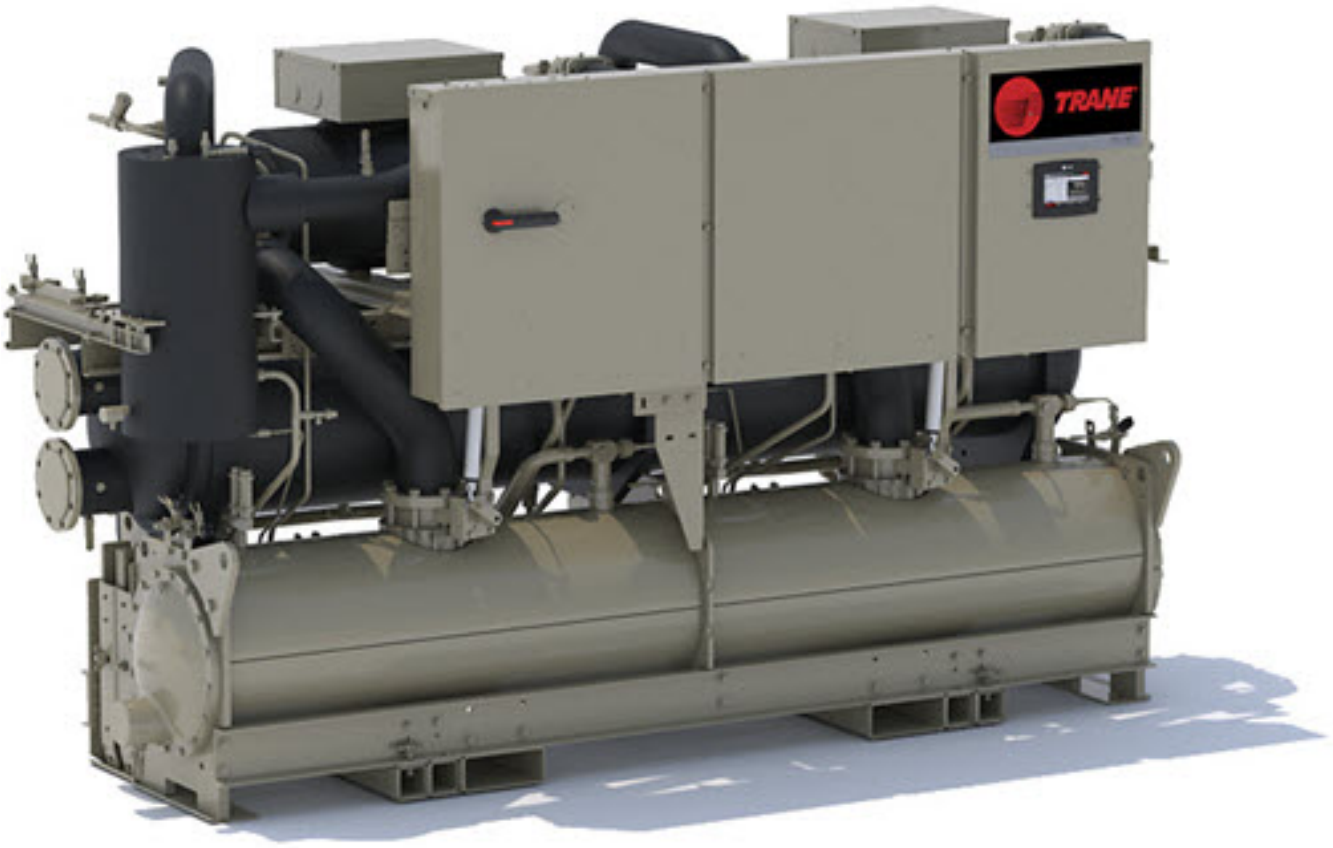
Product Catalog

Series R™ Heat Pump Chiller

Model RTZA



February 2026

RLC-PRC071A-EN

TRANE TECHNOLOGIES

Introduction

Revolutionize your heating systems with the RTZA heat pump chiller. Designed for those looking to modernize with smarter, electrified solutions, the RTZA is a game-changer in thermal management. Engineered for today's demands and tomorrow's requirements, the RTZA heat pump chiller delivers hot water temperatures to 210°F (99°C). Ideal for high-temperature commercial and industrial process heating needs, RTZA helps boost system performance and efficiency while reducing carbon emissions, all with our proven Series R™ platform.

The industrial-grade design of the Series R helical-rotary heat pump 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 Series R heat pump is the perfect choice for tight temperature control in almost any application temperatures, and under widely varying loads.

Copyright

Trademarks

Table of Contents

Table of Contents

Features and Benefits

Reliability

Efficiency that drives progress: the RTZA Heat Pump Chiller is engineered to deliver high-performance, high-efficiency heating that helps reduce system operating costs.

- **Results you can measure:** achieve over three times the efficiency of traditional fossil-fuel-powered boilers.
- **Improved system performance at lower loads:** exceptional turndown capability as low as 30% of design capacity for high performance and efficiency, even at lower loads.

High Performance

Plug into a smarter future: the RTZA heat pump chiller offers a sustainable alternative to fossil-fuel-powered boilers, helping to lower carbon emissions and support environmental goals.

- **High impact, low carbon:** reduces the need for gas-powered boilers, supporting sustainability efforts.
- **Future-ready by design:** operates with ultra-low refrigerant R-1233zd(E) with a GWP of 1, meeting compliance standards for current and future regulations.
- **Unlock incentives for building performance:** available incentives such as tax deductions, rebates, and grants can help lower the initial cost of equipment upgrades and can also help offset the capital expense of electrification installations.

Life Cycle Cost-Effectiveness

Precision performance in every degree: the RTZA heat pump chiller delivers precision performance built on the legendary Series R™ platform.

- **Proven technology:** accelerated life testing simulates thousands of hours of operation on the helical rotary screw compressor.
- **Resilient by design:** Rapid Restart™ capability allows unit recovery to 80% design capacity after power failure in under three minutes.
- **Reliable:** the compressor uses a direct drive design with fewer moving parts that improves the uptime, precision and efficiency of the unit.
- **Built-in redundancy:** the dual-compressor design offers added reliability and redundancy.

Application Versatility

Thoughtful system integration: the RTZA heat pump chiller can be integrated into both new and existing hydronic systems, efficiently recovering waste heat for high-temperature applications. Common heat energy sources include cooling loads, condenser water, exhaust air, wastewater, thermal energy storage, and geothermal sources.

- **Reduce installation disruptions:** the RTZA's compact footprint fits through a standard double door (72-inch-wide by 80-inch-tall) without disassembly and fit through a single-door (36-inch-wide by 80-inch-tall) with minimal disassembly, making it ideal for retrofit projects.
- **Advanced connectivity:** the Symbio® 800-unit controller provides enhanced system performance and enables seamless connectivity with the Tracer® SC+ building automation system.
- **Trusted support:** backed by Trane's comprehensive tools and resources, including a 24/7 nationwide service network and optional extended warranty options for up to 10 years.

Application Considerations

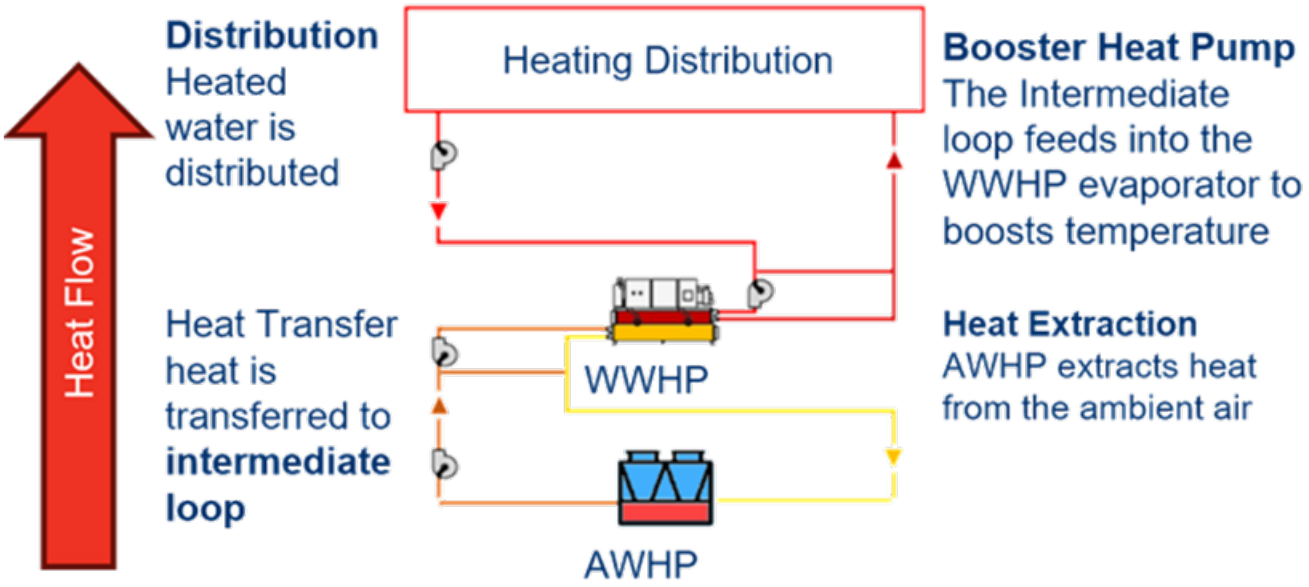
Cascade System Considerations

The RTZA is designed to function as a water-to-water heat pump (WWHP) or booster heat pump (BHP), absorbing heat from a warm source fluid and delivering the desired heating distribution fluid temperature. In this configuration, also known as a cascade system, the leaving condenser temperature is controlled to the desired heating setpoint of the system, while the evaporator leaving temperature adjusts based on the unit's load and source fluid temperature. With its superior unloading compressor design and advanced controls, the unit can maintain a leaving condenser water temperature control within +/- 1°F (0.56°C).

