height	(mm)	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400
Weight	(kg)	3401	3836	4572	4678	4845	4882	4935	6157	6193	6228	6263	6298

(1) According EN 14511-2018. Outdoor air temperature 35°C – Chilled water temperature 12/7 °C.
(2) According EN 14825-2018. Ecodesign rating for comfort chiller – fan coil application.
(3) According EN 14511-2018. Outdoor air temperature 7°C with 90% RH - Hot water temperature 40/45 °C.
(4) According EN 14825-2018. Ecodesign rating at low temperature conditions. Outdoor air temperature 7 °C dry bulb/6 °C wet bulb - Hot water temperature 30°C/35 °C.
(5) According EN 14511-2018. Heat recovery mode: Hot water temperature 40/45 °C – Chilled water temperature 12/7 °C.

* Also available in Low Noise and Super Low Noise. For a detailed selection please contact your Trane sales office.

AIRSIDE AND WATER TERMINAL PRODUCTS

Incorporating the right airside products into your HVAC system is a critical part of creating world-class performance and reducing overall energy consumption. By helping you select the right airside components, Trane can help address indoor air quality issues such as temperature and humidity, ventilation, mold, bacteria, other particulate matter, and noise.



UniTrane™ D-Line DFSL/DFEL

Ductable fan coil water terminals

Customer benefits

- Compact 2-pipe or 4-pipe design
- Suitable for horizontal and vertical installation
- Silent operation: high level of acoustic comfort
- Low cost of ownership: low energy consumption
- Easy installation

Range description

DFSL: concealed horizontal fan coil with AC fan motor
DFEL: concealed horizontal fan coil with EC fan motor

Main features

- Multi-speed AC or speed modulating EC fan motor factory set to fit customer requirements
- Efficient water exchanger
- Heat exchanger: drawn copper tube with aluminum fins
- Centrifugal fans and electric 5-speed motors for reduced electrical consumption (DFSL)
- Three phase permanent magnet brushless electronic motor (DFEL)
- Polypropylene cellular fabric regenerating filter
- High quality robust casing

Accessories

- 3-way valve for main or additional coil
- 2-way valve for main or additional coil
- Oventrop valve kit
- G3 or G0 filters
- Right/left end water and control access sides
- Fresh air intake connection
- Frontal air intake
- Inlet and outlet grids
- Inlet and diffuser plenum
- Auxiliary condensate tray
- Drain pump for horizontal installation
- Condensate pump for vertical installations
- Electric heater

Controls

- Large choice of wall thermostats to cover all standalone unit applications
- Versatile group control, compatible with Modbus communication protocol
- Connection of individual units or groups of units via serial link
- Speed switch (slave) to control up to 8 units

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office

Entering air temperature (cooling / heating)	(°C)	27/20
Water temperature in cooling mode (inlet / outlet)	(°C)	7/12
Water inlet temperature in heating mode	(°C)	50
Power supply	(V/Ph/Hz)	400/3/50

2-pipe units

DFSL (high speed) - AC fan motor															
Unit size		**2P-13**	**2P-14**	**2P-23**	**2P-24**	**2P-33**	**2P-34**	**2P-43**	**2P-44**	**2P-53**	**2P-54**	**2P-63**	**2P-64**	**2P-73**	**2P-74**
Airflow	(m^3/h)	535	535	860	860	1115	1115	1340	1340	1375	1375	1635	1635	1810	1810
Total cooling capacity	(kW)	3.0	3.5	4.6	5.6	6.3	7.2	7.1	7.8	7.5	8.3	8.9	9.9	9.3	10.6
Heating capacity	(kW)	3.6	3.9	5.6	6.2	7.5	7.9	8.7	9.2	9.0	9.5	10.2	11.4	11.0	12.4
Available static pressure	(Pa)	58	58	58	58	60	60	65	65	70	70	60	60	63	63
Sound power outlet	(dB(A))	42	42	47	47	49	49	55	55	53	53	53	53	55	55
Sound power inlet + radiated	(dB(A))	50	50	54	54	56	56	61	61	59	59	59	59	61	61
Dimensions															
Width	(mm)	600	600	600	600	600	600	600	600	600	600	600	600	600	600
Depth	(mm)	820	820	1035	1035	1250	1250	1250	1250	1580	1580	1790	1790	1790	1790
Height	(mm)	290	290	290	290	290	290	290	290	290	290	290	290	290	290
Electrical data															
Fan power input	(W)	55	55	110	110	126	126	175	175	174	174	166	166	228	228

DFEL (high speed) - EC fan motor									
Unit size		**2P-13**	**2P-14**	**2P-23**	**2P-24**	**2P-43**	**2P-44**	**2P-73**	**2P-74**
Airflow	(m^3/h)	651	651	1170	1170	1390	1390	2220	2220
Total cooling capacity	(kW)	3.5	4.0	5.5	6.9	7.1	7.9	10.7	12.1
Heating capacity	(kW)	4.2	4.6	7.1	8.1	8.9	9.5	12.7	14.7
Available static pressure	Pa	68	68	70	70	66	66	72	72
Sound power outlet	(dB(A))	50	50	52	52	56	56	59	59
Sound power inlet + radiated	(dB(A))	57	57	61	61	63	63	66	66
Dimensions									
Width	(mm)	600	600	600	600	600	600	600	600
Depth	(mm)	820	820	1035	1035	1250	1250	1790	1790
Height	(mm)	290	290	290	290	290	290	290	290
Electrical data									
Fan power input	(W)	54	54	113	113	134	134	200	200

4-pipe units

DFSL (high speed) - AC fan motor								
Unit size		**4P-131**	**4P-231**	**4P-331**	**4P-431**	**4P-531**	**4P-631**	**4P-731**
Airflow	(m^3/h)	535	860	1115	1340	1375	1635	1810
Total cooling capacity	(kW)	3.0	4.6	6.3	7.1	7.6	8.9	9.3
Heating capacity	(kW)	2.8	4.2	5.6	6.2	6.6	7.9	8.4
Available static pressure	(Pa)	58	58	60	65	70	60	63
Sound power outlet	(dB(A))	42	47	49	55	53	53	55
Sound power inlet + radiated	(dB(A))	50	54	56	61	59	59	61
Dimensions								
Width	(mm)	600	600	600	600	600	600	600
Depth	(mm)	820	1305	1250	1250	1580	1790	1790
Height	(mm)	290	290	290	290	290	290	290
Electrical data								
Fan power input	(W)	51	94	110	148	140	145	186

DFEL (high speed) - EC fan motor					
Unit size		**4P-131**	**4P-231**	**4P-431**	**4P-731**
Airflow	(m^3/h)	360	630	960	1410
Total cooling capacity	(kW)	2.2	3.6	5.4	7.7
Heating capacity	(kW)	1.9	3.0	4.2	6.3
Available static pressure	(Pa)	68	70	66	72
Sound power outlet	(dB(A))	48	49	55	57
Sound power inlet + radiated	(dB(A))	55	58	62	64
Dimensions					
Width	(mm)	600	600	600	600
Depth	(mm)	820	1035	1250	1790
Height	(mm)	290	290	290	290
Electrical data					
Fan power input	(W)	54	113	134	200

UniTrane™ B-Line BFSL/BFEL

Ductable water terminals

Customer benefits

- Compact 2-pipe or 4-pipe design: designed for concealed installations
- NEW! Low noise operation with up to 5 dB(A) lower sound power level versus legacy product
- Low cost of ownership: low energy consumption
- Easy installation

Range description

BFSL: ductable water terminal with AC fan motor

BFEL: ductable water terminal with EC fan motor

Main features

- Multi-speed AC or EC fan motor
- Static pressure up to 160 Pa (sizes 1-5) and up to 425 Pa (sizes 6-7)
- Heat exchanger: drawn copper tube with aluminum fins
- Quiet centrifugal fans
- Polypropylene cellular fabric regenerating filter
- High quality robust casing

Accessories

- Main or auxiliary coil kit valve, 230V ON-OFF
- Main or auxiliary coil kit valve, 24V
- Right/left end water connections
- Electric heater
- Intake/supply spigot plenum
- Wall or unit fitted thermostat interface.
- G3 synthetic cleanable filter
- GAV anti-vibration connection

Controls

- Large choice of wall thermostats to cover all standalone unit applications
- Versatile group control, compatible with Modbus communication protocol
- Connection of individual units or groups of units via serial link
- Speed switch (slave) to control up to 8 units

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office

Cooling mode - Entering air temperature (dry bulb / wet bulb)	(°C)	27/19
Cooling mode - Water temperature (inlet / outlet)	(°C)	7/12
Heating mode - Entering air temperature	(°C)	20
Heating mode - Water temperature (inlet / outlet)	(°C)	55/65

BFEL (EC fan motor)		**14**	**24**	**34**	**44**	**14**	**24**	**34**	**44**
Version		2-pipe	2-pipe	2-pipe	2-pipe	4-pipe	4-pipe	4-pipe	4-pipe
Coil row configuration	(#)	4	4	4	4	4+1	4+1	4+1	4+1
Airflow	(m^3/h)	1310	1780	2390	3080	1250	1750	2350	3040
Total cooling capacity	(kW)	5.6	7.9	10.8	13.9	5.5	7.8	10.7	13.9
Heating capacity	(kW)	7.8	10.6	13.1	18.1	4.6	6.3	8	10.8
Available pressure	(Pa)	70	85	75	80	72	85	75	80
Fan power input	(W)	144	225	340	530	144	225	340	530
Acoustic data									
Sound power outlet	(dB(A))	59	61	64	67	59	61	64	67
Sound power inlet + radiated	(dB(A))	61	63	66	69	61	63	66	69
Dimensions									
Length	(mm)	1133	1133	1133	1445	1445	1133	1133	1133
Depth	(mm)	698	698	698	853	853	698	698	698
Height	(mm)	310	310	360	360	435	310	310	360

BFSL (AC fan motor)		**14**	**24**	**34**	**44**	**54***	**141**	**241**	**341**	**441**	**541**
Version		2-pipe	2-pipe	2-pipe	2-pipe	2-pipe	4-pipe	4-pipe	4-pipe	4-pipe	4-pipe
Coil row configuration	(#)	4	4	4	4	4	4+1	4+1	4+1	4+1	4+1
Airflow	(m^3/h)	1410	1825	2440	3020	3850	1350	1775	2390	2960	3800
Total cooling capacity	(kW)	6.1	8.4	11.2	14.2	18.5	6.0	8.3	11.0	14.1	17.5
Heating capacity	(kW)	8.9	11.8	15.5	19.6	24.8	5.47	7.16	9.2	12	15.28
Available pressure	(Pa)	75	80	70	67	70	75	80	70	67	70
Fan power input	(W)	191	285	470	630	760	185	275	460	615	750
Acoustic data											
Sound power outlet	(dB(A))	58	61	65	66	70	58	61	65	66	70
Sound power inlet + radiated	(dB(A))	60	64	67	68	72	60	64	67	68	72
Dimensions											
Length	(mm)	1133	1133	1133	1445	1445	1133	1133	1133	1445	1445
Depth	(mm)	698	698	698	853	853	698	698	698	853	853
Height	(mm)	310	310	360	360	435	310	310	360	360	435

Other configurations - 3, 4 and 6 rows*

Cooling mode - Entering air temperature (dry bulb / wet bulb)	(°C)	27/19
Cooling mode - Water temperature (inlet / outlet)	(°C)	7/12
Heating mode - Entering air temperature	(°C)	20
Heating mode - Water temperature (inlet / outlet)	(°C)	50/60

BFSL (AC fan motor)		**13**	**23**	**33**	**43**	**53**	**14**	**24**	**34**	**44**	**54**	**64**	**66**	**74**	**76**
Version		2-pipe	2-pipe	2-pipe	2-pipe	2-pipe	2-pipe	2-pipe	2-pipe	2-pipe	2-pipe	2-pipe	2-pipe	2-pipe	2-pipe
Coil row configuration	(#)	3	3	3	3	3	4	4	4	4	4	4	6	4	6
Airflow	(m^3/h)	1925	2510	2790	3400	4400	1835	2360	2745	3340	4330	5200	5170	7580	7435
Total cooling capacity (1)	(kW)	5.8	7.9	9.4	11.9	15.8	6.8	9.4	11.4	14.4	18.9	23.9	29.9	31.2	39.5
Heating capacity (2)	(kW)	12.3	16.4	19.1	23.9	31.4	14.2	18.7	22.4	27.9	36.5	24.6	34.8	29.1	39.5
Available pressure	(Pa)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fan power input	(W)	232	340	520	680	868	232	340	520	680	868	1437	1407	2817	2764
Acoustic data															
Sound power outlet	(dB(A))	59	64	66	69	75	59	64	66	69	75	76	76	81	81
Dimensions															
Length	(mm)	1133	1133	1133	1445	1445	1133	1133	1133	1445	1445	1535	1535	1535	1535
Depth	(mm)	698	698	698	853	853	698	698	698	853	853	1100	1100	1100	1100
Height	(mm)	310	310	360	360	435	310	310	360	360	435	488	488	588	588

BFSL (AC fan motor)		**131**	**231**	**331**	**431**	**531**	**141**	**241**	**341**	**441**	**541**	**642**	**662**	**742**	**762**
Version		4-pipe	4-pipe	4-pipe	4-pipe	4-pipe	4-pipe	4-pipe	4-pipe	4-pipe	4-pipe	4-pipe	4-pipe	4-pipe	4-pipe
Coil row configuration	(#)	3+1	3+1	3+1	3+1	3+1	4+1	4+1	4+1	4+1	4+1	4+2	6+2	4+2	6+2
Airflow	(m^3/h)	1835	2360	2745	3340	4330	1775	2285	2700	3295	4265	5150	5125	7410	7355
Total cooling capacity (1)	(kW)	5.6	7.7	9.3	11.8	15.6	6.8	9.2	11.3	14.3	18.8	23.8	29.8	31.2	39.3
Heating capacity (2)	(kW)	6.6	8.4	10.1	13.0	16.7	6.6	8.3	10.0	13.0	16.6	24.3	34.4	28.9	38.9
Fan power input	(W)	232	340	520	680	868	226	330	515	670	851	1390	1371	2737	2679
Acoustic data															
Sound power outlet	(dB(A))	59	64	66	69	75	59	64	66	69	75	76	76	81	81
Dimensions															
Length	(mm)	1133	1133	1133	1445	1445	1133	1133	1133	1445	1445	1535	1535	1535	1535
Depth	(mm)	698	698	698	853	853	698	698	698	853	853	1100	1100	1100	1100
Height	(mm)	310	310	360	360	435	310	310	360	360	435	488	488	588	588

Note: 4+2 row coil configuration also available.

(1) All performance data is given at high speed.
(2) The sound pressure levels are 9 dB(A) lower than the sound power levels and apply to the reverberant field of a 100 m^3 room and a reverberation time of 0.5 sec.
* Models not covered by EUROVENT certification program.

UniTrane™ W-Line WFS/WFE

High wall fan coil units

Customer benefits

- Optimum comfort and high performance
- Minimized sound emissions
- Modern and appealing design
- Low cost of ownership: low energy consumption
- Modular 2-pipe design, easy to install

Range description

WFS: concealed horizontal fan coil with AC fan motor
WFE: concealed horizontal fan coil with EC fan motor
WFS/E: Wired wall control
WFS/E-IR: Infra-red remote control (single unit control)
WFS/E-MB: MB electronic board for Modbus management (multiple unit control)
WFS/E-EH: Electric heater

Main features

- Casing made of auto-extinguishing ABS UL94 HB plastic
- Washable synthetic filter, readily accessible.
- Single phase 3-speeds electric motor (WFS)
- Electronically commutated (WFE) fan motor
- Heat exchanger: Drawn copper tube with aluminum fins

Accessories

- 2-way valve including control kit: ON-OFF, with electric motor and mounting kit
- 3-way valve including control kit: 230V ON-OFF, with electric motor and mounting kit with micrometric lock shield valve
- Condensate drain pan

Controls

- Large choice of wall-mounted thermostats to cover all standalone unit applications
- Versatile group control, compatible with Modbus communication protocol
- Wireless remote control

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office

Unit with AC fan motor: WFS					
Unit size		**WFS 1**	**WFS 2**	**WFS 3**	**WFS 4**
Airflow (1)	(m^3/h)	500	545	780	790
Total cooling capacity (1)	(kW)	2.23	2.35	3.78	3.81
Heating capacity (2)	(kW)	3.17	3.46	5.15	5.2
Sound power Lw	(dB(A))	53	55	57	57
Sound pressure Lp	(dB(A))	44	46	48	48
Dimensions					
Width	(mm)	880	880	1185	1185
Depth	(mm)	322	322	322	322
Height	(mm)	212	212	212	212
Electrical data					
Fan power input	(A)	30	32	46	48

Unit with EC fan motor: WFE					
Unit size		**WFE 1**	**WFE 2**	**WFE 3**	**WFE 4**
Airflow (1)	(m^3/h)	415	510	620	770
Total cooling capacity (1)	(kW)	2.00	2.26	3.29	3.75
Heating capacity (2)	(kW)	2.78	3.23	4.25	4.99
Sound power Lw	(dB(A))	52	55	53	57
Sound pressure Lp	(dB(A))	43	46	44	48
Dimensions					
Width	(mm)	880	880	1185	1185
Depth	(mm)	322	322	322	322
Height	(mm)	212	212	212	212
Electrical data					
Fan power input	(A)	15	21	20	30

Available pressure: 0 Pa.
(1) At Eurovent conditions (Air : 27°C/ 47% humidity, Water inlet/outlet : 7/12°C) - Cooling.
(2) At conditions: air 20°C, water +50°C inlet - Heating.

