



Proposal

(Valid for 30 days from Proposal date)

Prepared For:
Flo-Tron
Tony Cosentino

Date: February 19, 2020

Proposal Number: E1-104112-2

Job Name:
St. Johns, Severna Park]

Delivery Terms:
Freight Allowed and Prepaid - F.O.B. Factory

Payment Terms:
Net 30 Days

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

Tag Data - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop (Qty: 12)

Item	Tag(s)	Qty	Description	Model Number	Existing MN
A1	4 Ton	7	3-10 Ton R-410A PKGD Unitary Gas/Electric	YSC048G3RLB	D2EG048N
A2	3 Ton	2	3-10 Ton R-410A PKGD Unitary Gas/Electric	YSC036G3RLB	D2EG036N
A3	7.5 Ton	2	3-10 Ton R-410A PKGD Unitary Gas/Electric	YSC092H3RMA	D1EG090N
A4	5 Ton	1	3-10 Ton R-410A PKGD Unitary Gas/Electric	YSC060G3RMB	D2EG060N

Product Data - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop

All Units

- DX cooling, gas heat
- Standard efficiency
- Convertible configuration
- 208-230/60/3
- Microprocessor controls
- Dry bulb economizer 0-100% w/o bar rel (Fld)
- Barometric relief (Fld)
- 3H/2C Touchscreen, programmable, remote temperature, remote humidity (Fld)

Item: A1 Qty: 7 Tag(s): 4 Ton

- 4 Ton
- Low gas heat
- Adapter curb

Item: A2 Qty: 2 Tag(s): 3 Ton

- 3 Ton
- Low gas heat
- Adapter curb

Item: A3 Qty: 2 Tag(s): 7.5 Ton, 7.5 Ton

- 7.5 Ton Dual compressor
- Medium gas heat

Item: A4 Qty: 1 Tag(s): 5 Ton

- 5 Ton – PLEASE CONFIRM PRIOR TO ORDER
- Medium gas heat
- Adapter curb

Tag Data - Packaged Gas/Electric Rooftop Units (Qty: 1)

Item	Tag(s)	Qty	Description	Model Number	Existing MN
B1	12.5 Ton	1	12 1/2 -25 Ton Packaged Unitary Gas/Elec	YSD150G3RHA	D2EG150N

Product Data - Packaged Gas/Electric Rooftop Units

Item: B1 Qty: 1 Tag(s): 12.5 Ton

b

Dee Schindler – RTU Express

Light Commercial Unitary Sales Specialist – MD/PA Trane
10947 Golden West Drive, Suite 100, Hunt Valley, MD 21031
410-403-2211

Website: www.trane.com/rтуexpress

Mechanical Specifications - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: A1 - A4 Qty: 12 Tag(s): 4 Ton, 3 Ton, 7.5 Ton, 7.5 Ton, 5 Ton**General**

The units shall be convertible airflow. The operating range shall be between 115°F and 0°F in cooling as standard 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", 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" 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.

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 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. 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.

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.

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).

Accessory - 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.

Sequence of Operation (if applied in a SINGLE-ZONE CONSTANT-VOLUME SYSTEM or a CHANGEOVER BYPASS SYSTEM)

B. SINGLE-ZONE CONSTANT-VOLUME SYSTEM

1. OCCUPIED HEAT/COOL:

The RTU shall operate the supply fan continuously and modulate (or cycle) compressors, modulate (or stage) heat, and/or enable airside economizing to maintain zone temperature at setpoint. The OA damper shall open to bring in the required amount of ventilation.

2. MORNING WARM-UP/PRE-COOL:

The RTU shall operate the supply fan and modulate (or cycle) compressors or modulate (or stage) heat to raise/lower zone temperature to its occupied setpoint. The OA damper shall remain closed, unless economizing.

D. CHANGEOVER BYPASS SYSTEM**1. OCCUPIED HEAT/COOL:**

Each VAV terminal shall use pressure-independent control, with airflow measurement, to vary primary airflow to maintain zone temperature at its occupied setpoint. The RTU shall modulate the bypass damper to maintain duct static pressure at setpoint and modulate (or cycle) compressors, modulate (or stage) heat, and/or enable airside economizing based on current zone cooling/heating demands. The OA damper shall open to bring in the required amount of ventilation.

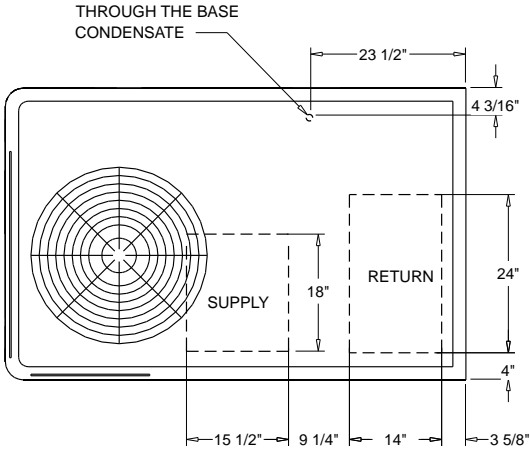
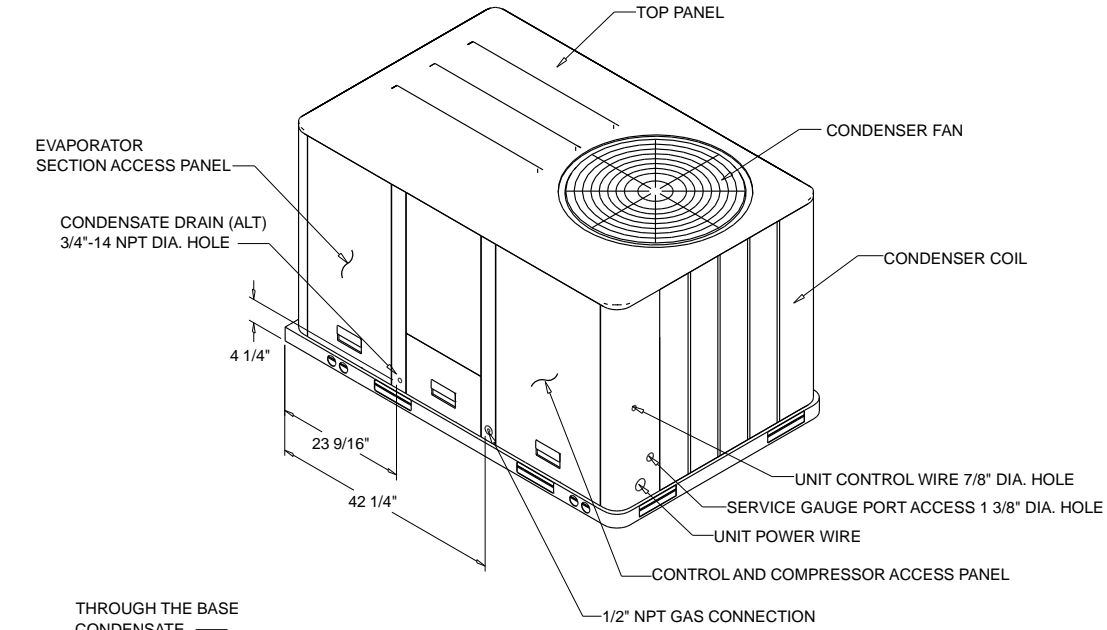
2. MORNING WARM-UP/PRE-COOL:

Each VAV terminal unit shall vary primary airflow to raise/lower zone temperature to its occupied setpoint. The RTU shall modulate the bypass damper to maintain duct static pressure at setpoint and modulate (or cycle) compressors or modulate (or stage) heat based on current zone cooling/heating demands. The OA damper shall remain closed, unless economizing.

3. COOLING/HEATING CHANGEOVER LOGIC:

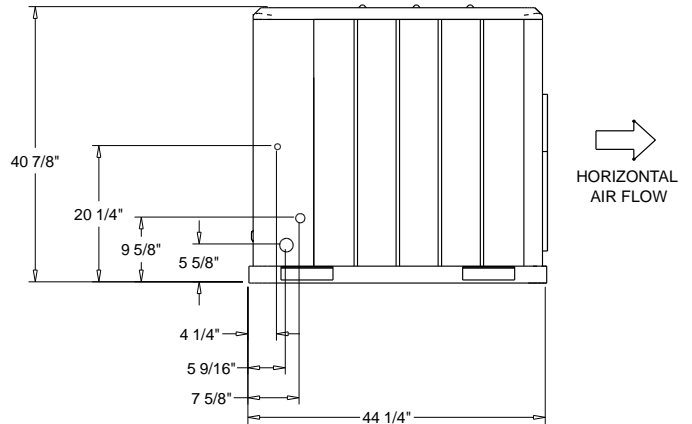
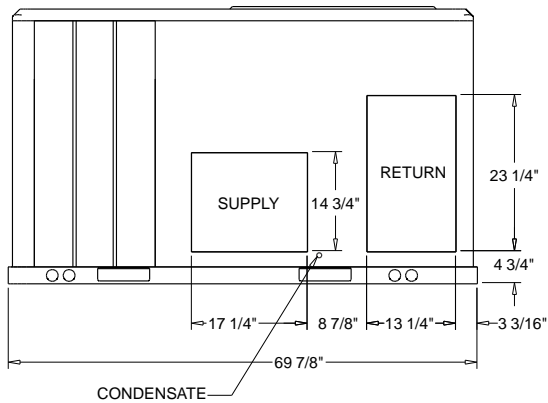
The System Controller shall determine the overall system cooling/heating mode based on "voting" from each zone. When the majority of zones require cooling, the RTU shall operate in cooling mode and any zone that requires heating shall reduce primary airflow to minimum. When the majority of zones require heating, the RTU shall operate in heating mode and any zone that requires cooling shall reduce primary airflow to minimum.