Common warm source fluids include the heated fluid from an air-to-water heat pump or from the condenser loop of a water-cooled chiller system. These warm source fluids provide a stable heat source for the RTZA evaporator, enabling the unit to deliver temperatures up to 210°F. Refer to *SYS-APG003-EN** for more details on the air-to-water cascade heat pump application.

Figure 1, p. 6 depicts an RTZA in an air-to-water cascade heat pump system configuration. In this configuration, the RTZA WWHP is responsible for meeting the heating demand and the AWHP manages the intermediate loop temperature between itself and the RTZA WWHP. The intermediate loop temperature control ensures that the evaporator load of the WWHP is satisfied. The intermediate loop pump flow is designed to slightly exceed the evaporator pump of the WWHP to maintain intermediate temperature stability. As shown, decoupling both the evaporator and condenser sides of the RTZA simplifies system design and allows for greater flexibility in flow rate requirements and flow turndown differences between the RTZA heat exchangers and the heat distribution loop or the source temperature loop.

Figure 1. Air-to-water cascade heat pump system configuration



Water Treatment

The use of untreated or improperly treated water in heat pumps 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) pumps. Specifying or using 3600-rpm (60 Hz) condenser water and chilled water pumps should 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) water pumps and Series R™ chiller motors.

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

Acoustic Considerations

This unit has an elevated noise level and is regularly above 85 dB, requiring the use of ear protection when in the area.

Model Number Descriptions

Unit Model Number

Digit 1, 2, 3, 4 — Chiller Model

RTZA = Heat Pump Series R™

Digit 5, 6, 7 — Unit Nominal Tonnage

195 = 195 Nominal Tons Heating

Digit 8 — Unit Voltage

F = 460 Volt, 3-Phase
G = 575 Volt, 3-Phase

Digit 9 — Manufacturing Plant

2 = Pueblo, USA

Digit 10, 11 — Design Sequence

****** = Factory Assigned

Digit 12 — Unit Type

2 = High Efficiency/Performance

Digit 13 — Agency Listing

U = ETL Listed/Certified to CSA/Conforms to UL

Digit 14 — Pressure Vessel Code

1 = ASME Pressure Vessel Code
C = Canadian Pressure Vessel Code

Digit 15 — Unit Application

F = High Temperature Heat Pump

Digit 16 — Pressure Relief Valve

1 = Single Relief Valve
2 = Dual Relief Valve with 3-Way Isolation Valve

Digit 17 — Water Connection Type

B = Grooved Evap — Flanged Condenser

Digit 18 — Evaporator Tubes

A = Internal and External Enhanced Evaporator Copper Tube

Digit 19 — Evaporator Passes

2 = 2-Pass Evaporator
3 = 3-Pass Evaporator

Digit 20 — Evaporator Water Side Pressure

A = 150 psi/10 Bar Evaporator Water Pressure

Digit 21 — Evaporator Application

4 = High Heat

Digit 22 — Condenser Tubes

B = Internally enhanced 90/10 CuNi fin

Digit 23 — Condenser Water Side Pressure

1 = 150 psi/10 Bar Condenser Water Pressure

Digit 24 — Compressor Starter Type

Y = Wye-Delta Closed Transition Starter

Digit 25 — Incoming Power Line Connection

1 = Single Point Power Connection

Digit 26 — Power Line Connection Type

D = Circuit Breaker
E = High Fault Rated Panel with Circuit Breaker

Digit 27 — Under/Over Voltage Protection

0 = No Under/Over Voltage Protection

Digit 28 — Unit Controller

2 = Symbio™ 800/TD-7

Digit 29 — Remote Interface (Digital Comm)

0 = No Remote Digital Communication
5 = Modbus Communication Interface
B = BACnet® Interface (MS/TP)
P = BACnet® Interface (IP)
L = LonTalk® Interface

Digit 30 — External Water and Demand Limit Setpoint

C = External Water and Demand Limit Setpoint 4-20 mA
D = External Water and Demand Limit Setpoint 2-10 Vdc

Digit 31 — Ice Making

0 = No Ice Making

Digit 32 — Programmable Relays

0 = No Programmable Relay
A = Programmable Relays

Digit 33 — Condenser Refrigerant Pressure Output

0 = No Condenser Refrigerant Output
1 = Condenser Water Control Output
3 = Differential Pressure Output

Digit 34 — Outdoor Air Temp Sensor

0 = No Outdoor Air Temp Sensor

Digit 35 — Condenser Leaving Hot Water Temp Control

1 = Condenser Leaving Hot Water Temp Control

Digit 36 — Power Meter

0 = No Power Meter
E = Energy Meter

Digit 37 — Motor Current Analog Output (% RLA)

0 = No Motor Current Analog Output

Digit 38 — A/C Fan Control

0 = No Fan Controls (RTWD)

Digit 39 — Low Ambient Fan Control

0 = No Low Ambient Fan Control Type

Digit 40 — Installation Accessories

0 = Isolation Pad
A = Neoprene Isolators

Digit 41 — Flow Switch

5 = Factory-Installed Pressure Transducers evaporator/condenser 150 psi

Digit 42 — 2–Way Water Regulating Valve

A = 3” 150 psi/88.9 mm 10.5 bar 115V
B = 3” 150 psi/88.9 mm 10.5 bar 220V
C = 4” 150 psi/114.3 mm 10.5 bar 115V
D = 4” 150 psi/114.3 mm 10.5 bar 220V

Digit 43 — Sound Reduction Package

0 = No Sound Reduction Package

Digit 44 — Insulation

1 = Factory Insulation

Digit 45 — Factory Charge

9 = Nitrogen Charge – R-1233zd(E) Field-Supplied

Digit 46 — Base Rail Forklifting

C = Base Rail Forklift + Outrigger

Digit 47 — Label and Literature Language

D = English
B = Spanish (online only)
E = French (online only)

Digit 48 — Special

0 = None
S = Ship to Final Finisher

Digit 49 — Wireless Connectivity

0 = None
A = Wi-Fi
B = LTE Modem
C = Air-Fi
D = Wi-Fi and LTE Modem
E = Wi-Fi and Air-Fi
F = LTE Modem and Air-Fi
G = Wi-Fi, LTE Modem, and Air-Fi

Digit 51 – Number of Condenser Passes

2 = 2 pass condenser
A = 2 pass low flow condenser

Digit 50, 52, 53, 54, 55 — Special

0 = Not Used

Digit 56 — Shipping Package

2 = Shrink Wrap
3 = Skid + Shrink Wrap

Digit 57 — Control Panel IP 20 Protection

0 = No IP 20 Protection of Control Panel

Digit 58 — Pressure Gauges LP and HP

0 = Without Pressure Gauges

Digit 59 — Performance Test

0 = No Performance Test

Digit 60 — Evaporator Fluid Type

0 = Water
1 = Calcium Chloride
2 = Ethylene Glycol
3 = Propylene Glycol
4 = Methanol

Digit 61 — Condenser Fluid Type

0 = Water
B = Ethylene Glycol
C = Propylene Glycol

Compressor Model Number

Digit 1, 2, 3 — Model Compressor

CHH = Positive displacement, helical rotary (twin screw) hermetic compressor

Digit 4 — Compressor Type

H = GP2.5 High Temperature

Digit 5 — Economizer Port Detail

A = Max Capacity

Digit 6 — Compressor Frame Size

N = Frame

Digit 7 — Compressor Capacity

6 = GP2.5 Larger Capacity

Digit 8 — Motor Voltage

H = 575–60–3
K = 460–60–3 (N6 Only)

Digit 9 — Internal Relief

K = 450 psid

Digit 10, 11 — Design Sequence

XX = Factory Assigned

Digit 12 — Capacity Limit

N = Standard capacity controls (no capacity limit)

Digit 13, 14, 15 — Motor kW Rating

134 = N6 60 Hz

Digit 16 — Volume Ratio

A = High Volume Ratio

General Data

Description	Units	Value
Compressor		
Size (Ckt1/Ckt2)		N6E2HT/N6E2HT
Evaporator		
2 Pass Arrangement		
Water Connection Size	NPS	6
	mm	150
Water Storage	Gal	31.8
	L	120.3
Minimum Flow	GPM	239
	L/s	15.1
Maximum Flow	GPM	877
	L/s	55.3
3 Pass Arrangement		
Water Connection Size	NPS	4
	mm	100
Water Storage	Gal	31
	L	117.5
Minimum Flow	GPM	159
	L/s	10
Maximum Flow	GPM	585
	L/s	36.9
Condenser		
2 Pass Arrangement		
Water Connection Size	NPS	5
	mm	127
Water Storage	Gal	39
	L	148
Minimum Flow	GPM	167
	L/s	10.5
Maximum Flow	GPM	890
	L/s	56.1
2 Pass Arrangement (Low Flow)		
Water Connection Size	NPS	5
	Mm	127
Water Storage	Gal	31.1
	L	117.7
Minimum Flow	GPM	165
	L/s	10.4

General Data

Description	Units	Value
Maximum Flow	GPM	670
	L/s	42.3
General Unit		
Refrigerant Type		R-1233zd(E)
# Refrigerant Circuits		2
Refrigerant Charge	Lbs.	180.8/180.8
	Kg.	82/82
Oil Type		Calumet Sontex 500-LE
Oil Charge	Qt.	9.5/9.5
	L.	9
Nitrogen Charge (as shipped condition)	PSI.	15-20

Controls

Symbio 800 Controller

Trane heat pumps offer predictive controls that anticipate and compensate for load changes. Other strategies made possible with the Symbio™ 800 controls are:

Adaptive Controls

Adaptive Controls directly sense the control variables that govern the operation of the heat pump: evaporator pressure and condenser pressure. When any one of these variables approach a limit condition when damage may occur to the unit or shutdown on a safety, Adaptive Controls take corrective action to avoid shutdown and keep the heat pump operating. This happens through combined actions with the compressor. Whenever possible, the heat pump is allowed to continue making hot water. This keeps heating capacity available until the problem can be solved. Overall, the safety controls help keep the building or process running and out of trouble.

