Product Catalog

Trane Rental Services

575 Volt Temporary Air-Cooled Chillers

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TRANE TECHNOLOGIES

Introduction

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Revision History

425 Ton information replaced by 440 Ton.

Table of Contents

Application Considerations 4
- Ambient Limitations 4
- Electrical Connections and Shore Power 4
- Waterflow Limits 4
- Flows Out of Range 5
- Entering Water Temperature Limits 5
- Leaving Water Temperature Limits 5
- Leaving Water Temperatures Out of Range 6
- Short Water Loops 6
- Close Spacing and Clearances 6
- Acoustics 7
- Pump Control 8
- Freeze Protection 8
- Controls 9

80 to 110 Ton CGAM 10
- 80 Ton Air-Cooled CGAM 10
- 110 Ton Air-Cooled CGAM 13

200 Ton ACSA 16
- 200 Ton Air-Cooled ACSA 16

300 to 500 Ton RTAF/RTAG 20
- 300 Ton Air-Cooled RTAF 20
- 300 Ton Air-Cooled RTAG 23
- 440 Ton Air-Cooled RTAG 28
- 500 Ton Air-Cooled RTAF 32

Application Considerations

Ambient Limitations

Trane Rental Services CGAM, ACSA, RTAG, and RTAF units can operate outdoors in a wide range of ambient temperatures. Depending on the product, this allows the chiller to perform from 0°F to 130°F (-18°C to 54°C).

- Trane Rental Services sets and enables a low ambient lockout temperature at 25°F. Modifications to the lockout should only be performed by a Trane technician or with the help of Trane Rental Services Technical Support Group.
- The minimum ambient temperatures are based on wind condition not exceeding 5 mph. Higher wind conditions will result in a drop in head pressure, increasing the minimum starting and operating ambient temperatures.
- To keep the chiller online, the adaptive control microprocessor will stage fans on, modulate electronic expansion valves, and modulate slide valve positions as the chiller approaches a high pressure cutout limit.

Electrical Connections and Shore Power

All Trane Rental chillers utilize Series 16 cam-style electrical power connections, with compatible power cables available for rent through Trane Rental Services. See *Trane Rental Services Electrical Cable - Engineering Bulletin* (CHS-PRB005*-EN).

In addition to the Series 16 cam-style connection, chillers include a separate conduit entrance cover for optional conversion to conduit entrance. All electrical wiring should be performed in accordance with relevant electrical code requirements.

Each chiller includes a push-to-test phase reversal relay and status indicator which prevent reverse-phased operation.

ACSA and CGAM model scroll chillers are configured with a single-point power, while RTAF and RTAG model screw chillers are configured for dual point power. Refer to chiller-specific tables on the following pages for additional details.

Table 1. Trane rental power configuration

Unit Size (tons)	Rental Chiller Model	Power Supply Configuration
80	RSCA0080J4 CGAM	Single Point
110	RSCA0110J4 CGAM	Single Point
200	RSCA0200J1 ACSA	Single Point
300	RSCA0300J0 RTAG	Dual Point
300	RSCA0300J0 RTAF	Dual Point
440	RSCA0440J0 RTAG	Dual Point
500	RSCA0500J0 RTAF	Dual Point

All Trane Rental Services Air-Cooled chillers include a shore power connection to energize the oil sump heater. Regardless of ambient temperature, this is required to boil refrigerant out of the oil and is required to be energized 24 hours prior to start-up.

The below table lists components powered by the shore power circuit. The circuit itself is powered via a 115V 60 Hz NEMA 5-15P plug on the enclosure, from the building, with an extension cord.

Table 2. Components powered by shore power circuit

ACSA	CGAM	RTAG/RTAF[(a)]
Compressor Heaters	Compressor Heaters	Compressor Heaters
Symbio™ 800 Interface	Symbio 800 Interface	Oil Separator Heater
Symbio 800 Controls	Symbio 800 Controls	Symbio 800 Interface
	Evaporator Heater	Symbio 800 Controls

(a) Product categories include units with two control panels and one shore power connection per panel.

Waterflow Limits

Minimum and maximum flow rates are found under the waterflow rates and pressure drops section of the desired chiller listing. Verify flow is within these limits.

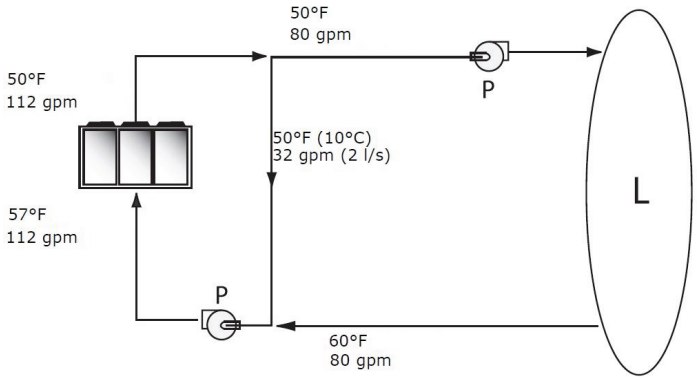
Operating equipment at flow rates below the listed minimum values will result in laminar flow causing freeze up problems, scaling, stratification, and poor control. Operating units at flow rates exceeding the listed maximum may result in very high pressure drop across the evaporator and excessive tube erosion.

Flows Out of Range

Many process cooling jobs require evaporator flow rates that fall outside of a rental chiller specifications. A simple piping change can alleviate this problem.

- A plastic injection molding process requires 80 gpm (5.1 l/s) of 50°F (10°C) water and returns that water at 60°F (15.6°C).
- The chiller can operate at these temperatures, but has a minimum flow rate of 112 gpm (7.1 l/s).
- Adding a chilled water bypass as shown in the diagram below allows for sufficient flow through the rental chiller while maintaining the lower flow rate required for the process.

Figure 1.



Entering Water Temperature Limits

The maximum water temperature that can be circulated through an evaporator when the unit is operating is 90°F for all Trane Rental air-cooled chillers.

- When operating with return water temperatures in excess of 75°F, the chiller may operate at reduced capacity to prevent high condenser pressure or compressor overload faults.
- If the entering water temperature is higher than the maximum allowable temperature, consult Trane Rental Services about implementing a bypass to mix supply water with return water to reduce the return water temperature. Adding a bypass may require additional pumps for balancing the temporary chiller plant layout.

The maximum water temperature that can be circulated through an evaporator when the unit is not operating is 108°F for screw chiller models RTAF, and RTAG and 125°F for scroll chiller models CGAM and ACSA.

Note: *If there is a need for a dual process application such as comfort cooling (daytime) and ice storage (usually nighttime), contact Trane Rental Services Engineering to discuss available equipment options.*

In applications in which flow rates are too high or low to run directly through the rental chiller, temperatures are too high to run directly through the rental chiller, or the fluid being cooled is incompatible with the rental chiller, a temporary heat exchanger may be required to decouple the chilled water loop to allow the equipment to operate and function correctly. Consult Trane Rental Services Engineering if assistance is needed when sizing temporary heat exchangers for these reasons.

Leaving Water Temperature Limits

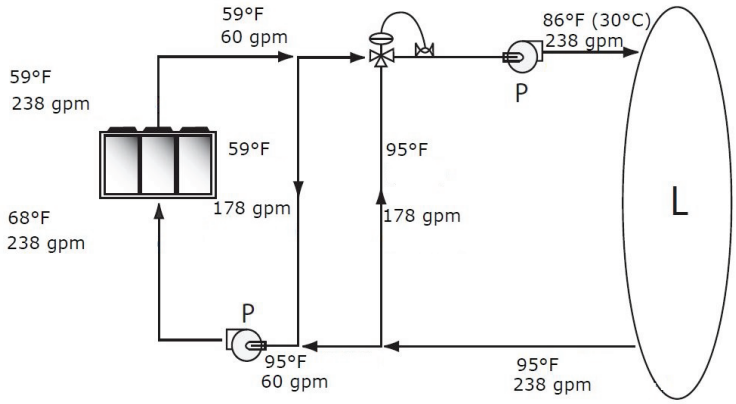
Trane Rental Services chillers have been selected with a low leaving water option. Low temperature machines produce leaving liquid temperatures less than 40°F (4.4°C). However since the liquid supply temperature setpoint is less than 40°F (4.4°C) this results in suction temperatures at or below the freezing point of water. A glycol or other approved freeze inhibitor solution is required for all low temperature applications. Consult Trane Rental Services engineering for any performance selection on chillers.

Leaving Water Temperatures Out of Range

Many process cooling jobs require evaporator flow rates that fall outside of a chiller specifications. Many process cooling jobs require temperature ranges that cannot be met by the published minimum and maximum temperature values for the rental chiller evaporator. A simple piping change can alleviate this problem.

- A laboratory load requires 120 gpm (7.6 l/s) of water entering the process at 85°F (29.4°C) and returning at 95°F (35°C). The accuracy required is better than the cooling tower can give. The selected chiller has adequate capacity, but a maximum leaving chilled water temperature setpoint of 65°F (18.3°C).
- In the figure below, both the chiller and process flow rates are equal. This is not necessary. If the chiller had a higher flow rate, there would simply be more water bypassing and mixing with warm water.

Figure 2.



Short Water Loops

Adequate water volume is an important chilled water system design parameter because it provides for stable chilled water temperature control and helps to limit unacceptable short cycling of chiller compressors.

Typically, a 2 minute water loop circulation time is sufficient to prevent short water loop issues. As a guideline, confirm the volume of water in the chilled water loop equals or exceeds two times the evaporator flow rate.

Example: An application in which the chilled waterflow rate is 240 gallons per minute will require a total system volume of 480 gallons or more.

If the installed system volume does not meet the above recommendations, consider the following items to increase the volume of water in the system and reduce the rate of change of the return water temperature.

- A volume buffer tank located in the return water piping.
- Large system supply and return header piping (which also reduces system pressure drop and pump energy use).

Close Spacing and Clearances

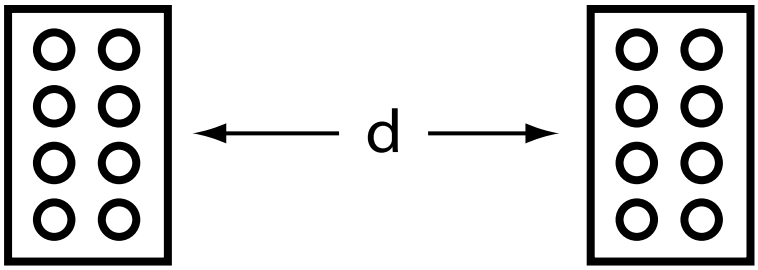
- Allow for unrestricted access to all service points.
- A minimum of 4–feet is recommended for compressor service.
- Provide sufficient clearance for the opening of control panel doors.
- The chiller should be completely open above the fan deck.
- Ducting individual fans is not recommended.

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

Two chillers located side by side

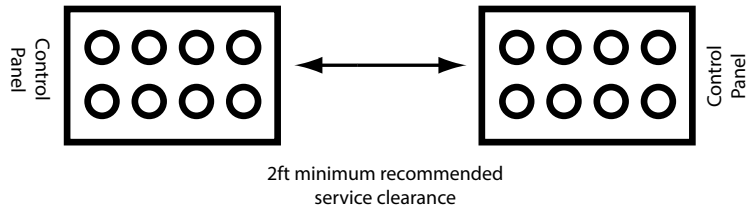
Note: *Spacing chillers side-by-side, less than 4–feet apart is not recommended.*

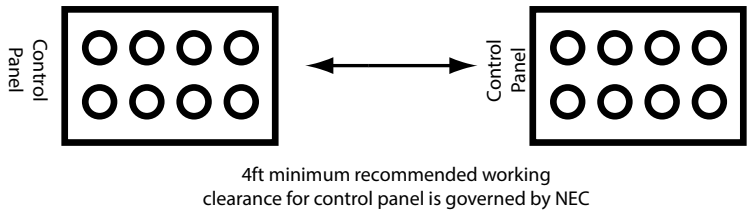
Figure 3. Two chiller installed side by side



Two chillers may be installed end to end

Figure 4. Two chillers installed end to end





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. See the NEC for a detailed discussion of requirements.

In all cases, local codes which require additional clearances will take precedence over these recommendations. Refer to *Close-Spacing and Restricted Airflow Situations Air-Cooled Scroll Chillers - Engineering Bulletin* (CG-PRB011*-EN) for more information on clearances and close spacing applications.

