



# Submittal

**Prepared For:**  
All Bidders

**Date:** November 27, 2023

**Job Name:**  
Kroger GA346 Atlanta GA

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Trane U.S. Inc. is pleased to provide the following submittal for your review and approval.

## Product Summary

**Qty Product**  
2 PREC

The attached information describes the equipment we propose to furnish for this project and is submitted for your approval.

*Submittal acceptance and return is a critical step, so please ensure submittals are returned with approval to release to production within 14 days of submittal date.*

Product performance and submittal data is valid for a period of 6 months from the date of submittal generation. If six months or more has elapsed between submittal generation and equipment release, the product performance and submittal data will need to be verified. It is the customer's responsibility to obtain such verification.

## Coordination details:

- Curb adapters required to existing 48TMF025/028 curbs. Curb adapters not included

Ryan Stephens on behalf of:

**Jeff Betz - Trane U.S. Inc.**

2300 CityGate Drive, Suite 100

Columbus, OH 43219

**For questions on this project call 866-415-2499, Option #4 -- or email: [kroger@trane.com](mailto:kroger@trane.com)**

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**Tag Data - PREC (Qty: 2)**

Item	Tag(s)	Qty	Description	Model Number
A1	RTU-1	1	20 Ton PKGD Gas - HGRH	YSJ240A3S0H**H0C0A1B1A0040000000000000000
A2	RTU-2	1	25 Ton PKGD Gas - HGRH	YSJ300A3S0H**H1C0A1B1A0040000000000000000

**Product Data - PREC**

**All Units**

- DX Cooling / Gas Heat
- Standard Efficiency
- R-410A
- 208-230/60/3
- Symbio 700
- High Gas Heat
- Economizer, Comparative Enthalpy with Barometric Relief
- Hinged Access Panels with 2-in MERV 8 Filter
- Through the Base Electric
- Non-Fused Disconnect Switch
- Powered 15A Convenience Outlet
- Advanced Controls and BACnet BAS
- Modulating Hot Gas Reheat (HGRH)
- CFS and FFS and COS
- Humidity wall mounted sensor (Field Installed)
- Remote Room Temperature Sensor (Field Installed)

**Item: A1 Qty: 1 Tag(s): RTU-1**

20 Ton

**Item: A2 Qty: 1 Tag(s): RTU-2**

25 Ton

Multi-speed Oversized Motor

The following items are excluded (pkg):

- If not specifically listed, extra filters, extra belts, extra sheaves, thermostat, external isolation, air balance, curb adapter, roof curb, hurricane ties downs and wind load calculations, condensate overflow switch and start up are not included. **Labor warranty to be provided by the installing contractor if not purchased.**

**Performance Data - 6- 25 Ton PKGD Precedent Unitary Rooftops (PREC)**

Tags	RTU-1	RTU-2
Cooling Entering Dry Bulb (F)	78.00	78.00
Cooling Entering Wet Bulb (F)	64.00	64.00
Summer Ambient (F)	95.00	95.00
Entering Dry Bulb (in HGRH) (F)	73.00	73.00
Entering Wet Bulb (in HGRH) (F)	64.00	64.00
Ambient (In HGRH) (F)	75.00	75.00
Heating Entering Air Temperature (F)	55.00	55.00
Design Airflow (cfm)	8000	9875
Airflow Application	Downflow	Downflow
Design ESP (in H2O)	1.200	1.200
Fan Pressurized (in H2O)	2.155	2.539
Total SP (in H2O)	1.653	1.861
Elevation (ft)	0.00	0.00
Gross Total Capacity (MBh)	235.54	265.92
Gross Sensible Capacity (MBh)	197.07	222.79
Gross Latent Capacity (MBh)	38.46	43.12
Net Total Capacity (MBh)	224.45	250.44
Net Sensible Capacity (MBh)	185.98	207.32
Net Sensible Heat Ratio (%)	83.00	83.00
Coil LAT DB (F)	55.27	56.79
Coil LAT WB (F)	53.89	54.79
Cooling Leaving Unit Dry Bulb (F)	57.14	58.77
Cooling Leaving Unit WB (F)	54.68	55.62
Fan Motor Heat (MBh)	1.78	2.44
Dew Point Temperature (F)	52.94	53.45
Refrigerant charge (HFC-410A) - Ckt 1 (lb)	17.2	17.7
Saturated Discharge Temperature (F)	120.49	121.24
Saturated Suction Temperature (F)	46.88	45.75
Heat Static Pressure Adj (in H2O)	0.000	0.000
Component SP Add (in H2O)	0.453	0.661
Max Available ESP (in H2O)	1.547	1.339
Supply Motor Horsepower (hp)	3.000	4.600
Supply Operating Horsepower (hp)	4.590	8.440
Supply RPM (rpm)	1518	1888
Compressor Power (kW)	17.69	20.12
System Power (kW)	25.66	28.84
EER @ AHRI (Number)	9.80	9.80
IEER @ AHRI (Number)	13.00	13.00
MCA (A)	108.00	122.00
MOP (A)	125.00	150.00
Compressor 1 RLA (A)	43.10	49.50
Compressor 2 RLA (A)	26.10	29.60
Condenser Fan FLA (A)	4.30	4.30
Evaporator Fan FLA (A)	8.80	11.00
Heating Input Capacity (MBh)	400.00	400.00
Output Heating Capacity (MBh)	324.00	324.00
Heating Leaving Air Temperature (F)	91.91	85.00
Heating Temperature Rise (F)	36.91	30.00
Height (ft)	4.92	4.92
Width (ft)	7.25	7.25
Length (ft)	10.25	10.25
Approx Configured Weight (lb)	2310.0	2360.0
Approx Installed Weight (lb)	2310.0	2360.0
Corner weight A (lb)	754.0	746.0

Tags	RTU-1	RTU-2
Corner Weight B (lb)	516.0	529.0
Corner Weight C (lb)	337.0	363.0
Corner Weight D (lb)	493.0	512.0
Center of Gravity - Length (ft)	4.17	4.25
Center of Gravity - Width (ft)	2.83	2.92
Leaving dry bulb w HGRH (F)	78.41	78.31
Net Sensible Heat Ratio w HGRH (Number)	3.80	4.06
Temperature Rise (HGRH) (F)	22.77	21.54
HGRH Capacity (MBh)	198.92	231.23
Dew Point Temperature (HGRH) (F)	52.07	52.77
Reheat Coil LAT DB (HGRH) (F)	76.96	76.60
Reheat Coil LAT WB (HGRH) (F)	61.70	61.90
Moisture Removal Rate (HGRH) (gph)	10.44	11.67
Evap Coil LAT DB (HGRH) (F)	54.19	55.06
Evap Coil LAT WB (HGRH) (F)	52.95	53.69
Supply Fan Count (Number)	2.00	2.00

