



Water-Cooled Screw Chillers and Water/Water Heat Pumps

Model RTWD Water-Cooled
Model RTUD Condenserless
240-1005 kW





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Introduction

To meet a wide range of applications in the 240-1005 kW water-cooled market, Trane is proud to offer the model RTWD chiller and heat pump and the condenserless compressor chiller version: the model RTUD. Both models are leading the industry in terms of application versatility, ease of installation, control precision, reliability, energy-efficiency, and operational cost-effectiveness.

The units are designed to deliver proven performance, plus all the benefits of an advanced heat transfer design with two low-speed, direct-drive compressors.

Important Design Advances and Features

- High Seasonal Efficiency (HSE) version with Adaptive Frequency Drive for premier part load efficiency reducing both operating and life cycle costs.
- Variable evaporator flow compensation for improved control stability with energy saving variable flow applications.
- Single chiller time of day scheduling communication option for easier control of small jobs.
- Dual independent refrigerant circuits.

The industrial-grade design of the helical-rotary chiller is ideal for both industrial and commercial markets, in applications such as office buildings, hospitals, schools, retail buildings, and industrial facilities. The reliable compressors, wide operating temperature range, advanced controls, electronic expansion valve, short anti-recycle timers, and industry-leading efficiencies mean that this latest Trane chiller is the perfect choice for tight temperature control in almost any application temperatures, and under widely varying loads.



Features and Benefits

Reliability

- The Trane helical rotary compressor is a proven design resulting from years of research and thousands of test hours, including extensive testing under extraordinarily severe operating conditions.
- Trane is the world's largest manufacturer of large helical rotary compressors, with more than 240,000 compressors installed worldwide.
- Direct drive, low-speed compressors—a simple design with only four moving parts—provides maximum efficiency, high reliability, and low maintenance requirements.
- Suction gas-cooled motor stays at a uniformly low temperature for long motor life.
- Electronic expansion valve, with fewer moving parts than alternative valve designs, provides highly reliable operation.

High Performance

- Advanced design enables chilled water temperature control to $\pm 0.5^{\circ}\text{F}$ (0.28°C) for flow changes up to 10 percent per minute, plus handling of flow changes up to 30 percent per minute for variable flow applications.
- Two minute stop-to-start and five minute start-to-start anti-recycle timer allows tight chilled water temperature control in constant or transient low-load applications.
- High compressor lift capabilities for use with heat recovery and waterside heat pump applications allows highly efficient system design with minimal operational concerns.
- Tight water temperature control extends to operation of multiple chillers in parallel or series configurations, offering further system design flexibility for maximum efficiency.
- Optional LonTalk/Tracer Summit communications interface provides excellent, trouble-free inter operability.

Life Cycle Cost-Effectiveness

- Precise compressor rotor tip clearance ensures optimal efficiency.
- Condenser and evaporator tubes use the latest heat transfer technology for increased efficiency.
- Electronic expansion valve enables exceptionally tight temperature control and extremely low superheat, resulting in more efficient full-load and part-load operation than previously available.
- Chilled water reset based on return water temperature is standard.
- Electrical current-limiting is available as an option.

Application Versatility

- **Industrial/low temperature process cooling** – Excellent operating temperature range and precise control capabilities enable tight control with single chiller or series configuration.
- **Ice/thermal storage** – Specifiers and operators benefit from dual setpoint control and industry-leading temperature, efficiency, and control capabilities, plus outstanding support through partnership with Calmac, a strong Trane partner providing proven installation examples, templates, and references that minimize design time and energy costs.
- **Heat recovery** – Maximum condenser temperature exceeds those of previous technologies, providing hot water and tight control that minimizes operating costs for the chilled water plant and boiler/hot water heater, while also providing consistent dehumidification.
- **Water to water heat pump** – For multi-chiller systems where there is a base or year-round heating load the RTWD can be used as a water side heat pump by utilizing ground or surface water as a heat source. Leaving condenser temperature control option allows for the chiller to be used and controlled primarily for the heat produced in the condenser.
- **Dry Cooler** – Allows for use with a closed condenser loop system that minimizes the potential for cross-contamination of the condenser loop.
- **Variable primary flow** – Variable evaporator flow compensation allows multi-chiller systems to vary the flow of water throughout the entire system (from the evaporator through the cooling coils). This feature also provides additional system efficiency as the number of pumps and the flow rate in the system are reduced. Standard 2 pass or optional 3 pass evaporator allows for a wider range of flow capabilities.
- **Series chiller configuration** – For two-chiller systems all the system water passes through the evaporators and/or condensers of both chillers to take advantage of system efficiency gains due to thermodynamic staging as well as downsizing the upstream chiller.
- **EarthWise system** – Low flow and high temperature differential installations allow for reduced pump and cooling-tower energy by decreasing the amount of water flow pumped through the system. This results in downsizing of all HVAC and ancillary equipment which provides installation and operational savings.
- **Extended Partial Load Efficiency, HSE versions** – For applications where there is significant variation in the cooling load and where high part load efficiency is required, the HSE version with factory-mounted Advanced Frequency Drive (AFD), provides considerable advantages and savings.



Features and Benefits

Simple, Economical Installation

- All units fit through standard double-width doors. Units are designed with bolt-together construction for disassembly to fit through smaller openings.
- Small footprint saves valuable equipment room space and alleviates access concerns for most retrofit jobs.
- Lightweight design simplifies rigging requirements, further reducing installation time requirements and costs.
- Full factory refrigerant and oil charges reduce required field labor, materials, and installation cost.
- Integrated forklift channels on the unit base allow for easy movement of the chiller at the job site.
- Single or dual point power connection options simplify overall installation.
- Unit-mounted starter eliminates additional job site installation considerations and labor requirements.
- Trane CH530 controls easily interface with Tracer Summit™ or LonTalk™ building automation systems through single twisted-pair wire.
- Trane has conducted extensive factory testing during manufacturing, and also offers options for in-person and/or documented system performance verification.

Precision Control

- Microprocessor-based Trane Symbio™ 800 controls monitor and maintain optimal operation of the chiller and its associated sensors, actuators, relays, and switches, all of which are factory assembled and extensively tested.
- Easy interface with computers hosting Trane, BACnet or Modbus (TCP-IP/RS485) or LonTalk building automation/energy management systems allows the operator to efficiently optimize comfort system performance and minimize operating costs.
- Closed and open loops control strategy ensures stable, efficient chilled or hot water temperature, maintaining $\pm 0.56^{\circ}\text{C}$ by reacting to instantaneous load changes.
- Symbio™ 800 attempts to maintain chiller operation under adverse conditions, when many other chillers might simply shut down. This is accomplished by unloading the compressor due to high condensing pressure, low suction pressure and/or overcurrent.
- Easy-to-use operator 7" color touch screen displays all operating and safety messages, with complete diagnostics information, on a easily readable panel with a scrolling touch-screen display.
- New variable evaporator flow compensation maintains improved control stability of the leaving water temperature.



Application Considerations

Condenser Water Temperatures

With the model RTWD chiller, condenser head pressure control is necessary only if the unit starts with entering condenser water temperatures below 12.8°C, or between 7.2°C and 12.8°C, when a temperature increase of 0.56°C per minute to 12.8°C is not possible.

When the application requires startup temperatures below the prescribed minimums, a variety of system implementation options are available including the use of a 2- or 3-way valve or tower bypass to maintain the required system refrigerant differential pressure.

- To control a 2-way or 3-way valve, select the Condenser Regulating Valve Control option for the Trane Symbio™ 800 controls. This option enables the Symbio™ 800 controls to send a signal for opening and closing the valve as necessary to maintain chiller differential refrigerant pressure.
- Tower bypass may also be a valid control method if the chiller temperature requirements can be maintained and the loop is small.

The minimum acceptable refrigerant pressure differential between condenser and evaporator is 1.7 bars at all load conditions in order to ensure adequate oil circulation. Condenser leaving water temperature must be 9.5°C higher than evaporator leaving water temperature within 2 minutes of startup. A 13.9°C temperature difference must be maintained thereafter [this differential requirement is lessened by 0.14°C for every 0.56°C that the condenser leaving water temperature is above 12.8°C].

Trane chillers start and operate successfully and reliably over a range of load conditions with controlled condenser pressure. Reducing the condenser water temperature is an effective method of lowering chiller power input required, but the ideal temperature for optimizing total system power consumption will depend on the overall system dynamics. From a system perspective, some improvements in chiller efficiency may be offset by the increased tower fan and pumping costs required to achieve the lower tower temperatures. Contact your local Trane systems solution provider for more information on optimizing system performance.

Variable Evaporator Flow and Short Evaporator Water Loops

Variable evaporator flow is an energy-saving design strategy which has quickly gained acceptance as advances in chiller and controls technology have made it possible. With its superior unloading compressor design and advanced Symbio™ 800 controls, the RTWD and RTUD have excellent capability to maintain leaving water temperature control within +/-0.28°C, even for systems with variable evaporator flow.

Some basic rules should be followed whenever using these system design and operational savings methods with the RTWD and RTUD. The proper location of the chilled water temperature control sensor is in the supply (outlet) water. This location allows the building to act as a buffer, and it assures a slowly changing return water temperature. If there is insufficient water volume in the system to provide an adequate buffer, temperature control can be lost, resulting in erratic system operation and excessive compressor cycling. To ensure consistent operation and tight temperature control, the chilled water loop should be at least two minutes. If this recommendation cannot be followed, and tight leaving water temperature control is necessary, a storage tank or larger header pipe should be installed to increase the volume of water in the system.

For variable primary flow applications, the rate of chilled water flow change should not exceed 10 percent of design per minute to maintain +/-0.28°C leaving evaporator temperature control. For applications in which system energy savings is most important and tight temperature control is classified as +/-1.1°C, up to 30 percent change in flow per minute are possible. Flow rates should be maintained between the minimum and maximum allowed for any particular chiller configuration.

For applications designed to operate with changes in the water flow rate, the new evaporator waterflow compensation improves the ability of the chiller to respond to increasing or decreasing water flow. This new standard control feature works by varying the leaving evaporator temperature control gains in response to changes in evaporator water flow. By measuring the refrigerant flow in each circuit and using this value to calculate the resulting waterside temperature drop, the Symbio™ 800 can estimate the water flow rate through the evaporator.

Application Considerations

Series Chiller Arrangements

Another energy-saving strategy is to design the system around chillers arranged in series, on the evaporator, condenser, or both. It is possible to operate a pair of chillers more efficiently in a series chiller arrangement than in a parallel arrangement. It is also possible to achieve higher entering-to-leaving chiller differentials, which may, in turn, provide the opportunity for lower chilled water design temperature, lower design flow, and resulting installation and operational cost savings (including downsizing a chiller).

