Installation, Operation, and Maintenance

Trane Rental Services

575 Volt Air Handling Units

⚠ SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.

April 2025

TEMP-SVX008A-EN

Introduction

Read this manual thoroughly before operating or servicing this unit.

Warnings, Cautions, and Notices

Safety advisories appear throughout this manual as required. Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

The three types of advisories are defined as follows:

⚠ WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠ CAUTION	Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe practices.
NOTICE	Indicates a situation that could result in equipment or property-damage only accidents.

Important Environmental Concerns

Scientific research has shown that certain man-made chemicals can affect the earth's naturally occurring stratospheric ozone layer when released to the atmosphere. In particular, several of the identified chemicals that may affect the ozone layer are refrigerants that contain Chlorine, Fluorine and Carbon (CFCs) and those containing Hydrogen, Chlorine, Fluorine and Carbon (HCFCs). Not all refrigerants containing these compounds have the same potential impact to the environment. Trane advocates the responsible handling of all refrigerants.

Important Responsible Refrigerant Practices

Trane believes that responsible refrigerant practices are important to the environment, our customers, and the air conditioning industry. All technicians who handle refrigerants must be certified according to local rules. For the USA, the Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants and the equipment that is used in these service procedures. In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. Know the applicable laws and follow them.

⚠ WARNING

Proper Field Wiring and Grounding Required!

Failure to follow code could result in death or serious injury.

All field wiring MUST be performed by qualified personnel. Improperly installed and grounded field wiring poses FIRE and ELECTROCUTION hazards. To avoid these hazards, you MUST follow requirements for field wiring installation and grounding as described in NEC and your local/state/national electrical codes.

⚠ WARNING

Personal Protective Equipment (PPE) Required!

Failure to wear proper PPE for the job being undertaken could result in death or serious injury.

Technicians, in order to protect themselves from potential electrical, mechanical, and chemical hazards, MUST follow precautions in this manual and on the tags, stickers, and labels, as well as the instructions below:

- **Before installing/servicing this unit, technicians MUST put on all PPE required for the work being undertaken (Examples; cut resistant gloves/ sleeves, butyl gloves, safety glasses, hard hat/ bump cap, fall protection, electrical PPE and arc flash clothing). ALWAYS refer to appropriate Safety Data Sheets (SDS) and OSHA guidelines for proper PPE.**
- **When working with or around hazardous chemicals, ALWAYS refer to the appropriate SDS and OSHA/GHS (Global Harmonized System of Classification and Labelling of Chemicals) guidelines for information on allowable personal exposure levels, proper respiratory protection and handling instructions.**
- **If there is a risk of energized electrical contact, arc, or flash, technicians MUST put on all PPE in accordance with OSHA, NFPA 70E, or other country-specific requirements for arc flash protection, PRIOR to servicing the unit. NEVER PERFORM ANY SWITCHING, DISCONNECTING, OR VOLTAGE TESTING WITHOUT PROPER ELECTRICAL PPE AND ARC FLASH CLOTHING. ENSURE ELECTRICAL METERS AND EQUIPMENT ARE PROPERLY RATED FOR INTENDED VOLTAGE.**

⚠ WARNING

Follow EHS Policies!

Failure to follow instructions below could result in death or serious injury.

- **All Trane personnel must follow the company's Environmental, Health and Safety (EHS) policies when performing work such as hot work, electrical, fall protection, lockout/tagout, refrigerant handling, etc. Where local regulations are more stringent than these policies, those regulations supersede these policies.**
- **Non-Trane personnel should always follow local regulations.**

⚠ WARNING

Cancer and Reproductive Harm!

This product can expose you to chemicals including lead and bisphenol A (BPA), which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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Table of Contents

Overview

This manual covers the air handling units (AHU) available to rent from Trane Rental Services for temporary cooling solutions. This includes AHU technical information, start-up information, and unit maintenance. Information contained in this manual is provided to ensure the safe installation and operation of the equipment and its surroundings.

The information provided is to be used as a reference for each AHU to aid in determining unit size, power requirements, or lifting requirements.

Contact Trane Rental Services for availability of equipment (including ancillary items: pumps, flexible hose, flexible duct) prior to proceeding with securing the rental equipment.