Acoustics

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

For rental ACSA units, sound pressure levels measured 30–feet from control panel. A-weighted Sound Pressure Level, dBA, ref 20 micro PA.

Table 3. ACSA/ACXA sound pressure data

Unit Size (tons)	Percent Load				
	100%	67%	50%	33%	17%
200	72	71	70	67	64

For rental CGAM 60Hz units with standard super quiet fans, sound pressure levels measured 30 feet from control panel.

A-weighted Sound Pressure Level, dBA, ref 20 micro Pa.

Table 4. CGAM sound pressure data

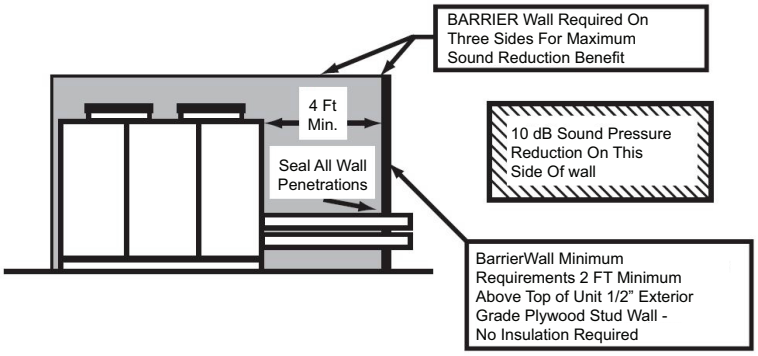
Unit Size (tons)	Percent Load			
	100%	75%	50%	25%
25	56	—	55	—
40	58	57	57	54
60	62	62	61	58
80	63	62	61	58
100	62	62	60	58
120	65	64	62	59

Estimations made using this bulletin are considered typical of what may be measured in a free field with a hand-held sound meter, in the absence of a nearby reflective surface.

One of the techniques used in the field to try attenuate sound is through the use of barrier walls. A barrier wall constructed to only 1/2-inch exterior grade plywood gives 10 dBA reduction in sound. Refer to figure below for minimum wall requirements.

A minimum distance of 4 feet is recommended, but the chiller may be placed closer than 4 feet to a barrier wall. Some loss of performance will occur.

Figure 5. Minimum wall requirements



Pump Control

All Trane Rental Air-Cooled Chillers include fully integrated pumps with optional bypass piping for external pumps. In applications with an external/outboard pump proving flow, the integral pump bypass should be opened and the manual ***HAND/OFF/AUTO*** toggle switch should be left in the **OFF** position.

CGAM model chillers utilize a fixed-speed pump which can be controlled based on chiller operating status (***AUTO*** mode) or set to run continuously (***HAND*** mode).

All other Trane Rental chiller models utilize Variable Frequency Drives (VFDs) in addition to the ***HAND/OFF/AUTO*** switch to allow users to adjust pump speed and resulting flow rate for specific applications.

For ACSA and RTAF chillers, pump VFD speed control is accomplished by either a) adjusting a preset VFD reference on the TR-series VFD display, or b) adjusting a potentiometer on the pump control panel.

For RTAG chillers, the Symbio™ 800 controller's TD-7 interface is used to control pump VFD speed by adjusting the ***Front Panel Evap Water Pump Speed Setpoint***, expressed as a percentage in the ***Settings*** menu.

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. In applications with large chilled water volumes in which freeze inhibitors aren't already present, a temporary heat exchanger can be an effective means of reducing the amount of glycol required. Contact Trane Rental Services Engineering for more information on glycol percentage recommendations.

In addition to using glycol, it is highly recommended that all exposed piping and pumps, integral to the chiller, be heat traced and insulated. Follow recommended guidelines by the heat tracing manufacturer. In low ambient applications, heaters alone will provide protection down to -20°F (-29°C), but will NOT protect the evaporator from freezing as a result of charge migration. For this reason it is required that chiller water pump control be used in conjunction with heaters. When chiller pump control is established and ensured it allows the Trane chiller controller to start the pump and establish flow to prevent evaporator freeze damage. For this option the pump must be controlled by the unit and this function must be validated, including a review of any automated or manual valves in the chilled water loop which may prevent the chiller from establishing flow to prevent catastrophic evaporator damage.

The only failsafe method to prevent evaporator damage in the event of a complete power loss during freezing weather is ensuring that an appropriate freeze inhibiting fluid mixture is present in the chilled water loop.

Notes:

- *When decommissioning RTAG and RTAF chillers, simply draining the evaporator is not an effective means to prevent freeze damage; sufficient residual water will be retained in the evaporator tubes to expose the machine to freeze damage.*
- *When decommissioning the chiller during freezing weather, Trane Rental Services requires the evaporators of these machines be completely filled with a glycol mixture of appropriate concentration (typically 35% propylene glycol) to prevent catastrophic evaporator damage.*

Controls

All Trane Rental Services chillers utilize Trane Symbio™ 800 controls. The Symbio 800 controller is a factory-installed, application specific and programmable controller with native BACnet® and MODBUS integration capabilities. 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.

In addition to the BACnet MS/TP, BACnet IP and MODBUS capabilities of the Symbio 800 controller, each Trane Rental chiller includes hardwired start/stop inputs.

80 to 110 Ton CGAM

80 Ton Air-Cooled CGAM

General - RSCA0080J4

Table 5. General - RSCA0080J4 CGAM

Labels	Value
Model Number	CGAM080
Nominal Tons	80
Refrigerant	R-454B
Refrigerant Charge[a]	67/67 lbs.
Water Connection Size	4 in. Grooved victaulic
Ambient Operating Conditions	0°F to 125°F
Chilled Water Setpoint Limits[b] [c]	0°F to 65°F
Number of Electrical Circuits	1
Number of Refrigerant Circuits	2

[a] Data containing information on two circuits is shown as follows: circuit 1/circuit 2.
[b] Setpoints only to be used as a guide, selection is required for actual chiller performance.
[c] When leaving solution is below 42°F, a glycol solution is required for all low temperature and ice making applications.

Table 6. Electrical data

Labels	Value
Voltage	575 Vac 3-phase
Frequency	60 Hz
Wire Connection Type	Series 16 Cam-Type Connection
SCCR	25kA Symmetrical at 575 Vac max
Without Integral Pump	
Minimum Circuit Ampacity (MCA)	129 A
Maximum Overcurrent Protection (MOP)	175 A
Full Load Amps (FLA)	124.3 A
With Integral Pump	
Minimum Circuit Ampacity (MCA)	151 A
Maximum Overcurrent Protection (MOP)	175 A
Full Load Amps (FLA)	142.7 A

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

Table 7. Pump data

Labels	Value
Horsepower	20 HP
Min Flow	88 gpm at 148 ft. H_2O
Max Flow	412 gpm at 114 ft. H_2O

Table 8. Cooling capacity (80 tons)

Leaving Water Temp (°F)	Propylene Glycol (%)	Estimated Capacity (Tons) at 2.4 GPM/ Nominal Ton			
		Ambient Air Temp			
		65°F	75°F	85°F	95°F
65	0	134.5	127.5	120.3	112.9
55	0	114.4	108.6	102.6	96.3
45	0	96.3	91.5	86.5	81.3
35	10	79.6	75.7	71.5	67.1
25	25	64.5	61.3	57.9	54.4
15	35	51.6	50.0	46.2	43.2
5	40	40.9	38.7	36.3	33.7
0	45	36.2	34.2	31.9	29.4

Table 9. Waterflow rates and pressure drops (80 tons)

Flow Rate (GPM)	Pressure Drop (ft. H_2O)
94 (min flow)	3.85
110	5.19
130	7.13
150	9.35
170	11.9
190	14.7
210	17.7
230	21.1
250	24.7
275 (max flow)	29.6

Note: Maximum water side pressure is 150 psi (2.31 ft. H_2O = 1 psi).

Table 10. Dimensions and weights

Labels	Value
Length	15 ft. 7.5 in.
Width	7 ft. 5 in.
Height	8 ft. 6 in.
Shipping Weight (lbs)	9,800
Operating Weight (lbs)	10,000
Fork Pocket Dimensions	9.25 in. x 5.25 in. x 7 ft. 4.75 in.
Fork Pocket Center to Center Distance	4 ft. 6 in.

Notes:

1. Lifting Device: Crane only.
2. All weights and dimensions listed above are subject to change without notice or liability.

Table 11. Installed/operating clearances

View	Value
Front	24 in.
Back	24 in.
Side	48 in.[a]
Top	No obstructions

[a] Based on no obstructions; contact Trane Rental Services for side-by-side or close spacing applications.

Figure 6. RSCA0080J4 single speed pump curve

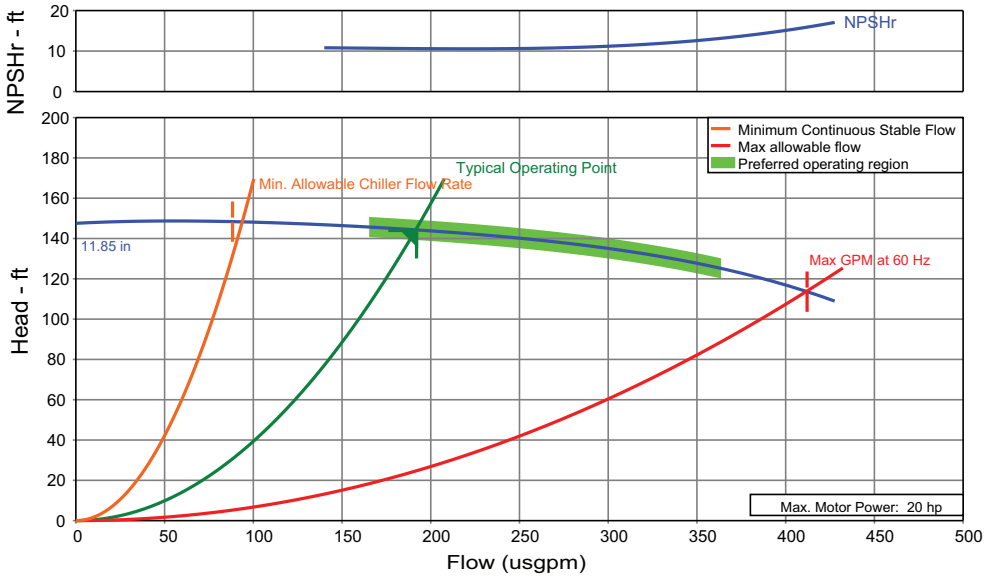
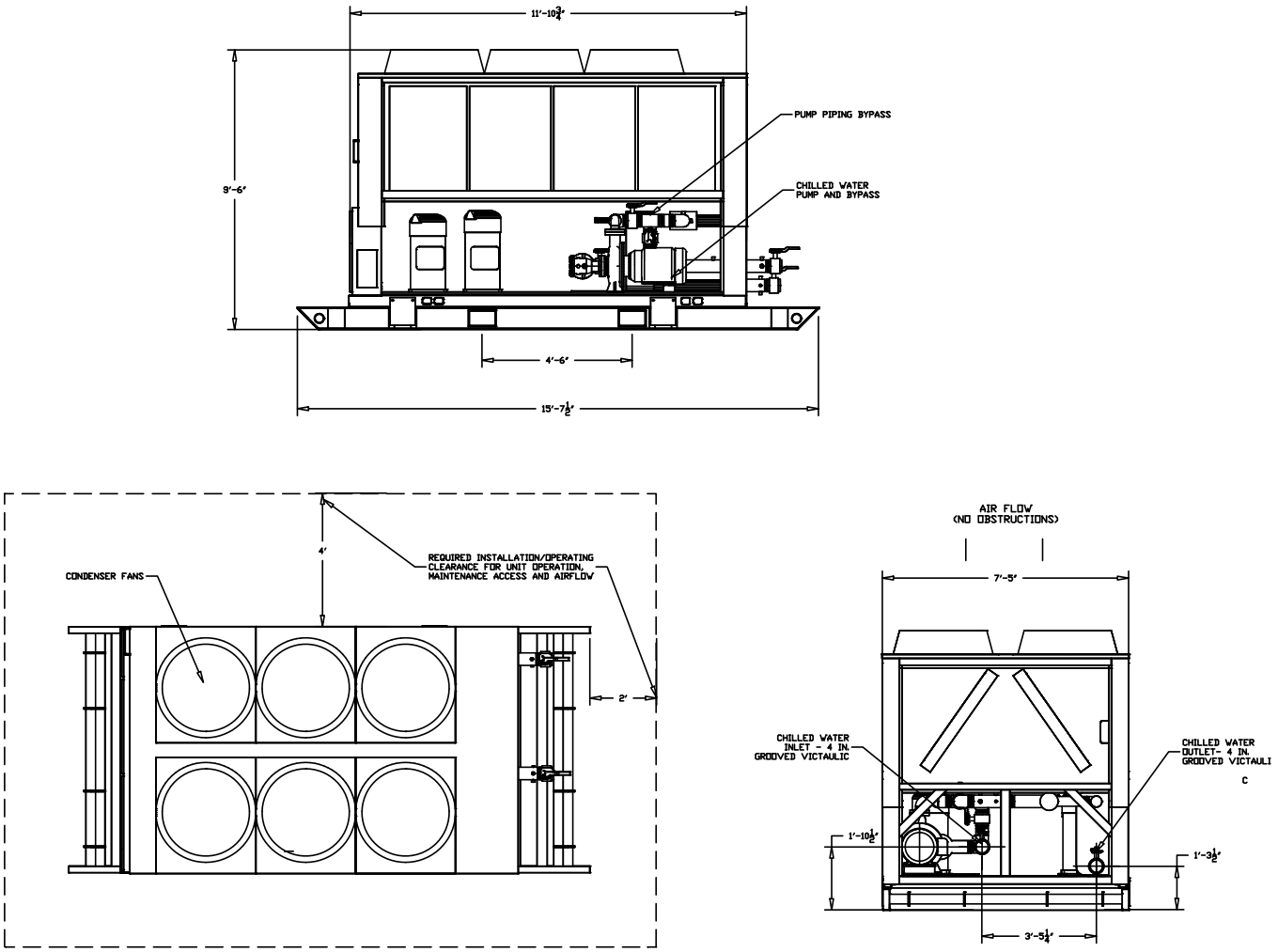