The Trane screw compressor also has excellent “lift” capabilities which afford an opportunity for savings on the evaporator and condenser water loops. Like series arrangements on the evaporator, series arrangements on the condenser may enable savings. This approach may allow reductions in pump and tower installation and operating costs.

Maximizing system efficiency requires that the designer balance performance considerations for all system components; the best approach may or may not involve multiple chillers, or series arrangement of the evaporators and/or condensers. This ideal balance of design integrity with installation and operating cost considerations should be researched by consulting a Trane systems solutions provider and applying the Trace™ building energy and economic analysis program.

Heat Recovery

At a time when energy costs are high and continue to rise, reducing energy usage has become increasingly important. By using a RTWD chiller with heat recovery, utilization of energy can be improved by using heat from the condenser that would otherwise be wasted.

The use of heat recovery should be considered in any building with simultaneous heating and cooling requirements or in facilities where heat can be stored and used at a later time. Buildings with high year-round internal cooling loads are excellent opportunities for heat recovery. Heat recovery can be accomplished with the RTWD by recovering heat from the water leaving the standard condenser and using it in conjunction with a third party heat exchanger.

Water-to-Water Heat Pump

The RTWD can be used as a water side heat pump by using ground or surface water as a heat source. Leaving condenser water control option provides the ability to control the heating setpoint. Local regulation concerning limitation on minimum/maximum rejected water temperature needs to be checked before using this method.

If a multiple-chiller building needs both heating and cooling, then a dedicated chiller such as a RTWD can be piped in side stream arrangement and thus be loaded to any capacity by varying its chilled-water setpoint. When operating, it cools the return chilled water temperature to the other chillers. An advantage of the side stream configuration is that the side stream chiller does not need to produce the design system supply-water temperature. It can produce the exact water temperature necessary to meet the required heating load. This allows the chiller to operate more efficiently because the cooling is produced at a higher chilled-water temperature.

Dry Cooler

The RTWD can be used with dry coolers. Generally this application is selected to minimize the spread of airborne contaminants associated with open tower systems. In addition, other drawbacks of cooling towers are avoided: water consumption, production of vapor, need of water treatment, etc. Another benefit of dry coolers is the ability to operate in low ambient conditions. With the use of a third party heat exchanger this design can also be used to provide free cooling to the chilled water loop during cold weather.

Water Treatment

The use of untreated or improperly treated water in chillers may result in scaling, erosion, corrosion, and algae or slime buildup. It is recommended that the services of a qualified water treatment specialist be engaged to determine what treatment, if any, is advisable.

Water Pumps

Where noise limitation and vibration-free operation are important, Trane strongly encourages the use of 1750-rpm (60 Hz) [1450-rpm (50 Hz)] pumps. Specifying or using 3600-rpm (60 Hz) [3000-rpm (50 Hz)] condenser water and chilled water pumps must be avoided, because such pumps may operate with objectionable levels of noise and vibration. In addition, a low frequency beat may occur due to the slight difference in operating rpm between 3600-rpm (60 Hz) [3000-rpm (50 Hz)] water pumps and chiller motors.

Note: The chilled water pump must not be used to stop the chiller.

General Data

Table 1. General Data - RTWD Standard Efficiency

Size		160 SE*	170 SE*	190 SE*	200 SE*
Net Cooling capacity (1) (3)	(kW)	585.1	647.1	725.3	796.6
Net EER (1) (3)		4.55	4.53	4.66	4.70
Eurovent Energy Class - Cooling		B	B	B	B
SEER (4)		5.50	5.43	5.73	5.83
Space Cooling efficiency $\eta_{s,c}$ (4)	(%)	217	214	226	230
Main Power Supply	V/Ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50
Compressor					
Quantity		2	2	2	2
Evaporator					
Water Storage	(L)	69.4	75.5	84.0	90.1
2 Pass Arrangement					
Water Conn. Size	(in)	DN125 - 5" (139.7 mm)	DN125 - 5" (139.7 mm)	DN125 - 5" (139.7 mm)	DN125 - 5" (139.7 mm)
Minimum Flow	(L/s)	8.4	9.3	10.6	11.5
Maximum Flow	(L/s)	30.7	34.1	38.9	42.3
3 Pass Arrangement					
Water Conn. Size	(in)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)
Minimum Flow	(L/s)	5.6	6.2	7.1	7.7
Maximum Flow	(L/s)	20.4	22.7	25.9	28.2
Condenser					
Water Storage	(L)	87.5	93.6	102.9	111.1
Water Conn. Size	(in)	DN150 - 6" (168.3 mm)	DN150 - 6" (168.3 mm)	DN150 - 6" (168.3 mm)	DN150 - 6" (168.3 mm)
Minimum Flow	(L/s)	11.0	12.1	13.6	15.0
Maximum Flow	(L/s)	40.4	44.2	49.9	55.0
General Unit					
Refrigerant Type		R134a	R134a	R134a	R134a
# Refrig Circuits		2	2	2	2
Refrigerant Charge	(kg)	65/67	65/65	65/67	65/66
Oil Charge	(L)	9.9/11.7	11.7/11.7	11.7/11.7	11.7/11.7

(1) Evaporator 12/7°C and 0.0 m²K/kW, and condenser at 30/35°C and 0.0 m²K/kW.

(2) According to AHRI Standard 550/590, based on TOPSS (Trane Official Product Selection Software).

(3) Net performances calculated as per EN 14511-2013.

(4) $\eta_{s,c}$ / 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.

* Not available for comfort applications for countries adopting the Ecodesign directive.

General Data

Table 2. General Data - RTWD High Efficiency

Size		060 HE	070 HE	080 HE	090 HE	100 HE	110 HE	120 HE
Net Cooling capacity (1) (3)	(kW)	239.4	282.2	323.3	372.1	397.6	426.3	461.8
Net EER (1) (3)		5.14	5.11	5.06	5.12	5.16	5.22	5.19
Eurovent Energy Class - Cooling		A	A	A	A	A	A	A
SEER (4)		6.08	6.33	6.25	6.15	6.30	6.38	6.40
Space Cooling efficiency $\eta_{s,c}$ (4)	(%)	240	250	247	243	249	252	253
Main Power Supply	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Compressor								
Quantity		2	2	2	2	2	2	2
Evaporator								
Water Storage	(L)	37.0	40.2	45.2	57.9	57.9	62.3	65.4
2 Pass Arrangement								
Water Conn. Size	(mm)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)	DN125 - 5" (139.7 mm)	DN125 - 5" (139.7 mm)	DN125 - 5" (139.7 mm)	DN125 - 5" (139.7 mm)
Minimum Flow	(L/s)	4.5	5.0	5.7	7.0	7.0	7.7	8.2
Maximum Flow	(L/s)	16.6	18.4	21.1	25.7	25.7	28.2	30.0
3 Pass Arrangement								
Water Conn. Size	(mm)	DN80 - 3" (88.9 mm)	DN80 - 3" (88.9 mm)	DN80 - 3" (88.9 mm)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)
Minimum Flow	(L/s)	3.0	3.3	3.8	4.7	4.7	5.1	5.4
Maximum Flow	(L/s)	11.0	12.2	14.1	17.2	17.2	18.8	20.0
Condenser								
Water Storage	(L)	45.1	45.1	52.2	58.1	62.7	62.7	68.3
Water Conn. Size	(mm)	DN125 - 5" (139.7 mm)	DN125 - 5" (139.7 mm)	DN125 - 5" (139.7 mm)	DN125 - 5" (139.7 mm)	DN125 - 5" (139.7 mm)	DN125 - 5" (139.7 mm)	DN125 - 5" (139.7 mm)
Minimum Flow	(L/s)	5.4	5.4	6.6	7.3	8.1	8.1	9.1
Maximum Flow	(L/s)	19.9	19.9	24.4	26.9	29.8	29.8	33.2
General Unit								
Refrigerant Type		R134a	R134a	R134a	R134a	R134a	R134a	R134a
# Refrig Circuits		2	2	2	2	2	2	2
Refrigerant Charge	(kg)	45/45	45/45	44/44	55/55	55/56	55/55	54/54
Oil Charge	(L)	6.8/6.8	6.8/6.8	6.8/6.8	6.8/6.8	6.8/9.9	9.9/9.9	9.9/9.9

(1) Evaporator 12/7°C and 0.0 m²K/kW, and condenser at 30/35°C and 0.0 m²K/kW.

(2) According to AHRI Standard 550/590, based on TOPSS (Trane Official Product Selection Software).

(3) Net performances calculated as per EN 14511-2013.

(4) $\eta_{s,c}$ / 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.

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General Data

Table 2. General Data – RTWD High Efficiency (continued)

Unit size		130 HE	140 HE	160 HE	180 HE	200 HE	220 HE	250 HE
Net Cooling capacity (1) (3)	(kW)	503.2	546	590.4	650.9	713.7	781.5	853.5
Net EER (1) (3)		5.32	5.31	5.26	5.21	5.23	5.25	5.20
Eurovent Energy Class - Cooling		A	A	A	A	A	A	A
SEER (4)		6.55	6.55	6.55	6.48	6.63	6.70	6.75
Space Cooling efficiency $\eta_{s,c}$ (4)	(%)	259	259	259	256	262	267	267
Main Power Supply	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Compressor								
Quantity		2	2	2	2	2	2	2
Evaporator								
Water Storage	(L)	72.6	77.0	85	91	108	113.3	120.3
2 Pass Arrangement								
Water Conn. Size	(mm)	DN125 - 5" (139.7 mm)	DN125 - 5" (139.7 mm)	DN125 - 5" (139.7 mm)	DN125 - 5" (139.7 mm)	DN150 - 6" (168.3 mm)	DN150 - 6" (168.3 mm)	DN150 - 6" (168.3 mm)
Minimum Flow	(L/s)	8.8	9.5	10.7	11.7	13.3	14.1	15.1
Maximum Flow	(L/s)	32.4	34.9	39.1	43	48.6	51.5	55.3
3 Pass Arrangement								
Water Conn. Size	(mm)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)
Minimum Flow	(L/s)	5.9	6.4	7.13	7.82	8.83	9.3	10.1
Maximum Flow	(L/s)	21.6	23.3	26.12	28.64	32.43	34.3	36.9
Condenser								
Water Storage	(L)	81.7	86.8	93	99	118	117.8	133.3
Water Conn. Size	(mm)	DN150 - 6" (168.3 mm)	DN150 - 6" (168.3 mm)	DN150 - 6" (168.3 mm)	DN150 - 6" (168.3 mm)	DN150 - 6" (168.3 mm)	DN150 - 6" (168.3 mm)	DN150 - 6" (168.3 mm)
Minimum Flow	(L/s)	10.0	10.9	11.9	12.9	15.4	15.4	18.0
Maximum Flow	(L/s)	36.7	39.9	43.7	47.5	56.4	56.4	65.9
General Unit								
Refrigerant Type		R-134a	R-134a	R134a	R134a	R134a	R-134a	R-134a
# Refrig Circuits		2	2	2	2	2	2	2
Refrigerant Charge	(kg)	61/61	60/62	61/61	60/62	81/81	80/83	82/82
Oil Charge	(L)	9.9/9.9	9.9/9.9	10/10	10/12	12/12	11.7/11.7	11.7/11.7

(1) Evaporator 12/7°C and 0.0 m²K/kW, and condenser at 30/35°C and 0.0 m²K/kW.