If additional information is required, contact Trane Rental Services.

Table 1. Units affected

Unit	Description
RSCC0030J0XX[a]	18,000 CFM AHU with cooling only

[a] Represents the unique inventory number.

⚠ WARNING

Live Electrical Components!

Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.

When it is necessary to work with live electrical components, have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks.

General Information

These rental air handling units are custom Trane air handlers modified for use as rental units. The majority of the modifications are related to framing for rigging purposes, connection of chilled water piping, and temporary duct connection.

RSCC0030J0

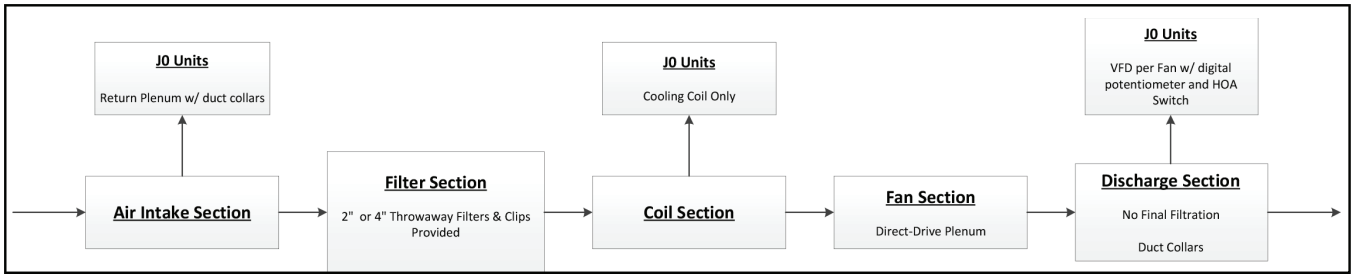
Units contain hydronic chilled water-cooling coils with 4-inch Victaulic manifolds that must be installed in the field outside each unit cabinet. Each unit model has been selected for use with 100 percent outside air with four discharge air ducts and six return air duct connections. Two units are capable of being stacked at a time. All units have input/out 16 series cam type power cable receptacles to allow daisy-chaining supply voltage conductors to other air handler models of the same type in series.

Air handlers have four, unit mounted TR150 variable frequency drives (VFDs) with bypass to allow the fan(s) to run at full speed in an event the VFD is damaged. Each supply fan airflow (CFM) can be adjusted utilizing the VFD speed potentiometer dial mounted on the outside of the top control panel located on the width side of each AHU.

Order of AHU Sections in Direction of Airflow

The figure below illustrate the general construction of all Trane Rental Air Handling Units.

Figure 1. RSCC0030



Application Considerations - Air Handler Units

Freeze Protection

In ambient temperatures 32° F (0° C) and below freezing, 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 fluid temperature. As a result of low fluid temperature below 40° F (4° C), glycol or other antifreeze solution may be utilized for hydronic systems. Contact Trane Rental Services engineering for more information on glycol percentage recommendations.

In addition to using glycol, it is highly recommended that all exposed pipe external to equipment enclosures be heat traced and insulated. Follow the recommended guidelines by the heat tracing manufacturer.

NOTICE

Coil Freeze-Up!

Failure to follow instruction below could result in equipment damage.

Drain and vent coils when not in use. Trane recommends glycol protection in all possible freezing applications. Use a glycol approved for use with commercial cooling and heating systems and copper tube coils.

RSCC0030J0 AHU

Table 2. General data

Label	Value
Ambient Operating Conditions[a]	14° F to 104° F

[a] For ambient conditions below 40° F, glycol is recommended.

Table 3. Electrical data

Labels	Value
Voltage	575 V 3-phase
Frequency	60 Hz
Number of Electrical Circuits	1
SCCR	5,000 A
OCP Device	Circuit Breaker
Supply Motor(s) (Qty/HP/FLA)[a]	4/10 HP/9 A each
Wire Connection Type	Series 16 Cam Type Only
Minimum Circuit Ampacity (MCA)	40.86 amps
Maximum Overcurrent Protection (MOP)	45 amps

Note: Series 16 pin style cam type connections on incoming power with daisy chain capable series 16 receptacle style cam type connections on outgoing power.