Unit Dimensions - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: A1, A2, A4 Qty: 10 Tag(s): 4 Ton, 3 Ton, 5 Ton



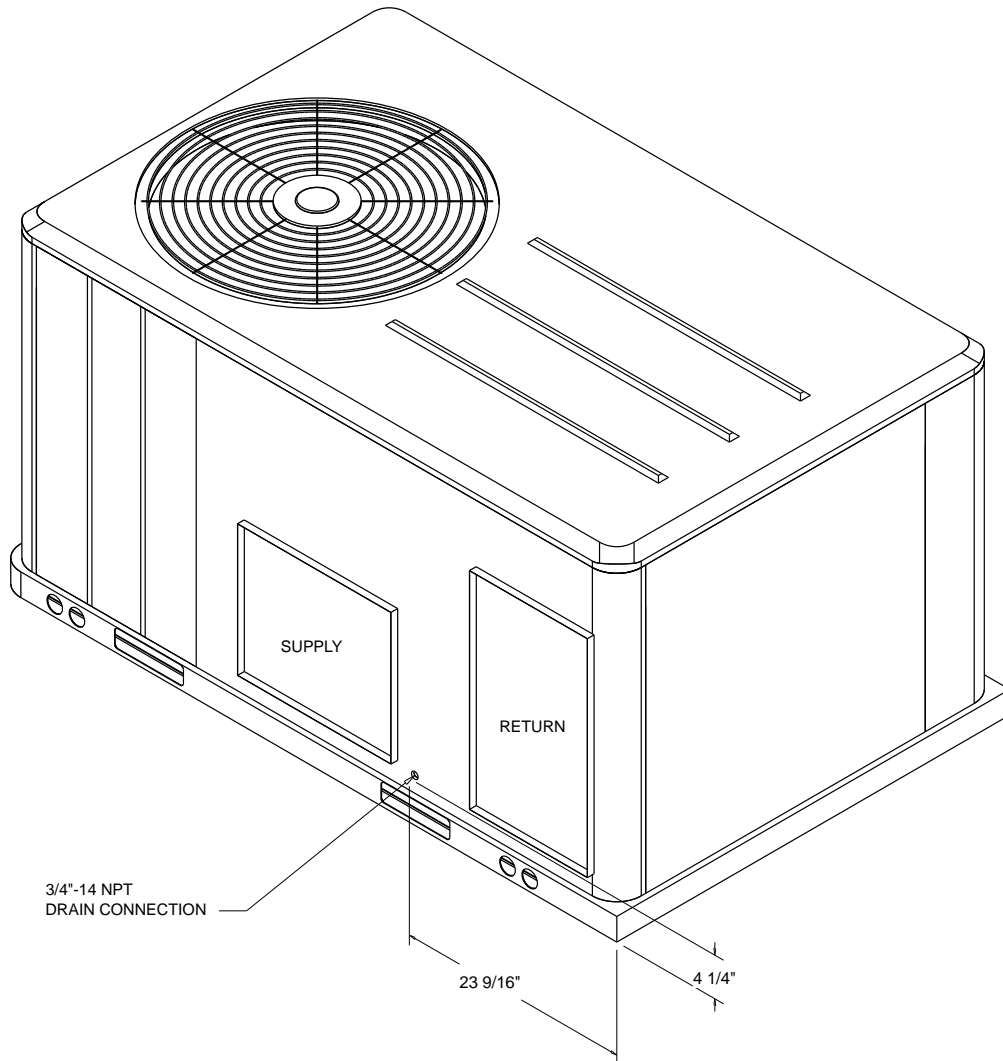
- NOTES:
 1. THRU -THE -BASE GAS AND ELECTRICAL IS NOT STANDARD ON ALL UNITS.
 2. VERIFY WEIGHT, CONNECTION, AND ALL DIMENSION WITH INSTALLER DOCUMENTS BEFORE INSTALLATION

PLAN VIEW UNIT
 DIMENSION DRAWING



PACKAGED GAS / ELECTRICAL
 DIMENSION DRAWING

Unit Dimensions - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: A1, A2, A4 Qty: 10 Tag(s): 4 Ton, 3 Ton, 5 Ton



ISOMETRIC-PACKAGED COOLING

Unit Dimensions - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: A1 Qty: 7 Tag(s): 4 Ton

ELECTRICAL / GENERAL DATA

GENERAL ⁽²⁾⁽⁴⁾⁽⁶⁾ Model: YSC048G 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/SEER 12.0/14.0 Standard Motor MCA: 26.0 MCA: N/A MFS: 35.0 MFS: N/A MCB: 35.0 MCB: N/A		HEATING PERFORMANCE HEATING - GENERAL DATA Heating Model: Low Heating Input (BTU): 80,000/56,000 Heating Output (BTU): 64,800/45,360 No. Burners: 2 No. Stages: 2 Gas Inlet Pressure Natural Gas (Min/Mix): 4 1/2"/14" LP (Min/Max): 11"/14" Gas Pipe Connection Size: 1/2"	
INDOOR MOTOR Standard Motor Oversized Motor Field Installed Oversized Motor Number: 1 Number: N/A Number: Horsepower: 1.0 Horsepower: N/A Horsepower: Motor Speed (RPM): -- Motor Speed (RPM): N/A Motor Speed (RPM): Phase: 1 Phase: N/A Phase: Full Load Amps: 6.9 Full Load Amps: N/A Full Load Amps: -- N/A N/A			
COMPRESSOR Circuit 1/2 Number: 1 Horsepower: 3.6 Phase: 3 Rated Load Amps: 13.7 -		OUTDOOR MOTOR Number: 1 Horsepower: 0.33 Motor Speed (RPM): 1100 Phase: 1 Full Load Amps: 1.4 --	
POWER EXHAUST ACCESSORY ^(3,7) (Field Installed Power Exhaust) Phase: N/A Horsepower: N/A Motor Speed (RPM): N/A Full Load Amps: N/A Locked Rotor Amps: N/A		FILTERS Type: Throwaway Furnished: Yes Number: 2 Recommended: 20"x35"x2"	
REFRIGERANT ⁽²⁾ Type Factory Charge Circuit #1 3 1/2" 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.
7. Installation of this power exhaust kit will affect unit level MCA and could affect MOP sizing having a direct impact on existing field wiring and unit protection devices. The change in MCA/MOP is the sole responsibility of the field installing party. Trane will not issue new nameplates as a result of this power exhaust accessory installation. FLA of the power exhaust kit option must be added to the MCA of the unit for building supply conductor sizing determination.

Unit Dimensions - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: A2 Qty: 2 Tag(s): 3 Ton

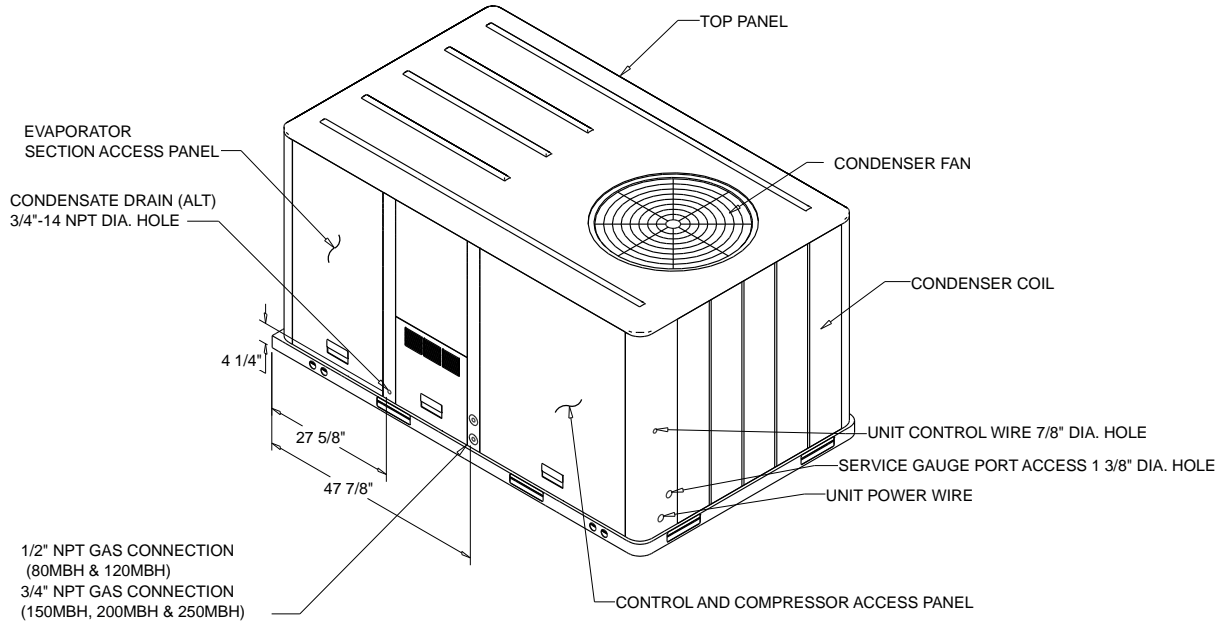
ELECTRICAL / GENERAL DATA

GENERAL ⁽²⁾⁽⁴⁾⁽⁶⁾ Model: YSC036G 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/SEER 12.0/14.0 Standard Motor MCA: 20.0 MCA: N/A MFS: 30.0 MFS: N/A MCB: 30.0 MCB: N/A		HEATING PERFORMANCE HEATING - GENERAL DATA Heating Model: Low Heating Input (BTU): 80,000/56,000 Heating Output (BTU): 64,800/45,360 No. Burners: 3 No. Stages: 2 Gas Inlet Pressure Natural Gas (Min/Mix): 4 1/2"/14" LP (Min/Max): 11"/14" Gas Pipe Connection Size: 1/2"	
INDOOR MOTOR Standard Motor Oversized Motor Field Installed Oversized Motor Number: 1 Number: N/A Number: Horsepower: 0.75 Horsepower: N/A Horsepower: Motor Speed (RPM): -- Motor Speed (RPM): N/A Motor Speed (RPM): Phase: 1 Phase: N/A Phase: Full Load Amps: 5.7 Full Load Amps: N/A Full Load Amps: -- N/A N/A			
COMPRESSOR Circuit 1/2 Number: 1 Horsepower: 2.8 Phase: 3 Rated Load Amps: 10.4 -		OUTDOOR MOTOR Number: 1 Horsepower: 0.25 Motor Speed (RPM): 1100 Phase: 3 Full Load Amps: 1.1 -	
POWER EXHAUST ACCESSORY ^(3,7) (Field Installed Power Exhaust) Phase: N/A Horsepower: N/A Motor Speed (RPM): N/A Full Load Amps: N/A Locked Rotor Amps: N/A		FILTERS Type: Throwaway Furnished: Yes Number: 2 Recommended: 20"x35"x2"	
REFRIGERANT ⁽²⁾ Type Factory Charge Circuit #1 3.2 lb Circuit #2 N/A			

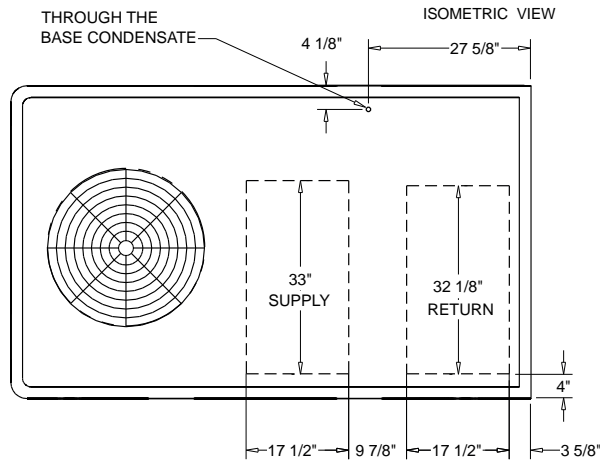
NOTES:

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.
7. Installation of this power exhaust kit will affect unit level MCA and could affect MOP sizing having a direct impact on existing field wiring and unit protection devices. The change in MCA/MOP is the sole responsibility of the field installing party. Trane will not issue new nameplates as a result of this power exhaust accessory installation. FLA of the power exhaust kit option must be added to the MCA of the unit for building supply conductor sizing determination.