(2) According to AHRI Standard 550/590, based on TOPSS (Trane Official Product Selection Software).

(3) Net performances calculated as per EN 14511-2013.

(4) $\eta_{s,c}$ / 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.

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General Data

Table 3. General Data – RTWD Extra Efficiency

Size		160 XE	180 XE	200 XE
Net Cooling capacity (1)(3)	(kW)	606.4	667.9	720.0
Net EER (1) (3)		5.49	5.40	5.38
Eurovent Energy Class - Cooling		A	A	A
SEER (4)		6.80	6.83	6.78
Space Cooling efficiency $\eta_{s,c}$ (4)	(%)	269	270	268
Main Power Supply	V/ph/Hz	400/3/50	400/3/50	400/3/50
Compressor				
Quantity		2	2	2
Evaporator				
Water Storage	(L)	72.6	77.0	84.5
2 Pass Arrangement				
Water Conn. Size	(mm)	DN150 - 6" (168.3 mm)	DN150 - 6" (168.3 mm)	DN150 - 6" (168.3 mm)
Minimum Flow	(L/s)	11.7	12.7	15.1
Maximum Flow	(L/s)	43.0	46.6	55.3
3 Pass Arrangement				
Water Conn. Size	(mm)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)
Minimum Flow	(L/s)	7.8	8.5	10.1
Maximum Flow	(L/s)	28.6	31.0	36.9
Condenser				
Water Storage	(l)	93.0	99.0	118.0
Water Conn. Size	(mm)	DN150 - 6" (168.3 mm)	DN150 - 6" (168.3 mm)	DN150 - 6" (168.3 mm)
Minimum Flow	(L/s)	12.9	15.4	20.5
Maximum Flow	(L/s)	47.5	56.4	75.1
General Unit				
Refrigerant Type		R-134a	R-134a	R-134a
# Refrig Circuits		2	2	2
Refrigerant Charge	(kg)	61/61	60/62	61/61
Oil Charge	(L)	9.9/9.9	9.9/9.9	9.9/9.9

(1) Evaporator 12/7°C and 0.0 m²K/kW, and condenser at 30/35°C and 0.0 m²K/kW.

(2) According to AHRI Standard 550/590, based on TOPSS (Trane Official Product Selection Software).

(3) Net performances calculated as per EN 14511-2013.

(4) $\eta_{s,c}$ / 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.

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General Data

Table 4. General Data - RTWD High Seasonal Efficiency

Size		060 HSE	070 HSE	080 HSE	090 HSE	100 HSE	110 HSE	120 HSE	130 HSE
Net Cooling capacity (1) (3)	(kW)	243.6	286.0	328.9	379.6	405.1	433.8	467.7	501.9
Net EER (1) (3)		5.03	5.00	4.92	4.96	5.03	5.11	5.11	5.10
Eurovent Energy Class - Cooling		B	B	B	B	B	A	A	A
SEER (4)		6.43	6.63	6.63	6.68	6.70	6.95	6.63	7.15
Space Cooling efficiency $\eta_{s,c}$ (4)	(%)	254	262	262	264	265	275	262	283
Main Power Supply	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Compressor									
Quantity		2	2	2	2	2	2	2	2
Evaporator									
Water Storage	L	37.0	40.2	45.2	57.9	57.9	62.3	65.4	72.6
2 pass arrangement									
Water conn. Size	in	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)
Minimum Flow	L/s	4.5	5.0	5.7	7.0	7.0	7.7	8.2	8.8
Maximum Flow	L/S	16.6	18.4	21.1	25.7	25.7	28.2	30.0	
3 pass arrangement									
Water conn size	in	DN80-3" (88.9 mm)	DN80-3" (88.9 mm)	DN80-3" (88.9 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)
Minimum Flow	L/s	3.0	3.3	3.8	4.7	4.7	5.1	5.4	5.9
Maximum Flow	L/s	11.0	12.2	14.1	17.2	17.2	18.8	20.0	21.6
Condenser									
Water Storage	L	45.1	45.1	52.2	58.1	62.7	62.7	68.3	81.7
Water conn. Size	in	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN150-6" (168.3 mm)
Minimum Flow	L/s	5.4	5.4	6.6	7.3	8.1	8.1	9.1	10.0
Maximum Flow	L/s	19.9	19.9	24.4	26.9	29.8	29.8	33.2	36.7
General Unit									
Refrigerant Type		R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a
Nbr of refrigerant circuits		2	2	2	2	2	2	2	2
Refrigerant Charge	Kg	45/45	45/45	45/44	55/55	55/56	55/55	54/54	61/61
Oil Charge	L	6.8/6.8	6.8/6.8	6.8/6.8	6.8/6.8	6.8/9.9	9.9/9.9	9.9/9.9	9.9/9.9

(1) Evaporator 12/7°C and 0.0 m²K/kW, and condenser at 30/35°C and 0.0 m²K/kW.

(2) According to AHRI Standard 550/590, based on TOPSS (Trane Official Product Selection Software).

(3) Net performances calculated as per EN 14511-2013.

(4) $\eta_{s,c}$ / 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.

* Not available for comfort applications for countries adopting the Ecodesign directive.

General Data

Table 4. General Data - RTWD High Seasonal Efficiency (continued)

Size		140 HSE	160 HSE	180 HSE	200 HSE	220 HSE	250 HSE	260 HSE	270 HSE
Net Cooling capacity (1) (3)	(kW)	546.6	611.4	671.0	720.5	776.8	844.5	923.0	1002.9
Net EER (1) (3)		5.13	5.36	5.27	5.20	4.97	4.98	4.66	4.67
Eurovent Energy Class - Cooling		A	A	A	A	B	B	B	B
SEER (4)		7.15	7.23	7.23	7.35	7.25	7.43	7.23	7.33
Space Cooling efficiency $\eta_{s,c}$ (4)	(%)	283	286	286	291	287	294	286	290
Main Power Supply	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Compressor									
Quantity		2	2	2	2	2	2	2	2
Evaporator									
Water Storage	L	77.0	72.6	77.0	84.5	113.3	120.3	113.3	120.3
2 pass arrangement									
Water conn. Size	in	DN125-5" (139.7 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)
Minimum Flow	L/s	9.5	11.7	12.7	15.1	14.1	15.1	14.1	15.1
Maximum Flow	L/S		43.0	46.6	55.3				
3 pass arrangement									
Water conn size	in	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)
Minimum Flow	L/s	6.4	7.8	8.5	10.1	9.3	10.1	9.3	10.1
Maximum Flow	L/s	23.3	28.6	31.0	36.9	34.3	36.9	34.3	36.9
Condenser									
Water Storage	L	86.8	93.0	99.0	118.0	117.8	133.3	117.8	133.3
Water conn. Size	in	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)
Minimum Flow	L/s	10.9	12.9	15.4	20.5	15.4	18.0	15.4	18.0
Maximum Flow	L/s	39.9	47.5	56.4	75.1	56.4	65.9	56.4	65.9
General Unit									
Refrigerant Type		R134a	R134A	R134A	R134A	R134a	R134a	R134a	R134a
Nbr of refrigerant circuits		2	2	2	2	2	2	2	2
Refrigerant Charge	Kg	60/62	61/61	61/62	61/61	80/83	82/82	80/83	82/82
Oil Charge	L	9.9/9.9	6.8/6.8	6.8/6.8	6.8/6.8	11.7/11.7	11.7/11.7	11.7/11.7	11.7/11.7

(1) Evaporator 12/7°C and 0.0 m²K/kW, and condenser at 30/35°C and 0.0 m²K/kW.

(2) According to AHRI Standard 550/590, based on TOPSS (Trane Official Product Selection Software).

(3) Net performances calculated as per EN 14511-2013.

(4) $\eta_{s,c}$ / 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.

* Not available for comfort applications for countries adopting the Ecodesign directive.

General Data

Table 5. General Data - RTWD High Efficiency + Heating Option

Size		060 HE	070 HE	080 HE	090 HE	100 HE	110 HE*	120 HE*
Net Cooling Capacity (1) (2)	(kW)	234.8	279.0	316.6	360.9	386.4	414.8	445.2
Net EER (1) (2)		4.60	4.50	4.46	4.46	4.51	4.56	4.60
Eurovent Energy Class - Cooling		C	C	C	C	C	C	C
SEER (3)		6.00	6.20	6.00	5.73	5.58	5.73	5.80
Space cooling Efficiency $\eta_{s,c}$ (3)	(%)	237	245	237	226	220	226	229
Medium Temperature Heating (4)								
Net Heating Capacity (4)	(kW)	245.0	293.9	333.4	378.4	406.1	435.9	470.6
Net COP (2)		3.60	3.58	3.55	3.58	3.60	3.64	3.66
SCOP (5)		4.75	4.75	4.75	4.73	4.78	4.78	4.85
Space Heating Efficiency (5)	(%)	182	182	182	181	183	183	186
Main Power Supply	(V/PH/Hz)	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Compressor								
Quantity		2	2	2	2	2	2	2
Evaporator								
Water Storage	L	37.0	40.2	45.2	57.9	57.9	62.3	65.4
2 pass arrangement								
Water conn. Size	in	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)
Minimum Flow	L/s	4.5	5.0	5.7	7.0	7.0	7.7	8.2
Maximum Flow	L/S	16.6	18.4	21.1	25.7	25.7	28.2	30.0
3 pass arrangement								
Water conn size	in	"DN80-3" (88.9 mm)	"DN80-3" (88.9 mm)	"DN80-3" (88.9 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)
Minimum Flow	L/s	3.0	3.3	3.8	4.7	4.7	5.1	5.4
Maximum Flow	L/s	11.0	12.2	14.1	17.2	17.2	18.8	20.0
Condenser								
Water Storage	L	45.1	45.1	52.2	58.1	62.7	62.7	68.3
Water conn. Size	in	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)
Minimum Flow	L/s	5.4	5.4	6.6	7.3	8.1	8.1	9.1
Maximum Flow	L/s	19.9	19.9	24.4	26.9	29.8	29.8	33.2
General Unit								
Refrigerant Type		R134a	R134a	R134a	R134a	R134a	R134a	R134a
Nbr of refrigerant circuits		2	2	2	2	2	2	2
Refrigerant Charge	Kg	45/45	45/45	45/44	55/55	55/56	55/55	54/54
Oil Charge	L	6.8/6.8	6.8/6.8	6.8/6.8	6.8/6.8	6.8/9.9	9.9/9.9	9.9/9.9

(1) At 30/35°C Entering/Leaving Condenser and 12/7°C Entering/Leaving Evaporator.