[a] VFD per fan

Table 4. Airside performance data

Labels	Value
Nominal Airflow (CFM)	18,000
Min/Max Airflow (CFM)[a]	4,500/18,300
Max External Static Pressure @ Nominal CFM	4.0-in.
Air Pressure Drop through Unit (in. H_2O)	3.25
Discharge Configuration	Horizontal
Flex Duct Connection Size (in.)	19 Round
Number of Discharge Air Connections	4
Number of Return Air Connections	6
Filter Rack[b] (Qty and Size)	(3) 12 in. × 24 in.
	(2) 16 in. × 20 in.
	(6) 20 in. × 24 in.

[a] Min/Max airflow is dependent upon external static pressure requirement. Contact Trane Rental Services for specific airflow and static pressure information.

[b] Unit provided with standard Merv 7 (2-in. filters), can accept 2-in. or 4-in. filters.

Table 5. Cooling coil performance data

Labels	Value
Entering Air DB/WB Temp (°F)	95/80
Leaving Air DB/WB Temp (°F)	51.9/51.8
Fluid Flow (GPM)	357.23
Entering Water Temp (°F)	44
Leaving Water Temp (°F)	54
Coil Water Pressure Drop (ft. H_2O)	17.76
Sensible Capacity (MBh)	866.76
Total Capacity (MBh)	1,792.53
Coil Face Area (sq. ft.)	28.69
Coil Rows	10
Water Connection Size	4-in. Victaulic

Table 6. Water flow rates

	Minimum	Maximum
CW Coil Flow (GPM)	61.5	418
CW Coil Pressure Drop (ft. H_2O)	0.69	23.95

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

Table 7. Dimensions and weights

Labels	F0 Models
Length	15 ft. – 1 in.
Shipping Width	8 ft. – 6 in.
Operating Width with chilled water manifold	9 ft. – 6 in.
Height	7 ft. – 6 in.
Shipping Weight	8,730 lb
Operating Weight	9,055 lb
Fork Pocket Dimensions	9.5 in. × 6 in.
Center to Center Distance of Fork Pockets	42-in.

Note: Lifting Device: Forklift or Crane.

Table 8. Operating clearances

Labels	J0 Models
Sides	48-in.
End (Control Panel/Supply)	48-in.
End (Return)	36-in.
Top	—

