



Submittal



Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 08/17/17

Prepared For: Rob Mitchell

Date: April 27, 2017

Customer P.O. Number:
Customer Project Number:

Sold To: HVAC Services

Job Number:
Job Name:
Baxter Academy

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

Product Summary

Qty	Product
4	3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
2	20 Ton Packaged Gas/Electric Rooftop Units

Daniel Broderick
Trane
860 Spring Street, Unit 1
Westbrook, ME 04092
Phone: (207) 828-1777
Cell:
Fax: (207) 828-1511

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

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.



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Tag Data - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop (Qty: 4)

Item	Tag(s)	Qty	Description	Model Number
A1	RTU#6	1	6 Ton R410A PKGD Unitary Gas/Electric	YSC072F3RMA-- C001000103000000000000000000
A2	RTU#3	1	6 Ton R410A PKGD Unitary Gas/Electric	YSC072F3RMA-- D001000203000000000000000000
A3	RTU#4, RTU#5	2	8.5 Ton R410A PKGD Unitary Gas/Electric	YSC102F3RLA-- C001000103000000000000000000

Product Data - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop

All Units

- DX cooling, gas heat Standard efficiency
- Convertible configuration
- 208-230/60/3
- Microprocessor controls 3ph
- Standard condenser coil w/hail guard
- Frostat and crankcase heater 3ph
- Roof curb (Fld)
- CO2 wall mounted, field sensor kit (Fld)

Item: A1 Qty: 1 Tag(s): RTU#6

- 6 Ton Single compressor
- Medium gas heat 3ph
- Economizer Dry Bulb 0-100%
- Trane communications interface 3ph
- Power exhaust (Fld)

Item: A2 Qty: 1 Tag(s): RTU#3

- 6 Ton Single compressor
- Medium gas heat 3ph
- Economizer Dry Bulb 0-100% with Barometric Relief
- Lontalk(R) communications interface 3ph
- Room sensor with temperature adjustment w/override (Fld)

Item: A3 Qty: 2 Tag(s): RTU#4, RTU#5

- 8.5 Ton
- Low gas heat 3ph
- Economizer Dry Bulb 0-100%
- Trane communications interface 3ph
- Power exhaust (Fld)



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Performance Data - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop

Tags	RTU#6, RTU#3	RTU#4, RTU#5
Design Airflow (cfm)	2400	3400
Airflow Application	Downflow	Downflow
Cooling Entering DB (F)	80.00	80.00
Cooling Entering WB (F)	67.00	67.00
Ent Air Relative Humidity (%)	51.08	51.08
Ambient Temp (F)	95.00	95.00
Evap Coil Leaving Air Temp (DB) (F)	58.95	59.04
Evap Coil Leaving Air Temp (WB) (F)	56.90	57.34
Cooling Leaving Unit DB (F)	60.28	60.43
Cooling Leaving Unit WB (F)	57.41	57.87
Gross Total Capacity (MBh)	75.00	102.00
Gross Sensible Capacity (MBh)	54.55	76.96
Gross Latent Capacity (MBh)	20.45	25.04
Net Total Capacity (MBh)	72.36	98.02
Net Sensible Capacity (MBh)	51.91	72.98
Net Sensible Heat Ratio (Number)	0.72	0.74
Heating EAT (F)	65.00	65.00
Heating LAT (F)	102.80	91.80
Heating Delta T (F)	37.80	26.80
Input Heating Capacity (MBh)	120.00	120.00
Output Heating Capacity (MBh)	97.20	97.20
Output Heating Cap. w/Fan (MBh)	99.84	101.18
Design ESP (in H2O)	0.750	1.000
Component SP (in H2O)	0.110	0.190
Field supplied drive kit required	None	None
Indoor mtr operating power (bhp)	1.07	1.74
Indoor RPM (rpm)	899	893
Indoor Motor Power (kW)	0.80	1.30
Outdoor Motor Power (kW)	0.59	0.70
Compressor Power (kW)	5.27	7.07
System Power (kW)	6.66	9.06
IPLV @ AHRI (IPLV)	13.0	13.0
MCA (A)	36.50	43.30
MOP (A)	50.00	50.00
Compressor 1 RLA (A)	22.40	15.90
Compressor 2 RLA (A)	0.00	13.10
Evaporator fan FLA (A)	5.00	6.30
Condenser fan FLA (A)	3.85	4.00
Min. unit operating weight (lb)	710.0	904.0
Max. unit operating weight (lb)	963.0	1157.0
Fan motor heat (MBh)	2.64	3.98
Dew Point (F)	55.56	56.25
Rated capacity (AHRI) (MBh)	71.20	96.60
Exhaust fan power (kW)	0.65	0.65
Refrig charge (HFC-410A) - ckt 1 (lb)	5.5	4.7
Refrig charge (HFC-410A) - ckt 2 (lb)	-	3.9
ASHRAE 90.1	Yes	Yes
Saturated Suction Temp Circuit 1 (F)	48.71	49.62
Saturated Discharge Temp Circuit 1 (F)	114.87	115.68
Saturated Suction Temp Circuit 2 (F)	-	53.37
Saturated Discharge Temp Circuit 2 (F)	-	118.91
IEER ()	13.00	13.00
EER @ AHRI Conditions (EER)	11.2	11.2
Total Static Pressure (in H2O)	0.860	1.190



Mechanical Specifications - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop

Item: A1 - A3 Qty: 4 Tag(s): RTU#6, RTU#3, RTU#4, RTU#5

General

The units shall be convertible airflow. The operating range shall be between 115°F and 0°F in cooling as specified from the factory for units with microprocessor controls. Operating range for units with electromechanical controls shall be between 115°F and 40°F. Cooling performance shall be rated in accordance with ARI testing procedures. All units shall be 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. Wiring internal to the unit shall be colored and numbered for simplified identification. Units shall be cULus listed and labeled, classified in accordance for Central Cooling Air Conditioners.

Casing

Unit casing shall be constructed of zinc coated, heavy gauge, galvanized steel. Exterior surfaces shall be cleaned, phosphatized, and finished with a weather-resistant baked enamel finish. Unit's surface shall be tested 672 hours in a salt spray test in compliance with ASTM B117. Cabinet construction shall allow for all maintenance on one side of the unit. Service panels shall have lifting handles and be removed and reinstalled by removing two fasteners while providing a water and air tight seal. All exposed vertical panels and top covers in the indoor air section shall be insulated with a cleanable foil-faced, fire-retardant permanent, odorless glass fiber material. The base of the unit shall be insulated with 1/8 inch, foil-faced, closed-cell insulation. All insulation edges shall be either captured or sealed. The unit's base pan shall have no penetrations within the perimeter of the curb other than the raised 1 1/8 inch high downflow supply/return openings to provide an added water integrity precaution, if the condensate drain backs up. The base of the unit shall have provisions for forklift and crane lifting, with forklift capabilities on three sides of the unit.

Unit Top

The top cover shall be one piece construction or, where seams exist, it shall be double-hemmed and gasket-sealed. The ribbed top adds extra strength and enhances water removal from unit top.

Filters

Throwaway filters shall be standard on all units. Optional 2-inch MERV 8 and MERV 13 filters shall also be available.

Compressors

All units shall have direct-drive, hermetic, scroll type compressors with centrifugal type oil pumps. Motor shall be suction gas-cooled and shall have a voltage utilization range of plus or minus 10 percent of unit nameplate voltage. Internal overloads shall be provided with the scroll compressors.

Dual compressors are outstanding for humidity control, light load cooling conditions and system back-up applications. Dual compressors are available on 7½-10 ton models and allow for efficient cooling utilizing 3-stages of compressor operation for all high efficiency models.

Notes:

Crankcase heaters are optional on YSC (036, 048, 060, 072, 090, 102, 120); standard on YHC (036, 048, 060, 072, 092, 102, 120).

Indoor Fan

The following units shall be equipped with a direct drive plenum fan design (T/YSC120F, T/YHC074F, T/YHC092F, T/YHC102F, 120F). Plenum fan design shall include a backward-curved fan wheel along with an external rotor direct drive variable speed indoor motor. All plenum fan designs will have a variable speed adjustment potentiometer located in the control box.

3 to 5 ton units (high efficiency 3-phase with optional motor) are belt driven, FC centrifugal fans with adjustable motor sheaves. 3 to 5 ton units (standard and high efficiency 3-phase) have multispeed, direct drive motors. All 6 to 8½ ton units (standard efficiency) shall have belt drive motors with an adjustable idler-arm assembly for quick-adjustment to fan belts and motor sheaves. All motors shall be thermally protected. All 10 tons, 6 ton (074), 7½ to 8½ (high efficiency) units have variable speed direct drive motors. All indoor fan motors meet the U.S. Energy Policy Act of 1992 (EPACT).

Outdoor Fans

The outdoor fan shall be direct-drive, statically and dynamically balanced, draw-through in the vertical discharge position. The fan motor shall be permanently lubricated and shall have built-in thermal overload protection.

Evaporator and Condenser Coils

Internally finned, 5/16" copper tubes mechanically bonded to a configured aluminum plate fin shall be standard.



Evaporator coils are standard for all 3 to 10 ton standard efficiency models. Microchannel condenser coils are standard for all 3 to 10 ton standard efficiency models and 4,5,6, 7.5, 8.5 ton high efficiency models. The microchannel type condenser coil is not offered on the 4 and 5 ton dehumidification model. Due to flat streamlined tubes, ports, and metallurgical tube-to-fin bond, microchannel coil has better heat transfer performance. Microchannel condenser coil can reduce system refrigerant charge by up to 50% because of smaller internal volume, which provides better compressor reliability. Compact all-aluminum microchannel coils also help to reduce the unit weight. These all-aluminum coils are recyclable. Galvanic corrosion is also minimized due to all aluminum construction. Strong aluminum brazed structure provides better fin protection. In addition, flat streamlined tubes also make microchannel coils more dust resistant and easier to clean. Coils shall be leak tested at the factory to ensure the pressure integrity. The evaporator coil and condenser coil shall be leak tested to 600 psig. The assembled unit shall be leak tested to 465 psig. The condenser coil shall have a patent pending 1+1+1 hybrid coil designed with slight gaps for ease of cleaning. A plastic, dual-sloped, removable and reversible condensate drain pan with through-the-base condensate drain is standard.

Tool-less Hail Guards

Tool-less, hail protection quality coil guards are available for condenser coil protection.

Controls

Unit shall be completely factory-wired with necessary controls and contactor pressure lugs or terminal block for power wiring. Unit shall provide an external location for mounting a fused disconnect device. A choice of microprocessor or electromechanical controls shall be available. Microprocessor controls provide for all 24V control functions. The resident control algorithms shall make all heating, cooling, and/or ventilating decisions in response to electronic signals from sensors measuring indoor and outdoor temperatures. The control algorithm maintains accurate temperature control, minimizes drift from set point, and provides better building comfort. A centralized microprocessor shall provide anti-short cycle timing and time delay between compressors to provide a higher level of machine protection. 24-volt electromechanical control circuit shall include control transformer and contactor.

High Pressure Control

All units include High Pressure Cutout as standard.

Phase monitor

Phase monitor shall provide 100% protection for motors and compressors against problems caused by phase loss, phase imbalance, and phase reversal. Phase monitor is equipped with an LED that provides an ON or FAULT indicator. There are no field adjustments. The module will automatically reset from a fault condition.

Trane Communication Interface

This option shall be provided to interface ReliaTel controlled units with the Trane Integrated Comfort systems.

LonTalk Communication Interface

This option shall be provided to allow the unit to communicate as a Tracer LCI-R device or directly with generic LonTalk Network Building Automation System Controls.

Refrigerant Circuits

Each refrigerant circuit offer thermal expansion valve as standard. Service pressure ports, and refrigerant line filter driers are factory-installed as standard. An area shall be provided for replacement suction line driers.

Gas Heating Section

The heating section shall have a progressive tubular heat exchanger design using stainless steel burners and corrosion resistant steel throughout. An induced draft combustion blower shall be used to pull the combustion products through the firing tubes. The 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, the 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) and also comply with the California requirement for low NOx emissions (Gas/Electric Only).

Economizer

This accessory shall be available with or without barometric relief. The assembly includes 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. The barometric relief shall provide a pressure operated damper that shall be gravity closing and shall prohibit entrance of outside air during the equipment off cycle. Optional solid state or differential enthalpy control shall be available for either factory or field installation. The economizer arrives in the shipping position and shall be moved to the operating position by the installing contractor.



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Frostat

This option is to be utilized as a safety device. The Frostat opens when temperatures on the evaporator coil fall below 10°F. The temperature will need to rise to 50°F before closing. This option should be utilized in low airflow or high outside air applications. (Cooling with Electric Heat Only.)

Accessory - Powered Exhaust

The powered exhaust shall provide exhaust of return air, when using an economizer, to maintain better building pressurization.

Accessory - Roof Curb

The roof curb shall be designed to mate with the unit's downflow supply and return and provide support and a water tight installation when installed properly. The roof curb design shall allow field fabricated rectangular supply/return ductwork to be connected directly to the curb. Curb design shall comply with NRCA requirements. Curb shall be shipped knocked down for field assembly and shall include wood nailer strips.

Accessory - CO2 Sensing

The CO2 sensor shall have the ability to monitor space occupancy levels within the building by measuring the parts per million of CO2 (Carbon Dioxide) in the air. As the CO2 levels increase, the outside air damper modulates to meet the CO2 space ventilation requirements.