(2) Net performances calculated as per EN 14511-2013.

(3) $\eta_{s,c}$ / 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.

(4) At 47/55°C Entering/Leaving Condenser and 10/7°C Entering/Leaving Evaporator.

(5) $\eta_{s,h}$ / 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.

* Not available for Comfort Cooling applications for countries adopting the Ecodesign directive.

General Data

Table 5. General Data - RTWD High Efficiency + Heating Option (continued)

Size		130 HE	140 HE	160 HE	180 HE	200 HE	220 HE	250 HE
Net Cooling Capacity (1) (2)	(kW)	480.5	527.1	576.1	631.5	688.9	754.2	824.0
Net EER (1) (2)		4.73	4.74	4.72	4.63	4.58	4.61	4.60
Eurovent Energy Class - Cooling		B	B	B	C	C	C	C
SEER (3)		6.05	5.98	6.13	5.90	5.98	6.18	6.38
Space cooling Efficiency $\eta_{s,c}$ (3)	(%)	239	236	242	233	236	244	252
Medium Temperature Heating (4)								
Net Heating Capacity (4)	(kW)	509.5	558.1	608.4	668.1	729.8	802.2	879.0
Net COP (2)		3.75	3.73	3.72	3.70	3.71	3.74	3.78
SCOP (5)		4.85	4.93	4.88	4.90	4.83	4.93	4.90
Space Heating Efficiency (5)	(%)	186	189	187	188	185	189	188
Main Power Supply	(V/PH/Hz)	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Compressor								
Quantity		2	2	2	2	2	2	2
Evaporator								
Water Storage	L	72.6	77.0	85.0	91.0	108.0	113.3	120.3
2 pass arrangement								
Water conn. Size	in	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)
Minimum Flow	L/s	8.8	9.5	10.7	11.7	13.3	14.1	15.1
Maximum Flow	L/S							
3 pass arrangement								
Water conn size	in	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)
Minimum Flow	L/s	5.9	6.4	7.1	7.8	8.8	9.3	10.1
Maximum Flow	L/s	21.6	23.3	26.1	28.6	32.4	34.3	36.9
Condenser								
Water Storage	L	81.7	86.8	93.0	99.0	118.0	117.8	133.3
Water conn. Size	in	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)
Minimum Flow	L/s	10.0	10.9	11.9	12.9	15.4	15.4	18.0
Maximum Flow	L/s	36.7	39.9	43.7	47.5	56.4	56.4	65.9
General Unit								
Refrigerant Type		R134a	R134a	R134a	R134a	R134a	R134a	R134a
Nbr of refrigerant circuits		2	2	2	2	2	2	2
Refrigerant Charge	Kg	61/61	60/62	61/61	60/62	81/81	80/83	82/82
Oil Charge	L	9.9/9.9	9.9/9.9	10/10	10/12	12/12	11.7/11.7	11.7/11.7

(1) At 30/35°C Entering/Leaving Condenser and 12/7°C Entering/Leaving Evaporator.

(2) Net performances calculated as per EN 14511-2013.

(3) $\eta_{s,c}$ / 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.

(4) At 47/55°C Entering/Leaving Condenser and 10/7°C Entering/Leaving Evaporator.

(5) $\eta_{s,h}$ / 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.

* Not available for Comfort Cooling applications for countries adopting the Ecodesign directive.

General Data

Table 6. General Data - RTWD Extra Efficiency + Heating Option

Size		160 XE	180 XE	200 XE
Net Cooling Capacity (1) (2)	(kW)	590.8	647	694.3
Net EER (1) (2)		4.87	4.74	4.67
Eurovent Energy Class - Cooling		B	B	B
SEER (3)		5.98	6.10	6.05
Space cooling Efficiency $\eta_{s,c}$ (3)	(%)	236	241	239
Medium Temperature Heating (4)				
Net Heating Capacity (4)	(kW)	619.4	680.2	731.6
Net COP (2)		3.80	3.77	3.75
SCOP (5)		5.00	5.00	4.88
Space Heating Efficiency (5)	(%)	192	192	187
Main Power Supply	(V/PH/Hz)	400/3/50	400/3/50	400/3/50
Compressor				
Quantity		2	2	2
Evaporator				
Water Storage	L	72.6	77.0	84.5
2 pass arrangement				
Water conn. Size	in	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)
Minimum Flow	L/s	11.7	12.7	15.1
Maximum Flow	L/s	43.0	46.6	55.3
3 pass arrangement				
Water conn size	in	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)
Minimum Flow	L/s	7.8	8.5	10.1
Maximum Flow	L/s	28.6	31.0	36.9
Condenser				
Water Storage	L	93.0	99.0	118.0
Water conn. Size	in	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)
Minimum Flow	L/s	5.4	5.4	6.6
Maximum Flow	L/s	19.9	19.9	24.4
General Unit				
Refrigerant Type		R134A	R134A	R134A
nbr of refrigerant circuits		2	2	2
Refrigerant Charge	Kg	45/45	45/45	44/44
Oil Charge	L	6.8/6.8	6.8/6.8	6.8/6.8

(1) At 30/35°C Entering/Leaving Condenser and 12/7°C Entering/Leaving Evaporator.

(2) Net performances calculated as per EN 14511-2013.

(3) $\eta_{s,c}$ / 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.

(4) At 47/55°C Entering/Leaving Condenser and 10/7°C Entering/Leaving Evaporator.

(5) $\eta_{s,h}$ / 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.

* Not available for Comfort Cooling applications for countries adopting the Ecodesign directive.

General Data

Table 7. General Data - RTWD High Seasonal Efficiency + Heating Option

Size		060 HSE	070 HSE	080 HSE	090 HSE	100 HSE	110 HSE*	120 HSE*	130 HSE
Net Cooling Capacity (1) (2)	(kW)	234.8	276.3	317.2	364.9	391.3	420.4	453.8	487.9
Net EER (1) (2)		4.31	4.25	4.21	4.21	4.29	4.36	4.52	4.68
Eurovent Energy Class - Cooling		C	C	D	D	C	C	C	B
SEER (3)		6.83	6.43	5.95	5.48	5.28	5.75	5.73	6.33
Space cooling Efficiency $\eta_{s,c}$ (3)	(%)	270	254	235	216	208	227	226	250
Medium Temperature Heating (4)									
Net Heating Capacity (4)	(kW)	235.5	292.3	335.3	384.4	414.3	446.0	477.5	510.8
Net COP (2)		3.39	3.40	3.35	3.38	3.42	3.48	3.55	3.64
SCOP (5)		4.83	4.70	4.63	4.58	4.65	4.70	4.85	4.95
Space Heating Efficiency (5)	(%)	185	180	177	175	178	180	186	190
Main Power Supply	(V/PH/Hz)	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Compressor									
Quantity		2	2	2	2	2	2	2	2
Evaporator									
Water Storage	L	37.0	40.2	45.2	57.9	57.9	62.3	65.4	72.6
2 pass arrangement									
Water conn. Size	in	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)
Minimum Flow	L/s	4.5	5.0	5.7	7.0	7.0	7.7	8.2	8.8
Maximum Flow	L/S	16.6	18.4	21.1	25.7	25.7	28.2	30.0	
3 pass arrangement									
Water conn size	in	"DN80-3" (88.9 mm)	"DN80-3" (88.9 mm)	"DN80-3" (88.9 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)
Minimum Flow	L/s	3.0	3.3	3.8	4.7	4.7	5.1	5.4	5.9
Maximum Flow	L/s	11.0	12.2	14.1	17.2	17.2	18.8	20.0	21.6
Condenser									
Water Storage	L	45.1	45.1	52.2	58.1	62.7	62.7	68.3	81.7
Water conn. Size	in	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN125-5" (139.7 mm)	DN150-6" (168.3 mm)
Minimum Flow	L/s	5.4	5.4	6.6	7.3	8.1	8.1	9.1	10.0
Maximum Flow	L/s	19.9	19.9	24.4	26.9	29.8	29.8	33.2	36.7
General Unit									
Refrigerant Type		R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a
Nbr of refrigerant circuits		2	2	2	2	2	2	2	2
Refrigerant Charge	Kg	45/45	45/45	45/44	55/55	55/56	55/55	54/54	61/61
Oil Charge	L	6.8/6.8	6.8/6.8	6.8/6.8	6.8/6.8	6.8/9.9	9.9/9.9	9.9/9.9	9.9/9.9

(1) At 30/35°C Entering/Leaving Condenser and 12/7°C Entering/Leaving Evaporator.

(2) Net performances calculated as per EN 14511-2013.

(3) $\eta_{s,c}$ / 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.

(4) At 47/55°C Entering/Leaving Condenser and 10/7°C Entering/Leaving Evaporator.

(5) $\eta_{s,h}$ / 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.

* Not available for Comfort Cooling applications for countries adopting the Ecodesign directive.

General Data

Table 7. General Data - RTWD High Seasonal Efficiency + Heating Option (continued)

Size		140 HSE	160 HSE	180 HSE	200 HSE	220 HSE	250 HSE	260 HSE	270 HSE
Net Cooling Capacity (1) (2)	(kW)	532.7	596.1	655.1	705.1	762.2	829.2	892.7	970.9
Net EER (1) (2)		4.63	4.70	4.69	4.69	4.54	4.55	4.34	4.35
Eurovent Energy Class - Cooling		C	B	B	B	C	C	C	C
SEER (3)		6.25	6.23	6.58	6.80	6.70	6.65	6.43	6.38
Space cooling Efficiency $\eta_{s,c}$ (3)	(%)	247	246	260	269	265	263	254	252
Medium Temperature Heating (4)									
Net Heating Capacity (4)	(kW)	560.4	624.6	687.8	741.6	810.9	883.4	1059.3	1150.6
Net COP (2)		3.64	3.74	3.70	3.67	3.61	3.63	4.89	4.9
SCOP (5)		4.95	5.05	5.05	5.10	5.08	5.10	4.99	4.98
Space Heating efficiency $\eta_{s,h}$ (6)	(%)	190	194	194	196	195	196	192	191
Main Power Supply	(V/PH/Hz)	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Compressor									
Quantity		2	2	2	2	2	2	2	2
Evaporator									
Water Storage	L	77.0	72.6	77.0	84.5	113.3	120.3	113.3	120.3
2 pass arrangement									
Water conn. Size	in	DN125-5" (139.7 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)
Minimum Flow	L/s	9.5	11.7	12.7	15.1	14.1	15.1	14.1	15.1
Maximum Flow	L/S		43.0	46.6	55.3				
3 pass arrangement									
Water conn size	in	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)	DN100-4" (114.3 mm)
Minimum Flow	L/s	6.4	7.8	8.5	10.1	9.3	10.1	9.3	10.1
Maximum Flow	L/s	23.3	28.6	31.0	36.9	34.3	36.9	34.3	36.9
Condenser									
Water Storage	L	86.8	93.0	99.0	118.0	117.8	133.3	117.8	133.3
Water conn. Size	in	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)	DN150-6" (168.3 mm)
Minimum Flow	L/s	10.9	12.9	15.4	20.5	15.4	18.0	15.4	18.0
Maximum Flow	L/s	39.9	47.5	56.4	75.1	56.4	65.9	56.4	65.9
General Unit									
Refrigerant Type		R134a	R134A	R134A	R134A	R134a	R134a	R134a	R134a
Nbr of refrigerant circuits		2	2	2	2	2	2	2	2
Refrigerant Charge	Kg	60/62	61/61	61/62	61/61	80/83	82/82	80/83	82/82
Oil Charge	L	9.9/9.9	6.8/6.8	6.8/6.8	6.8/6.8	11.7/11.7	11.7/11.7	11.7/11.7	11.7/11.7

(1) At 30/35°C Entering/Leaving Condenser and 12/7°C Entering/Leaving Evaporator.

