Product Catalog

Trane Rental Services

Process Chiller — MTA

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Features and Benefits

General Description

The Trane Rental TAEevo chiller platform, available in sizes ranging from 3 to 40 tons refrigeration capacity, is an ideal solution for industrial process applications. The chillers are equipped with rugged hermetically sealed scroll compressors for reliability, digital controls for precise temperature control, manual bypass piping for low-flow applications, and an innovative finned evaporator housed in an integral fluid storage tank which resists corrosion and provides adequate fluid volume without the need for an external buffer tank.

Frame and Structure

The galvanized or powdercoated chiller frame includes forklift pockets and lift points for easy transportation and placement, with the 3-15 ton size ranges equipped with locking swivel caster wheels for additional maneuverability.

Powdercoated access panels resist corrosion, with the compressor compartment separated from the condenser area to allow service accessibility even while the chiller is running.

Compressors

The TAEevo chiller line features scroll compressors with anti-vibration dampers and built-in protection against reverse-phasing and overcurrent.

The supplied crankcase heaters, powered via main 480 VAC power, prevent oil dilution on startup and should be energized for at least four hours prior to starting the unit.

Evaporator

The innovative direct expansion evaporator consists of a finned coil immersed within a large fluid storage tank. This design provides excellent heat transfer, minimal pressure loss, and sufficient fluid volume to operate the chiller in a small chilled water loop without the need for an external buffer tank.

Condenser

The condenser coil consists of copper tubes with corrugated aluminum fins, providing a large area for heat transfer and allowing operating in high ambient temperature conditions. The condenser coils are protected by removable, washable metal filters for easy cleaning and reduced downtime.

Fan

The condenser fan assembly consists of axial fans with IPI54 rated fan motors for outdoor operation. For standard ambient models, the fixed-speed fans are staged based on condenser refrigerant pressure. For units equipped with the optional low ambient control option, variable speed fans are controlled based on condenser refrigerant pressure transducers.

Refrigeration Circuit

The refrigeration circuit is composed of:

- Refrigerant filter-dryer with hygroscopic molecular sieves
- Refrigerant liquid line sight glass with moisture indication
- Thermostatic expansion valve with external equalization
- R-410A refrigerant
- High and low pressure safety switches
- Analog condenser and evaporator refrigerant pressure gauges

Hydraulic Circuit

The hydraulic circuit is fitted with:

Pumps

The fixed-speed centrifugal pumps are equipped with silicon carbide/EPDM seals. 3-15 ton chillers have stainless steel pump and volute, while 20-40 ton chillers have a cast iron volute with stainless steel impeller. Pump drain and vent connections are routed to the chiller exterior to conveniently drain and vent the pump.

Storage Tank

The TAEevo evaporator design consists of a cylindrical fluid storage tank with a finned evaporator coil located within. The large fluid capacity of the evaporator provides a thermal buffer to reduce short-cycling, allowing for installation on small chilled water loops without the need for an external buffer tank. The evaporator tank is rated for a maximum pressure of 87 PSIG.

The evaporator includes vent and drain lines routed to the exterior of the chiller for easy filling, draining, and venting of air.

Hydraulic Bypass

A low-flow piping bypass allows for manual adjustment of process flow rate in low-flow applications while maintaining minimum flow through the evaporator.

Water Level Sensor and Flow Switch

All chillers are equipped with a conductive water level sensor and paddle-type flow switch to prevent operation in a no-flow or airbound condition.

Electrical

Electrical Panel

The main control panel is wired in conformance with UL508A and includes an IP54 rating for outdoor operation. Within the main control panel are the following components:

- Breaker or disconnect switch with lockable handle
- Fan, pump, and compressor overcurrent protection
- Phase reversal protection relay
- Controls transformer and fuses
- Customer connection terminal block for alarm status and remote start/stop control (dry contacts only, no voltage to be applied to customer connection terminals).

Controls

All chillers are controlled by a Dixell IC208CX digital controller with integrated display. The controller supports the following functions and features:

- Precise fluid temperature control (4°F non-adjustable temperature deadband)
- Fixed speed pump control
- Condenser fan staging, including variable speed fan control on units with low ambient controls
- Compressor staging, including balanced starts and hours rotation for chillers with multiple compressors
- Alarm management and display
- Remote, clear language display standard on 40 ton models

Application Considerations

Trane Rental Services MTA chiller models can operate indoor and outdoor in a wide range of external air temperatures. The minimum and maximum allowable external air temperature limitations for all MTA chiller models range from -4°F to 109°F. Glycol antifreeze protection may be required if MTA chiller models are exposed to below freezing (32°F or 0°C) external air temperatures to prevent ice build-up and compressor failure. Contact Trane Rental Services if operating units at ambient temperatures below 23°F to ensure the rental chiller is properly selected and equipped for the application.

Water Flow Limits

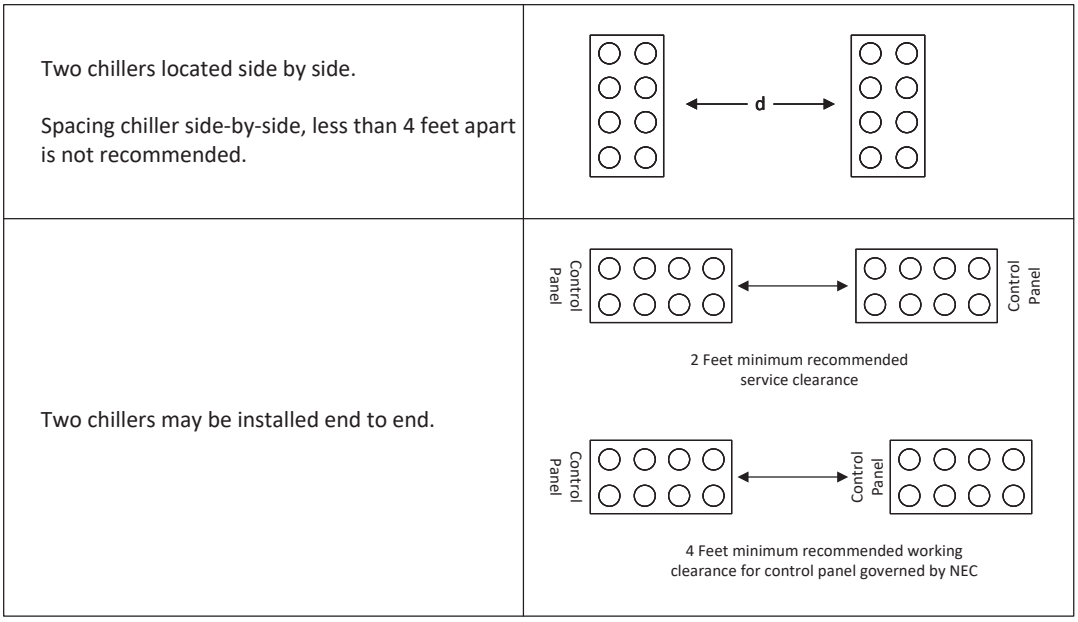
Minimum and maximum flow rates are listed based on unit size in the following pages. Flow rates above or below the allowable flow range will result in adverse evaporator heat transfer, leading to flow and/or low refrigerant pressure diagnostics. In addition, flow rates above the allowable maximum may cause evaporator tube erosion due to excessive fluid velocity.

Close Space and Clearances

- Allow for unrestricted access to all service points.
- **3 – 15 Ton Models:** A minimum of 4 feet clearance for the front, right, and left sides, while the back only requires 2 feet clearance recommended for maintenance.
- **20 Ton Models:** A minimum of 4 feet clearance for the left and back sides, while the front and right sides require 6.5 feet clearance recommended for maintenance.
- **40 Ton Models:** A minimum of 4 feet clearance for the left and back sides, while the front right side must have at least 6.5 feet and right side requires 8 feet clearance recommended for maintenance.
- Provide sufficient clearance for the opening of control panel doors.
- The chiller should be completely open above the fan deck.
- Ducting individual fans is not recommended.

When installation is a concern due to minimal recirculating air and close spacing, consider the following for more than one chiller:

Figure 1. Close spacing clearance



There is no performance effect for any spacing of chillers end to end. Minimum spacing is governed by service clearances and working clearance required by the National Electric Code (NEC) near control

panels. A 2-foot clearance is recommended on the end opposite the control panel. Article 110-16 of the NEC requires 3 to 4 feet of working clearance, on the control panel end depending on the actual installed conditions. Refer to the NEC for a detailed discussion of requirements.

Rental Services recommends utilizing the manufacturer clearance listed in the “Unit Drawings” General Data section for proper airflow and maintenance. The guidelines listed in the table above are the minimum allowable spacing for multiple units installed side-by-side.

Chiller Rigging and Transportation

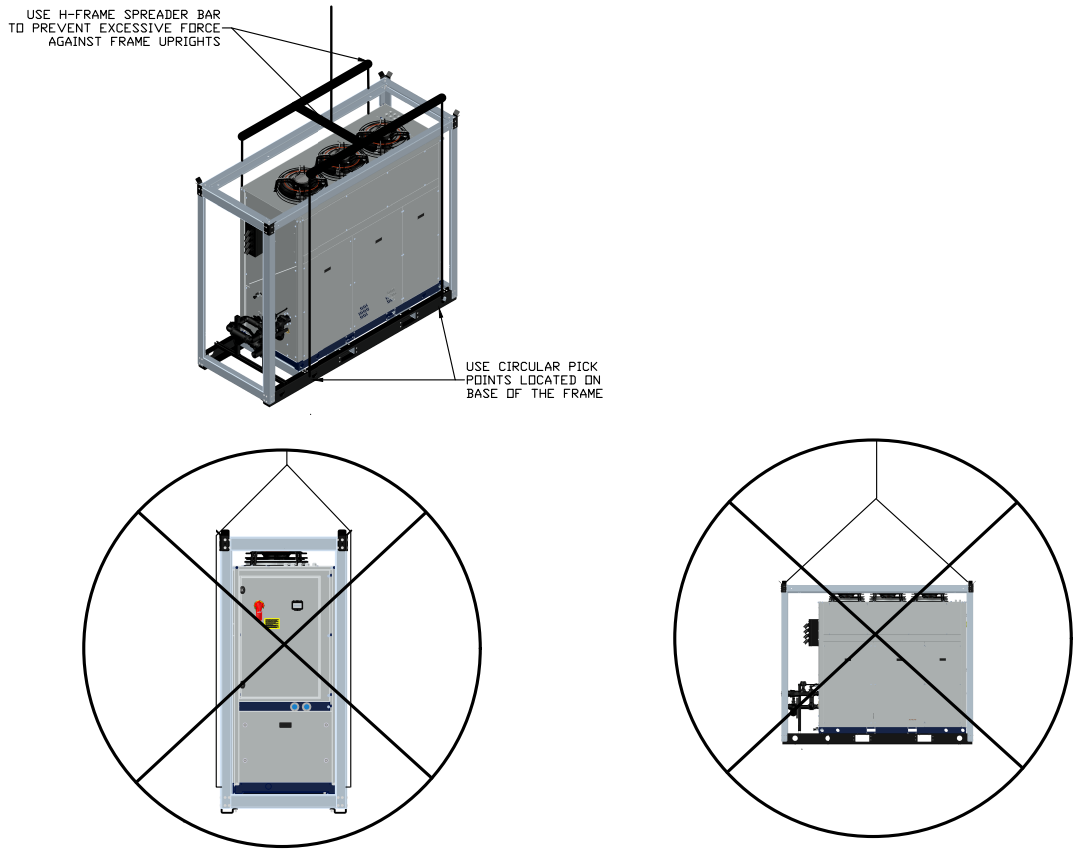
All Trane Rental MTA process chillers include a frame with integrated forklift pockets.