Figure 7. Unit drawings



110 Ton Air-Cooled CGAM

General – RSCA0110J4

Table 12. General - RSCA0110J4 CGAM

Labels	Value
Model Number	CGAM 110
Nominal Tons	110
Refrigerant	R-454B
Refrigerant Charge[a]	74/74 lbs.
Water Connection Size	6 in. Grooved victaulic
Ambient Operating Conditions	0°F to 125°F
Chilled Water Setpoint Limits[b] [c]	0°F to 65°F
Number of Electrical Circuits	1
Number of Refrigerant Circuits	2

[a] Data containing information on two circuits is shown as follows: circuit1/circuit 2.
[b] Setpoints only to be used as a guide, selection is required for actual chiller performance.
[c] When leaving solution is below 42°F, a glycol solution is required for all low temperature and ice-making applications.

Table 13. Electrical data

Labels	Value
Voltage	575 Vac 3-phase
Frequency	60 Hz
Wire Connection Type	Series 16 Cam-Type Connection
SCRR	5kA Symmetrical at 575 Vac max
Without Integral Pump	
Minimum Circuit Ampacity (MCA)	177 A
Maximum Overcurrent Protection (MOP)	225 A
Full Load Amps (FLA)	168.6 A
With Integral Pump	
Minimum Circuit Ampacity (MCA)	199 A
Maximum Overcurrent Protection (MOP)	225 A
Full Load Amps (FLA)	186.6 A

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

Table 14. Pump data

Labels	Value
Horsepower	20 HP
Min Flow	88 gpm at 148 ft. H_2O
Max Flow	412 gpm at 114 ft. H_2O

Table 15. Cooling capacity (110 tons)

Leaving Water Temp (°F)	Propylene Glycol (%)	Estimated Capacity (Tons) at 2.4 GPM / Nominal Ton			
		Ambient Air Temp			
		65°F	75°F	85°F	95°F
65	0	180.8	171.3	161.6	151.3
55	0	153.3	145.5	137.3	128.8
45	0	128.6	122.2	115.4	108.3
35	10	106.2	100.9	95.4	89.5
25	25	86.2	81.9	77.4	72.6
15	35	69.1	65.6	61.9	57.8
5	40	54.8	51.9	48.7	48.7
0	45	48.4	45.7	42.8	39.0

Table 16. Waterflow rates and pressure drops (110 tons)

Flow Rate (GPM)	Pressure Drop (ft. H_2O)
123 (min flow)	3.3
150	4.8
175	6.5
200	8.3
225	10.4
250	12.7
275	15.2
300	18.0
325	21.0
350	24.1
373 (max flow)	27.2

Note: Maximum water side pressure is 150 psi (2.31 ft. H_2O = 1 psi).

Table 17. Dimensions and weights

Labels	Value
Length	17 ft. 5.5 in.
Width	7 ft. 5 in.
Height	8 ft. 6 in.
Shipping Weight (lbs)	10,500
Operating Weight (lbs)	10,700
Fork Pocket Dimensions	9.25 in. x 5.25 in. x 7 ft. 4.75 in.
Fork Pocket Center to Center Distance	5 ft. 0 in.

Notes:
1. Lifting Device: Crane only.
2. All weights and dimensions listed above are subject to change without notice or liability.

Table 18. Installed/operating clearances

View	Value
Front	24 in.
Back	24 in.
Side	48 in.[a]
Top	No obstructions

[a] Based on no obstructions; contact Trane Rental Services for side-by-side or close spacing applications.

Figure 8. RSCA0110J4 single speed pump curve

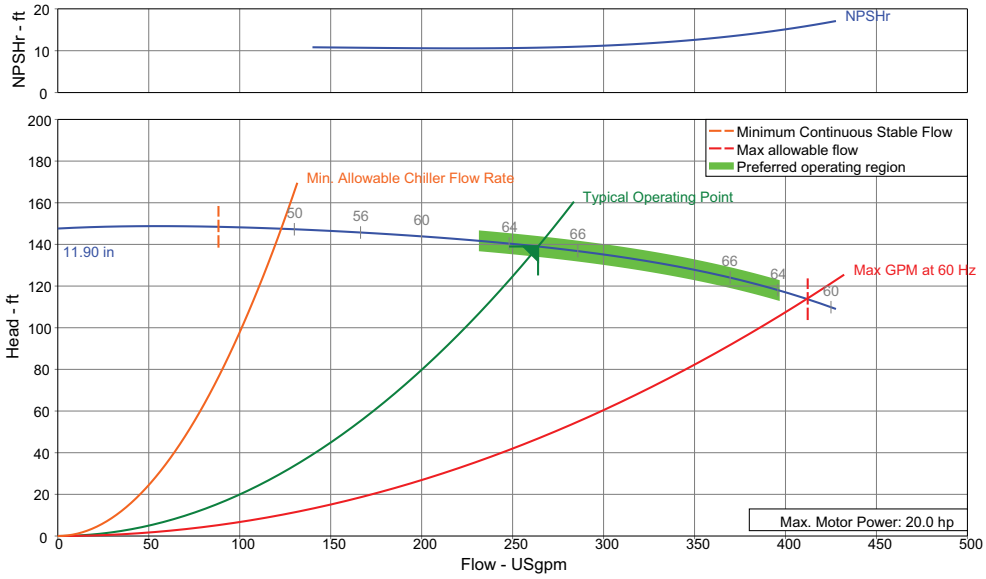
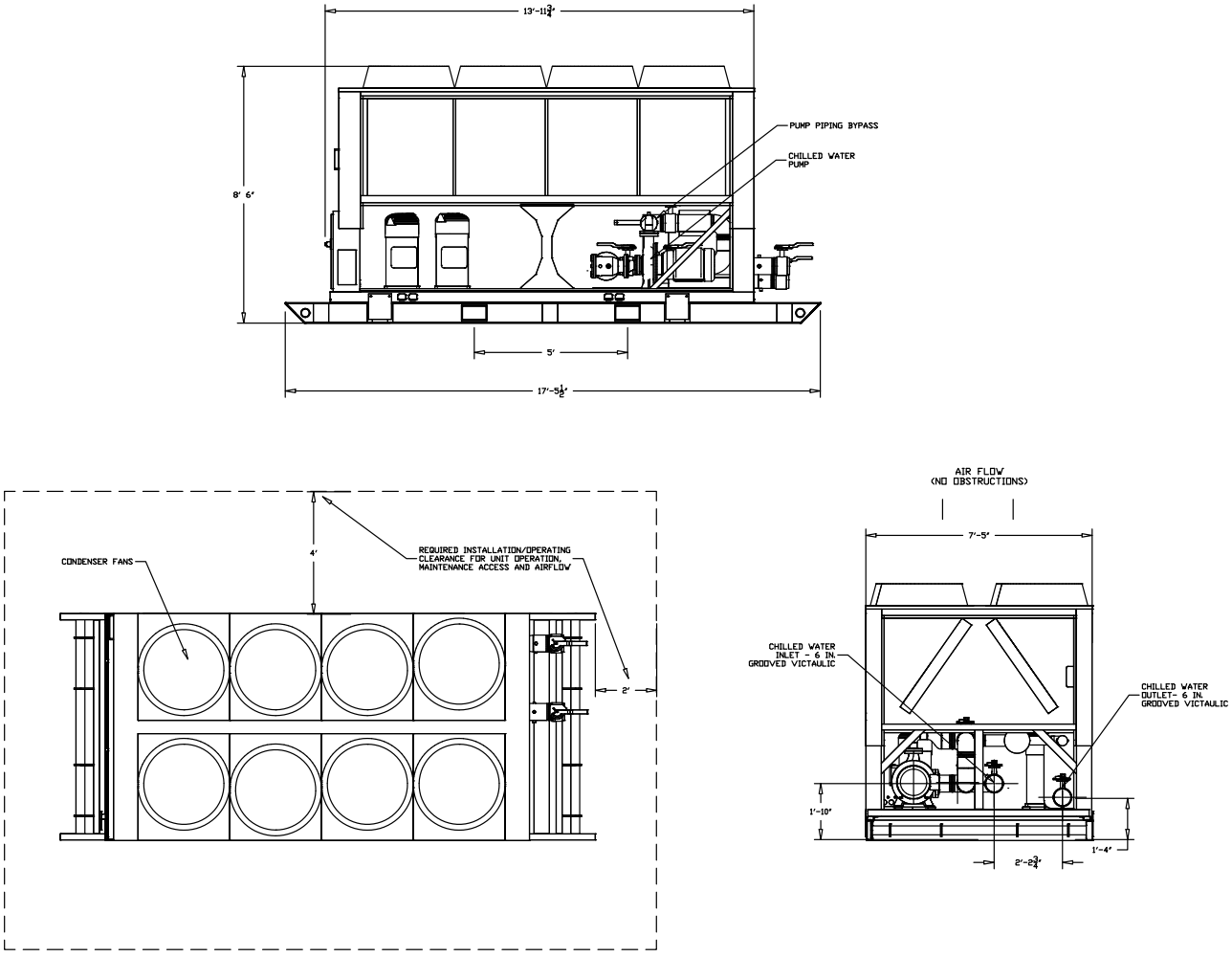


Figure 9. Unit drawings



200 Ton ACSA

200 Ton Air-Cooled ACSA

General – RSCA0200J1

Table 19. General - RSCA0200J1 ACSA

Labels	Value
Model Number	ACSA200
Nominal Tons	200
Refrigerant	R-454B
Refrigerant Charge[a]	63/63 lbs
Water Connection Size	6 in. Grooved victaulic
Ambient Operating Conditions	-20°F to 130°F
Chilled Water Setpoint Limits[b] [c]	0°F to 65°F
Number of Electrical Circuits	1
Number of Refrigerant Circuits	2

[a] Data containing information on two circuits is shown as follows: circuit1/circuit 2.
[b] Setpoints only to be used as a guide, selection is required for actual chiller performance.
[c] When leaving solution is below 42°F, a glycol solution is required for all low temperature and ice-making applications.