(2) Net performances calculated as per EN 14511-2013.

(3) $\eta_{s,c}$ / 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.

(4) At 47/55°C Entering/Leaving Condenser and 10/7°C Entering/Leaving Evaporator.

(5) $\eta_{s,h}$ / 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.

* Not available for Comfort Cooling applications for countries adopting the Ecodesign directive.

General Data

Table 8. General Data - RTUD

Size		060	070	080	090	100	110	120
Performance (1)								
Gross Capacity	(kW)	209	250	284	323	346	372	401
Total Power Input	(kW)	55	66	75	85	91	96	103
Main Power Supply		400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
Compressor								
Quantity		2	2	2	2	2	2	2
Evaporator								
Water Storage	(L)	37	40.2	45.2	57.9	57.9	62.3	65.4
2 Pass Arrangement								
Water Conn. Size	(in)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)	DN125 - 5" (139.7 mm)	DN125 - 5" (139.7 mm)	DN125 - 5" (139.7 mm)	DN125 - 5" (139.7 mm)
Minimum Flow (3)	(L/s)	4.5	5.0	5.7	7.0	7.0	7.7	8.2
Maximum Flow (3)	(L/s)	16.6	18.4	21.1	25.7	25.7	28.2	30
3 Pass Arrangement								
Water Conn. Size	(in)	DN80 - 3" (88.9 mm)	DN80 - 3" (88.9 mm)	DN80 - 3" (88.9 mm)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)
Minimum Flow (3)	(L/s)	3.0	3.3	3.8	4.7	4.7	5.1	5.4
Maximum Flow (3)	(L/s)	11	12.2	14.1	17.2	17.2	18.8	20.0
General Unit								
Refrigerant Type		R134a	R134a	R134a	R134a	R134a	R134a	R134a
# Refrig Circuits		2	2	2	2	2	2	2
Refrigerant Factory Charge	(kg)	-	-	-	-	-	-	-
Oil Charge (2)	(L)	6.8/6.8	6.8/6.8	6.8/6.8	6.8/6.8	6.8/9.9	9.9/9.9	9.9/9.9
Discharge Connection Diameter (2)	(in)	2"1/8 / 2"1/8	2"1/8 / 2"1/8	2"1/8 / 2"1/8	2"1/8 / 2"1/8	2"1/8 / 2"5/8	2"5/8 / 2"5/8	2"5/8 / 2"5/8
Liquid Connection Diameter (2)	(in)	1"1/8 / 1"1/8	1"1/8 / 1"1/8	1"1/8 / 1"1/8	1"1/8 / 1"1/8	1"1/8 / 1"1/8	1"1/8 / 1"1/8	1"1/8 / 1"1/8

(1) Conditions: Evaporator 7°C/12°C - Saturated Cond Temp 45°C/Liquid refrigerant Temp 40°C

(2) Data containing information on two circuits is shown as circuit 1/circuit 2.

(3) Flow limits are for water only.



General Data

Table 8. General Data - RTUD (continued)

Size		130	140	160	170	180	190	200	220	250
Performance (1)										
Gross Capacity	(kW)	430	474	519	584	569	637	621	682	748
Total Power Input	(kW)	110	120	130	157	145	171	160	175	190
Main Power Supply		400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
Compressor										
Quantity		2	2	2	2	2	2	2	2	2
Evaporator										
Water Storage	(L)	72.6	77	85	75.5	91	84.0	108	113.3	120.3
2 Pass Arrangement										
Water Conn. Size	(in)	DN125 - 5" (139.7 mm)	DN125 - 5" (139.7 mm)	DN125 - 5" (139.7 mm)	DN125 - 5" (139.7 mm)	DN125 - 5" (139.7 mm)	DN125 - 5" (139.7 mm)	DN150 - 6" (168.3 mm)	DN150 - 6" (168.3 mm)	DN150 - 6" (168.3 mm)
Minimum Flow (3)	(L/s)	8.8	9.5	10.7	9.3	11.7	10.6	13.2	14.1	15.1
Maximum Flow (3)	(L/s)	32.4	34.9	39.1	34.1	43.0	38.9	48.6	51.5	55.3
3 Pass Arrangement										
Water Conn. Size	(in)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)	DN100 - 4" (114.3 mm)
Minimum Flow (3)	(L/s)	5.9	6.4	7.1	6.2	7.8	7.1	8.8	9.3	10.1
Maximum Flow (3)	(L/s)	21.6	23.3	26.1	22.7	28.6	25.9	32.4	34.3	36.9
General Unit										
Refrigerant Type		R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a
# Refrig Circuits		2	2	2	2	2	2	2	2	2
Refrigerant Factory Charge	(kg)	-	-	-	-	-	-	-	-	-
Oil Charge (2)	(L)	9.9/9.9	9.9/9.9	10/10	11.7/11.7	10/12	11.7/11.7	12/12	11.7/11.7	11.7/11.7
Discharge Connection Diameter (2)	(in)	2"5/8 / 2"5/8	2"5/8 / 2"5/8	2"5/8 / 2"5/8	3"1/8 / 3"1/8	3"1/8 / 3"1/8	3"1/8 / 3"1/8	3"1/8 / 3"1/8	3"1/8 / 3"1/8	3"1/8 / 3"1/8
Liquid Connection Diameter (2)	(in)	1"3/8 / 1"3/8	1"3/8 / 1"3/8	1"3/8 / 1"3/8	1"3/8 / 1"3/8	1"3/8 / 1"3/8	1"3/8 / 1"5/8	1"3/8 / 1"3/8	1"3/8 / 1"5/8	1"5/8 / 1"5/8

(1) Conditions: Evaporator 7°C/12°C - Saturated CondTemp 45°C/Liquid refrigerant Temp 40°C

(2) Data containing information on two circuits is shown as circuit 1/circuit 2.

(3) Flow limits are for water only.

Electrical Data

Oil Separator Crankcase Heater : 2 x 125 W all sizes RTWD/RTUD
 Compressor Crankcase Heater : 2 x 150 W all sizes RTWD/RTUD
 Control Circuit : Factory-installed transformer all sizes RTWD/RTUD
 Short Circuit Intensity : 35 kA maximum all size RTWD/RTUD

Table 9. Compressor Motor Electrical Data

Model	Nominal Voltage (V/Ph/Hz)	Maximum Current for Unit with Standard Condenser Application (A) (1)	Maximum Current for Unit with High Condenser Application (A) (1)	Unit Starting Current for Unit with Standard Condenser Application (A) (1)(2)	Unit Starting Current for Unit with High Condenser Application (A) (1)(2)
RTWD 060 HE	400/3/50	102	142	152	167
RTWD 070 HE	400/3/50	124	166	177	193
RTWD 080 HE	400/3/50	142	187	192	208
RTWD 090 HE	400/3/50	161	208	206	224
RTWD 100 HE	400/3/50	176	228	242	260
RTWD 110 HE	400/3/50	192	248	254	275
RTWD 120 HE	400/3/50	209	267	291	312
RTWD 130 HE	400/3/50	227	287	304	327
RTWD 140 HE	400/3/50	244	311	346	369
RTWD 160 SE	400/3/50	286	377	391	419
RTWD 160 HE	400/3/50	261	335	359	387
RTWD 160 XE	400/3/50	261	335	359	387
RTWD 170 SE	400/3/50	311	419	410	451
RTWD 180 XE	400/3/50	286	377	391	419
RTWD 180 HE	400/3/50	286	377	391	419
RTWD 190 SE	400/3/50	343	458	473	514
RTWD 200 SE	400/3/50	374	496	497	543
RTWD 200 XE	400/3/50	311	419	410	451
RTWD 200 HE	400/3/50	311	419	410	451
RTWD 220 HE	400/3/50	343	458	473	514
RTWD 250 HE	400/3/50	374	496	497	543
RTWD 060 HSE	400/3/50	130	99	Linear	Linear
RTWD 070 HSE	400/3/50	153	122	Linear	Linear
RTWD 080 HSE	400/3/50	174	144	Linear	Linear
RTWD 090 HSE	400/3/50	189	154	Linear	Linear
RTWD 100 HSE	400/3/50	205	167	Linear	Linear
RTWD 110 HSE	400/3/50	220	181	Linear	Linear
RTWD 120 HSE	400/3/50	240	198	Linear	Linear
RTWD 130 HSE	400/3/50	259	215	Linear	Linear
RTWD 140 HSE	400/3/50	283	233	Linear	Linear
RTWD 160 HSE	400/3/50	306	250	Linear	Linear
RTWD 180 HSE	400/3/50	342	273	Linear	Linear
RTWD 200 HSE	400/3/50	378	295	Linear	Linear
RTWD 220 HSE	400/3/50	413	326	Linear	Linear
RTWD 250 HSE	400/3/50	448	357	Linear	Linear
RTWD 260 HSE	400/3/50	516	387	Linear	Linear
RTWD 270 HSE	400/3/50	561	421	Linear	Linear

(1) Condenser application
 Standard Unit Application
 High Temperature condenser Standard Condenser <=95F/35°C Entering water Temperature (RTWD Only)
 High Temperature Condenser >95F/35°C Entering water Temperature (RTWD Only)
 Water-to-water Heat Pump (RTWD Only)
 Remote condenser by Trane (RTUD Only)
 Remote condenser by Others (RTUD Only)

(2) Wye-Delta start - One compressor at full load - the other compressor starting

Electrical Data

Table 9. Compressor Motor Electrical Data (continued)