**Mechanical Specifications - PREC****Item: A1, A2 Qty: 2 Tag(s): RTU-1, RTU-2****General**

- Packaged rooftop units cooling, heating capacities, and efficiencies are AHRI Certified within scope of AHRI Standard 210-240 for 6 to 25 Tons and ANSIZ21.47 and 10 CFR Part 431 pertaining to Commercial Warm Air Furnaces (all gas heating units).
- Convertible airflow.
- Symbio controls operating range is from 0-125.0 F from factory; if designing for cooling mode operation below 40.0 F ambient temp, add low ambient kit to assure continuous and reliable operation.
- Factory assembled, internally wired, fully charged with R-410A, and 100 percent run tested to check cooling operation, fan and blower rotation, and control sequence before leaving the factory.
- Colored and numbered wiring internal to the unit for simplified identification.
- Units cULus listed and labeled, classified in accordance for Central Cooling Air Conditioners.

**Casing**

- Zinc coated, heavy gauge, galvanized steel.
- Weather resistant pre-painted metal with galvanized substrate.
- Meets ASTM B117, 672 hour salt spray test.
- Removable single side maintenance access panels.
- Lifting handles in maintenance access panels (can be removed and reinstalled by removing fasteners while providing a water and air tight seal).
- Exposed vertical panels and top covers in the indoor air section insulated with a cleanable foil-faced, fire-retardant permanent, odorless glass fiber material.
- Base pan shall have no penetrations within the perimeter of the curb other than the raised 1 inch high downflow supply/return openings to provide an added water integrity precaution, if the condensate drain backs up.
- Base of the unit insulated with 1/8 inch, foil-faced, closed-cell insulation.
- Unit base provisions for forklift and/or crane lifting on three sides of unit.

**Hail Guards**

- Provides condenser coil protection.

**Powered or Unpowered Convenience Outlet**

- Powered GFCI, 120V/15A, 2 plug, convenience outlet or unpowered GFCI, 120V/20A, 2 plug, convenience outlet.
- When convenience outlet is powered, a service receptacle disconnect will be available.
- Convenience outlet is powered from the line side of the disconnect or circuit breaker, and therefore will not be affected by the position of the disconnect or circuit breaker.
- Available to order when through-the-base electrical with disconnect switch or circuit breaker option is ordered.

**Microchannel Coils**

- Optimal heat transfer performance due to flat, streamlined tubes with small ports, and metallurgical tube-to-fin bond.
- Reduce system refrigerant charge by up to 50% leading to better compressor reliability.
- Compact all-aluminum microchannel coils reduce the unit weight.
- Recyclable all aluminum coils All aluminium construction minimizes galvanic corrosion.
- Strong aluminum brazed structure provides better fin protection.
- Flat streamlined tubes more dust resistant and easy to clean.
- Coils leak tested at the factory to ensure the pressure integrity.

**Compressors**

- All units have direct-drive, hermetic, scroll type compressors with centrifugal type oil pumps.
- Suction gas-cooled motor with voltage utilization range of plus or minus 10 percent of unit nameplate voltage.
- Internal overloads standard with scroll compressors.
- All units have dual compressors.
- Three stages of cooling available on 6 to 17.5 tons units and four stages of cooling available on 20 and 25 tons units.

**Filters**

- Two inch pleated media filters shall be available on all models.

**Frostat**

- Utilized as a safety device.
- Opens to prevent freezing temperatures on evaporator coil.
- Temperature will need to rise to 50°F before closing.
- Utilized in low airflow or high outside air applications (cooling only).

**Gas Heating Section**

- The heating section shall have a progressive tubular heat exchanger with corrosion-resistant aluminized steel tubes and burners as standard on all models.
- Stainless steel heat exchanger with 409 stainless steel tubes and 439 stainless steel burners shall be optional.
- Induced draft combustion blower shall be used to pull the combustion products through the firing tubes.
- Heater shall use a direct spark ignition (DSI) system.
- On initial call for heat, the combustion blower shall purge the heat exchanger for 20 seconds before ignition.
- After three unsuccessful ignition attempts, entire heating system shall be locked out until manually reset at the thermostat/zone sensor.
- Units shall be suitable for use with natural gas or propane (field-installed kit).

**Heat Exchanger**

- Compact cabinet features a tubular heat exchanger in low, medium and high heat capacities.
- Corrosion-resistant aluminized steel tubes and burners are standard on all models.
- Induced draft blower to pull the gas mixture through the burner tubes.
- Direct spark ignition and a flame sensor as a safety device to validate the flame.

**Indoor Fan**

- Direct drive plenum fan design - 6 to 25 tons units.
- Plenum fan design - backward-curved fan wheel along with an external rotor direct drive variable speed indoor motor.
- Supply fan speed adjustments can be made using the Symbio 700 or Mobile App.
- Motors are thermally protected.
- Variable speed direct drive motors are high efficiency - 6 to 25 tons.

**Through-the-Base Electrical with Disconnect Switch**

- 3-pole, molded case, disconnect switch with provisions for through-the-base electrical connections.
- Disconnect switch installed within unit in a water tight enclosure.
- Wiring provided from the switch to the unit high voltage terminal block.
- Switch cULus agency recognized.

*Note: Disconnect switch sized per NEC and cULus guidelines but will not be used in place of unit overcurrent protection.*