Figure 2. RSCC0030J0 supply fan curve

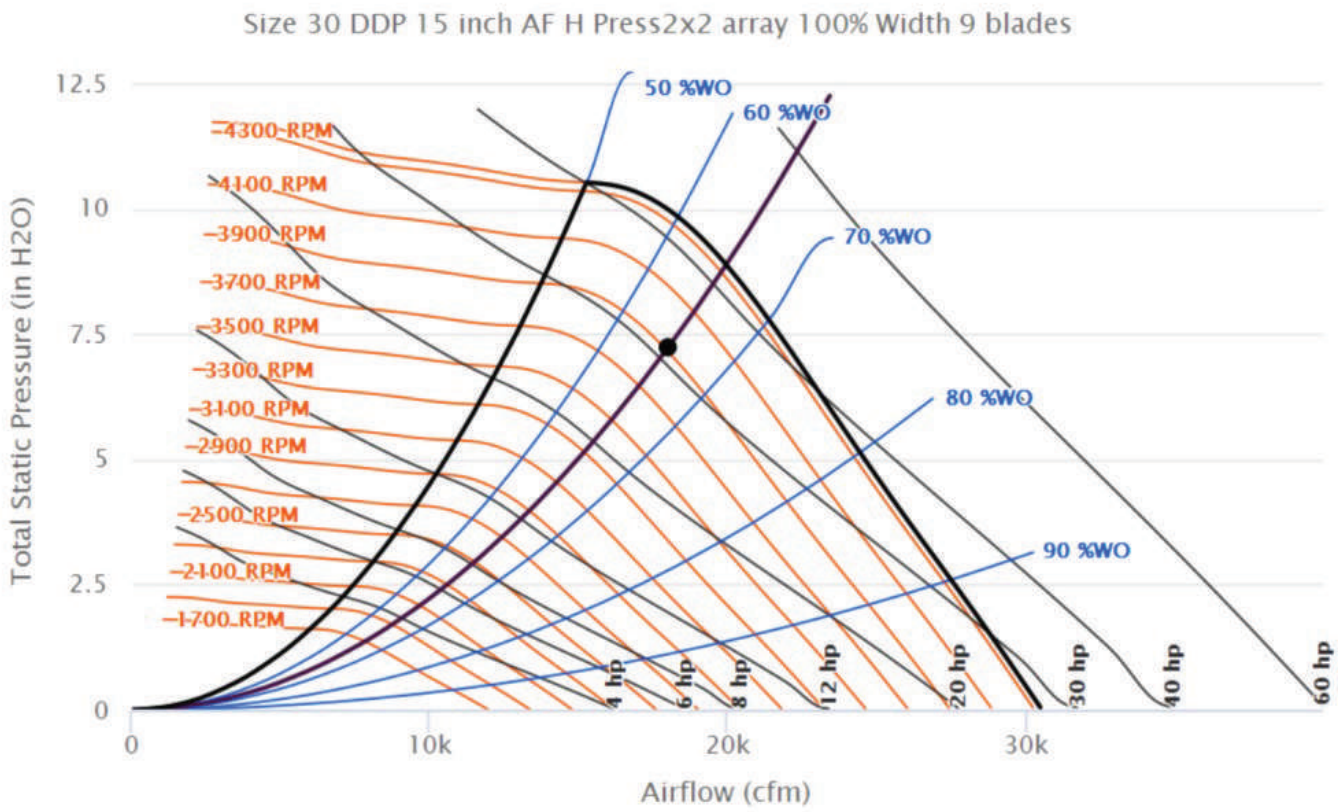
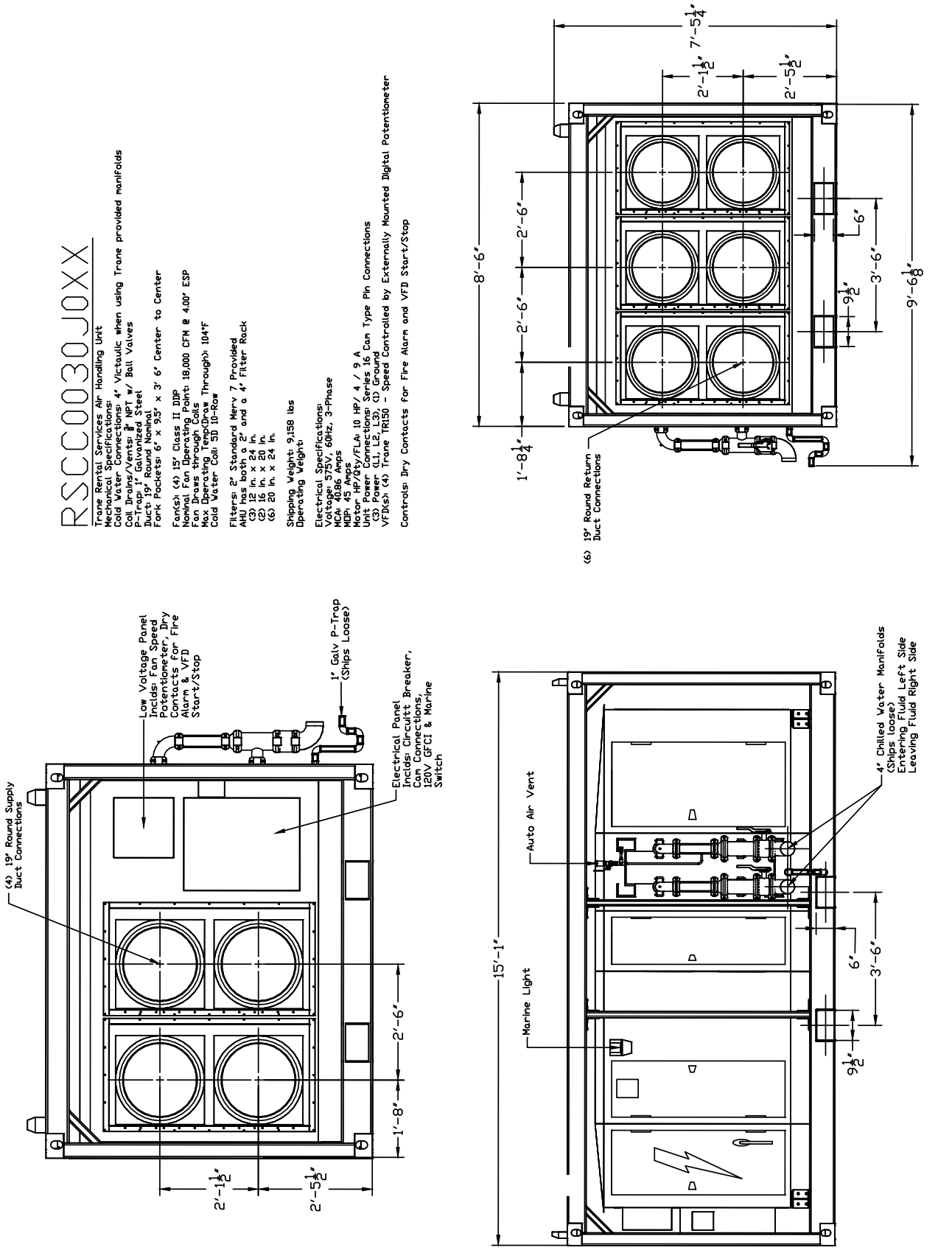