Model	Nominal Voltage (V/Ph/Hz)	Maximum Current for Unit with Standard Condenser Application (A) (1)	Maximum Current for Unit with High Condenser Application (A) (1)	Unit Starting Current for Unit with Standard Condenser Application (A) (1)(2)	Unit Starting Current for Unit with High Condenser Application (A) (1)(2)
RTUD 060	400/3/50	N/A	142	N/A	167
RTUD 070	400/3/50	N/A	166	N/A	193
RTUD 080	400/3/50	N/A	187	N/A	208
RTUD 090	400/3/50	N/A	208	N/A	224
RTUD 100	400/3/50	N/A	228	N/A	260
RTUD 110	400/3/50	N/A	248	N/A	275
RTUD 120	400/3/50	N/A	267	N/A	312
RTUD 130	400/3/50	N/A	287	N/A	327
RTUD 140	400/3/50	N/A	311	N/A	369
RTUD 160	400/3/50	N/A	335	N/A	387
RTUD 170	400/3/50	N/A	419	N/A	451
RTUD 180	400/3/50	N/A	377	N/A	419
RTUD 190	400/3/50	N/A	458	N/A	514
RTUD 200	400/3/50	N/A	419	N/A	451
RTUD 220	400/3/50	N/A	458	N/A	514
RTUD 250	400/3/50	N/A	496	N/A	543

(1) Condenser application Unit Application
 Standard Standard Condenser <=95F/35°C Entering water Temperature (RTWD Only)
 High Temperature condenser High Temperature Condenser >95F/35°C Entering water Temperature (RTWD Only)
 Water-to-water Heat Pump (RTWD Only)
 Remote condenser by Trane (RTUD Only)
 Remote condenser by Others (RTUD Only)

(2) Wye-Delta start - One compressor at full load - the other compressor starting

Electrical Data

Table 10. Electrical Connection RTWD SE, HE, XE and RTUD

Unit size	Nominal Voltage (V/Ph/Hz)	Efficiency	Unit application (1)	RLA	Fuse Size (A)	Disconnect Switch Size (A)	Maximum Connecting Wire (mm ²)	Bus Bar Width (mm)
160	400/3/50	SE	Standard	98 / 117	160 / 200	6 x 250	2 x 185	32
160	400/3/50	SE	High temperature condenser	126 / 158	200 / 250	6 x 400	2 x 240	45
170	400/3/50	SE	Standard	117 / 117	200 / 200	6 x 250	2 x 185	32
170	400/3/50	SE	High temperature condenser	158 / 158	250 / 250	6 x 400	2 x 240	45
190	400/3/50	SE	Standard	117 / 141	200 / 250	6 x 250	2 x 185	32
190	400/3/50	SE	High temperature condenser	158 / 187	250 / 315	6 x 400	2 x 240	45
200	400/3/50	SE	Standard	141 / 141	250 / 250	6 x 250	2 x 185	32
200	400/3/50	SE	High temperature condenser	187 / 187	315 / 315	6 x 400	2 x 240	45
060	400/3/50	HE	Standard	38 / 38	63 / 63	6 x 160	2 x 95	20
060	400/3/50	HE	High temperature condenser	53 / 53	80 / 80	6 x 160	2 x 95	20
070	400/3/50	HE	Standard	46 / 46	80 / 80	6 x 160	2 x 95	20
070	400/3/50	HE	High temperature condenser	62 / 62	100 / 100	6 x 160	2 x 95	20
080	400/3/50	HE	Standard	46 / 60	80 / 125	6 x 160	2 x 95	20
080	400/3/50	HE	High temperature condenser	62 / 78	100 / 125	6 x 160	2 x 95	20
090	400/3/50	HE	Standard	60 / 60	100 / 100	6 x 160	2 x 95	20
090	400/3/50	HE	High temperature condenser	78 / 78	125 / 125	6 x 160	2 x 95	20
100	400/3/50	HE	Standard	60 / 72	100 / 125	6 x 160	2 x 95	20
100	400/3/50	HE	High temperature condenser	78 / 93	125 / 160	6 x 160	2 x 95	20
110	400/3/50	HE	Standard	72 / 72	125 / 125	6 x 160	2 x 95	20
110	400/3/50	HE	High temperature condenser	93 / 93	160 / 160	6 x 160	2 x 95	20
120	400/3/50	HE	Standard	72 / 85	125 / 160	6 x 160	2 x 95	20
120	400/3/50	HE	High temperature condenser	93 / 108	160 / 160	6 x 160	2 x 95	20
130	400/3/50	HE	Standard	85 / 85	125 / 125	6 x 250	2 x 185	32
130	400/3/50	HE	High temperature condenser	108 / 108	160 / 160	6 x 250	2 x 185	32
140	400/3/50	HE	Standard	85 / 98	125 / 160	6 x 250	2 x 185	32
140	400/3/50	HE	High temperature condenser	108 / 126	160 / 200	6 x 250	2 x 185	32
160	400/3/50	HE	Standard	98 / 98	160 / 160	6 x 250	2 x 185	32
160	400/3/50	HE	High temperature condenser	126 / 126	200 / 200	6 x 250	2 x 185	32
180	400/3/50	HE	Standard	98 / 117	160 / 200	6 x 250	2 x 185	32
180	400/3/50	HE	High temperature condenser	126 / 158	200 / 250	6 x 400	2 x 240	45
200	400/3/50	HE	Standard	117 / 117	200 / 200	6 x 250	2 x 185	32
200	400/3/50	HE	High temperature condenser	158 / 158	250 / 250	6 x 400	2 x 240	45
220	400/3/50	HE	Standard	117 / 141	200 / 250	6 x 250	2 x 185	32
220	400/3/50	HE	High temperature condenser	158 / 187	250 / 315	6 x 400	2 x 240	45
250	400/3/50	HE	Standard	141 / 141	250 / 250	6 x 250	2 x 185	32
250	400/3/50	HE	High temperature condenser	187 / 187	315 / 315	6 x 400	2 x 240	45
160	400/3/50	XE	Standard	98 / 98	160 / 160	6 x 250	2 x 185	32
160	400/3/50	XE	High temperature condenser	126 / 126	200 / 200	6 x 250	2 x 185	32
180	400/3/50	XE	Standard	98 / 117	160 / 200	6 x 250	2 x 185	32
180	400/3/50	XE	High temperature condenser	126 / 158	200 / 250	6 x 400	2 x 240	45
200	400/3/50	XE	Standard	117 / 117	200 / 200	6 x 250	2 x 185	32
200	400/3/50	XE	High temperature condenser	158 / 158	250 / 250	6 x 400	2 x 240	45

(1) Condenser application
 Standard
 High Temperature condenser

Unit Application
 Standard Condenser <=95F/35°C Entering water Temperature (RTWD Only)
 High Temperature Condenser >95F/35°C Entering water Temperature (RTWD Only)
 Water-to-water Heat Pump (RTWD Only)
 Remote condenser by Trane (RTUD Only)
 Remote condenser by Others (RTUD Only)

Electrical Data

Table 11. Electrical Connection HSE

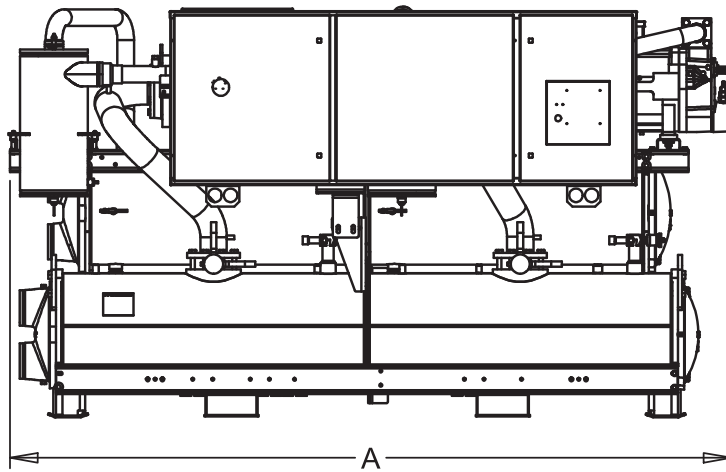
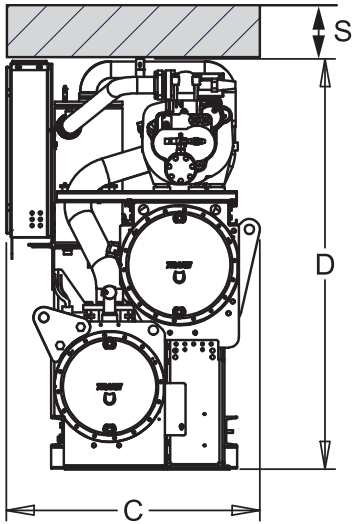
Unit size	Nominal Voltage (V/Ph/Hz)	Efficiency	Unit application (1)	RLA	Fuse Size (A)	Disconnect Switch Size (A)	Maximum Connecting Wire (mm ²)	Bus Bar Width (mm)
060	400/3/50	HSE	Standard	38 / 38	63 / 63	6 x 160	2 x 95	20
060	400/3/50	HSE	High temperature condenser	53 / 53	80 / 80	6 x 160	2 x 95	20
070	400/3/50	HSE	Standard	46 / 46	80 / 80	6 x 160	2 x 95	20
070	400/3/50	HSE	High temperature condenser	62 / 62	100 / 100	6 x 160	2 x 95	20
080	400/3/50	HSE	Standard	46 / 60	80 / 125	6 x 160	2 x 95	20
080	400/3/50	HSE	High temperature condenser	62 / 78	100 / 125	6 x 160	2 x 95	20
090	400/3/50	HSE	Standard	60 / 60	100 / 100	6 x 160	2 x 95	20
090	400/3/50	HSE	High temperature condenser	78 / 78	125 / 125	6 x 160	2 x 95	20
100	400/3/50	HSE	Standard	60 / 72	100 / 125	6 x 160	2 x 95	20
100	400/3/50	HSE	High temperature condenser	78 / 93	125 / 160	6 x 160	2 x 95	20
110	400/3/50	HSE	Standard	72 / 72	125 / 125	6 x 160	2 x 95	20
110	400/3/50	HSE	High temperature condenser	93 / 93	160 / 160	6 x 160	2 x 95	20
120	400/3/50	HSE	Standard	72 / 85	125 / 160	6 x 160	2 x 95	20
120	400/3/50	HSE	High temperature condenser	93 / 108	160 / 160	6 x 250	2 x 185	32
130	400/3/50	HSE	Standard	85 / 85	125 / 125	6 x 250	2 x 185	32
130	400/3/50	HSE	High temperature condenser	108 / 108	160 / 160	6 x 250	2 x 185	32
140	400/3/50	HSE	Standard	85 / 98	125 / 160	6 x 250	2 x 185	32
140	400/3/50	HSE	High temperature condenser	108 / 126	160 / 200	6 x 250	2 x 185	32
160	400/3/50	HSE	Standard	98 / 98	160 / 160	6 x 250	2 x 185	32
160	400/3/50	HSE	High temperature condenser	126 / 126	200 / 200	6 x 250	2 x 185	32
180	400/3/50	HSE	Standard	98 / 117	160 / 200	6 x 250	2 x 185	32
180	400/3/50	HSE	High temperature condenser	126 / 158	200 / 250	6 x 400	2 x 240	45
200	400/3/50	HSE	Standard	117 / 117	200 / 200	6 x 250	2 x 185	32
200	400/3/50	HSE	High temperature condenser	158 / 158	250 / 250	6 x 400	2 x 240	45
220	400/3/50	HSE	Standard	117 / 141	200 / 250	6 x 250	2 x 185	32
220	400/3/50	HSE	High temperature condenser	158 / 187	250 / 315	6 x 400	2 x 240	45
250	400/3/50	HSE	Standard	141 / 141	200 / 200	6 x 250	2 x 185	32
250	400/3/50	HSE	High temperature condenser	187 / 187	315 / 315	6 x 400	2 x 240	45
260	400/3/50	HSE	Standard	147 / 178	200 / 200	6 x 250	2 x 185	32
260	400/3/50	HSE	High temperature condenser	197 / 234	315 / 315	6 x 400	2 x 240	45
270	400/3/50	HSE	Standard	178 / 178	200 / 200	6 x 250	2 x 185	32
270	400/3/50	HSE	High temperature condenser	234 / 234	315 / 315	6 x 400	2 x 240	45