**Economizer (Standard)**

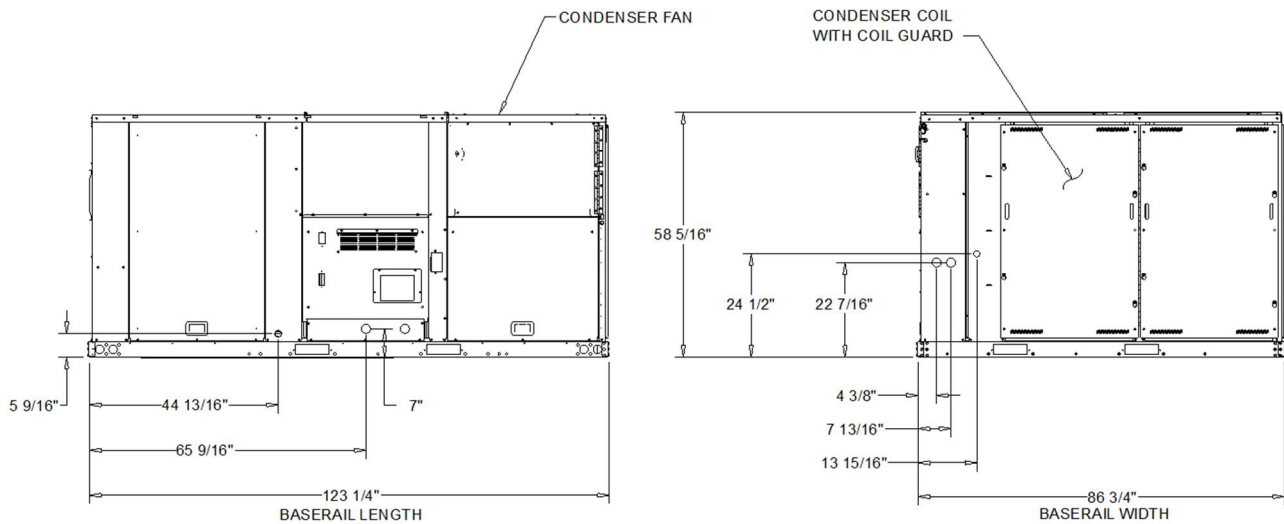
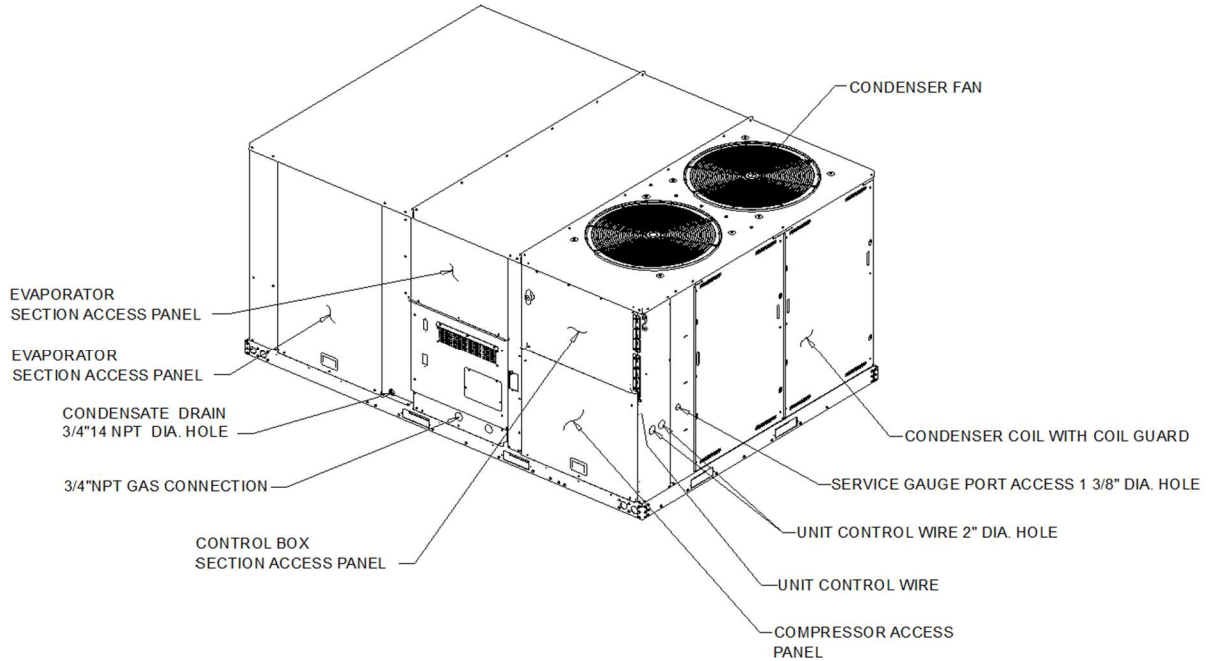
- Available with or without barometric relief.
- Fully modulating 0-100 percent motor and dampers, minimum position setting, preset linkage, wiring harness with plug, spring return actuator and fixed dry bulb control.
- Barometric relief shall provide a pressure operated damper that shall be gravity closing.
- Barometric relief shall prohibit entrance of outside air during the equipment ?off? cycle.
- Optional solid state or differential enthalpy control.
- Arrives in shipping position and shall be moved to the operating position by the installing contractor.

**Dimensional Drawings - PREC**

**Item: A1, A2 Qty: 2 Tag(s): RTU-1, RTU-2**

**NOTES:**

1. THRU -THE -BASE ELECTRICAL IS NOT STANDARD ON ALL UNITS.
2. VERIFY WEIGHT, CONNECTION, AND ALL DIMENSION WITH INSTALLER DOCUMENTS BEFORE INSTALLATION