Frostat

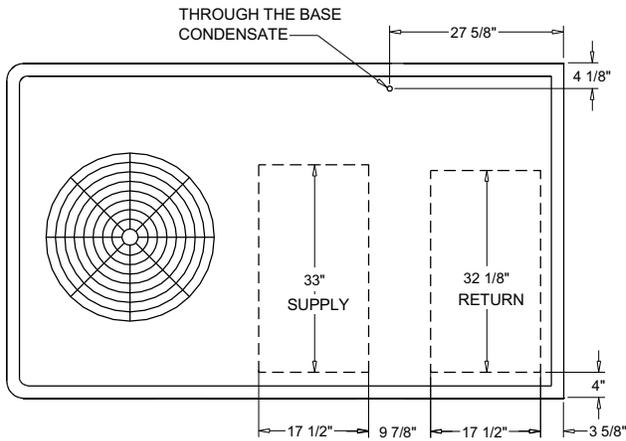
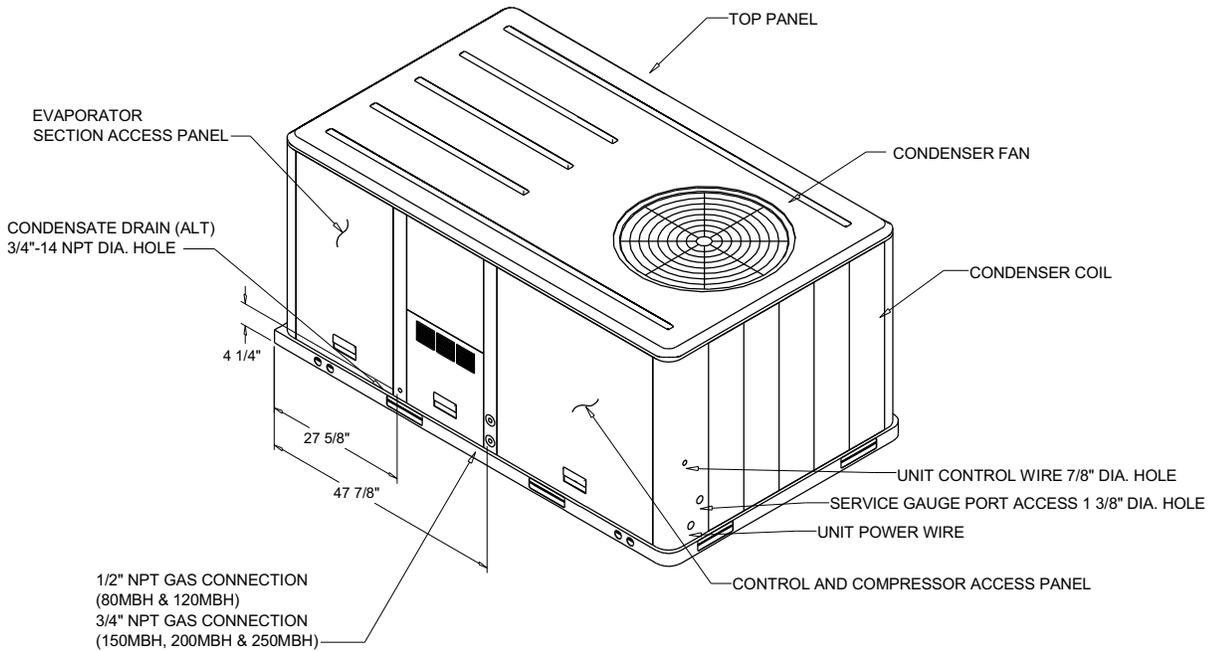
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Unit Dimensions - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
Item: A1, A2 Qty: 2 Tag(s): RTU#6, RTU#3



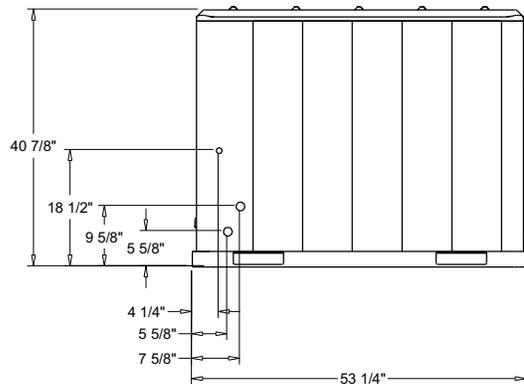
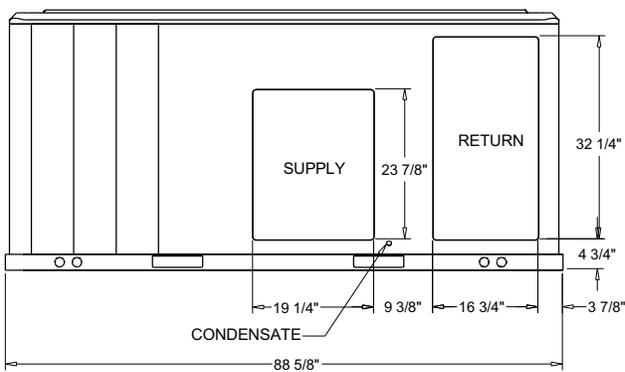
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- NOTES:**
1. THRU - THE - BASE ELECTRICAL AND GAS IS NOT STANDARD ON ALL UNITS.
 2. VERIFY WEIGHT, CONNECTION, AND ALL DIMENSION WITH INSTALLER DOCUMENTS BEFORE INSTALLATION

PLAN VIEW UNIT
 DIMENSION DRAWING



➔
HORIZONTAL AIR FLOW

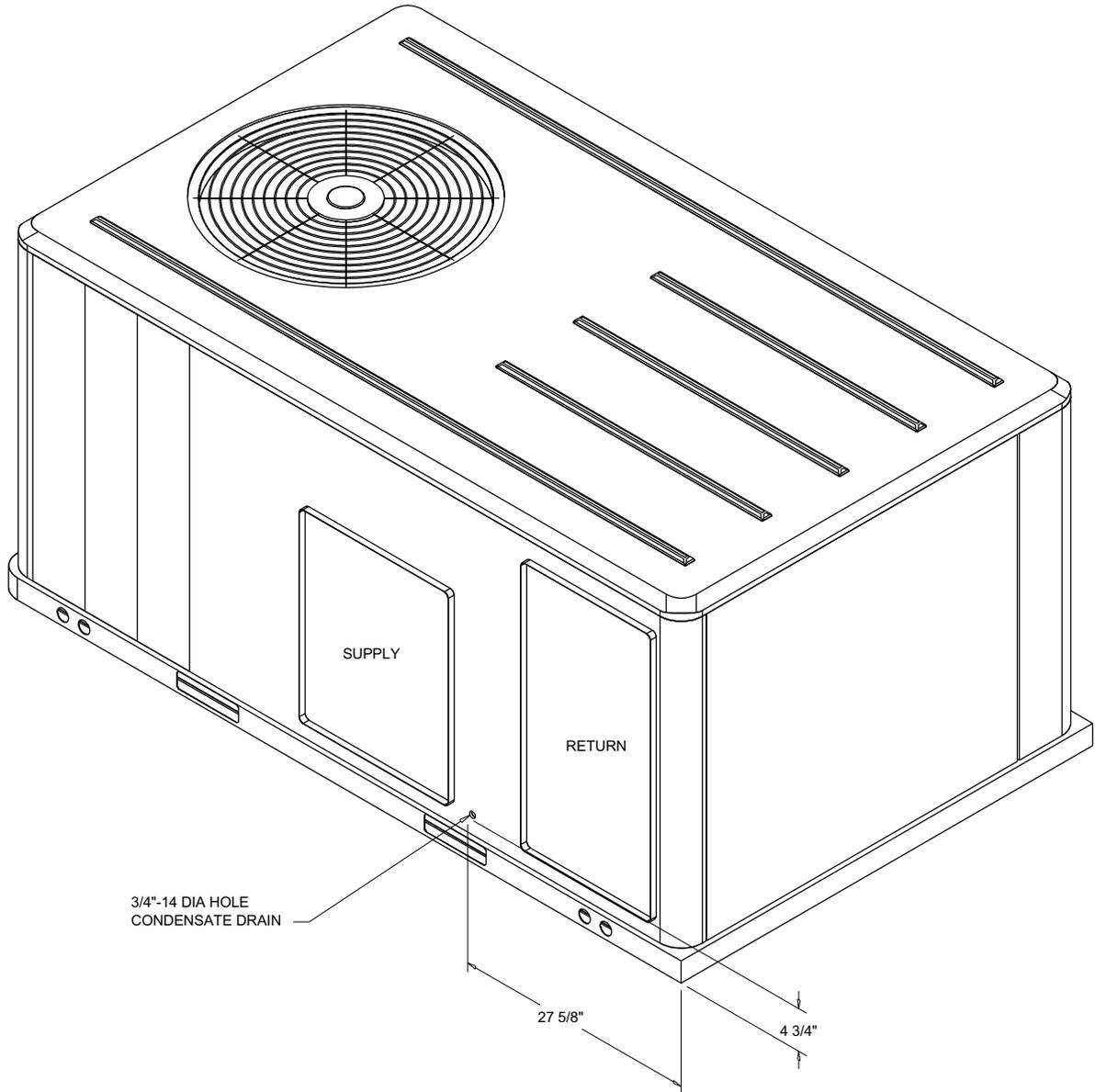
PACKAGED GAS / ELECTRICAL
 DIMENSION DRAWING

Unit Dimensions - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
Item: A1 - A3 Qty: 4 Tag(s): RTU#6, RTU#3, RTU#4, RTU#5



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ISOMETRIC-PACKAGED COOLING



Unit Dimensions - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
Item: A1 Qty: 1 Tag(s): RTU#6

ELECTRICAL / GENERAL DATA

GENERAL ⁽²⁾⁽⁴⁾⁽⁶⁾ Model: YSC072F Oversized Motor Unit Operating Voltage: 187-253 MCA: N/A Unit Primary Voltage: 208 MFS: N/A Unit Secondary Voltage: 230 MCB: N/A Unit Hertz: 60 Unit Phase: 3 EER 11.2 Standard Motor MCA: 36.5 MCA: N/A MFS: 50.0 MFS: N/A MCB: 50.0 MCB: N/A		HEATING PERFORMANCE HEATING - GENERAL DATA Heating Model: Medium Heating Input (BTU): 120,000 Heating Output (BTU): 96,000 No. Burners: 3 No. Stages: 1 Gas Inlet Pressure Natural Gas (Min/Mix): 4.5/14.0 LP (Min/Max): 11.0/14.0 Gas Pipe Connection Size: 1/2"																						
INDOOR MOTOR <table border="0"> <tr> <td>Standard Motor</td> <td>Oversized Motor</td> <td>Field Installed Oversized Motor</td> </tr> <tr> <td>Number: 1</td> <td>Number: N/A</td> <td>Number: N/A</td> </tr> <tr> <td>Horsepower: 1.0</td> <td>Horsepower: N/A</td> <td>Horsepower: N/A</td> </tr> <tr> <td>Motor Speed (RPM): --</td> <td>Motor Speed (RPM): N/A</td> <td>Motor Speed (RPM): N/A</td> </tr> <tr> <td>Phase: 3</td> <td>Phase: N/A</td> <td>Phase: N/A</td> </tr> <tr> <td>Full Load Amps: 5.00</td> <td>Full Load Amps: N/A</td> <td>Full Load Amps: N/A</td> </tr> <tr> <td>Locked Rotor Amps: 32.2</td> <td>Locked Rotor Amps: N/A</td> <td>Locked Rotor Amps: N/A</td> </tr> </table>				Standard Motor	Oversized Motor	Field Installed Oversized Motor	Number: 1	Number: N/A	Number: N/A	Horsepower: 1.0	Horsepower: N/A	Horsepower: N/A	Motor Speed (RPM): --	Motor Speed (RPM): N/A	Motor Speed (RPM): N/A	Phase: 3	Phase: N/A	Phase: N/A	Full Load Amps: 5.00	Full Load Amps: N/A	Full Load Amps: N/A	Locked Rotor Amps: 32.2	Locked Rotor Amps: N/A	Locked Rotor Amps: N/A
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COMPRESSOR Circuit 1/2 Number: 1 Horsepower: 5.6 Phase: 3 Rated Load Amps: 22.4 Locked Rotor Amps: 149.0		OUTDOOR MOTOR Number: 1 Horsepower: 0.70 Motor Speed (RPM): 1100 Phase: 1 Full Load Amps: 3.5 Locked Rotor Amps: 10.9																						
POWER EXHAUST ACCESSORY ⁽³⁾ (Field Installed Power Exhaust) Phase: 1 Horsepower: 0.87 Motor Speed (RPM): 1075 Full Load Amps: 5.7 Locked Rotor Amps: 13.6	FILTERS Type: Throwaway Furnished: Yes Number: 4 Recommended: 16"x25"x2"		REFRIGERANT ⁽²⁾ Type: R-410 Factory Charge Circuit #1: 5.3 lb Circuit #2: N/A																					

NOTES:

1. Maximum (HACR) Circuit Breaker sizing is for installations in the United States only.
2. Refrigerant charge is an approximate value. For a more precise value, see unit nameplate and service instructions.
3. Value does not include Power Exhaust Accessory.
4. Value includes oversized motor.
5. Value does not include Power Exhaust Accessory.
6. EER is rated at AHRI conditions and in accordance with DOE test procedures.



Unit Dimensions - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
Item: A2 Qty: 1 Tag(s): RTU#3

ELECTRICAL / GENERAL DATA

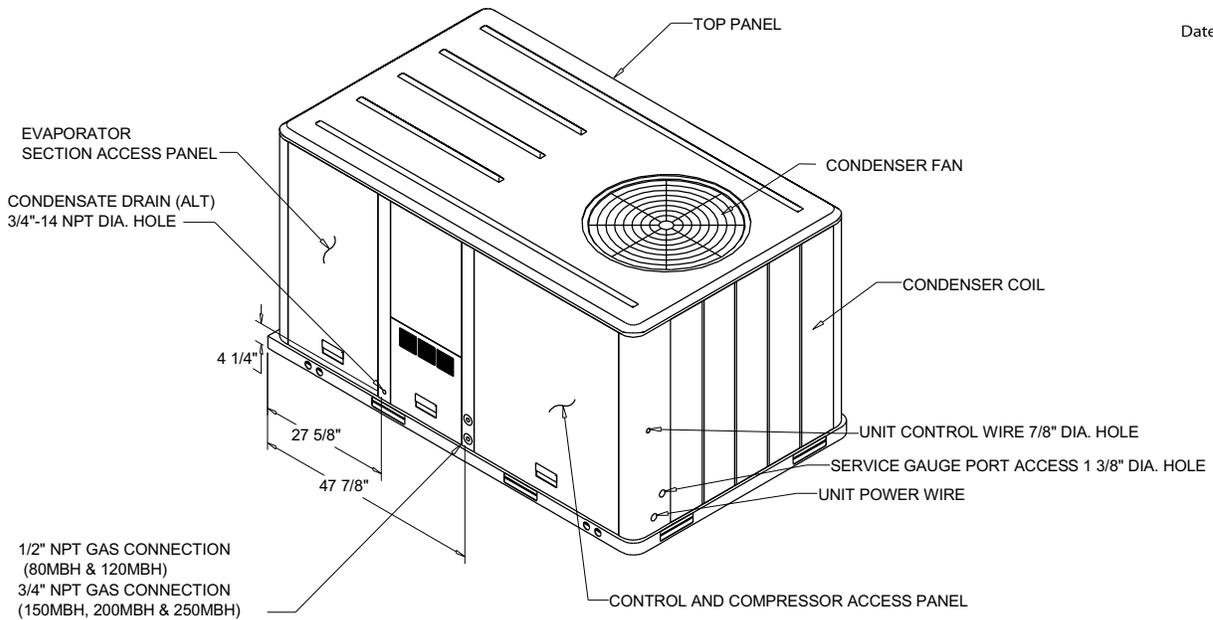
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NOTES:

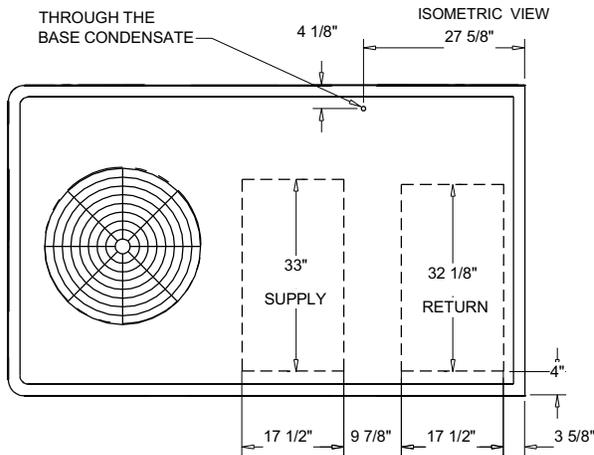
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6. EER is rated at AHRI conditions and in accordance with DOE test procedures.