(1) Condenser application Unit Application
Standard Standard Condenser <=95F/35°C Entering water Temperature (RTWD Only)
High Temperature condenser High Temperature Condenser >95F/35°C Entering water Temperature (RTWD Only)
 Water-to-water Heat Pump (RTWD Only)
 Remote condenser by Trane (RTUD Only)
 Remote condenser by Others (RTUD Only)

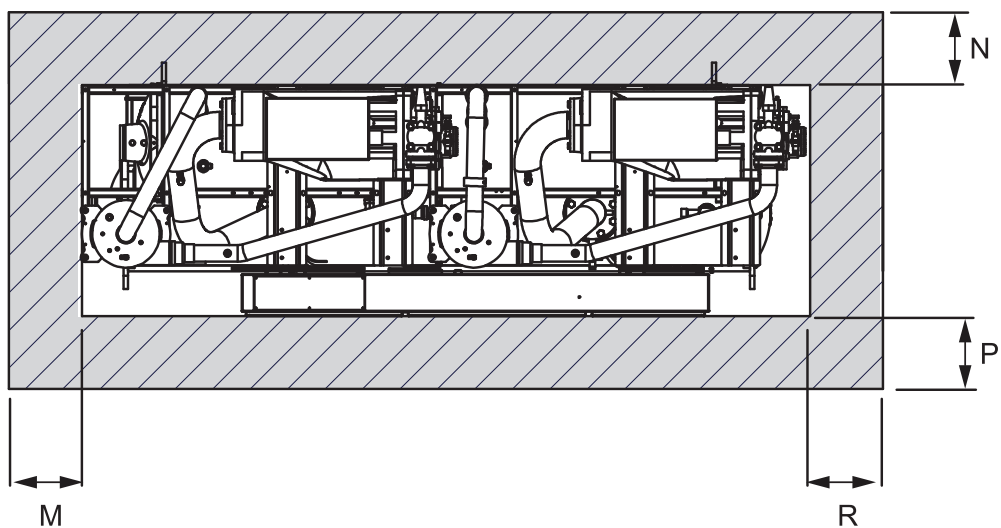
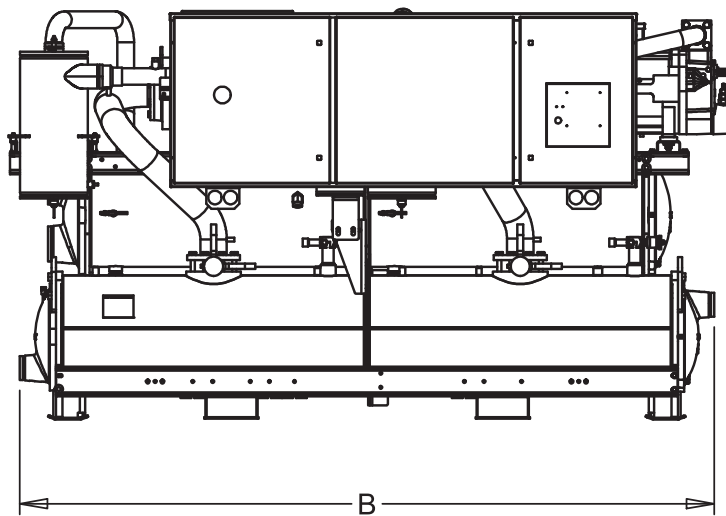
Dimensions