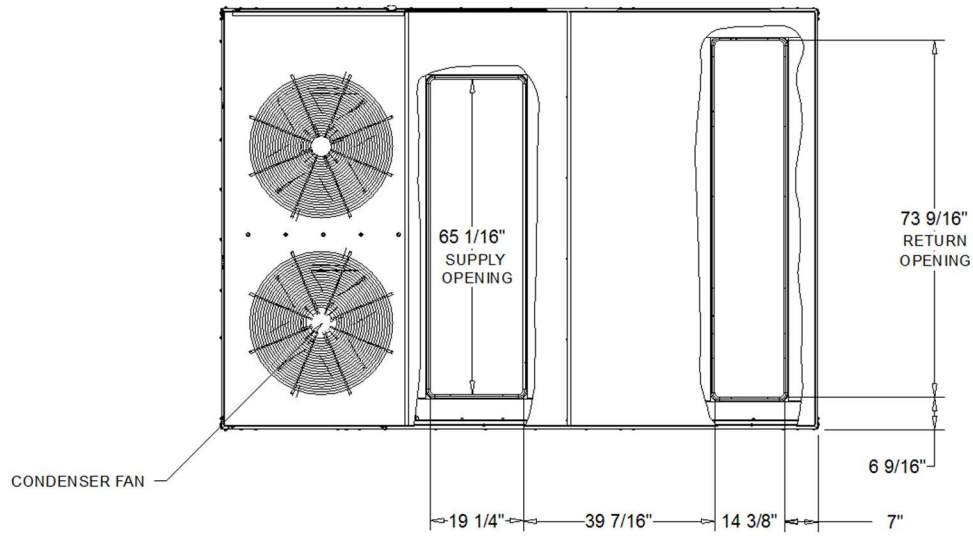


DX COOLING / GAS HEAT STANDARD EFFICIENCY

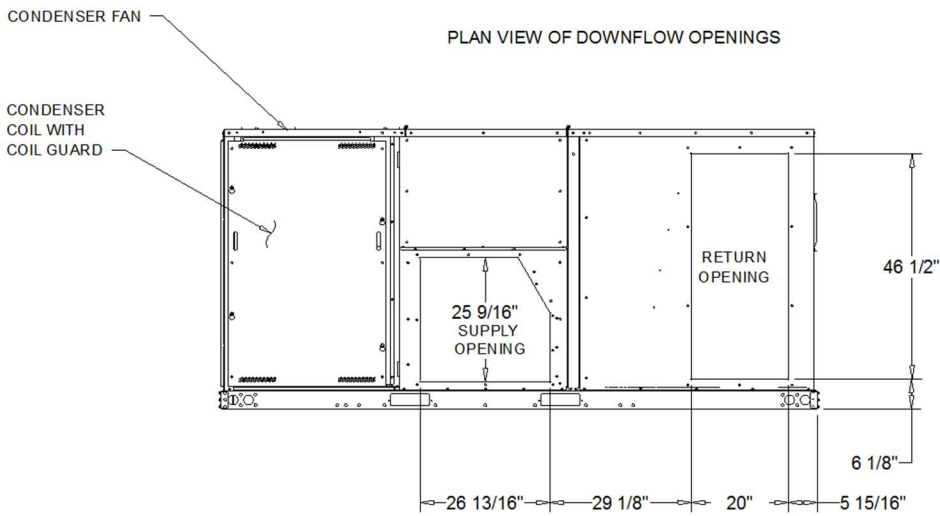
DIMENSION DRAWING

Dimensional Drawings - PREC

Item: A1, A2 Qty: 2 Tag(s): RTU-1, RTU-2



PLAN VIEW OF DOWNFLOW OPENINGS



HORIZONTAL AIR FLOW OPENING

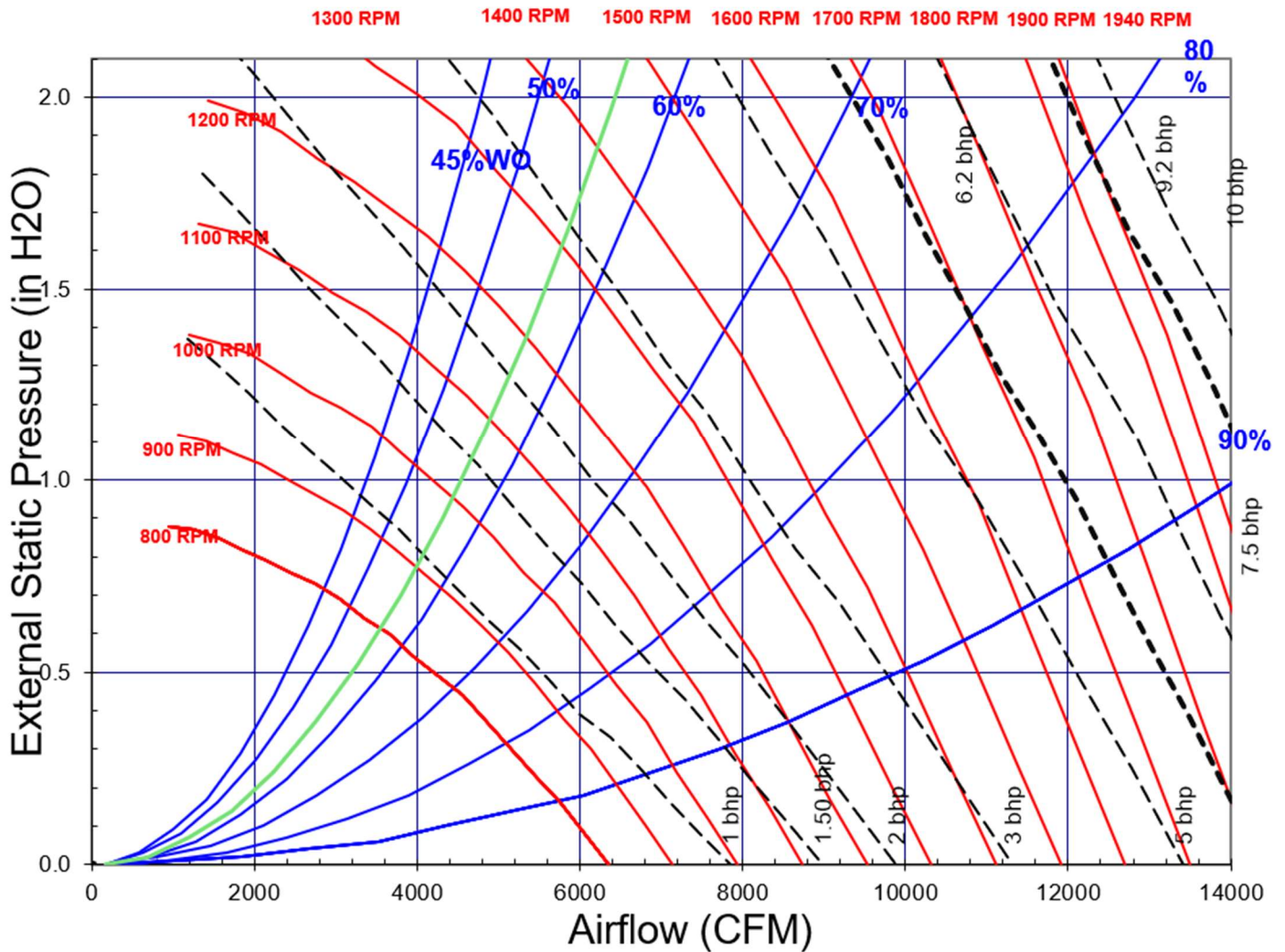
DX COOLING / GAS HEAT STANDARD EFFICIENCY

DIMENSION DRAWING

Dimensional Drawings - PREC

Item: A1, A2 Qty: 2 Tag(s): RTU-1, RTU-2

### TSJ180-300\*, Downflow, Std Filter, Wet Coil, Cooling Only

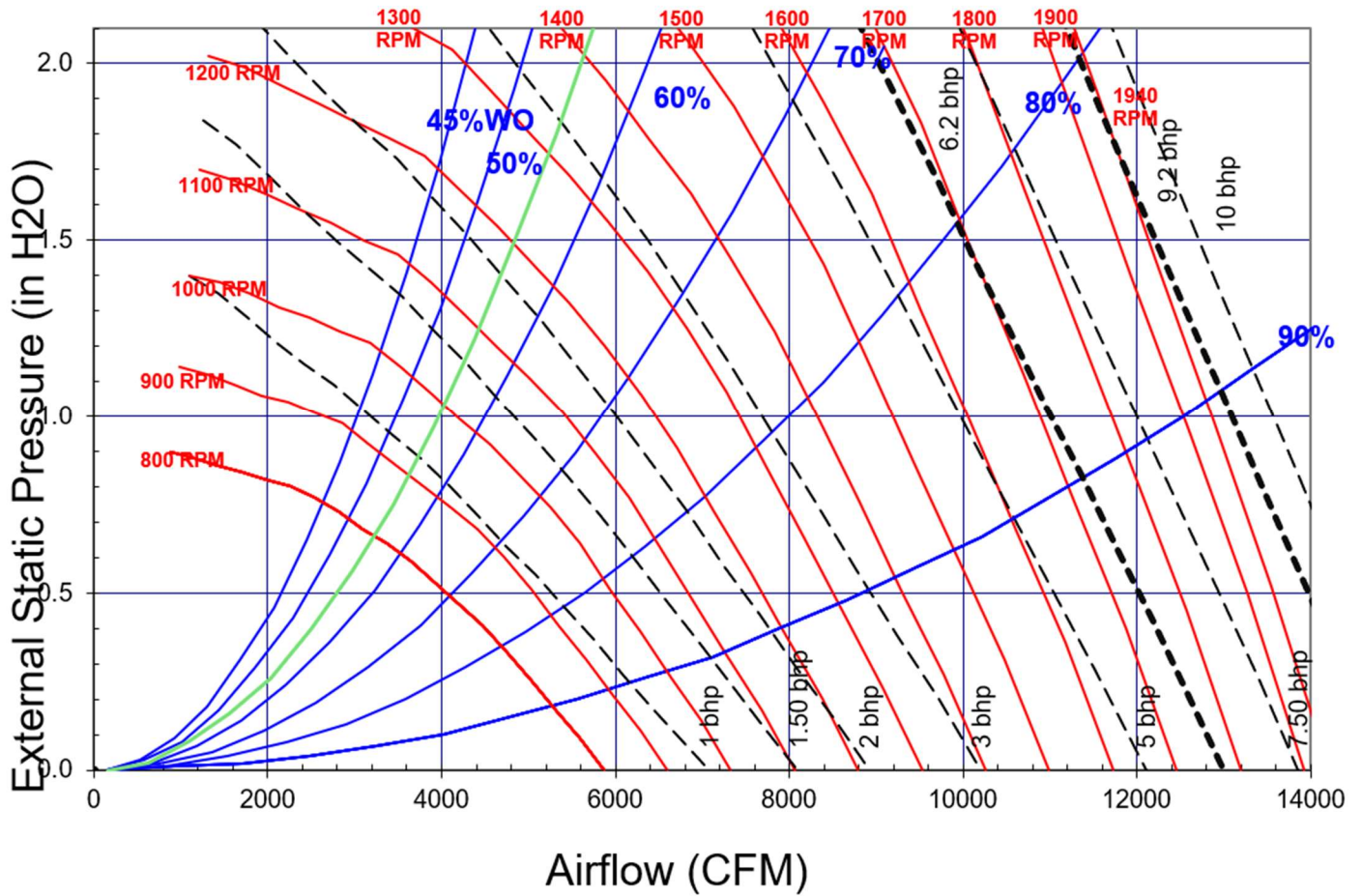


Note: Fan Curves are for TSJ/WSJ units. For YSJ units, add additional static pressure for Gas Heat Exchanger (ref. RT-PRC098\*, table 47)