CWS
CWE

4-way cassette water terminals

Customer benefits

- Silent operation: high level of acoustic comfort
- 4-way air diffusion with excellent Coanda effect
- Factory-configured unit for ease of installation for immediate start-up
- Best of control technology to deliver a remarkable level of comfort

Range description

CWS: Cassette with AC fan motor

CWE: Cassette with EC fan motor

Main features

- Low profile with 296 or 329 mm unit height fits in all narrow false ceiling voids
- Standard AC or advanced EC fan motor technology
- 3 factory-set fan speeds
- Factory-mounted centrifugal drain pump
- Adjustable discharge louvers
- Fresh intake connections on three sides
- Discharge air connections on two sides
- Return air sensor with infrared remote or electronic user interface controls

Options

- Factory-mounted electric heater
- All type of applications available associated with large choice of efficient exchangers
- Infrared remote control to be mounted on-site

Accessories

- On/off 2 and 3-way water valve with thermal actuators
- Fresh air spigots

Controls

- Large choice of wall thermostats to cover all standalone unit applications
- Group control up to 20 units using infrared remote control or the wall-mounted user interface ETN/ECM with ambient sensor

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office

Power supply	(V/Ph/Hz)	230-1-50

CWS 2 pipe		02-2P	12-2P	22-2P	32-2P	42-2P	52-2P	62-2P
Airflow (medium speed)	(m^3/h)	420	420	500	610	820	970	1280
Total/sensible cooling capacity (1)	(kW)	1.62/1.25	2.31/1.67	3.34/2.31	3.87/2.71	4.88/3.44	6.83/4.67	8.52/5.92
Heating capacity (2)	(kW)	1.9	2.7	3.7	4.4	5.7	7.6	9.7
Sound pressure level	(dB(A))	31	31	36	40	31	31	39
NR level	(dB(A))	24	24	30	34	27	26	34
NC level	(dB(A))	22	22	28	33	26	25	32
Weight and dimensions								
Length	(mm)	575	575	575	575	820	820	820
Width	(mm)	575	575	575	575	820	820	820
Height	(mm)	275	275	275	275	303	303	303
Operating weight	(kg)	25	27	27	27	42	45	45
Electrical data								
Fan motor absorbed power	(W)	32	32	44	57	50	63	95
Electric heater capacity	(W)	0.75	1.5	2.5	2.5	3.0	3.0	3.0
Electric heater current	(A)	3.3	6.5	10.9	10.9	13.0	13.0	13.0

CWE 2 pipe		12-2P	22-2P	32-2P	42-2P	52-2P	72-2P	82-2P
Airflow (medium speed)	(m^3/h)	535	710	880	1165	1770	1290	1650
Total/sensible cooling capacity (1)	(kW)	2.22/1.59	3.14/2.16	3.99/2.79	5.26/3.73	8.01/5.52	9.70/6.71	11.60/8.17
Heating capacity (2)	(kW)	2.5	3.4	4.4	6.0	8.3	10.8	13.2
Sound pressure level	(dB(A))	30	34	41	30	38	40	46
NR level	(dB(A))	22	27	34	22	30	32	38
NC level	(dB(A))	21	25	32	21	28	30	36
Weight and dimensions								
Length	(mm)	575	575	575	820	820	1075	1075
Width	(mm)	575	575	575	820	820	1100	1100
Height	(mm)	275	275	275	303	303	525	525
Operating weight	(kg)	25	27	27	27	42	49	49
Electrical data								
Fan motor absorbed power	(W)	8	11	21	17	32	35	64
Electric heater capacity	(W)	1.5	2.5	2.5	3	3	3	3
Electric heater current	(A)	6.5	10.9	10.9	13	13	13	13

CWS 4 pipe		04-4P	14-4P	24-4P	26-4P	34-4P	36-4P	44-4P	54-4P	56-4P	64-4P	66-4P
Airflow (medium speed)	(m^3/h)	420	410	500	500	610	610	820	970	970	1280	1280
Total/sensible cooling capacity (1)	(kW)	1.95/1.5	2.33/1.67	2.61/1.88	3.09/2.18	2.97/2.17	3.56/2.55	5.03/3.52	5.64/3.99	6.56/4.52	6.88/4.94	8.14/5.69
Heating capacity (2)	(kW)	2.61	2.96	3.31	2.75	3.78	3.07	7.28	8.16	6.56	9.96	7.83
Sound pressure level	(dB(A))	15	11	17	17	21	21	21	30	30	39	39
NR Level	(dB(A))	24	24	30	30	34	34	27	26	26	34	34
NC Level	(dB(A))	22	22	28	28	33	33	26	25	25	32	32
Weight and dimensions												
Length	(mm)	575	575	575	575	575	575	820	820	820	820	820
Width	(mm)	575	575	575	575	575	575	820	820	820	820	820
Height	(mm)	275	275	275	275	275	275	303	303	303	303	303
Operating weight	(kg)	25	27	27	27	27	27	42	45	45	45	45
Electrical data												
Fan motor absorbed power	(W)	32	32	44	44	57	57	50	63	63	95	95
Electric heater capacity	(W)	0.75	1.5	2.5	2.5	2.5	2.5	3.0	3.0	3.0	3.0	3.0
Electric heater current	(A)	3.3	6.5	10.9	10.9	10.9	10.9	13.0	13.0	13.0	13.0	13.0

CWE 4 pipe		14-4P	26-4P	36-4P	44-4P	56-4P	76-4P	86-4P
Airflow (medium speed)	(m^3/h)	380	445	610	870	1130	1290	1650
Total/sensible cooling capacity (1)	(kW)	2.24/1.59	2.87/2.02	3.6/2.58	5.43/3.82	7.5/5.21	9.20/6.51	11.60/8.17
Heating capacity (2)	(kW)	1.53	1.27	1.51	4.11	3.76	9.3	13.2
Sound pressure level	(dB(A))	30	34	41	30	38	40	46
NR level	(dB(A))	22	27	34	22	30	32	38
NC level	(dB(A))	21	25	32	21	28	30	36
Weight and dimensions								
Length	(mm)	575	575	575	820	820	1075	1075
Width	(mm)	575	575	575	820	820	1100	1100
Height	(mm)	275	275	275	303	303	525	525
Operating weight	(kg)	25	27	27	27	42	49	49
Electrical data								
Fan motor absorbed power	(W)	8	11	21	17	32	35	64
Electric heater capacity	(W)	1.5	2.5	2.5	3	3	3	3
Electric heater current	(A)	6.5	10.9	10.9	13	13	13	13

(1) At Eurovent conditions: 27/19°C return air temperatures and 7/12°C inet and outlet water temperatures.
(2) At Eurovent conditions: 2-pipe air 20°C, water +50°C inlet; 4-pipe air 20°C, water +70/60°C inlet/outlet.

CFAS
CFAE

1-way cassette water terminals

Customer benefits

- Air distribution through perfect Coanda effect for a high level of comfort
- Silent operation: high level of acoustic comfort
- Factory-configured unit controls for ease of installation and immediate start up
- Best of control technology to deliver a remarkable level of comfort
- Excellent air filtering with the louvered return air grill design which frees up 100% of opening space to the filter

Range description

CFAS: cassette with AC fan motor

CFAE: cassette with EC fan motor

Main features

- Low profile with 306 mm unit height fits in all narrowed false ceiling voids
- Louvered linear return air grill with 45° pitch angle avoid mix of supply and return air
- Supply air round dampers with 4 jaws sized to optimize the air throw at all fan speeds
- 3 fan speeds factory set, adjustable on-site
- Fresh intake connections on two return airsides

Options

- Raised plenum version increases the condensate gravity drainage capability up to 160 mm
- G0 or EU3 filter factory-mounted
- 2 fan speeds factory set for perfect capacity and sound fit to air-conditioning load
- Factory-mounted electric heater, drain pump, 2 and 3-way water valves
- Factory-mounted controls for standalone, master/slave and Building Management System applications

Accessories

- Constant volume dampers from 30 to 180 m^3/h associated with Ø 99 or Ø 124 mm spigot
- Auxiliary drain pan for left or right hand
- On/off 2 and 3-way water valve with thermal actuators
- Large selection of thermostats

Controls

- Large choice of wall thermostats to cover all standalone unit applications
- Up to 20 units group control with infrared or wall-mounted thermostat interface

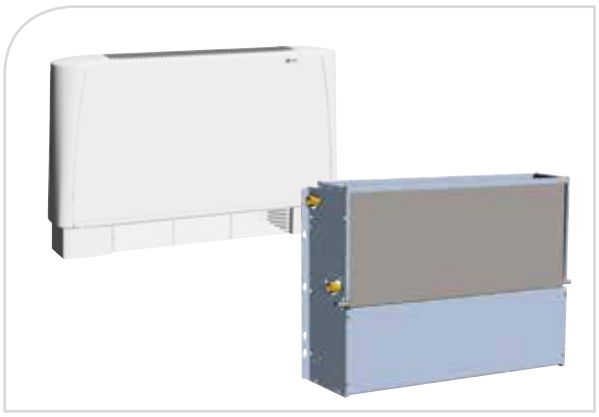
This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office

CFAS High Efficiency		16			26			36		
		Low	Medium	High	Low	Medium	High	Low	Medium	High
Airflow (at 0 Pa)	(m^3/h)	140	180	280	200	240	380	360	540	620
Total/sensible cooling capacity (1)	(kW)	1.2/0.9	1.5/1.2	1.7/1.3	1.7/1.2	2.6/1.9	3.1/2.3	2.5 /1.8	3.5/2.6	4.0/3.0
FCEER (1)			55			61			53	
Heating capacity 2 pipe (2)	(kW)	1.4	1.9	2.1	2.0	3.1	3.8	2.9	4.2	4.8
FCCOP 2 pipe (2)			65			72			62	
Heating capacity 4 pipe (2)	(kW)	1.1	1.3	1.5	1.7	2.3	2.7	2.5	3.3	3.6
FCEER 2 pipe (1)			55			61			53	
FCCOP 4 pipe (2)			65			72			62	
Sound power level	(dB(A))	41	49	52	36	48	48	41	52	55
Sound pressure level (3)	(dB(A))	32	40	43	27	39	39	32	43	46
NR level (medium speed)	(dB(A))		34			33			37	
NC level (medium speed)	(dB(A))		33			31			35	
Weights and dimensions										
Length	(mm)		592			592			592	
Width	(mm)		592			592			592	
Height (standard/raised)	(mm)		309/369			309/369			309/369	
Operating weight	(kg)		18			35			45	
Electrical data										
Fan motor absorbed power	(W)	16	22	49	27	44	57	46	52	57
Electric heater capacity	(W)		350/550			700/1150			900/1400	
Electric heater current	(A)		1.5/2.4			3/5			3.9/6.1	
Power supply	(V/Ph/Hz)					230-1-50				

(1) At Eurovent conditions: 7/12°C water 27°/19°C air (50% RH).
(2) At Eurovent conditions: 2-pipe air 20°C, water +50°C inlet; 4-pipe air 20°C, water +70/60°C inlet/outlet.
(3) Values calculated from sound power levels with a hypothetical acoustic attenuation of 9 dB.

CFAE High Efficiency		16			26			36		
		Low	Medium	High	Low	Medium	High	Low	Medium	High
Airflow	(m^3/h)	130	205	295	215	370	540	275	430	620
Total/sensible cooling capacity (1)	(kW)	0.8/0.6	1.2/0.9	1.6/1.2	1.5/1.1	2.3/1.7	3.2/2.4	1.9/1.4	2.8/2.1	3.8/2.8
FCEER (1)			89			152			156	
Heating capacity 2 pipe (2)	(kW)	1	1.5	2	1.7	2.8	3.9	2.2	3.3	4.5
FCCOP 2 pipe (2)			514			536			394	
Heating capacity 4 pipe (2)	(kW)	0.9	1.2	1.5	1.6	2.3	3	2	2.8	3.6
FCCOP 4 pipe (2)			538			1331			975	
Sound power level	(dB(A))	35	46	55	34	46	56	36	48	58
Sound pressure level (3)	(dB(A))	26	37	46	23	36	47	26	39	49
NR Level (medium speed)	(dB(A))	22	32	41	18	30	42	18	33	44
NC Level (medium speed)	(dB(A))	21	30	39	17	28	40	16	31	42
Weights and dimensions										
Length	(mm)		592			970			1192	
Width	(mm)		592			592			592	
Height (standard/raised)	(mm)		309/369			309/369			309/369	
Operating weight	(kg)		18			35			45	
Electrical data										
Fan motor absorbed power	(W)	8	14	29	8	16	37	10	19	42
Electric heater capacity	(W)		350/550			700/1150			900/1400	
Electric heater current	(A)		1.5/2.4			3/5			3.9/6.1	
Power supply	(V/Ph/Hz)					230/1/50				

(1) At Eurovent conditions: 7/12°C water 27°/19°C air (50% RH).
(2) At Eurovent conditions: 2-pipe air 20°C, water +50°C inlet; 4-pipe air 20°C, water +70/60°C inlet/outlet.
(3) Values calculated from sound power levels with a hypothetical acoustic attenuation of 9 dB.



UniTrane™ Harmony

Fan coil water terminals

Customer benefits

- Silent operation: high level of acoustic comfort
- Low cost of ownership: low energy consumption
- Easy to install and graceful cabinet design
- Ultimate filtration, high efficiency, and reduced pressure drop: CleanEffects™ electrostatic filters capture even the finest micrometric particles without compromising unit performance
- The integrated Trane Tracer™ control system combines with the entire range to deliver efficient performance, optimal comfort and cost-effective building management

Range description

FCAS: Cabinet model, vertical installation, with front return air grille with AC fan motor

FCAE: Cabinet model, vertical installation, with front return air grille with EC fan motor

FKAS: Concealed model, horizontal or vertical installation with AC fan motor

FKAE: Concealed model, horizontal or vertical installation with EC fan motor

FVAS: Cabinet model, vertical installation with AC fan motor

FVAE: Cabinet model, vertical installation with EC fan motor

Main features

- Efficient water exchanger
- Robust resilient air grille diffuser
- Multi-speed AC or speed modulating EC fan motor factory set to fit customer requirements
- Very quiet, aesthetic, robust and efficient units
- Cleanable EU3 filter

Options

- Factory-mounted unit support feet for FVAS/FVAE models
- Factory-mounted return air grille for FVAS/FVAE models
- Factory-mounted 2 and 3-way water valves with thermal or modulating actuators
- Wall or unit fitted thermostat interface
- Large choice of electric heater capacities per unit size
- High external static pressure available
- Right/left end water and control access sides
- Epoxy coated aluminum fins
- Fresh air intake connection

Accessories

- Adjustment valves
- Unit support feet
- Rear panel for installations against glass
- Electric heater
- Auxiliary condensate pump
- Fresh air intake louvers grille
- Inlet/outlet grilles for concealed installations

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office

Controls

- Large choice of wall thermostats to cover all standalone unit applications
- Connection of individual units or groups of units via serial link
- Versatile group control, compatible with Modbus communication protocol

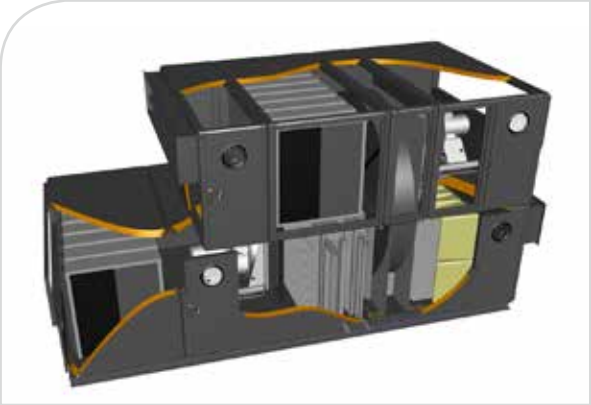
AC fan motor unit: FVAS/FCAS/FKAS										
		11	12	21	22	31	32	33	34	41
Total cooling capacity L/M/H (1)	(kW)	0.59/0.86/1.03	0.67/1.02/1.23	0.91/1.25/1.56	1.01/1.43/1.81	1.57/1.78/2.39	1.65/1.89/2.57	1.73/2.14/2.87	1.83/2.28/3.12	2.03/2.94/3.18
Sensible cooling capacity L/M/H (1)	(kW)	0.47/0.71/0.86	0.51/0.79/0.97	0.69/0.97/1.24	0.74/1.07/1.38	1.15/1.32/1.8	1.2/1.38/1.9	1.28/1.6/2.19	1.34/1.68/2.34	1.51/2.23/2.43
Water flow (cooling) L/M/H (1)	(l/h)	102/148/177	115/176/212	157/215/269	174/246/312	270/307/412	284/326/443	298/369/494	315/393/537	350/506/548
Water pressure drop (cooling) L/M/H (1)	(kPa)	2.5/4.7/6.3	1.9/4/5.6	2.5/4.4/6.5	4.9/9.2/13.9	9.4/11.8/19.7	5.3/6.7/11.5	11.2/16.2/27.2	6.1/9/15.5	5.8/11.1/12.7
Heating capacity L/M/H (2)	(kW)	0.76/1.15/1.39	0.82/1.27/1.55	1.12/1.59/2.02	1.18/1.72/2.2	1.87/2.15/2.92	1.94/2.23/3.07	2.09/2.61/3.56	2.16/2.72/3.76	2.42/3.59/3.89
Electric heater capacity	(W)	650	650	400-600-1000	400-600-1000	600-900-1500	600-900-1500	600-900-1500	600-900-1500	750-1250-2000
Airflow at 0Pa (1)	(m^3/h)	175	175	220	220	270	270	335	335	495
Fan power input (1)	(W)	25	25	22	22	25	25	28	28	39
Maximum fan motor input	(W)/(A)	33/0.16	33/0.16	40/0.18	40/0.18	49/0.23	49/0.23	57/0.26	57/0.26	61/0.27
Sound power level L/M/H (3)	(dB(A))	32/39/45	32/39/45	30/40/47	30/40/47	36/40/49	36/40/49	33/39/47	33/39/47	31/41/43
Cabinet unit dimensions (LxWxH) (4)	(mm)	694x225x530	694x225x530	794x225x530	794x225x530	1009x225x530	1009x225x530	1009x225x530	1009x225x530	1224x225x530
Weight (5)	(kg)	13	13	14	16	18	21	19	22	21
Concealed units dimensions (LxWxH) (6)	(mm)	415x218x511	415x218x511	515x218x511	515x218x511	730x218x511	730x218x511	730x218x511	730x218x511	945x218x511
Weight (5)	(kg)	9	10	13	15	18	20	19	21	21

		42	43	44	51	52	61	62	63	64
Total cooling capacity L/M/H (1)	(kW)	2.19/3.25/3.54	2.54/3.37/4.09	2.83/3.86/4.79	3.34/4.29/5.11	2.83/3.86/4.79	3.74/5.19/5.82	4.03/5.73/6.47	4.47/5.87/6.74	4.88/6.54/7.6
Sensible cooling capacity L/M/H (1)	(kW)	1.6/2.4/2.63	1.91/2.59/3.2	2.07/2.86/3.6	2.5/3.27/3.95	2.07/2.86/3.6	2.88/4.12/4.68	3.04/4.43/5.06	3.49/4.73/5.55	3.72/5.11/6.05
Water flow (cooling) L/M/H (1)	(l/h)	377/560/610	438/580/704	487/665/825	575/739/880	487/665/825	644/894/1002	694/987/1114	770/1011/1161	841/1127/1309
Water pressure drop (cooling) L/M/H (1)	(kPa)	10.4/20.8/24.2	8.6/14.1/19.8	14.4/24.8/36.2	16.2/25.1/34.2	14.4/24.8/36.2	10.3/18.4/22.5	7.6/14.1/17.5	13.8/22.4/28.6	10.6/17.8/23.2
Heating capacity L/M/H (2)	(kW)	2.53/3.81/4.17	3.07/4.13/5.09	3.39/4.69/5.88	4.01/5.19/6.27	3.39/4.69/5.88	4.8/6.74/7.66	5.06/7.36/8.43	5.71/7.72/9.06	6.22/8.53/10.1
Electric heater capacity	(W)	750-1250-2000	750-1250-2000	750-1250-2000	1000-1500-2500	1000-1500-2500	1000-1500-2500	1000-1500-2500	1000-1500-2500	1000-1500-2500
Airflow at 0Pa (1)	(m^3/h)	495	590	590	735	735	1020	1020	1210	1210
Fan power input (1)	(W)	39	55	55	79	79	105	105	134	134
Maximum fan motor input	(W)/(A)	61/0.27	88/0.39	88/0.39	103/0.47	103/0.47	130/0.58	130/0.58	176/0.78	176/0.78
Sound power level L/M/H (3)	(dB(A))	31/41/43	37/46/52	37/46/52	42/51/56	42/51/56	45/56/60	45/56/60	50/58/64	50/58/64
Cabinet unit dimensions (LxWxH) (4)	(mm)	1224x225x530	1224x225x530	1224x225x530	1439x225x530	1439x225x530	1439x255x530	1439x255x530	1439x255x530	1439x255x530
Weight (5)	(kg)	24	22	25	26	30	35	41	36	42
Concealed units dimensions (LxWxH) (6)	(mm)	945x218x511	945x218x511	945x218x511	1160x218x511	1160x218x511	1160x248x511	1160x248x511	1160x248x511	1160x248x511
Weight (5)	(kg)	23	22	24	25	28	33	38	33	39

Power supply: 230V/50Hz/1Ph.
(1) Eurovent certified data for 2-pipe, air: 27°C/19°C, water: 7/12°C.
(2) Eurovent certified data for 2-pipe, air: 20°C, water inlet: 50°C, cooling water flow.
(3) Eurovent certified data according to Eurovent specification 8/2 (ISO 3741/88), standard motor.
(4) For front return (FCA) and vertical return (FVA) model without feet. Add 100 mm to height for the version with feet.
(5) Without water content, options, or accessories.
(6) For unit without auxiliary drain pan or water valves kit.