Figure 3. RSCC0030J0 submittal



Electrical Information

RSCC0030J0 Style AHUs

Each air handler unit has a main circuit breaker disconnect switch externally mounted in a NEMA 4 enclosure for over-current protection to each unit (see Figure 4, p. 11).

Figure 4. Externally mounted circuit breaker

Each unit has two sets of Series 16 cam type power supply receptacles. One set shall be utilized for incoming power supply and the second set to accommodate daisy-chaining power (see Figure 5, p. 11) supply connections to same style model air handlers.

Figure 5. Input/Output cam type receptacles

Piping Connection Configuration

RSCC0030J0

All RSCC0030 style air handler units ship with manifold assemblies that must be field installed to join two chilled water cooling coils in to one common hard-pipe header. To accommodate one 4-inch Victaulic supply and return waterline connection. See Figure 6, p. 12 and Figure 7, p. 12 manifold assembly for more details.

Figure 6. RSCC0030J0 - Manifold coil connections

Figure 7. RSCC0030J0 - Manifold assembly

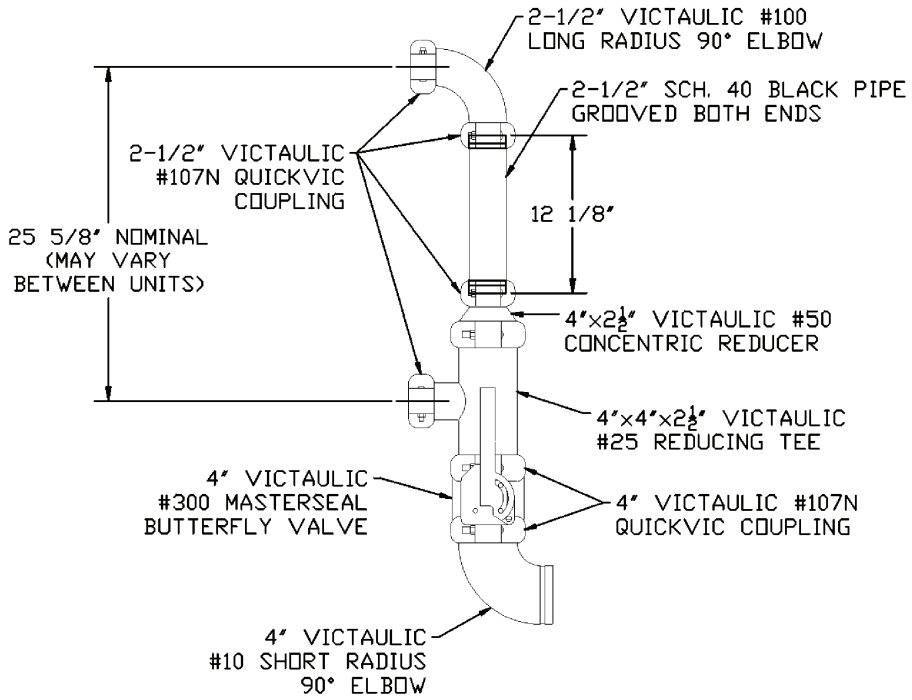


Table 9. Parts list - Chilled water manifold piping kit

Qty	Description
Pipe and Hose	
2	2.5 in. Dia × 12 - 1/8 in. Sch. 40 Black Pipe(s) - Grooved Both Ends
Couplings, Flanges, and Elbows	
2	2.5-in. No.100 Victaulic Long Radius 90° Elbow(s)
8	2.5-in.107N or 107V Victaulic Coupling(s)
2	4 in. × 2.5 in. No.50 Victaulic Concentric Reducer(s)
2	4 in. × 4 in. × 2.5 in. No.25 Victaulic Reducing Tee(s)
2	4-in. No.300 Victaulic Lever Operated Butterfly Valve(s)
2	4-in. No.10 Victaulic Short Radius 90° Elbow(s)
6	4-in. 107N or 107V Victaulic Coupling(s)

Duct Connection Configuration

RSCC0030J0

- Each unit has four, 19-inch diameter discharge air connections and six, 19-inch diameter return air connections.