Unit Dimensions - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: A3 Qty: 2 Tag(s): 7.5 Ton, 7.5 Ton



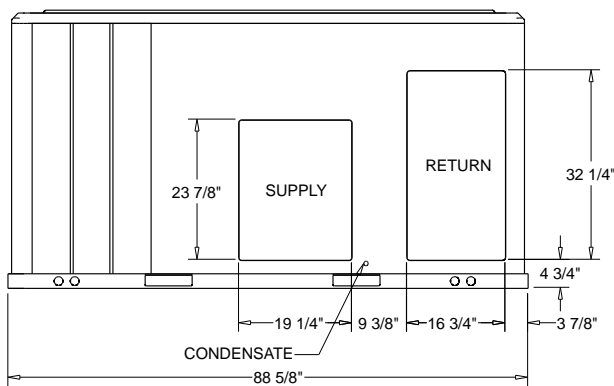
PACKAGED GAS / ELECTRICAL



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

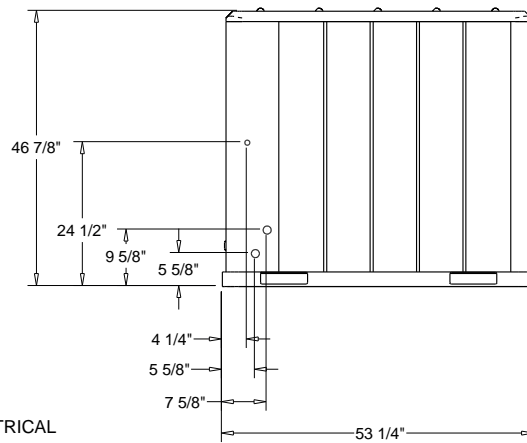
PLAN VIEW UNIT

DIMENSION DRAWING



PACKAGED GAS / ELECTRICAL

DIMENSION DRAWING



➔
HORIZONTAL AIR FLOW

Unit Dimensions - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: A3 Qty: 2 Tag(s): 7.5 Ton, 7.5 Ton

ELECTRICAL / GENERAL DATA

GENERAL ⁽²⁾⁽⁴⁾⁽⁶⁾ Model: YSC092H 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: 39.0 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): 150,000/105,000 Heating Output (BTU): 120,000/84,000 No. Burners: 3 No. Stages: 2 Gas Inlet Pressure Natural Gas (Min/Mix): 4 1/2"/14" LP (Min/Max): 11"/14" Gas Pipe Connection Size: 3/4"	
INDOOR MOTOR Standard Motor Oversized Motor Field Installed Oversized Motor Number: 1 Number: N/A Number: Horsepower: -- Horsepower: N/A Horsepower: Motor Speed (RPM): -- Motor Speed (RPM): N/A Motor Speed (RPM): Phase: 3 Phase: N/A Phase: Full Load Amps: 7.3 Full Load Amps: N/A Full Load Amps: - N/A N/A			
COMPRESSOR Circuit 1/2 Number: 1 Horsepower: 3.7/3.1 Phase: 3 Rated Load Amps: 14.5/14.0 --		OUTDOOR MOTOR Number: 1 Horsepower: 0.7 Motor Speed (RPM): 1100 Phase: 1 Full Load Amps: 3.3 --	
POWER EXHAUST ACCESSORY ^(3,7) (Field Installed Power Exhaust) Phase: N/A Horsepower: N/A Motor Speed (RPM): N/A Full Load Amps: N/A Locked Rotor Amps: N/A	FILTERS Type: Throwaway Furnished: Yes Number: 4 Recommended: 20"x25"x2"		REFRIGERANT ⁽²⁾ Type Factory Charge Circuit #1 3.8 lb Circuit #2 3.6 lb

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.
7. Installation of this power exhaust kit will affect unit level MCA and could affect MOP sizing having a direct impact on existing field wiring and unit protection devices. The change in MCA/MOP is the sole responsibility of the field installing party. Trane will not issue new nameplates as a result of this power exhaust accessory installation. FLA of the power exhaust kit option must be added to the MCA of the unit for building supply conductor sizing determination.

Unit Dimensions - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: A4 Qty: 1 Tag(s): 5 Ton

ELECTRICAL / GENERAL DATA

GENERAL ⁽²⁾⁽⁴⁾⁽⁶⁾ Model: YSC060G 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/SEER 12.0/14.0 Standard Motor MCA: 29.0 MCA: N/A MFS: 40.0 MFS: N/A MCB: 40.0 MCB: N/A		HEATING PERFORMANCE HEATING - GENERAL DATA Heating Model: Medium Heating Input (BTU): 100,000/70,000 Heating Output (BTU): 81,000/56,700 No. Burners: 3 No. Stages: 2 Gas Inlet Pressure Natural Gas (Min/Mix): 4 1/2"/14" LP (Min/Max): 11"/14" Gas Pipe Connection Size: 1/2"	
INDOOR MOTOR Standard Motor Oversized Motor Field Installed Oversized Motor Number: 1 Number: N/A Number: Horsepower: 1.0 Horsepower: N/A Horsepower: Motor Speed (RPM): -- Motor Speed (RPM): N/A Motor Speed (RPM): Phase: 1 Phase: N/A Phase: Full Load Amps: 8.2 Full Load Amps: N/A Full Load Amps: -- N/A N/A			
COMPRESSOR Circuit 1/2 Number: 1 Horsepower: 4.3 Phase: 3 Rated Load Amps: 15.9 --		OUTDOOR MOTOR Number: 1 Horsepower: 0.40 Motor Speed (RPM): 1100 Phase: 1 Full Load Amps: 1.4 --	
POWER EXHAUST ACCESSORY ^(3,7) (Field Installed Power Exhaust) Phase: N/A Horsepower: N/A Motor Speed (RPM): N/A Full Load Amps: N/A Locked Rotor Amps: N/A	FILTERS Type: Throwaway Furnished: Yes Number: 2 Recommended: 20"x35"x2"		REFRIGERANT ⁽²⁾ Type Factory Charge Circuit #1 4.8 lb Circuit #2 N/A

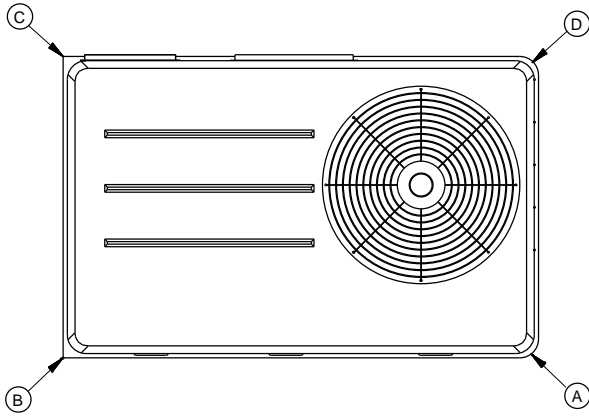
NOTES:

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.
7. Installation of this power exhaust kit will affect unit level MCA and could affect MOP sizing having a direct impact on existing field wiring and unit protection devices. The change in MCA/MOP is the sole responsibility of the field installing party. Trane will not issue new nameplates as a result of this power exhaust accessory installation. FLA of the power exhaust kit option must be added to the MCA of the unit for building supply conductor sizing determination.

Weight, Clearance & Rigging Diagram - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
 Item: A1 Qty: 7 Tag(s): 4 Ton

INSTALLED ACCESSORIES NET WEIGHT DATA

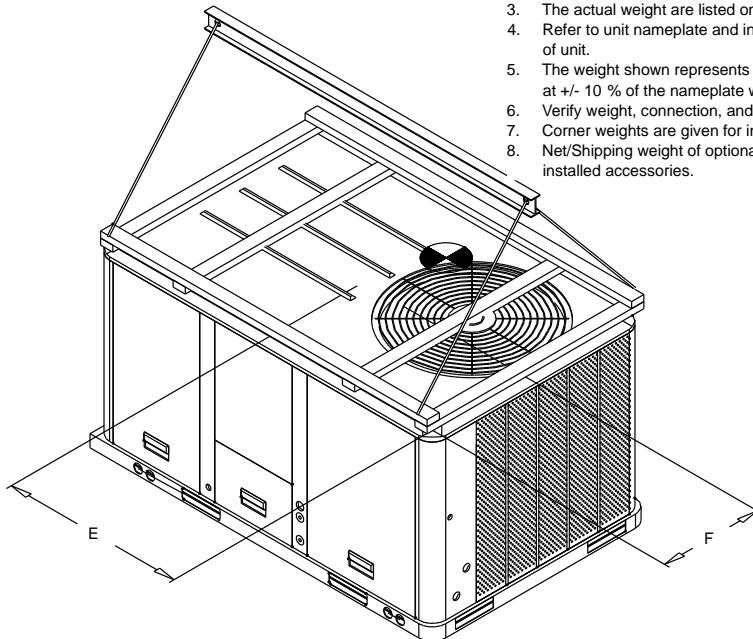
ACCESSORY		WEIGHTS			
ECONOMIZER		26.0 lb			
MOTORIZED OUTSIDE AIR DAMPER					
MANUAL OUTSIDE AIR DAMPER					
BAROMETRIC RELIEF		7.0 lb			
OVERSIZED MOTOR					
BELT DRIVE MOTOR					
POWER EXHAUST					
THROUGH THE BASE ELECTRICAL/GAS (FIOPS)					
UNIT MOUNTED CIRCUIT BREAKER (FIOPS)					
UNIT MOUNTED DISCONNECT (FIOPS)					
POWERED CONVENIENCE OUTLET (FIOPS)					
HINGED DOORS (FIOPS)					
HAIL GUARD					
SMOKE DETECTOR, SUPPLY / RETURN					
NOVAR CONTROL					
STAINLESS STEEL HEAT EXCHANGER					
REHEAT					
ROOF CURB					
BASIC UNIT WEIGHTS		CORNER WEIGHTS		CENTER OF GRAVITY	
SHIPPING	NET	(A)	(C)	(E) LENGHT	(F) WIDTH
598.0 lb	492.0 lb	(B)	183.0 lb	(D)	58.0 lb
				33"	9"



PACKAGED GAS / ELECTRICAL
 CORNER WEIGHT

NOTE:

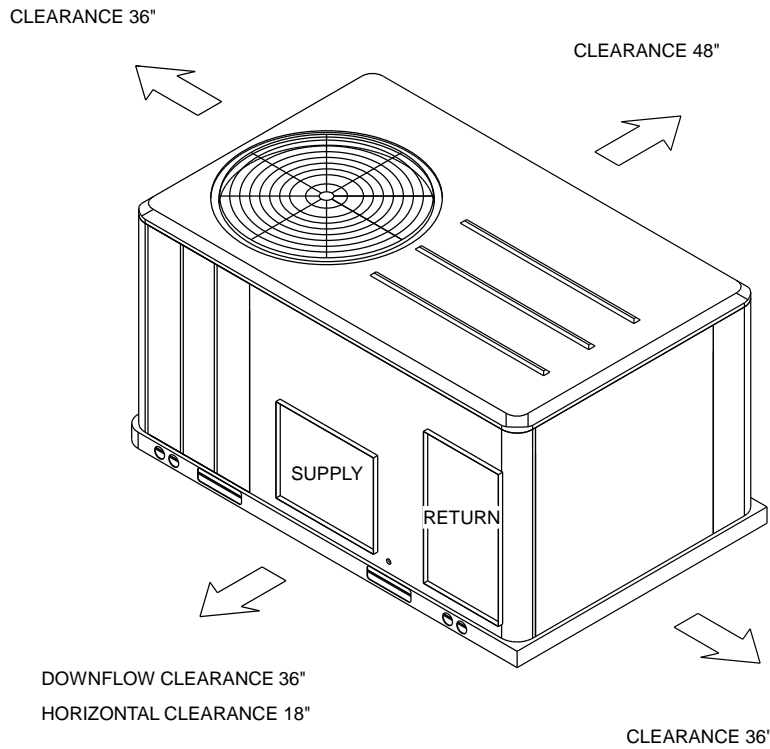
1. All weights are approximate.
2. Weights for options that are not list refer to Installation guide.
3. The actual weight are listed on the unit nameplate.
4. Refer to unit nameplate and installation guide for weights before scheduling transportation and installation of unit.
5. The weight shown represents 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.