EC fan motor unit: FVAE/FCAE/FKAE											
		21	**22**	**33**	**34**	**43**	**44**	**51**	**52**	**63**	**64**
Total cooling capacity L/M/H (1)	(kW)	0.74/1.19/1.61	0.78/1.33/1.88	1.42/2.19/2.97	1.44/2.28/3.19	1.97/2.94/3.99	2.06/3.2/4.54	2.61/3.7/4.98	2.62/3.84/5.34	3.47/4.86/6.36	3.61/5.25/7.14
Sensible cooling capacity L/M/H (1)	(kW)	0.56/0.93/1.3	0.57/0.99/1.44	1.04/1.65/2.28	1.04/1.68/2.41	1.47/2.23/3.11	1.49/2.35/3.41	1.93/2.79/3.84	1.91/2.84/4.03	2.65/3.83/5.2	2.71/4.03/5.63
Water flow (cooling) L/M/H (1)	(l/h)	127/205/277	134/229/324	245/377/512	248/393/549	339/506/687	355/551/782	450/637/858	451/661/920	598/837/1096	622/904/1230
Water pressure drop (cooling) L/M/H (1)	(kPa)	1.8/4/6.9	3.2/8/14.8	7.9/17/28.9	4/8.9/16.1	5.5/11.1/19	8.2/17.8/33	10.5/19.4/32.6	7.3/14.3/25.6	8.9/16.1/25.9	6.3/12.1/20.8
Heating capacity L/M/H (2)	(kW)	0.92/1.53/2.13	0.94/1.63/2.37	1.7/2.7/3.74	1.7/2.75/3.91	2.35/3.59/4.95	2.43/3.87/5.6	3.08/4.47/6.09	3.09/4.61/6.51	4.45/6.41/8.69	4.5/6.7/9.39
Electric heater capacity	(W)	400-600-1000	400-600-1000	600-900-1500	600-900-1500	750-1250-2000	750-1250-2000	1000-1500-2500	1000-1500-2500	1000-1500-2500	1000-1500-2500
Airflow	(m^3/h)	220	210	350	340	495	475	610	585	945	910
Fan power input (1)	(W)	11	11	12	12	15	15	19	19	41	41
Maximum fan motor input	(A)	21	21	25	25	32	32	41	41	99	99
Sound power level (3)	(dB(A))	30/41/51	30/41/51	30/42/51	30/42/51	33/44/54	33/44/54	37/48/57	37/48/57	44/55/64	44/55/64
Cabinet unit dimensions (lxwxh) (4)	(mm)	794x225x530	794x225x530	1009x225x530	1009x225x530	1224x225x530	1224x225x530	1439x225x530	1439x225x530	1439x255x530	1439x255x530
Weight (5)	(kg)	14	16	19	22	22	25	26	30	36	42
Concealed units dimensions (lxwxh) (6)	(mm)	515x218x511	515x218x511	730x218x511	730x218x511	945x218x511	945x218x511	1160x218x511	1160x218x511	1160x248x511	1160x248x511
Weight (5)	(kg)	13	15	19	21	22	24	25	28	33	39

Power supply: 230V/50Hz/1Ph.
(1) Eurovent certified data for 2-pipe, air: 27°C/19°C, water: 7/12°C.
(2) Eurovent certified data for 2-pipe, air: 20°C, water inlet: 50°C, cooling water flow.
(3) Eurovent certified data according to Eurovent specification 8/2 (ISO 3741/88), standard motor.
(4) For front return (FCA) and vertical return (FVA) model without feet. Add 100 mm to height for the version with feet.
(5) Without water content, options, or accessories.
(6) For unit without auxiliary drain pan or water valves kit.



CCSA

Air handling units for comfort applications

Customer benefits

- Easy installation
- Fits all locations
- Custom production for special requirements

High energy efficiency

- Broad selection of energy recovery options (heat wheel, plate heat exchanger, coil loop)
- Increased energy efficiency performance up to 90%
- Eurovent Energy class A and low specific fan power and energy consumption
- EC plug fans

Main features

- Airflows from 500 to 200000 m^3/h
- Material flexibility: galvanized steel, pre-painted/coated steel, stainless steel, aluminum
- Eurovent certified
    - Maximum Relative Deflection (D1)
    - Thermal Transmittance (T2)
    - Thermal Bridging Factor (TB2)
    - Leakage Class of Casing (L1)
    - Filter Class (F9)
- Profiles made from aluminum for its light weight and extra corrosion resistance
- Side panels: film-coated painted galvanized sheet metal exterior walls and galvanized interior walls (aluminum or stainless steel upon request) fully sealed in a closed structure
- Side panel insulation: 60 mm, polyurethane or rock wool (50-70-110 kg/m^3) to provide heat and sound insulation
- Side panel mounting: mounted tightly on to the structure with neoprene gaskets on the inside and outside to assure a leak-proof construction. The connections are made either by bolts or by special fitted joints

Options

- Assembly/disassembly on site
- Special requests for dimensions, materials, colors
- Trane Tracer™ controls

Controls

- Trane Tracer™ controls: TRANE control equipment and ultimate TRANE PPS (Pre-Packaged Solutions) automation software are integrated and used to create an efficient automation environment. The unit interprets the data transmitted from the sensors and adjusts the conditions of the air until needs are satisfied
- Frequency control provides a wide operating range with high efficiency (optional)

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office

CLCF Climate Changer™

Air handling units for comfort applications

Customer benefits

Superior performance

- Airflow from 1000 m^3/h to 60000 m^3/h - 31 sizes
- Special low height sizes for false ceiling applications
- Wide array of fan technologies (forward, backward, plug fan) and coil options for greater unit flexibility

High energy efficiency

- Broad selection of energy recovery options (heat wheel, plate heat exchanger, coil loop)
- Increased energy efficiency performance - up to 90%
- Eurovent Energy class A and low specific fan power and energy consumption
- EC plug fans

Reliable indoor air quality

- 4-point inclined floor serves as integrated drain pan
- Vertical natural drainage inhibits bacterial growth
- Compliant to VDI 6022 and DIN 1946

Lower installed costs

- Integrated lifting lugs for easier handling
- Quick, unique and reliable tool-less connection system

Main features

- Frameless casing for reduced pressure drops
- 50 mm polyurethane foam-injected panels; homogenous inert/non-fibered insulation
- Internal thermal breaks and thermal break access doors
- 4-point single piece inclined floor under sections creating condensate, promotes liquid run-off
- Centralized vertical drain
- Full perimeter integrated unit base frame
- Unitized structured panel design, minimizing seams that introduce air leak paths
- EPDM seamless gasket seals integrated into the door panels
- All types of components available
- Eurovent Certified: casing air leakage: L1; casing strength: D1; filter bypass leakage: F9; thermal transmittance: T2; thermal bridging factor: TB2

Options

- Panel material: galvanized steel, painted galvanized steel, aluminum, stainless steel 304, 316, or 316L
- High density Rockwool insulation (80 kg/m^3)
- Roof (standard or pitched), bird screens
- Sound attenuators
- All internal parts painted or made of stainless steel

Controls

- Factory-engineered, mounted, tested and pre-commissioned controls
- Quick connect wiring and cabling done in-factory
- Single power source for all machine power components (fan motors, electric heaters, etc.)
- Segregated cable change for easy service access and a protected, clean, and reliable cabling system
- Open protocol platform
- Possibility for connectivity to Building Management System
- Full commissioning provided by Trane experts

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office

CLCF Climate Changer™

Air handling units for hospital, laboratory and pharmaceutical applications

Customer benefits

Reliable Indoor Air Quality

- 4-point single piece inclined floor under sections creating condensate, promotes liquid run-off
- Centralized vertical drain
- Watertight casing for disinfection using liquid products
- Clean concept construction for highest hygienic requirements
- Completely smooth interior panels and rounded corners
- Compliant to VDI 6022 and DIN 1946

Superior Performance

- Airflow from 1000 m^3/h to 60000 m^3/h - 31 sizes, tested and pre-commissioned controls
- Special low height sizes for false ceiling applications
- Wide array of fan technologies (forward, backward, plug fan) and coil options for greater unit flexibility

Lower Installed Costs

- Integrated lifting lugs for easier handling
- Quick, unique and reliable tool-less connection system

High Energy Efficiency

- Energy recovery options (plate heat exchangers, coil loops) - up to 90% improved energy efficiency performance
- EC plug fans
- Eurovent Energy class A and low specific fan power and energy consumption

Main features

- Frameless casing for reduced pressure drops
- 50 mm polyurethane foam-injected panels; homogenous inert/non-fibered insulation
- Internal thermal breaks and thermal break access doors
- Full perimeter integrated unit base frame
- Unitized structured panel design, minimizing seams that introduce air leak paths
- EPDM seamless gasket seals integrated into the door panels
- All types of components available
- Eurovent Certified: Casing air leakage: L1; casing strength: D1; filter bypass leakage: F9; thermal transmittance: T2; thermal bridging factor: TB2

Options

- 4-point inclined floor available for all unit sections in stainless steel 304, 316, or 316L (or other materials)
- Eurovent Class 3 or 4 dampers EN 1751
- Antimicrobial copper coil fins
- Panel material: galvanized steel, painted galvanized steel, aluminum, stainless steel 304, 316, or 316L
- High density Rockwool insulation (80 kg/m^3)
- Roof (standard or pitched), bird screens
- All internal parts coated or made in stainless steel
- Sound attenuators

Controls

- Factory-engineered, mounted, tested and pre-commissioned controls
- Quick connect wiring and cabling done in-factory
- Single power source for all machine power components (fan motors, electric heaters, etc.)
- Segregated cable change for easy service access and a protected, clean, and reliable cabling system
- Open protocol platform
- Possibility for connectivity to Building Management System
- Full commissioning provided by Trane experts

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office

CCTA - CCTB

Air handling units for custom applications

Customer benefits

- Extreme flexibility in construction and dimensions to fit your exact requirements
- Easy installation via modular construction and easy module connection system
- Low energy consumptions and specific fan power with high efficiency recovery and components
- Cleanable and enhanced casing design for higher indoor air quality
- Compliant to VDI 6022 and DIN 1946 available with Eurovent Class A energy class
- All panels removable for fully accessibility

Main features CCTA

- 180 standard units sizes unit sizes for airflow from 1000 to 140000 m^3/h: indoor and outdoor versions
- Special design on request up to 200000 m^3/h
- Casing thermal performances: D1/L1/F9/T2/TB3 (Casing CCTA 50 mm MW) Eurovent certified
- Strong casing framework manufactured with extruded anti-corrosion aluminium profiles, fitted with nylon fibre glass stiffened angles
- Double sealing system to provide optimal casing air leakage
- Exclusive panel fixing system, with screwless panel-lock system, providing a neat external finishing
- 25 or 50 mm thick sandwich-type panels made of galvanized steel inside and white pre-painted steel outside
- Panel insulation made of CFC-free injected polyurethane foam
- Filters fitted on self compressive rail system
- Coil mounted on rails for easy removal
- Available components: panel and bag filters, HEPA filters, activated carbon filters, auto-roll filter, FC/BI/Aerofoil centrifugal fans EC motors, plug fans, water coils, DX coil, electric, heaters, steam coils, condensing coils, air washers, steam humidifiers, evaporative humidifiers, atomizing humidifiers, plate heat exchangers, thermal wheels, run around coils, silencers, mixing chambers, multi-zone sections

Main features CCTB

- Same flexibility as CCTA range, with:
  - Aluminium frame work with integrated plastic thermal break
  - 40, 50 or 60 mm thick panels thick panels with integrated thermal break, polyurethane foam insulation
  - Enhanced casing thermal performances: D1/L1/F9/T2/TB2 Eurovent certified
  - Smooth internal walls with 4 points inclined drain pan

Options

- High density Rockwool insulation (80 kg/m^3)
- Inner/outer skins made of peraluman, stainless steel 304 or 316 metal sheet
- Flat packed/kit form delivery
- All internal parts coated or made in stainless steel

Accessories

- Inspection windows and wired lights
- Manometers and pressure switches
- Flexible connections, weather louvers, intake hoods, sand trap louvers

Controls

- Factory-engineered, mounted, tested and pre-commissioned controls
- Quick connect wiring and cabling done in-factory
- Single power source for all machine power components (fan motors, electric heaters, etc.)
- Segregated cable change for easy service access and a protected, clean, and reliable cabling system
- Open protocol platform
- Possibility for connectivity to Building Management System
- Full commissioning provided by Trane experts

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office

CCEB/CCE-C

Customized air handling units for healthcare and industrial applications

Customer benefits

- High build quality and reliability, designed for the most demanding applications
- High flexibility to provide customized solutions
- Clean concept construction, designed to meet highest hygienic requirements
- Use the finest technologies available to provide the lowest specific fan power and energy consumptions
- Quick and easy installation and maintenance
- Available with Eurovent Class A energy class
- Compliant to EN13 053, VDI 6022 and DIN 1946

Main features

- Modular casing construction, Indoor and outdoor versions
- Vertically stacked, in line, side by side, L-shaped configuration
- 50 mm double skin panels with mineral wool insulation
- Inner skin: galvanized steel, outer skin: PVC coated, white color
- Smooth internal walls, minimized dust traps, easy to clean
- Available components: panel and bag filters, HEPA filters, activated carbon filters, auto-roll filter, FC/BI/aerofoil centrifugal fans, plug fans, water coils, DX coil, electric heaters, steam coils, condensing coils, air washers, steam humidifiers, evaporative humidifiers, cross & counter flow plate heat exchangers, thermal wheels, run around coils, silencers, mixing chambers, multi-zone sections

CCEB: Standard casing design

- 54 standard unit sizes. Airflows from 1000 to 140000 m^3/h (0.3 to 38 m3/s)
- Mechanical classes (EN1886): D1/L1/F9/T3/TB2, Eurovent certified

Casing with NEW thermal break design CCE-C:

- 113 standard unit sizes. Airflows from 1000 to 140000 m^3/h (0.3 to 38 m3/s)
- Mechanical classes (EN1886): D1/L1/F9/T2/TB2, Eurovent certified

Options

- NEW: CCE-C TB1: Mécanisa classes (EN1886): D1/L1/F9/T2/TB1
- Plug fans with EC motors and fan walls (Class IE4)
- ATEX certified construction; group II, category 2 and 3
- Panel material: galvanized steel, PVC coating, Peraluman, stainless steel 304 and 316L
- All internal parts coated or made in stainless steel
- Flat packed/kit form delivery
- Inclined floor and anti-bacteriologic seals
- All components fitted on rails for easy removal
- Factory-installed controls
- Outdoor version with inclined roof

Accessories

- Inspection windows and wired lights
- Manometers and pressure switches
- Flexible connections, weather louvers, intake hoods, sand trap louvers
- Adjustable feet

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office

Controls

- Factory-installed controls including complete controls panels, sensors & actuators.
- Adjustable/variable speed fans with variable frequency drives or EC motors.
- Siemens controller, factory programmed.
- Tested and pre-commissionned prior shipment.
- Standalone or communicating system with BACnet® MS/TP, BACnet® IP, Modbus RTU, LON, or Webserver.

Energy saving options

- Class A energy classes as per Eurovent
- High efficiency heat recovery devices:
  - Sensible, enthalpy or sorption wheels
  - Plate heat exchangers up to 92% efficiency
  - Run around coils
- High efficiency plug fans
- IE3 class fan motors, EC motors Class IE4
- Adiabatic cooling systems
- Optimized controls strategies

		Air volume (m^3/s) at coil face velocity (m/s)			Air volume (m^3/h) at coil face velocity (m/s)			Overall width	Overall height
CCEB	**CCE-C**	2.0	2.5	3.0	2.0	2.5	3.0	(mm)	(mm)
0.5	6/3	0.3	0.3	0.4	950	1188	1426	710	435
0.75	6/4,5	0.4	0.5	0.6	1331	1663	1996	710	587.5
0.75F	9/3	0.4	0.5	0.7	1577	1971	2365	1015	435
1	6/6	0.5	0.6	0.7	1711	2138	2566	710	740
1F	12/3	0.6	0.8	0.9	2203	2754	3305	1320	435
1.125	9/4,5	0.6	0.8	0.9	2208	2759	3311	1015	587.5
1.5	9/6	0.8	1.0	1.2	2838	3548	4257	1015	740
1.5F	12/4,5	0.9	1.1	1.3	3084	3856	4627	1320	587.5
2	12/6	1.1	1.4	1.7	3966	4957	5949	1320	740
2.25	9/9	1.2	1.5	1.8	4324	5405	6486	1015	1045
2.5	15/6	1.4	1.8	2.1	5093	6367	7640	1625	740
3	12/9	1.7	2.1	2.6	6169	7711	9253	1320	1045
3.75	15/9	2.2	2.8	3.3	7923	9904	11884	1625	1045
4	12/12	2.3	2.9	3.4	8249	10311	12374	1320	1350
4.5	18/9	2.6	3.3	4.0	9495	11869	14243	1930	1045
5	15/12	3.0	3.7	4.5	10752	13441	16129	1625	1350
6	18/12	3.6	4.5	5.4	12887	16108	19330	1930	1350
6.25	15/15	3.7	4.6	5.6	13375	16718	20062	1625	1655
7	21/12	4.3	5.3	6.4	15390	19238	23085	2235	1350
7.5	18/15	4.6	5.7	6.9	16537	20671	24805	1930	1655
8	24/12	5.0	6.2	7.5	17893	22367	26840	2540	1370
8.75	21/15	5.4	6.8	8.1	19440	24300	29160	2235	1655
9	18/18	5.5	6.8	8.2	19669	24586	29503	1930	1960
10	24/15	6.3	7.8	9.4	22602	28253	33903	2540	1675
10.5	21/18	6.5	8.2	9.8	23490	29363	35235	2235	1960
11.25	27/15	7.2	8.9	10.7	25764	32206	38647	2845	1675
12	24/18	7.6	9.5	11.4	27311	34139	40967	2540	1980
12.25	21/21	7.7	9.6	11.5	27540	34425	41310	2235	2265
12.5	30/15	8.0	10.0	12.1	28927	36158	43390	3150	1775
13.5	27/18	8.6	10.8	13.0	31132	38915	46698	2845	1980
14	24/21	8.9	11.1	13.3	32020	40025	48030	2540	2285
15	30/18	9.7	12.1	14.6	34953	43691	52430	3150	2080
15.75	27/21	10.1	12.7	15.2	36500	45625	54750	2845	2285
16	24/24	10.1	12.6	15.1	36197	45247	54296	2540	2590
16.5	33/18	10.8	13.4	16.1	38712	48389	58067	3455	2080
17.5	30/21	11.4	14.2	17.1	40980	51224	61469	3150	2385
18	27/24	11.3	14.2	17.0	40794	50992	61191	2845	2590
18F	36/18	11.8	14.8	17.7	42595	53244	63893	3760	2080
19.25	33/21	12.6	15.8	18.9	45386	56732	68079	3455	2385
19.5	39/18	12.9	16.1	19.3	46354	57942	69530	4065	2080
20	30/24	12.7	15.9	19.1	45801	57251	68701	3150	2690
21	36/21	13.9	17.3	20.8	49939	62424	74909	3760	2385
22	33/24	14.1	17.6	21.1	50725	63407	76088	3455	2690
22.75	39/21	15.1	18.9	22.6	54346	67932	81518	4065	2385
24	36/24	15.5	19.4	23.3	55814	69768	83722	3760	2690
24.5	42/21	15.4	19.2	23.0	55296	69120	82944	4370	2385
26	39/24	16.9	21.1	25.3	60739	75924	91109	4065	2690
26.25	45/21	16.5	20.6	24.8	59443	74304	89165	4675	2385
28	42/24	18.2	22.8	27.4	65664	82080	98496	4370	2690
30	45/24	19.6	24.5	29.4	70589	88236	105883	4675	2690
31.5	42/27	20.2	25.2	30.2	72576	90720	108864	4370	2995
32	48/24	21.0	26.2	31.5	75514	94392	113270	4980	2690
33.75	45/27	21.7	27.1	32.5	78019	97524	117029	4675	2995
36	48/27	23.2	29.0	34.8	83462	104328	125194	4980	2995

ROOFTOPS AND CONDENSING UNITS

Unitary systems combine heating, cooling, and fan sections all in one and are used in most classes of buildings, from schools to offices to retail, particularly where low initial cost and simplified installation are important. Our commercial unitary systems feature integrated controls engineered to create the best possible comfort environment for your investment.