Unit Dimensions - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
Item: A3 Qty: 2 Tag(s): RTU#4, RTU#5



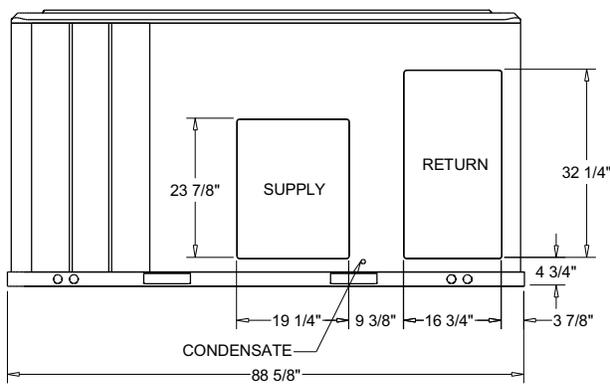
PACKAGED GAS / ELECTRICAL



- NOTES:
1. THRU -THE -BASE ELECTRICAL IS NOT STANDARD ON ALL UNITS.
2. VERIFY ALL DIMENSIONS WITH INSTALLER DOCUMENTS BEFORE INSTALLATION.

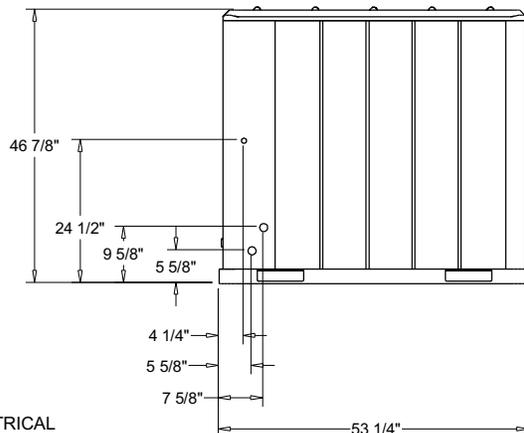
PLAN VIEW UNIT

DIMENSION DRAWING



PACKAGED GAS / ELECTRICAL

DIMENSION DRAWING



→
HORIZONTAL
AIR FLOW

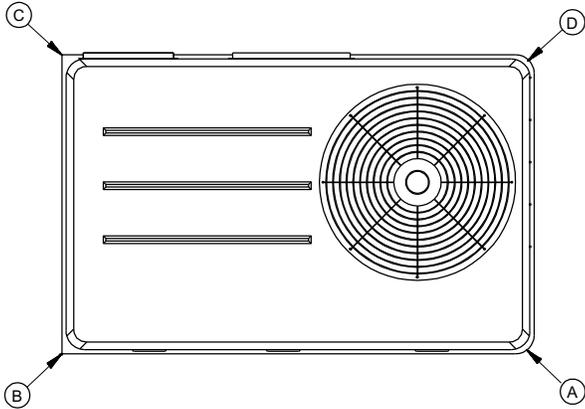
Weight, Clearance & Rigging Diagram - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
 Item: A1 Qty: 1 Tag(s): RTU#6



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INSTALLED ACCESSORIES NET WEIGHT DAT, Date:

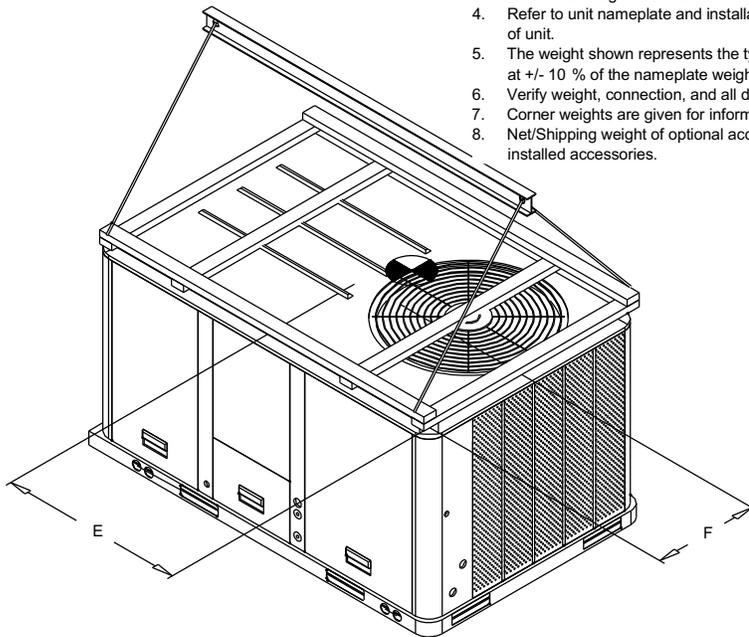


PACKAGED GAS / ELECTRICAL
 CORNER WEIGHT

ACCESSORY		WEIGHTS			
ECONOMIZER		36.0 lb			
MOTORIZED OUTSIDE AIR DAMPER					
MANUAL OUTSIDE AIR DAMPER					
BAROMETRIC RELIEF					
OVERSIZED MOTOR					
BELT DRIVE MOTOR					
POWER EXHAUST		80.0 lb			
THROUGH THE BASE ELECTRICAL/GAS (FIOPS)					
UNIT MOUNTED CIRCUIT BREAKER (FIOPS)					
UNIT MOUNTED DISCONNECT (FIOPS)					
POWERED CONVENIENCE OUTLET (FIOPS)					
HINGED DOORS (FIOPS)					
HAIL GUARD		20.0 lb			
SMOKE DETECTOR, SUPPLY / RETURN					
NOVAR CONTROL					
STAINLESS STEEL HEAT EXCHANGER					
REHEAT					
ROOF CURB		78.0 lb			
BASIC UNIT WEIGHTS		CORNER WEIGHTS		CENTER OF GRAVITY	
SHIPPING	NET	(A)	(C)	(E) LENGHT	(F) WIDTH
805.0 lb	710.0 lb	(B)	217.0 lb	(D)	150.0 lb
				41"	22"

NOTE:

1. All weights are approximate.
2. Weights for options that are not list refer to Installation guide.
3. The actual weight are listed on the unit nameplate.
4. Refer to unit nameplate and installation guide for weights before scheduling transportation and installation of unit.
5. The weight shown represents the typical unit operating weight for the configuration selected. Estimated at +/- 10 % of the nameplate weight .
6. Verify weight, connection, and all dimension with installer documents before installation.
7. Corner weights are given for information only.
8. Net/Shipping weight of optional accessories should be added to unit weight when ordering factory or field installed accessories.



PACKAGED GAS / ELECTRICAL
 RIGGING AND CENTER OF GRAVITY

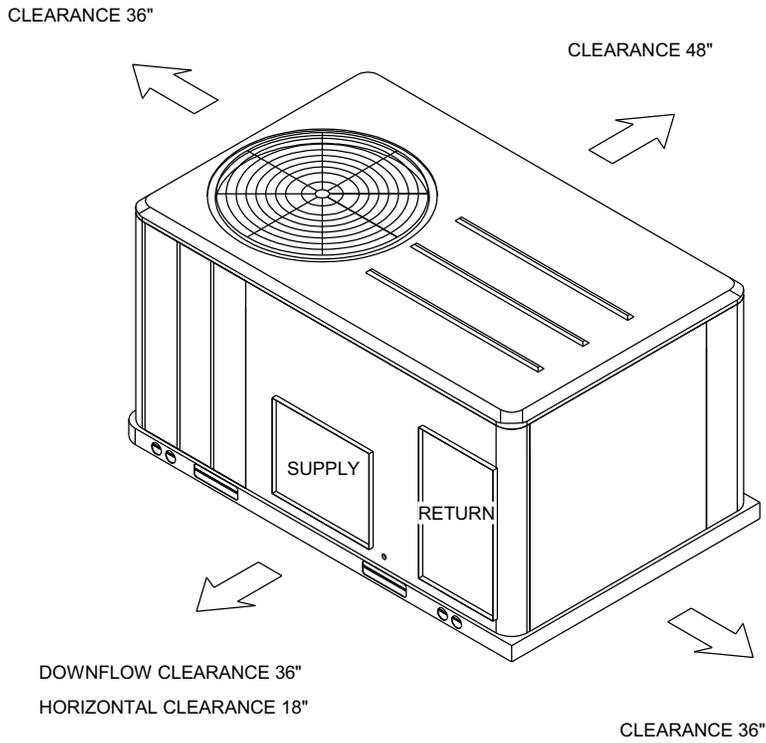
Weight, Clearance & Rigging Diagram - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
Item: A1 - A3 Qty: 4 Tag(s): RTU#6, RTU#3, RTU#4, RTU#5



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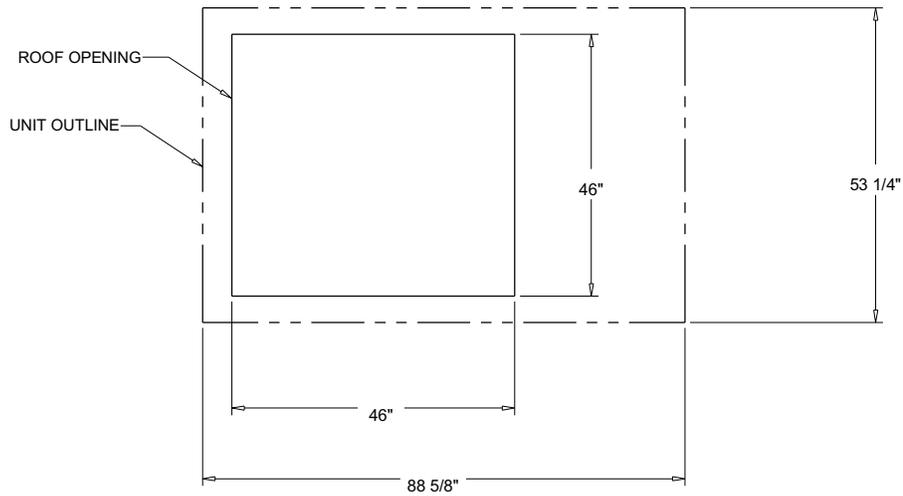
Date: 08/17/17

CLEARANCE FROM TOP OF UNI



PACKAGED GAS / ELECTRIC

CLEARANCE



PACKAGED GAS / ELECTRIC

DOWNFLOW TYPICAL ROOF OPENING

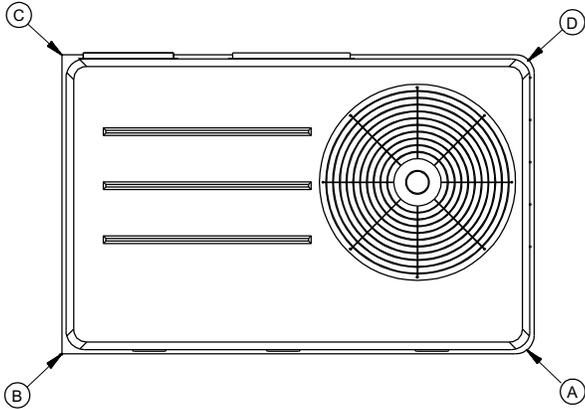
Weight, Clearance & Rigging Diagram - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
 Item: A2 Qty: 1 Tag(s): RTU#3



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INSTALLED ACCESSORIES NET WEIGHT DAT, Date:

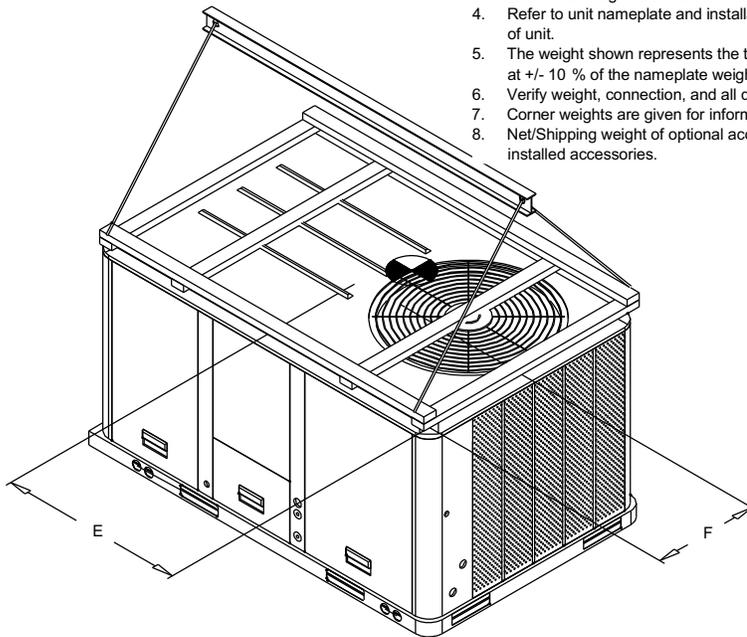


PACKAGED GAS / ELECTRICAL
 CORNER WEIGHT

ACCESSORY		WEIGHTS			
ECONOMIZER		36.0 lb			
MOTORIZED OUTSIDE AIR DAMPER					
MANUAL OUTSIDE AIR DAMPER					
BAROMETRIC RELIEF					
OVERSIZED MOTOR					
BELT DRIVE MOTOR					
POWER EXHAUST					
THROUGH THE BASE ELECTRICAL/GAS (FIOPS)					
UNIT MOUNTED CIRCUIT BREAKER (FIOPS)					
UNIT MOUNTED DISCONNECT (FIOPS)					
POWERED CONVENIENCE OUTLET (FIOPS)					
HINGED DOORS (FIOPS)					
HAIL GUARD		20.0 lb			
SMOKE DETECTOR, SUPPLY / RETURN					
NOVAR CONTROL					
STAINLESS STEEL HEAT EXCHANGER					
REHEAT					
ROOF CURB		78.0 lb			
BASIC UNIT WEIGHTS		CORNER WEIGHTS		CENTER OF GRAVITY	
SHIPPING	NET	(A)	(C)	(E) LENGHT	(F) WIDTH
805.0 lb	710.0 lb	(B)	217.0 lb	(D)	150.0 lb
				41"	22"

NOTE:

1. All weights are approximate.
2. Weights for options that are not list refer to Installation guide.
3. The actual weight are listed on the unit nameplate.
4. Refer to unit nameplate and installation guide for weights before scheduling transportation and installation of unit.
5. The weight shown represents the typical unit operating weight for the configuration selected. Estimated at +/- 10 % of the nameplate weight .
6. Verify weight, connection, and all dimension with installer documents before installation.
7. Corner weights are given for information only.
8. Net/Shipping weight of optional accessories should be added to unit weight when ordering factory or field installed accessories.