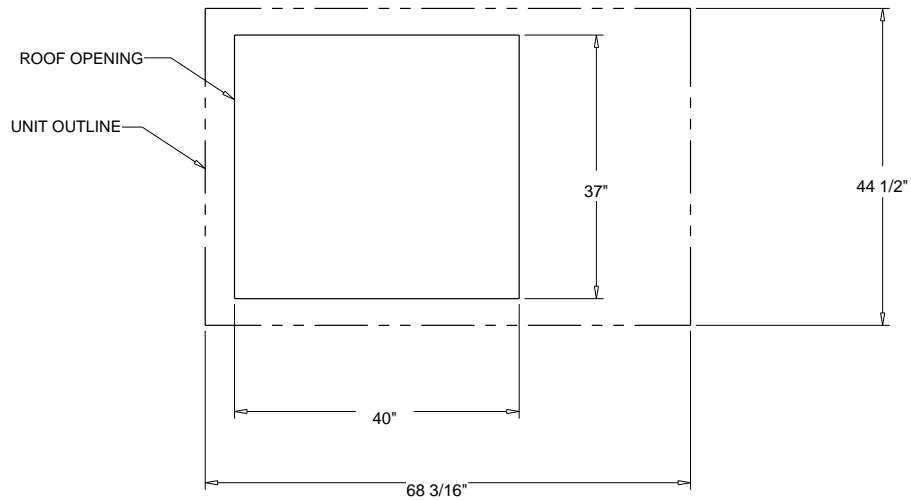
PACKAGED GAS / ELECTRICAL
 RIGGING AND CENTER OF GRAVITY

Weight, Clearance & Rigging Diagram - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
 Item: A1, A2, A4 Qty: 10 Tag(s): 4 Ton, 3 Ton, 5 Ton

CLEARANCE FROM TOP OF UNIT 72"

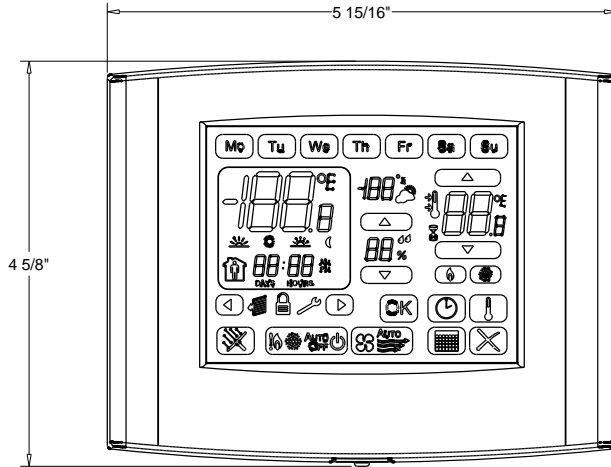


PACKAGED GAS / ELECTRIC
 CLEARANCE

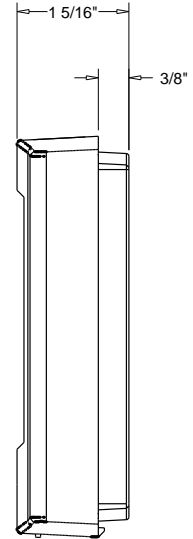


PACKAGED GAS / ELECTRIC
 DOWNFLOW TYPICAL ROOF OPENING

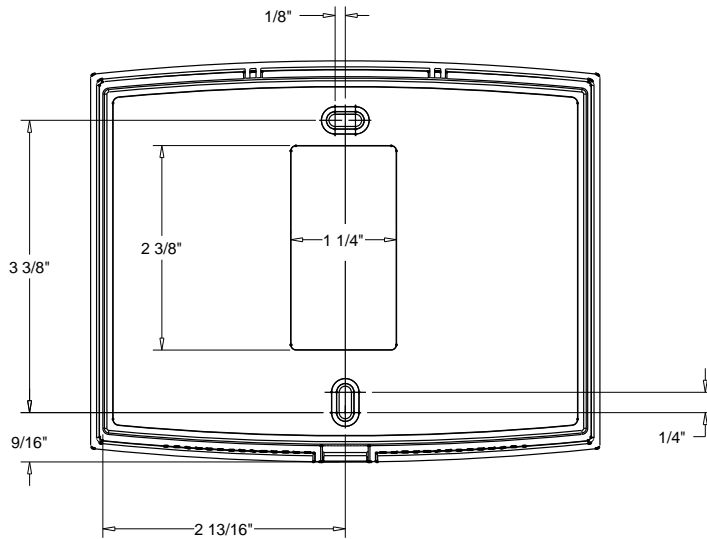
Weight, Clearance & Rigging Diagram - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: A1 - A4 Qty: 12 Tag(s): 4 Ton, 3 Ton, 7.5 Ton, 7.5 Ton, 5 Ton



FRONT VIEW



RIGHT SIDE VIEW



BACK VIEW

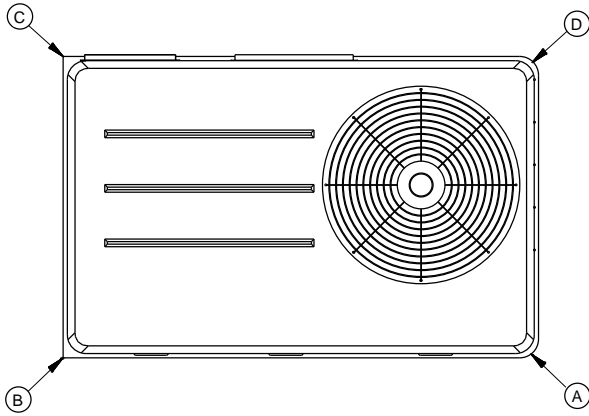
BAYSTAT152A PROGRAMMABLE TOUCHSCREEN

THERMOSTAT - ACCESSORY

Weight, Clearance & Rigging Diagram - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
 Item: A2 Qty: 2 Tag(s): 3 Ton

INSTALLED ACCESSORIES NET WEIGHT DATA

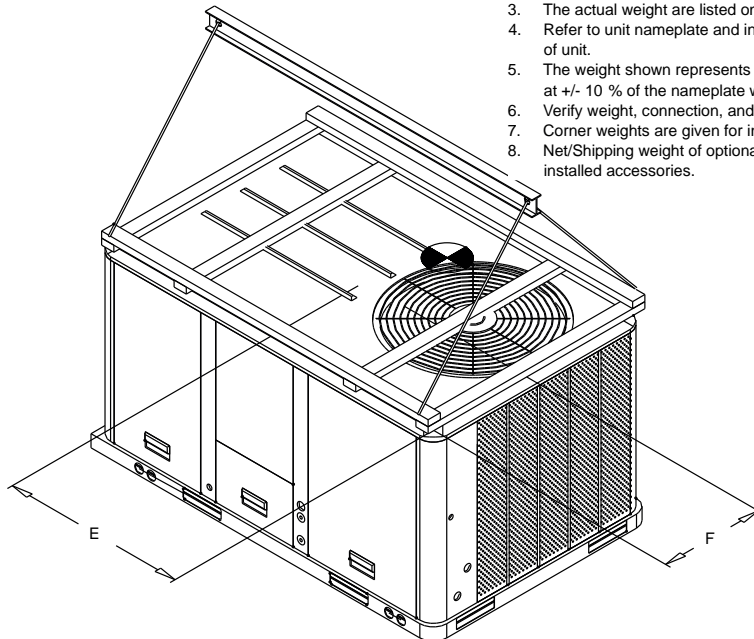
ACCESSORY		WEIGHTS			
ECONOMIZER		26.0 lb			
MOTORIZED OUTSIDE AIR DAMPER					
MANUAL OUTSIDE AIR DAMPER					
BAROMETRIC RELIEF		7.0 lb			
OVERSIZED MOTOR					
BELT DRIVE MOTOR					
POWER EXHAUST					
THROUGH THE BASE ELECTRICAL/GAS (FIOPS)					
UNIT MOUNTED CIRCUIT BREAKER (FIOPS)					
UNIT MOUNTED DISCONNECT (FIOPS)					
POWERED CONVENIENCE OUTLET (FIOPS)					
HINGED DOORS (FIOPS)					
HAIL GUARD					
SMOKE DETECTOR, SUPPLY / RETURN					
NOVAR CONTROL					
STAINLESS STEEL HEAT EXCHANGER					
REHEAT					
ROOF CURB					
BASIC UNIT WEIGHTS		CORNER WEIGHTS		CENTER OF GRAVITY	
SHIPPING	NET	(A)	(C)	(E) LENGHT	(F) WIDTH
577.0 lb	472.0 lb	(B)	178.0 lb	(D)	55.0 lb
				33"	9"



PACKAGED GAS / ELECTRICAL
CORNER WEIGHT

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.