To assist with maneuvering the units in confined spaces, 3-15 ton units are equipped with locking swivel casters permanently bolted to the underside of the frame. Casters must be in the locked position while the unit is installed and operating.

For installations requiring a crane lift, the frame base includes circular lift points which must be used in combination with an H-Frame spreader bar when lifting the units. Reference lifting instructions below.

Note: *Do not attempt to lift the unit using the overhead frame members or attempt to lift the unit from the base frame lift points without the use of a spreader bar!*

Figure 2. Lifting instructions



Acoustics

In order to minimize noise and vibration transmission, locate unit away from sound sensitive areas.

Sound levels listed below are determined based on measurements taken in accordance with the standard ISO 3744. Sound pressure is expressed in Table 1 below as the average value obtained in free field on a reflective surface at a distance of 32.8 feet (10 meters) from the longer side of the machine

and at height of 1.6 m from the unit support base. Values with tolerance +/- 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions.

Table 1. Sound data

Model	Octave Bands (Hz)								Power	Pressure
	63	125	250	500	1000	2000	4000	8000	dB (A)	Lp dB (A) 32.8 ft.
	Sound Power Level Lw dB (A)									
RSCA0003	53.6	75	75.9	72.2	78.1	73.7	66.7	58.9	82.6	54.6
RSCA0005	54.7	76.1	77	73.3	79.2	74.8	67.8	60	83.7	55.7
RSCA0007	52.9	71.7	72	75	80.7	77.3	71.2	60.9	83.9	55.9
RSCA0010	53	71.9	72.3	75.3	81	77.6	71.5	61.1	84.2	56.2
RSCA0015	53.6	72.7	73.1	76.1	81.8	78.4	72.2	61.7	85.1	57.1
RSCA0020	63.5	75.7	76.8	79	85.1	81.8	75.2	62.8	88.3	60.3
RSCA0040	66.7	79.4	80.6	82.9	89.2	85.8	78.9	66	92.3	64.3

Table 2. Sound pressure correction factors

Distance (Ft.)	KdB
3.3	15
9.8	10
16.4	6
32.8	0

To calculate a different distance of the sound pressure level, use the formula in table #'s above: dB(A)L= dB(A)32,8 ft+Kdb.

Freeze Protection

In ambient temperatures between 32°F (0°C) and -20°F (-28°C), it is recommended that a non-freezing, low temperature, corrosion inhibiting, heat transfer fluid be added to the chilled water system. The solution must be strong enough to provide protection against ice formation at the lowest anticipated ambient temperature. As a result of low chilled water setpoints, at or below 40°F (4°C), glycol or other antifreeze solution must be used. Contact Trane Rental Services Engineering for more information on glycol percentage recommendations.

In addition to using glycol, it is highly recommended all exposed piping and pumps, integral to the chiller, be heat traced and insulated. Follow recommended guidelines by the heat tracing manufacturer. The circulating pump must be allowed to run at all times when the chiller is exposed to freezing ambient temperatures.

Model Number Description

Digit 1, 2— Unit Model

RS = Rental Services

Digit 3, 4— Unit Type

CA = Air-Cooled Chiller

Digit 5, 6, 7, 8— Unit Capacity

0003 = 3.21 Nominal Tons
0005 = 4.58 Nominal Tons
0007= 7.63 Nominal Tons
0010 = 11.67 Nominal Tons
0015 = 13.26 Nominal Tons
0020 = 22.33 Nominal Tons
0040 = 39.94 Nominal Tons

Digit 9, 10— Design Sequence

F0

Digit 11, 12— Incremental Designator

AA

General Data

3 Ton Air-Cooled Process Chiller

Model: MTA TAET031

Table 3. General data — RSCA0003F0

General	RSCA0003F0
Nominal Tonnage[a]	3.21
Refrigerant	R-410A
Refrigerant Charge	7.28 pounds
Refrigerant Circuits	1
Water Connection Size[b]	1.5 inch Cam-lock
Ambient Operating Conditions[c]	23º F — 109º F
Setpoint Limits[b]	14º F — 86º F
Maximum Water Pressure	87 PSI

[a] Design Conditions: 95°F Ambient, 55°F EWT, 45°F LWT

[b] 25-foot sections of hose offered separately. Cam-lock to Victaulic adapters will need to be sourced in the field to connect to TRS AHU waterlines.

[c] When leaving solution is below 40°F, a glycol solution is required.

Electrical Data

Table 4. Electrical data — RSCA0003F0

Electrical Circuits	1
Voltage	460 V 3–Phase
Frequency	60 Hz
Wire Connection Type[a]	Pin and sleeve
SCCR	10,000 A
Minimum Circuit Ampacity (MCA)	12.1 A
Maximum Overcurrent Protection (MOP)	15 A
Full Load Amps (FLA)	10.4 A
Minimum Circuit Ampacity (MCA)	12.1 A
Maximum Overcurrent Protection (MOP)	15 A
Full Load Amps (FLA)	10.4 A

Notes:

1. For additional electrical information, contact Trane Rental Services.
2. All features and specifications are subject to change without notice or liability.

[a] Cable offered in 50-foot or 100-foot sections with Leviton Series IEC connections.

Pump Data — RSCA0003F0

Table 5. Pump data — RSCA0003F0

Horsepower	1 HP
Min Flow	2.2 gpm @ 103.1 feet
Max Flow	21.1 gpm @ 55 feet

Dimensions and Weights

Table 6. Dimensions and weights — RSCA0003F0

Length	5 feet 10.75 inches
Width	3 feet 0.13 inches
Height	5 feet 11.63 inches
Shipping Weight	1016 pounds
Operating Weight	1278 pounds
Fork Pocket Dimensions	8 in. x 4 in. x 2 ft x 8.875 in.
Fork Pocket Center to Center Distance	2 feet 11.375 inches
Lifting Device	Forklift or crane

Installed/Operating Clearances

Table 7. Installed/operating clearances — RSCA0003F0

Front	4 feet
Right Side	4 feet
Left Side	4 feet
Back Side	2 feet
Vertical Exhaust	No obstructions

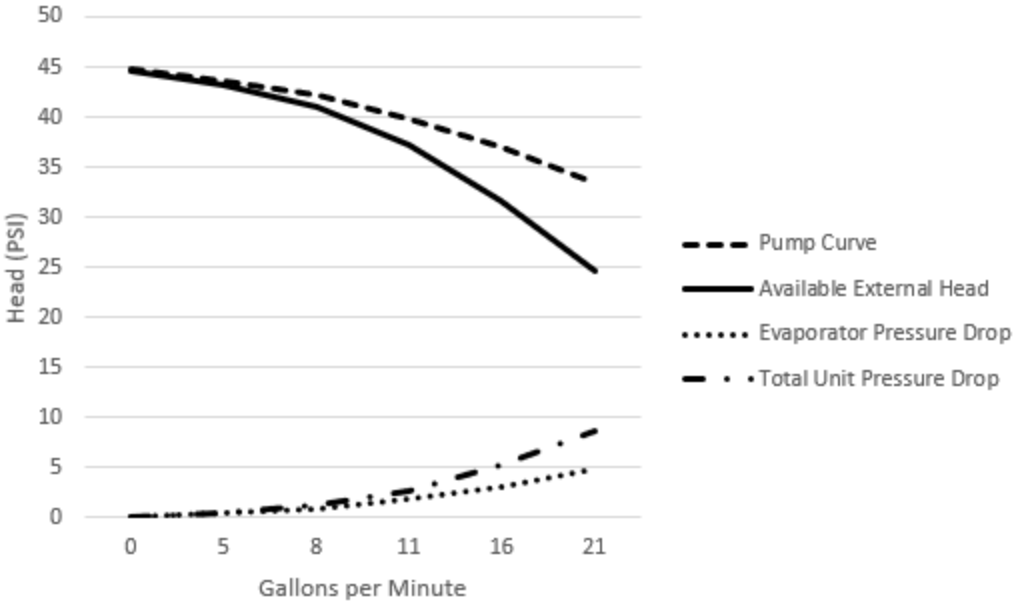
Gross Cooling Capacities

Table 8. Cooling capacity — RSCA0003

Leaving Water Temp	Ethylene Glycol (%)	Estimated Capacity (Tons) @ Gal/Min Flow Rate (GPM)			
		Ambient Air Temp			
		75°F	85°F	95°F	105°F
68°F	0	5.3T @12.6 GPM	4.9T @ 11.8 GPM	4.6T @11.0 GPM	N/A
55°F	0	4.3T @ 10.3 GPM	4T @ 9.6 GPM	3.8T @ 9 GPM	3.2T @ 7.7 GPM
45°F	0	3.7T @ 8.9 GPM	3.5T @ 8.3 GPM	3.2T @ 7.7 GPM	3T @ 7.1 GPM
35°F	20	3.1T @ 7.8 GPM	2.9T @ 7.2 GPM	2.6T @ 6.7 GPM	2.4T @ 6.2 GPM
25°F	25	2.5T @ 6.4 GPM	2.3T @ 5.9 GPM	2.1T @ 5.5 GPM	1.9T @ 5 GPM
15°F	35	2T @ 5.2 GPM	1.7T @ 4.6 GPM	1.6T @ 4.2 GPM	N/A