PACKAGED GAS / ELECTRICAL
 RIGGING AND CENTER OF GRAVITY

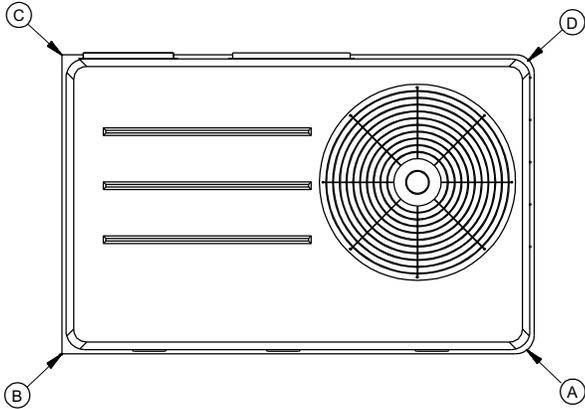
Weight, Clearance & Rigging Diagram - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
 Item: A3 Qty: 2 Tag(s): RTU#4, RTU#5



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INSTALLED ACCESSORIES NET WEIGHT DAT, Date:

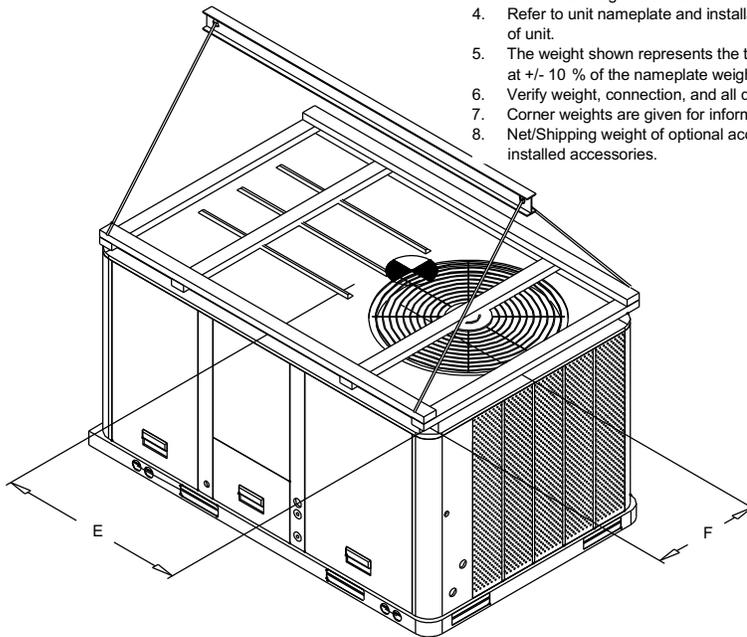


PACKAGED GAS / ELECTRICAL
 CORNER WEIGHT

ACCESSORY		WEIGHTS			
ECONOMIZER		36.0 lb			
MOTORIZED OUTSIDE AIR DAMPER					
MANUAL OUTSIDE AIR DAMPER					
BAROMETRIC RELIEF					
OVERSIZED MOTOR					
BELT DRIVE MOTOR					
POWER EXHAUST		80.0 lb			
THROUGH THE BASE ELECTRICAL/GAS (FIOPS)					
UNIT MOUNTED CIRCUIT BREAKER (FIOPS)					
UNIT MOUNTED DISCONNECT (FIOPS)					
POWERED CONVENIENCE OUTLET (FIOPS)					
HINGED DOORS (FIOPS)					
HAIL GUARD		20.0 lb			
SMOKE DETECTOR, SUPPLY / RETURN					
NOVAR CONTROL					
STAINLESS STEEL HEAT EXCHANGER					
REHEAT					
ROOF CURB		78.0 lb			
BASIC UNIT WEIGHTS		CORNER WEIGHTS		CENTER OF GRAVITY	
SHIPPING	NET	(A)	(C)	(E) LENGHT	(F) WIDTH
1047.0 lb	904.0 lb	(B)	(D)	44"	22"

NOTE:

1. All weights are approximate.
2. Weights for options that are not list refer to Installation guide.
3. The actual weight are listed on the unit nameplate.
4. Refer to unit nameplate and installation guide for weights before scheduling transportation and installation of unit.
5. The weight shown represents the typical unit operating weight for the configuration selected. Estimated at +/- 10 % of the nameplate weight .
6. Verify weight, connection, and all dimension with installer documents before installation.
7. Corner weights are given for information only.
8. Net/Shipping weight of optional accessories should be added to unit weight when ordering factory or field installed accessories.



PACKAGED GAS / ELECTRICAL
 RIGGING AND CENTER OF GRAVITY

Accessory - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
Item: A1 - A3 Qty: 4 Tag(s): RTU#6, RTU#3, RTU#4, RTU#5

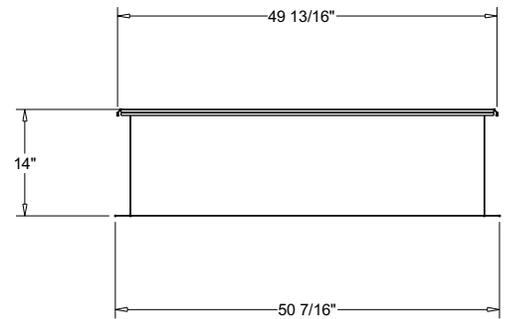
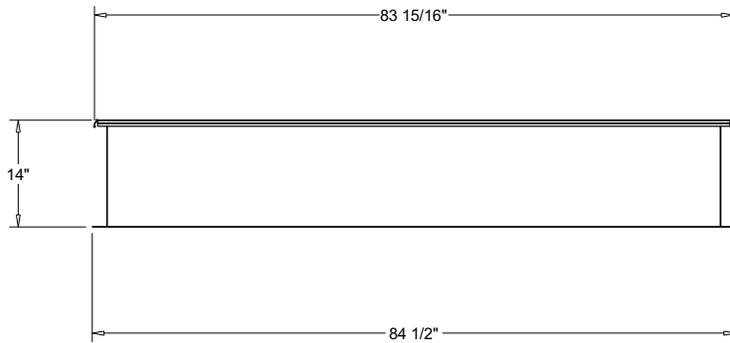
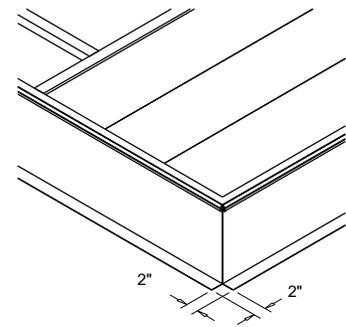
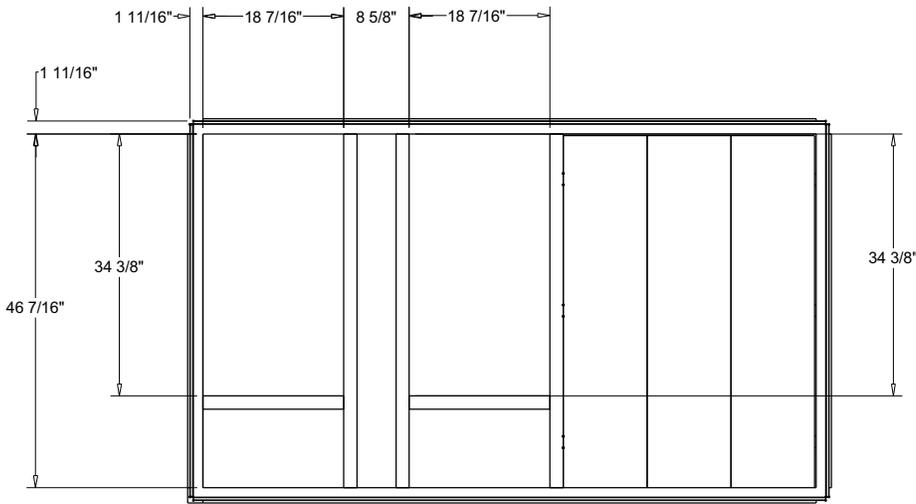
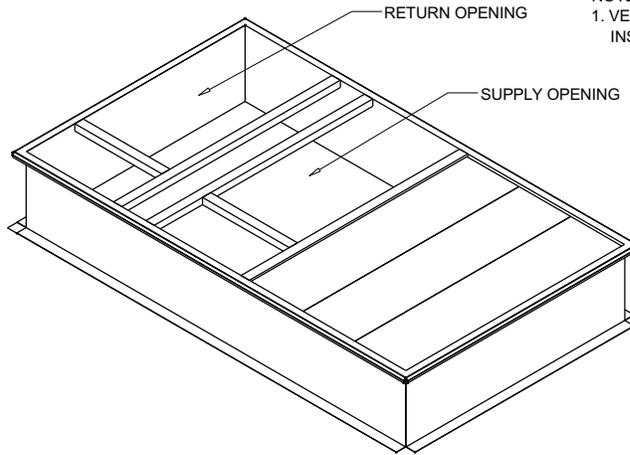


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NOTES:

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



ROOF TOP CURB (BAYCURB043)
ACCESSORY

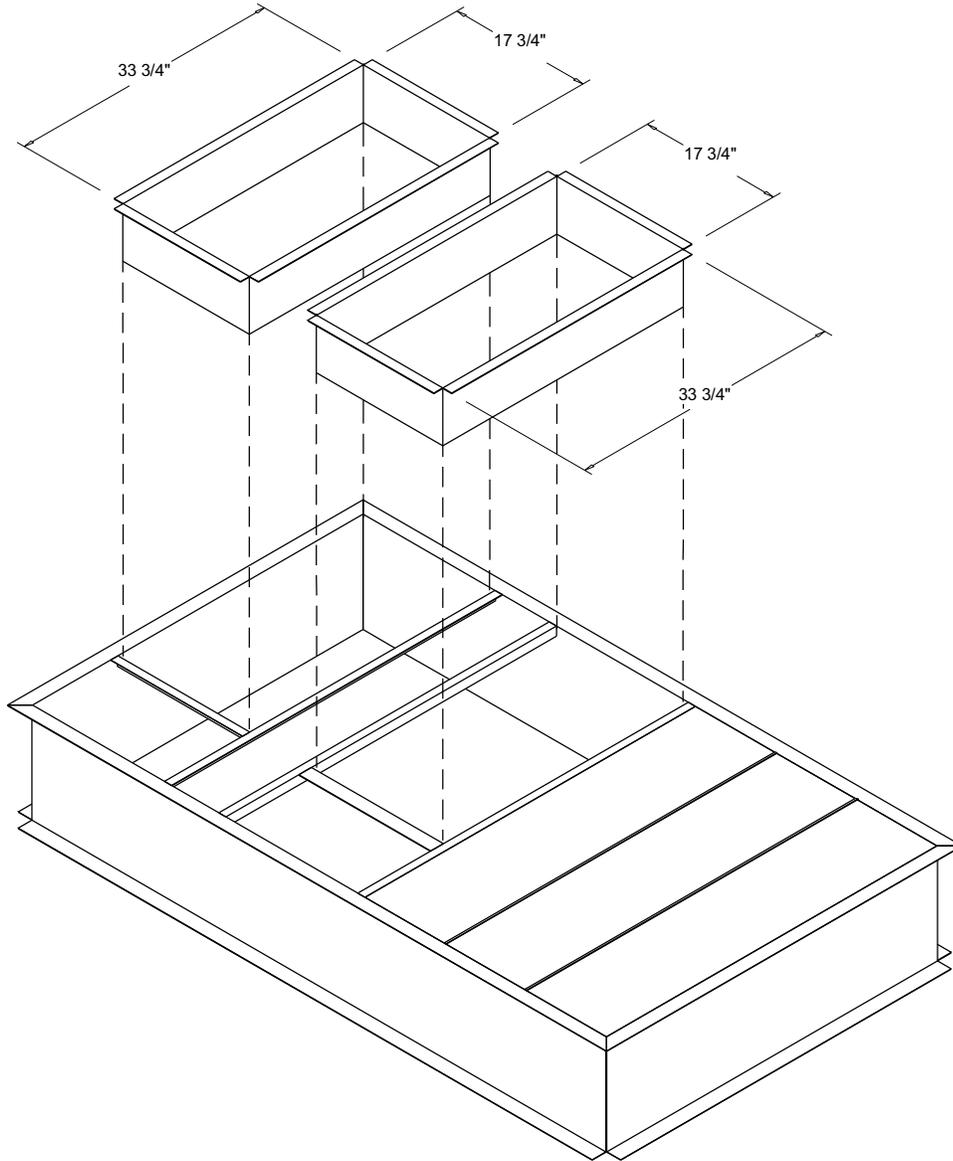
Accessory - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
Item: A1 - A3 Qty: 4 Tag(s): RTU#6, RTU#3, RTU#4, RTU#5



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Downflow Duct Connections - Field Fabricated
All Flanges - 1 1/4"



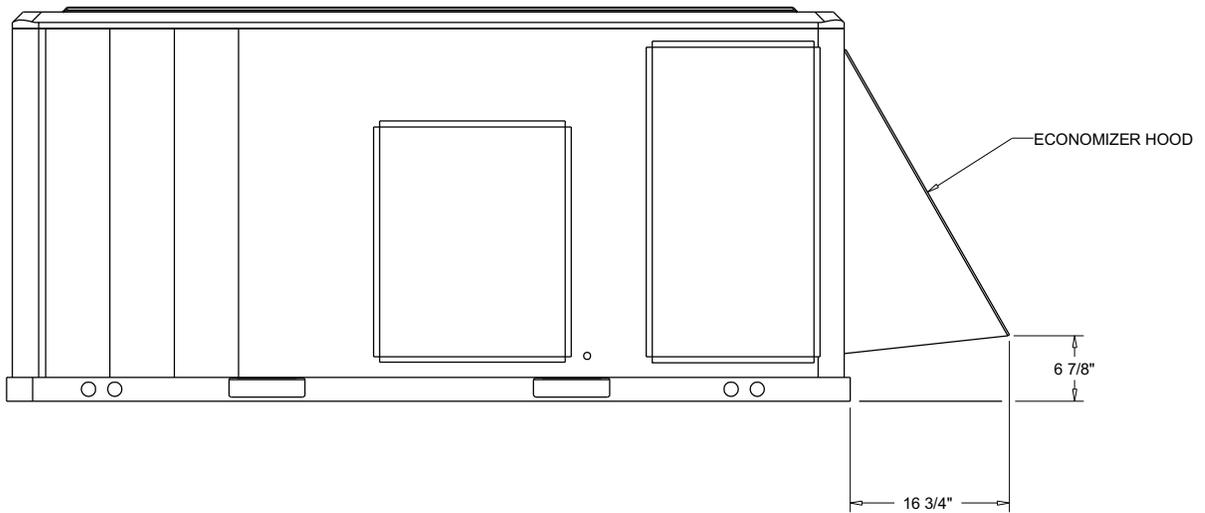
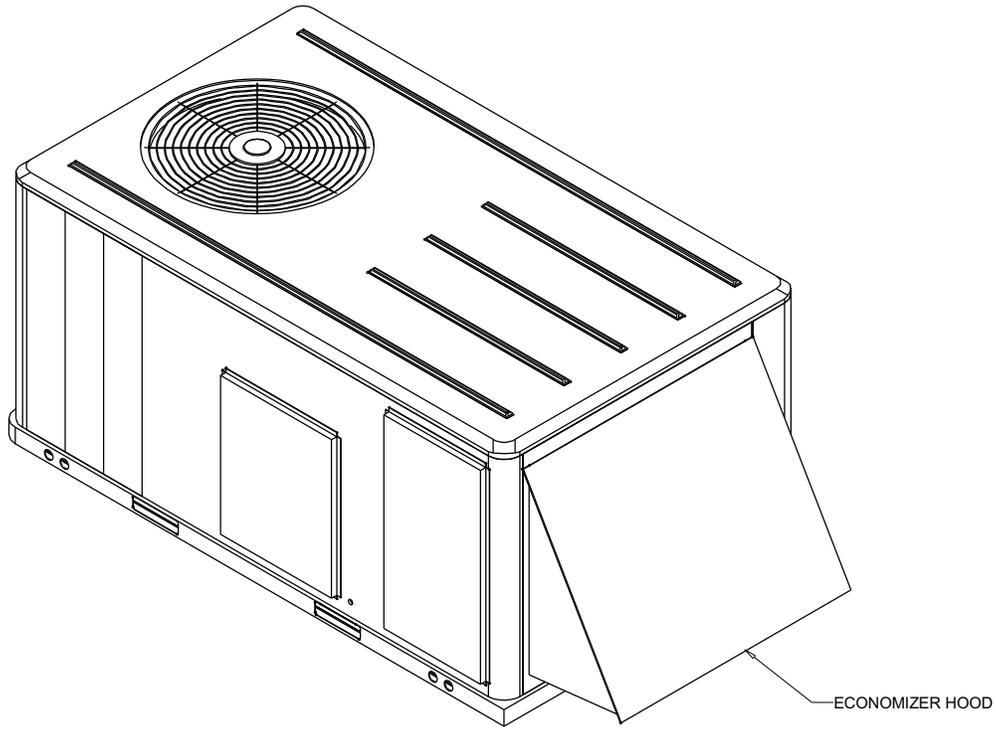
ACCESSORY - DUCT CONNECTIONS