Dimensional Drawings - PREC

Item: A1, A2 Qty: 2 Tag(s): RTU-1, RTU-2

TSJ180-300\*, Horizontal, Std Filter, Wet Coil, Cooling Only



Note: Fan Curves are for TSJ/WSJ units. For YSJ units, add additional static pressure for Gas Heat Exchanger (ref. RT-PRC098\*, table 47)

**Weight, Clearance & Rigging - PREC**  
Item: A1 Qty: 1 Tag(s): RTU-1

- NOTES:  
1. APPROX. INSTALLED WEIGHT INCLUDES ALL SELECTED OPTIONS AND ACCESSORIES.  
2. CORNER WEIGHTS ARE FOR BASE UNIT ONLY AND DO NOT INCLUDE OPTIONS OR ACCESSORIES.  
3. WEIGHT INCLUDES BOTH FACTORY AND FIELD INSTALLED ACCESSORY.

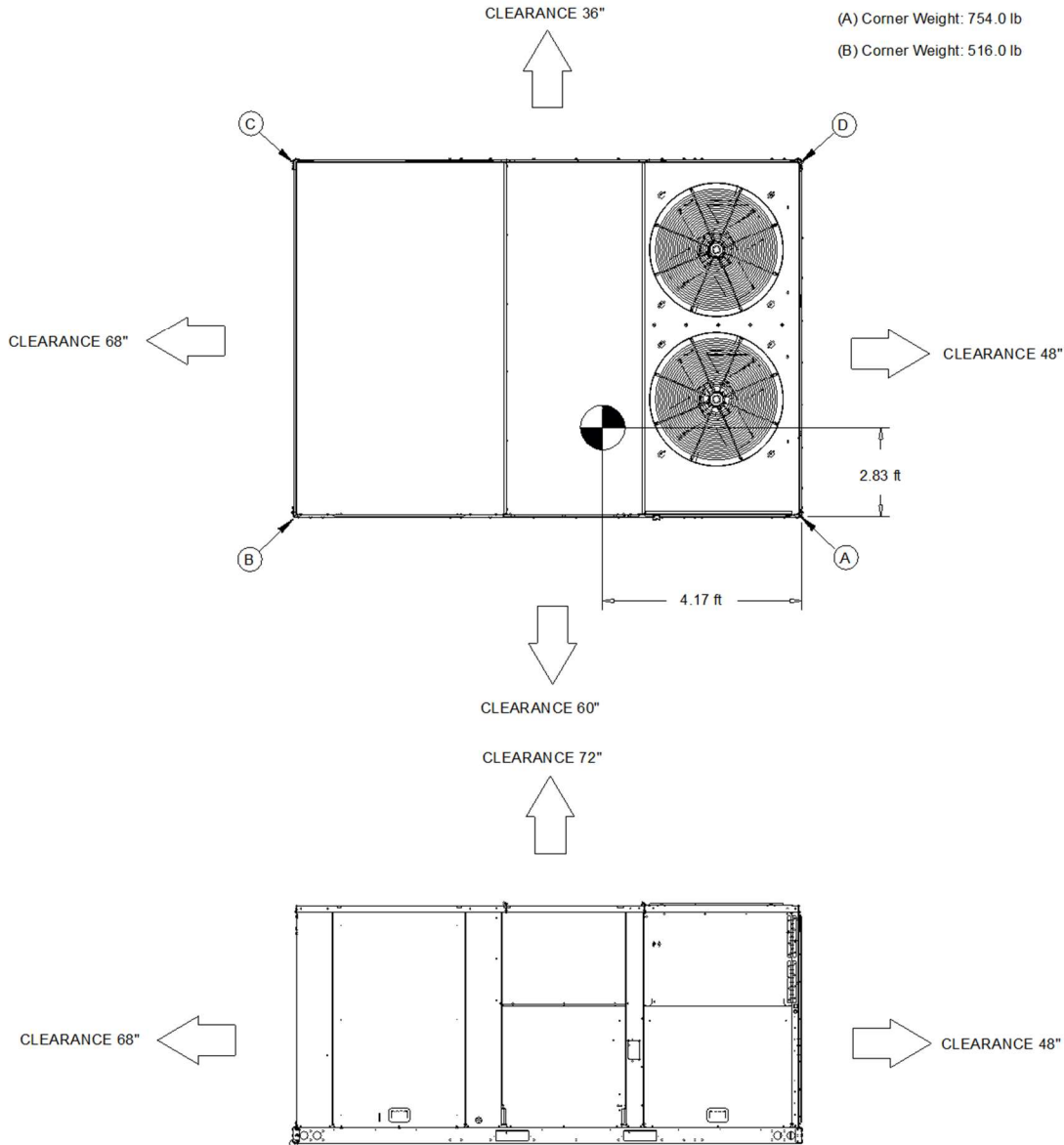
Approximate Installed Weight: 2,310.0 lb