Water Temperature Coordination

Water temperature coordination enhances reliability by managing the balance between evaporator and condenser conditions. Because the unit relies on externally-supplied elevated evaporator water temperatures, this feature adjusts compressor staging and modulation to prevent low evaporator temperature operating faults and maintain stable heating performance.

Feedforward Adaptive Control

Feedforward is an open-loop, predictive control strategy designed to anticipate and compensate for load changes. It uses the condenser entering-water temperature as an indication of load change. This allows the controller to respond faster and maintain stable leaving-water temperatures.

Soft Loading

The heat pump controller uses soft loading except during manual operation. Large adjustments to setpoint changes are made gradually, preventing the compressor from cycling unnecessarily. It does this by internally filtering the setpoints to avoid reaching the differential-to-stop or the demand limit. Soft loading applies to the leaving heated-water temperature and demand limit setpoints.

Integrated Rapid Restart

Bringing a heat pump back online rapidly after a loss of power is critical to operations in mission critical environments like data centers and hospitals which demand the highest levels of reliability.

A loss of heating capacity can be costly, which is why Trane heat pumps are designed and engineered for Rapid Restart™. In the event of a power interruption, the heat pump will start a compressor before the front panel display is fully powered up eliminating the need for UPS. This not only helps the heat pump get back online faster, but it also provides a simple and reliable solution to minimize the risks of financially devastating damage to assets caused by under-heating due to a power loss.

Efficient restart capabilities of a heat pump is determined by the reduced amount of time it takes to resume full load heating assuring that the heating capacity your equipment requires is just a few minutes away.

AdaptiView TD-7 Operator Interface

The standard AdaptiView™ TD-7 display provided with the Symbio™ 800 controller features a 7-inch LCD touch-screen, allowing access to all operational inputs and outputs. This is an advanced interface that allows the user to access any important information concerning setpoints, active temperatures, modes, electrical data, pressure, and diagnostics. It uses full text display available in 27 languages.

Display Features Include:

- LCD touch-screen with LED backlighting, for scrolling access to input and output operating information.
- Display of all available information on individual components (evaporator, condenser, compressor, motor)
- Manual override indication.
- Security and authorization system to enable or disable display.
- Automatic and immediate stop capabilities for standard or immediate manual shutdown.

- Fast and easy access to available heat pump data including:
  - Easy to view Operating Modes
  - Logical Subcomponent Reports:
    - Evaporator
    - Condenser
    - Compressor
    - Motor
  - Three User Programmable Custom Reports
  - Log Sheet Report
  - Alarms Report
  - Eight Pre-defined Standard Graphs
  - Four User Programmable Custom Graphs
  - Unit Settings
  - Service Settings
  - Feature Settings
  - Manual Control Settings
  - Support of 27 Languages
  - Display Preferences
  - Brightness Setting
  - Cleaning Mode

System Integration

Hardwire Points

Microcomputer controls allow simple interface with other control systems, such as time clocks, building automation systems, and ice storage systems via hardwire points. This means you have the flexibility to meet job requirements while not having to learn a complicated control system.

Remote devices are wired from the control panel to provide auxiliary control to a building automation system. Inputs and outputs can be communicated via a typical 4–20 mA electrical signal, an equivalent 2–10 Vdc signal, or by utilizing contact closures.

This setup has the same features as a stand-alone water chiller, with the possibility of having additional optional features:

- External chilled water setpoint, external demand limit setpoint.
- Programmable relays - available outputs are: alarm-latching, alarm-auto reset, general alarm-warning, limit mode, compressor running, and Tracer® control.

Tracer SC+

The Tracer® SC+ system controller acts as the central coordinator for all individual equipment devices on a Tracer building automation system. The Tracer SC+ scans all unit controllers to update information and coordinate building control, including building subsystems such as VAV and heat pump water systems. With this system option, the full breadth of Trane's HVAC and controls experience are applied to offer solutions to many facility issues. The LAN allows building operators to manage these varied components as one system from any personal computer with web access. The benefits of this system are:

- Improved usability with automatic data collection, enhanced data logging, easier to create graphics, simpler navigation, pre-programmed scheduling, reporting, and alarm logs.
- Flexible technology allows for system sizes from 30 to 120 unit controllers with any combination of LonTalk® or BACnet® unit controllers.
- LEED certification through site commissioning report, energy data collection measurement, optimizing energy performance, and maintaining indoor air quality.

Energy savings programs include: fan pressure optimization, ventilation reset, and heat pump plant control (adds and subtracts heat pumps to meet heating loads).

Air-Fi Wireless

Conforms to ANSI/ASHRAE Standard 135-2016 (BACnet®/ZigBee®1). Air-Fi® Wireless provides reliable and secure, and location-flexible communication between equipment controls, sensors, and service tools to the system controller.

Air-Fi networks will be setup by a Trane technician. Integration to a Symbio™ 800 controller setup for Air-Fi communications uses BACnet/IP communication through a Tracer SC+ system controller. Contact your local Trane office for additional information if the Symbio 800 controller is setup for Air-Fi Wireless.

Building Automation Systems

BACnet Building Automation Control Network

The BACnet® control network for Symbio™ 800 expands communications from the unit controls network to the Tracer® Ensemble™ or Tracer SC+ building automation system (BAS) or third party building automation system. Utilizing BACnet, the BAS allows external setpoint and configuration adjustment and monitoring of status and diagnostics. The Symbio 800 utilizes the BACnet defined TP protocol as defined in ASHRAE standard 135-2004. This controller works in standalone mode, with Tracer Ensemble, Tracer SC+ or when connected to a third party building automation system that supports BACnet.

Modbus Automation Control Network

Allows the user to easily interface with Modbus® RTU communication protocol via a single twisted pair wiring or Modbus TCP over Ethernet from the Symbio 800 controller to a factory installed device.

LonTalk Building Automation Systems

The LonTalk® communication protocol for the Symbio 800 controller expands communications from the unit controls network to a Tracer Ensemble building automation system or third party building automation system. Utilizing LonTalk, the BAS allows external setpoint and configuration adjustment and monitoring of status and diagnostics. The Symbio 800 utilizes an FTT-10A free topology transceiver, which supports non-polarity sensitive, free topology wiring—which in turn allows the system installer to utilize star, bus, and loop architectures. This controller works in standalone mode, peer-to-peer with one or more other units, or when connected to a Tracer Ensemble, Tracer SC+, or a third party building automation system that supports LonTalk.

Note: *An optional module is required for Symbio 800 support of LonTalk. See Tracer USB LonTalk Module Installation Instructions (BAS-SVN138*-EN).*

Symbio 800 Controls

Overview

The Symbio™ 800 controller is a factory-installed, application specific and programmable controller designed to control heat pumps and large packaged HVAC equipment. A 7-inch user interface features a touch-sensitive color screen that provides facility managers at-a-glance operating status, performance monitoring, scheduling changes, and operating adjustments. Other advanced features include automated controller back-up, and optional features such as secure remote connectivity, wireless building communications, mobile device connectivity, and custom programming with expandable I/O.