Accessory - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
Item: A1 - A3 Qty: 4 Tag(s): RTU#6, RTU#3, RTU#4, RTU#5



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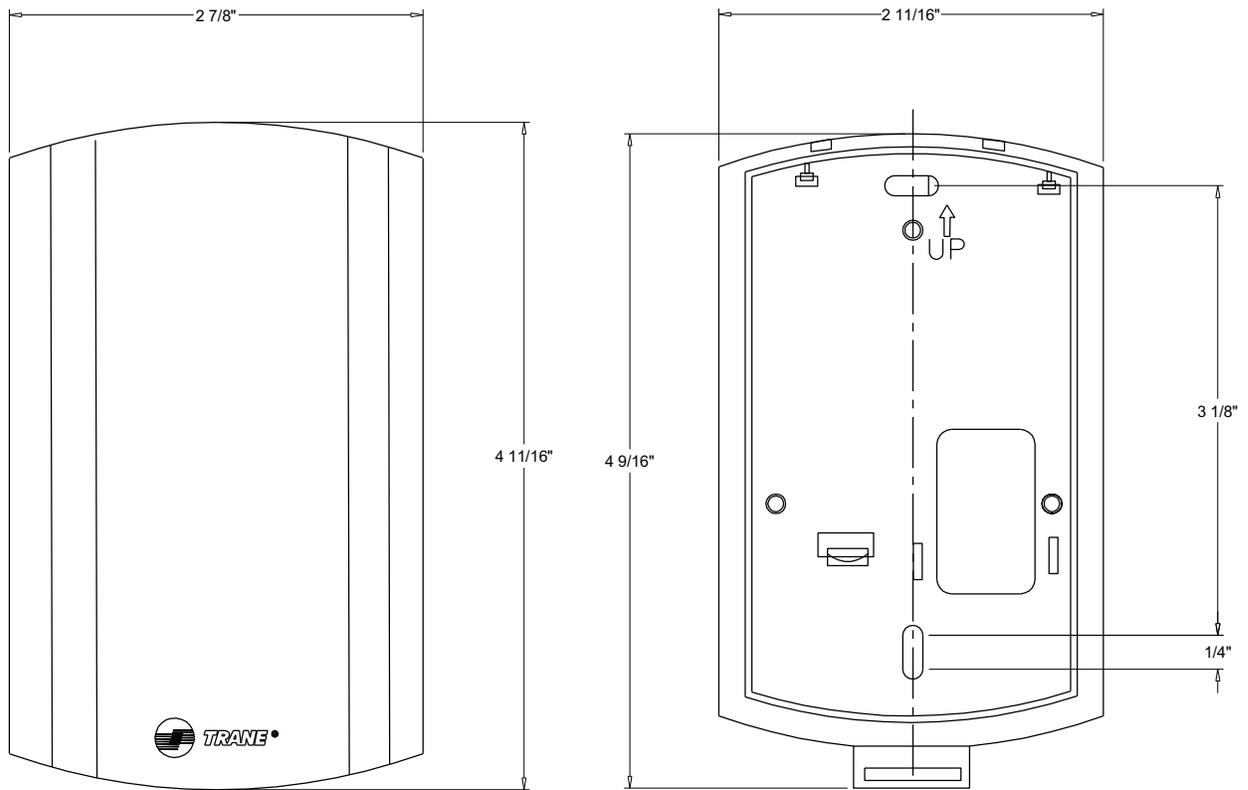
ACCESSORY - ECONOMIZER HOOD

Accessory - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
Item: A1 - A3 Qty: 4 Tag(s): RTU#6, RTU#3, RTU#4, RTU#5



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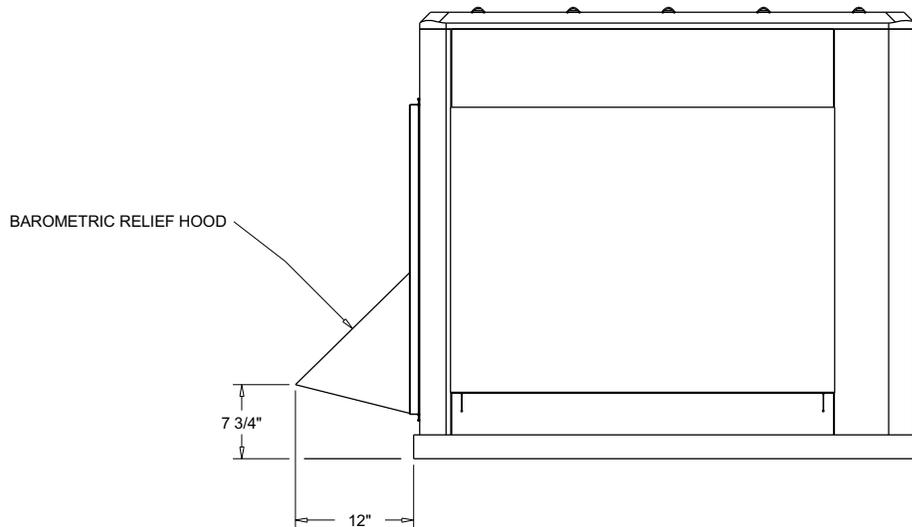
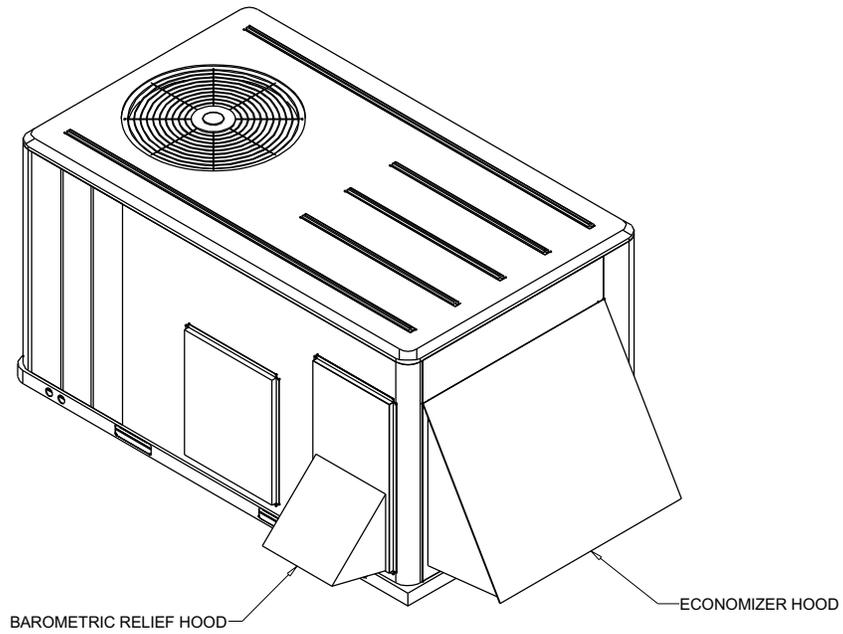
Date: 08/17/17



- NOTES:
 1. SEE ENGINEERING SPECIFICATION FOR DETAILS.
 2. VERIFY ALL DIMENSION WITH INSTALLER DOCUMENTS BEFORE INSTALLATION.

BAYCO2K001B - WALL MOUNT CO2

ACCESSORY



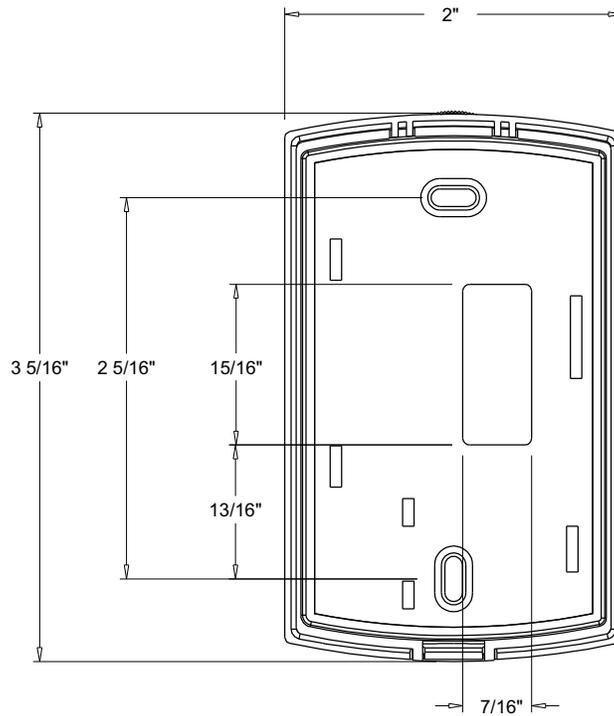
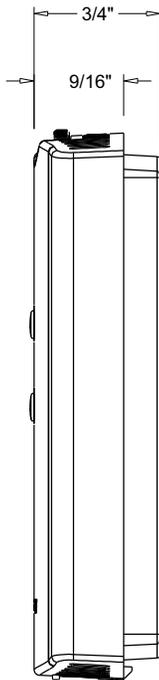
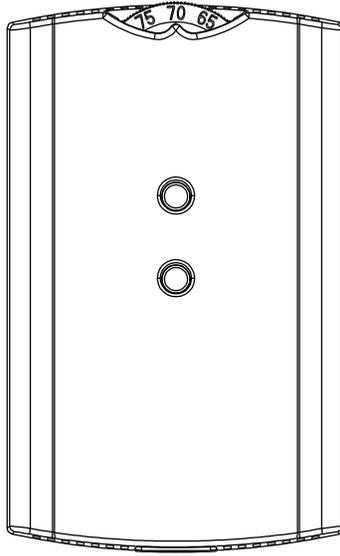
ACCESSORY - BAROMETRIC RELIEF DAMPER HOOD

Accessory - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
Item: A2 Qty: 1 Tag(s): RTU#3



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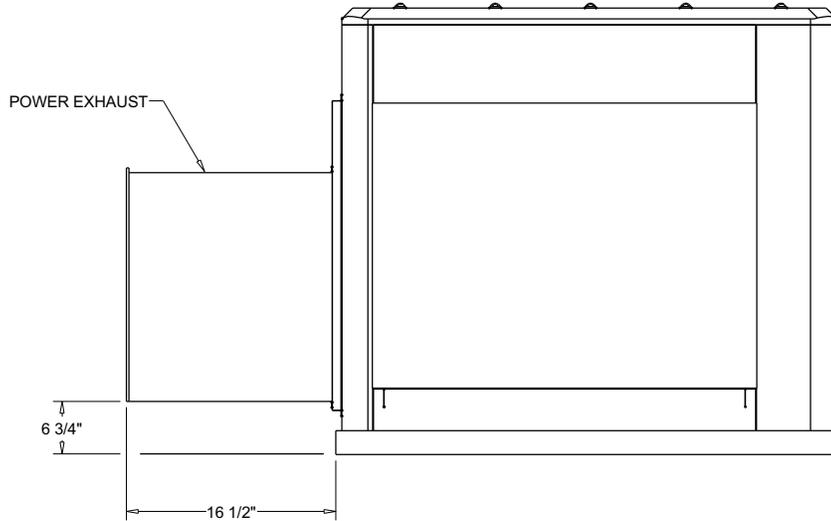
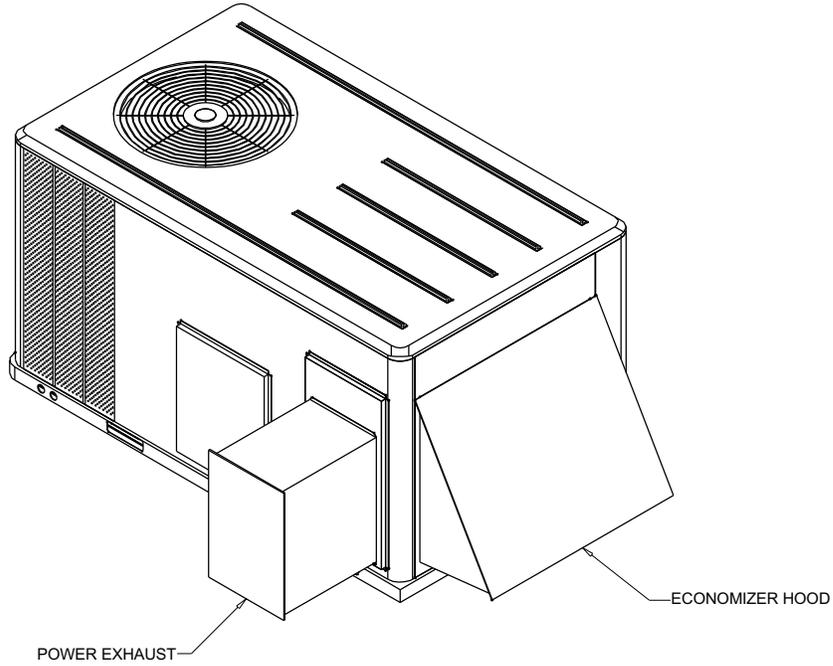


Accessory - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
Item: A3 Qty: 2 Tag(s): RTU#4, RTU#5