Pump and Pressure Drop Curves

Figure 3. RSCA0003F0 pump and pressure drop curves



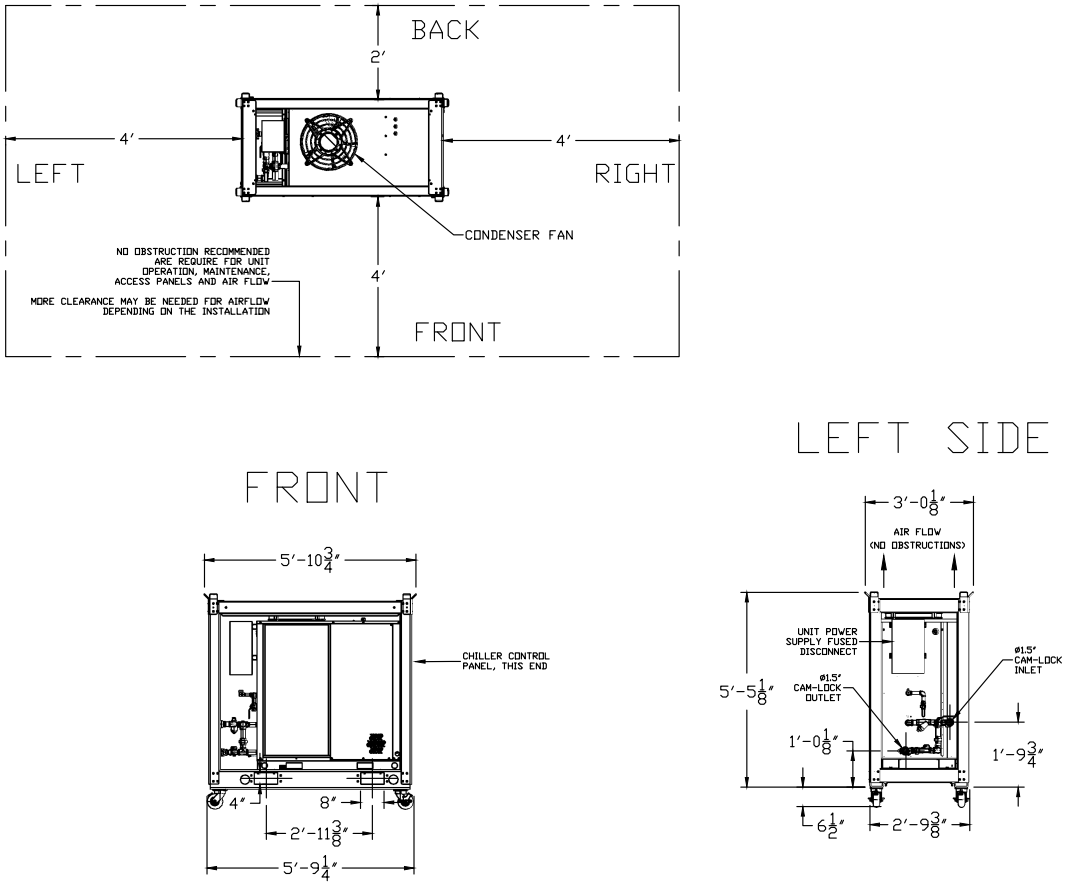
Sound Data

Table 9. Sound data — RSCA0003

Model	Octave Bands (Hz)								Power	Pressure
	63	125	250	500	1000	2000	4000	8000	dB (A)	Lp dB (A) 32.8 ft.
	Sound Power Level Lw dB (A)									
RSCA0003	53.6	75	75.9	72.2	78.1	73.7	66.7	58.9	82.6	54.6

Unit Drawing

Figure 4. Unit drawing — RSCA0003



5 Ton Air-Cooled Process Chiller

Model: MTA TAET051

Table 10. General data — RSCA0005F0

General	RSCA0005F0
Nominal Tonnage[a]	4.58
Refrigerant	R-410A
Refrigerant Charge	5.181 pounds
Refrigerant Circuits	1
Water Connection Size[b]	1.5 inch Cam-lock
Ambient Operating Conditions[c]	23º F — 109º F
Setpoint Limits[b]	14º F — 86º F
Maximum Water Pressure	87 PSI

[a] Design Conditions: 95°F Ambient, 55°F EWT, 45°F LWT

[b] 25-foot sections of hose offered separately. Cam-lock to Victaulic adapters will need to be sourced in the field to connect to TRS AHU waterlines.

[c] When leaving solution is below 40°F, a glycol solution is required.

Electrical Data

Table 11. Electrical data — RSCA0005F0

Electrical Circuits	1
Voltage	460 V 3–Phase
Frequency	60 Hz
Wire Connection Type[a]	Pin and sleeve
SCCR	10,000 A
Minimum Circuit Ampacity (MCA)	19.5 A
Maximum Overcurrent Protection (MOP)	25 A
Full Load Amps (FLA)	17 A

Notes:

1. For additional electrical information, contact Trane Rental Services.
2. All features and specifications are subject to change without notice or liability.

[a] Cable offered in 50-foot or 100-foot sections with Leviton Series IEC connections.

Pump Data

Table 12. Pump data — RSCA0005F0

Horsepower	1 HP
Min Flow	2.2 gpm @ 103.1 feet
Max Flow	21.1 gpm @ 55 feet

Dimensions and Weights

Table 13. Dimensions and weights — RSCA0005F0

Length	5 feet 10.75 inches
Width	3 feet 0.13 inches
Height	5 feet 11.63 inches

Table 13. Dimensions and weights — RSCA0005F0 (continued)

Shipping Weight	1056 pounds
Operating Weight	1318 pounds
Fork Pocket Dimensions	8 in. x 4 in. x 2 ft 8.875 in.
Fork Pocket Center to Center Distance	2 feet 11.375 inches
Lifting Device	Forklift or crane

Installed/Operating Clearances

Table 14. Installed/operating clearances — RSCA0005F0

Front	4 feet
Right Side	4 feet
Left Side	4 feet
Back Side	2 feet
Vertical Exhaust	No obstructions

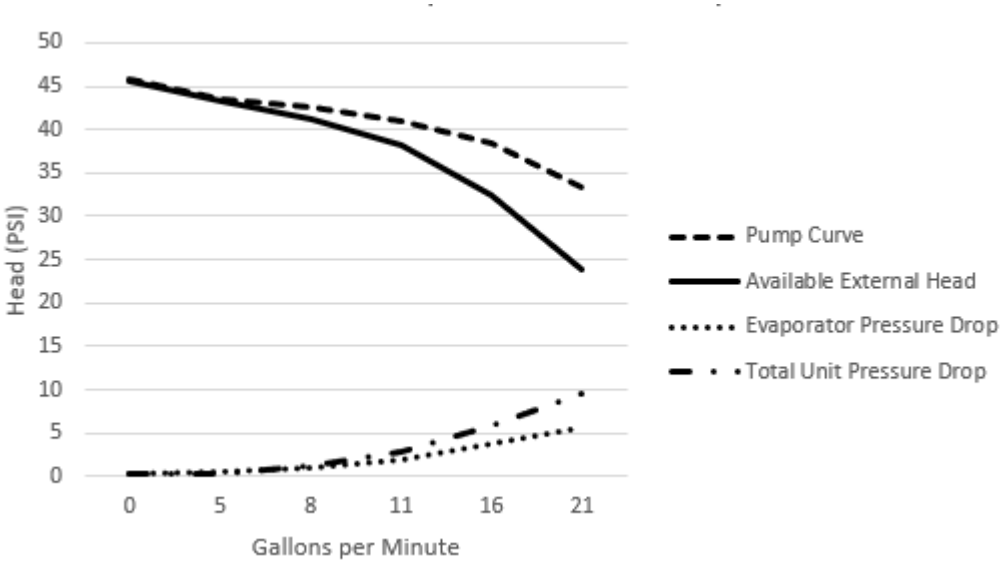
Gross Cooling Capacities

Table 15. Cooling capacity — RSCA0005

Leaving Water Temp	Ethylene Glycol (%)	Estimated Capacity (Tons) @ Gal/Min Flow Rate (GPM)			
		Ambient Air Temp			
		75°F	85°F	95°F	105°F
68°F	0	7.4T @17.8 GPM	6.9T @ 16.6 GPM	6.5T @15.5 GPM	N/A
55°F	0	6.1T @ 14.6 GPM	5.7T @ 13.6 GPM	5.3T @ 12.7 GPM	4.9T @ 11.8 GPM
45°F	0	5.3T @ 12.6 GPM	4.9T @ 11.8 GPM	4.6T @ 10.9 GPM	4.2T @ 10.2 GPM
35°F	20	4.4T @ 11.1 GPM	4.1T @ 10.4 GPM	3.8T @ 9.6 GPM	3.5T @ 8.9 GPM
25°F	25	3.6T @ 9.3 GPM	3.3T @ 8.6 GPM	3.1T @ 8 GPM	2.8T @ 7.3 GPM
15°F	35	2.8T @ 7.4 GPM	2.4T @ 6.6 GPM	2.3T @ 6.3 GPM	N/A