- These design sequence models do not have any manual dampers for restricting the airflow and do not have outside air louvers. See Figure 8, p. 14 for the supply air discharge and Figure 9, p. 14 for the return air duct connection locations.

Figure 8. Discharge air flex duct connections

Figure 9. Return air flex duct connections

Controls Information

RSCC0030 AHU

Rental air handler units (18,000 cfm) are equipped with four Trane TR150 VFDs mounted in a control cabinet inside the unit. The VFDs are controlled by using a single digital potentiometer located on the outside of the main unit control panel. The control panel is mounted on the exterior of the machine just above the disconnect. Use the digital potentiometer to manually increase or decrease the fan speed of the unit.

Figure 10. Trane TR150 VFDs

Figure 11. Speed adjustment potentiometer

Rigging Guidelines

General Lifting Considerations

⚠ WARNING

Risk of Unit Dropping!

Failure to follow instructions below could result in death or serious injury, and equipment damage.

Inspect the suspension and/or support system to ensure all fasteners are tight and the unit is secure before working underneath the unit.

⚠ WARNING

Improper Unit Lift!

Failure to properly lift unit in a LEVEL position could result in unit dropping and possibly crushing operator/technician which could result in death or serious injury, and equipment or property-only damage.

Test lift unit approximately 24 inches (61 cm) to verify proper center of gravity lift point. To avoid dropping of unit, reposition lifting point if unit is not level.

⚠ WARNING

Heavy Object!

Failure to follow instructions below could result in unit dropping which could result in death or serious injury, and equipment or property-only damage.

Be careful when lifting the heat pump. Use appropriate lifting tools.

Figure 12. RSCC0030J0 unit

NOTICE

Equipment Damage!

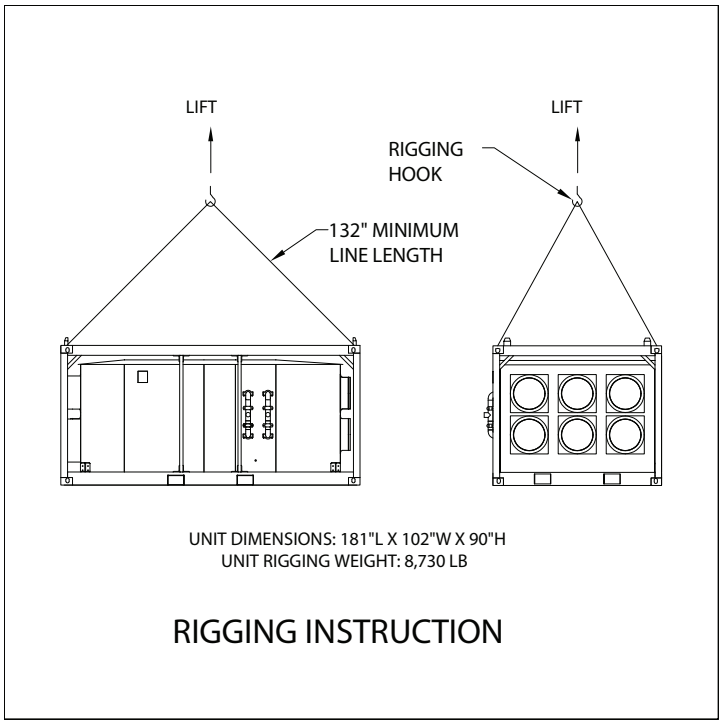
Premature skid removal could result in equipment damage.