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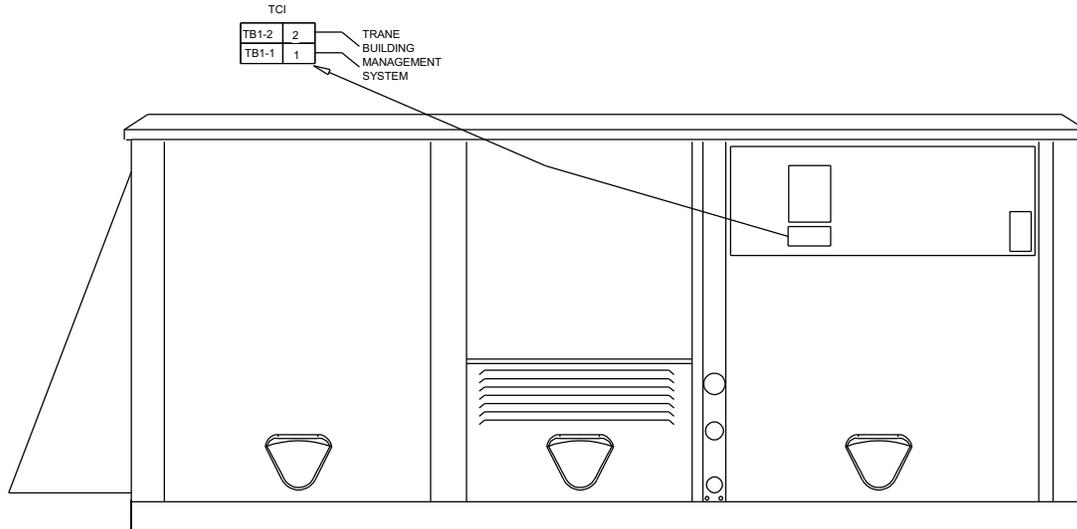


POWER EXHAUST AND HOOD
ACCESSORY



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Date: 08/17/17



ZONE SENSOR WIRE TABLE

WIRE SIZE	MAXIMUM WIRE LENGTH
22 GAUGE	1800"
20 GAUGE	3000"
18 GAUGE	4500"
16 GAUGE	7200"
14 GAUGE	11700"

NOTE:

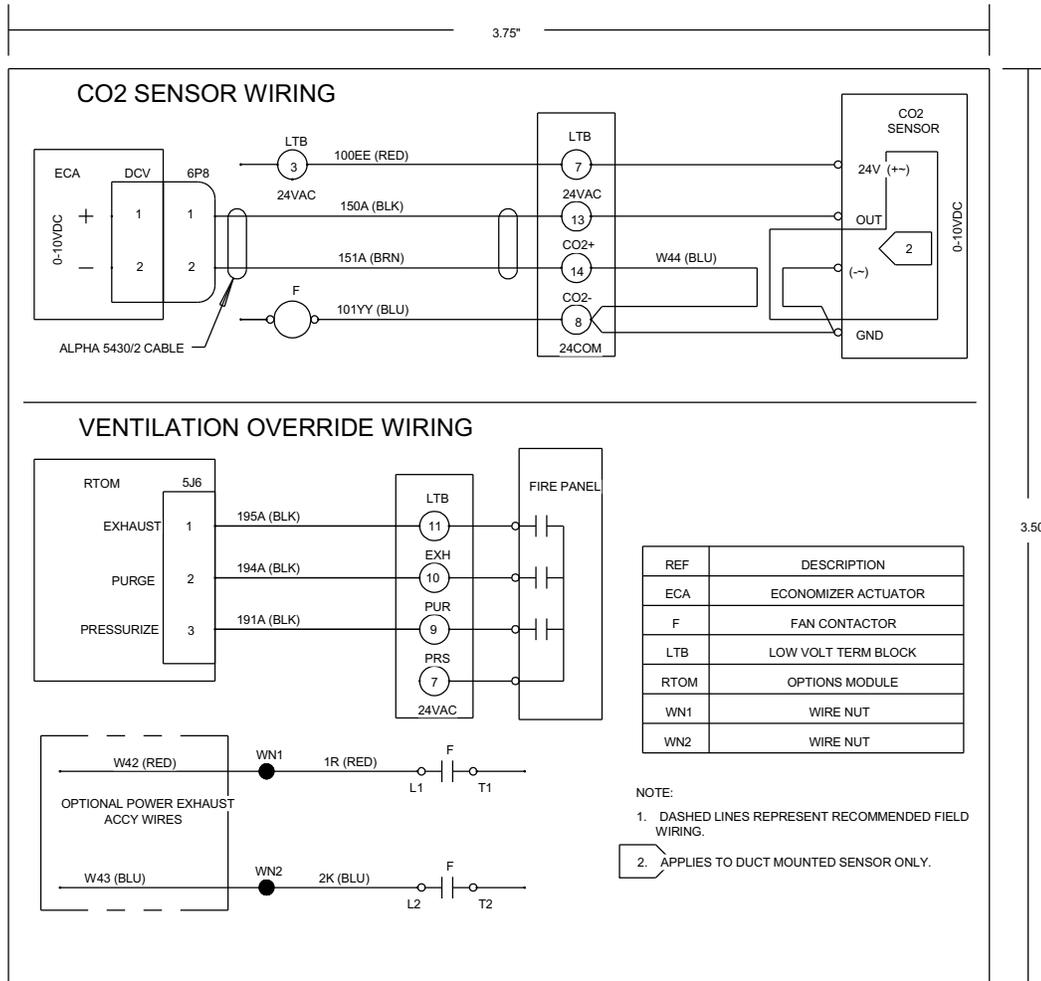
1. All wiring and devices shown dashed to be supplied and installed by the customer in accordance with national and local electrical codes.
2. Low voltage control wiring must not be run in conduit with power wiring.

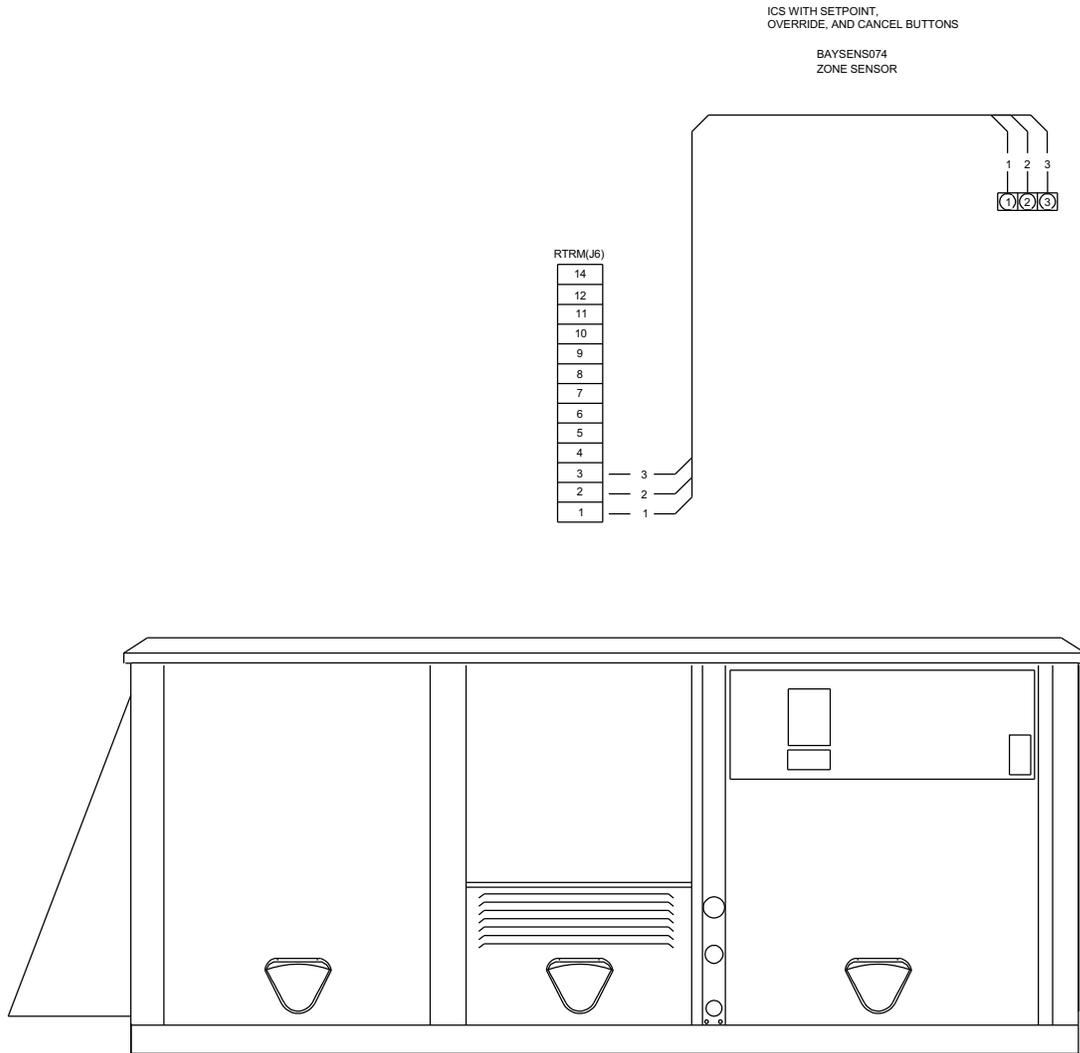
Field Wiring - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
Item: A1 - A3 Qty: 4 Tag(s): RTU#6, RTU#3, RTU#4, RTU#5



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Date: **08/17/17**





ZONE SENSOR WIRE TABLE

WIRE SIZE	MAXIMUM WIRE LENGTH
22 GAUGE	1800"
20 GAUGE	3000"
18 GAUGE	4500"
16 GAUGE	7200"
14 GAUGE	11700"

NOTE:

1. All wiring and devices shown dashed to be supplied and installed by the customer in accordance with national and local electrical codes.
2. Low voltage control wiring must not be run in conduit with power wiring.



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Tag Data - Packaged Gas/Electric Rooftop Units (Qty: 2)

Item	Tag(s)	Qty	Description	Model Number
B1	RTU-1, RTU-2	2	20 Ton Packaged Unitary Gas/Elec	YSD240G3RLA-- D00100010100000000000000000000

Product Data - Packaged Gas/Electric Rooftop Units

Item: B1 Qty: 2 Tag(s): RTU-1, RTU-2

- Gas/Electric Standard efficiency
- Downflow
- 20 Ton
- 208-230/60/3
- Reliatel
- Gas Heat - Low
- Economizer Dry Bulb 0-100% with barometric relief
- Standard condenser coil with hail guard
- Trane communication interface
- Frostat
- CO2 wall mounted, field sensor kit (Fld)
- Power exhaust (Fld)



Mechanical Specifications - Packaged Gas/Electric Rooftop Units

Item: B1 Qty: 2 Tag(s): RTU-1, RTU-2

General

The units shall be dedicated downflow or horizontal airflow. The operating range shall be between 115°F and 130°F cooling as standard from the factory for all units. Cooling performance shall be rated in accordance with AHRI testing procedures. All units shall be 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. Wiring internal to the unit shall be colored and numbered for simplified identification. Units shall be UL listed and labeled, classified in accordance to UL 1995/C 22.2, 236-05 3rd Edition.

Packaged Rooftop units cooling, heating capacities, and efficiencies are AHRI certified within scope of AHRI Standard 340/360 (I-P) and ANSI Z21.47 and 10 CFR Part 431 pertaining to Commercial Warm Air Furnaces (gas heating units).

Casing

Unit casing shall be constructed of zinc coated, heavy gauge, galvanized steel. Exterior surfaces shall be cleaned, phosphatized, and finished with a weather-resistant baked enamel finish. Unit's surface shall be tested 672 hours in a salt spray test in compliance with ASTM B117. Cabinet construction shall allow for all maintenance on one side of the unit. In order to ensure a water and air tight seal, service panels shall have lifting handles and no more than three screws to remove. All exposed vertical panels and top covers in the indoor air section shall be insulated with a 1/2 inch, 1 pound density foil-faced, fire-resistant, permanent, odorless, glass fiber material. The base of the downflow unit shall be insulated with 1/2 inch, 1 pound density foil-faced, closed-cell material. The downflow unit's base pan shall have no penetrations within the perimeter of the curb other than the raised 11/8 inch high supply/return openings to provide an added water integrity precaution, if the condensate drain backs up. The base of the unit shall have provisions for forklift and crane lifting.

Unit Top

The top cover shall be one piece, or where seams exist, double hemmed and gasket sealed to prevent water leakage.

Filters

Two inch standard filters shall be factory supplied on all units. Optional two inch pleated media filters shall be available.

Compressors

All units shall have direct-drive, hermetic, scroll type compressors with centrifugal type oil pumps. Motor shall be suction gas-cooled and shall have a voltage utilization range of plus or minus 10 percent of nameplate voltage. Internal overloads shall be provided with the scroll compressors. All models shall have crankcase heaters, phase monitors and low and high pressure control as standard. Dual compressors are available on all standard efficiency models and 12.5 to 20 tons high efficiency models and allow for efficient cooling utilizing 3 stages of compressor operation (high efficiency models only). 25 tons high efficiency units have 3 compressors for up to 4 stages of compressor operation.

Crankcase Heaters

These band heaters provide improved compressor reliability by warming the oil to prevent migration during off-cycles or low ambient conditions. These are standard on all Voyager models.

Refrigerant Circuits

Each refrigerant circuit shall have independent fixed orifice or thermostatic expansion devices, service pressure ports, and refrigerant line filter driers factory installed as standard. An area shall be provided for replacement suction line driers.

Evaporator and Condenser Coils

Microchannel coils will be burst tested by the manufacturer. Internally finned, 5/16" copper tubes mechanically bonded to a configured aluminum plate fin shall be standard on high efficiency models and microchannel shall be standard on standard efficiency for evaporator coils. Microchannel condenser coils shall be standard on all units. Coils shall be leak tested to ensure the pressure integrity. The evaporator coil and condenser coil shall be leak tested to 225 psig



and pressure tested to 450 psig. Sloped condensate drain pans are standard.

Gas Heating Section

The heating section shall have a drum and tube heat exchanger design using corrosion resistant steel com| forced combustion blower shall supply premixed fuel to a single burner ignited by a pilotless hot surface ign system.

In order to provide reliable operation, a negative pressure gas valve shall be used on standard furnaces and a pressure switch on furnaces with modulating heat that requires blower operation to initiate gas flow. On an initial call for heat, the combustion blower shall purge the heat exchanger 45 seconds before ignition.

After three unsuccessful ignition attempts, the entire heating system shall be locked out until manually reset at the thermostat. Units shall be suitable for use with natural gas or propane (field installed kit) and shall also comply with California requirements for low NOx emissions. The 12½-25 tons shall have two stage heating (Gas/Electric only).

Microchannel coils

The microchannel type condenser coil is standard for the T/YCD 12.5-25 ton standard efficiency models. Due to flat streamlined tubes with small ports, and metallurgical tube-to-fin bond, microchannel coil has better heat transfer performance. Microchannel condenser coil can reduce system refrigerant charge by up to 50% because of smaller internal volume, which leads to better compressor reliability. Compact all-aluminum microchannel coils also help to reduce the unit weight. All-aluminum construction improves re-cyclability. Galvanic corrosion is also minimized due to all aluminum construction. Strong aluminum brazed structure provides better fin protection. In addition, flat streamlined tubes also make microchannel coils more dust resistant and easier to clean. Coils shall be leak tested at the factory to ensure the pressure integrity. The evaporator coil and condenser coil shall be leak tested to 600 psig. The assembled unit shall be leak tested to 465 psig.

Outdoor Fans

The outdoor fan shall be direct-drive, statically and dynamically balanced, draw-through in the vertical discharge position. The fan motor(s) shall be permanently lubricated and shall have built-in thermal overload protection.