Pump and Pressure Drop Curves

Figure 5. RSCA0005F0 pump and pressure drop curves



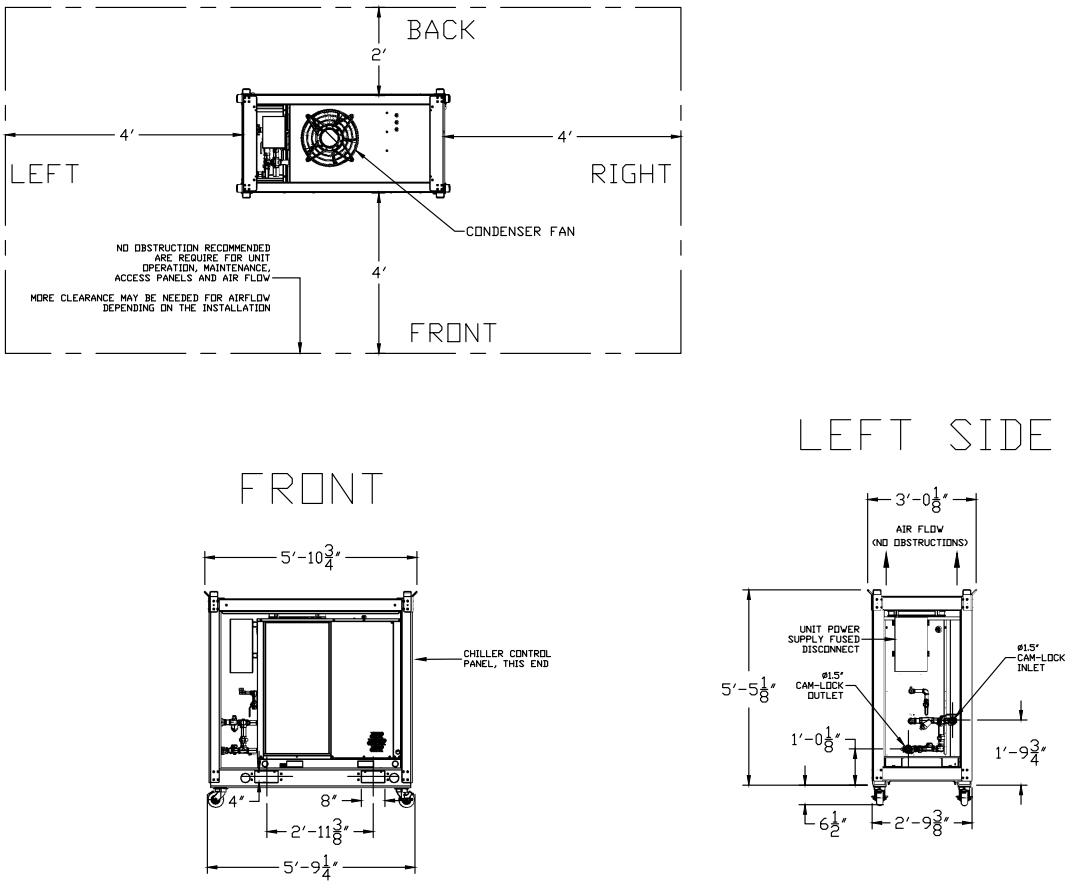
Sound Data

Table 16. Sound data — RSCA0005F0

Model	Octave Bands (Hz)								Power	Pressure
	63	125	250	500	1000	2000	4000	8000	dB (A)	Lp dB (A) 32.8 ft.
	Sound Power Level Lw dB (A)									
RSC-A0005	54.7	76.1	77	73.3	79.2	74.8	67.8	60	83.7	55.7

Unit Drawing

Figure 6. Unit drawing — RSCA0005



7 Ton Air-Cooled Process Chiller

Model: MTA TAET081

Table 17. General data — RSCA0007F0

General	RSCA0007F0
Nominal Tonnage[a]	7.63
Refrigerant	R-410A
Refrigerant Charge	10.582 pounds
Refrigerant Circuits	1
Water Connection Size[b]	1.5 inch Cam-lock
Ambient Operating Conditions[c]	23º F — 109º F
Setpoint Limits	14º F — 86º F
Maximum Water Pressure	87 PSI

[a] Design Conditions: 95°F Ambient, 55°F EWT, 45°F LWT

[b] 25-foot sections of hose offered separately. Cam-lock to Victaulic adapters will need to be sourced in the field to connect to TRS AHU waterlines.

[c] When leaving solution is below 40°F, a glycol solution is required.

Electrical Data

Table 18. Electrical data — RSCA0007F0

Electrical Circuits	1
Voltage	460 V 3–Phase
Frequency	60 Hz
Wire Connection Type[a]	Pin and sleeve
SCCR	10,000 A
Minimum Circuit Ampacity (MCA)	26.7 A
Maximum Overcurrent Protection (MOP)	40 A
Full Load Amps (FLA)	22.4 A

Notes:

1. For additional electrical information, contact Trane Rental Services.
2. All features and specifications are subject to change without notice or liability.

[a] Cable offered in 50-foot or 100-foot sections with Leviton Series IEC connections.

Pump Data

Table 19. Pump data — RSCA0007F0

Horsepower	1 HP
Min Flow	11 gpm @ 98.5 feet
Max Flow	42.3 gpm @ 51.6 feet

Dimensions and Weights

Table 20. Dimensions and weights — RSCA0007F0

Length	8 feet 3.88 inches
Width	3 feet 4.13 inches
Height	6 feet 3.38 inches

Table 20. Dimensions and weights — RSCA0007F0 (continued)

Shipping Weight	1416 pounds
Operating Weight	1733 pounds
Fork Pocket Dimensions	8 in. x 4 in. x 3 ft 0.75 in.
Fork Pocket Center to Center Distance	2 feet 11.375 inches
Lifting Device	Forklift or crane

Installed/Operating Clearances

Table 21. Installed/operating clearances — RSCA0007F0

Front	4 feet
Right Side	4 feet
Left Side	4 feet
Back Side	2 feet
Vertical Exhaust	No obstructions

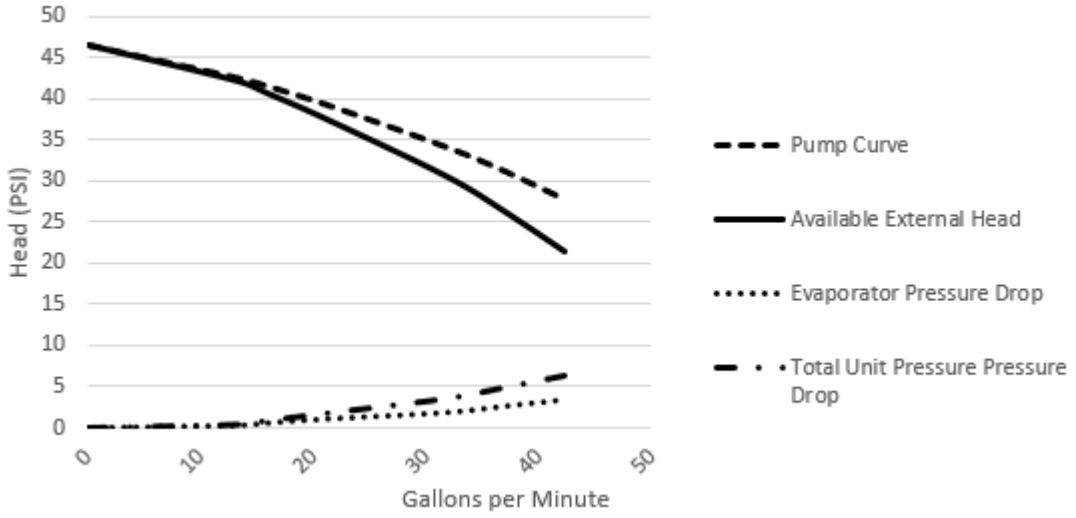
Gross Cooling Capacities

Table 22. Cooling capacity — RSCA0007

Leaving Water Temp	Ethylene Glycol (%)	Estimated Capacity (Tons) @ Gal/Min Flow Rate (GPM)			
		Ambient Air Temp			
		75°F	85°F	95°F	105°F
68°F	0	11.9T @ 28.5 GPM	11.1T @ 26.7 GPM	10.4T @ 25 GPM	N/A
55°F	0	10T @ 23.9 GPM	9.3T @ 22.3 GPM	8.7T @ 20.9 GPM	8.1T @ 19.5 G[,
45°F	0	8.7T @ 20.9 GPM	8.2T @ 19.5 GPM	7.6T @ 18.2 GPM	7.1T @ 16.9 GPM
35°F	20	7.4T @ 18.8 GPM	6.9T @ 17.5 GPM	6.4T @ 16.3 GPM	5.9T @ 15 GPM
25°F	25	6.3T @ 16.1 GPM	5.8T @ 15 GPM	5.4T @ 13.8 GPM	4.9T @ 12.6 GPM
15°F	35	5.1T @ 13.8 GPM	4.8T @ 12.7 GPM	4.3T @ 11.6 GPM	N/A

Pump and Pressure Drop Curves

Figure 7. RSCA0007F0 pump and pressure drop curves



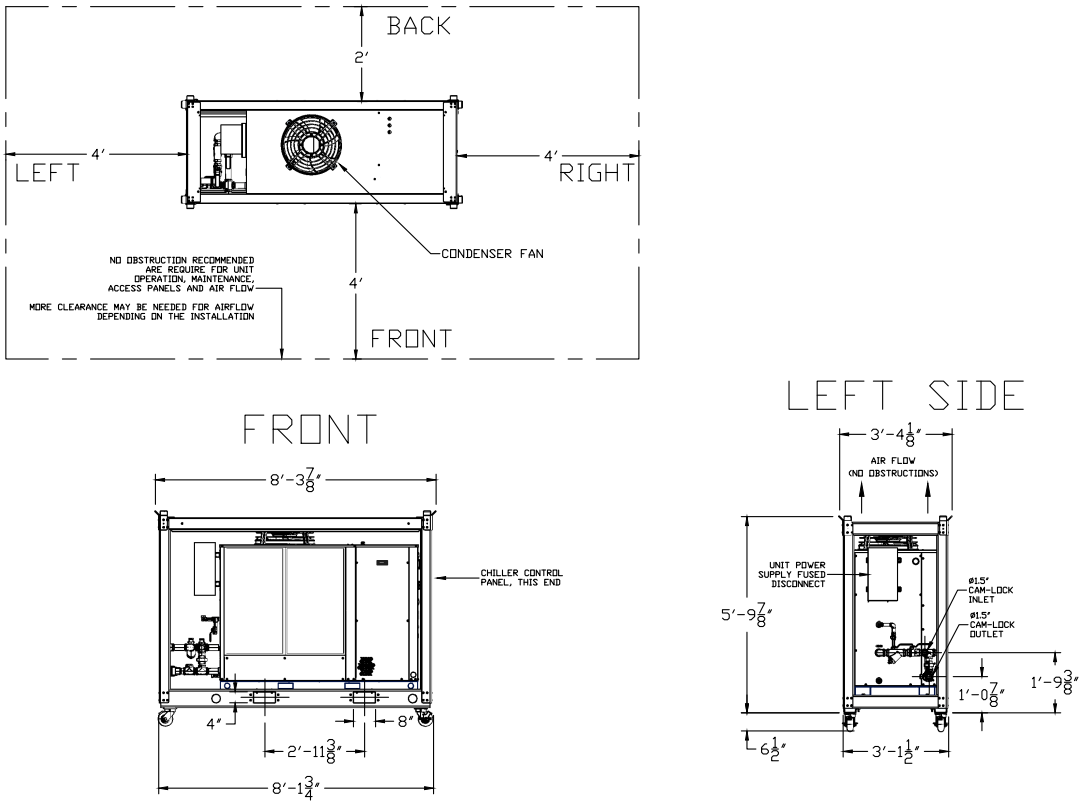
Sound Data

Table 23. Sound Data — RSCA0007

Model	Octave Bands (Hz)								Power	Pressure
	63	125	250	500	1000	2000	4000	8000	dB (A)	Lp dB (A) 32.8 ft.
	Sound Power Level Lw dB (A)									
RSC-A0007	52.9	71.7	72	75	80.7	77.3	71.2	60.9	83.9	55.9

Unit Drawing

Figure 8. Unit drawing — RSCA0007



10 Ton Air-Cooled Process Chiller

Model: MTA TAET121

Table 24. General data — RSCA0010F0

General	RSCA0010F0
Nominal Tonnage[a]	11.67
Refrigerant	R-410A
Refrigerant Charge	11.24 pounds
Refrigerant Circuits	1
Water Connection Size[b]	1.5 inch Cam-lock
Ambient Operating Conditions[c]	-4º F — 109º F
Setpoint Limits	14º F — 86º F
Maximum Water Pressure	87 PSI

[a] Design Conditions: 95°F Ambient, 55°F EWT, 45°F LW. Contact Trane Rental Services when operating units in ambient temperatures lower than 23°F

[b] 25-foot sections of hose offered separately. Cam-lock to Victaulic adapters will need to be sourced in the field to connect to TRS AHU waterlines.