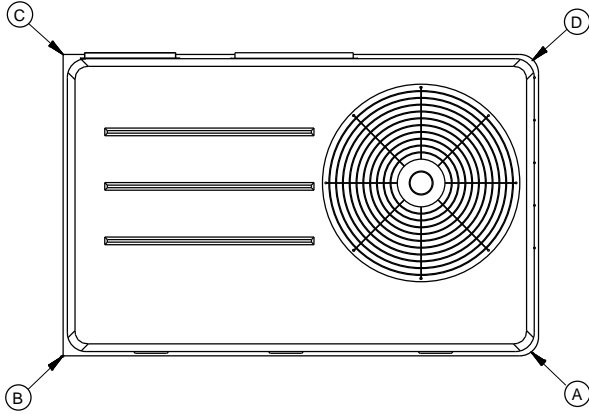


PACKAGED GAS / ELECTRICAL
RIGGING AND CENTER OF GRAVITY

Weight, Clearance & Rigging Diagram - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
 Item: A3 Qty: 2 Tag(s): 7.5 Ton, 7.5 Ton

INSTALLED ACCESSORIES NET WEIGHT DATA

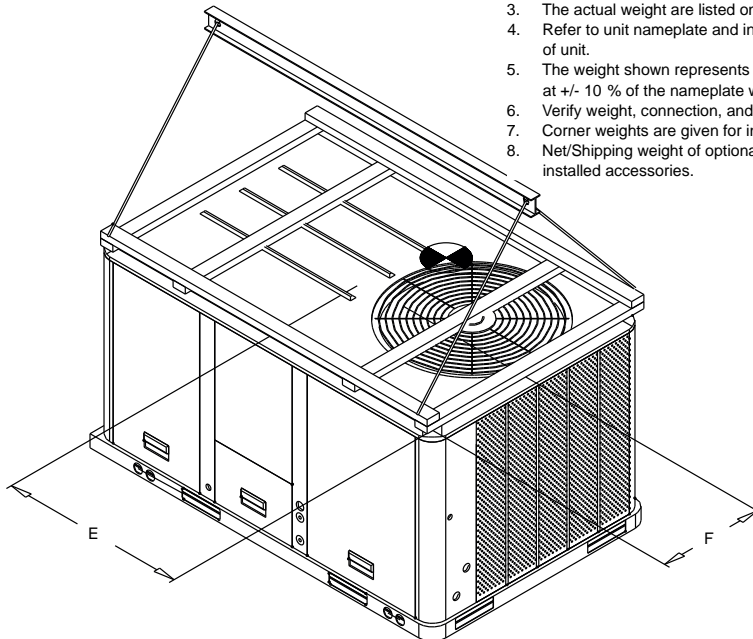
ACCESSORY		WEIGHTS			
ECONOMIZER		36.0 lb			
MOTORIZED OUTSIDE AIR DAMPER					
MANUAL OUTSIDE AIR DAMPER					
BAROMETRIC RELIEF		10.0 lb			
OVERSIZED MOTOR					
BELT DRIVE MOTOR					
POWER EXHAUST					
THROUGH THE BASE ELECTRICAL/GAS (FIOPS)					
UNIT MOUNTED CIRCUIT BREAKER (FIOPS)					
UNIT MOUNTED DISCONNECT (FIOPS)					
POWERED CONVENIENCE OUTLET (FIOPS)					
HINGED DOORS (FIOPS)					
HAIL GUARD					
SMOKE DETECTOR, SUPPLY / RETURN					
NOVAR CONTROL					
STAINLESS STEEL HEAT EXCHANGER					
REHEAT					
ROOF CURB					
BASIC UNIT WEIGHTS		CORNER WEIGHTS		CENTER OF GRAVITY	
SHIPPING	NET	(A)	(C)	(E) LENGHT	(F) WIDTH
990.0 lb	847.0 lb	(B)	(D)	46"	21"



PACKAGED GAS / ELECTRICAL
CORNER WEIGHT

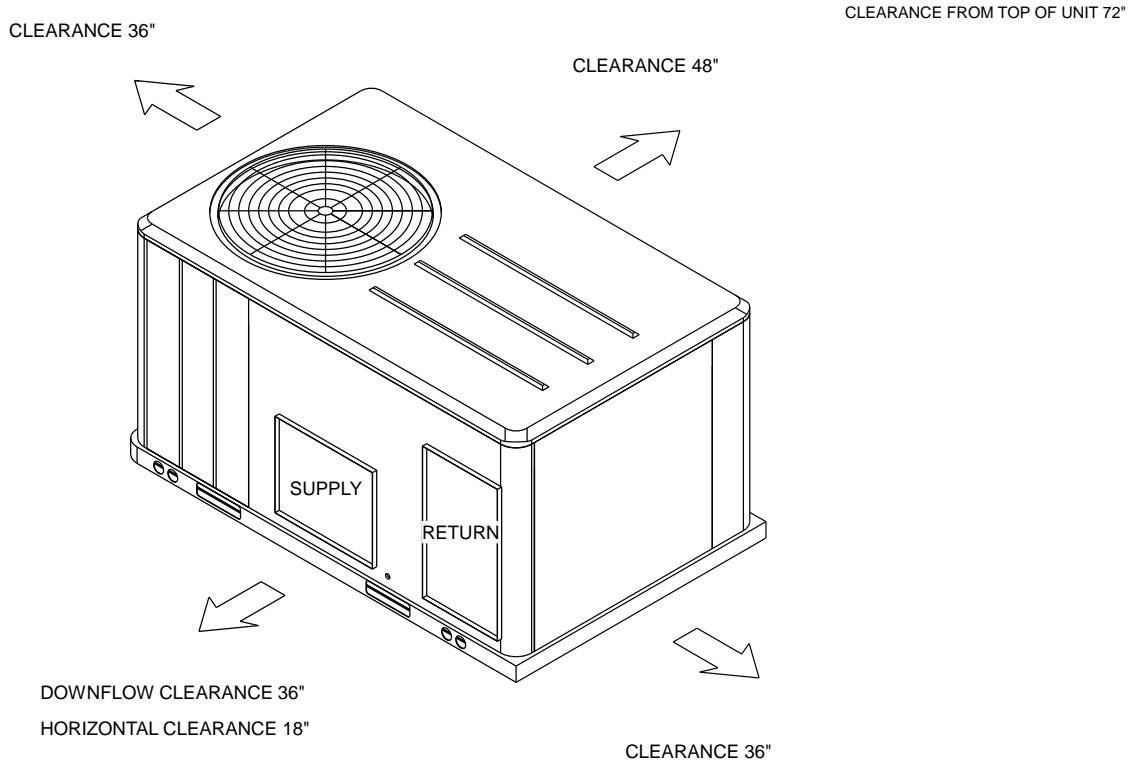
NOTE:

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.

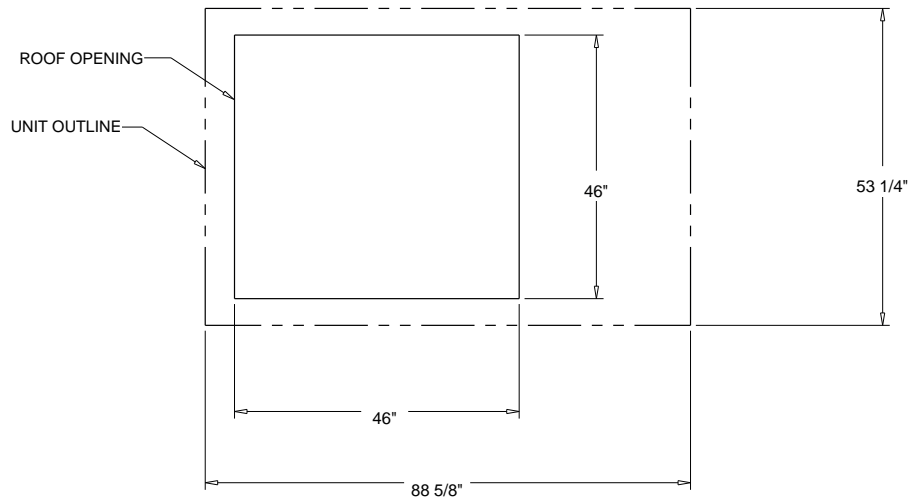


PACKAGED GAS / ELECTRICAL
RIGGING AND CENTER OF GRAVITY

Weight, Clearance & Rigging Diagram - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: A3 Qty: 2 Tag(s): 7.5 Ton, 7.5 Ton



PACKAGED GAS / ELECTRIC
CLEARANCE

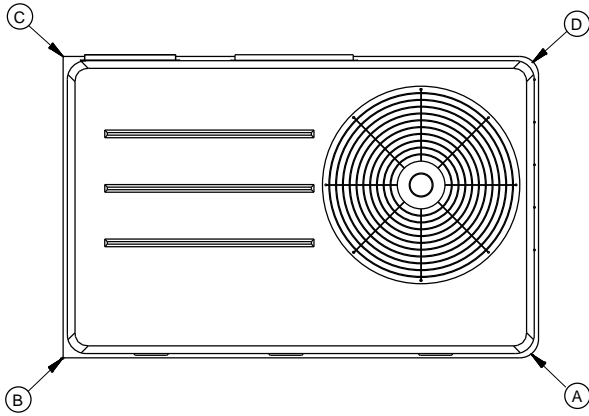


PACKAGED GAS / ELECTRIC
DOWNFLOW TYPICAL ROOF OPENING

Weight, Clearance & Rigging Diagram - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
 Item: A4 Qty: 1 Tag(s): 5 Ton

INSTALLED ACCESSORIES NET WEIGHT DATA

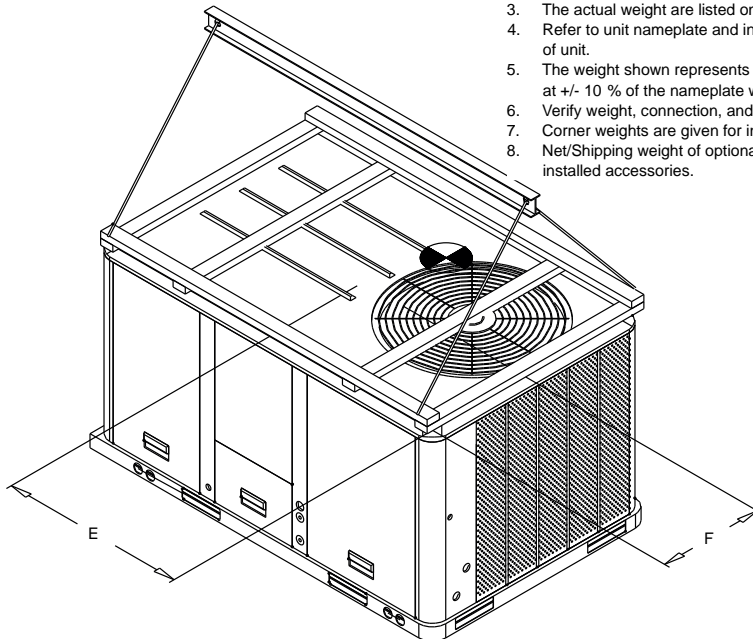
ACCESSORY		WEIGHTS			
ECONOMIZER		26.0 lb			
MOTORIZED OUTSIDE AIR DAMPER					
MANUAL OUTSIDE AIR DAMPER					
BAROMETRIC RELIEF		7.0 lb			
OVERSIZED MOTOR					
BELT DRIVE MOTOR					
POWER EXHAUST					
THROUGH THE BASE ELECTRICAL/GAS (FIOPS)					
UNIT MOUNTED CIRCUIT BREAKER (FIOPS)					
UNIT MOUNTED DISCONNECT (FIOPS)					
POWERED CONVENIENCE OUTLET (FIOPS)					
HINGED DOORS (FIOPS)					
HAIL GUARD					
SMOKE DETECTOR, SUPPLY / RETURN					
NOVAR CONTROL					
STAINLESS STEEL HEAT EXCHANGER					
REHEAT					
ROOF CURB					
BASIC UNIT WEIGHTS		CORNER WEIGHTS		CENTER OF GRAVITY	
SHIPPING	NET	(A)	(C)	(E) LENGHT	(F) WIDTH
627.0 lb	522.0 lb	(B)	(D)	33"	10"