Airfinity™

Packaged rooftops

Customer benefits

- Easy installation, operation and maintenance
- Energy savings and heat recovery solutions
- Optimum comfort and high Indoor Air Quality
- Ideal for retail applications

Range description

IC: Cooling-only and gas-fired units

IH: Reversible and dual fuel units

Product versions

- Duplex duo: dual refrigeration circuit with tandem compressors
- Duplex single: dual refrigeration circuit with one compressor per circuit
- Simplex: single refrigeration circuit with tandem compressors (IC only)

Main features

- Solid construction: Weather and age resistant casing made of zinc-coated, heavy-gauge, galvanized steel pre-painted with RAL 9002 powder paint
- High performance: High efficiency hermetic scroll type compressors in tandem for high seasonal efficiency, compliant with Ecodesign 2021 efficiency requirements. High full load efficiency with Eurovent Class A or B
- Energy savings: Free cooling and heat recovery solutions for maximum energy savings
- Proven reliability: Dual refrigeration circuit, high quality components and improved control algorithms for market-leading reliability
- Ideal comfort: Electronically commutated (EC) supply plug fan with variable flow control for optimum comfort and higher energy savings
- High indoor air quality: Double filtration with standard G4 filters (up to F9 provided as option). Fully insulated indoor air section with double wall panel and self-maintained glass wool insulation with specifications according to DIN EN 1602
- Less refrigerant charge: microchannel outdoor coil (IC only)
- Easy communication: Easy to integrate with Building Automation System thanks to compatibility with Modbus, BACnet, and LonTalk protocols. Compatible with Tracer Concierge
- Flexible: Wide selection of options and accessories available to facilitate installation, operation and maintenance

Options and accessories

- Auxiliary heat options (electric heater, hot water coil, integrated gas burner)
- Energy recovery solutions:
    - Airfinity BOOST (thermodynamic circuit)
    - Airfinity ENERGY (rotary wheel)
- Building pressurization control (exhaust fans, roofcurbs)
- Low ambient operation
- Electronic wall thermostats and user interfaces
- Service terminal (user interface, loose or wall-mounted)
- Multi-rooftop control and management with Tracer Concierge
- Adjustable roofcurbs

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

Cooling mode operating outdoor air temperature range (min./max.) (3)	(°C)	-15/+46
Heating mode operating outdoor air temperature range (min./max.) (4)	(°C)	-10/+20
Cooling mode room air temperature (min./max.)	(°C)	+15/+35
Heating mode room air temperature (min./max.)	(°C)	+10/+26
Power supply	(V/Ph/Hz)	400/3/50

Model IH		**038**	**048**	**040**	**050**	**060**	**065**
Version		Simplex		Duplex duo			
Number of circuits/compressors		1/2	1/2	2/4	2/4	2/4	2/4
Nominal airflow	(m^3/h)	7800	9000	8700	10600	12100	13700
Available static pressure at nominal flow rate	(Pa)	250	250	250	250	250	250
Available static pressure at nominal flow rate (oversized drive)	(Pa)	500	500	500	500	500	500
Performance data (cooling mode)							
Net cooling capacity (1)	(kW)	40	50	42	54	61	75
Total power input	(kW)	13	18	13	17	19	25
Net EER	(kW/kW)	3.00	2.86	3.25	3.20	3.16	3.05
Eurovent Energy class		A	B	A	A	A	A
Seasonal space efficiency in cooling	(%)	161	132	149	147	145	143
SEER	(kW/kW)	4.10	3.39	3.80	3.75	3.70	3.65
Performance data (heating mode)							
Net heating capacity (1)	(kW)	37	50	42	53	60	69
Total power input	(kW)	11	15	12	15	18	20
Net COP	(kW/kW)	3.47	3.40	3.51	3.45	3.32	3.41
Eurovent Energy class		A	A	A	A	B	A
Seasonal space efficiency in heating	(%)	126	115	115	120	116	118
SCOP	(kW/kW)	3.22	2.96	2.95	3.06	2.97	3.02
Auxiliary heat data							
Auxiliary electric heating capacity - Stage 1/2	(kW)	12.5/12.5	12.5/12.5	12.5/12.5	12.5/12.5	12.5/25	12.5/25
Modulating gas burner heat output (min./max.)	(kW)	9/42	9/42	9/42	9/42	12/65	12/65
Modulating gas burner maximum efficiency	(%)	96	96	96	96	97	97
Acoustic data							
A-weighted outdoor sound power level (2)	(dB(A))	84	84	84	84	85	85
A-weighted sound power level in duct (2)	(dB(A))	72	75	72	75	79	79
Weights and dimensions (operating)							
Length	(mm)	2830	2830	3010	3010	3010	3010
Width	(mm)	2250	2250	2250	2250	2250	2250
Height	(mm)	1575	1575	1565	1565	1565	1565
Weight (without options)	(kg)	949	1033	1100	1112	1116	1153

Model IH		**075**	**085**	**100**	**110**	**130**
Version				Duplex duo		
Number of circuits/compressors		2/4	2/4	2/4	2/4	2/4
Nominal airflow	(m^3/h)	15700	16700	19800	21600	25500
Available static pressure at nominal flow rate	(Pa)	250	250	250	250	250
Available static pressure at nominal flow rate (oversized drive)	(Pa)	500	500	500	500	500
Performance data (cooling mode)						
Net cooling capacity (1)	(kW)	84	89	110	121	132
Total power input	(kW)	27	30	35	42	50
Net EER		3.05	2.94	3.17	2.87	2.65
Eurovent Energy class		A	B	A	B	C
Seasonal space efficiency in cooling	(%)	144	143	146	137	125
SEER		3.69	3.65	3.73	3.50	3.20
Performance data (heating mode)						
Net heating capacity (1)	(kW)	72	76	98	110	133
Total power input	(kW)	22	23	27	32	39
Net COP		3.31	3.26	3.63	3.48	3.41
Eurovent Energy class		B	B	A	A	A
Seasonal space efficiency in heating	(%)	123	122	132	128	122
SCOP		3.16	3.13	3.39	3.27	3.11
Auxiliary heat data						
Auxiliary electric heating capacity - Stage 1/2	(kW)	12.5/25	12.5/25	25/37.5	25/37.5	25/37.5
Modulating gas burner heat output (min./max.)	(kW)	16/82	16/82	21/100	21/100	21/100
Modulating gas burner maximum efficiency	(%)	98	98	97	97	97
General data						
A-weighted outdoor sound power level (2)	(dB(A))	85	85	85	85	91
A-weighted sound power level in duct (2)	(dB(A))	81	84	88	93	96
Weights and dimensions (operating)						
Length	(mm)	3890	3890	3890	3890	3890
Width	(mm)	2250	2250	2250	2250	2250
Height	(mm)	1585	1585	1890	1890	1890
Weight (without options)	(kg)	1342	1348	1566	1570	1570

(1) According to EN-14511:2018 - indoor: 27°C/19°C, outdoor: 35°C (cooling), Indoor: 20°C, outdoor 7°C/6°C DB/WB (heating).
(2) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(3) With low ambient temperature option.
(4) Without auxiliary heat.

Cooling mode operating outdoor air temperature range (min./max.) (3)	(°C)	-15/+46
Cooling mode room air temperature (min./max.)	(°C)	+15/+35
Power supply	(V/Ph/Hz)	400/3/50

Model IC		**038**	**048**	**058**	**063**	**039**	**049**	**059**	**064**	**074**	**084**
Version		Simplex				Duplex single					
Number of circuits/compressors		1/2	1/2	1/2	1/2	2/2	2/2	2/2	2/2	2/2	2/2
Nominal airflow	(m^3/h)	7800	9000	11100	12600	8300	10100	11300	12700	15700	17100
Available static pressure at nominal flow rate	(Pa)	250	250	250	250	250	250	250	250	250	250
Available static pressure at nominal flow rate (oversized drive)	(Pa)	500	500	500	500	500	500	500	500	500	500
Performance data (cooling mode)											
Net cooling capacity (1)	(kW)	45	54	64	73	44	54	59	67	83	90
Total power input	(kW)	13	16	20	24	14	18	20	25	26	30
Net EER	(kW/kW)	3.38	3.39	3.25	3.06	3.16	2.95	2.93	2.73	3.16	3.00
Eurovent Energy class		A	A	A	A	A	B	B	C	A	B
Seasonal space efficiency in cooling	(%)	189	174	169	172	149	140	137	138	143	144
SEER	(kW/kW)	4.79	4.41	4.31	4.38	3.79	3.56	3.51	3.53	3.65	3.67
Auxiliary heat data											
Auxiliary electric heating capacity - Stage 1/2	(kW)	12.5/12.5	12.5/12.5	12.5/12.5	12.5/12.5	12.5/12.5	12.5/12.5	12.5/25	12.5/25	12.5/25	12.5/25
Modulating gas burner heat output (min/max)	(kW)	9/42	9/42	12/65	12/65	9/42	9/42	12/65	12/65	16/82	16/82
Modulating gas burner maximum efficiency	(%)	96	96	97	97	96	96	97	97	98	98
General data											
A-weighted outdoor sound power level (2)	(dB(A))	85	85	85	85	85	85	85	85	86	86
A-weighted sound power level in duct (2)	(dB(A))	80	85	90	94	80	85	90	94	81	84
Weights and dimensions (Operating)											
Length	(mm)	2830	2830	2830	2830	3010	3010	3010	3010	3890	3890
Width	(mm)	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250
Height	(mm)	1575	1575	1575	1575	1565	1565	1565	1565	1585	1585
Weight (without options)	(kg)	914	985	985	985	988	1005	1016	1016	1333	1347

Model IC		**040**	**050**	**060**	**065**	**075**	**085**	**100**	**110**	**130**
Version		Duplex duo								
Number of circuits/compressors		2/4	2/4	2/4	2/4	2/4	2/4	2/4	2/4	2/4
Nominal airflow	(m^3/h)	8700	10100	12100	14000	16100	17300	20200	22200	26000
Available static pressure at nominal flow rate	(Pa)	250	250	250	250	250	250	250	250	250
Available static pressure at nominal flow rate (oversized drive)	(Pa)	500	500	500	500	500	500	500	500	500
Performance data (cooling mode)										
Net cooling capacity (1)	(kW)	46	56	63	74	85	92	111	125	138
Total power input	(kW)	14	19	20	23	27	29	35	42	50
Net EER		3.25	2.99	3.20	3.15	3.18	3.11	3.18	2.97	2.77
Eurovent Energy class		A	B	A	A	A	A	A	B	C
Seasonal space efficiency in cooling	(%)	185	177	162	164	168	169	169	160	152
SEER		4.69	4.51	4.12	4.18	4.27	4.30	4.30	4.08	3.88
Auxiliary heat data										
Auxiliary electric heating capacity - Stage 1/2	(kW)	12.5/12.5	12.5/12.5	12.5/25	12.5/25	12.5/25	12.5/25	25/37.5	25/37.5	25/37.5
Modulating gas burner heat output (min/max)	(kW)	9/42	9/42	12/65	12/65	16/82	16/82	21/100	21/100	21/100
Modulating gas burner maximum efficiency	(%)	96	96	97	97	98	98	97	97	97
General data										
A-weighted outdoor sound power level (2)	(dB(A))	84	84	85	85	85	85	85	85	91
A-weighted sound power level in duct (2)	(dB(A))	72	75	79	79	81	84	88	93	96
Weights and dimensions (Operating)										
Length	(mm)	3010	3010	3010	3010	3890	3890	3890	3890	3890
Width	(mm)	2250	2250	2250	2250	2250	2250	2250	2250	2250
Height	(mm)	1565	1565	1565	1565	1585	1585	1890	1890	1890
Weight (without options)	(kg)	1100	1112	1116	1153	1342	1348	1566	1570	1570

(1) According to EN-14511:2018 - indoor: 27°C/19°C, outdoor: 35°C (cooling), Indoor: 20°C, outdoor 7°C/6°C DB/WB (heating).
(2) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(3) With low ambient temperature option.

Airfinity™ XL

Packaged rooftops

Customer benefits

- Ideal for industrial comfort and warehouse applications
- Easy installation, operation and maintenance
- Energy savings with heat recovery solutions
- Optimum comfort and high Indoor Air Quality

Range description

IC: Cooling-only and gas-fired units

IH: Reversible and dual fuel units

Main features

- Solid construction: Weather and age resistant 50 mm casing made of zinc-coated, heavy-gauge, galvanized steel and light-weight aluminum panel doors
- High performance: High efficiency variable VI type compressors, connected in tandem for high seasonal efficiency, already compliant with Ecodesign 2021 efficiency requirements
- Energy savings: Free cooling and heat recovery solutions for maximum energy savings
- Proven reliability: Dual refrigeration circuit, high quality components and improved control algorithms for market-leading reliability
- Ideal comfort: Electronically commuted (EC) supply plug fan with variable flow control for optimum comfort and higher energy savings
- Environment-friendly: reduced refrigerant charge thanks to microchannel outdoor heat exchanger (IC models)
- High indoor air quality: Double filtration with minimum G4 filters (up to F9 provided as option). Fully insulated indoor air section with double wall panel and self-maintained glass wool insulation with specifications according to DIN EN 1602
- Easy communication: Easy to integrate with Building Automation System thanks to compatibility with Modbus, BACnet, and LonTalk protocols. Compatible with Tracer Concierge
- Flexible: Wide selections of options and accessories available to facilitate installation, operation and maintenance

Options and accessories

- Auxiliary heat options (electric heater, hot water coil, gas burner)
- Energy recovery solutions: Airfinity ENERGY (rotary wheel)
- Building pressurization control
- Low ambient operation
- Electronic wall thermostats and user interfaces
- Service terminal
- Multi-rooftop control and management with Tracer Concierge
- Adjustable roofcurbs

Cooling mode operating outdoor air temperature range (min./max.) (3)	(°C)	-15/+46
Cooling mode room air temperature (min./max.)	(°C)	+15/+35
Power supply	(V/Ph/Hz)	400/3/50

Model IC		**140**	**150**	**170**	**190**	**220***	**250***	**270***
Number of circuits/compressors		2/4	2/4	2/4	2/4	2/4	2/4	2/4
Nominal airflow	(m^3/h)	24000	26000	28000	33000	36000	42000	44000
Maximum airflow	(m^3/h)	28800	31200	33600	39600	40000	44000	46000
Performance data (cooling mode)								
Net cooling capacity (1)	(kW)	142	155	173	196	213	234	247
Total power input	(kW)	43	50	57	67	81	87	94
Net EER	(kW/kW)	3.32	3.12	3.03	2.82	2.62	2.67	2.63
Eurovent Energy class		A	A	A	B			
Seasonal space efficiency in cooling	(%)	188	179	176	168	148	130	123
SEER	(kW/kW)	4.78	4.54	4.46	4.26	3.77	3.31	3.13
Auxiliary heat data								
Auxiliary electric heating capacity (max)	(kW)	75.0	75.0	100.0	100.0	112.5	112.5	112.5
Auxiliary electric heating - number of stages	#	3	3	4	4	4	4	4
Modulating gas burner heat output (min./max.) - LOW	(kW)	25/126	25/126	25/126	25/126	25/126	25/126	25/126
Modulating gas burner heat output (min./max.) - MED	(kW)	32/160	32/160	32/160	32/160	32/160	32/160	32/160
Modulating gas burner heat output (min./max.) - HIGH	(kW)	38/194	38/194	38/194	38/194	38/194	38/194	38/194
Acoustic data								
A-weighted outdoor sound power level (2)	(dB(A))	85	85	86	91	91	92	92
A-weighted sound power level in duct (2)	(dB(A))	85	89	91	85	87	94	96
Weights and dimensions (Operating)								
Length	(mm)	5618	5618	5618	5618	5618	6512	6512
Incremental length with gas burner	(mm)	1400	1400	1400	1400	1400	1400	1400
Incremental length with heat recovery	(mm)	800	800	800	800	800	800	800
Width	(mm)	2350	2350	2350	2350	2350	2350	2350
Height	(mm)	2275	2275	2275	2275	2275	2275	2275
Weight (without options)	(kg)	2393	2401	2519	2630	2703	2762	2767

(1) According to EN-14511:2018 - indoor: 27°C/19°C, outdoor: 35°C (cooling), Indoor: 20°C, outdoor 7°C/6°C DB/WB (heating).
(2) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(3) With low ambient temperature option.
* Out of scope of Eurovent certification programme.