[c] When leaving solution is below 40°F, a glycol solution is required.

Electrical Data

Table 25. Electrical data — RSCA0010F0

Electrical Circuits	1
Voltage	460 V 3–Phase
Frequency	60 Hz
Wire Connection Type[a]	Pin and sleeve
SCCR	10,000 A
Minimum Circuit Ampacity (MCA)	42 A
Maximum Overcurrent Protection (MOP)	60 A
Full Load Amps (FLA)	35.4 A

Notes:

1. For additional electrical information, contact Trane Rental Services.
2. All features and specifications are subject to change without notice or liability.

[a] Cable offered in 50-foot or 100-foot sections with Leviton Series IEC connections.

Pump Data

Table 26. Pump data — RSCA0010F0

Horsepower	3 HP
Min Flow	11 gpm @ 98.5 feet
Max Flow	84.5 gpm @ 24.7 feet

Dimensions and Weights

Table 27. Dimensions and weights — RSCA0010F0

Length	8 feet 3.88 inches
Width	3 feet 4.13 inches

Table 27. Dimensions and weights — RSCA0010F0 (continued)

Height	6 feet 3.38 inches
Shipping Weight	1546 pounds
Operating Weight	2116 pounds
Fork Pocket Dimensions	8 in. x 4 in. x 3 ft 0.375 in.
Fork Pocket Center to Center Distance	2 feet 11.375 inches
Lifting Device	Forklift or crane

Installed/Operating Clearances

Table 28. Installed/operating clearances — RSCA0010F0

Front	4 feet
Right Side	4 feet
Left Side	4 feet
Back Side	2 feet
Vertical Exhaust	No obstructions

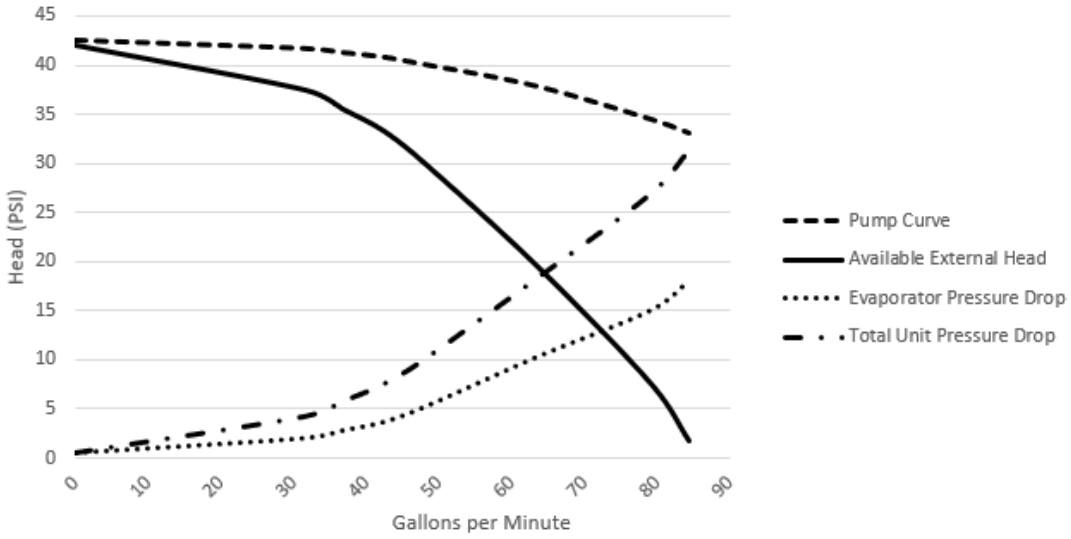
Gross Cooling Capacities

Table 29. Cooling capacity — RSCA0010

Leaving Water Temp	Ethylene Glycol (%)	Estimated Capacity (Tons) @ Gal/Min Flow Rate (GPM)			
		Ambient Air Temp			
		75°F	85°F	95°F	105°F
68°F	0	18.4T @ 44.1 GPM	17.3T @ 41.4 GPM	16.2T @ 38.9 GPM	15.7T @ 37.7 GPM
55°F	0	15.3T @ 36.7 GPM	14.3T @ 34.3 GPM	13.4T @ 32.1 GPM	12.5T @ 30 GPM
45°F	0	13.4T @ 31.9 GPM	12.5T @ 29.9 GPM	11.7T @ 27.9 GPM	10.9T @ 26 GPM
35°F	20	11.2T @ 28.4 GPM	10.5T @ 26.6 GPM	19.8T @ 24.8 GPM	9.1T @ 23 GPM
25°F	25	9.4T @ 24.3 GPM	8.8T @ 22.7 GPM	8.2T @ 21 GPM	7.6T @ 19.5 GPM
15°F	35	7.7T @ 20.8 GPM	7.2T @ 19.3 GPM	6.7T @ 17.8 GPM	6.1T @ 16.4 GPM

Pump and Pressure Drop Curves

Figure 9. RSCA0010F0 pump and pressure drop curves



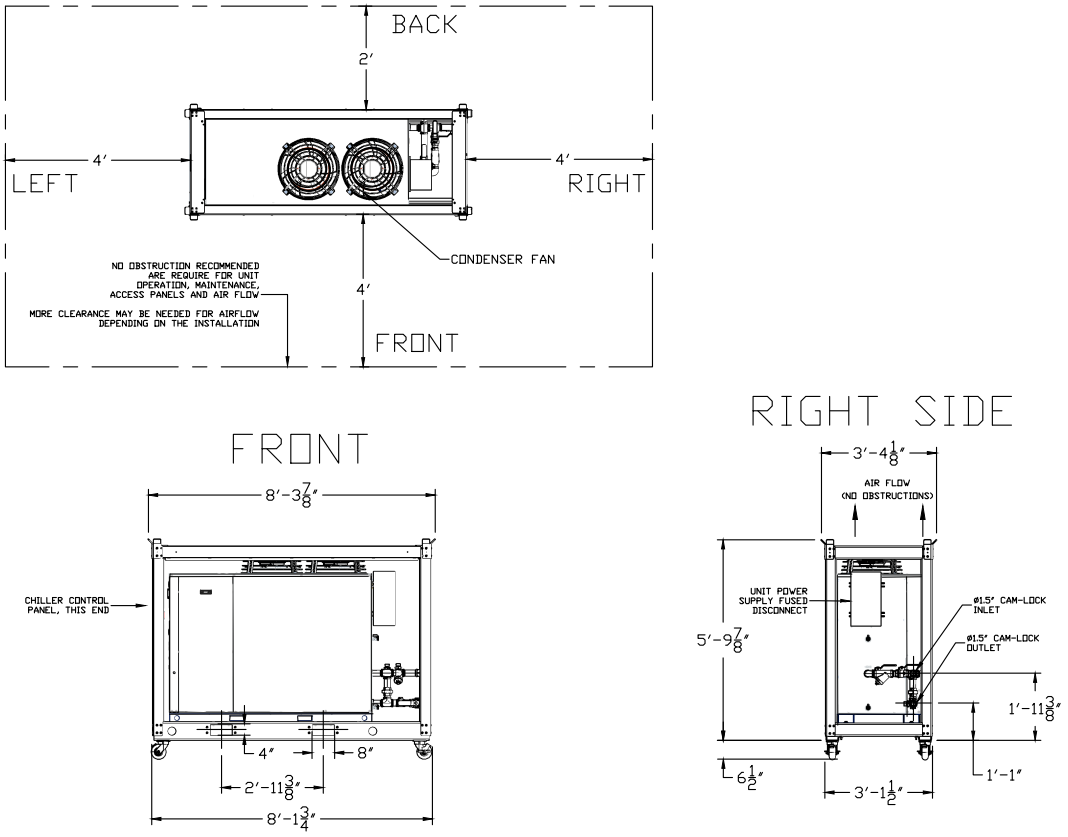
Sound Data

Table 30. Sound data — RSCA0010

Model	Octave Bands (Hz)								Power	Pressure
	63	125	250	500	1000	2000	4000	8000	dB (A)	Lp dB (A) 32.8 ft.
	Sound Power Level Lw dB (A)									
RSC-A0010	53	71.9	72.3	75.3	81	77.6	71.5	61.1	84.2	56.2

Unit Drawing

Figure 10. Unit drawing — RSCA0010



15 Ton Air-Cooled Process Chiller

Model: MTA TAET161

Table 31. General data — RSCA0015F0

General	RSCA0015F0
Nominal Tonnage[a]	13.26
Refrigerant	R-410A
Refrigerant Charge	15.65 pounds
Refrigerant Circuits	1
Water Connection Size[b]	1.5 inch Cam-lock
Ambient Operating Conditions[c]	–4º F — 109º F
Setpoint Limits	14º F — 86º F
Maximum Water Pressure	87 PSI

[a] Design Conditions: 95°F Ambient, 55°F EWT, 45°F LWT. Contact Trane Rental Services when operating units in ambient temperatures lower than 23°F.

[b] 25-foot sections of hose offered separately. Cam-lock to Victaulic adapters will need to be sourced in the field to connect to TRS AHU waterlines.

[c] When leaving solution is below 40°F, a glycol solution is required.