Symbio 800 Advantages		**Benefits**
Connected	Convenient, on-the-go access to advanced monitoring, troubleshooting, and energy management	• Minimum first cost. • Maximum comfort. • Minimized downtime. • Minimum operating costs. • Superior building and occupant productivity.
Flexible	Minimized installation hardware and labor costs – able to use existing devices for maximum convenience, lower controls upgrades and relocation	
Reliable	Maximum equipment uptime and life, minimized maintenance and troubleshooting cost	

Features and Benefits

Symbio 800 Feature	Benefits
Multiple, open standard protocol support • BACnet® TP. • BACnet®/IP. • LON (Optional) • Modbus®.	Simplified, lower cost, and more flexible integration with all common open standard protocols using Trane or competitive BAS systems and controllers.
Remote connection to building or equipment	Trane Connect™ provides an easy, secure option to connect remotely to a Tracer® SC+ or directly to your Trane equipment.
Common integration strategies and equipment specific points lists	Simplified, lower cost, and uncompromised integration.
Application specific and configurable	Reduced project costs with superior reliability, comfort, performance - applications specific and configurable system confirms machine continues to run within operating envelope. Ability to upgrade firmware with a simple file transfer.
Smart Analytics	Smart analytics provide superior reliability through the life of the equipment with minimum downtime.
Data logging	Standard, local or remote Intuitive review and analysis of equipment, zone, and building performance.
Local scheduling	Capable of operating in stand-alone operation without a building automation system as a temporary back-up schedule for ongoing comfort and energy savings.
Rugged, 7-inch color touch screen user interface	Easy, touch navigation for viewing data and making operational changes.
Display preferences	Choose how to view dates, times, units (SI, IP), screen brightness, data format, and backlight timeout. A total of 27 built-in languages are supported and selectable for all TD-7 screens.
Intuitive navigation	Helps operators access data and alarms for quick and accurate response and resolution.
At-a-glance status	Easily readable color display showing key operating parameters of major equipment components.
Reports	Quickly summarizes data for clear understanding and interpretation to enable local monitoring of expected performance and operating efficiency.
Graphs	Easily visualize trend data for local troubleshooting and fine-tuning.
Multiple language support	Suitable for operation in multiple geographies.
Adaptive Control™ Algorithms	Pre-empts potential equipment disruptions during rapidly changing conditions – providing consistent equipment performance and building comfort.
SD card backup/restore	Faster, lower cost repairs with reduced downtime.
Modbus® device support	Capable of integrating optional Modbus® devices for local or remote diagnostics — provides faster, lower cost troubleshooting and increased equipment performance.

Options

Symbio 800 Feature	Benefits
Remote connection to building or equipment	Trane Connect provides an easy, secure option to connect remotely to a Tracer SC+ or directly to your Trane equipment.
Programmable	Equipment application flexibility and cost-reduced control of nearby equipment.
Expandable I/O	Field or factory installed I/O for programmable feature for reduced installation costs and increased installation flexibility.
User security with audit trail support	Flexible and secure access for multiple users allows monitoring, overriding/releasing points, release of all overrides, custom report editing, and tracking changes by user.
LonTalk®	

Specifications

Controller Specifications	
Input power	24 Vdc +/- 10%, 400mA max.
Storage temperature	-67°F to 185°F (-55°C to 85°C), Humidity: Between 5% to 100% (Condensing).
Operating temperature	-40°F to 158°F (-40°C to 70°C).
Environmental rating (enclosure)	IP3x.
Time clock	On-board real time clock with 10 year battery backup.
Mounting weight	Mounting surface must support 1.3 lb. (0.6 kg).
Overall dimensions	5.65 in. (143.5 mm) wide x 4.00 in. (101.6 mm) high x 2.38 in. (60.6 mm) deep.
Agency Compliance	
• UL PAZX, Energy Management Equipment. • UL94-5V Flammability. • CE. • FCC CFR Title 47, Part 15.109: Class B Limit, (30 MHz—10 GHz). • BTL Listed—Advanced Application Profile (B-AAC).	
User Interface Specifications	
Input power	24 Vdc +/- 10%, 400 mA max
Storage temperature	-67°F to 203°F (-55°C to 95°C), Humidity: Between 5% to 100% (Condensing).
Operating temperature	-40°F to 158°F (-40°C to 70°C), Humidity: Between 5% to 100% (Condensing).
Environmental rating (enclosure)	IP56 (dust and strong water jet protected) with optional sealed Ethernet cable (PN: X19070632020).
Mounting weight	Mounting surface must support 1.6 lb. (0.74 kg).
Overall dimensions	8.3 in. (211.6 mm) wide x 6.3 in. (158.8 mm) high x 2.1 in. (53.2 mm) deep [bezel depth 0.4 in. (11.3 mm)].
Agency Compliance	
• UL PAZX, Energy Management Equipment. • UL94-5V, Flammability. • FCC CFR Title 47, Part 15.109: Class A Limit, (30 MHz—4 GHz). • CE EMC Directive 2004/108/EC.	

Electrical Data

Electrical Data Tables

Table 1. Electrical data

Unit Size	Rated Voltage	Unit Wiring		Motor Data		
		Single Point Power – 1 Power Connection				
		MCA	MOP	RLA	LRA YD	LRA XL
195	460/60/3	354	500	155/155	346/346	1065/1065
	575/60/3	287	400	125/125	277/277	853/853

Customer Wire Selection

Table 2. Wire selection

Unit Size	Voltage	Circuit Breaker
195	460	(2) 2/0 - 500
	575	(2) 2/0 - 500

Dimensions and Weights

Unit Dimensions and Weights

Unit Dimensions

Figure 2. Unit dimensions – 3 pass side

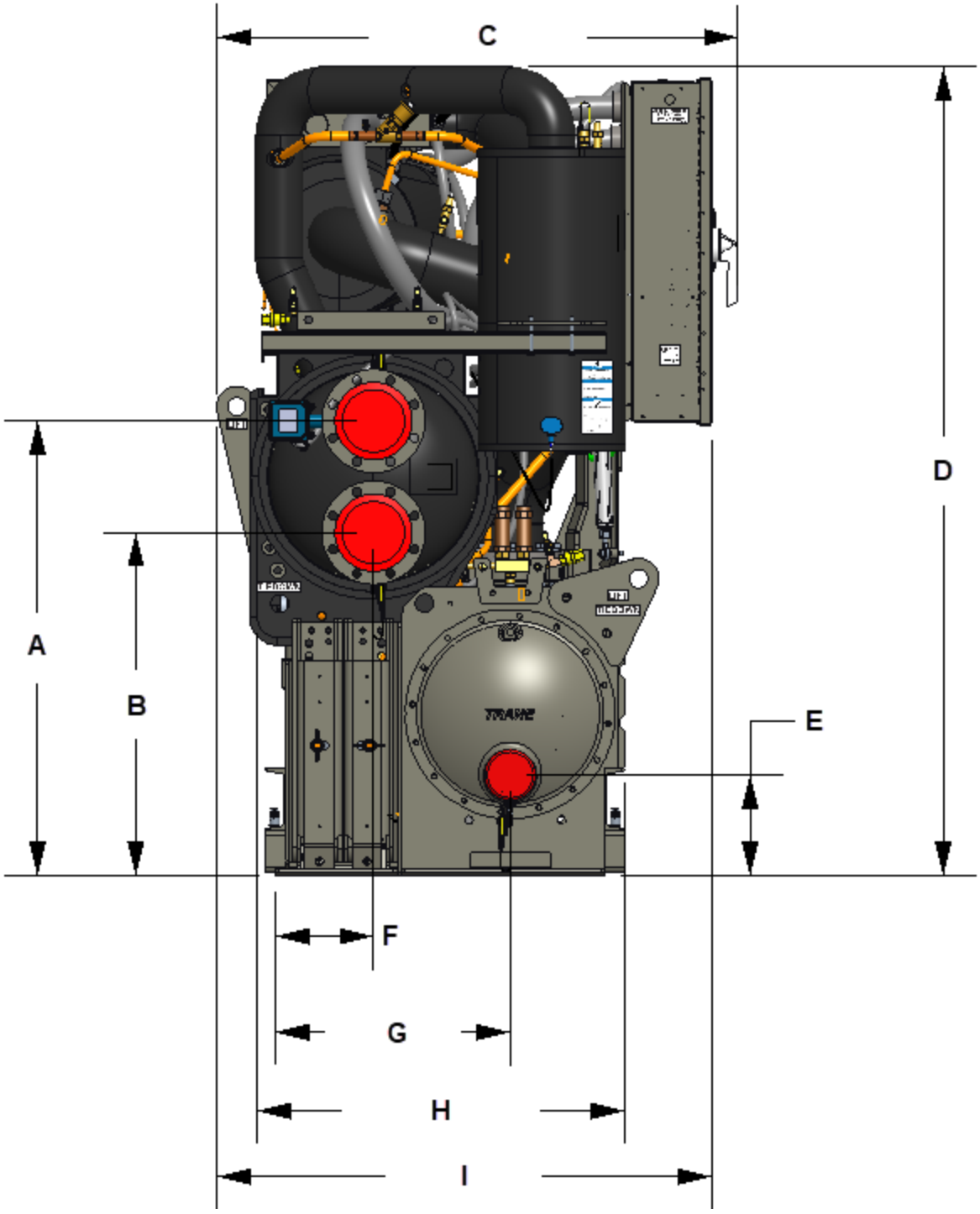


Table 3. Unit dimensions – 3 pass side

Reference	Dimension — inches/mm
A	43.9 inches (1115 mm)
B	33.1 inches (841 mm)
C	50.2 inches (1276.2 mm)
D	78.1 inches (1982.8 mm)
E	9.7 inches (246.8 mm)
F	9.5 inches (240.6 mm)
G	22.7 inches (575.6 mm)
H	35.43 inches (900 mm)*
I	47.7 inches (1211.8 mm)

*Remove the 3/4-inch insulation from the condenser tube sheets. Dimensions with insulation installed is 36.18 inches (919 mm).