Table 20. Electrical data

Labels	Value
Voltage	575 Vac 3-Phase
Frequency	60 Hz
Wire Connection Type	Series 16 Cam-Type Connection
SCRR	10kA Symmetrical at 575 Vac max
Without Integral Pump	
Minimum Circuit Ampacity (MCA)	323 A
Maximum Overcurrent Protection (MOP)	400 A
Full Load Amps (FLA)	311.8 A
With Integral Pump	
Minimum Circuit Ampacity (MCA)	369.6 A
Maximum Overcurrent Protection (MOP)	400 A
Full Load Amps (FLA)	348.8 A

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

Table 21. Pump data

Labels	Value
Horsepower	40 HP
Min Flow	181 gpm at 190 ft. H_2O
Max Flow	848 gpm at 119 ft. H_2O

Table 22. Cooling capacity (200 tons)

Leaving Water Temp (°F)	Propylene Glycol (%)	Estimated Capacity (Tons) at 2.4 GPM / Nominal Ton			
		Ambient Air Temp			
		65°F	75°F	85°F	95°F
65	0	251.8	240.8	229.4	217.6
55	0	222.3	212.3	202.1	191.7
45	0	193.1	184.3	175.3	166.2
35	15	161.9	154.5	147.0	139.4
25	30	131.6	125.7	119.7	113.6
15	35	106.6	92.3	101.9	97.1
5	40	81.2	73.9	77.6	84.9
0	45	66.5	69.7	72.9	76.3

Table 23. Waterflow rates and pressure drops (200 tons)

Flow Rate (GPM)	Pressure Drop (ft. H_2O)
240 (min flow)	-—
250	7.96
300	11.1
350	14.8
400	18.9
450	23.5
500	28.5
550	34.0
600	39.9
650	46.3
700	53.2
720 (max flow)	56.1

Note: Maximum water side pressure is 150 psi (2.31 ft. H_2O = 1 psi).

Table 24. Dimensions and weights

Labels	Value
Length	23 ft. 5.5 in.
Width	8 ft. 5 in.
Height	8 ft. 5 in.
Shipping Weight (lbs)	15,020
Operating Weight (lbs)	15,520
Fork Pocket Dimensions	9.5 in. x 4.5 in. x 7 ft. 4 in.
Fork Pocket Center to Center Distance	3 ft. 11 in.

Notes:

1. Lifting Device: Crane only.
2. All weights and dimensions listed above are subject to change without notice or liability.

Table 25. Installed/operating clearances

View	Value
Front	48 in.
Back	48 in.
Side	48 in.[a]
Top	No obstructions

[a] Based on no obstructions; contact Trane Rental Services for side-by-side or close spacing applications.

Figure 10. RSCA0200J1 single speed pump curve

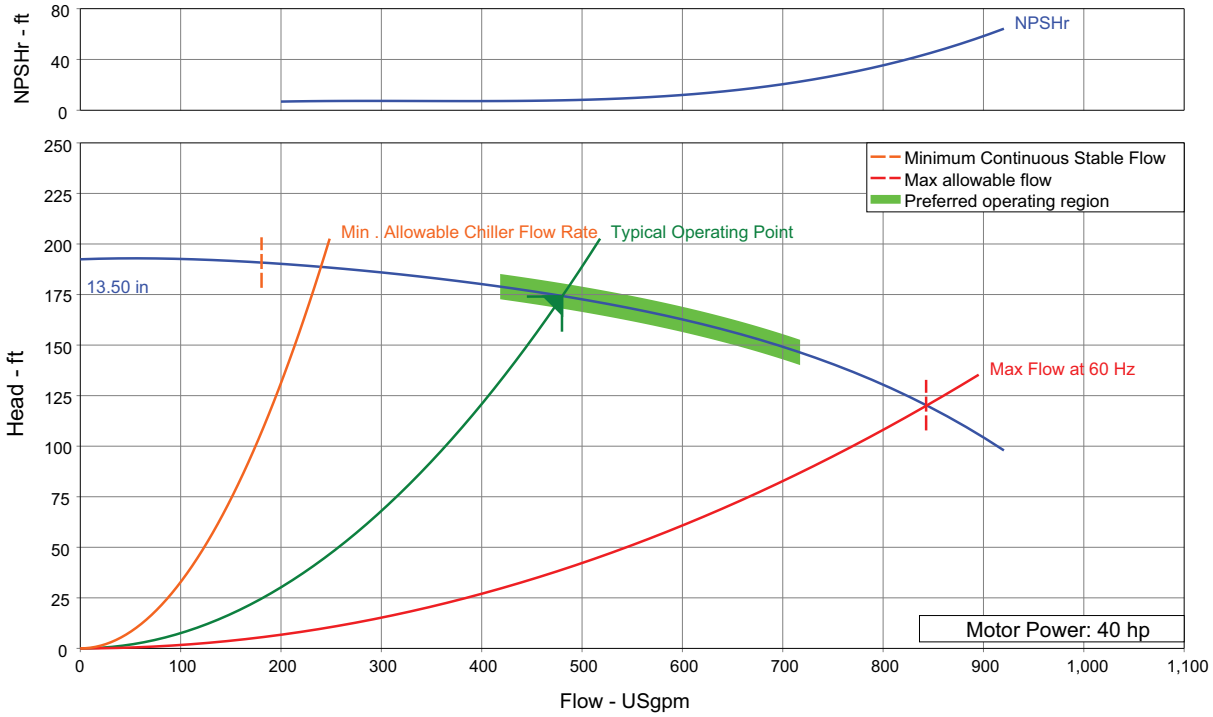


Figure 11. RSCA0200J1 multi speed pump curve

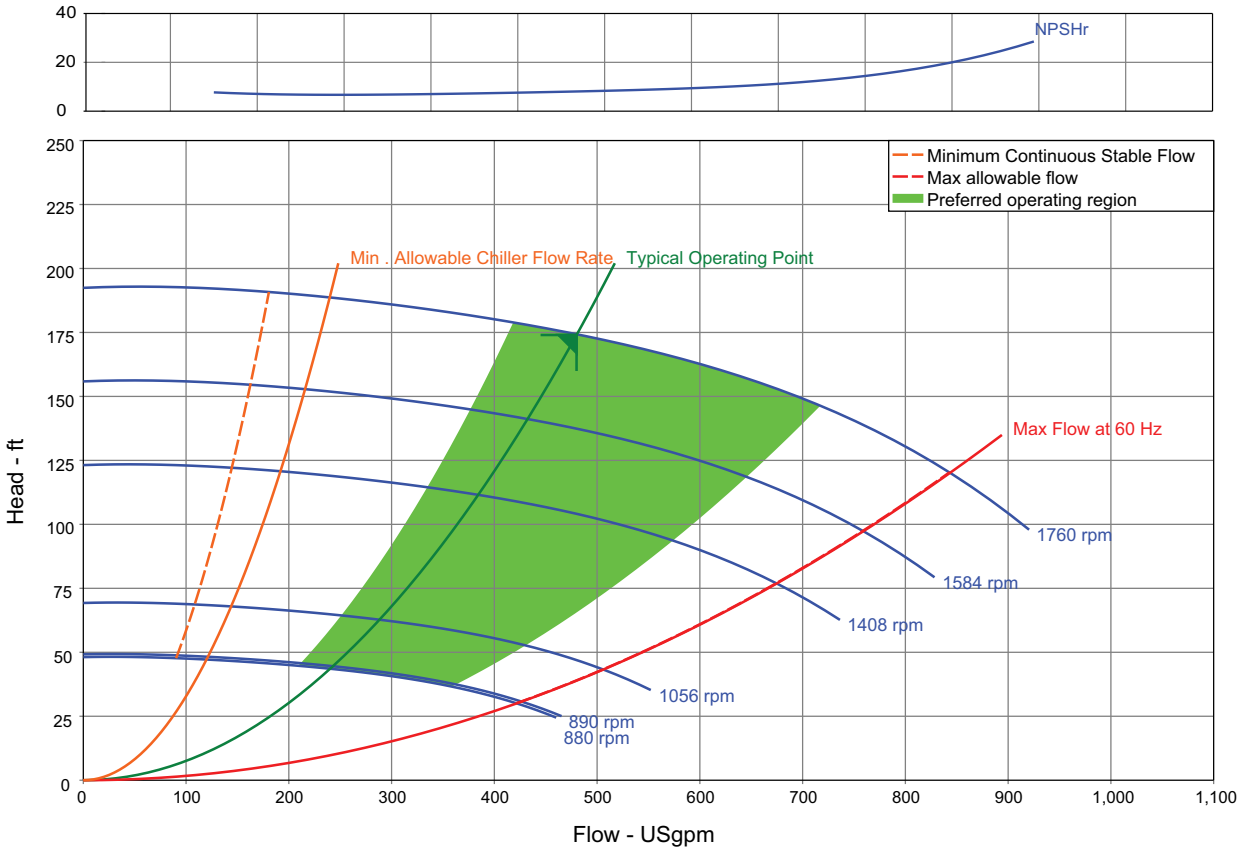
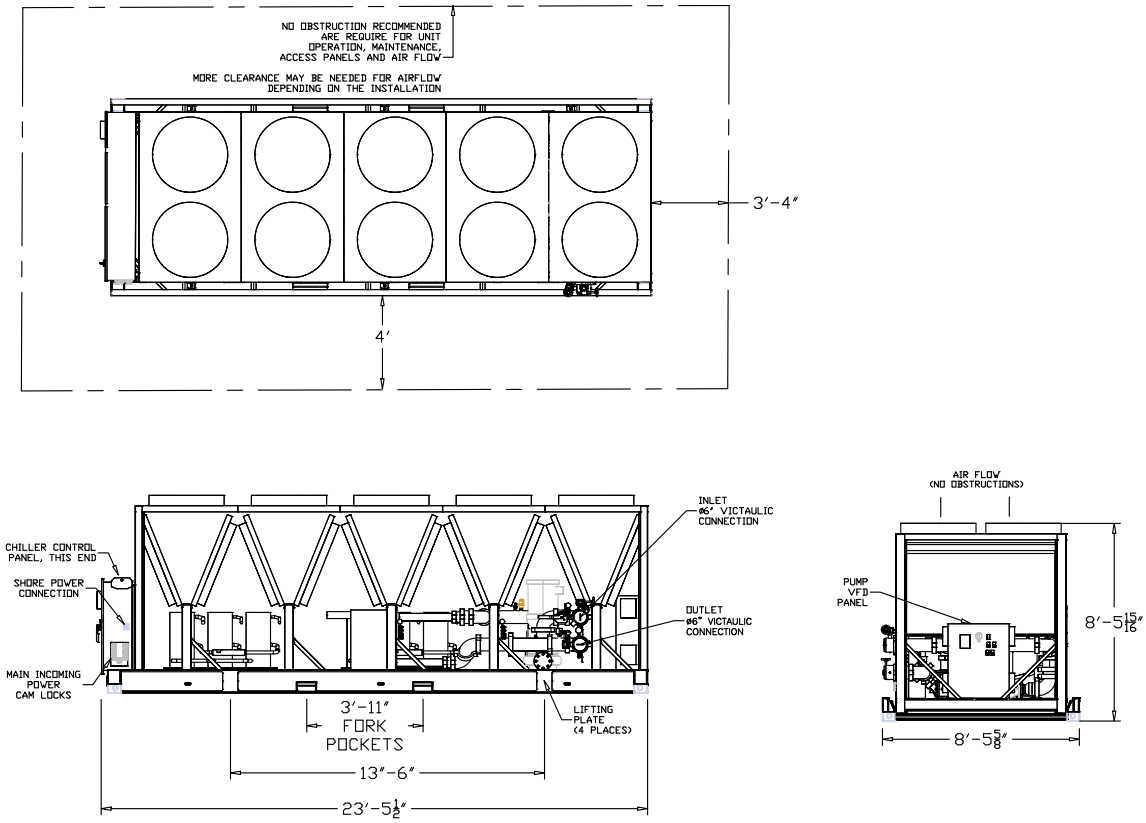


Figure 12. Unit drawings



300 to 500 Ton RTAF/RTAG

300 Ton Air-Cooled RTAF

General – RSCA0300J0

Table 26. General - RSCA0300J0 RTAF

Labels	Value
Model Number	RTAF 310
Nominal Tons	310
Refrigerant	R-513A
Refrigerant Charge[a]	272.9/120.2 lbs.
Water Connection Size	6 in. Grooved victaulic
Ambient Operating Conditions	-4°F to 115°F
Chilled Water Setpoint Limits[b] [c]	20°F to 65°F
Number of Electrical Circuits	2
Number of Refrigerant Circuits	2

[a] Data containing information on two circuits is shown as follows: circuit1/circuit 2.
[b] Setpoints only to be used as a guide, selection is required for actual chiller performance.
[c] When leaving solution is below 42°F, a glycol solution is required for all low temperature and ice-making applications.