PACKAGED GAS / ELECTRICAL
 CORNER WEIGHT

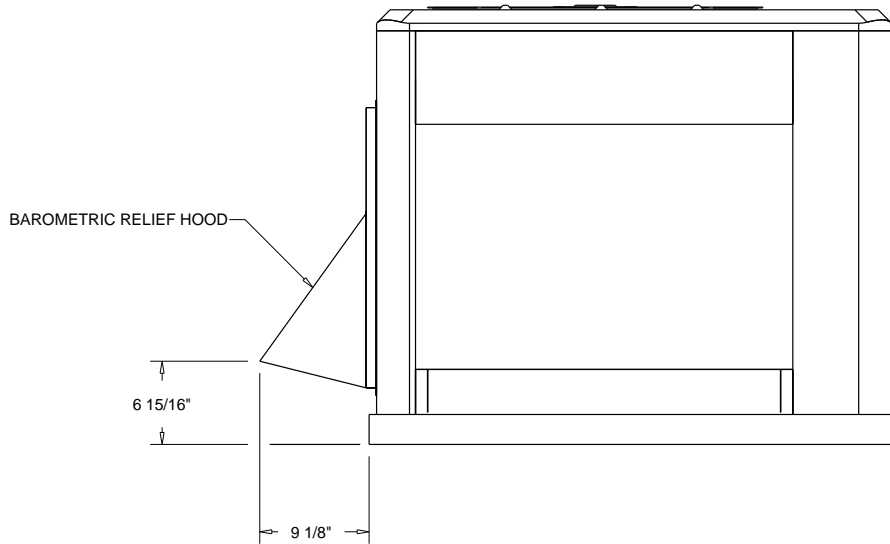
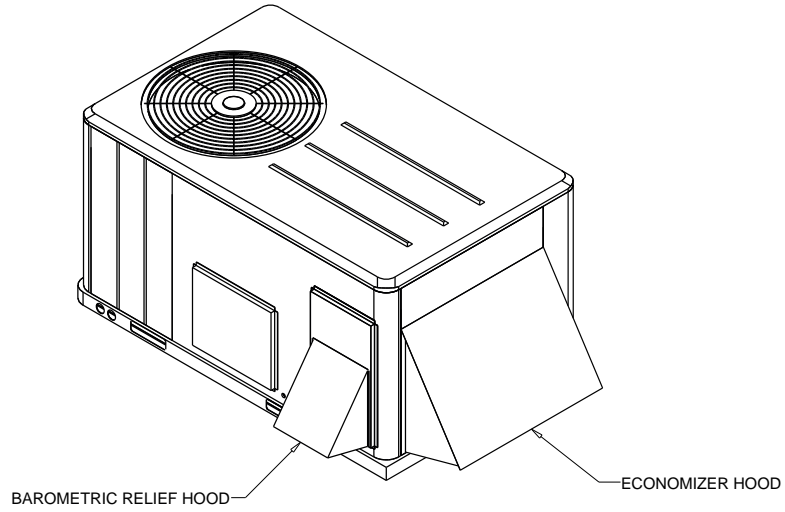
NOTE:

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.



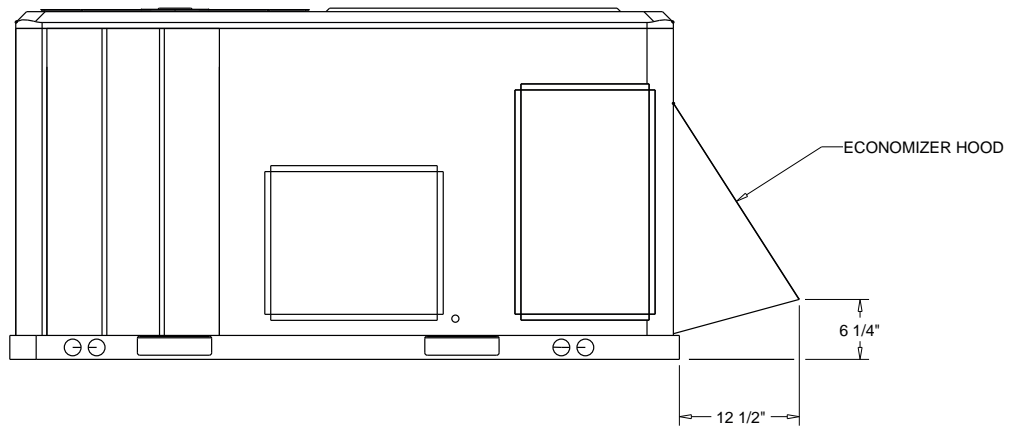
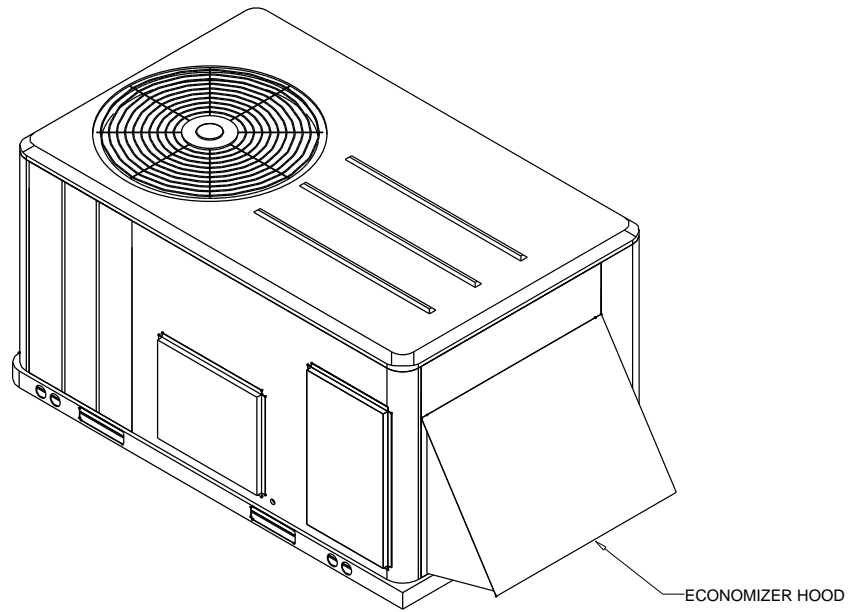
PACKAGED GAS / ELECTRICAL
 RIGGING AND CENTER OF GRAVITY

Accessory - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: A1, A2, A4 Qty: 10 Tag(s): 4 Ton, 3 Ton, 5 Ton



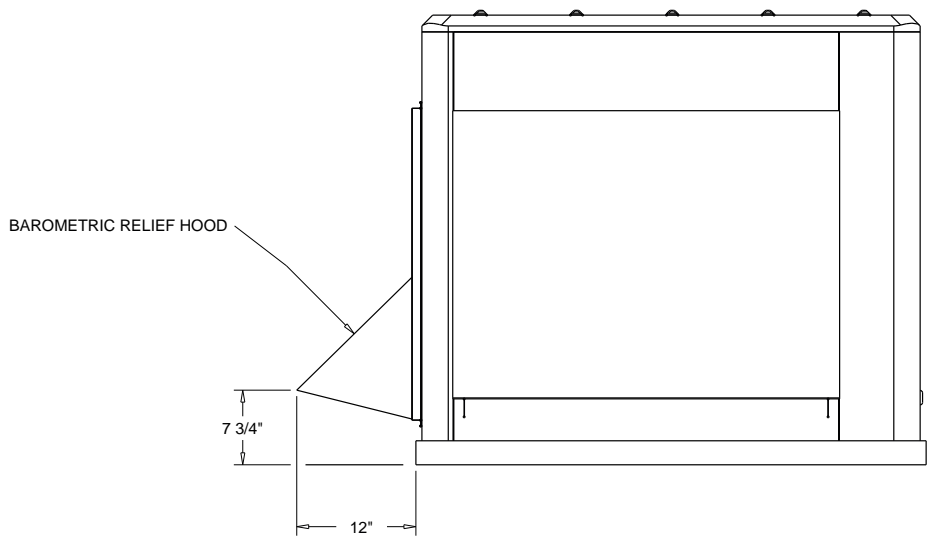
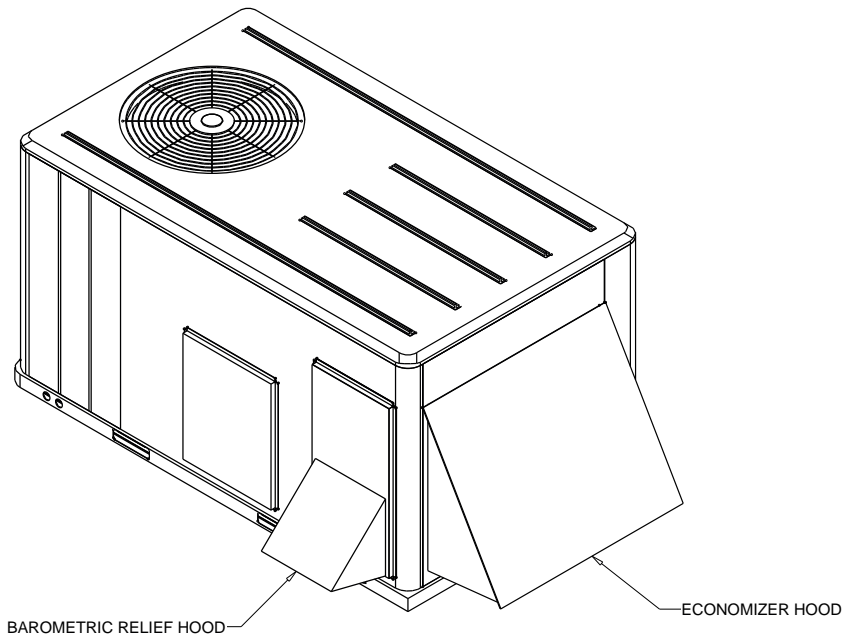
ACCESSORY - BAROMETRIC RELIEF DAMPER HOOD

Accessory - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: A1, A2, A4 Qty: 10 Tag(s): 4 Ton, 3 Ton, 5 Ton