Cooling mode operating outdoor air temperature range (min./max.) (3)	(°C)	-15/+46
Heating mode operating outdoor air temperature range (min./max.) (4)	(°C)	-10/+20
Cooling mode room air temperature (min./max.)	(°C)	+15/+35
Heating mode room air temperature (min./max.)	(°C)	+10/+26
Power supply	(V/Ph/Hz)	400/3/50

Model IH		**140**	**150**	**170**	**190**	**220***	**250***	**270***
Number of circuits/compressors		2/2	2/2	2/2	2/2	2/2	2/2	2/2
Nominal airflow	(m^3/h)	24000	26000	28000	33000	36000	42000	44000
Maximum airflow	(m^3/h)	28800	31200	33600	39600	42000	44000	44000
Performance data (cooling mode)								
Net cooling capacity (1)	(kW)	140	154	163	187	202	230	243
Total power input	(kW)	43	50	57	69	82	87	98
Net EER	(kW/kW)	3.27	3.06	2.83	2.69	2.45	2.64	2.47
Eurovent Energy class		A	A	B	C	D		
Seasonal space efficiency in cooling	(%)	183	182	171	162	145	130	123
SEER	(kW/kW)	4.65	4.64	4.35	4.14	3.70	3.31	3.13
Performance data (heating mode)								
Net heating capacity (1)	(kW)	137	153	170	196	218	254	273
Total power input	(kW)	38	45	50	61	72	92	101
Net COP	(kW/kW)	3.56	3.43	3.41	3.21	3.05	2.76	2.71
Eurovent Energy class		A	A	A	B	C		
Seasonal space efficiency in heating	(%)	132	132	136	124	121	117	116
SCOP	(kW/kW)	3.37	3.37	3.47	3.18	3.09	2.99	2.96
Auxiliary heat data								
Auxiliary electric heating capacity (max)	(kW)	75.0	75.0	100.0	100.0	112.5	112.5	112.5
Auxiliary electric heating - number of stages	#	3	3	4	4	4	4	4
Modulating gas burner heat output (min./max.) - LOW	(kW)	25/126	25/126	25/126	25/126	25/126	25/126	25/126
Modulating gas burner heat output (min./max.) - MED	(kW)	32/160	32/160	32/160	32/160	32/160	32/160	32/160
Modulating gas burner heat output (min./max.) - HIGH	(kW)	38/194	38/194	38/194	38/194	38/194	38/194	38/194
Acoustic data								
A-weighted Outdoor sound power level (2)	(dB(A))	85	85	86	91	91	92	92
A-weighted sound power level in duct (2)	(dB(A))	85	89	91	85	87	94	96
Weights and dimensions (Operating)								
Length	(mm)	5618	5618	5618	5618	5618	6512	6512
Incremental length with gas burner	(mm)	1400	1400	1400	1400	1400	1400	1400
Incremental length with heat recovery	(mm)	800	800	800	800	800	800	800
Width	(mm)	2350	2350	2350	2350	2350	2350	2350
Height	(mm)	2275	2275	2275	2275	2275	2275	2275
Weight (without options)	(kg)	2493	2501	2559	2670	2742	2841	2844

(1) According to EN-14511:2018 - indoor: 27°C/19°C, outdoor: 35°C (cooling), Indoor: 20°C, outdoor 7°C/6°C DB/WB (heating).
(2) At Eurovent conditions, with 1pW reference sound power, according to ISO9614.
(3) With low ambient temperature option.
(4) Without auxiliary heat.
* Out of scope of Eurovent certification programme.

Energy recovery solutions

AIRFINITY™ ENERGY

The **Energy Recovery Module** is a pre-packaged system that transfers both sensible and latent heat contained in the exhaust air to the fresh air introduced into the building, through use of an enthalpy wheel.

The fully packaged assembly reduces total installation cost and time by avoiding the need for special roofcurbs to manage the exhaust air in applications with low to medium external static pressure. A micro-inverter also manages the rotation speed of the wheel in especially cold ambients, in order to avoid ice formation on the wheel.

Illustration for an IH085

Energy Recovery Module comprising:

- heat exchanger
- G4 filters
- dampers
- a fully integrated exhaust fan to avoid overpressure in the building.

Available on sizes 038 to 270

AIRFINITY™ BOOST

The **Energy Recovery Circuit** features a dedicated high efficiency refrigeration circuit which uses exhaust air to pre-heat or pre-cool the fresh air introduced into the building. By recovering the heat in the exhaust air, the overall capacity of the machine can be increased by up to 25% in typical working conditions, without significantly impacting power consumption*. As a result, the overall efficiency of the rooftop unit increased considerably, especially at part load conditions.

The ERC is fully integrated into the unit, therefore having zero impact on the installation footprint. Moreover, an exhaust module is provided as standard and mounted directly under the fresh air damper, avoiding the need of additional equipment to manage the exhaust air for applications with low to medium static pressure requirements.

Thanks to the additional refrigeration circuit and tighter control of the exhaust air, Trane ERC system guarantees superior performance when compared to alternative systems which utilize the outdoor coil.

Available for sizes 038 to 130

Airfinity™ Solar

Solar-ready rooftops powered by PV panels

Customer benefits

- Complete package: You no longer need to think about your PV installation and HVAC equipment separately. Trane can provide you with the complete package, ensuring you have the optimum design for your installation and simplifying logistics.
- Plug & Play: All components have been carefully selected to be easily connectable on-site, without any hassle.
- Independent and reliable: The system is designed to be entirely based on self-consumption, which means you can eliminate the heavy bureaucratic load traditionally associated with on-grid type systems.
- Ideal for BREEAM/LEED building certification: Increase the value of your property by using completely renewable and sustainable technologies.

Range description

PV-S: Solar PV kits with south mounting configuration

PV-EW: Solar PV kits with east-west mounting configuration

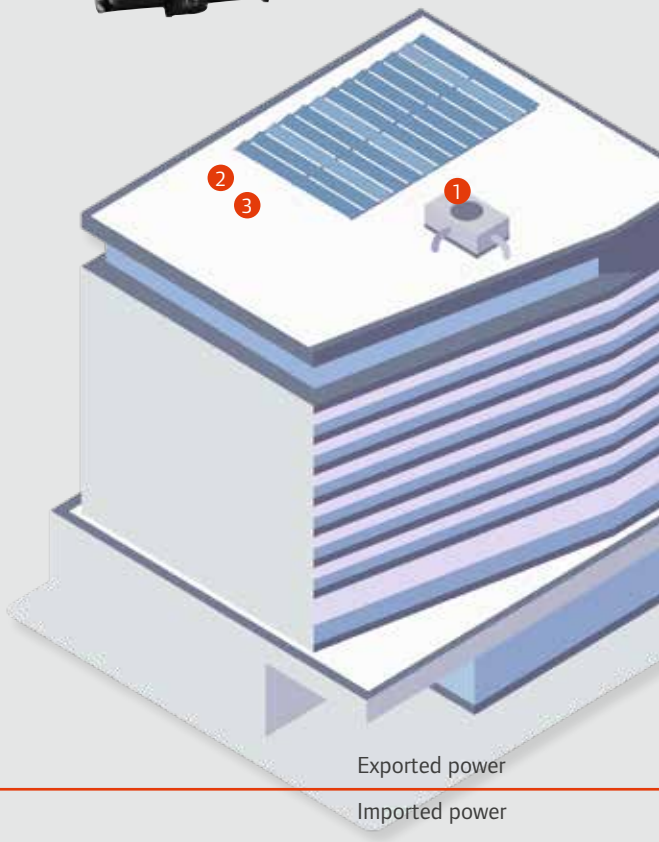
Airfinity Solar PV-S kits		**PV05S**	**PV08S**	**PV12S**	**PV15S**	**PV20S**	**PV25S**	**PV35S**	**PV40S**	**PV50S**
Nominal PV power	(kWp)	6	9	13	16	21	26	37	42	52
Number of panels		22	34	50	62	82	100	144	160	200
Power DC output per panel	(Wc)	260	260	260	260	260	260	260	260	260
Roof space required (without shadows and obstructions)	(m^2)	58	90	132	164	216	264	380	422	528
Inverter model (DC/AC)		STP 5 kVA	STP 8 kVA	STP 12 kVA	STP 15 kVA	STP 20 kVA	STP 25 kVA	STP 15 + STP 20 kVA	2 x STP 20 kVA	2 x STP 25 kVA
Expected yearly production based on local irradiance factor										
900 kWh/m² (Benelux)	(kWh)	4800	7400	10900	13500	17850	21750	31350	34800	43500
1400 kWh/m² (Lyon)	(kWh)	7450	11500	16950	21000	27750	33850	48750	54150	67700
1600 kWh/m² (Rome)	(kWh)	8500	13150	19350	24000	31700	38700	55700	61900	77400
1750 kWh/m² (Madrid)	(kWh)	9300	14400	21150	26250	34700	42300	60950	67700	84650

Airfinity Solar PV-EW kits		**PV05EW**	**PV08EW**	**PV12EW**	**PV16EW**	**PV20EW**	**PV24EW**	**PV30EW**	**PV40EW**	**PV50EW**
Nominal PV power	(kWp)	6	9	13	17	21	26	31	42	52
Number of panels		22	34	50	64	82	100	120	160	200
Power DC output per panel	(Wc)	260	260	260	260	260	260	260	260	260
Roof space required (without shadows and obstructions)	(m^2)	44	67	99	127	162	198	238	317	396
Inverter model (DC/AC)		STP 5 kVA	STP 8 kVA	2 x STP 6 kVA	2 x STP 8 kVA	2 x STP 10 kVA	2 x STP 12 kVA	2 x STP 15 kVA	2 x STP 20 kVA	2 x STP 25 kVA
Expected yearly production based on local irradiance factor										
900 kWh/m² (Benelux)	(kWh)	4650	7150	10550	13500	17250	21050	25250	33700	42100
1400 kWh/m² (Lyon)	(kWh)	7200	11150	16400	20950	26850	32750	39300	52400	65500
1600 kWh/m² (Rome)	(kWh)	8250	12750	18700	23950	30700	37450	44950	59900	74900
1750 kWh/m² (Madrid)	(kWh)	9000	13900	20500	26200	33600	40950	49150	65500	81900

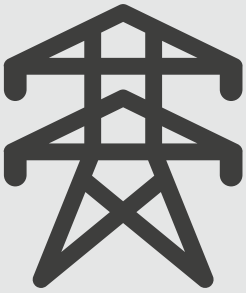
This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

DC

5



Production



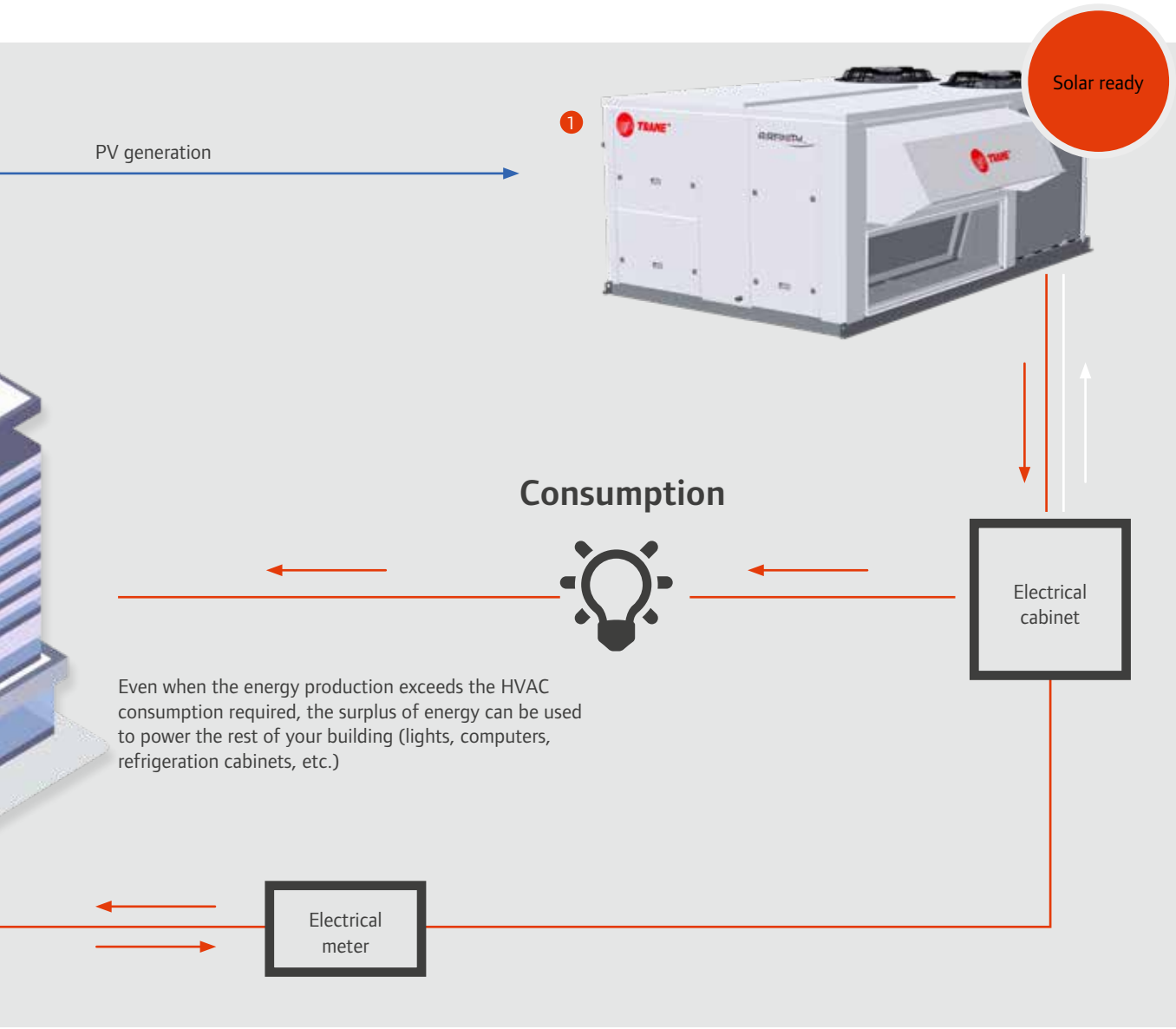
Exported power

Imported power

Airfinity™ Solar combines the best of both worlds: market-leading rooftop air-conditioning units together with proven silicon PV technology and best-in-class inverters.
As soon as the sun is shining, the PV panels contribute to the electricity needs of the rooftop unit. The total savings of the system depend on the local irradiance (sunlight per sqm and per year) and on the electricity purchase price.

The system comprises:

1. Airfinity™ rooftop units: High-efficiency direct-expansion air-conditioning units designed to provide air-conditioning and ventilation to an indoor space.
2. Silicon photovoltaic panels: The most widely-used technology to convert solar energy into DC electrical power.



3 Mounting structure: Used to support the PV panels without puncturing the building's roof. The membranes are durable but lightweight and serve as a wind deflector.

4 High efficiency inverter: Converts DC power supply provided by the PV panels into AC power needed to operate the rooftop HVAC unit and to feed into the utility grid.

5 Cables and connectors: Double-insulated and UV resistant cables suitable for rooftop applications with water resistant IP65 crimped connectors.

Tracer® Concierge™

A packaged system for complete HVAC control - simplified

Simplify day-to-day operation

- Intuitive interface for ease of use - see exactly the information you want to see about your building at a glance
- Save time with area control and built-in functions, such as overrides, temperature setpoint changes and daily monitoring
- Flexible scheduling made easy, with a multitude of options
- PIN control to reduce overrides, and ensure that system strategies are set by those who are responsible for the building

Affordable installation with added value

- Factory-mounted controls save commissioning time on-site and reduces risk at installation, contributing to on-time and on-budget project completion
- Tracer Concierge is web-enabled, so your building can be connected for easy diagnostics and easier access for service and trouble-shooting
- Manage set-points, schedules and critical alerts remotely
- The system alerts you if something isn't working properly, to reduce downtime and repair costs

Improve performance and efficiency

- Match system performance to the needs of your building
- Available advanced control strategies allow you to take full advantage of the capabilities of Airfinity™ rooftop units, to keep the system running optimally for comfort and efficiency
- Scheduling can be done from a single interface, saving time and money
- Optimal start and stop feature provides better control and efficiency

Automation provides the ability to capture and measure energy data, giving you the option to gain additional insights into building performance and usage that can drive improvement and efficiency. See Trane Building Advantage services for more information.

RAUL

Condensing unit

Customer benefits

- Flexibility: customized system to fit the application's exact requirements

Main features

- Scroll compressors –hermetic, high efficiency, low vibration, low sound
- Full internal overheating protections
- Access panels are quickly removable using a square key
- Disconnect switch and transformer
- Discharge and liquid line service valves
- Evaporator temperature sensor
- External sheet metal parts are galvanized and finished with powder paint RAL 9002

Options

- Low ambient operation
- 380, 400 and 415V power voltage
- Epoxy-coated aluminium fins
- Copper fins
- Compressor sound attenuating jackets
- High and low pressure gauges
- Auxiliary card to validate auxiliary temperature setpoint with a remote contact
- Phase reversal protection
- Factory-mounted LonTalk® serial link allowing you to:
  - Modify temperature setpoint
  - Start or stop the unit
  - Monitor air temperature setpoint, ambient air temperature, condensing unit operation, fans, compressors alarms

Trane Tracer™ CH530 Control

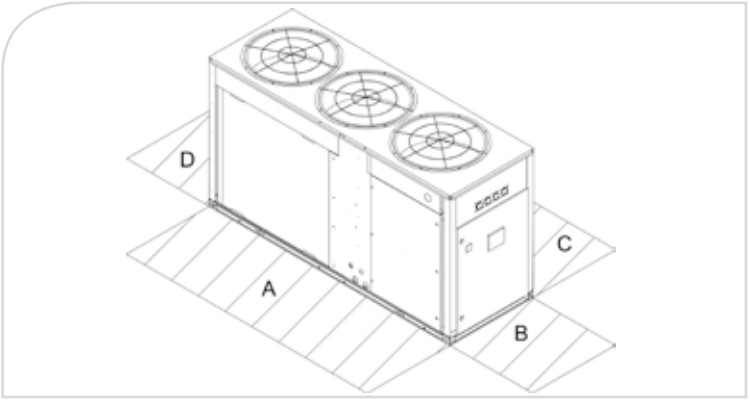
Adaptive Control™ microprocessor featuring:

- Easy-to-use operator interface panel
- External Auto/Stop
- Remote contact to start and stop each compressor
- Cooling and current-limit remote setpoint card (optional)
- LonTalk® communication card (optional)
- Programmable fault card 4 relays (optional)

This description may not include all options and accessories available. For full technical information, visit www.trane.com/litweb or contact your local sales office.

RAUL		190	260	300	350	400	450	500	600	700	800
Net cooling capacity R407C (1)	(kW)	54.8	66.6	81.1	95.3	108.3	118.8	133.0	162.0	194.7	218.8
Total power input R407C (1)	(kW)	18.2	25.1	29.8	33.4	38.4	45.6	51.7	61.0	71.3	83.9
Net cooling capacity R134a (1)	(kW)	43.8	53.2	63.9	75.4	85.1	93.6	106.3	127.9	153.8	172.7
Total power input R134a (1)	(kW)	12.1	15.8	18.5	21.3	24.3	27.7	31.5	37.0	47.1	53.9
Number of refrigerant circuits		1	1	1	2	2	2	2	2	2	2
Number of compressors/capacity steps		2	2	2	3	3	3	4	4	6	6
Sound power level	(dB(A))	86	87	89	89	90	90	90	92	98	98
Sound pressure level at 10m	(dB(A))	54	55	57	57	58	58	58	60	66	66
Suction line diameter	(inches)	1"5/8	1"5/8	1"5/8	1"5/8	1"5/8	1"5/8	1"5/8	1"5/8	2"1/8	2"1/8
Liquid line diameter	(inches)	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"	1"1/8	1"1/8
Weights and dimensions (Operating)											
Length	(mm)	2061	2061	2061	2921	2921	2921	2225	2225	3090	3090
Width	(mm)	995	995	995	995	995	995	1865	1865	1948	1948
Height	(mm)	1582	1582	1582	1582	1582	1582	1584	1584	1598	1598
Weight	(kg)	514	584	650	810	900	926	1040	1168	1575	1634
Clearance A	(mm)	800	800	800	800	800	800	800	800	1000	1000
Clearance B	(mm)	800	800	800	800	800	800	900	900	1000	1000
Clearance C	(mm)	800	800	800	800	800	800	800	800	1000	1000
Clearance D	(mm)	900	900	900	900	900	900	800	800	1300	1300
Electrical data											
Power supply	(V/Ph/Hz)					400/3/50					
Nominal amps R407C (2)	(A)	41	50	59	70	79	88	99	117	150	168
Start-up amps R407C	(A)	144	199	207	219	228	236	248	265	299	316
Nominal amps R134a (2)	(A)	31	38	45	53	60	67	75	89	116	130
Start-up amps R134a	(A)	139	194	201	209	216	223	231	245	272	286

(1) At 7°C saturated suction temperature and 35°C ambient temperature.
(2) At 5°C saturated suction temperature and 60°C saturated discharge temperature.