Table 27. Electrical data

Labels	Value
Voltage	575V 3-phase
Frequency	60 Hz
Wire Connection Type	Series 16 Cam-Type Connection
SCRR	25kA Symmetrical at 575 Vac max
Without Integral Pump - Dual Point Power	
Minimum Circuit Ampacity (MCA) (circuit 1/circuit 2)	350.4 A / 200 A
Maximum Overcurrent Protection (MOP) (circuit 1/circuit 2)	450 A / 300 A
Full Load Amps (FLA) (circuit 1/circuit 2)	318.2 A / 155.8 A
With Integral Pump - Dual Point Power	
Minimum Circuit Ampacity (MCA)	399.4 A / 200 A
Maximum Overcurrent Protection (MOP)	500 A / 300 A
Full Load Amps (FLA)	367.2 A / 155.8 A

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

Table 28. Pump data

Labels	Value
Horsepower	50 HP
Min Flow	214 gpm @ 178 ft. H_2O
Max Flow	998 gpm @ 111 ft. H_2O

Table 29. Cooling capacity (300 tons)

Leaving Water Temp (°F)	Ethylene Glycol (%)	Estimated Capacity (Tons) at 2.4 GPM / Nominal Ton			
		Ambient Air Temp			
		65°F	75°F	85°F	95°F
65	0	510	481.7	452.5	422.5
55	0	436	411.6	386.5	360.5
45	0	367.2	346.6	325.2	303.1
35	10	301.4	284.6	266.9	248.7
25	25	236.1	223.1	209.4	195.0
20	30	205.1	193.8	181.9	169.4

Table 30. Waterflow rates and pressure drops (300 tons)

Flow Rate (GPM)	Pressure Drop (ft. H_2O)
323 (min flow)	5.1
400	7.9
500	12.3
600	17.8
700	24.5
750	28.2
800	32.3
850	36.7
900	41.4
1,000	51.8
1,100	63.6
1,183 (max flow)	74.5

Note: Maximum water side pressure is 150 psi (2.31 ft. H_2O = 1 psi).

Table 31. Dimensions and weights

Chiller Only	
Labels	**Value**
Length	38 ft. 2 in.
Width	7 ft. 3 in.
Height	7 ft. 10 in.
Shipping Weight (lbs)	22,959
Operating Weight (lbs)	23,684
Trailer Only	
Labels	**Value**
Length	48 ft.
Width	8 ft. 6 in.
Height	5 ft. 0.25 in.
Shipping Weight (lbs)	14,760

Notes:

1. Lifting Device: Crane only.
2. All weights and dimensions listed above are subject to change without notice or liability.

Table 32. Installed/operating clearances

View	Value
Front	48 in.
Back	48 in.
Side	48 in.[a]
Top	No obstructions

[a] Based on no obstructions; contact Trane Rental Services for side-by-side or close spacing applications.

Figure 13. RSCA0300J0 single speed pump curve

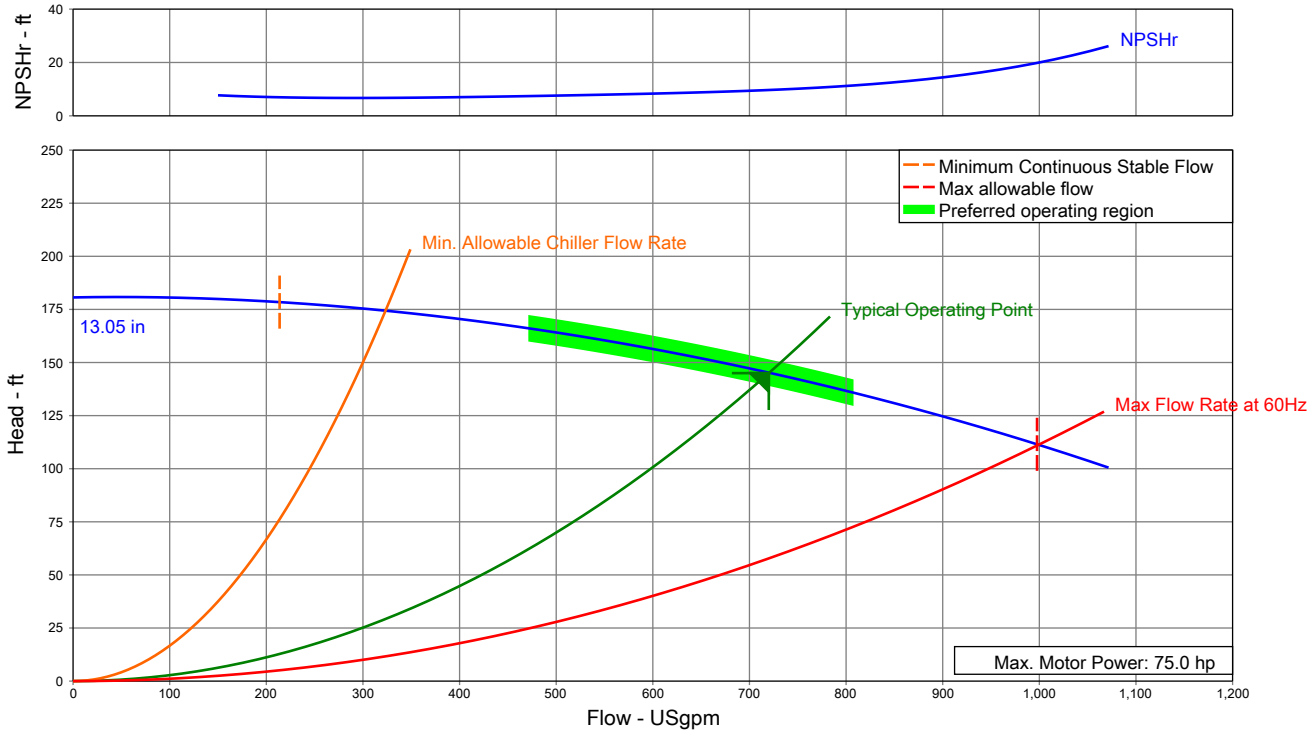


Figure 14. RSCA0300J0 multi speed pump curve

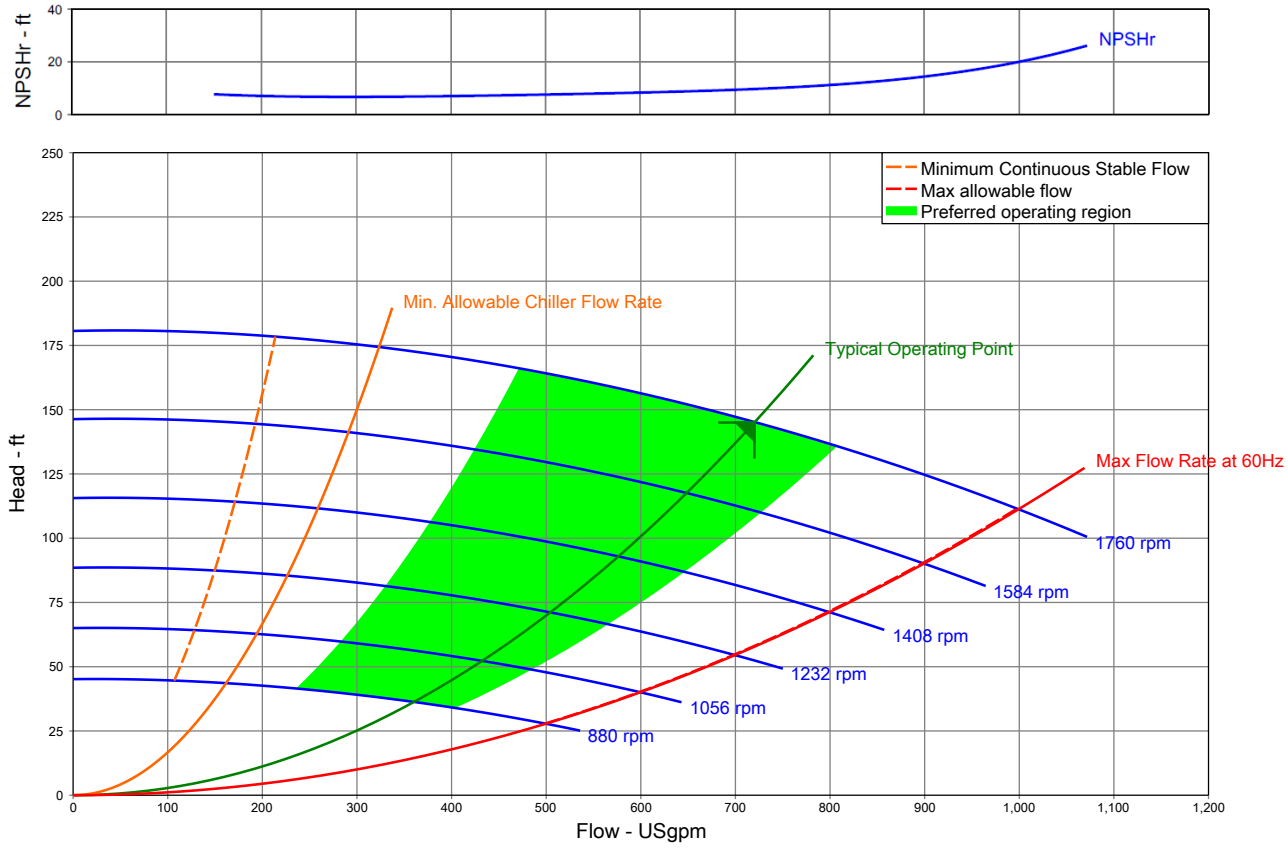
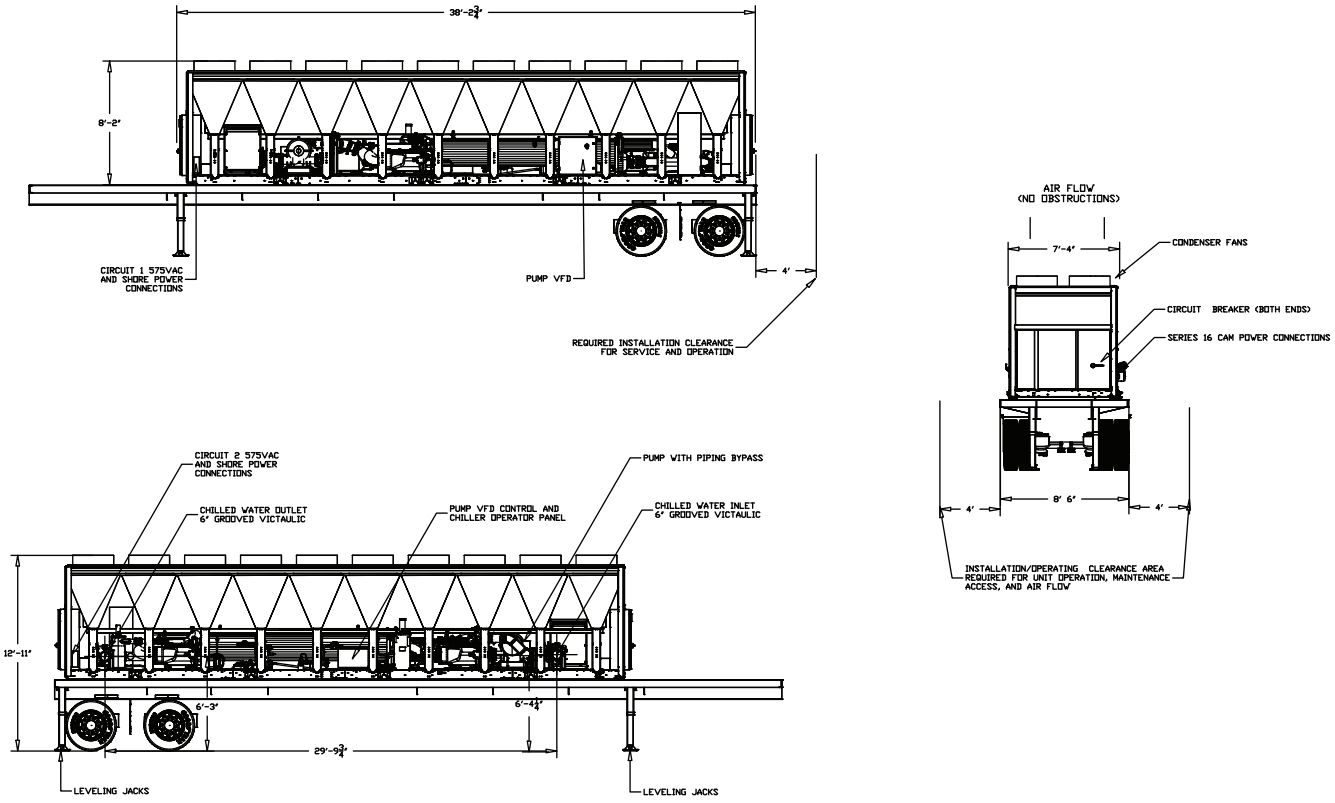


Figure 15. Unit drawings



300 Ton Air-Cooled RTAG

General – RSCA0300J0

Table 33. General - RSCA0300J0 RTAG

Labels	Value
Model Number	RTAG 300
Nominal Tons	300
Refrigerant	R-513a
Refrigerant Charge[a]	335/159 lbs.
Water Connection Size	6 in. Grooved victaulic
Ambient Operating Conditions	0°F to 125°F
Chilled Water Setpoint Limits[b] [c]	25°F to 71°F
Number of Electrical Circuits	2
Number of Refrigerant Circuits	2

[a] Data containing information on two circuits is shown as follows: circuit1/circuit 2.
[b] Setpoints only to be used as a guide, selection is required for actual chiller performance.
[c] When leaving solution is below 42°F, a glycol solution is required for all low temperature and ice-making applications.