(A) Corner Weight: 754.0 lb

(C) Corner Weight: 337.0 lb

(B) Corner Weight: 516.0 lb

(D) Corner Weight: 493.0 lb



DX COOLING / GAS HEAT STANDARD EFFICIENCY

WEIGHTS AND CLEARANCES

**Weight, Clearance & Rigging - PREC**  
Item: A2 Qty: 1 Tag(s): RTU-2

- NOTES:  
1. APPROX. INSTALLED WEIGHT INCLUDES ALL SELECTED OPTIONS AND ACCESSORIES.  
2. CORNER WEIGHTS ARE FOR BASE UNIT ONLY AND DO NOT INCLUDE OPTIONS OR ACCESSORIES.  
3. WEIGHT INCLUDES BOTH FACTORY AND FIELD INSTALLED ACCESSORY.

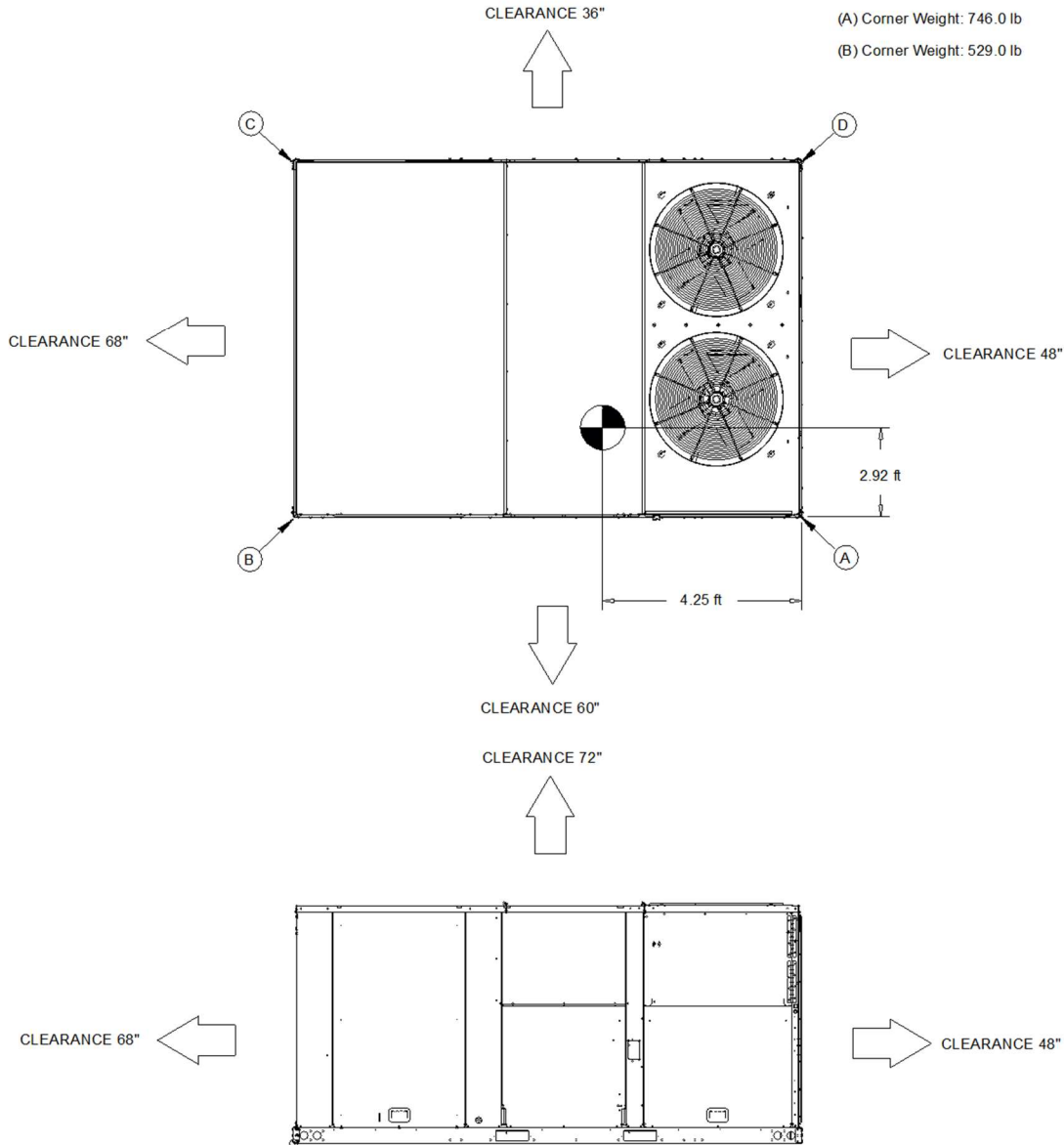
Approximate Installed Weight: 2,360.0 lb