CONTROLS

With a comprehensive understanding of your strategy and requirements, we can recommend and implement solutions to achieve your goals and reduce your HVAC system lifecycle costs.

Trane controls

Trane's controls product portfolio offers a full range of devices that have been developed within Trane and Ingersoll Rand engineering and Centers of Excellence around the world.

Trane HVAC controls products were developed by (and for) HVAC systems specialists. This unique approach takes into account the system design requirements for both the HVAC application and the HVAC equipment. In this way, consideration is given both to the individual controlled equipment and also to the functionality of the Building Management System (BMS), as well as to the system overall performance. The field controllers are pre-programmed, pre-tested and factory-mounted on our HVAC equipment. This ensures a highly reliable and efficient equipment, while the commissioning process is reduced to its simplest tasks, thus saving valuable time and resources on site, while ensuring high performance and reliability of the controls.

Trane field controllers have advanced equipment HVAC embedded application libraries which have been developed over 100 years of buildings and energy experience. This provides our equipment with the best life cycle and the best efficiencies. All Trane HVAC applications are designed to improve the commissioning and maintenance processes and also to reduce overall operating cost.

Having the best performing HVAC equipment controls is not enough to make sure the system delivers the best efficiency.

At the process level, Trane has in depth technical knowledge on complex HVAC system applications such as chilled water variable primary flow, ice storage, free cooling, heat recovery, variable air systems, etc. Each process focuses on different customer requirements such as space comfort, chilled water supply temperature/flow accuracy, indoor air quality, energy efficiency.

Trane supports you by selecting, designing and processing the best solutions for your HVAC system. Our building and HVAC controls solutions include pre-engineered applications, such as chiller plant control, variable air system control, automatic ventilation and IAQ control. On top of their total focus on HVAC expertise, Trane BMS solutions, offer full flexibility by natively supporting the latest IT technologies, such as IP networking, as well as web services support.

Smart Solutions for Smart Buildings

Building Controls

Building automation systems do not have to be complex to be effective. Typically a building automation system that is complex to use seldom achieves the energy and operational efficiencies as the capabilities of the systems are not fully utilized.

Trane offers an open and secure controls architecture. The use of industry standard protocols such as BACnet, MODBUS and LonWorks allows easy integration of third party equipment or into BMS systems, flexible design and facilitates maintenance.

This approach reduces on-site commissioning activities and ensures a scalable and flexible system that can evolve according to your needs.

Buildings often require rearrangement of their internal space. Trane's highly flexible system is simple to reconfigure and customize in order to match the evolving needs of the occupants.

Control at your fingertips

Trane's BMS have intuitive graphical user interfaces that make system information easily accessible.

The web-based interfaces of our HVAC control solutions give the freedom to monitor and manage the system from virtually anywhere, from most of the web-connected devices, including tablets and smartphones.

Mobile apps also provide remote access, so you're no longer tied to a specific workstation to access the system.

Efficiently manage your system and HVAC equipment from an intuitive user interface that puts all the operating information, including alarms and diagnostics, at your fingertips.

Energy savings

Energy efficiency is maximized without compromising system performance by employing pre-engineered HVAC strategies such as occupancy, ambient, indoor air quality, heat recovery and free cooling.

In addition to the advanced capabilities of the system, Trane control solutions provide the ability to capture and measure energy data, giving you additional insights into system performance and usage that can drive improvement.

Trane delivers simple, reliable, web-enabled solutions that result in energy savings, easier management and worry-free operation.

Smart Solutions for Smart Buildings

Equipment and system controls

Controllers for chillers, heat pumps and multi-pipe units

Tracer® UC800 & Symbio® 800 controllers

The current and next generations of Trane centrifugal, screw and scroll equipment controllers.

Trane Adaptive Control® improves the performance of the unit by helping avoid potential disruptions during rapidly changing conditions. The improved diagnostics enable a customer to monitor and analyze performance data to ensure the unit is operating correctly. Symbio 800 has all connected capabilities needed to support future technology.

Tracer® Color Touchscreen Display

The Tracer® UC & Symbio® 800 features a large (7″ or 12″) touchscreen full-color interface for simple, intuitive operation.

General purpose equipment unit controllers

- Tracer® variable-air-volume controllers
- Tracer® terminal unit controllers
- Tracer® interfaces for chillers and rooftops

Field-installed controllers

Tracer® UC400/UC600 Programmable Unit Controllers

Programmable BACnet unit controllers with high I/O capabilities are designed to work with the Tracer® Synchrony and third-party BACnet systems. A standard library of applications is available to ensure trouble-free operation, whatever the requirements are.

Tracer® Synchrony/SC+

System Controller

Seamless facility management is a reality with this flexible, cost-effective solution. Any PC, tablet or connected device can provide access for programming.

Tracer® Synchrony eliminates the need for a dedicated computer and monitor. System performance can be managed whenever and wherever it is convenient. "Point-and-click" technology provides simple scheduling, data logging, graphical trending, reporting and applications programming.

The intuitive online tools increase occupant comfort, increase efficiency and reduce energy costs, adding up to happier personnel and a better bottom line.

Tracer® Ensemble™

Building Management Software

Tracer provides a web-based solution for managing single or multiple buildings from one interface.

- System visibility from any location allows total management of system status, alarms and schedules
- Reports enable enterprise-wide decision making for optimized performance
- Tenant service and audit trail for critical controls available in option

Mobile App

The Trane Tracer® BAS Operator Suite mobile app has all that you need to check your building's Tracer® SC+ HVAC system to see what's happening, to respond to hot/cold calls quickly and get more done in your day. Your building, at your fingertips.

Tracer BAS Operator Suite mobile app is available for Facility Managers/Operators for both iOS and Android.

Chiller Plant Controls

Take control of your chiller plant

Rising energy costs and operational conditions drive companies to seek greater returns from investments, in other words, get more with less. Additional pressures such as environmental and safety regulations force companies to remain vigilant in managing capital, human resources and infrastructure.

Budget Allocations

Companies working with reduced budgets find it increasingly difficult to approve funding for capital investment projects. In the drive to reduce costs, system maintenance may be cut.

Operating Costs

Running a cooling system is one of the most significant costs on any operating budget. It is extremely challenging to keep this expenditure flat, year on year, when the cost of energy is rising relentlessly.

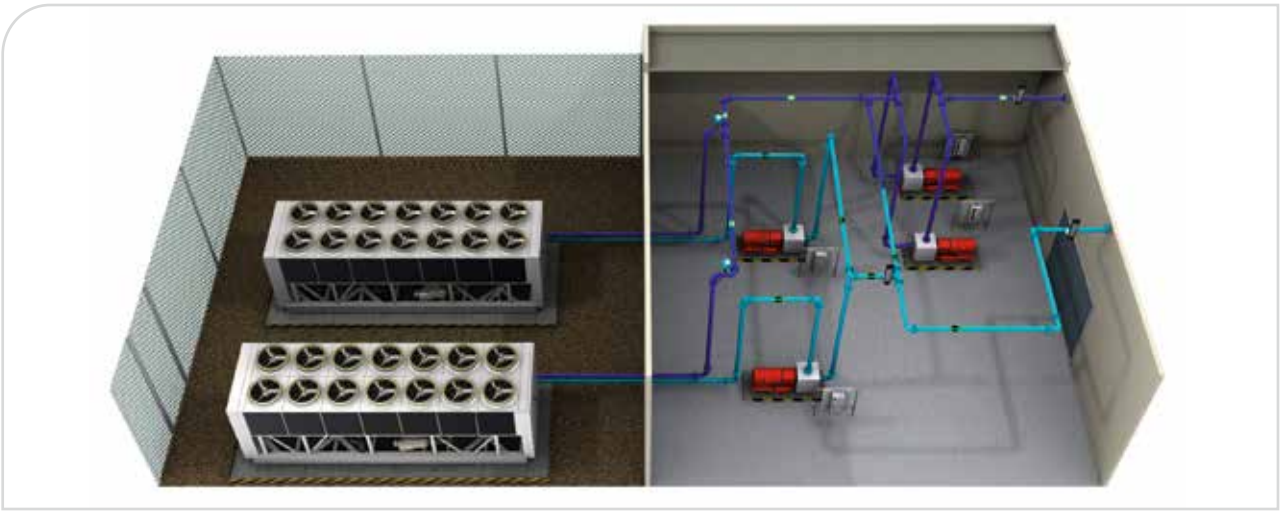
Performance Targets

Ever-increasing targets demand that facilities operate more efficiently, more effectively and for longer hours. The resultant pressure on the chiller plant may lead to increased operating costs or reduced performance.

Regulations

Environmental initiatives demand sustainable operation. In many sectors such as food or pharmaceuticals, further traceability is a regulatory requirement.

Advancing from control to optimization



With appropriate controls, optimal performance of the chiller plant can be achieved, resulting in increased system efficiency and reduced lifecycle costs. Trane's unparalleled knowledge of commercial cooling systems has produced the following range of advanced control solutions:

OptiPlant

Where installations use two air-cooled chillers, they often operate at much less than full load, and in some cases at only 50%. Trane OptiPlant will match the number of chillers in operation to the cooling requirements at any given time to substantially reduce run times.

Chiller Plant Manager

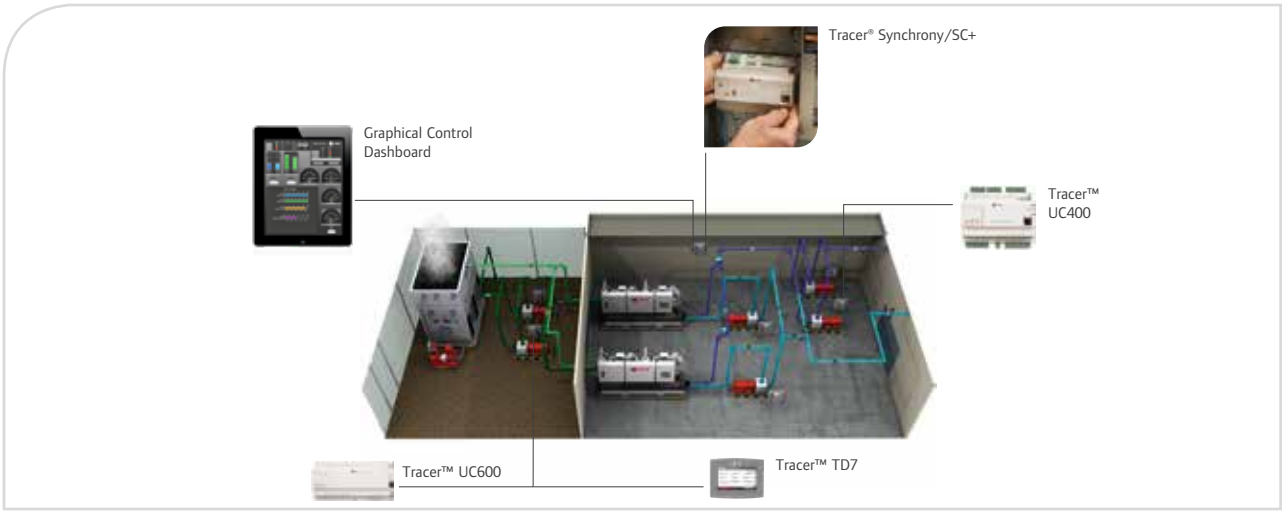
Trane Chiller Plant Manager ensures that only the required plant components operate at their most efficient point to minimize run times. Trane's advanced supervisory system will reduce operating costs by balancing component run times and will notify users when scheduled maintenance is required.

Chiller Plant Optimizer

Trane's most advanced controls solution takes a holistic view of the plant, optimizing operation of the complete system.The Chiller Plant Optimizer provides a comprehensive dashboard view enabling control at your fingertips and prompt action to address operational deviations.

Chiller Plant Controls

Architecture



Trane chiller plant controls architecture is built around core high technology components.

Our control technologies are scalable for any plant configuration including chillers, heat pumps, multi-pipe units and ancillaries such as pumps, valves, cooling towers and dry coolers and are compatible with different source systems (air, water and ground).

Tracer® UC600 Programmable Controller

A programmable BACnet unit controller designed to work with the Tracer® Synchrony and third-party BACnet MS/TP or BACnet IP systems. The UC600 has the I/O and size to meet the controls needs for multiple pump arrangements, cooling towers, dry coolers and central plants.

Tracer® Synchrony/SC+

Allows you to streamline facility management without reinventing the entire system. Adding Tracer® Synchrony to your system provides a flexible, cost effective solution for programming and managing chiller plants that can extend to any HVAC equipment. Accessible from any PC, tablet or connected device, Tracer® Synchrony eliminates the need for a dedicated computer and monitor, so you can manage system performance whenever, wherever it is convenient.

Tracer® UC400 Programmable Controller

Tracer UC400 is an ideal solution when special sequences are required. Standard software applications come preloaded at the factory, simplifying field installation.

Tracer® TD7 Color Touchscreen Display

A 7 inch diagonal color touchscreen designed for both indoor and outdoor use. This visually intuitive solution makes it quicker and easier than ever to access the reliable control offered by the Tracer UC600.

Built on BACnet®

Tracer controls are built on the open BACnet® data communication protocol. Install Trane Tracer controls today, and you're ready for the future integration of additional building automation devices, from both Trane and other suppliers.

Chiller Plant Controls

Capability overview

		OptiPlant (*)	Manager	Optimizer
	FEATURES			
Interface	Local operator display	X	O	O
	Graphical operator interface		X	X
	Chiller plant dashboard		O	X
	Energy dashboard	O	O	O
Data	System temperatures	X	X	X
	System data		X	X
	Plant performance data			X
Location	Local panel	X	O	O
	Facility		X	X
	Remote access		O	X
	BENEFITS			
Component	Chiller run time reduction	X	X	X
	Chiller efficiency increase	X	X	X
	Ancillary run time reduction		X	X
System	System efficiency increase	O	X	X
	Failure management	X	X	X
	Real-time management		X	X

* = Two air cooled chillers
O = Option

BUILDING SERVICES

Trane building services provide a wide range of offerings that enable you to benefit from the highest levels of performance from the systems in your facility. Whether you're installing new equipment, maintaining an existing system or completely upgrading your infrastructure, Trane building services provide exactly the expertise you need.

Trane Services Offering

HVAC Solutions throughout the whole lifecycle of your system

With over 1000 of the best trained sales engineers and service technicians in the industry, with a unique portfolio of solutions, Trane is in the best position to serve your needs. **It all starts from there.**

Breakdown resolution

No one plans for breakdowns, but when they happen you need the right partner. Our expert Service Engineers use the latest diagnostic tools to guide you through your options to Repair, Renew, Replace your broken equipment, or ReThink the approach to HVAC with a Rental solution.

Secure operations

At every point during the lifetime of your equipment - installation, commissioning, maintenance or breakdown - Trane can offer an effective solution with commissioning, first-aid kits and service agreements.

System upgrade: Trane Building Advantage

Trane is committed to bring the latest technological advantages to our customers through a wide portfolio of solutions which increase the Efficiency, Reliability and Sustainability of their HVAC plants.

Our Service Engineers use their expertise together with the latest diagnostic tools to future-proof your system and make it "better than before".

Equipment rental

For special events, exceptional needs or when you want to ReThink HVAC management, Trane Rental Services have the right solution. With our extensive fleet of equipment, we can perfectly match your temporary heating and cooling requirements.

Trane ReNew

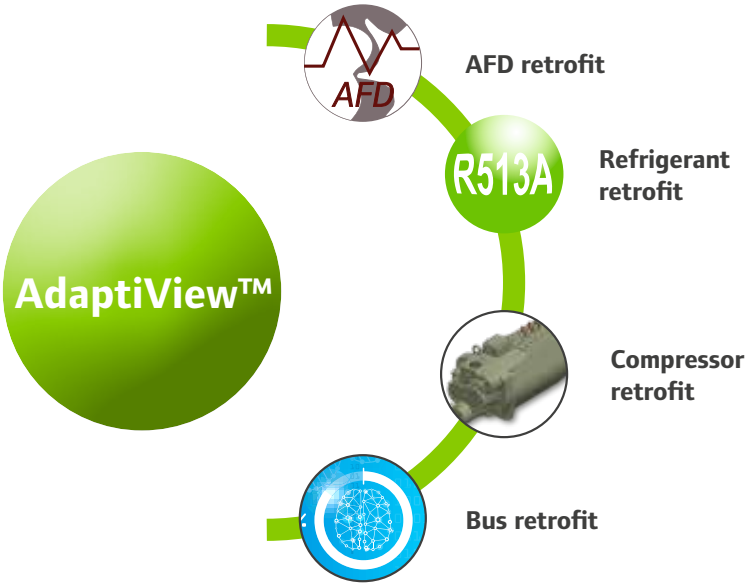
A breakdown is an opportunity to enhance your unit

The Trane Renew program is a comprehensive set of solutions to upgrade your unit in the context of a repair. The program leverages the solutions developed for our Trane Building Advantage system upgrade offering, aiming at improving the Efficiency, Reliability or Sustainability of your equipment.

Technology is continuously evolving and Trane Engineering is ahead of the curve in bringing innovation into new product development. At the same time, our Service Engineers are using their expertise together with the latest diagnostic tools to future proof your system and make it “better than before”.

Some examples of our offering:

- Compressor Renewal
- Equipment Controls upgrade
- BAS/CPC upgrade
- Refrigerants Retrofit



Trane Rental Services

Temporary cooling solutions

Customer benefits

Fast

Because speed of unit installation can be extremely important to your business, all Trane rental equipment has been fitted with enhancements that save installation time.

Safe and reliable

Whilst getting your system up and running is of utmost importance to your operation, safety and reliability of the equipment provided are equally important. You can depend on Trane modern equipment.

Cost-effective

Whatever the application, Trane can provide a cost-effective temporary cooling solution for your organization until you are able to repair or replace your existing equipment.

Main features

A temporary cooling system will keep your business operational whilst you repair, replace or upgrade your existing system.

Our team of account managers, engineers, service technicians and logistics professionals can rapidly transform the equipment you need into a smoothly functioning system that will exceed your expectations.

Solutions tailored to any application


Healthcare


Data Centers


Warehouses


Automotive industry


Tyre industry


Pharmaceutical industry


Plastics industry


Hospitality


Ice rinks


Wineries


Heating


Food and Beverage


Events

- Chemical industry
- Commercial buildings
- Power plants and more...