Indoor Fan

Units above shall have belt driven, FC centrifugal fans with adjustable motor sheaves. Units with standard motors shall have an adjustable idler-arm assembly for quick-adjustment of fan belts and motor sheaves. All motors shall be thermally protected. Oversized motors shall be available for high static application. All indoor fan motors meet the U.S. Energy Policy Act of 1992 (EPACT).

Controls

Unit shall be completely factory wired with necessary controls and contactor pressure lugs or terminal block for power wiring. Unit shall provide an external location for mounting a fused disconnect device. ReliaTel controls shall be provided for all 24 volt control functions. The resident control algorithms shall make all heating, cooling, and/or ventilating decisions in response to electronic signals from sensors measuring indoor and outdoor temperatures. The control algorithm maintains accurate temperature control, minimizes drift from set point, and provides better building comfort. A centralized control shall provide anti-short cycle timing and time delay between compressors to provide a higher level of machine protection.

High Pressure Cutout

This option is offered for units that do not have High Pressure cutout as standard.

Discharge Line Thermostat

A bi-metal element discharge line thermostat is installed as a standard option on the discharge line of each system. This standard option provides extra protection to the compressors against high discharge temperatures in case of loss of charge, extremely high ambient and other conditions which could drive the discharge temperature higher. Discharge line thermostat is wired in series with high pressure control. When the discharge temperature rises above the protection limit, the bi-metal disc in the thermostat switches to the off position, opening the 24 VAC circuit. When the temperature on the discharge line cools down, the bi-metal disc closes the contactor circuit, providing power to the compressor. When the thermostat opens the fourth time, the ReliaTel control must be manually reset to resume operation on that stage.



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Tool-less Hail Guards

Tool-less, hail protection quality coil guards are available for condenser coil protection.

Defrost Controls

Adaptive demand defrost shall be provided to permit defrost wherever coil icing conditions begin to significantly reduce unit capacity.

Accessory - Powered Exhaust

The powered exhaust shall provide exhaust of return air, when using an economizer, to maintain better building pressurization.

Accessory - CO2 Sensing

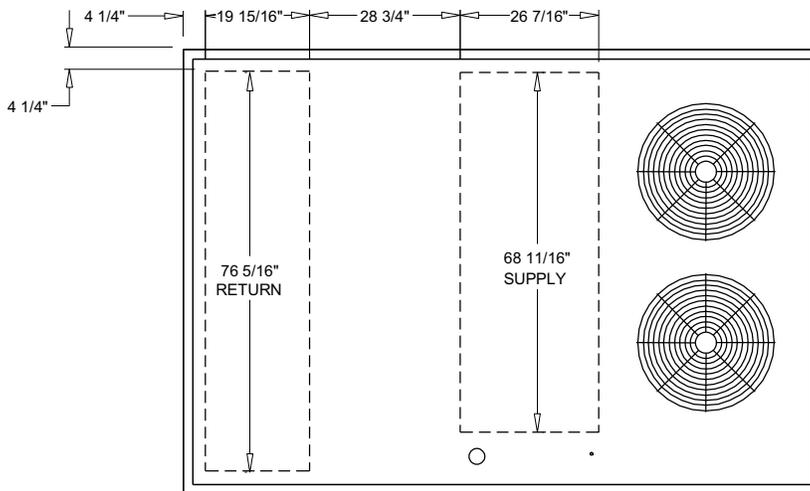
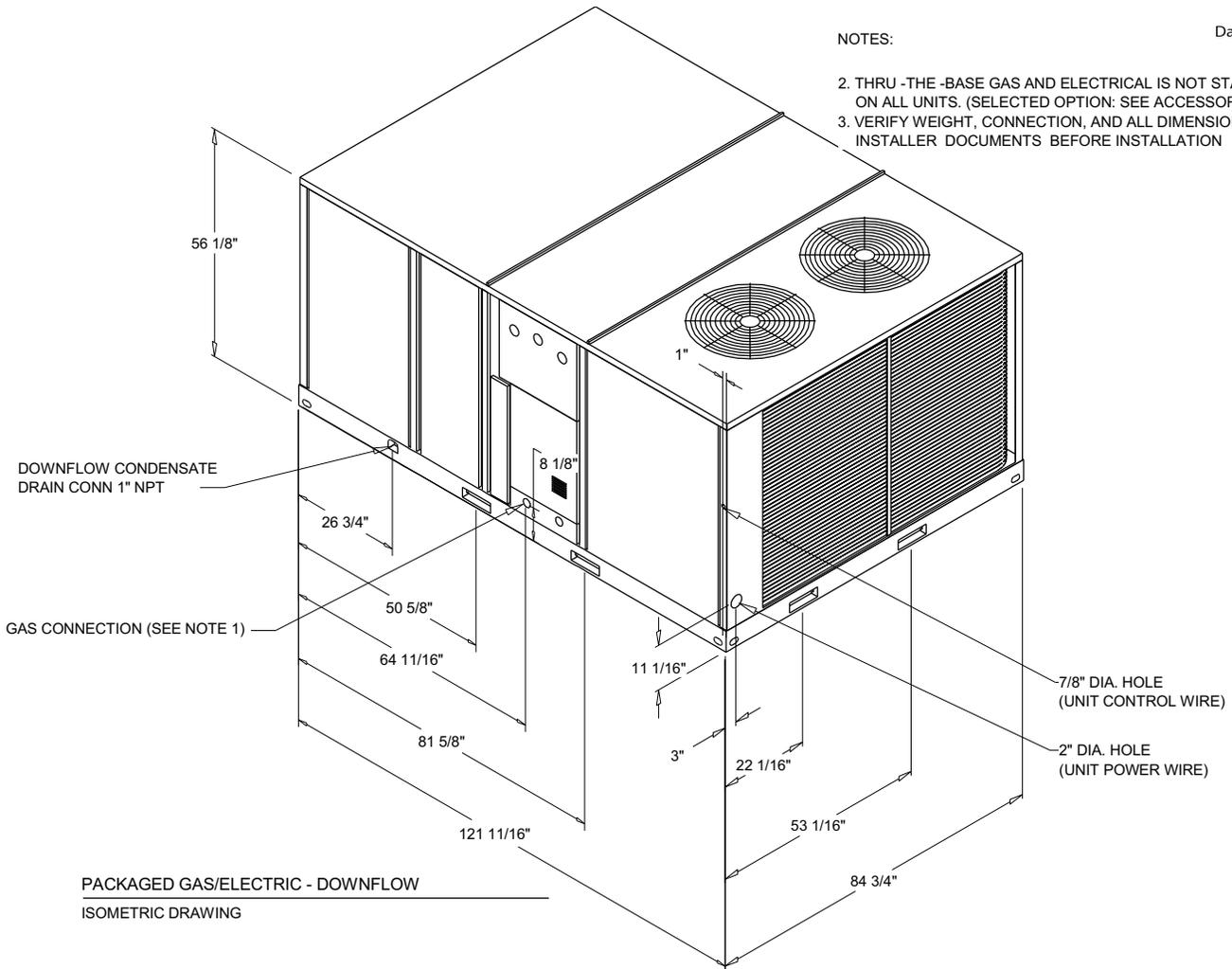
The CO2 sensor has the ability to monitor space occupancy levels within the building by measuring the parts per million of CO2 (Carbon Dioxide) in the air. As the CO2 levels increase, the outside air damper modulates to meet the CO2 space ventilation requirements.



Unit Dimensions - Packaged Gas/Electric Rooftop Units
Item: B1 Qty: 2 Tag(s): RTU-1, RTU-2

NOTES:

2. THRU - THE -BASE GAS AND ELECTRICAL IS NOT STANDARD ON ALL UNITS. (SELECTED OPTION: SEE ACCESSORY SHEET)
3. VERIFY WEIGHT, CONNECTION, AND ALL DIMENSION WITH INSTALLER DOCUMENTS BEFORE INSTALLATION





Unit Dimensions - Packaged Gas/Electric Rooftop Units
Item: B1 Qty: 2 Tag(s): RTU-1, RTU-2

ELECTRICAL / GENERAL DATA

<p>GENERAL PERFORMANCE</p> <table border="0"> <tr> <td>Model (Ton):</td> <td>YSD240G (20.0)</td> <td>Standard Motor ⁽¹⁾⁽³⁾</td> <td></td> </tr> <tr> <td>Unit Operating Voltage Range:</td> <td>187-253</td> <td>Minimum Circuit Ampacity:</td> <td>105.0/105.0</td> </tr> <tr> <td>Unit Primary Voltage:</td> <td>208</td> <td>Maximum Fuse Size:</td> <td>125.0/125.0</td> </tr> <tr> <td>Unit Secondary Voltage:</td> <td>230</td> <td>Maximum (HACR) Circuit Breaker:</td> <td>125.0/125.0</td> </tr> <tr> <td>Unit Hertz:</td> <td>60</td> <td>Oversized Motor ⁽¹⁾⁽⁴⁾</td> <td></td> </tr> <tr> <td>Unit Phase:</td> <td>3</td> <td>MCA:</td> <td>N/A</td> </tr> <tr> <td></td> <td></td> <td>MFS:</td> <td>N/A</td> </tr> <tr> <td></td> <td></td> <td>MCB (HACR):</td> <td>N/A</td> </tr> <tr> <td>EER: ⁽⁵⁾</td> <td>10.0</td> <td>Field Installed Oversized Motor ⁽¹⁾⁽⁴⁾</td> <td></td> </tr> <tr> <td></td> <td></td> <td>MCA:</td> <td>N/A</td> </tr> <tr> <td></td> <td></td> <td>MFS:</td> <td>N/A</td> </tr> <tr> <td></td> <td></td> <td>MCB (HACR):</td> <td>N/A</td> </tr> </table>				Model (Ton):	YSD240G (20.0)	Standard Motor ⁽¹⁾⁽³⁾		Unit Operating Voltage Range:	187-253	Minimum Circuit Ampacity:	105.0/105.0	Unit Primary Voltage:	208	Maximum Fuse Size:	125.0/125.0	Unit Secondary Voltage:	230	Maximum (HACR) Circuit Breaker:	125.0/125.0	Unit Hertz:	60	Oversized Motor ⁽¹⁾⁽⁴⁾		Unit Phase:	3	MCA:	N/A			MFS:	N/A			MCB (HACR):	N/A	EER: ⁽⁵⁾	10.0	Field Installed Oversized Motor ⁽¹⁾⁽⁴⁾				MCA:	N/A			MFS:	N/A			MCB (HACR):	N/A
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NOTES:

1. Maximum (HACR) Circuit Breaker sizing is for installations in the United States only.
2. Refrigerant charge is an approximate value. For a more precise value, see unit nameplate and service instructions.
3. Value includes oversized motor.
4. Value does not include Power Exhaust Accessory.
5. EER is rated at AHRI conditions and in accordance with DOE test procedures.

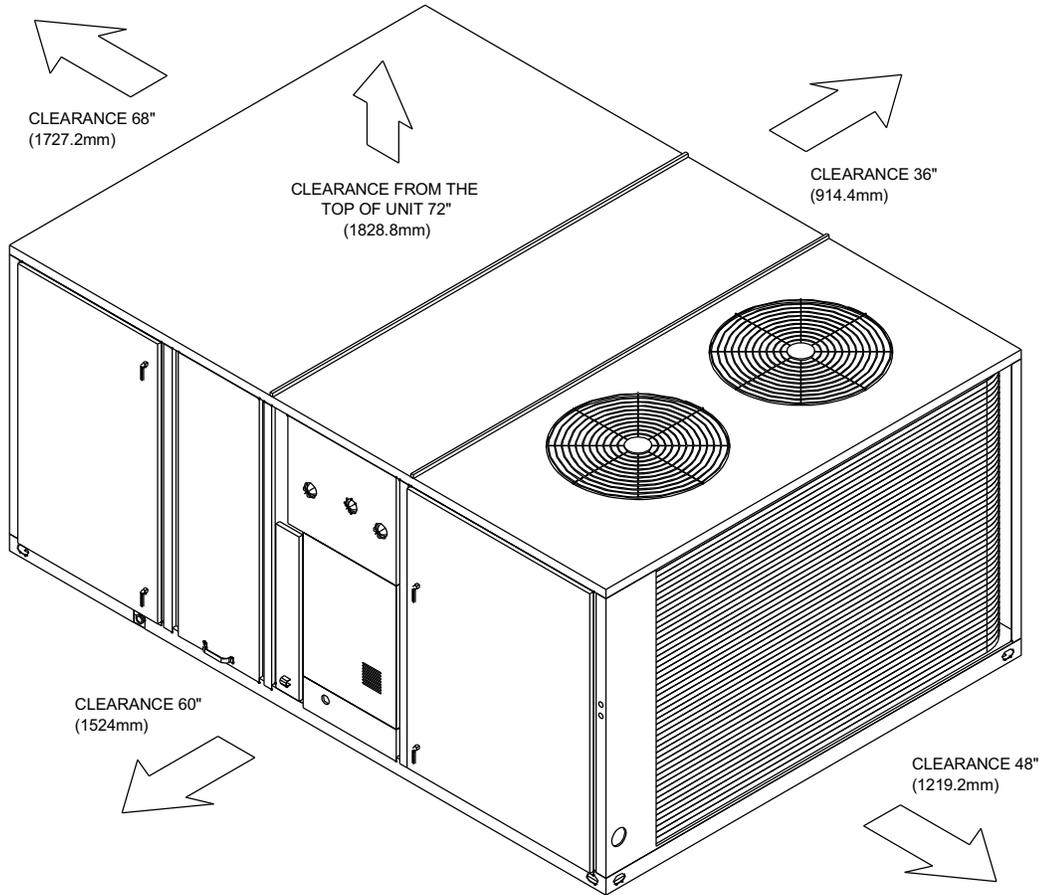
Weight, Clearance & Rigging Diagram - Packaged Gas/Electric Rooftop Units