(A) Corner Weight: 746.0 lb

(C) Corner Weight: 363.0 lb

(B) Corner Weight: 529.0 lb

(D) Corner Weight: 512.0 lb

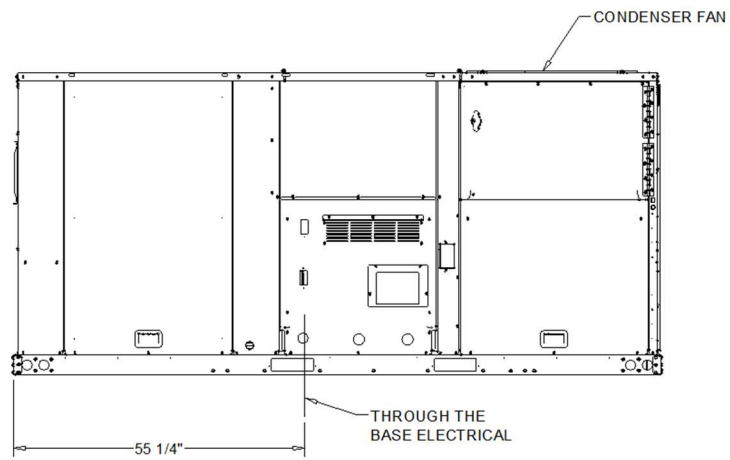
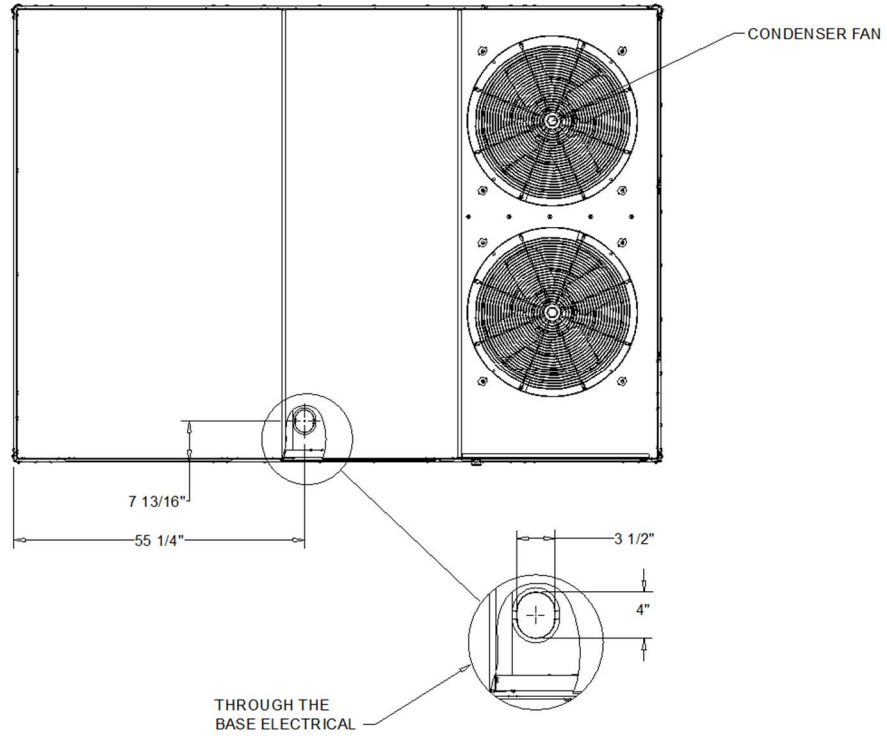


DX COOLING / GAS HEAT STANDARD EFFICIENCY

WEIGHTS AND CLEARANCES

Accessory - PREC

Item: A1, A2 Qty: 2 Tag(s): RTU-1, RTU-2

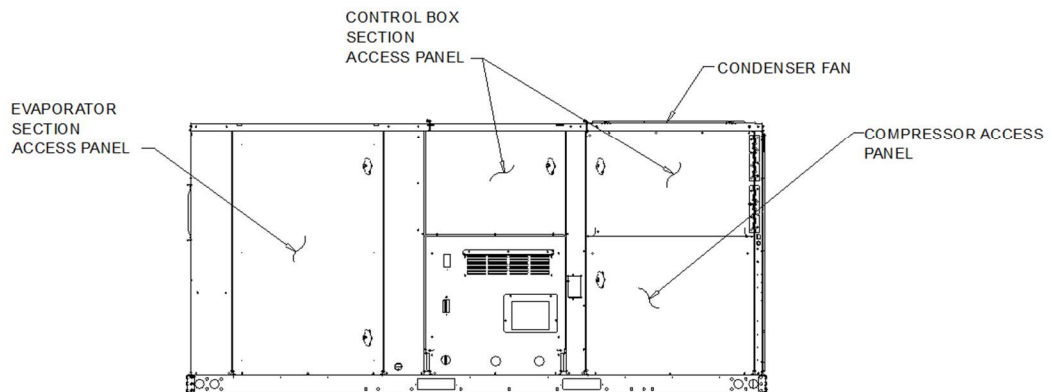
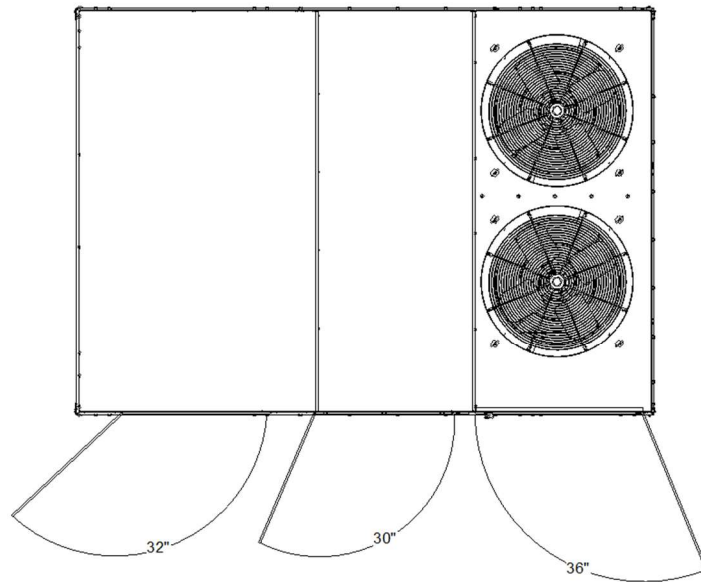


THROUGH-THE-BASE ELECTRICAL (OPTION)