Electrical Data

Table 32. Electrical data — RSCA0015F0

Electrical Circuits	1
Voltage	460 V 3–Phase
Frequency	60 Hz
Wire Connection Type[a]	Pin and sleeve
SCCR	10,000 A
Minimum Circuit Ampacity (MCA)	49.2 A
Maximum Overcurrent Protection (MOP)	70 A
Full Load Amps (FLA)	41.5 A

Notes:

1. For additional electrical information, contact Trane Rental Services.
2. All features and specifications are subject to change without notice or liability.

[a] Cable offered in 50-foot or 100-foot sections with Leviton Series IEC connections.

Pump Data

Table 33. Pump data — RSCA0015F0

Horsepower	3 HP
Min Flow	15.4 gpm @ 97 feet
Max Flow	84.5 gpm @ 16 feet

Dimensions and Weights

Table 34. Dimensions and weights — RSCA0015F0

Length	8 feet 3.88 inches
Width	3 feet 4.13 inches

Table 34. Dimensions and weights — RSCA0015F0 (continued)

Height	6 feet 3.38 inches
Shipping Weight	1600 pounds
Operating Weight	2170 pounds
Fork Pocket Dimensions	8 in. x 4 in. x 3 ft 0.375 in.
Fork Pocket Center to Center Distance	2 ft. 11.375 inches
Lifting Device	Forklift or crane

Installed/Operating Clearances

Table 35. Installed/operating clearances — RSCA0015F0

Front	4 feet
Right Side	4 feet
Left Side	4 feet
Back Side	2 feet
Vertical Exhaust	No obstructions

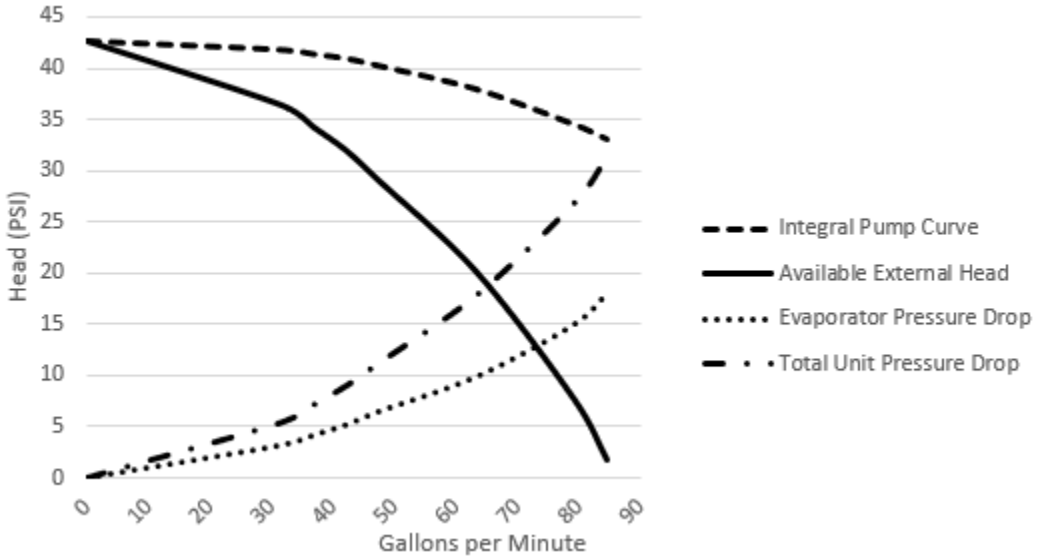
Gross Cooling Capacities

Table 36. Cooling capacity — RSCA0015

Leaving Water Temp	Ethylene Glycol (%)	Estimated Capacity (Tons) @ Gal/Min Flow Rate (GPM)			
		Ambient Air Temp			
		75°F	85°F	95°F	105°F
68°F	0	20.4T @ 49 GPM	19.2T @ 45.9 GPM	17.9T @ 42.9 GPM	N/A
55°F	0	17.2T @ 41.1 GPM	16.1T @ 38.5 GPM	15T @ 36 GPM	14T @ 33.4 GPM
45°F	0	15.2T @ 36.4 GPM	14.2T @ 33.9 GPM	13.3T @ 31.7 GPM	12.3T @ 29.4 GPM
35°F	20	12.9T @ 32.8 GPM	12T @ 30.5 GPM	11.2T @ 28.3 GPM	10.3T @ 26.2 GPM
25°F	25	11T @ 28.3 GPM	10.2T @ 26.3 GPM	9.4T @ 24.3 GPM	8.7T @ 22.4 GPM
15°F	35	9.1T @ 24.3 GPM	8.4T @ 22.5 GPM	7.7T @ 20.6 GPM	N/A

Pump and Pressure Drop Curves

Figure 11. RSCA0015F0 pump and pressure drop curves



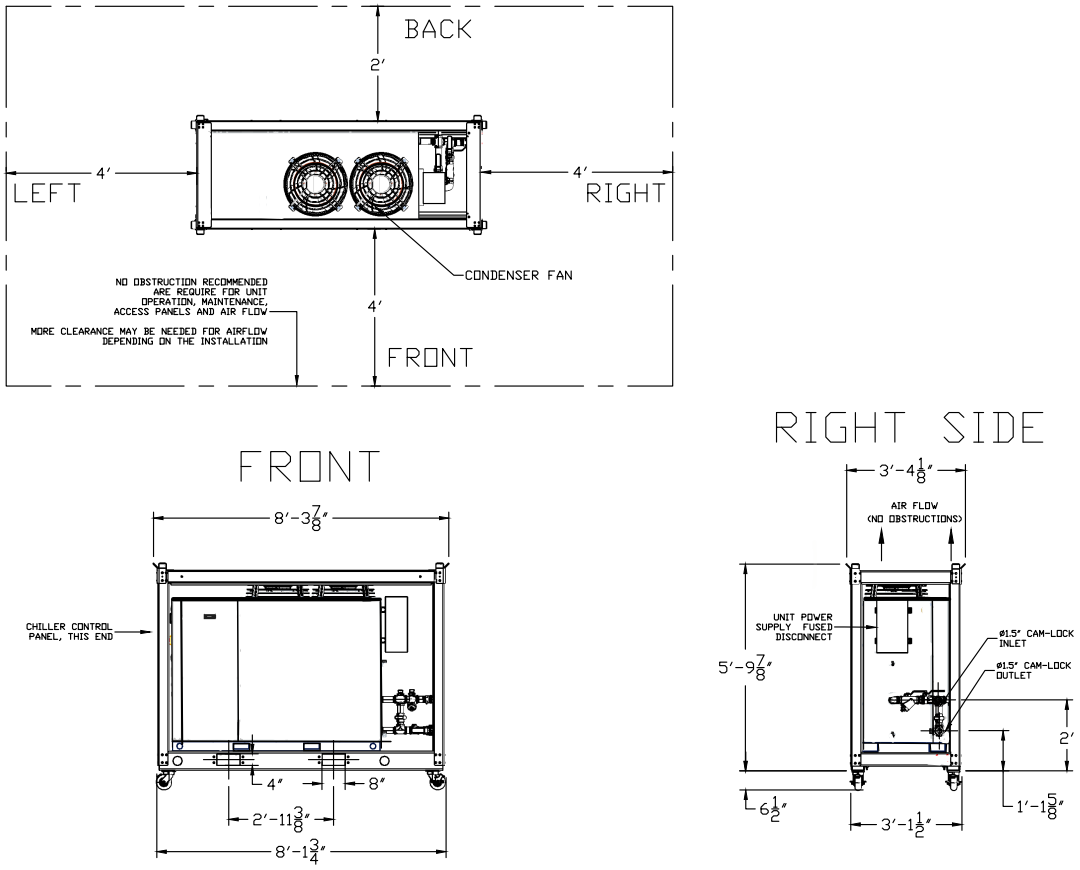
Sound Data

Table 37. Sound data RSCA0015

Model	Octave Bands (Hz)								Power	Pressure
	63	125	250	500	1000	2000	4000	8000	dB (A)	Lp dB (A) 32.8 ft.
	Sound Power Level Lw dB (A)									
RSC-A0015	53.6	72.7	73.1	76.1	81.8	78.4	72.2	61.7	85.1	57.1

Unit Drawing

Figure 12. Unit drawing — RSCA0015



20 Ton Air-Cooled Process Chiller

Model: MTA TAET351

Table 38. General data — RSCA0020F0

General	RSCA0020F0
Nominal Tonnage[a]	22.33
Refrigerant	R-410A
Refrigerant Charge	23.81 pounds
Refrigerant Circuits	1
Water Connection Size[b]	2.5 inch victaulic
Ambient Operating Conditions[c]	—4º F — 109º F
Setpoint Limits	14º F — 86º F
Maximum Water Pressure	87 PSI

[a] Design Conditions: 95°F Ambient, 55°F EWT, 45°F LWT
[b] 2.5" Victaulic hose kits provided separately by Trane Rental Services
[c] When leaving solution is below 40°F, a glycol solution is required.

Electrical Data

Table 39. Electrical data — RSCA0020F0

Electrical Circuits	1
Voltage	460 V 3–Phase
Frequency	60 Hz
Wire Connection Type[a]	Cam-lock pin
SCCR	10,000 A
Minimum Circuit Ampacity (MCA)	80.6 A
Maximum Overcurrent Protection (MOP)	110 A
Full Load Amps (FLA)	72.9 A

Notes:
1. For additional electrical information, contact Trane Rental Services.
2. All features and specifications are subject to change without notice or liability.