Figure 3. Unit dimensions – 3 pass front

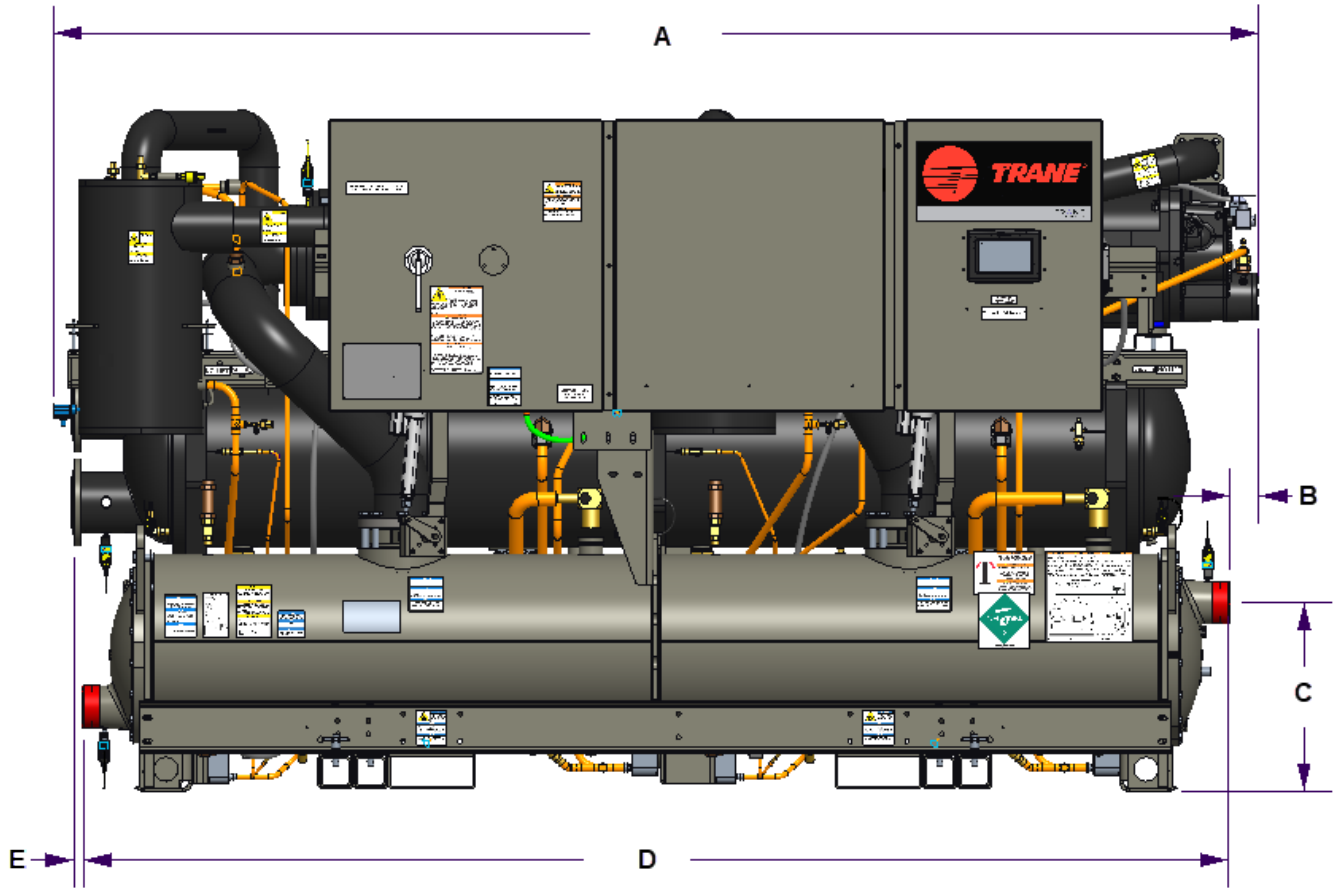


Table 4. Unit dimensions – 3 pass front

Reference	Dimension — inches/mm
A	138.1 inches (3507.2 mm)
B	3.3 inches (84.3 mm)

Table 4. Unit dimensions – 3 pass front (continued)

Reference	Dimension — inches/mm
C	21.6 inches (549.8 mm)
D	131.1 inches (3331.0 mm)
E	1.1 inches (28.3 mm)

Figure 4. Unit dimensions – 2 pass front

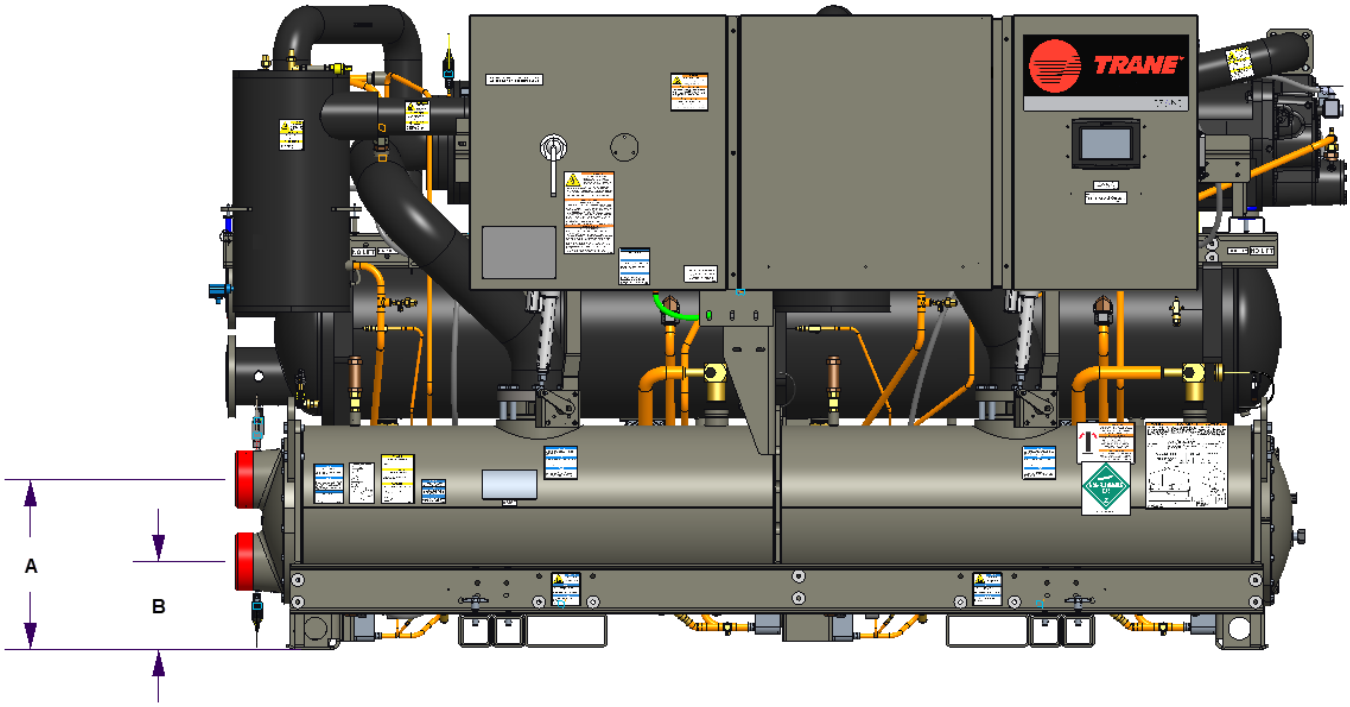


Table 5. Unit dimensions – 2 pass front

Reference	Dimension — inches/mm
A	20.6 inches (523.8 mm)
B	10.6 inches (269.8 mm)