Item: B1 Qty: 2 Tag(s): RTU-1, RTU-2

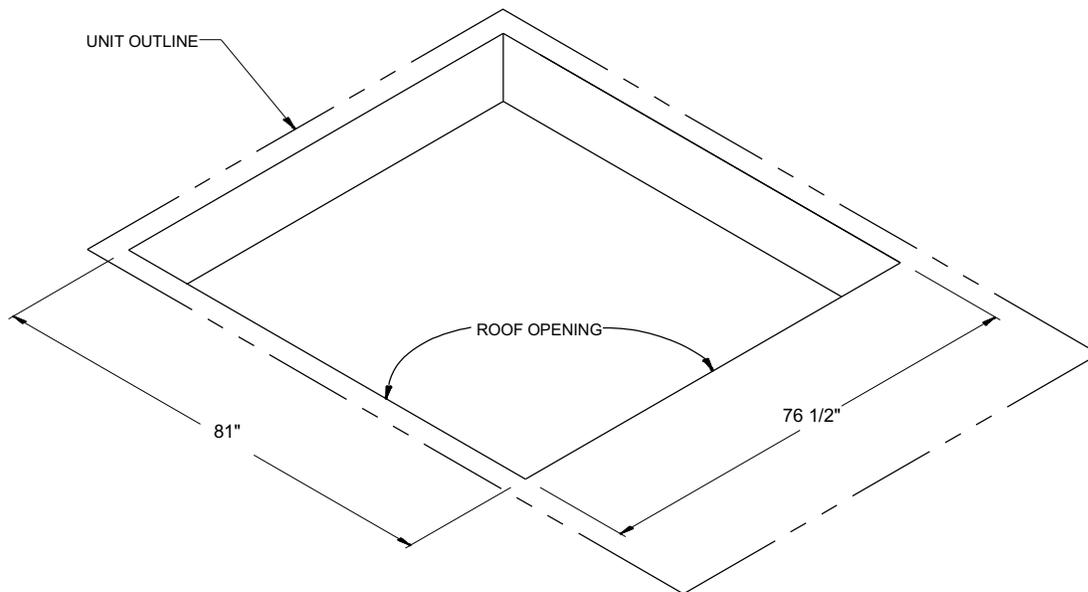


Reviewed for Code Compliance
Inspections Division
Approved with Conditions

Date: **08/17/17**



DOWNFLOW-PACKAGED GAS/ELECTRIC CLEARANCE



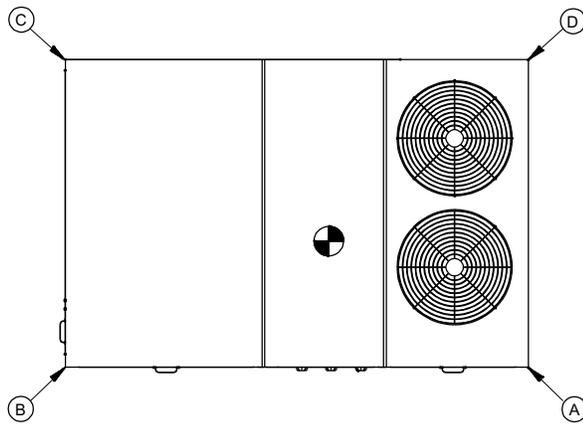
DOWNFLOW-PACKAGED GAS/ELECTRIC ROOF OPENING CLEARANCE

Weight, Clearance & Rigging Diagram - Packaged Gas/Electric Rooftop Units
 Item: B1 Qty: 2 Tag(s): RTU-1, RTU-2



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CORNER WEIGHT

Base Unit and Corner Weights only

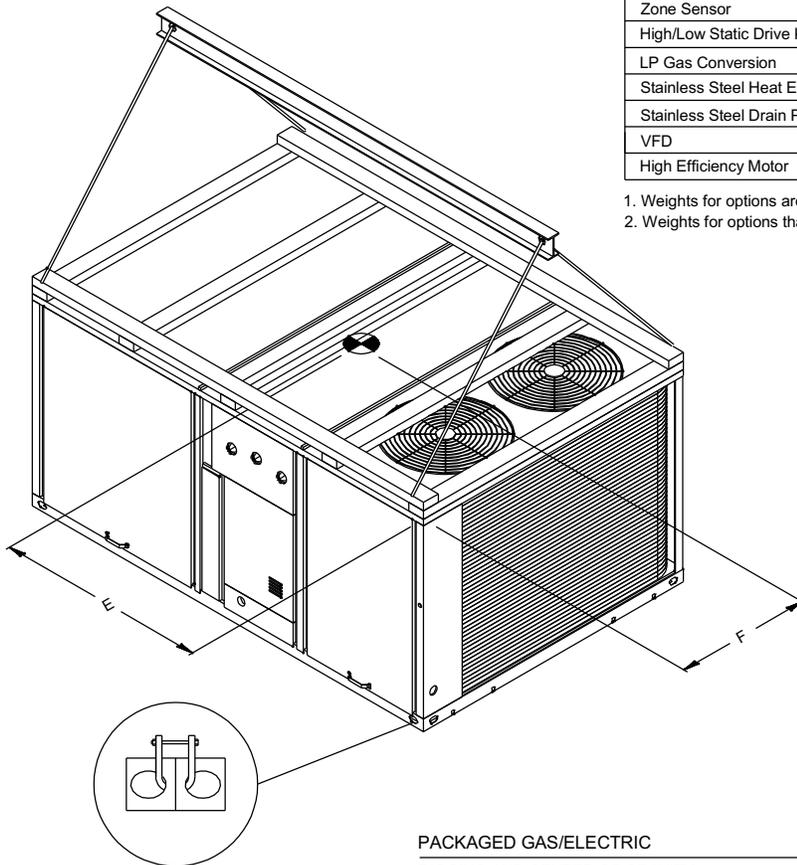
Base unit weights		Corner Weights				Center of Gravity	
SHIPPING	NET	(A)	(B)	(C)	(D)	E	F
2409.0 lb	1977.0 lb	635.0 lb	515.0 lb	374.0 lb	454.0 lb	55"	35"

1. All weights are approximate.
2. The actual weight are listed on the unit nameplate.
3. Refer to unit nameplate and installation guide for weights before scheduling transportation and installation of unit.
4. The weight shown represents the typical unit operating weight for the configuration selected. Estimated at +/- 10 % of the nameplate weight. .
5. Verify weight, connection, and all dimension with installer documents before installation.
6. Corner weights are given for information only.
7. Net/Shipping weight of optional accessories should be added to unit weight when ordering factory or field installed accessories.

Installed Options Net Weight Data

Accessory	Weight
Economizer, Manual and Motorized Outside Air Damper	80.0 lb
Power Exhaust	95.0 lb
Roof Curb	
Oversized Motor	
Hail Guard	43.0 lb
Hinged Access Doors	
Power Conv. Outlet	
Through the Base Electrical	
Circuit Breaker	
Disconnect	
Smoke Detector	
Novar	
Zone Sensor	
High/Low Static Drive Kit	
LP Gas Conversion	
Stainless Steel Heat Exchanger	
Stainless Steel Drain Pan	
VFD	
High Efficiency Motor	

1. Weights for options are approximate.
2. Weights for options that are not list refer to Installation guide.



PACKAGED GAS/ELECTRIC
RIGGING AND CENTER OF GRAVITY

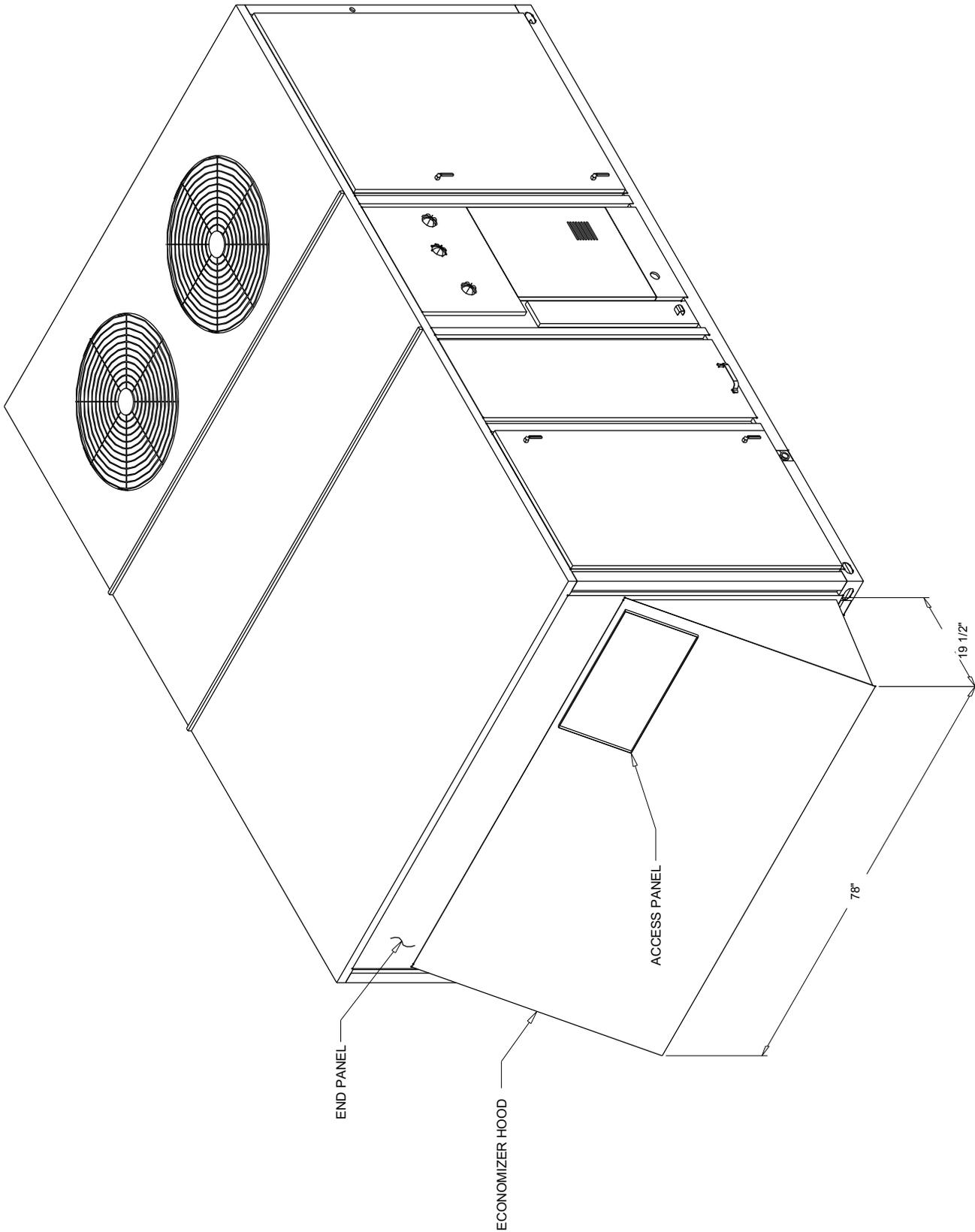
Accessory - Packaged Gas/Electric Rooftop Units

Item: B1 Qty: 2 Tag(s): RTU-1, RTU-2



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DOWNFLOW ACCESSORY- ECONOMIZER

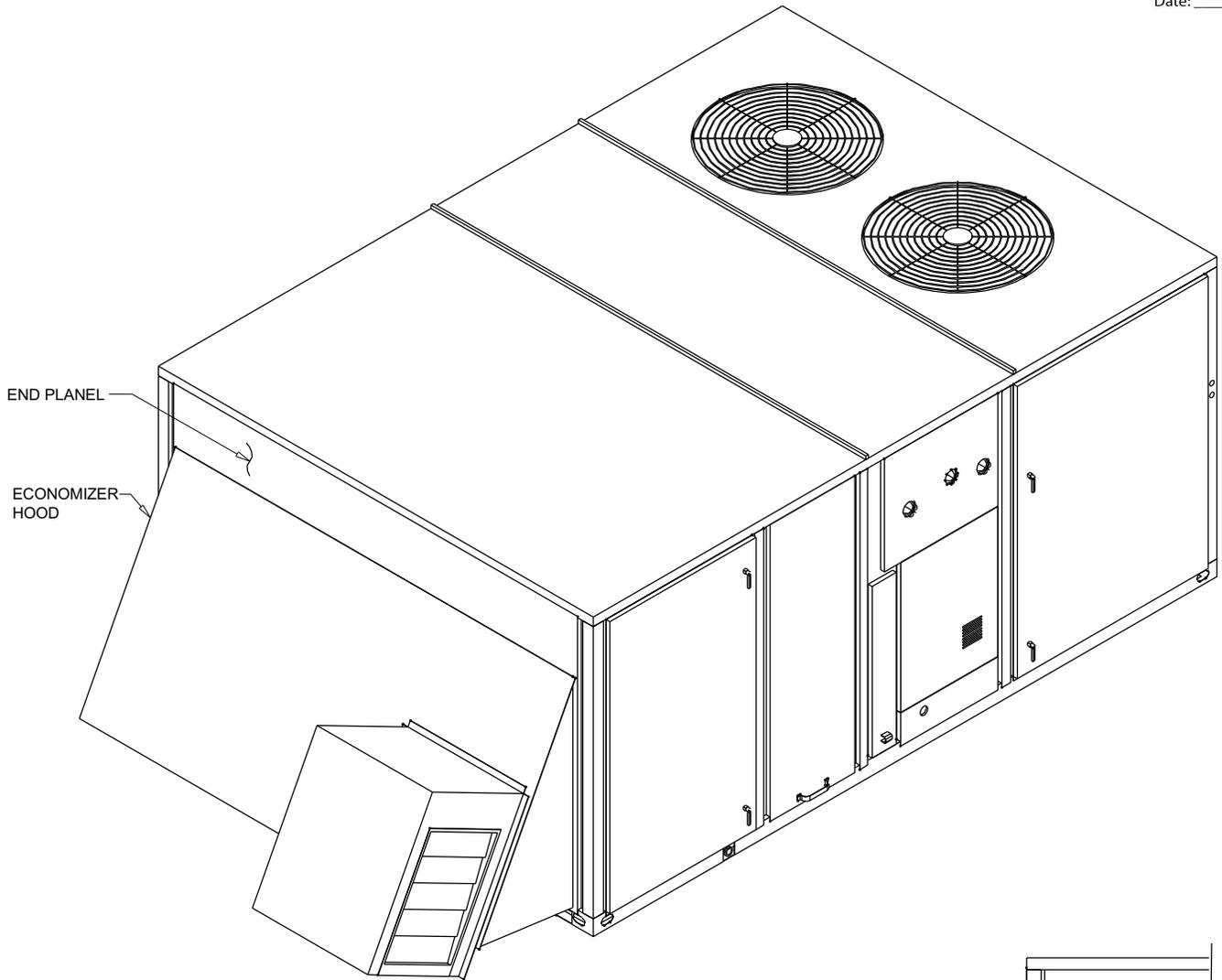
Accessory - Packaged Gas/Electric Rooftop Units

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DOWNFLOW ACCESSORY- POWER EXHAUST

POWER EXHAUST

39"

FRONT OF POWER EXHAUST



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 order numbers for each field installed option, and references it to a specific product tag. It is NOT intended bill of material for the job.

Product Family - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop

Item	Tag(s)	Qty	Description	Model Number
A1	RTU#6	1	6 Ton R410A PKGD Unitary Gas/Electric	YSC072F3RMA-- C00100010300000 0000000000000
A3	RTU#4, RTU#5	2	8.5 Ton R410A PKGD Unitary Gas/Electric	YSC102F3RLA-- C00100010300000 0000000000000

Field Installed Option Description	Part/Ordering Number
Roof curb	BAYCURB043A
CO2 wall mounted, field sensor kit	BAYCO2K001B
Power exhaust	BAYPWRX026A

Item	Tag(s)	Qty	Description	Model Number
A2	RTU#3	1	6 Ton R410A PKGD Unitary Gas/Electric	YSC072F3RMA-- D00100020300000 0000000000000

Field Installed Option Description	Part/Ordering Number
Roof curb	BAYCURB043A
CO2 wall mounted, field sensor kit	BAYCO2K001B
Room sensor with temperature adjustment w/override	BAYSENS074A

Product Family - Packaged Gas/Electric Rooftop Units

Item	Tag(s)	Qty	Description	Model Number
B1	RTU-1, RTU-2	2	20 Ton Packaged Unitary Gas/Elec	YSD240G3RLA-- D00100010100000 0000000000000

Field Installed Option Description	Part/Ordering Number
CO2 wall mounted, field sensor kit	BAYCO2K002C
Power exhaust	BAYPWRX029B