[a] Temporary power cables with Cam-lock connections provided separately by Trane Rental Services

Pump Data

Table 40. Pump data — RSCA0020F0

Horsepower	5 HP
Min Flow	29 gpm @ 113 feet
Max Flow	149.7 gpm @ 16 feet

Dimensions and Weights

Table 41. Dimensions and weights — RSCA0020F0

Length	10 feet 0.5 inches
Width	3 feet 9.25 inches
Height	7 feet 10.125 inches

Table 41. Dimensions and weights — RSCA0020F0 (continued)

Shipping Weight	2440 pounds
Operating Weight	3228 pounds
Fork Pocket Dimensions	8 in. x 4 in. x 3 ft 5.875 in.
Fork Pocket Center to Center Distance	2 feet 11.375 inches
Lifting Device	Forklift or crane

Installed/Operating Clearances

Table 42. Installed/operating clearances — RSCA0020F0

Front	6.5 feet
Right Side	6.5 feet
Left Side	4 feet
Back Side	4 feet
Vertical Exhaust	No obstructions

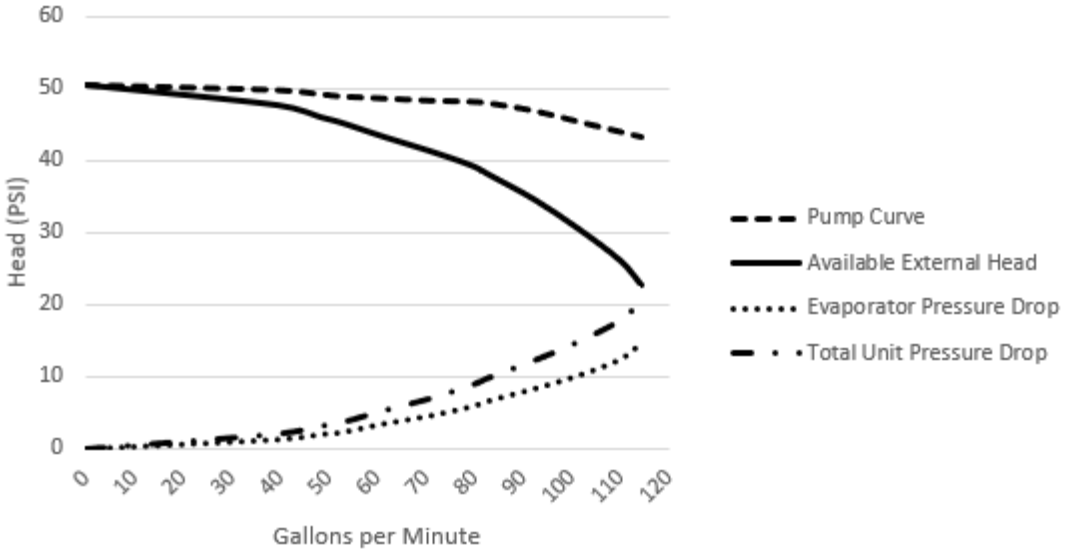
Gross Cooling Capacities

Table 43. Cooling capacity — RSCA0020

Leaving Water Temp	Ethylene Glycol (%)	Estimated Capacity (Tons) @ Gal/Min Flow Rate (GPM)			
		Ambient Air Temp			
		75°F	85°F	95°F	105°F
68°F	0	33.3T @ 79.8 GPM	31.2T @ 74.8 GPM	29.1T @ 69.9 GPM	27.2T @ 65.2 GPM
55°F	0	29.1T @ 69.6 GPM	27.2T @ 65.2 GPM	25.5T @ 60.1 GPM	23.7T @ 56.7 GPM
45°F	0	25.7T @ 61.3 GPM	23.9T @ 57.2 GPM	22.3T @ 53.3 GPM	20.7T @ 49.6 GPM
35°F	20	21.6T @ 54.8 GPM	20.2T @ 51.3 GPM	18.7T @ 47.5 GPM	17.4T @ 44.1 GPM
25°F	25	18.3T @ 47.2 GPM	17.1T @ 44.1 GPM	15.8T @ 40.7 GPM	14.5T @ 37.3 GPM
15°F	35	15.1T @ 40.4 GPM	13.9T @ 37.3 GPM	12.8T @ 34.3 GPM	N/A

Pump and Pressure Drop Curves

Figure 13. RSCA0020F0 pump and pressure drop curves



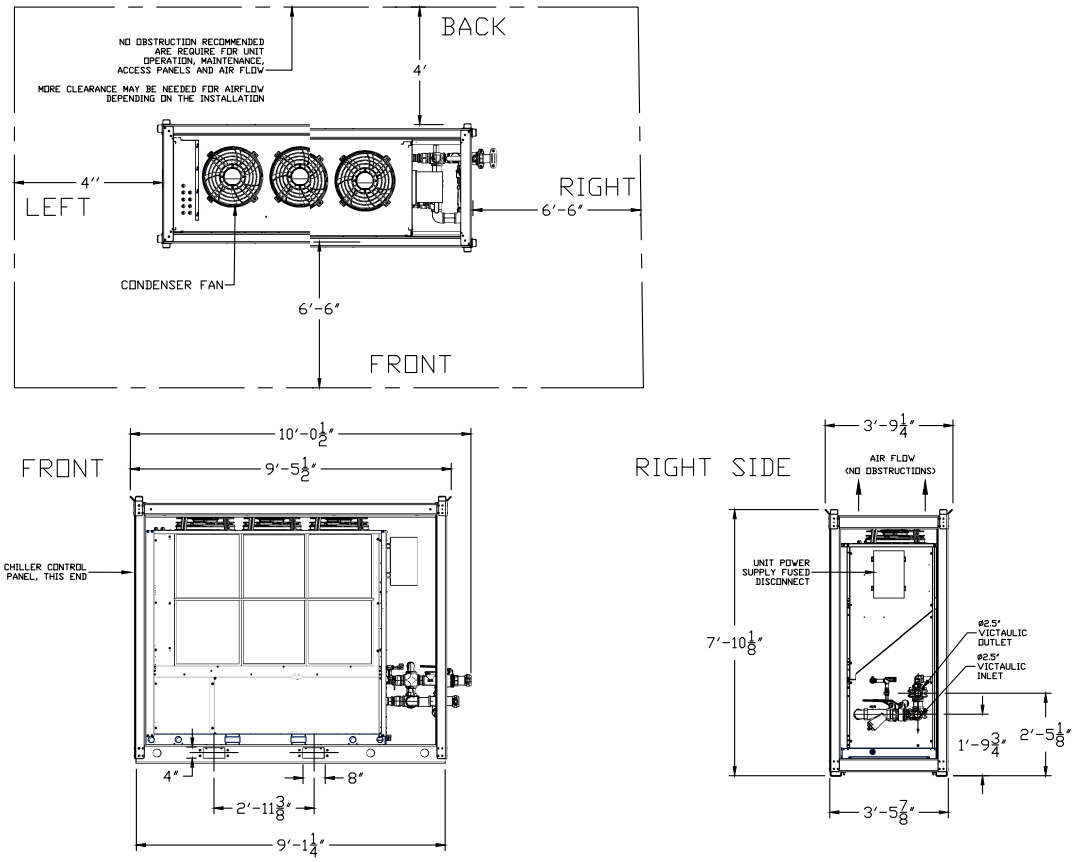
Sound Data

Table 44. Sound data — RSCA0020

Model	Octave Bands (Hz)								Power	Pressure
	63	125	250	500	1000	2000	4000	8000	dB (A)	Lp dB (A) 32.8 ft.
	Sound Power Level Lw dB (A)									
RSC-A0020	63.5	75.7	76.8	79	85.1	81.8	75.2	62.8	88.3	60.3

Unit Drawing

Figure 14. Unit drawing — RSCA0020



40 Ton Air-Cooled Process Chiller

Model: MTA TAET602

Table 45. General data — RSCA0040F0

General	RSCA0040F0
Nominal Tonnage[a]	39.94
Refrigerant	R-410A
Refrigerant Charge	24.69 pounds
Refrigerant Circuits	2
Water Connection Size[b]	2.5 inch Victaulic
Ambient Operating Conditions[c]	—4º F — 109º F
Setpoint Limits	14º F — 86º F
Maximum Water Pressure	87 PSI

[a] Design Conditions: 95°F Ambient, 55°F EWT, 45°F LWT
[b] 2.5" Victaulic hose kits provided separately by Trane Rental Services
[c] When leaving solution is below 40°F, a glycol solution is required.

Electrical Data

Table 46. Electrical data — RSCA0040F0

Electrical Circuits	1
Voltage	460 V 3–Phase
Frequency	60 Hz
Wire Connection Type[a]	Cam-lock pin
SCCR	10,000 A
Minimum Circuit Ampacity (MCA)	123.7 A
Maximum Overcurrent Protection (MOP)	150 A
Full Load Amps (FLA)	117.2 A

Notes:
1. For additional electrical information, contact Trane Rental Services.
2. All features and specifications are subject to change without notice or liability.

[a] Temporary power cables with Cam-lock connections provided separately by Trane Rental Services

Pump Data

Table 47. Pump data — RSCA0040F0

Horsepower	5 HP
Min Flow	35.7 gpm @ 88 feet
Max Flow	233.4 gpm @ 25.4 feet

Dimensions and Weights

Table 48. Dimensions and weights — RSCA0040F0

Length	13 feet 8.25 inches
Width	5 feet 0.625 inches
Height	7 feet 11.75 inches

Table 48. Dimensions and weights — RSCA0040F0 (continued)

Shipping Weight	4486 pounds
Operating Weight	5604 pounds
Fork Pocket Dimensions	8 in. x 4 in. x 4 ft 11.125 in.
Fork Pocket Center to Center Distance	3 feet 3.375 inches
Lifting Device	Forklift or crane

Installed/Operating Clearances

Table 49. Installed/operating clearances — RSCA0040F0

Front	6.5 feet
Right Side	8 feet
Left Side	4 feet
Back Side	4 feet
Vertical Exhaust	No obstructions