Table 34. Electrical data

Labels	Value
Voltage	575V 3-phase
Frequency	60 Hz

Table 34. Electrical data (continued)

Labels	Value
Wire Connection Type	Series 16 Cam-Type Connection
SCRR	35kA Symmetrical at 575Vac max
Without Integral Pump - Dual Point Power	
Minimum Circuit Ampacity (MCA) (circuit 1/circuit 2)	331.8 A / 191 A
Maximum Overcurrent Protection (MOP) (circuit 1/circuit 2)	400 A / 300 A
Full Load Amps (FLA) (circuit 1/circuit 2)	310.6 A / 157 A
With Integral Pump - Dual Point Power	
Minimum Circuit Ampacity (MCA)	377 A / 184 A
Maximum Overcurrent Protection (MOP)	500 A / 300 A
Full Load Amps (FLA)	355.8 A / 157 A

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

Table 35. Pump data

Labels	Value
Horsepower	50 HP
Min Flow	187 gpm @ 160 ft H_2O
Max Flow	1,742 gpm @ 79 ft H_2O

Table 36. Cooling capacity (300 tons)

Leaving Water Temp (°F)	Ethylene Glycol (%)	Estimated Capacity (Tons) at 2.4 GPM / Nominal Ton			
		Ambient Air Temp			
		65°F	75°F	85°F	95°F
60	0	514.4	484.9	454.4	422.9
55	0	442.1	416.6	390.4	362.7
45	0	374.1	352.3	329.6	306.0
35	20	303.7	286.1	267.5	248.2
25	25	238.5	224.7	210.1	194.7
20	30	200.3	188.9	176.8	164.1

Table 37. Waterflow rates and pressure drops (300 tons)

Flow Rate (GPM)	Pressure Drop (ft. H_2O)
495 (min flow)	5.9
600	8.6
650	10.1
700	11.7
750	13.4
800	15.2
850	17.1

Table 37. Waterflow rates and pressure drops (300 tons) (continued)

Flow Rate (GPM)	Pressure Drop (ft. H_2O)
900	19.1
1,000	23.4
1,100	28.2
1,200 (max flow)	33.4

Note: Maximum water side pressure is 150 psi (2.31 ft. H_2O = 1 psi).

Table 38. Dimensions and weights

Chiller Only	
Labels	**Value**
Length	35 ft. 4 in.
Width	7 ft. 5 in
Height	8 ft. 2 in.
Shipping Weight (lbs)	24,980
Operating Weight (lbs)	26,280
Trailer Only	
Labels	**Value**
Length	48 ft.
Width	8 ft. 6 in.
Height	5 ft. 0.25 in.
Shipping Weight (lbs)	14,760

Notes:
1. Lifting Device: Crane only.
2. All weights and dimensions listed above are subject to change without notice or liability.

Table 39. Installed/operating clearances

View	Value
Front	48 in.
Back	48 in.
Side	48 in.[(a)]
Top	No obstructions

[(a)] Based on no obstructions; contact Trane Rental Services for side-by-side or close spacing applications.

Figure 16. RSCA0300J0 RTAG single speed pump curve

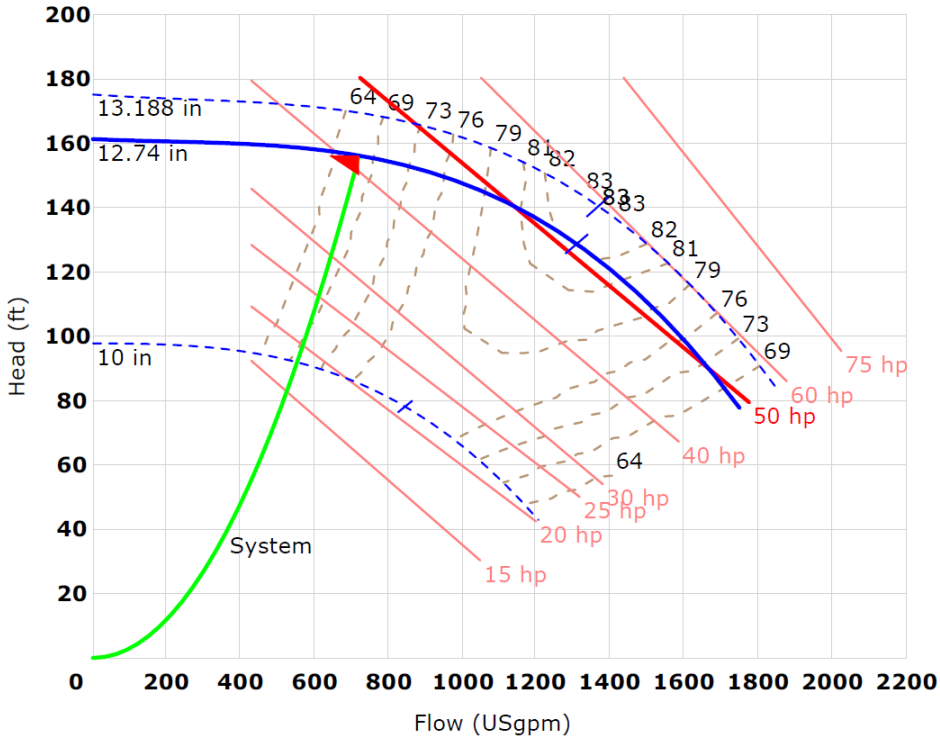


Figure 17. RSCA0300J0 RTAG multi speed pump curve

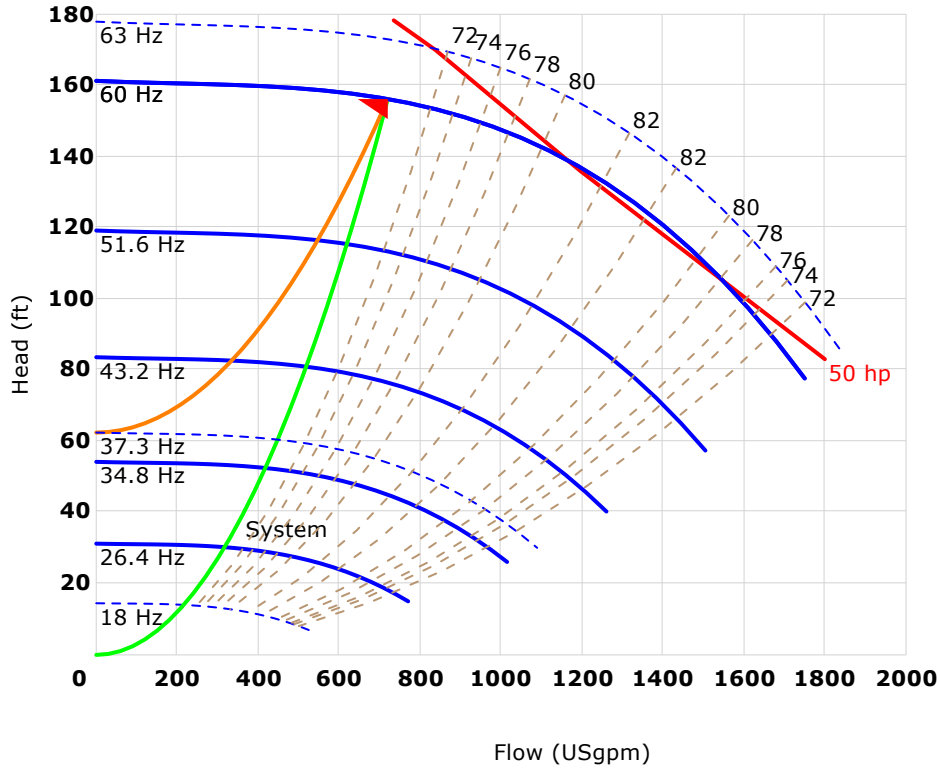
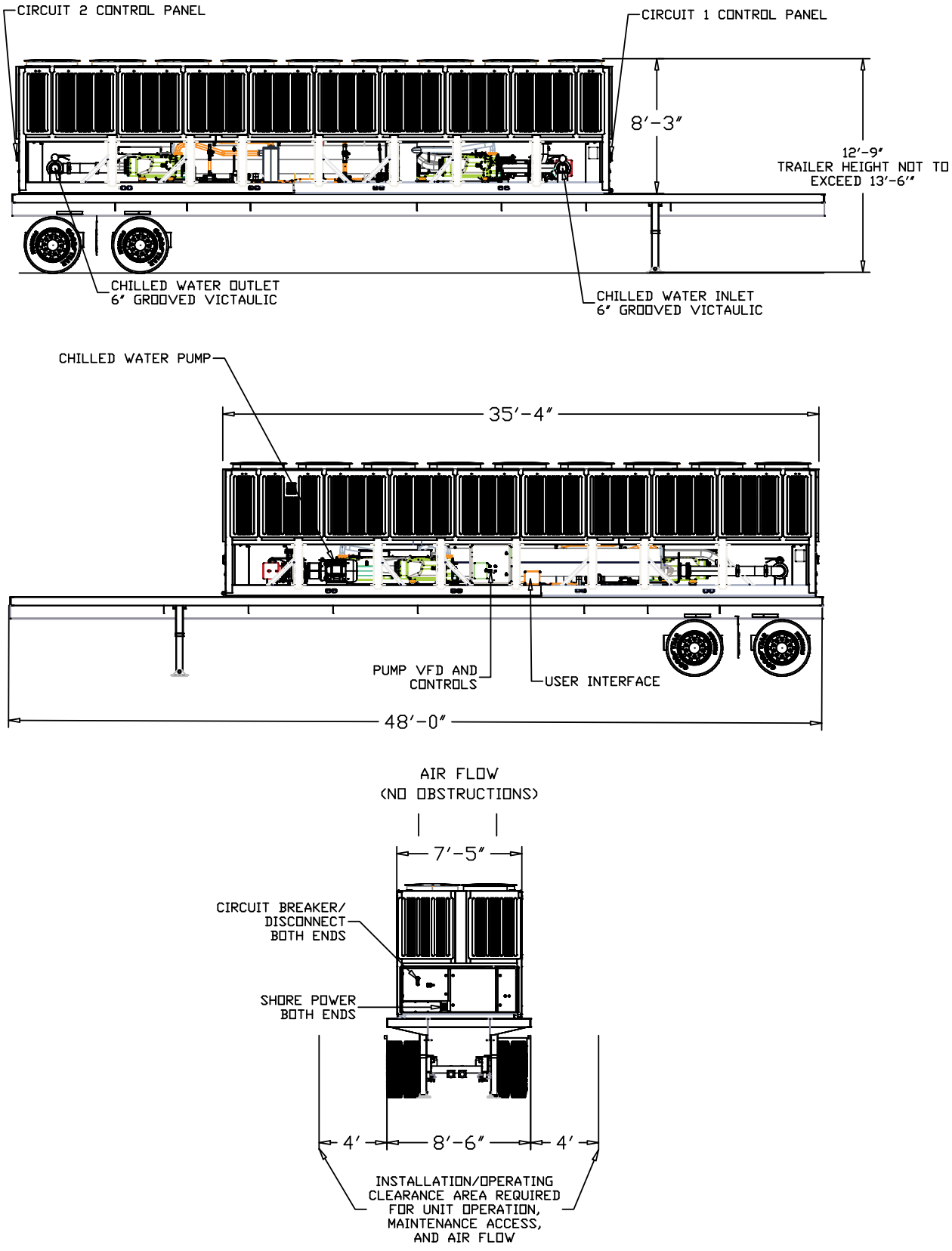


Figure 18. Unit drawings



440 Ton Air-Cooled RTAG

General – RSCA0440J0

Table 40. General - RSCA0440J0 RTAG

Labels	Value
Model Number	RTAG440
Nominal Tons	440
Refrigerant	R-513a
Refrigerant Charge[a]	344/333 lbs.
Water Connection Size	6 in. Grooved victaulic
Ambient Operating Conditions	0°F to 125°F
Chilled Water Setpoint Limits[b] [c]	25°F to 71°F
Number of Electrical Circuits	2
Number of Refrigerant Circuits	2

[a] Data containing information on two circuits is shown as follows: circuit1/circuit 2.
[b] Setpoints only to be used as a guide, selection is required for actual chiller performance.
[c] When leaving solution is below 42°F, a glycol solution is required for all low temperature and ice-making applications.