Unit Center of Gravity

Figure 5. Unit center of gravity – rear

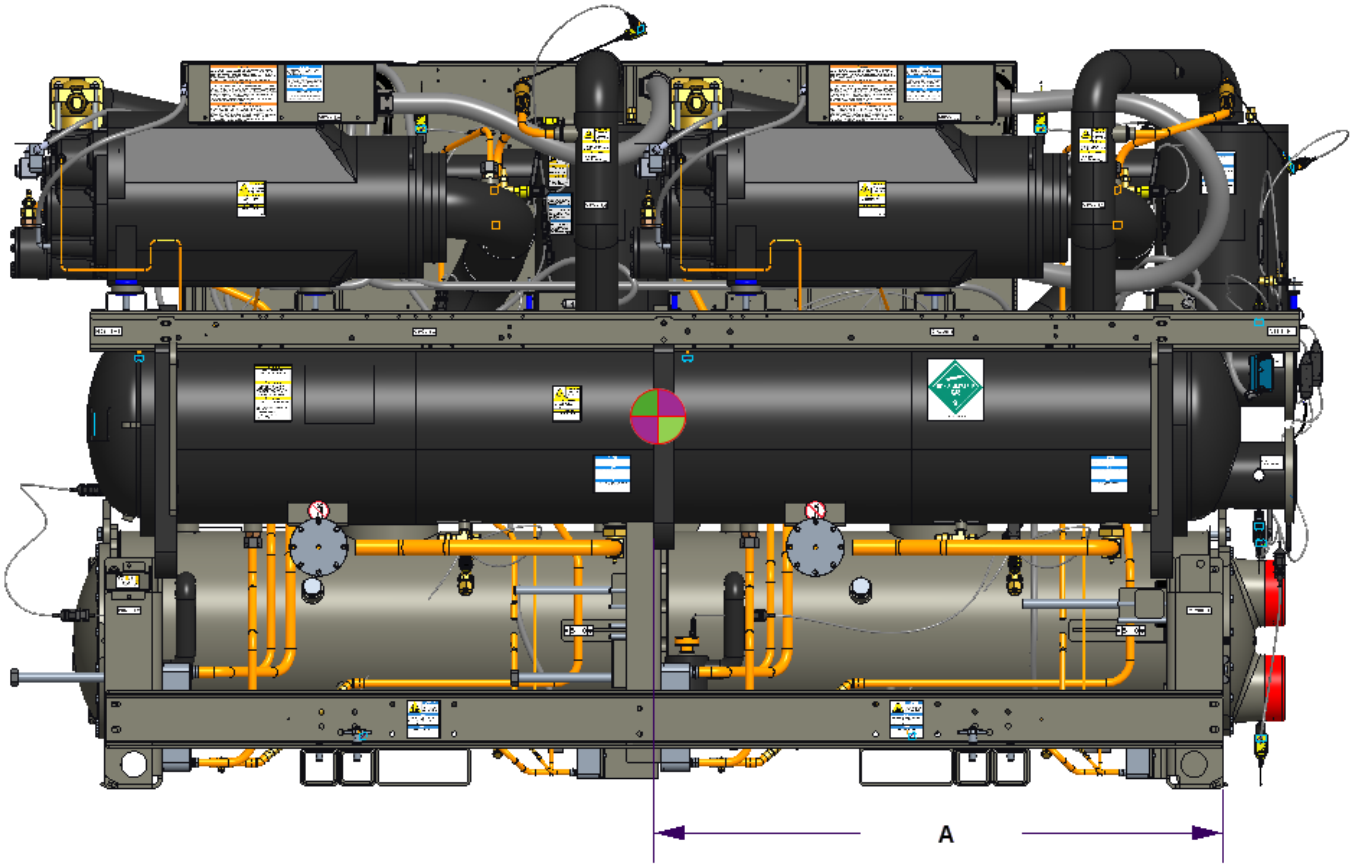


Table 6. Unit center of gravity – rear

Reference	Dimension — inches/mm
A	59.2 inches (1503 mm)

Figure 6. Unit center of gravity – side

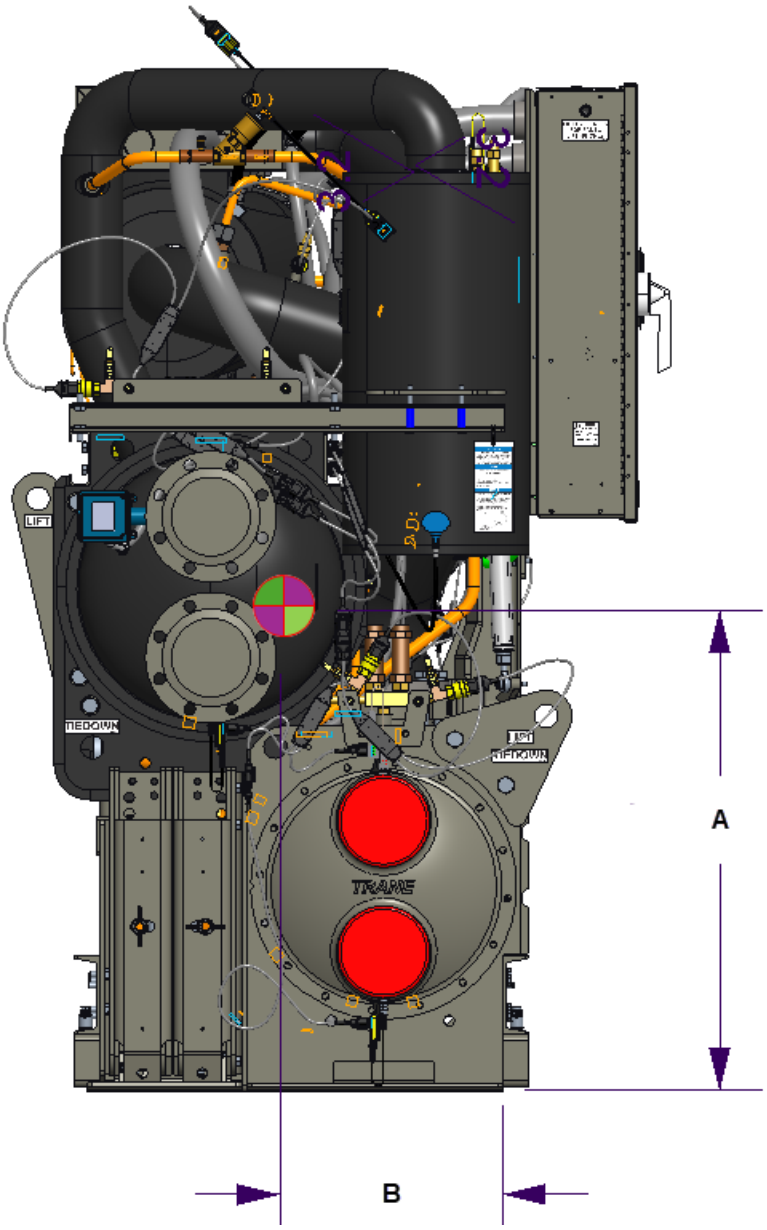


Table 7. Unit center of gravity – side

Reference	Dimension — inches/mm
A	39.6 inches (1006 mm)
B	16.2 inches (411 mm)