For more information, visit www.trane.eu

Trane EaaSy

ReThink your approach to HVAC

Businesses require cooling or heating for process or comfort. This is the task of your HVAC system, a significant piece of equipment and traditionally a fixed asset/fixed cost. Businesses today scale up and down rapidly, with cooling or heating needs following these trends. The dynamics of the demand are often in conflict with the static nature of the installation. Equipment repairs, replacement and upgrades represent substantial capital investments, not without risk. Just as cloud computing services have replaced in-house systems, Trane Eaasy is a **long-term rental program** giving you **E**quipment **a**s **a S**ervice (**EaaS**). So you pay for using the equipment to deliver the cooling and heating you need, without the risk and burden of ownership.

Trane EaaSy makes HVAC simple and gives you what you want, when you want it:

- A flexible solution, not a fixed asset.
- Paying for the capacity you actually need.
- Easy switching to more powerful and efficient equipment.
- An end to maintenance headaches.

Now you can focus on what you do best: running your operation.

How it works

Having assessed your requirements in detail, Trane Engineers will propose the right equipment to meet your needs in a flexible and customizable formula, with an agreed and all-inclusive monthly rate.

Now you can enjoy full control of your operating costs, lower risk and maximum flexibility.

We call it ReThinking. You'll call it EaaSy.

Elite Start™ services

Solutions for proper and optimized operation

Customer benefits

Trane's startup services are key to ensuring your new product purchases are installed correctly and operating at maximum performance during the first year. Trane's factory authorized technicians have access to the latest training and service tools to optimize ensure HVAC design performance and optimal operation.

Main features

- Startup - following prescribed engineering checklists to ensure all equipment functions meet operational parameters in a reliable and efficient manner.
- Operation - from startup, ensures new Trane products will operate within designed parameters.
- Performance - assures customers that new Trane products will operate at peak reliability and efficiency during first year of service. These services are available for all Trane products.

Trane Extended Start

Foundation for high performance buildings

Customer benefits

Assure first-year system performance

Make sure your HVAC system gets off to the right start with Trane Extended Start. It's the best way to validate proper installation and assure the highest level of performance during that all-important first year of operation.

Trane Extended Start goes above and beyond the warranty and includes five essential services and three optional services which will create a system baseline to build a strong high performance building foundation.

1. Validate Installation and Startup
Most HVAC failures that occur early in the system's life are during the first year of operation.
2. Monitor Critical Parameters and Adjust System Settings
Monitoring first-year operation and critical parameters is crucial during the initial break-in months. This assures your investment is properly integrated into your environment, and is providing peak performance and efficient energy use.

Main features

The baseline for high performance buildings: twelve months of value-added services
Trane Extended Start - 5 plus 3

5 Essential Services

- Post-installation inspection
  to validate that installation and start-up were done to factory specifications.
- Benchmark report
  an analysis of the current operating characteristics of your equipment. It will be an "as-installed" benchmark to track changes in performance in later years.
- Health check inspection
  to measure critical parameters, adjust unit control settings and correct any operational deviations.
- Chiller oil analysis
  to analyze samples, indicate any deviation and recommend corrective actions.
- Filter changes
  as per Trane recommendations to maximize flow and system efficiency.

3 Optional Services

- Vibration analysis
  to establish a benchmark reference to later identify a range of future faults such as shaft misalignment, bearing defects, or motor electrical problems.
- Get conneted
  to remotely monitor critical alarms, provide periodic communications link verification and produce automatic critical alarm activity reports.
- Operator training
  your operators receive on-site training on best operation and maintenance procedures to ensure safe, reliable and efficient operation of your system.

Trane Select™ Agreements

Comprehensive service contracts for HVAC systems

24hrs/day, 7 days/week

Parts coverage

Maintenance

Lifecycle management

Customer benefits

Best cost of ownership

- Planned maintenance ensures your HVAC system runs at top efficiency, providing up to 12% energy savings.
- Your equipment will receive regular inspection, preventive maintenance and proper calibration. Any potential problem will be corrected before anyone in your building becomes aware of it.
- In choosing your level of coverage, you know exactly what services and parts are covered.
- There are no surprises when it comes to expenses.

Total peace of mind

- Trane looks out for your needs.

Main features

With our extended service plans, Trane is your ideal service solutions provider to protect your HVAC installation investment. Trane Select Agreements are tailored to fit your HVAC system needs and business requirements.
They offer four different levels of coverage - from preventive maintenance plans to comprehensive maintenance.

	1	2	3	4
Liability				
24 hrs/day, 7 days/week	●	●	●	●
Maintenance				
Preventive				
Inspection visits	●	●	●	●
Annual maintenance	●	●	●	●
Predictive				
Oil analysis	●	●	●	●
Coil cleaning		●	●	●
Tube testing			●	●
Coverage				
Compressor	●	●	●	●
All parts		●	●	●
Fully comprehensive (parts/labor)			●	●
Life cycle management				
Supply replacement unit				●

Chiller Health Check Program

Customer benefits

Reliable, efficient performance and lower operational costs are directly linked to how your Trane chiller is maintained. The Trane Chiller Health Check Program is a step-by-step evaluation of the current performance status of your equipment. With the right information in hand, your Trane service expert will analyze the current status and provide you with a detailed report and suggestions for chiller performance enhancement.

Main features

Trane offers either a basic or comprehensive program. Both programs include an oil sample analysis in a laboratory to evaluate the presence of wear on the components and compare the current oil parameters to original specifications.

The comprehensive program includes the eddy current and vibration analyses to verify the internal condition of the heat exchanger tube and the compressor respectively. The additional thermographic inspection provides immediate status of the electrical panel.

Any signs of deterioration will be noted during the different inspections. Your Trane expert will be able to suggest the best solution to fix any issues and quickly restore your Trane chiller to optimal operating conditions.

Trane Building Advantage

Transform your building in terms of energy efficiency, reliability, sustainability.

Customer benefits

Your building and its HVAC system represent one of your organization's most significant capital investments. On the operating side, 40 to 60% of your total energy budget goes into running that chiller plant. Our mission with Trane Building Advantage is clear: to bring you the services, tools, equipment and expertise to transform your building in terms of cost, performance and positive environmental impact.

Our customers measure HVAC systems by their reliability, efficiency and environmental impact. The suite of enhancement solutions we call Trane Building Advantage has been developed to deliver results over the whole HVAC system, at three different levels

- Components
- Controls
- Plant.

Main features

Trane Building Advantage will transform your HVAC system into strategic business advantages:

Reliability

- Analyse your existing system and provide detailed diagnoses and recommendations
- Develop a proactive maintenance plan
- Reduce the risk of breakdowns
- Extend equipment life

Efficiency

- Identify and unlock energy savings within your system
- Upgrade equipment and meet ROI targets
- Enhance existing equipment through maintenance and retrofit

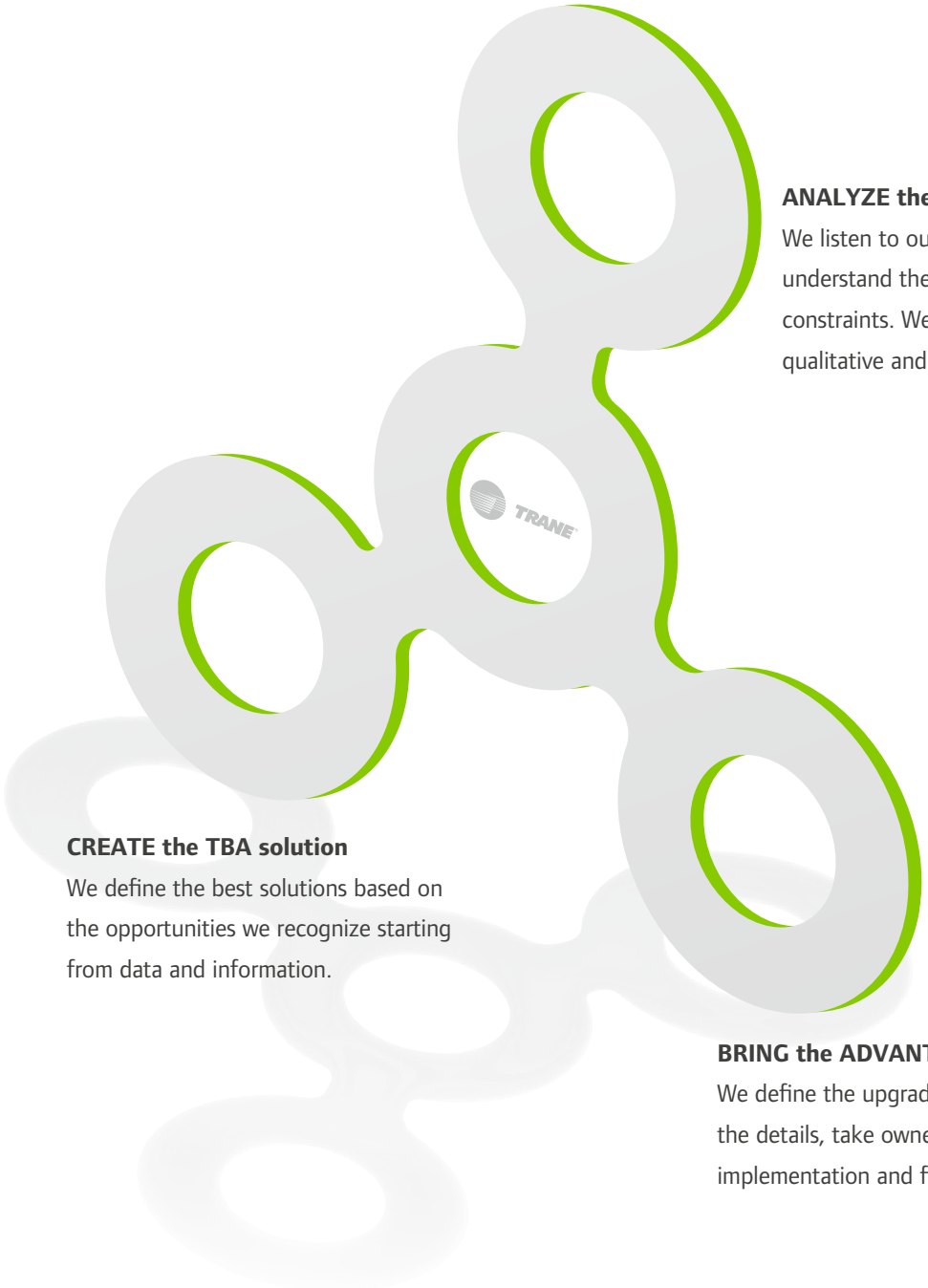
Sustainability

- Manage the use of scarce energy resources
- Minimize carbon footprint
- Meet regulatory requirements
- Optimize the quality of the working environment

Solutions from a Trusted Advisor

From data to insights to solutions.

Our fact-based 3-step approach to bring your HVAC system to its full potential by protecting the value of your assets and minimizing risks and your energy bills.



ANALYZE the initial situation

We listen to our customers to understand their needs, drivers and constraints. We measure and collect qualitative and quantitative data.

CREATE the TBA solution

We define the best solutions based on the opportunities we recognize starting from data and information.

BRING the ADVANTAGE

We define the upgrade project in all the details, take ownership of the implementation and flawlessly execute.

Adiabatic cooling

Customer benefits

Adiabatic cooling reduces the temperature of the air entering the coil, facilitating improvement of equipment reliability and efficiency.

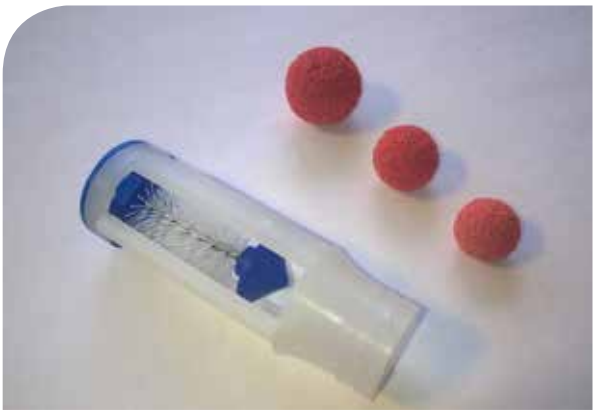
- Reduction of system power input
- Delivery of design capacity without interruptions
- Extension of equipment operating range beyond its original specifications
- Increase in reliability thanks to reduction in compressor discharge temperature, so compressor components are less stressed and operate in better conditions
- Coil stays cleaner longer because the mesh placed in front of it acts as a self-cleaning filter

Main features

The Trane Adiabatic Cooling concept is based on the natural thermodynamic properties of water.
Water is sprayed intermittently onto large non-metallic mesh panels installed in front of the heat reduction coils of chillers, remote condensers, rooftops, etc.
The evaporating water creates the cooling effect, lowering the air temperature before it reaches the condenser coil.

The system is designed for versatility, simple installation and economical operation.

Other technologies are available. For more information, contact your local Trane sales office.



Automatic tube cleaning

Customer benefits

Automatic tube cleaning is the key to keeping heat exchangers operating at peak efficiency.

- Improved operating efficiency: the chiller continuously operates at optimum efficiency, leading to lower energy use and consequent cost reduction.
- Extended chiller life cycle: increasing return on investment, because the compressor never operates beyond its design limits and because condenser tube corrosion is eliminated.
- No chiller downtime: the automatic tube cleaning system keeps the condenser tubes permanently clean while the chiller is operating.
- Low cleaning system operating costs: the sponge balls used in the automatic tube cleaning system are the only consumables needing to be replaced.
- Lower water treatment costs: water treatment is only required to prevent scaling of ancillary equipment, leading to cost savings of as much as 50% of the cost of chemicals used for water treatment.
- Environment friendly: the automatic tube cleaning system uses no chemicals.

Main features

The Trane automatic tube cleaning system is a unique hydro-mechanical cleaning system that operates continuously to keep heat exchanger surfaces completely free from fouling.

This system can be adapted to all tube in shell exchanger types.

The Trane automatic tube cleaning can be achieved using one of two methods:

- Sponge balls, which are injected into the chiller condensing water flow to provide continuous tube cleaning while the chiller is in operation.
- Brushes that move alternatively in the tubes by reversing the water flow. The tubes are maintained perfectly clean to ensure the highest heat transfer and guarantee peak performances.

It is delivered fully pre-programmed, with settings that can, where necessary, be changed to cater for varying water qualities.

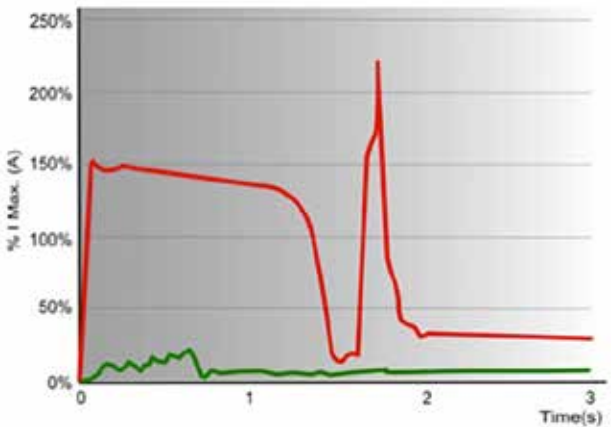
Adaptive Frequency Drive

For models RTHD/RTWD/RTWB/ RTAC/RTAD/RTAF/RTWF/RTHF chillers

Customer benefits

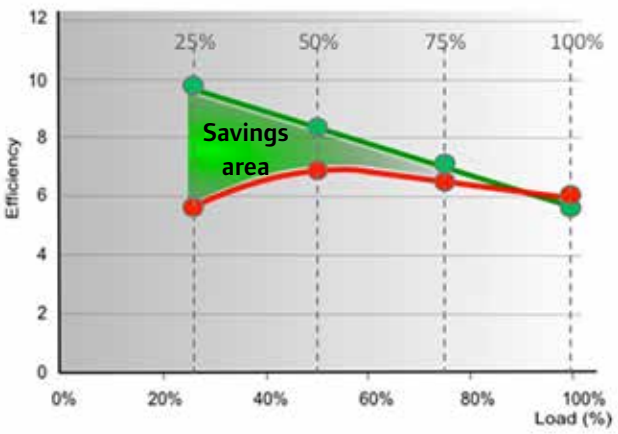
- Reduce utility costs: up to 35% energy savings
- Trust electrical devices: low inrush current
- 10% power factor correction
- Low harmonic distortion
- Advanced control: touchscreen color display and data trending

Reduced inrush current



With Adaptive Frequency Drive
Without Adaptive Frequency Drive

Higher efficiency



Heat recovery

Customer benefits

- Recover up to 70% of the compressor electricity input
- Reduced use of gas to heat water
- Easy to implement with guidelines and Trane support

Main features

Improve your HVAC system efficiency by implementing heat recovery to your existing chiller. Trane heat recovery has no impact on chiller performances and will help reduce energy consumption to generate heat.

Trane heat recovery solution is available for Trane Air Cooled chiller:

- RTAC
- RTAD
- RTAA
- CGAM

Trane heat recovery solutions apply perfectly to

- Industrial application where cooling is required for your process and heating is required for warehouse.
- Hotel: producing sanitary water and cooling building at the same time.

Refrigerant retrofit

Change is happening

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_2.
The use of HFC (hydrofluorocarbon) refrigerants is subject to an 80 % reduction by 2030 with major steps in 2018 (already -37%) and 2021 (-55%).

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.

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.

Refrigerant management

Customer benefits

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.

Main features

Standard monitor

- Technology: Semi-conductor
- Integrated visible and sound alarm
- Multi-refrigerant control
- Sensitivity: 10ppm
- Analog connectivity: Free relays
- Can be connected to a Trane Building Management System

Premium monitor

- Technology: Photo-acoustic Infrared
- LCD display
- Multi-refrigerant control
- Sensitivity: 1ppm
- Digital connectivity: Free relays, 4-20 mA analog output or serial communication (RS 232)
- Can be connected to a Trane Building Management System

Leak testing

Trane offers 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.

Trane Acoustic solutions

Customer benefits

Noise disturbance can be source of conflict. Make sure the facility occupants and neighborhood are evolving in a high quality environment.

Trane solutions can reduce sound level of up to 6 dB(A) corresponding to noise emission reduced by 75%.

Main features

Trane offers a wide array of sound level reduction solutions:

- **Compressor sound enclosure:** Trane designed and manufacture compressor enclosure specific to its compressor. So you can make sure noise are contained within the enclosure.
- **Fan speed reduction:** Sound level can be reduced by 4 dB(A).
- **Night time settings:** Adapt your fan speed to your actual building needs.
- **Compressor discharge muffler:** Purpose designed silencers can be fitted at the compressor discharge.

Chemical analysis

The Trane Chemical Laboratory has developed the specialized expertise to analyze various types of fluids found in your HVAC installation.

Having regular analyses done by experienced service engineers helps reduce maintenance costs and guarantee equipment efficiency and reliability. Problems can be found and fixed before they become major.