Table 41. Electrical data

Labels	Value
Voltage	575V 3-phase
Frequency	60 Hz
Wire Connection Type	Series 16 Cam-Type Connection
SCRR	35kA Symmetrical at 575Vac max
Without Integral Pump - Dual Point Power	
Minimum Circuit Ampacity (MCA) (circuit 1/circuit 2)	362.6 A / 361A
Maximum Overcurrent Protection (MOP) (circuit 1/circuit 2)	500 A / 500 A
Full Load Amps (FLA) (circuit 1/circuit 2)	331.6 A / 330 A
With Integral Pump - Dual Point Power	
Minimum Circuit Ampacity (MCA)	406 A / 361 A
Maximum Overcurrent Protection (MOP)	500 A / 500 A
Full Load Amps (FLA)	376.8 A / 330 A

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

Table 42. Pump data

Labels	Value
Horsepower	50 HP
Min Flow	674 gpm
Max Flow	1,200 gpm

Table 43. Cooling capacity (440 tons)

Leaving Water Temp (°F)	Ethylene Glycol (%)	Estimated Capacity (Tons) at 2.4 GPM / Nominal Ton			
		Ambient Air Temp			
		65°F	75°F	85°F	95°F
65	0	723.8	678.8	632.6	585.4
55	0	628.1	589.1	548.9	507.6
45	0	536.1	502.7	468.2	432.7
35	10	437.3	410.4	382.4	353.3
25	25	343.5	322.8	300.9	278.1
20	30	286.6	269.9	252.1	233.4

Table 44. Waterflow rates and pressure drops (440 tons)

Flow Rate (GPM)	Pressure Drop (ft. H_2O)
674 (min flow)	4.6
750	5.7
800	6.5
850	7.3
900	8.2
950	9.1
1,000	10.1
1,050	11.1
1,100	12.1
1,150	13.2
1,200 (max flow)	14.4

Note: Maximum water side pressure is 150 psi (2.31 ft. H_2O = 1 psi).

Table 45. Dimensions and weights

Chiller Only	
Labels	**Value**
Length	39 ft. 3 in.
Width	7 ft. 5 in.
Height	8 ft. 2.5 in.
Shipping Weight (lbs)	29,541
Operating Weight (lbs)	31,614
Trailer Only	
Labels	**Value**
Length	48 ft.
Width	8 ft. 6 in.
Height	5 ft. 0.25 in.
Shipping Weight (lbs)	14,760

Notes:

1. Lifting Device: Crane only.
2. All weights and dimensions listed above are subject to change without notice or liability.

Table 46. Installed/operating clearances

View	Value
Front	48 in.
Back	48 in.
Side	48 in.[(a)]
Top	No obstructions

[(a)] Based on no obstructions; contact Trane Rental Services for side-by-side or close spacing applications.

Figure 19. RSCA0440J0 RTAG single speed pump curve

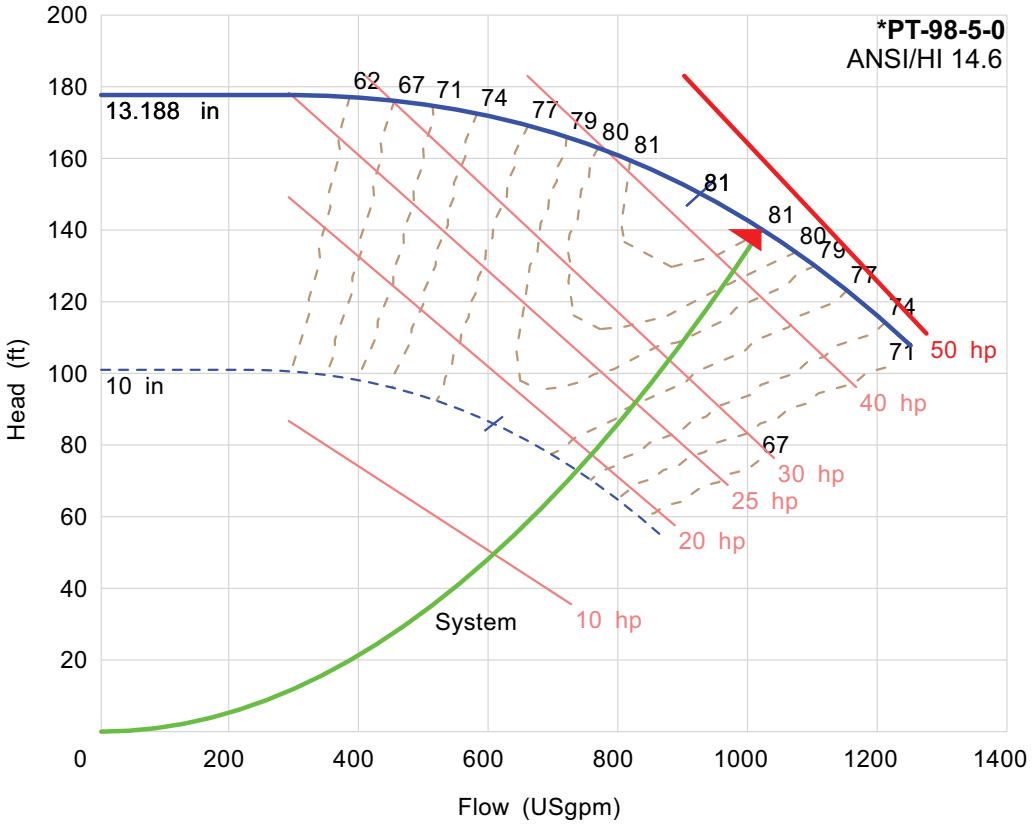


Figure 20. RSCA0440J0 RTAG multi speed pump curve

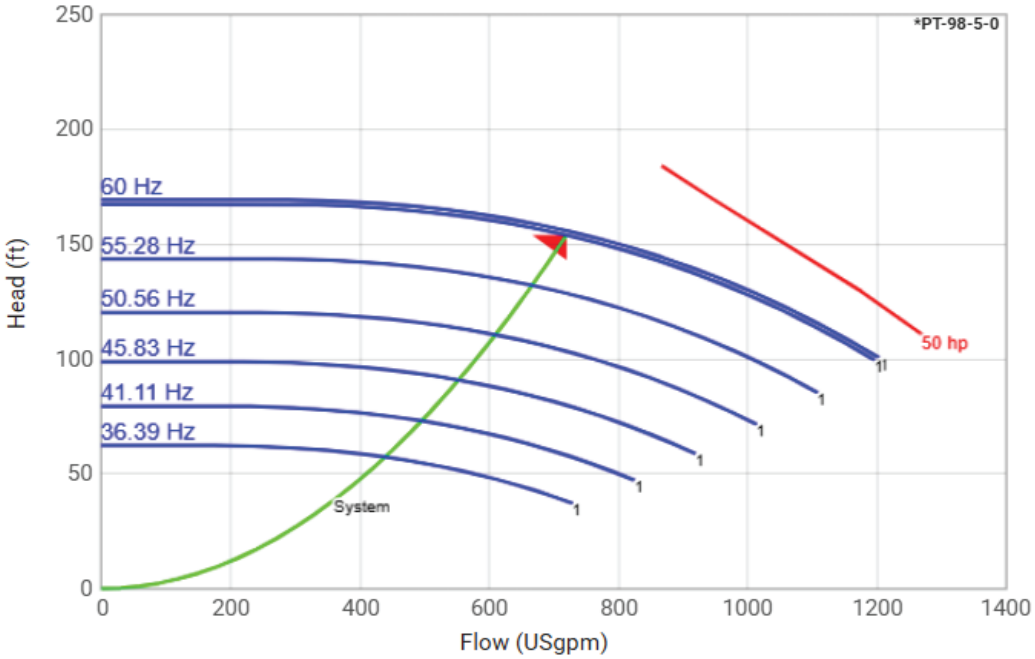
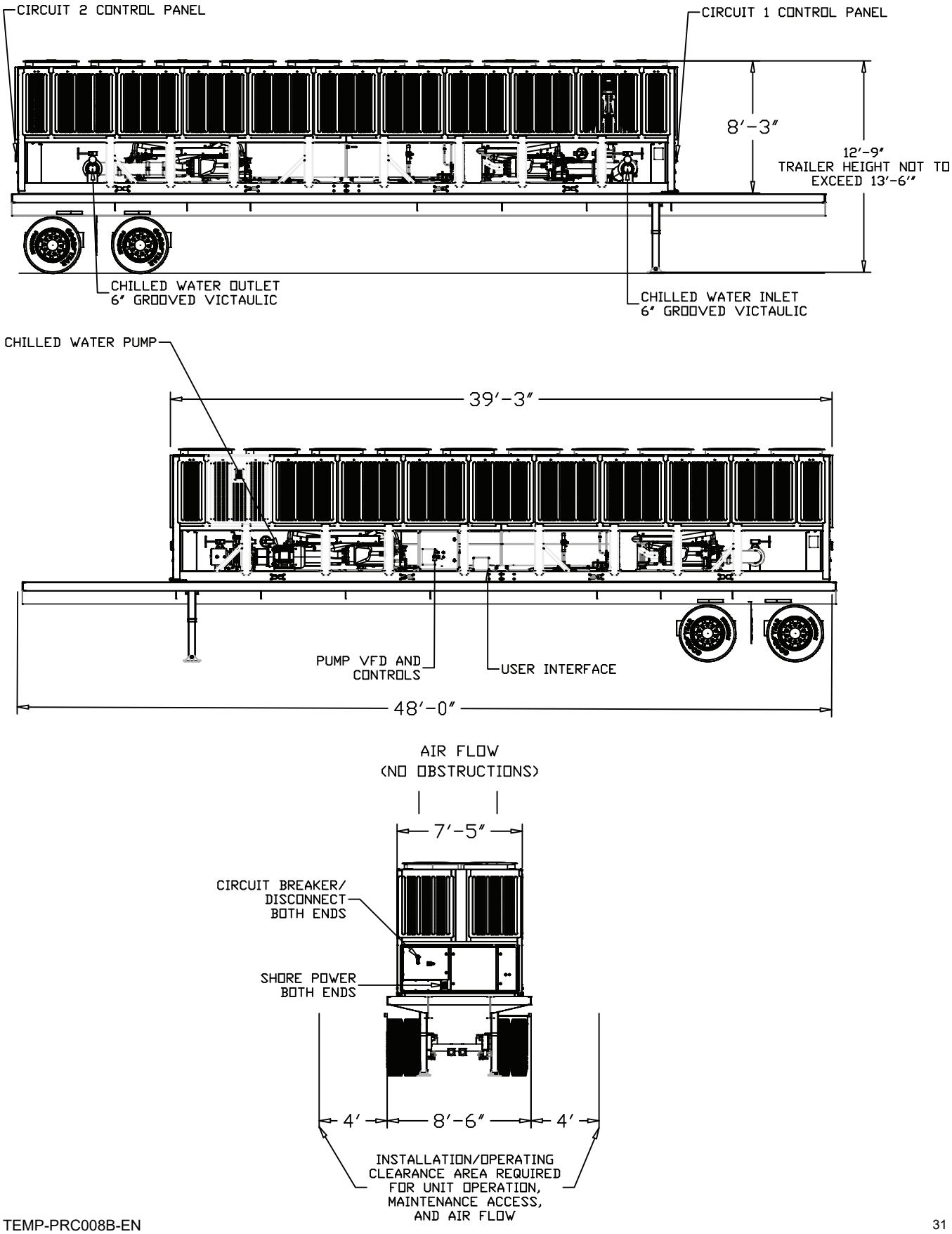


Figure 21. Unit drawings



500 Ton Air-Cooled RTAF

General – RSCA0500J0

Table 47. General - RSCA0500J0 RTAF

Labels	Value
Model Number	RTAF 500
Nominal Tons	500
Refrigerant	R-513A
Refrigerant Charge[a]	275.6/288.4 lbs.
Water Connection Size	6 in. Grooved victaulic
Ambient Operating Conditions	-4°F to 115°F
Chilled Water Setpoint Limits[b] [c]	20°F to 65°F
Number of Electrical Circuits	2
Number of Refrigerant Circuits	2

[a] Data containing information on two circuits is shown as follows: circuit1/circuit 2.
[b] Setpoints only to be used as a guide, selection is required for actual chiller performance.
[c] When leaving solution is below 42°F, a glycol solution is required for all low temperature and ice-making applications.