Keep skid in place until unit is ready to set. Do not move the unit or subassembly without the skid in place as shipped from the factory.

Each air handler unit has forklift pockets and either an overhead lifting frame or base mounted lifting lugs (Figure 12, p. 16). Test the unit for proper balance before lifting.

- Lift sections using all lifting lugs or fork pockets provided.
- When hoisting the unit into position, use the proper rigging method, such as straps, slings, spreader bars, or lifting lugs for protection and safety.
- Make the loop of the sling parallel to the direction of airflow whenever possible.
- Each cable used to lift the unit must be capable of supporting the entire weight of the unit.
- Never lift units in windy conditions. Personnel should be positioned overhead and, on the ground, to guide the crane operator in positioning the sections.

Figure 13. RSCC0030J0 rigging detail



Installation and Start-Up Guidelines

In addition to the start-up guidelines below, see start-up information in the *Performance Climate Changer™ Air Handlers Model CSAA Sizes 3 to 120 Indoor and Outdoor Applications Installation, Operation, and Maintenance* (CLCH-SVX016*- EN) for RSCC0030 Series air handler units.

⚠ WARNING

Hazardous Voltage w/Capacitors!

Failure to disconnect power and discharge capacitors before servicing could result in death or serious injury.

Disconnect all electric power, including remote disconnects and discharge all motor start/run capacitors before servicing. Follow proper lockout/tagout procedures to ensure the power cannot be inadvertently energized. For variable frequency drives or other energy storing components provided by Trane or others, refer to the appropriate manufacturer's literature for allowable waiting periods for discharge of capacitors. Verify with a CAT III or IV voltmeter rated per NFPA 70E that all capacitors have discharged.

Installation

1. Install piping manifold supplied with unit (if applicable) and ensure all temporary piping is properly secured. See "Piping Connection Configuration," p. 12.
2. Install the p-trap supplied with unit. The unit p-trap is located inside the machine in a bin mounted to the filter access door.

   Determine whether condensate pump will be used and connect condensate drain piping accordingly.
3. Close all coil drains and open the valves and fill the system with fluid, checking for leaks. Bleed all air out of water system using field installed vales at high points in the system.
4. Install temporary supply ductwork and open manual dampers (if equipped).
5. For air handler units with return duct connections, install temporary return air ductwork.
   - It is recommended that the number of return ducts exceeds the number of supply ducts by at least one where available. For example, if four supply ducts are used, five return ducts are recommended.
   - A single damper adjustment handle on the outside of the unit operate the dampers for both return and fresh air louvers. Closing the return air louver will open the fresh air louver and vice versa.
   - Connect return ductwork to the duct connections without dampers first, then connect any additional return ducts on the bottom side of the plenum to the duct connectors with dampers.
6. Confirm the power supply is de-energized and connect electrical cable from the rental unit to the building power supply. See "Electrical Information," p. 11 for additional details on electrical connection types.

Start-Up

RSCC0030J0

1. Confirm all personnel are in a safe location and all doors on the air handler are closed and panels secured.
2. Energize power to the unit at the main power supply.
3. Confirm proper phasing at unit prior to energizing unit disconnect.
4. Energize unit circuit breaker (4CB1).
5. Confirm proper phasing at unit prior to energizing unit disconnect.
6. Set unit fan switch (5S5) to the **hand** position. This switch is located on the outside of the low voltage control cabinet and will light up when turned on.
7. Open control cabinet and turn Fan 1, Fan 2, Fan 3 and Fan 4 switches (5S1, 5S2, 5S3, and 5S4) to **run** position to start the VFDs/Fans.