Unit Clearances

Figure 7. Unit required clearances – 3 pass side

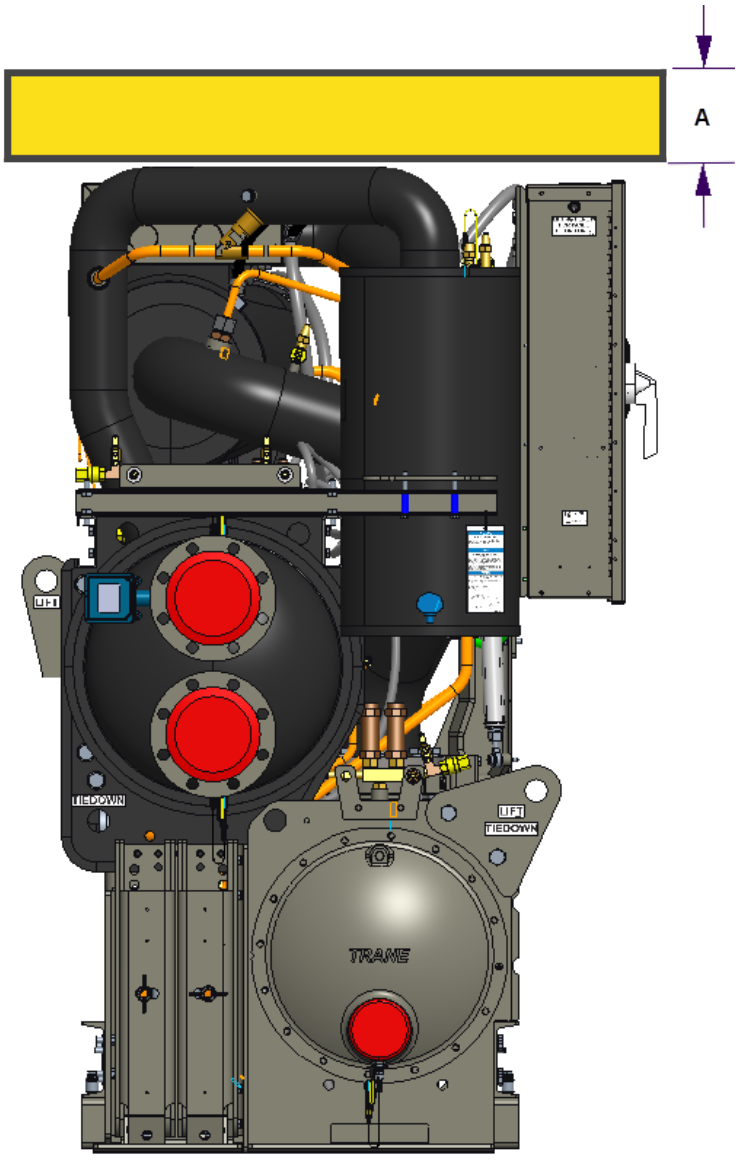


Figure 8. Unit required clearances – side

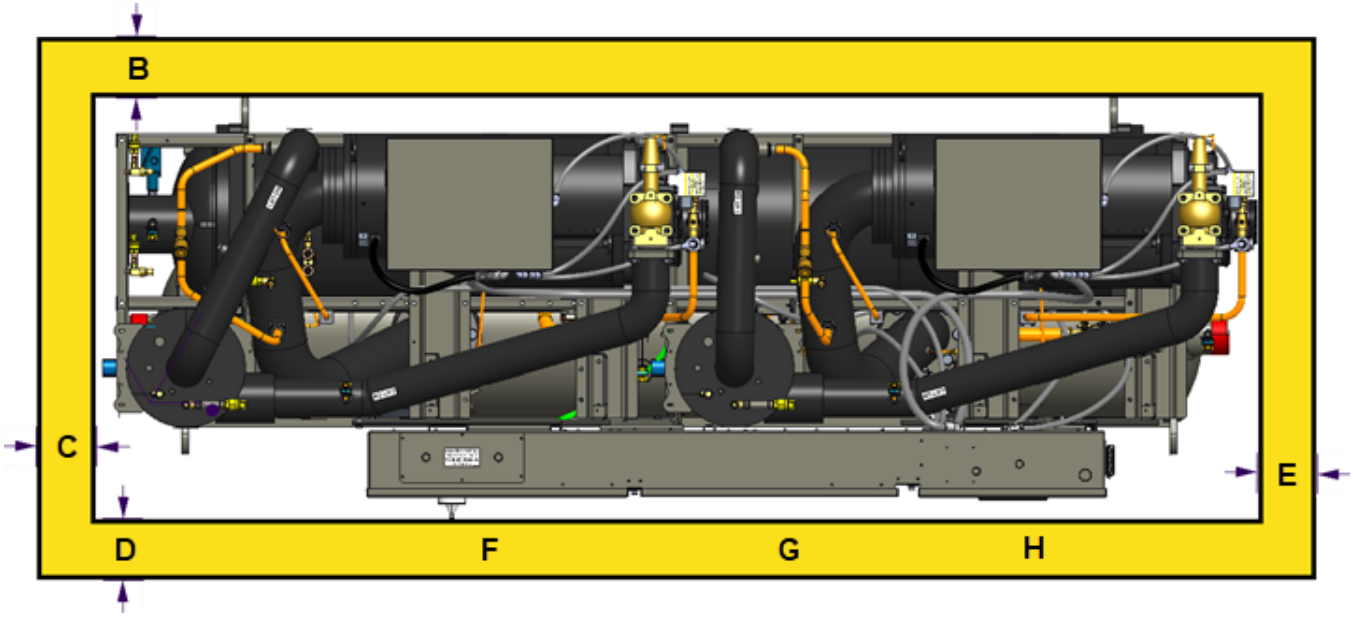


Table 8. Unit clearances

Reference	Dimension — inches/mm
A	36 inches (914 mm)
B	36 inches (914 mm)
C	36 inches (914 mm)
D	40 inches (1016 mm)
E	114.8 inches (2916 mm)
F (Door Swing)	31.3 inches (769.9 mm)
G (Door Swing)	31.1 inches (790.1 mm)
H (Door Swing)	22.4 inches (568.1 mm)

Unit Footprint Dimensions

Figure 9. RTZA footprint bolt locations

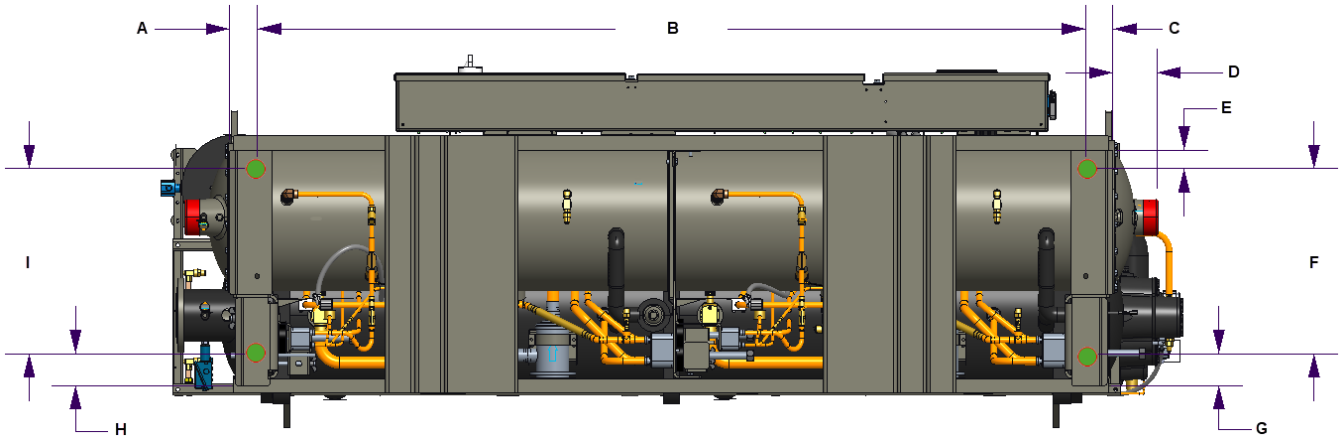


Table 9. Footprint bolt locations

Reference	Dimension — inches/mm
A	3.7 inches (93.5 mm)
B	112 inches (2843.9 mm)
C	3.7 inches (93.5 mm)
D	5.9 inches (150 mm)
E	2.5 inches (64 mm)
F	24.9 inches (633.3 mm)
G	4.3 inches (109.3 mm)
H	4.3 inches (109.3 mm)
I	24.9 inches (633.3 mm)

Weights

Operating: 10,022 lb (4,546 kg)

Shipping: 9,431 lb (4,278 kg)

Corner Weights

Figure 10. Corner weights – bottom view

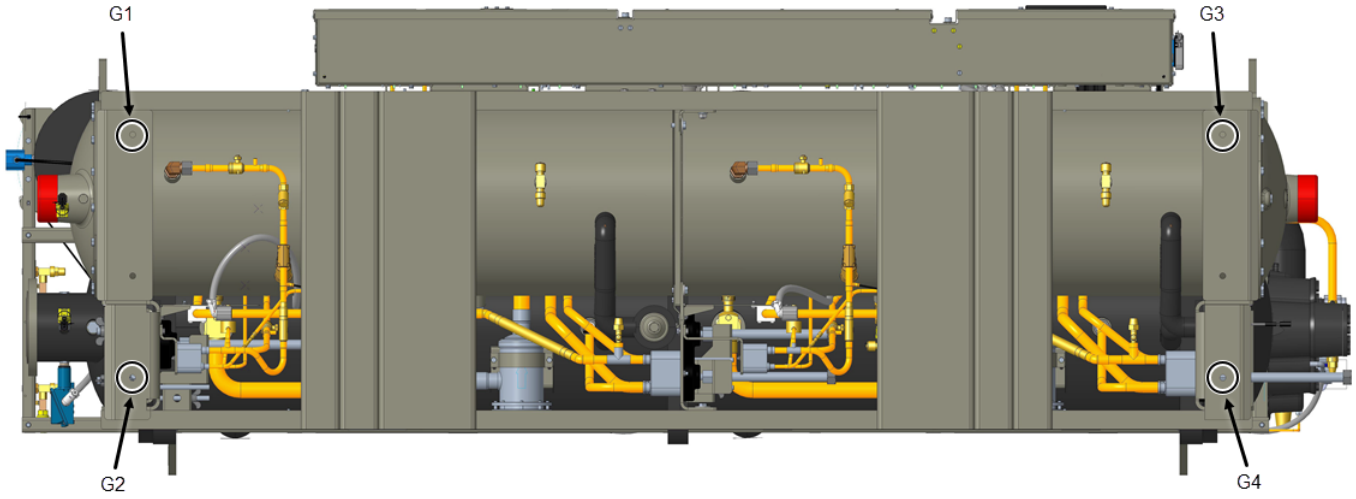


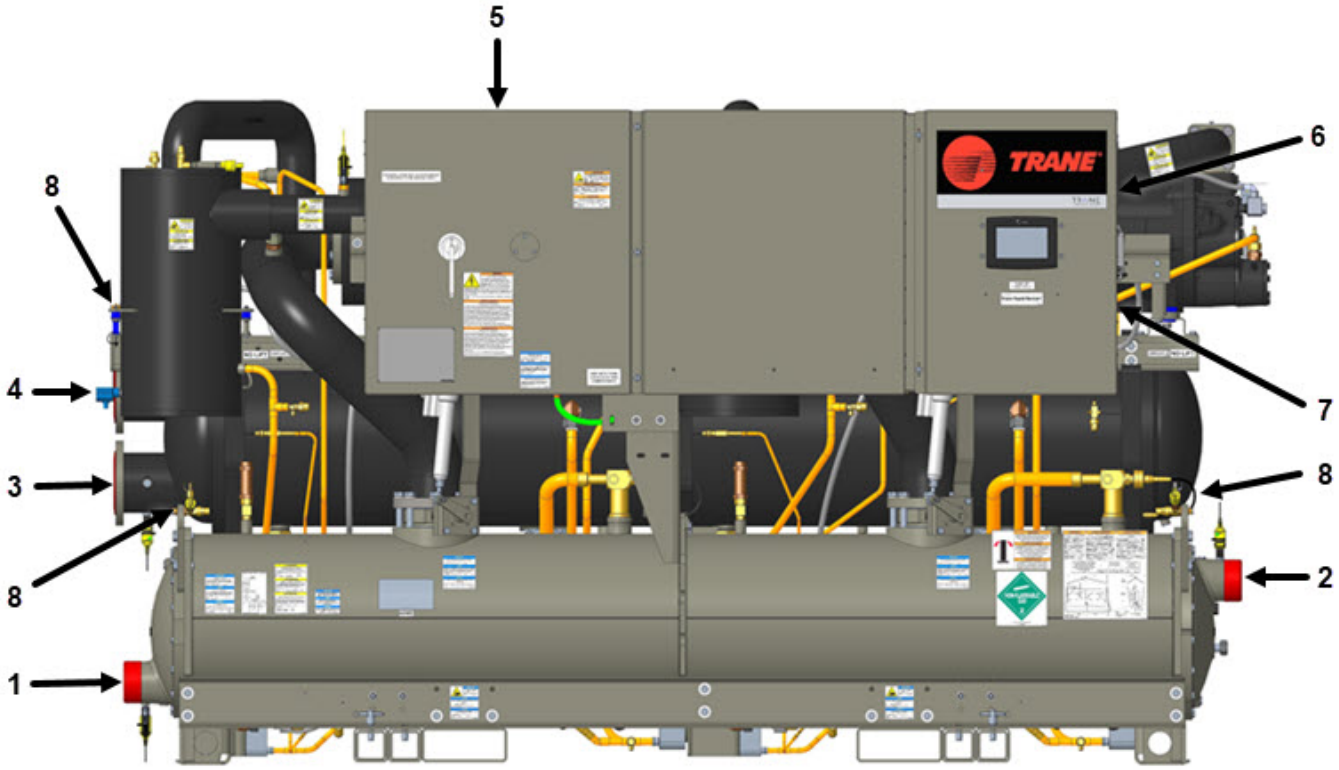
Table 10. Corner weights

G1 – lb (kg)	G2 – lb (kg)	G3 – lb (kg)	G4 – lb (kg)	X1 – inches (mm)	Z1 – inches (mm)	G1, G2, G3, G4 – inches (mm)
2,343 (1,063)	2,864 (1,299)	2,361 (1,071)	2,887 (1,310)	59.13 (1,502)	13.66 (347)	0.63 (16)