Table 48. Electrical data

Labels	Value
Voltage	575V 3-phase
Frequency	60 Hz
Wire Connection Type	Series 16 Cam-Type Connection
SCRR	25kA at 575Vac max Symmetrical
Without Integral Pump - Dual Point Power	
Minimum Circuit Ampacity (MCA) (circuit 1/circuit 2)	394 A / 394 A
Maximum Overcurrent Protection (MOP) (circuit 1/circuit 2)	500 A / 500 A
Full Load Amps (FLA) (circuit 1/circuit 2)	370.2 A / 367.8 A
With Integral Pump - Dual Point Power	
Minimum Circuit Ampacity (MCA)	449.9 A / 394 A
Maximum Overcurrent Protection (MOP)	600 A / 500 A
Full Load Amps (FLA)	419.2 A / 367.8 A

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

Table 49. Pump data

Labels	Value
Horsepower	50 HP
Min Flow	506 gpm at 146 ft. H_2O
Max Flow	2,153 gpm at 88 ft. H_2O

Table 50. Cooling capacity (500 tons)

Leaving Water Temp (°F)	Propylene Glycol (%)	Estimated Capacity (Tons) at 2.4 GPM / Nominal Ton			
		Ambient Air Temp			
		65°F	75°F	85°F	95°F
65	0	800.2	754.2	707.1	658.2
55	0	686.2	646.4	605.5	563.8
45	0	579.5	545.6	510.9	475.2
35	10	477.1	449.4	420.6	391.0
25	25	375.0	353.8	331.4	308.2
20	30	326.5	308.2	288.9	268.7

Table 51. Waterflow rates and pressure drops (500 tons)

Flow Rate (GPM)	Pressure Drop (ft. H_2O)
506 (min flow)	5.25
600	7.37
750	11.5
900	16.7
1,000	20.7
1,100	25.2
1,200	30.2
1,300	35.8
1,450	45.0
1,600	55.5
1,750	67.4
1,855 (max flow)	76.4

Note: Maximum water side pressure is 150 psi (2.31 ft. H_2O = 1 psi).

Table 52. Dimensions and weights

Chiller Only	
Labels	**Value**
Length	52 ft. 11 in.
Width	7 ft. 3 in.
Height	7 ft. 10 in
Shipping Weight (lbs)	30,019 lbs.
Operating Weight (lbs)	30,744 lbs.
Trailer Only	
Labels	**Value**
Length	53 ft.
Width	8 ft. 6 in.
Height	5 ft. 0.25 in.
Shipping Weight (lbs)	15,560 lbs.

Notes:

1. Lifting Device: Crane only.
2. All weights and dimensions listed above are subject to change without notice or liability.

Table 53. Installed/operating clearances

View	Value
Front	48 in.
Back	48 in.
Side	48 in.[(a)]
Top	No obstructions

[(a)] Based on no obstructions; contact Trane Rental Services for side-by-side or close spacing applications.

Figure 22. RSCA0500J0 RTAF single speed pump curve

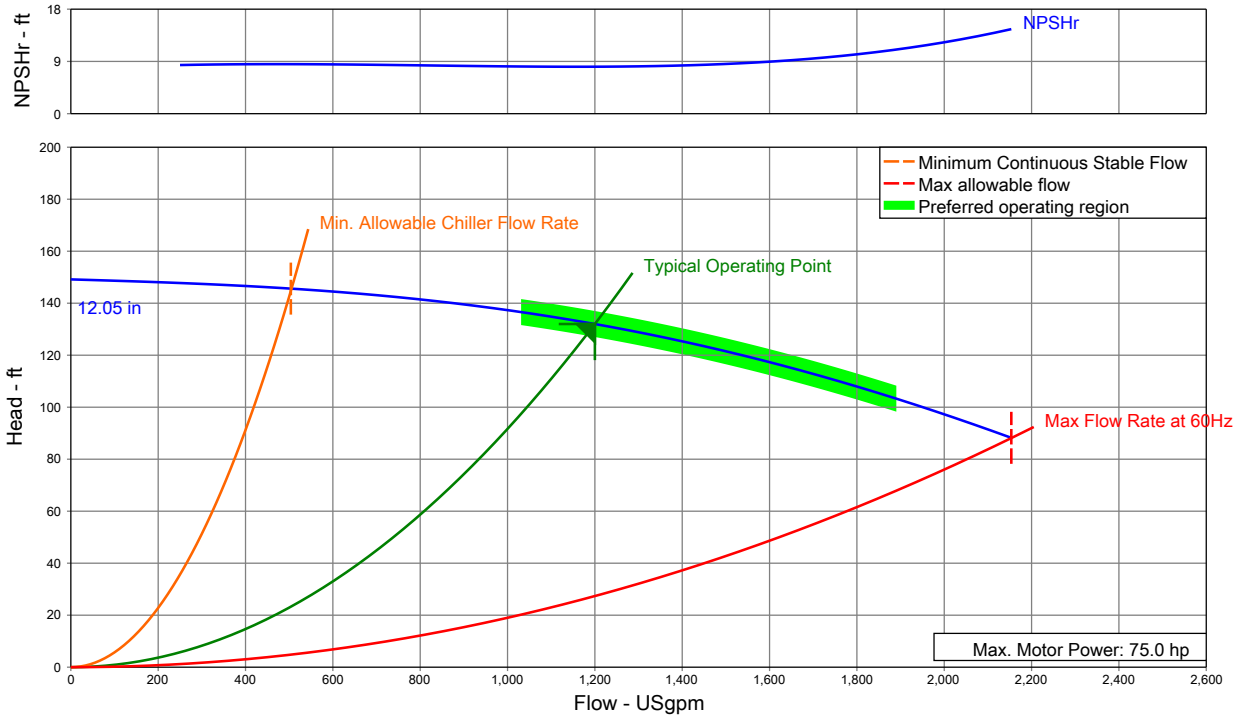


Figure 23. RSCA0500J0 RTAF multi speed pump curve

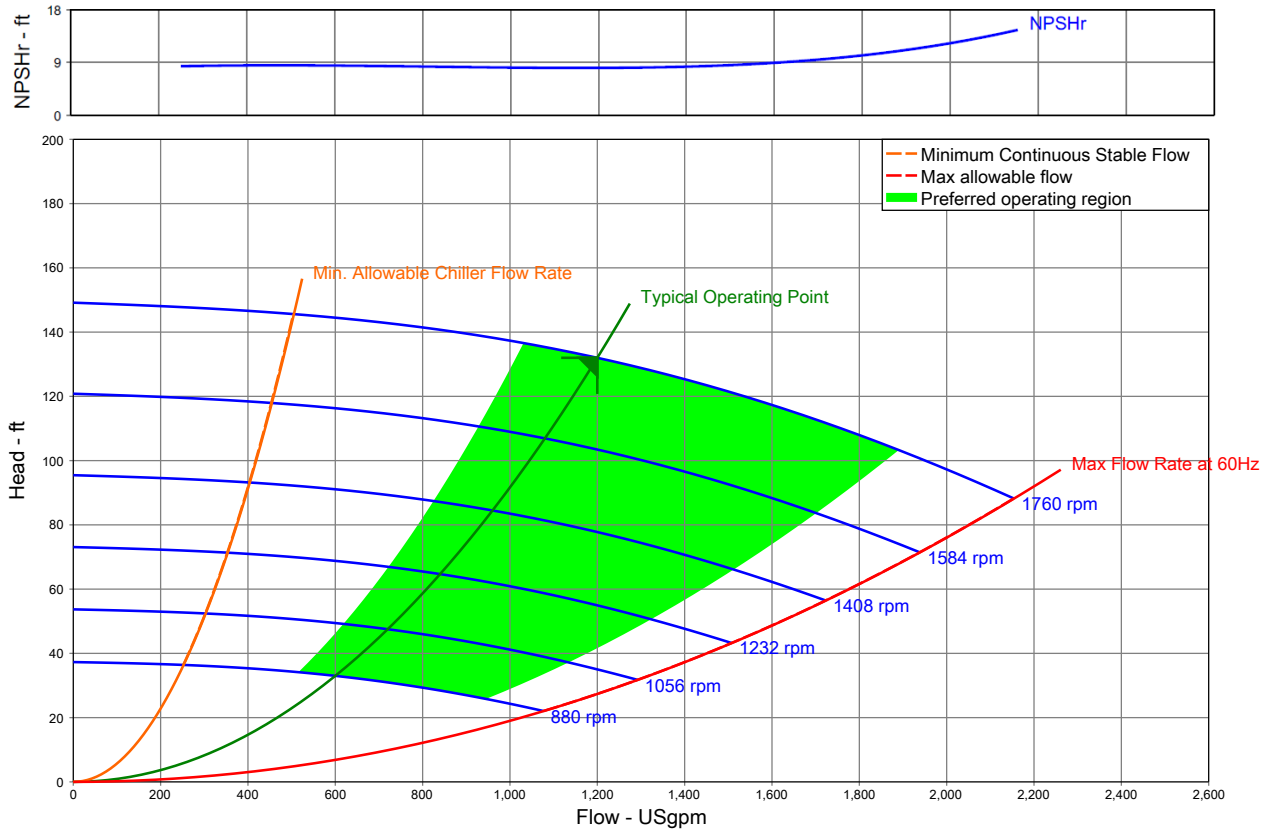
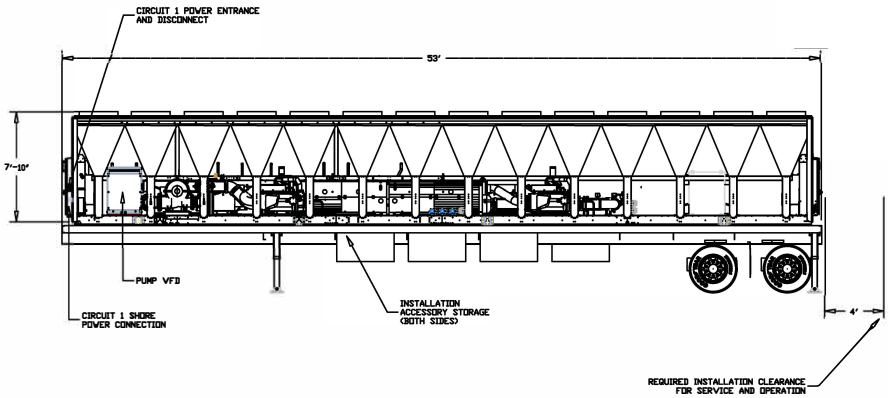
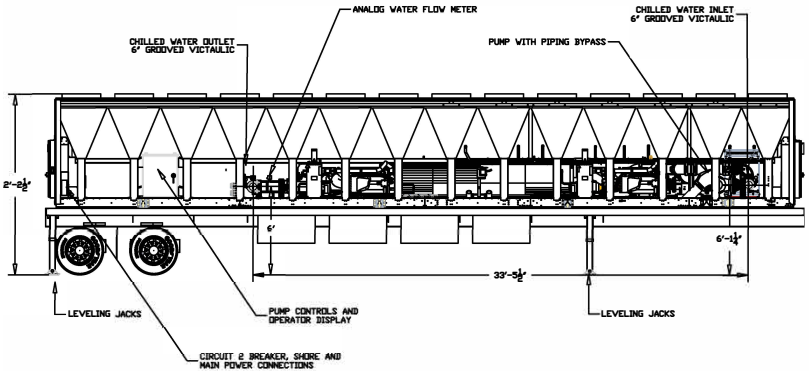
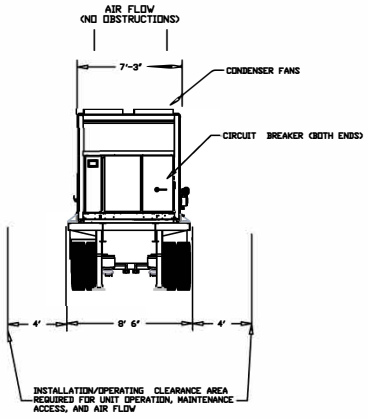


Figure 24. Unit drawings







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