DX COOLING / GAS HEAT STANDARD EFFICIENCY

Accessory - PREC

Item: A1, A2 Qty: 2 Tag(s): RTU-1, RTU-2

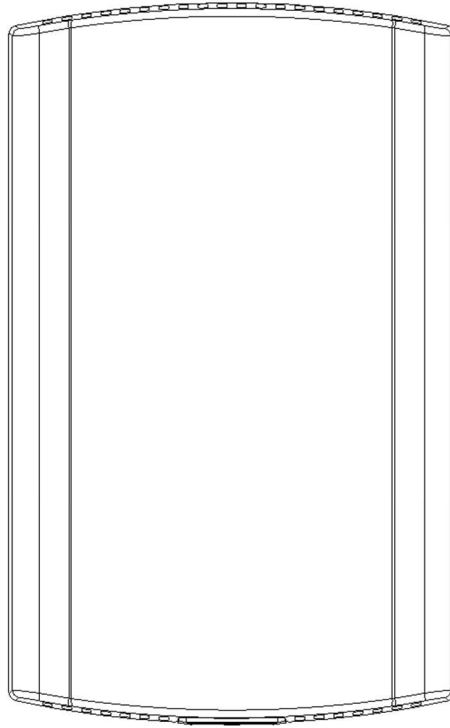


SWING DIAMETER FOR HINGED DOOR(S) (OPTION)

DX COOLING / GAS HEAT STANDARD EFFICIENCY

**Accessory - PREC**

**Item: A1, A2 Qty: 2 Tag(s): RTU-1, RTU-2**



PROVIDES TEMPERATURE INPUT ONLY. CAN BE USED AS A SECONDARY REMOTE TEMPERATURE INPUT FOR THERMOSTATS.

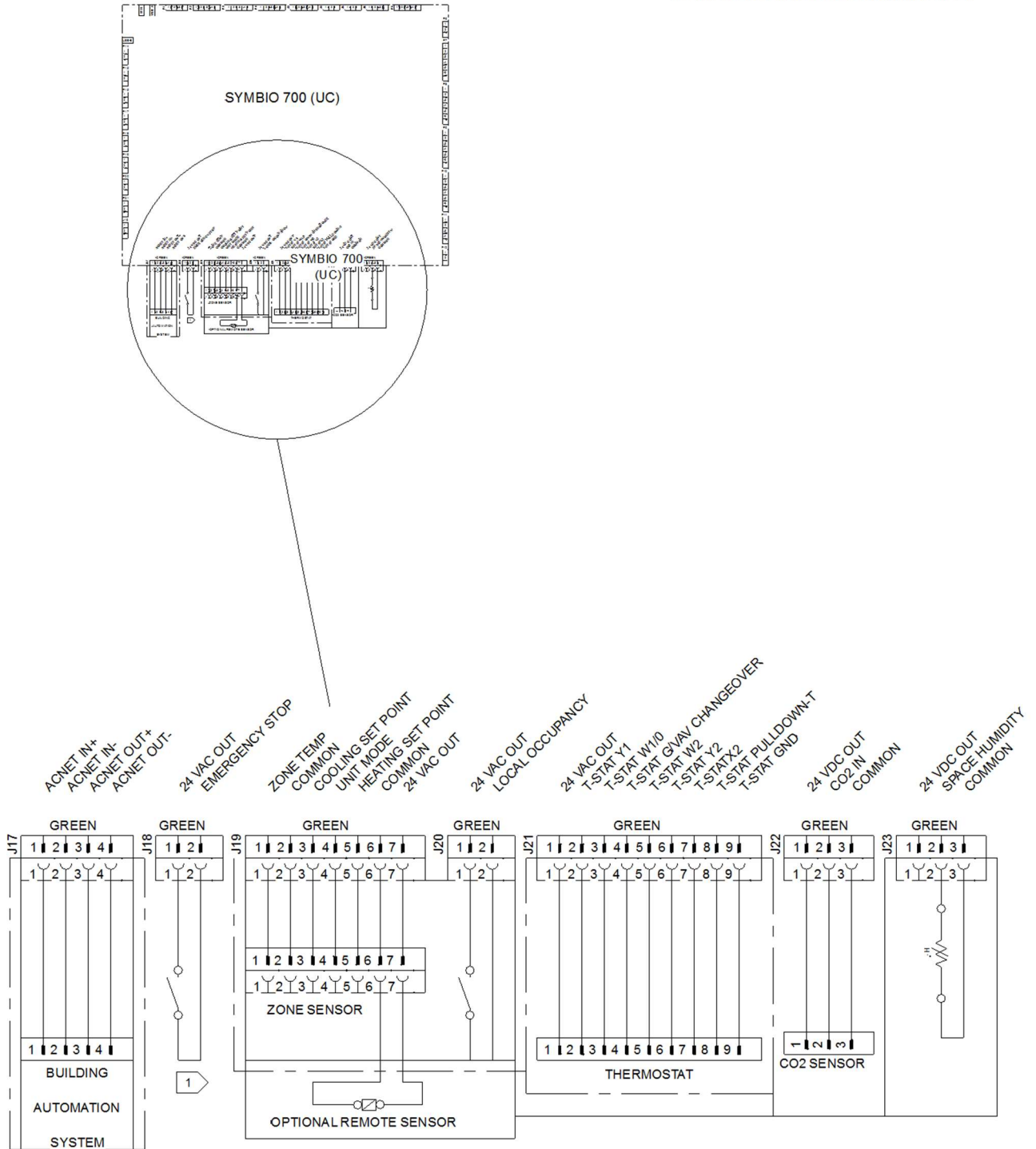
BAYSEN077 - ZONE TEMPERATURE ONLY

ZONE SENSOR (ACCESSORY)

Field Wiring - PREC

Item: A1, A2 Qty: 2 Tag(s): RTU-1, RTU-2

NOTES:  
1. VERIFY WEIGHT, CONNECTION, AND ALL DIMENSION WITH INSTALLER DOCUMENTS BEFORE INSTALLATION



SYMBIO 700 (J17, J18, J19, J20, J21, J22, AND J23)

FIELD WIRING DRAWING

**Field Installed Options - Part/Order Number Summary**

This is a report to help you locate field installed options that arrive at the jobsite. This report provides part or order numbers for each field installed option, and references it to a specific product tag. It is NOT intended as a bill of material for the job.

**Product Family - PREC**

Item	Tag(s)	Qty	Description	Model Number
A1	RTU-1	1	20 Ton PKGD Gas - HGRH	YSJ240A3S0H**H0C0A1B1 A0040000000000000000
A2	RTU-2	1	25 Ton PKGD Gas - HGRH	YSJ300A3S0H**H1C0A1B1 A0040000000000000000

Field Installed Option Description	Part/Ordering Number
Humidity wall mounted sensor	BAYSENS036A
Remote Room Temperature Sensor	BAYSENS077A