Important: *The isolators need to be installed under G1, G2, G3, and G4.*

Unit Connection Locations

Figure 11. Connection locations



1. Evaporator water inlet
2. Evaporator water inlet (shown for 3 pass; 2 pass is located on the opposite side)
3. Condenser water inlet
4. Condenser water outlet
5. Power line voltage inlet
6. Customer control power high-voltage inlet
7. Customer control power low-voltage inlet
8. Differential pressure transducers

Mechanical Specifications

General

Exposed metal surfaces are painted with air-dry executive beige, direct-to-metal paint. This does not include exposed copper piping or fasteners. Each unit ships with full charges of nitrogen and oil, with field charging of R-1233zd(E) being required by the customer for operation.

Compressor and Motor

The unit is equipped with two semi-hermetic, direct-drive, 3600 rpm rotary compressors that include a load/unload valve, rolling element bearings, oil filtration device, and a heater. The motor is a suction gas-cooled, hermetically sealed, two-pole squirrel cage induction motor. Oil separator device is provided separate from the compressor. Check valves are provided on the compressor discharge and lube oil system. A solenoid valve in the lube system is also provided.

Unit-Mounted Starter

The enclosure has top power-wiring access and three-phase, overload protection. A factory-installed, factory-wired 1000 VA control power transformer provides all unit control power (120 VAC secondary), Trane Symbio™ 800 module power (24 VAC secondary), and water-regulating valve power (115 VAC - field installed).

The starter is a wye-delta configuration designed to provide a reduced inrush. It is factory-mounted and fully pre-wired to the compressor motor and control panel.

Evaporator

Dual circuited, shell and tube falling film evaporator design is used. Seamless internally finned, copper tubes are mechanically expanded into tube sheets and mechanically fastened to tube supports. Evaporator tubes are 3/4-inch (19.05 mm) diameter. All tubes can be individually replaced.

Shells and tube sheets are made of carbon steel. The evaporator is designed for refrigerant-side/working-side pressure of 200 psig (13.8 bars).

All water pass arrangements are available with grooved connections with 150 psig (10.3 bars) waterside working pressure. The evaporator waterside is tested from the factory at 195 psig (13.4 bars).

Condenser

Dual circuited, shell and tube condenser designed with seamless internally/externally finned tubes expanded into tube sheets and mechanically fastened to tube supports. Condenser tubes are 3/4-inch (19.05 mm) diameter. All tubes can be individually replaced.

Shells and tube sheets are made of carbon steel. The condenser is designed for refrigerant-side/working-side pressure of 300 psig (20.7 bars).

Water side has single inlet and outlet flanged piping connection. All water pass arrangements are available with grooved connections with 150 psig (10.3 bars) waterside working pressure. The condenser waterside is tested from the factory at 195 psig (13.4 bars).

The condenser allows for leaving condenser water temperatures up to 210°F (98.9°C).

Refrigerant Circuit

Each unit has two refrigerant circuits, with one rotary screw compressor per circuit. Each refrigerant circuit includes compressor suction and discharge service valves, removable core filter, charging port, sight glass, and an electronic expansion valve.

Modulating compressors and electronic expansion valves provide variable capacity modulation over the entire building load and maintain proper refrigerant flow. The unit also includes liquid line isolation valves and refrigerant pressure relief valves installed on each circuit of both the evaporator and condenser.

Oil Management

The unit is configured with an oil management system that ensures proper oil circulation throughout the unit.

The key components of the system include an oil separator, oil filter, and thermosiphon oil return system. All compressors are factory tested to confirm operation prior to shipment.

Unit Controls

All unit controls are housed in an outdoor rated weather-tight enclosure with removable plates to allow connection of power wiring and remote interlocks. All controls, including sensors, are factory mounted and tested prior to shipment.

Microcomputer controls provide all control functions including start-up and shutdown, leaving heated water temperature control, evaporator flow rate/proving, compressor staging and speed control, electronic expansion valve modulation, and speed control, anti-recycle logic, automatic lead/lag compressor starting, and load limiting.

Symbio 800 Controller

The Symbio™ 800 controller is an application-specific, programmable controller that is factory installed and designed to control packaged HVAC equipment. A 7-inch user interface features a touch-sensitive color screen that provides facility managers with at-a-glance operating status, performance monitoring, scheduling changes and operating adjustments. Other advanced features include automated controller backup and optional features such as secure remote connectivity, wireless building communications, and custom programming with expandable I/O.

The Symbio 800 control module, utilizing Adaptive Control™, automatically takes action to avoid unit shutdown due to abnormal operating conditions associated with low refrigerant pressure, high condensing pressure, compressor current overload, low discharge superheat, and high compressor discharge temperature. Should the abnormal operating condition continue until a protective limit is violated, the unit will be shutdown.

Unit protective functions of the controller include: loss of heated water flow, evaporator freezing, loss of refrigerant, low refrigerant pressure, high refrigerant pressure, high compressor motor temperature, and loss of oil to the compressor.

BACnet Communication Protocol

The Symbio 800 controller supports standard BACnet® communication protocol through a RS485, two-wire communication link or BACnet/IP over Ethernet.

Trane LonTalk Communication Protocol

The LonTalk® module provides an interface to a Tracer® building automation system or other control system that supports LonTalk and is factory installed, allowing for control and monitoring of the unit through a RS485, two-wire communication link. It requires additional LonTalk Communication Kit to be installed.

Modbus Communication Protocol

The Symbio 800 controller supports standard Modbus® RTU communication protocol through an RS485, two-wire communication link or ModbusTCP over Ethernet.

Controls Expansion Hardware

Symbio 800 includes field applied controls capability. Factory installed expansion hardware (XM70) has 19 inputs/outputs. Additional expansions may be added in the field.

Tracer AdaptiView TD-7 Display

A full color Tracer® AdaptiView™ TD-7 touch screen display indicates all important unit and circuit parameters, in logical groupings on various screens. The parameters including chilled water setpoint, leaving evaporator temperature, demand limit setpoint, evaporator and condenser refrigerant temperatures and pressures, compressor and fan speeds, and all pertinent electrical information. The display also provides on screen data graphs of predefined parameters as well as customizable data graphs based on user defined parameters from a list of all available parameters. The display also provides indication of the chiller and circuits' top level operating modes with detailed sub-mode reports available with a single key press, as well as diagnostics annunciation and date and time stamped diagnostic history. The color display is fully outdoor rated, and can be viewed in full daylight without opening any control panel doors.

Standard power connections include main three phase power to the compressors, condenser fans and control power transformer and optional connections are available for the 115 volt/60 Hz single phase power for the thermostatically controlled evaporator heaters for freeze protection.

- Outdoor capable:
  - UV Resistant Touchscreen
  - Operating Temperature: -40°C to 70°C

  - IP56 rated (Power Jets of Water from all directions)
- RoHS Compliant
- UL PAZX, Open Energy Management Equipment
- UL 916 Listed
- CE Certification
- Emissions: EN55011 (Class B)
- Immunity: EN61000 (Industrial)
- Display:
  - 7-inch diagonal
  - 800x480 pixels.
  - TFT LCD at 600 nits brightness
  - 16 bit color graphic display
- Display Features:
  - Alarms
  - Reports
  - Unit Settings
  - Display Settings
- Service Settings
- Graphing
- Global Application with Support for 27 Languages

Quality Assurance

The quality management system applied by Trane has been subject to independent third-party assessment and approval to ISO 9001-2015. The products described in this catalog are designed, manufactured and tested in accordance with the approved system requirements described in the Trane Quality Manual.

Control Options

External Hot Water Setpoint

The external water setpoint signal can be field-wired to a factory-installed, tested interface board through a 2-10 Vdc or 4-20 mA signal.

External Demand Limit

External demand limit setpoint is communicated to a factory-installed, tested communication board through a 2-10 Vdc or 4-20 mA signal.

Motor Current Analog Output

Control system indicates the active chiller percent of full run load amps, based on a 2-10 Vdc.

Energy Meter

Tracks energy consumption with Trane Enercept Flex Modbus or integrated with voltage transformers.

Programmable Relays

Predefined, factory-installed, programmable relays allow the operator to select four relay outputs. Available outputs are: Alarm-Latching, Alarm-Auto Reset, General Alarm, Warning, Chiller Limit Mode, Compressor Running, Head Pressure Relief Request, and Tracer Control.

Other Options

Dual Relief Valve

Unit comes with dual relief valves on both the high pressure side and low pressure side of each refrigerant circuit. Each dual relief valve configuration includes an isolation valve. Single relief valves are standard.

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

RLC-PRC071A-EN 13 Feb 2026
Supersedes (New)