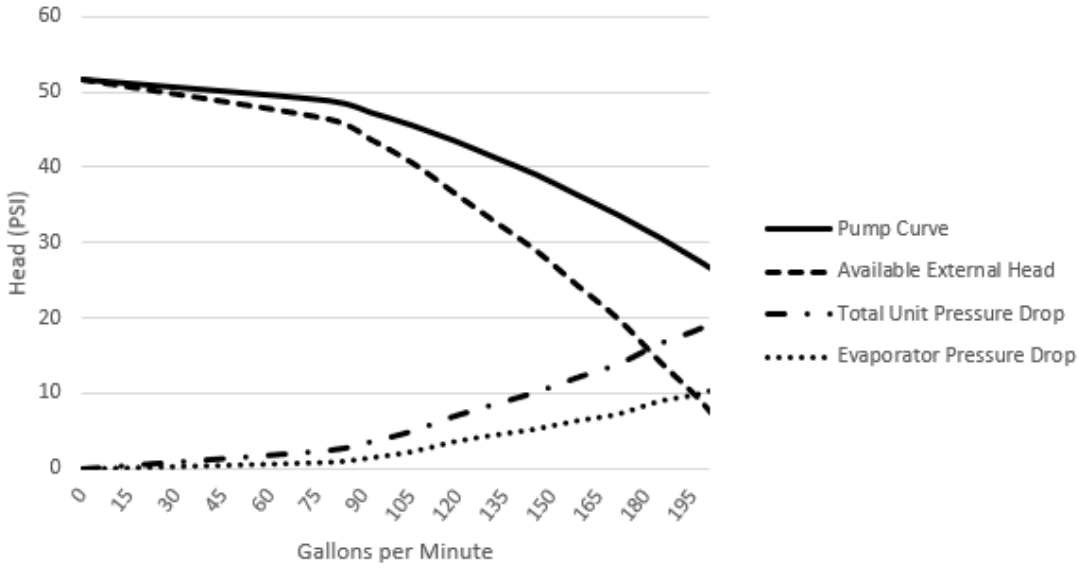
Gross Cooling Capacities

Table 50. Cooling capacity — RSCA0040

Leaving Water Temp	Ethylene Glycol (%)	Estimated Capacity (Tons) @ Gal/Min Flow Rate (GPM)			
		Ambient Air Temp			
		75°F	85°F	95°F	105°F
68°F	0	63.3T @ 151.8 GPM	59.1T @ 141.8 GPM	55.2T @ 132.4 GPM	N/A
55°F	0	52.9T @ 126.7 GPM	49.3T @ 118.1 GPM	45.9T @ 109.8 GPM	42.5T @ 101.7 GPM
45°F	0	46.1T @ 110.2 GPM	42.9T @ 102.7 GPM	39.9T @ 95.4 GPM	36.9T @ 88.1 GPM
35°F	20	38.8T @ 98.4 GPM	36.1T @ 91.4 GPM	33.4T @ 84.6 GPM	30.7T @77.9 GPM
25°F	25	32.7T @ 84.2 GPM	30.3T @ 78 GPM	27.9T @ 71.9 GPM	N/A
15°F	35	26.7T @ 71.6 GPM	24.6T @ 66 GPM	27.9t @ 71.9 GPM	N/A

Pump and Pressure Drop Curves

Figure 15. RSCA0040F0 pump and pressure drop curves

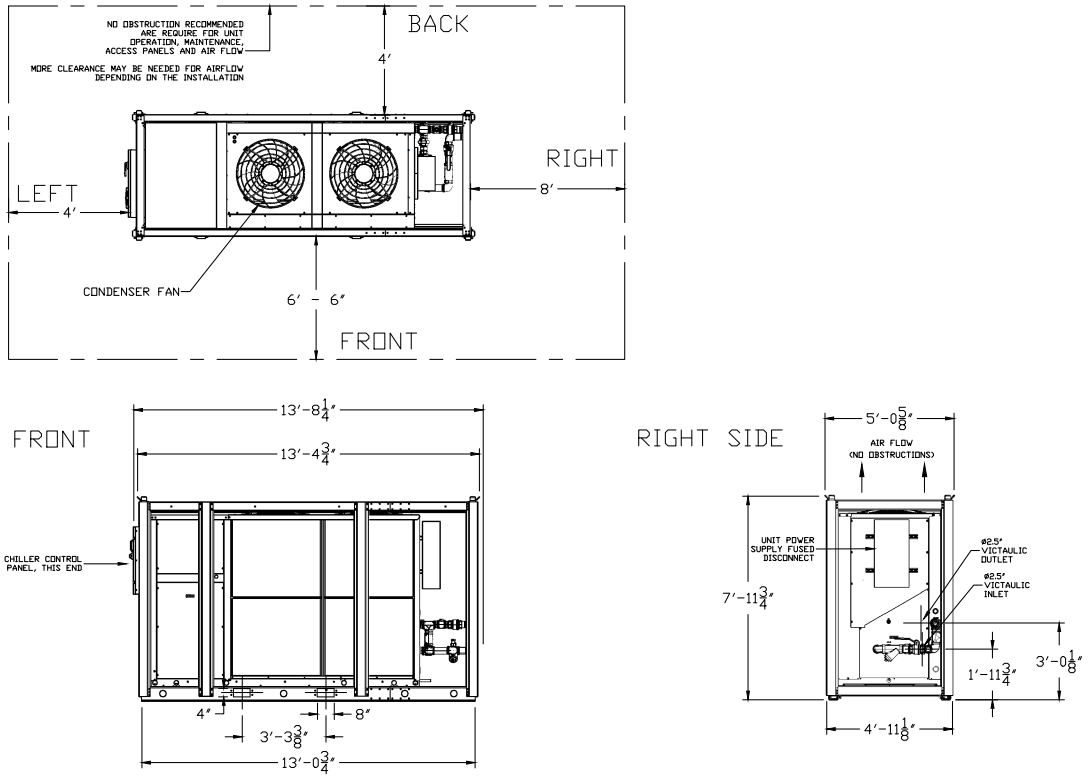


Sound Data

Model	Octave Bands (Hz)								Power	Pressure
	63	125	250	500	1000	2000	4000	8000	dB (A)	Lp dB (A) 32.8 ft.
	Sound Power Level Lw dB (A)									
RSC-A0040	66.7	79.4	80.6	82.9	89.2	85.8	78.9	66	92.3	64.3

Unit Drawing

Figure 16. Unit drawing — RSCA0040



Controls

Microprocessor Control

All units are equipped with parametric microprocessor control IC208CX. In the models 0003-0020, the control is installed on the cabinet door, while in models 0040 it is internally secured to the electrical cabinet and connected to a semi-graphic LCD display on the door of the control panel. Through the control menu is possible to visualize the working pressures and temperatures, the parameters and the various alarms.

Figure 17. Microprocessor control IC208CX

The controller manages the following functions:

- Thermostatic control depending on the process fluid output temperature (neutral zone or proportional)
- Process fluid output temperature display
- Measurement and display of the external temperature for management of the antifreeze heaters (when included) and management of start-up of the pump under conditions of low external temperature
- Management of the automatic rotation of the starting sequence of compressors for equalization of the operating times for each compressor (models 0020-0040)
- Dynamic set point function: the microprocessor allows the operating setpoint to be modified by adding or subtracting a coefficient proportional to the external air temperature
- Measurement and display of the condensation pressure (models 0040 and models 0003-0020 with EC brushless fans)
- Unloading function in the two-circuit units (models 0040 and models 0020 with EC brushless fans), which allows the startup and the operation of the unit also under conditions that are much worse than nominal ones
- Management of anti-freezing heaters and pump switch on with low ambient temperature
- Display of the alarm history
- TTL serial interface (KIT required for conversion to RS485)
- Management of alarm messages:
  - High condensing pressure alarm
  - Low evaporation pressure alarm
  - Freeze alarm on water at evaporator outlet
  - Compressor fault alarm
  - Pump thermal protection alarm
  - Tank level alarm
  - Count of operating hours of the unit and of the individual compressors

A free-voltage contact is provided to remote the general alarm signal.

Electrical and Piping Accessory Connections

Electrical Connections

Each Trane Rental TAEevo chiller is equipped with either A) a fused, lockable disconnect located above the water connections (see figures 24 and 25), or B) a breaker in the main control panel opposite the water connections with a lockable, through-the-wall disconnect mechanism (see figure 26). In all cases, the temporary power connection points will be located near the water connections.

20-40 ton MTA chillers utilize Leviton 16-Series Cam-lock pin connections for power input, while the 3-15 ton chillers utilize Leviton Series IEC pin-style connectors.

Trane Rental Services offers Cam-lock style power cable kits to be used in conjunction with the Leviton 16-series Cam-lock pin connectors on the 20-40 ton MTA chillers. These temporary power cable assemblies terminate in bare wire connections intended to be connected to an onsite breaker or disconnect. Contact Trane Rental Services Engineering for applications in which the power cable length requirements exceed 100 ft.

Figure 18. 16-Series Cam-lock power supply connections

Figure 19. 3-15 Ton Pin and Sleeve Power Connection

Trane Rental services offers 50 or 100 foot power cable assemblies with Leviton Series IEC Pin and Sleeve connectors for use with the 3-15 ton MTA chillers. See figure below.

Figure 20. Leviton series IEC pin & sleeve inlet (part #460B7WLEV)

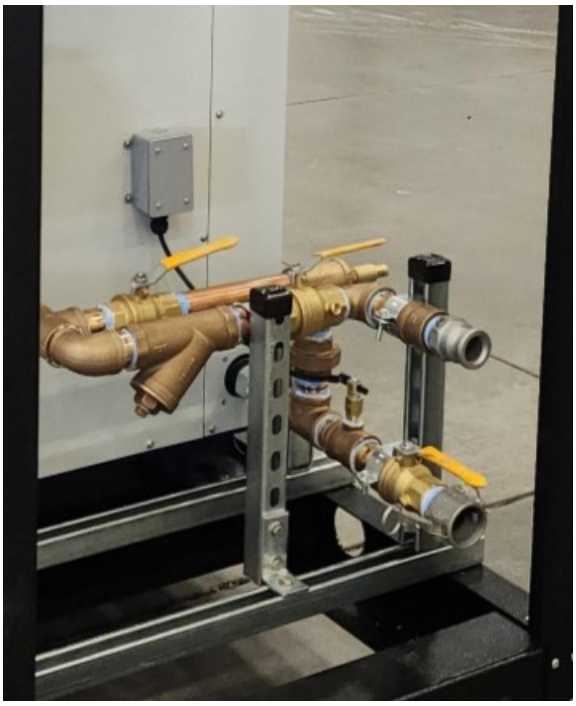
Figure 21. Pin and Sleeve Accessory Cable for 3-15 Ton Chillers (50 and 100 ft Lengths Available)

Refer to the general data section for additional electrical information which included recommended breaker sizes (MOP), conductor power cable sizing (MCA), unit operating amp draw (FLA), and fused disconnect amp rating for each capacity size chiller.

Water Connections

3-15 ton chillers utilize 1-1/2 inch Cam-lock style water connections on the chilled water inlet and outlet, with connections indexed such that the return (inlet) connections have a grooved Cam-lock connector and supply (outlet) connections have a Cam-lock receiver with clamps as shown in figure below. All chillers ship with one set of 1-1/2 inch Cam-lock to 1-1/2" NPT adapters for connection to existing piping. In addition, Trane Rental Services offers 1-1/2" hose with Cam-lock connections in 25 foot lengths.

Figure 22. Cam-lock water connections for 3 —15 ton models



20-40 ton chillers utilize 2-1/2 inch grooved Victaulic connections for both return (inlet) and supply (outlet) connections as shown in figure below. Trane Rental Services offers 2-1/2 inch hose kits with flange adapters for connection to existing piping..

Figure 23. Victaulic water connections for 20 and 40 ton models

Notes

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.

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