   Note: *All fans must be in the same mode Run or Bypass to prevent surging. It is recommended to operate fans in Run mode for optimal performance.*
8. Set blower speed by using the airflow adjustment potentiometer (5R1). Turn it clockwise to increase fan speed and counterclockwise to decrease fan speed.

Maintenance Checklist

Note: *See Performance Climate Changer™ Air Handlers Model PSCA Installation, Operation, and Maintenance (CLCH-SVX018*-EN).*

- ☐ Carefully inspect lifting lugs for cracks or deformation.
- ☐ Check operation of manual supply and return dampers; also check condition of return plenum and supply/return duct collars for AHU models that have them.
- ☐ Verify p-trap, filter clips and air filters are present in the filter compartment. Replace filters as necessary.
- ☐ Carefully inspect coils, drains and vent valves, air bleeders and manifolds/hoses for damage.
- ☐ Check fan belts for signs of wear and replace as necessary for applicable AHU belt-driven models.
- ☐ Check fan motor/shaft bearings and grease as necessary (use Polyrex EM grease).
- ☐ Check fans for proper rotation and for excessive bearing noise.
- ☐ With fans running, verify proper operation of Magnahelic gauge.
- ☐ Monitor differential pressure across the unit filters using the pressure gauge mounted on the outside of the filter access door and change the filters, as necessary.
- ☐ **Electrical - No Power Applied**: Tighten all accessible electrical connections. Repair/replace any burned, damaged, or loose wires.
- ☐ **Electrical - No Power Applied**: Check Camlock connectors for signs of burning or damage.

Decommissioning Guidelines

Reference the following guidelines for decommissioning rental air handler units prior to their return at the end of a rental job. Contact Trane Rental Services for any additional information.

In conditions below freezing ambient temperatures, flush coil with antifreeze solution to ensure residual fluid cannot freeze. Contact Trane Rental Services if assistance is needed.

Notify Trane Rental Services if unit needs repair or has damage.

NOTICE

Equipment Damage!

Failure to protect the unit from freezing could result in equipment damage for which the customer will be liable.

Trane Rental AHU units are prone to freeze damage caused by cold ambient temperatures. Refer to the Trane Rental Services Freeze Protection Policy referenced in the rental agreement

⚠ WARNING

Hazardous Voltage w/Capacitors!

Failure to disconnect power and discharge capacitors before servicing could result in death or serious injury.

Disconnect all electric power, including remote disconnects and discharge all motor start/run capacitors before servicing. Follow proper lockout/tagout procedures to ensure the power cannot be inadvertently energized. For variable frequency drives or other energy storing components provided by Trane or others, refer to the appropriate manufacturer's literature for allowable waiting periods for discharge of capacitors. Verify with a CAT III or IV voltmeter rated per NFPA 70E that all capacitors have discharged.

RSCC0030J0

1. Set unit fan switch (5S5) to **off**.
2. Allow fans to fully stop prior to opening any unit access doors.
3. De-energize unit circuit breaker (4CB1).
4. De-energize power to the unit at the main power supply.
5. Open all unit drain valves.
   - Confirm the machine is either level or tilted toward the water connections.
   - Open all drains and vents, confirm fluid is draining freely. Check drain for restrictions if necessary.
   - Collect and dispose of drained fluid in accordance with applicable environmental laws and regulations.
   - Leave unit drains open until there is no more fluid coming out. This could take up to an hour or more. Do not relocate or release the unit for shipment until unit draining is complete.
6. Remove all external piping/ hoses, and duct work. Pack accessories in their associated compartments and bins.

   Note: *Air handler unit manifolds must be removed and stored in filter cabinet prior to shipment.*
7. Close all duct doors and confirm all access doors are properly closed.

Recommended Shutdown

1. In extreme cold conditions, flush coil with antifreeze solution to confirm residual fluid cannot freeze. Contact Trane Rental Services if assistance is needed.
2. Remove all temporary ductwork and close manual dampers or doors.
3. Disconnect electrical cable supplied with the unit from the power supply.
4. Confirm all access doors are properly closed.
5. Return additional hose, fittings, or cable (if furnished by Trane Rental Services) to appropriate containers for return shipment.
6. Notify Trane Rental Services if unit needs repair or has damage.

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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