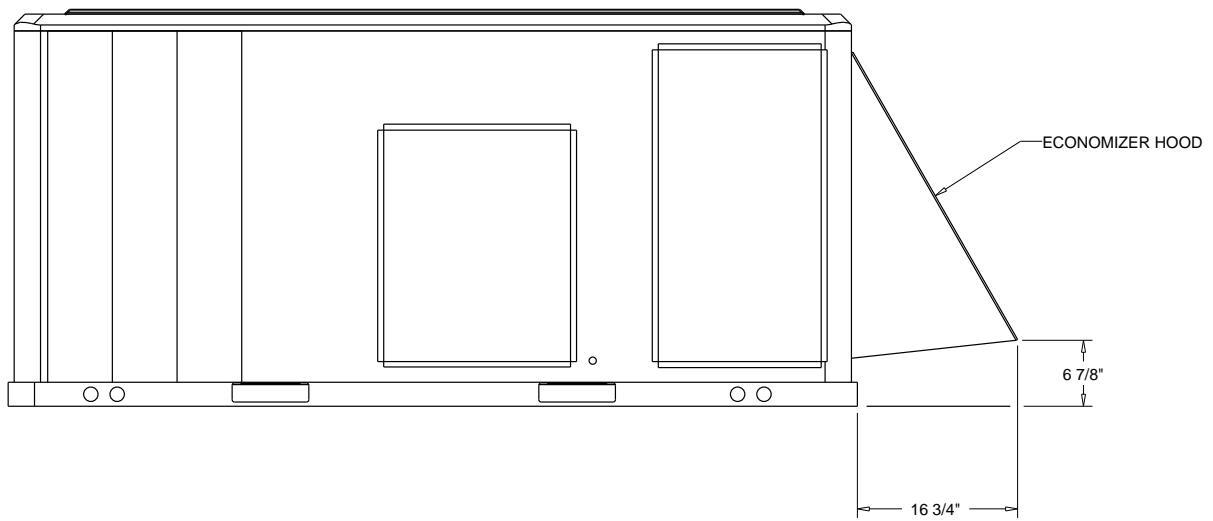
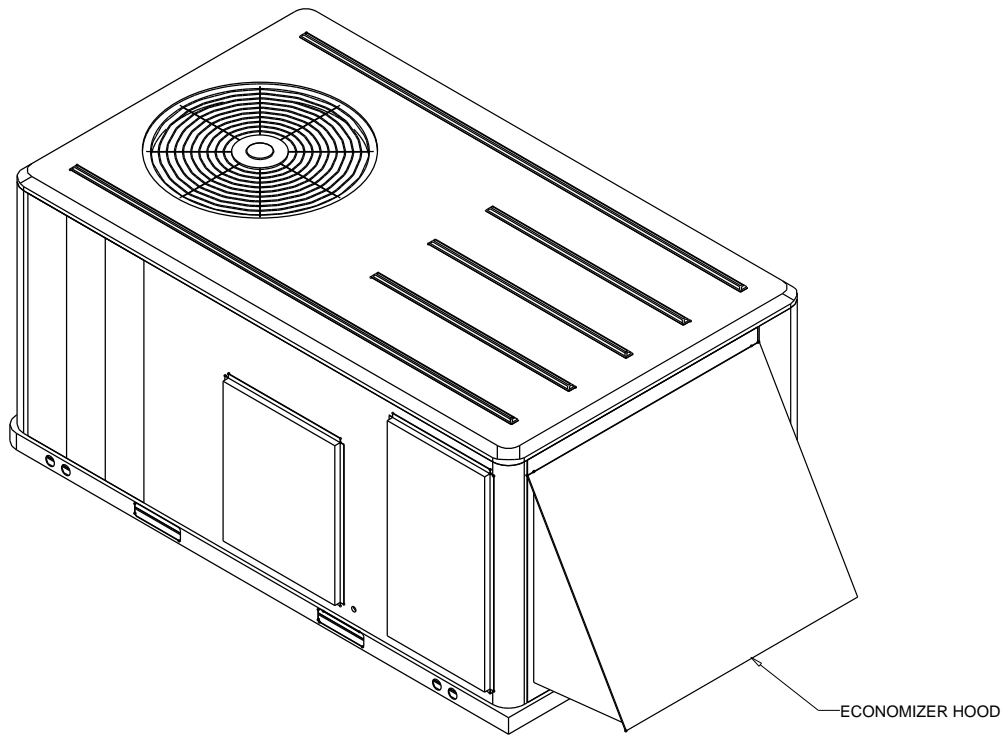
ACCESSORY - ECONOMIZER HOOD

Accessory - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: A3 Qty: 2 Tag(s): 7.5 Ton, 7.5 Ton



ACCESSORY - BAROMETRIC RELIEF DAMPER HOOD

Accessory - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: A3 Qty: 2 Tag(s): 7.5 Ton, 7.5 Ton



ACCESSORY - ECONOMIZER HOOD

Mechanical Specifications - Packaged Gas/Electric Rooftop Units
Item: B1 Qty: 1 Tag(s): 12.5 Ton**General - Downflow**

The units shall be dedicated downflow airflow. The operating range shall be between 115°F and 0°F in cooling as standard from the factory for all units. 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 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 ANSIZ21.47 and 10 CFR Part 431 pertaining to Commercial Warm Air Furnaces (gas heating units).

Casing - Downflow

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 1 1/8 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

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.

Refrigerant Circuits

Each refrigerant circuit shall have 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

Evaporator Coils (only on T/YS*150, 180, 210, 240, 300G models)-

Microchannel evaporator 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 for evaporator coils.

Coils shall be leak tested to ensure the pressure integrity. The evaporator coil shall be leak tested to 225 psig and pressure tested to 450 psig.

Condenser Coils (available on T/Y**150, 180, 210, 240, 300G models) - Microchannel condenser coils shall be standard on all units. Coils shall be leak tested to ensure the pressure integrity. The condenser coil shall be leak tested to 225 psig and pressure tested to 450 psig.

Gas Heating Section

The heating section shall have a drum and tube heat exchanger design using corrosion resistant steel components. A forced combustion blower shall supply premixed fuel to a single burner ignited by a pilotless hot surface ignition 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 shall also comply with California requirements for low NOx emissions.

Condenser Coil

The microchannel type condenser coil is standard for the 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. 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.

Accessory - Economizer - Downflow

The assembly includes fully modulating 0-100 percent motor and dampers, barometric relief, minimum position setting, preset linkage, wiring harness with plug, fixed dry bulb and spring return actuator. The barometric relief damper shall be

standard with the downflow economizer and shall provide a pressure operated damper that shall be gravity closing and shall prohibit entrance of outside air during the equipment "off" cycle. Solid state enthalpy and differential enthalpy control shall be field-installed.

Sequence of Operation (if applied in a SINGLE-ZONE CONSTANT-VOLUME SYSTEM or a CHANGEOVER BYPASS SYSTEM)

B. SINGLE-ZONE CONSTANT-VOLUME SYSTEM

1. OCCUPIED HEAT/COOL:

The RTU shall operate the supply fan continuously and modulate (or cycle) compressors, modulate (or stage) heat, and/or enable airside economizing to maintain zone temperature at setpoint. The OA damper shall open to bring in the required amount of ventilation.

2. MORNING WARM-UP/PRE-COOL:

The RTU shall operate the supply fan and modulate (or cycle) compressors or modulate (or stage) heat to raise/lower zone temperature to its occupied setpoint. The OA damper shall remain closed, unless economizing.

D. CHANGEOVER BYPASS SYSTEM

1. OCCUPIED HEAT/COOL:

Each VAV terminal shall use pressure-independent control, with airflow measurement, to vary primary airflow to maintain zone temperature at its occupied setpoint. The RTU shall modulate the bypass damper to maintain duct static pressure at setpoint and modulate (or cycle) compressors, modulate (or stage) heat, and/or enable airside economizing based on current zone cooling/heating demands. The OA damper shall open to bring in the required amount of ventilation.

2. MORNING WARM-UP/PRE-COOL:

Each VAV terminal unit shall vary primary airflow to raise/lower zone temperature to its occupied setpoint. The RTU shall modulate the bypass damper to maintain duct static pressure at setpoint and modulate (or cycle) compressors or modulate (or stage) heat based on current zone cooling/heating demands. The OA damper shall remain closed, unless economizing.

3. COOLING/HEATING CHANGEOVER LOGIC:

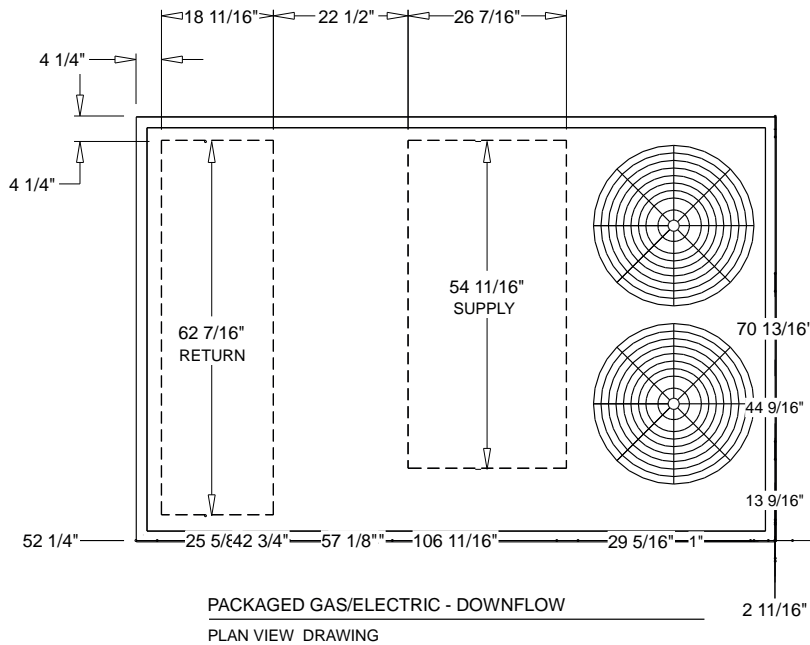
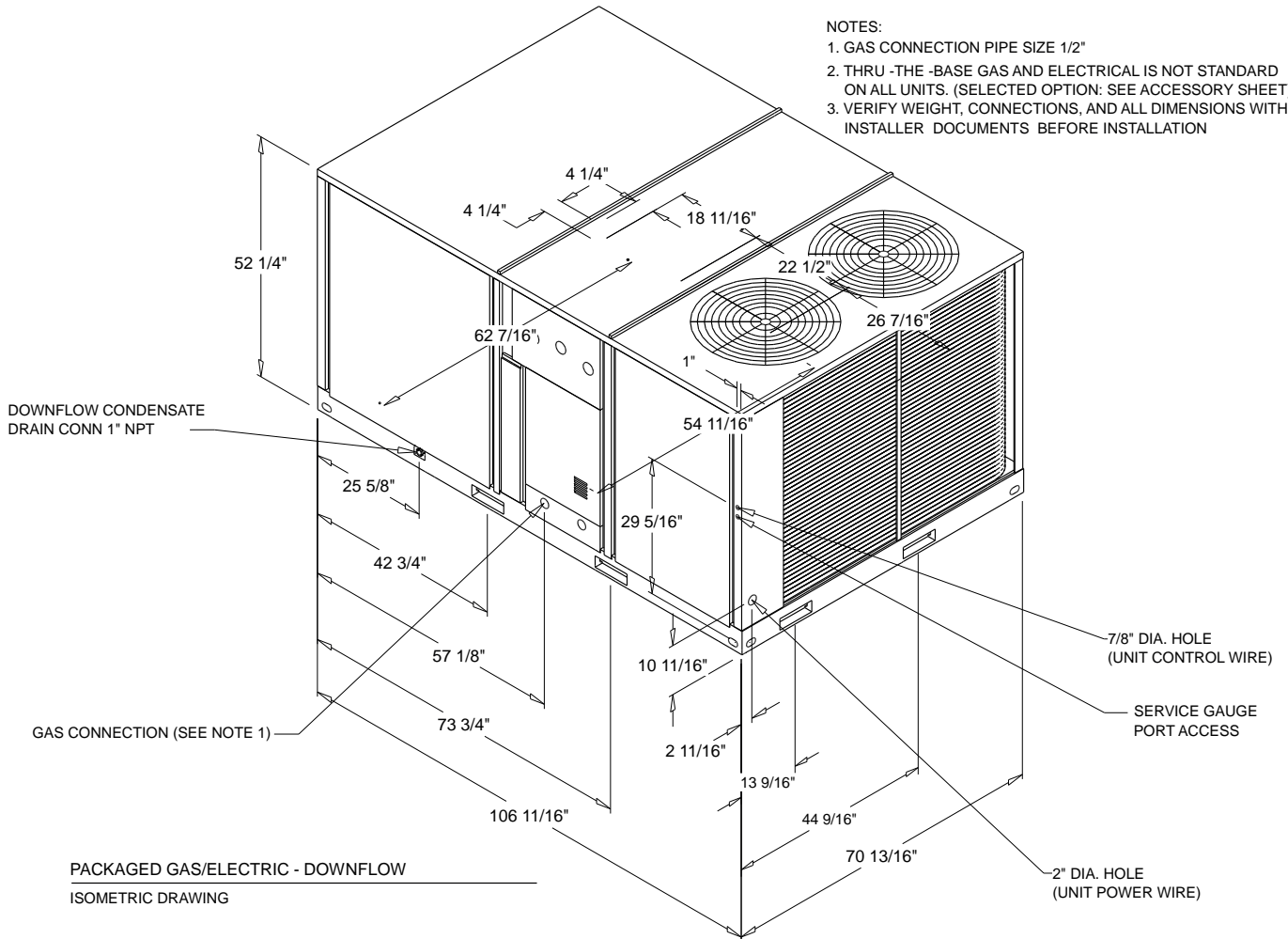
The System Controller shall determine the overall system cooling/heating mode based on "voting" from each zone. When the majority of zones require cooling, the RTU shall operate in cooling mode and any zone that requires heating shall reduce primary airflow to minimum. When the majority of zones require heating, the RTU shall operate in heating mode and any zone that requires cooling shall reduce primary airflow to minimum.