RTWD SE, HE, XE

2 PASS EVP



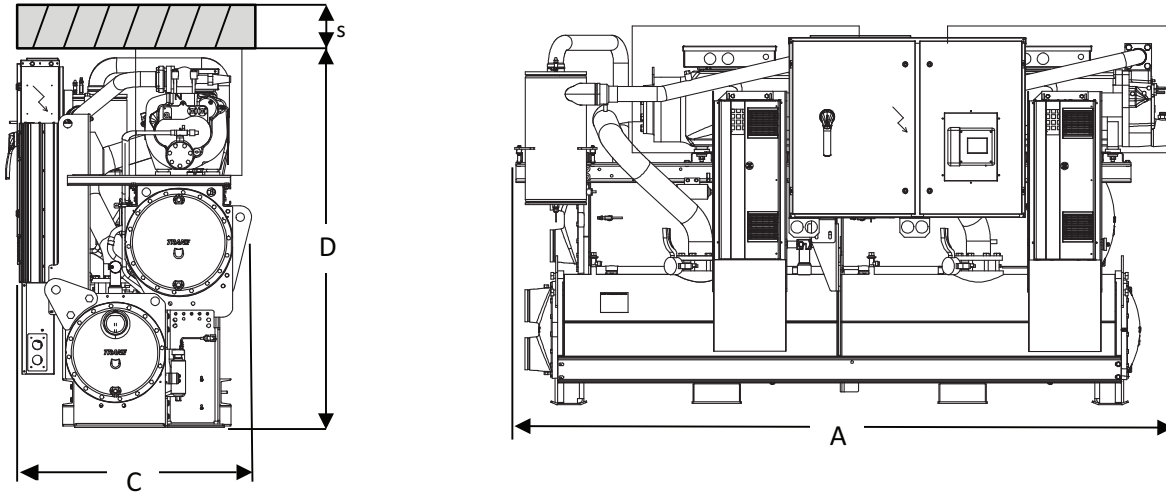
3 PASS EVP



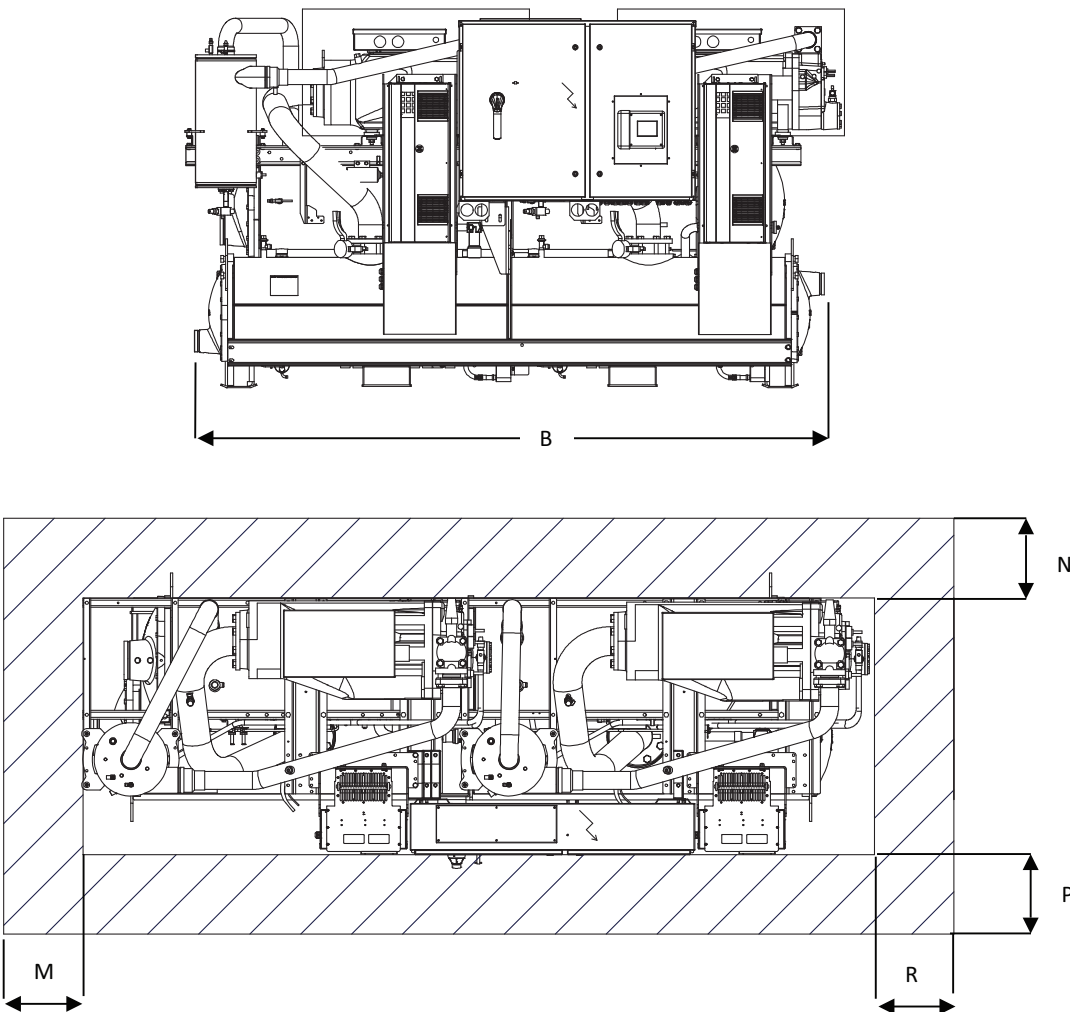
Dimensions

RTWD HSE

2 PASS EVAPORATOR



3 PASS EVAPORATOR



Dimensions

Table 12. Dimensions

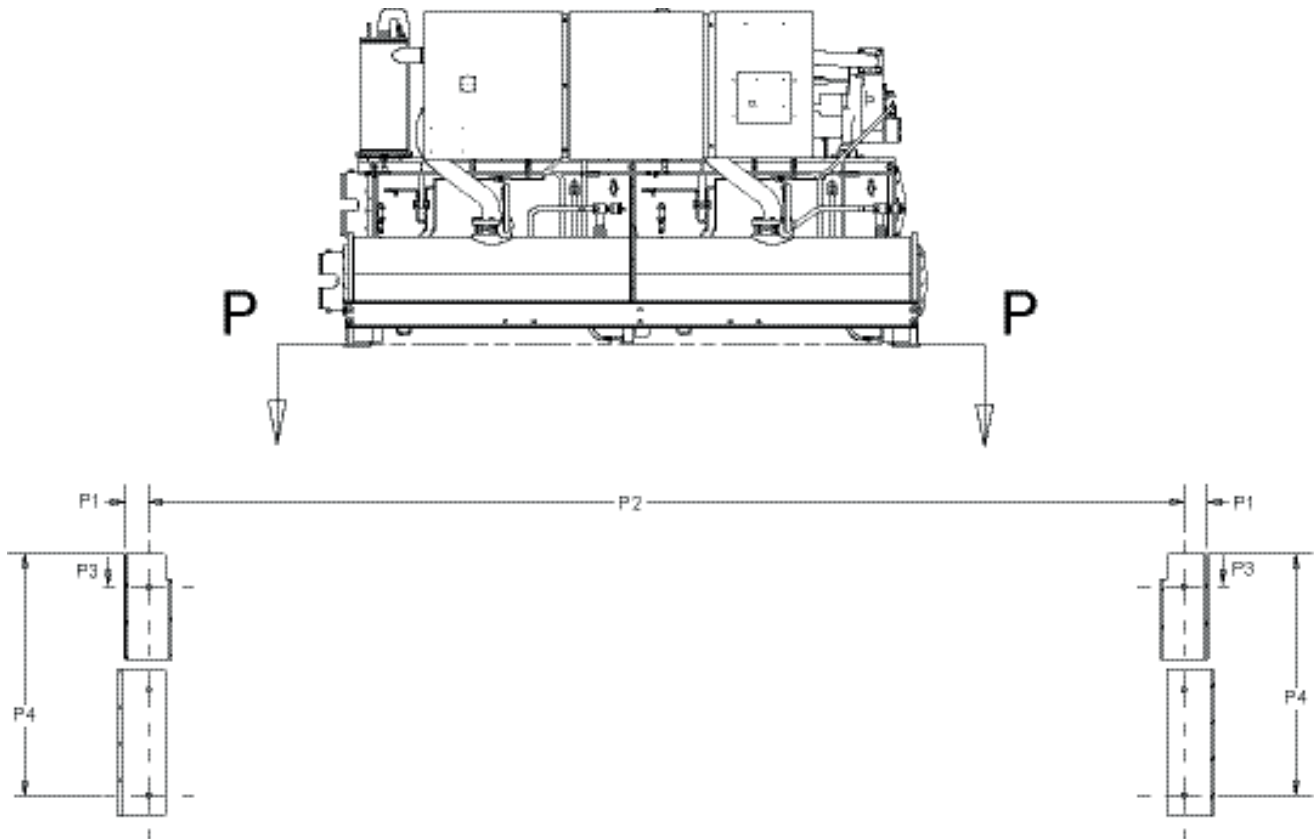
RTWD Unit size	A mm	B mm	C mm	D mm	M mm	N mm	P mm	R mm	S mm
160SE	3490	3490	1310	1970	920	920	1020	2920	920
170SE	3490	3490	1310	1970	920	920	1020	2920	920
190SE	3490	3490	1310	1970	920	920	1020	2920	920
200SE	3490	3490	1310	1970	920	920	1020	2920	920
60HE	3210	3320	1070	1940	920	920	920	2920	920
70HE	3210	3320	1070	1940	920	920	920	2920	920
80HE	3210	3320	1070	1940	920	920	920	2920	920
90HE	3230	3320	1060	1960	920	920	920	2920	920
100HE	3320	3320	1060	1960	920	920	920	2920	920
110HE	3230	3320	1060	1960	920	920	920	2920	920
120HE	3240	3320	1060	1960	920	920	920	2920	920
130HE	3400	3400	1280	1950	920	920	920	2920	920
140HE	3400	3400	1280	1950	920	920	920	2920	920
160HE	3400	3400	1280	1950	920	920	1020	2920	920
180HE	3490	3490	1310	1970	920	920	1020	2920	920
200HE	3490	3490	1310	2010	920	920	1020	2920	920
220HE	3490	3490	1310	2010	920	920	1020	2920	920
250HE	3490	3490	1310	2010	920	920	1020	2920	920
160XE	3760	3830	1280	2010	920	920	1020	3420	920
180XE	3810	3830	1310	2010	920	920	1020	3420	920
200XE	3490	3490	1310	2010	920	920	1020	2920	920
060 HSE	3210	3320	1130	1940	920	920	920	2920	920
070 HSE	3210	3320	1130	1940	920	920	920	2920	920
080 HSE	3210	3320	1130	1940	920	920	920	2920	920
090 HSE	3230	3320	1120	1960	920	920	920	2920	920
100 HSE	3320	3320	1120	1960	920	920	920	2920	920
110 HSE	3230	3320	1120	1960	920	920	920	2920	920
120 HSE	3240	3320	1120	1960	920	920	920	2920	920
130 HSE	3400	3400	1300	1950	920	920	920	2920	920
140 HSE	3400	3400	1300	1950	920	920	920	2920	920
160 HSE	3760	3830	1300	2010	920	920	1020	3420	920
180 HSE	3810	3830	1330	2010	920	920	1020	3420	920
200 HSE	3490	3490	1340	2010	920	920	1020	2920	920
220 HSE	3490	3490	1340	2010	920	920	1020	2920	920
250 HSE	3490	3490	1340	2010	920	920	1020	2920	920
260 HSE	3490	3490	1340	2010	920	920	1020	2920	920
270 HSE	3490	3490	1340	2010	920	920	1020	2920	920

Note: These dimensions are the maximum for a specific size, they may vary from one configuration to another within a same size. For accurate dimensions of your specific configuration, refer to relevant submittal drawings.

Dimensions

RTUD Unit size	A mm	B mm	C mm	D mm	M mm	N mm	P mm	R mm	S mm
60	3310	3320	1070	1960	920	920	920	2920	920
70	3310	3320	1070	1960	920	920	920	2920	920
80	3310	3320	1070	1960	920	920	920	2920	920
90	3230	3320	1070	1960	920	920	920	2920	920
100	3230	3320	1070	1960	920	920	920	2920	920
110	3230	3320	1070	1960	920	920	920	2920	920
120	3240	3320	1070	1960	920	920	920	2920	920
130	3400	3400	1280	1950	920	920	920	2920	920
140	3400	3400	1280	1950	920	920	920	2920	920
160	3400	3400	1280	1950	920	920	920	2920	920
170	3490	3490	1310	1970	920	920	1020	2920	920
180	3400	3400	1280	1950	920	920	920	2920	920
190	3490	3490	1310	1970	920	920	1020	2920	920
200	3490	3490	1310	2010	920	920	1020	2920	920
220	3490	3490	1310	2010	920	920	1020	2920	920
250	3490	3490	1310	2010	920	920	1020	2920	920
260	3490	3490	1310	2010	920	920	1020	2920	920
270	3490	3490	1310	2010	920	920	1020	2920	920

Note: These dimensions are the maximum for a specific size, they may vary from one configuration to another within a same size. For accurate dimensions of your specific configuration, refer to relevant submittal drawings.



Dimensions

Table 13. RTWD SE, HE, XE and RTUD unit footprint - all sizes

mm	High Efficiency 60-120 tons	High Efficiency 130-180 tons	Standard Efficiency 160-200 tons	Extra Efficiency 160-180 tons	Extra Efficiency 200 tons	High Efficiency 200-250 tons
P1	76	76	76	76	76	76
P2	2845	2845	2845	3353	2845	2845
P3	61	109	109	109	109	109
P4	671	744	744	744	744	744

Note: Base hole diameter all 16 mm

Table 14. RTWD HSE unit footprint

mm	60-120 tons	130-140 tons	160-180 tons	200 tons	220-270 tons
P1	76	76	76	76	76
P2	2845	2845	3353	2845	2845
P3	61	109	109	109	109
P4	671	744	744	744	744

Table 15. RTWD/RTUD weights

Model	Operating Weight (Kg)	Shipping Weight (Kg)
RTWD 160 SE	3874	3718
RTWD 170 SE	4049	3881
RTWD 190 SE	4086	3900
RTWD 200 SE	4125	3924
RTWD 060 HE	2650	2568
RTWD 070 HE	2658	2573
RTWD 080 HE	2673	2637
RTWD 090 HE	2928	2812
RTWD 100 HE	2970	2849
RTWD 110 HE	3008	2883
RTWD 120 HE	3198	3065
RTWD 130 HE	3771	3616
RTWD 140 HE	3802	3638
RTWD 160 HE	3846	3668
RTWD 180 HE	4042	3851
RTWD 200 HE	4488	4262
RTWD 220 HE	4504	4273
RTWD 250 HE	4579	4326
RTWD 160 XE	4172	3954
RTWD 180 XE	4408	4175
RTWD 200 XE	4625	4357

Note: All weights +/- 3% - add 62 Kg for units with sound acoustic package. Weights are maximum for each size and may vary from one configuration to another for the same size.



Dimensions

Table 15. RTWD/RTUD weights (continued)

Model	Operating Weight (Kg)	Shipping Weight (Kg)
RTWD 060 HSE	2788	2706
RTWD 070 HSE	2796	2711
RTWD 080 HSE	2829	2793
RTWD 090 HSE	3102	2986
RTWD 100 HSE	3144	3023
RTWD 110 HSE	3182	3057
RTWD 120 HSE	3372	3239
RTWD 130 HSE	3945	3790
RTWD 140 HSE	3996	3832
RTWD 160 HSE	4386	4168
RTWD 180 HSE	4622	4389
RTWD 200 HSE	4839	4571
RTWD 220 HSE	4718	4487
RTWD 250 HSE	4793	4540
RTWD 260 HSE	4718	4487
RTWD 270 HSE	4793	4540
RTUD 060	2260	2223
RTUD 070	2269	2229
RTUD 080	2329	2284
RTUD 090	2440	2382
RTUD 100	2468	2410
RTUD 110	2507	2445
RTUD 120	2683	2618
RTUD 130	3151	3078
RTUD 140	3164	3087
RTUD 160	3310	3225
RTUD 170	3421	3346
RTUD 180	3485	3393
RTUD 190	3429	3345
RTUD 200	3584	3476
RTUD 220	3623	3510
RTUD 250	3645	3525

Note: All weights +/- 3% - add 62 Kg for units with sound acoustic package. Weights are maximum for each size and may vary from one configuration to another for the same size.



Notes

Trane - by Trane Technologies (NYSE: TT), a global climate innovator - creates comfortable, energy efficient indoor environments for commercial and residential applications. For more information, please visit trane.com or tranetechnologies.com.

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