- Fast delivery of results
- Graphs of the current test data with past test data for easy comparison
- Past and present interpretations and service recommendations

Compressor oil analysis

- All compressor makes and types (scroll, reciprocating, helical-rotary and centrifugal)
- Helps extend the life of the existing charge and maintain compressor efficiency
- Allows compressor repairs to be scheduled to reduce downtime
- Identify problems without tearing down the compressor
- Reduce problems of used oil disposal
- Lower refrigerant emissions
- Standard testing includes: ferrous index, non-ferrous index, particle count, spectrometry, wear level evolution chart, contamination index, total presence of moisture, contamination level evolution chart, chemical index, dielectric test, viscosity at 40°C, viscosity index, chemistry level evolution chart, TAN (total acid number) test

Refrigerant analysis

- Detects contamination levels. When contaminant levels fall outside acceptable ranges, corrective actions are recommended.
- All types of refrigerants
- Helps extend the life of the existing charge

Lithium bromide analysis

- Detects substance imbalance
- Corrective actions are recommended if necessary
- Helps extend the life of the existing charge

Vibration analysis

Customer benefits

Every piece of HVAC equipment with rotating components has its own vibration signature.
Any change in this signature can be used as an accurate means of identifying developing problems such as bearing wear, shaft imbalacing, and degrading helical-rotary compressor rotor tolerance.

The monitoring and diagnostics system will reliably detect not only potential defects at the initial stage of their development but also identify the exact defect type and its severity. Vibration analysis can identify problems long before they become noticeable.

Main features

The vibration measurement and analysis techniques used by Trane can identify a wide range of developing faults such as shaft misalignment, bearing defects, imbalance, or motor electrical problems.

Sensitive sensors are installed in carefully selected places. The smallest deviation or any abnormal behavior is detected and recorded. The vibration spectrum of your equipment illustrates its internal condition. These graphs are simply and clearly explained to you. To help you further, we will provide you recommendations in terms of maintenance scheduling.

If the vibration analysis report indicates, for instance, an imminent compressor fault, then we will advise you how to plan for a scheduled compressor renewal.

Compressor R'Newal™

Customer benefits

Equipment breakdown can have disastrous consequences. In human terms, it can mean discomfort to building tenants, leading to dissatisfaction and complaints. In financial terms, it can mean extensive repair or replacement costs. But with Trane R'newal™, all this can be avoided.

The Trane R'newal™ program is a comprehensive service solution designed to restore your chiller's compressor performance and reliability to like-new levels.

Main features

The R'newal™ service restores your compressor to like-new specifications and operating condition:

- Thorough cleansing
- Clearance measurements
- Mechanical parts are ground and polished where necessary to restore optimal operation
- Motor: thorough electrical tests, revarnishing or new replacement motor fitted
- Original quality parts replacement: bearings, gaskets, non-return valve, capacity control valve, lip seal, motor terminals, impellers
- Remounting
- Packing: compressor is painted and packed for shipping to your site

Eddy current tube analysis

Customer benefits

- Improved equipment operation and reliability
- Extended equipment life
- Reduced operating costs
- Reduced risk of costly breakdowns
- Reduced downtime

Main features

The condition of the tubes in a shell and tubes heat exchanger has a direct impact on the efficiency of your chiller. Depending on its size, a heat exchanger contains hundreds or thousands tubes, all undergoing mechanical stress and chemical corrosion. Tubes are therefore critical to chiller performance, and yet standard maintenance techniques can check most everything except these tubes.

Equipped with the latest technological tools, Trane can detect, locate and record internal and external corrosion, deposits, wear or cracking before their consequences start to damage your installation.

This analysis results in a detailed report containing all the recordings, photographs of defective zones, and most importantly, recommendations as to the technical and practical actions required to resolve the situation.

Thermography

Trane Thermography is a non-invasive, safe and proven predictive service that detects potential risks in electrical and mechanical equipment. Plus, because your plant can remain up and running, you'll have a clearer picture of where potential breakdowns are hiding, before it's too late.

Customer benefits

Prevent unscheduled downtime

Trane Thermography is perfect for electrical inspections – as well as mechanical inspections. For example, as electrical connections become loose, there is resistance to current that can cause an increase in temperature, which means energy is wasted generating heat. As a result, components can fail, causing unplanned outages and even injuries. Through Trane Thermography, however, potential hazards the human eye can't see become crystal clear.

Main features

A snapshot of equipment components

Differences in temperature are key elements in monitoring equipment. As thermography captures an object's heat signature, it creates a two-dimensional color image of the equipment components. That image will then be used to compare a good component to a problematic one and detect any potential risks. Thermal imagers can also store heat signatures for comparison and upload images to a database.

Picture perfect analysis

When it comes to predictive maintenance, thermography has become a preferred choice among building owners, managers and operating engineers. It's easy to understand why. With no downtime or interruptions required, instant imaging and picture perfect analysis, Trane Thermography is the ideal way to help keep your plant running safely and reliably.

Trane controls services

Comprehensive service contracts for building controls systems

Customer benefits

Regular controls servicing results in continuous comfort for the occupants, and the lowest possible operating and maintenance costs. By regularly monitoring and adjusting your existing controls system Trane will also enable you to operate without emergency failures.

Trane has the expertise to optimize the safety, comfort, and efficiency of all the mechanical and electronic components of your HVAC system.

We can help you manage your building systems to ensure their optimum operation. With a Trane Controls Service plan, each passing minute generates energy savings and improves your cost of ownership.

Main features

Your building is a complex, inter-related set of systems. Over time lots of small changes can cause major shifts in comfort, efficiency and safety levels. Trane maintenance for building controls systems is your strategy to keep everything optimized.

Our trained specialists can advise you on what impact any change may have. They can also monitor your system and identify clues, such as a 1°C deviation as being caused by a 10% leakage elsewhere in the system. Most importantly, our engineers will treat your building controls system as an integrated whole and when changes are necessary they will take appropriate programming actions to ensure there are no negative effects elsewhere in the system.

Customer's needs	Services	Equipment	Controllers	Applications	User Interfaces
Optimized systems giving safety, comfort and efficiency: - Commercial offices - District cooling - Education - Health care - Life sciences - Lodging - Industry - Institutional - Retail	- Cost of ownership - Maintenance - Upgrade - Replacement - Parts - Audit - Training	- Chilled water terminals - Variable air volume - Air handling units - Rooftops - Water chillers - Cooling towers - Dry coolers - Variable frequency drives	- ZN 523/ZN 525 - CH 530 - EX2 - MP 501/503 - PIC - MP 581 - BMTX - UC800 - Tracer UC - Tracer SC/SC+ - Tracer Concierge - BMTB	- Intelligent room control - Chiller plant control - Boiler plant control - Free cooling and heat recovery - Variable air volume systems - Multi-rooftop control	- BMS workstation - Web server - Touchscreen display - Wall sensor - Tracer SC display

MECHANICAL ELECTRONIC

Maintenance 4.0 - Intelligent Services

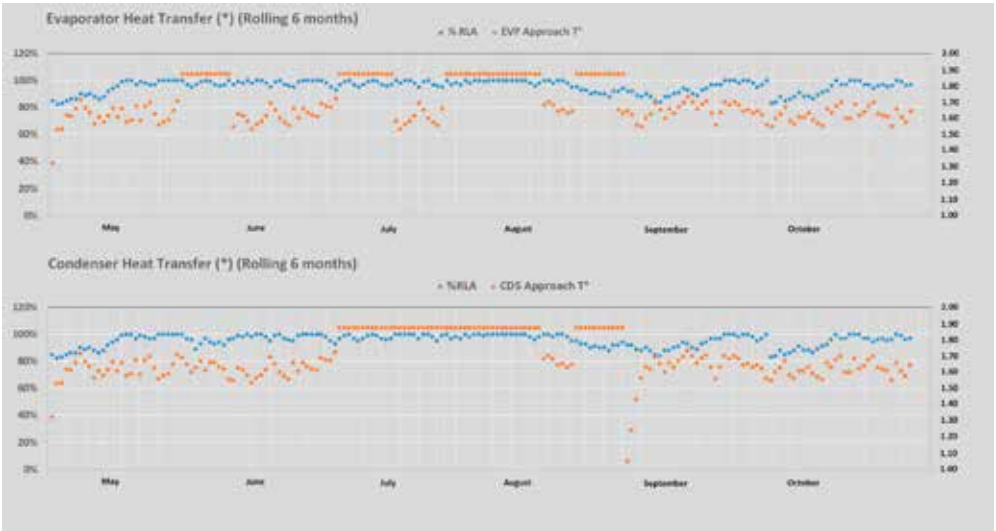
Transform data to business information

Customer benefits

- All HVAC Plant equipment data is gathered and stored in a cloud database
- Fully secured data transfer with protected remote connection capability
- In-cloud automated analytics for:
  - Generating Baseline data for future improvement quantification
  - Qualifying Equipment Behaviors
  - Qualifying Energetic Performance
  - Highlight performance improvement opportunities
  - Fully compliant with GDPR Regulation

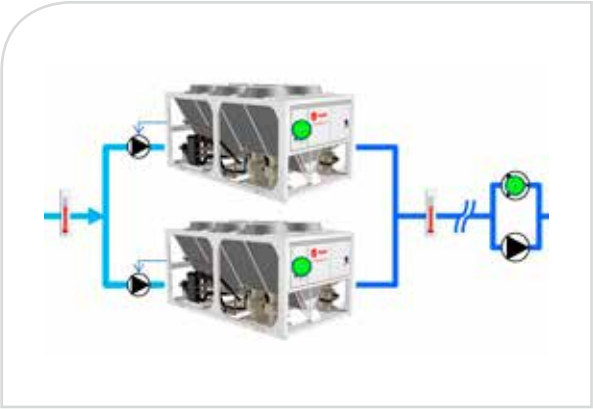
Main features

- Uses Trane Tracer™ SC+ as a gateway between onsite equipment and cloud storage
- Uses latest IT security technologies, including Web Sockets
- Includes de facto Trane Connect secured remote connection
- Automated Chiller Performance report
- Includes a tool for building up custom dashboards on system performance



Transform data into intelligence, with support from Trane

- Identify Inefficient HVAC Systems
- Reducing Energy Consumption
- Continued Efficient Performance
- Focused Service Work
- Track Energy & Operational Savings
- Reduced Wear and Tear



OptiPlant

Customer benefits

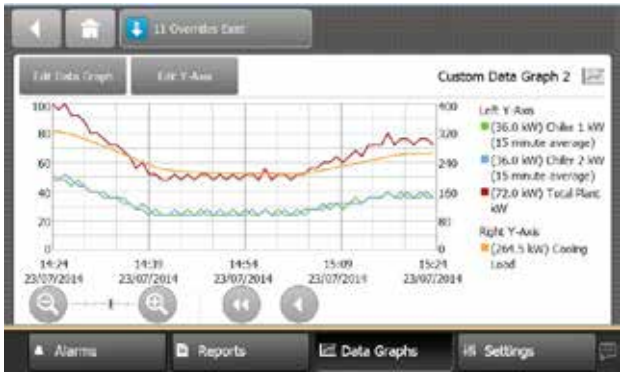
- Lower operating and maintenance costs:
  - Reduced operating hours delivers 15% or more reduction in energy consumption and correspondingly reduced operating costs.
  - Fewer run hours means longer component lifetime and lower maintenance costs.
- Easy chiller control: intuitive screens allow easy monitoring and control of the plant.
- Traceability of plant operation: displays event log and system temperature trends over the seven previous days.
- Rapid return on investment: payback achievable in less than two years in an average size office building.

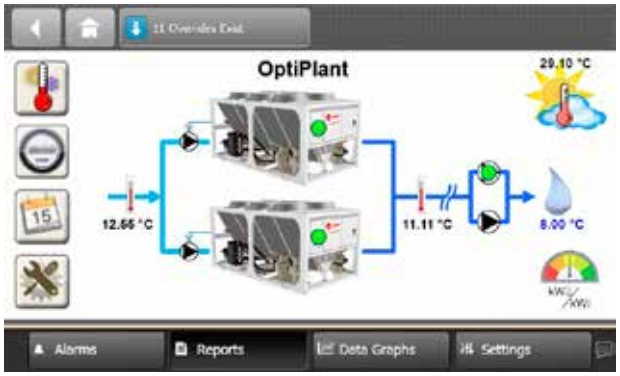
Main features

Trane's unparalleled knowledge of commercial cooling systems combined with control expertise has produced OptiPlant, a prepackaged control solution. OptiPlant can be installed, commissioned and operated by a non-control technician. A visually intuitive display makes it quicker and easier to commission the solution and to access its control capabilities.

Optional metering

- Measure energy consumption of each chiller
- Display shows daily, weekly and yearly power consumption
- Measure efficiency level





AdaptiView™ control upgrade

Total visibility on chiller operation

Customer benefits

AdaptiView™ helps operators keep their chiller plant running at maximum efficiency, thanks to a graphical user interface that provides a deeper understanding, along with quicker response times.

While you are reducing your costs, the occupants of your building will be enjoying extra comfort.

A chiller control upgrade does much more than display information and support diagnosis; it is the key component that enables further important performance enhancements including:

- Adaptive Frequency Drive (AFD)
- Refrigerant retrofit
- Compressor upgrade
- Bus and sensor upgrade

Main features

AdaptiView upgrade is a comprehensive retrofit package for your Series R™ chillers, models RTHA, RTHB, RTHC, RTHD or RTAC. The upgrade package includes everything you will need to migrate to the most advanced chiller control technology available. The upgrade package includes an AdaptiView display, UC800 controller, swing arm mount and door panel.

- Large, full-color touch screen for fingertip control of chiller subsystems
- Instant access to operational data for faster issue analysis and resolution
- At-a-glance status updates display key operating parameters
- Easy-to-read trending charts and diagnostic reports help fine-tune chiller control
- Industry-leading algorithms optimize control where conditions are changing rapidly

Upgrading to AdaptiView enables you to connect with the most recent Trane Chiller Plant Manager. This allows you to take full advantage of the advanced control technology that AdaptiView provides.

AdaptiView is able to communicate via the latest open protocols: BACnet™, LonTalk® and Modbus.

HVAC parts and supplies

Having the right part for your needs is only part of the story

From precision Trane original to generic parts, Trane offers a comprehensive parts inventory to answer customers' needs. This means finding the right part for you, regardless of who makes it. Whether you are looking for compressors, controls, electrical supplies, HVAC accessories, chemicals, or tools and tests equipment, we can give you a competitive edge.

State-of-the-art logistics

We have the infrastructure to find, deliver and even install the required part anywhere in the world with a minimum of downtime. Trane is committed to giving you the best value backed with the most advanced logistics infrastructure and a highly efficient distribution network.

- Central warehouse in Genk, Belgium with 5000 references.
- Logistic platforms in Trane factories.
- Local parts centers to ensure all your parts needs are fulfilled.

Easy to do business with

- Simple to contact a Trane service expert.
- A reliable and loyal partner.
- Consistent level of service throughout Europe, the Middle East and Africa.
- A single-source supplier for Trane original and generic parts, simplifying purchasing processes and invoicing.

Expertise

- With over 100 years of experience, Trane stands out in the industry as a reference in terms of innovation, high quality and efficient service.
- Highly qualified Trane professionals provide the right solution for your specific needs, no matter what your system, budget, or brand requirements might be.

Fast and efficient

- Easy access to parts information and quick quotations.
- On-line inventory management system offers realtime visibility of inventory levels to all Trane sales offices.
- Strategically located near international carrier hubs, Genk central warehouse enables late order processing with guaranteed next day delivery.
- Online tracking system provides reliable shipment status.

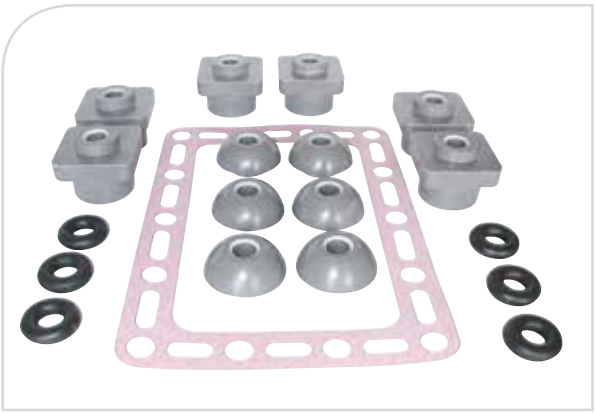
Competitive pricing

- On Trane and generic parts.
- On shipping costs thanks to strategically located parts centers and our extended distribution network.

Customer proximity

With 130 locations in Europe, the Middle East and Africa, Trane has one the most extended service networks always offering expert advice on the right parts, at the right place and at the right time.

For more information, visit www.traneparts-emeia.com



Trane HVAC Kit Solutions

To better answer your needs, we have developed a greater range of professional kits for common maintenance and repairs. These kits will offer you greater peace of mind with the guarantee that you have all the parts required for a specific service intervention.

Trane HVAC kits offering

- Compressors
  - Mounting isolator kit
  - Gasket and 'o'ring kit
  - Revision kits
  - Repair kit
  - Oil line kit
  - Terminal board retrofit kit
  - Gasket kit for GP2 compressor motor change
- Trane controls
  - Wire harness adapter female kit
- Oil and refrigerant filters
  - RTAC Refrigerant filters kit
- Consumables
  - Acidity kit
  - Oil analysis kit
- CCU unit
  - Humidifier drip tray kit
  - Cylinder filter kit
- Fan coil unit
  - Electrical heater kits
  - Condensate pump kit
  - Lift pump kit
  - Housing and fan kit
- HVAC accessories
  - Ignitor burner gas kit
  - Burner fan kit
  - Retrofit centrifugal pump kit
  - Connector female kit
  - Fan motor kit
  - Motor, fan, guard kit
  - Plenum and grid kit
  - Motor assembly, grid, capacitor kit
- Rooftop unit
  - Fire thermostat kit
  - Siphon kit
  - Clogged filter detector kit
  - Electrical coil V1 kit
  - Speed variator kit
  - Fault relay kit

SureFit™ coils

A Trane Parts Solution

Customer benefits

Trane is committed to being your single-source solution for replacement coils-for any HVAC equipment, from any manufacturer. Our system offers rapid quotes. With a wide service network and over 1000 of the best trained engineers and service technicians in the industry, Trane is always prepared to rush the delivery of your Trane SureFit™ coils.

Coils for any type of application or brand

Trane SureFit™ coils are available for the majority of applications and designs:

- Refrigerant, water, steam
- Material types: aluminium, copper, stainless steel, epoxy coated
- Chillers, air handling units, dry cooler, …
- Numbers of circuits

Even if the original coil is not a Trane design we can provide any type of coil regardless of the brand.

Trane SureFit™ replacement coils will restore reliability and efficiency to original specifications as well as reducing operating cost.

In certain cases, it is possible to exceed original specifications.

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Pictogram Key

	Cooling-only
	Heat pump (or reversible cooling/heating)
	Heat recovery
	Free cooling
	Cooling-only and electric heater
	Cooling-only and gas burner
	Reversible heat pump with gas burner for auxiliary heat
	Multi-pipe unit
	Trane Adaptive Frequency™ Drive
	R1234ze refrigerant
	R513A refrigerant
	R1233zd(e) refrigerant
	R454B refrigerant
	R134a refrigerant
	R410A refrigerant
	R407C refrigerant
	Performance certified by Eurovent
	Designed in compliance with the ErP directive 2009/125/EC
	Conforms to the applicable LonMark® profiles
	Conforms to the BACnet® standard
	Conforms to the Modbus® profiles

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