Unit Dimensions - Packaged Gas/Electric Rooftop Units

Item: B1 Qty: 1 Tag(s): 12.5 Ton

NOTES:

1. GAS CONNECTION PIPE SIZE 1/2"
2. THRU - THE - BASE GAS AND ELECTRICAL IS NOT STANDARD ON ALL UNITS. (SELECTED OPTION: SEE ACCESSORY SHEET)
3. VERIFY WEIGHT, CONNECTIONS, AND ALL DIMENSIONS WITH INSTALLER DOCUMENTS BEFORE INSTALLATION



Unit Dimensions - Packaged Gas/Electric Rooftop Units
Item: B1 Qty: 1 Tag(s): 12.5 Ton

ELECTRICAL / GENERAL DATA

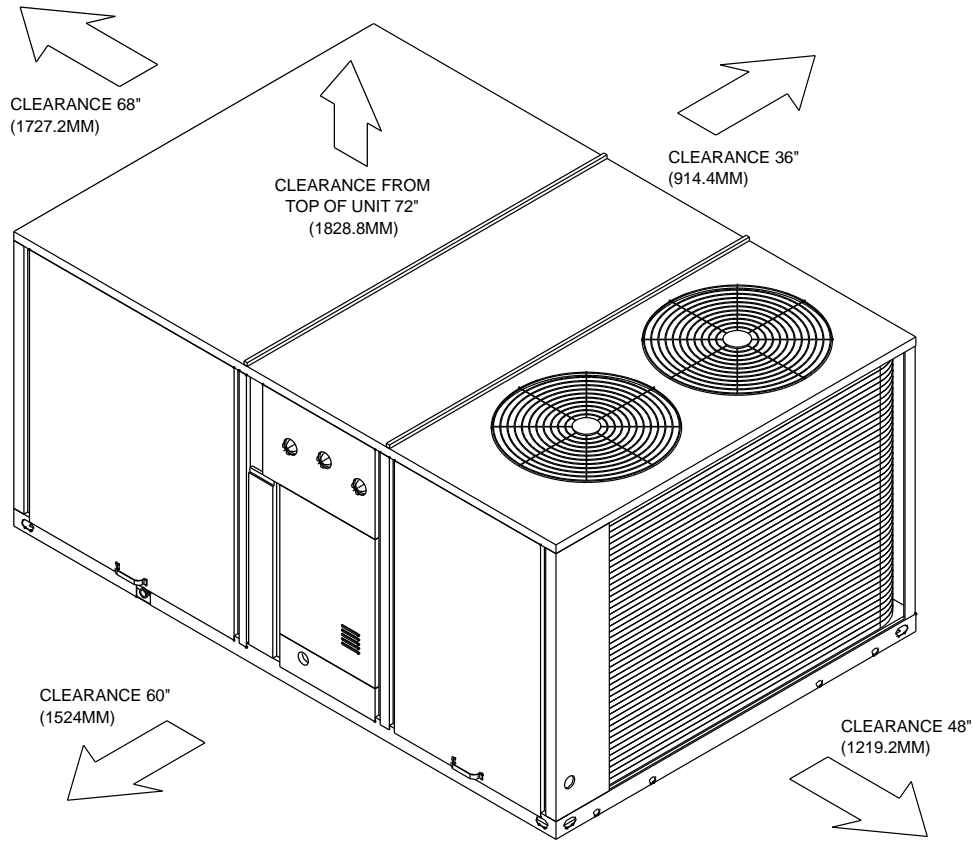
<p>GENERAL PERFORMANCE</p> <table border="0"> <tr> <td>Model (Ton):</td> <td>YSD150G (12.5)</td> <td>Standard Motor ^{(1) (3)}</td> <td></td> </tr> <tr> <td>Unit Operating Voltage Range:</td> <td>187-253</td> <td>Minimum Circuit Ampacity:</td> <td>61.0/61.0</td> </tr> <tr> <td>Unit Primary Voltage:</td> <td>208</td> <td>Maximum Fuse Size:</td> <td>80.0/80.0</td> </tr> <tr> <td>Unit Secondary Voltage:</td> <td>230</td> <td>Maximum (HACR) Circuit Breaker:</td> <td>80.0/80.0</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>11.0</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):	YSD150G (12.5)	Standard Motor ^{(1) (3)}		Unit Operating Voltage Range:	187-253	Minimum Circuit Ampacity:	61.0/61.0	Unit Primary Voltage:	208	Maximum Fuse Size:	80.0/80.0	Unit Secondary Voltage:	230	Maximum (HACR) Circuit Breaker:	80.0/80.0	Unit Hertz:	60	Oversized Motor ^{(1) (4)}		Unit Phase:	3	MCA:	N/A			MFS:	N/A			MCB (HACR):	N/A	EER: ⁽⁵⁾	11.0	Field Installed Oversized Motor ^{(1) (4)}				MCA:	N/A			MFS:	N/A			MCB (HACR):	N/A
Model (Ton):	YSD150G (12.5)	Standard Motor ^{(1) (3)}																																																	
Unit Operating Voltage Range:	187-253	Minimum Circuit Ampacity:	61.0/61.0																																																
Unit Primary Voltage:	208	Maximum Fuse Size:	80.0/80.0																																																
Unit Secondary Voltage:	230	Maximum (HACR) Circuit Breaker:	80.0/80.0																																																
Unit Hertz:	60	Oversized Motor ^{(1) (4)}																																																	
Unit Phase:	3	MCA:	N/A																																																
		MFS:	N/A																																																
		MCB (HACR):	N/A																																																
EER: ⁽⁵⁾	11.0	Field Installed Oversized Motor ^{(1) (4)}																																																	
		MCA:	N/A																																																
		MFS:	N/A																																																
		MCB (HACR):	N/A																																																
<p>GAS HEATING</p> <table border="0"> <tr> <td>Heating Models:</td> <td>High</td> </tr> <tr> <td>Heating and 1 Stage Input (Btu/h):</td> <td>250000/175000</td> </tr> <tr> <td>Heating and 1 Stage Output (Btu/h):</td> <td>200000/140000</td> </tr> <tr> <td>Min./Max. Gas Input -</td> <td></td> </tr> <tr> <td>Pressure Natural or LP:</td> <td>2.5 / 14.0</td> </tr> <tr> <td>Gas Connection Pipe Size:</td> <td>1/2"</td> </tr> </table>		Heating Models:	High	Heating and 1 Stage Input (Btu/h):	250000/175000	Heating and 1 Stage Output (Btu/h):	200000/140000	Min./Max. Gas Input -		Pressure Natural or LP:	2.5 / 14.0	Gas Connection Pipe Size:	1/2"	<p>COMPRESSOR</p> <table border="0"> <tr> <td></td> <td>Circuit(s)</td> </tr> <tr> <td>Number:</td> <td>2</td> </tr> <tr> <td>Horsepower:</td> <td>6.9/3.5</td> </tr> <tr> <td>Phase:</td> <td>3</td> </tr> <tr> <td>Rated Load Amps:</td> <td>25.0/13.7</td> </tr> <tr> <td>Locked Rotor Amps:</td> <td>164.0/83.1</td> </tr> </table>			Circuit(s)	Number:	2	Horsepower:	6.9/3.5	Phase:	3	Rated Load Amps:	25.0/13.7	Locked Rotor Amps:	164.0/83.1																								
Heating Models:	High																																																		
Heating and 1 Stage Input (Btu/h):	250000/175000																																																		
Heating and 1 Stage Output (Btu/h):	200000/140000																																																		
Min./Max. Gas Input -																																																			
Pressure Natural or LP:	2.5 / 14.0																																																		
Gas Connection Pipe Size:	1/2"																																																		
	Circuit(s)																																																		
Number:	2																																																		
Horsepower:	6.9/3.5																																																		
Phase:	3																																																		
Rated Load Amps:	25.0/13.7																																																		
Locked Rotor Amps:	164.0/83.1																																																		
<p>INDOOR MOTOR</p> <table border="0"> <tr> <td></td> <td>Oversized Motor ⁽⁴⁾</td> <td>Field Installed Oversized Motor ⁽⁴⁾</td> </tr> <tr> <td>Number: ⁽³⁾</td> <td>1</td> <td>Number:</td> <td>N/A</td> </tr> <tr> <td>Horsepower:</td> <td>3.00</td> <td>Horsepower:</td> <td>N/A</td> </tr> <tr> <td>Motor Speed (RPM):</td> <td>1,740</td> <td>Motor Speed (RPM):</td> <td>N/A</td> </tr> <tr> <td>Phase:</td> <td>3</td> <td>Phase:</td> <td>N/A</td> </tr> <tr> <td>Full Load Amps:</td> <td>10.6</td> <td>Full Load Amps:</td> <td>N/A</td> </tr> <tr> <td>Locked Rotor Amps:</td> <td>81.0</td> <td>Locked Rotor Amps:</td> <td>N/A</td> </tr> </table>					Oversized Motor ⁽⁴⁾	Field Installed Oversized Motor ⁽⁴⁾	Number: ⁽³⁾	1	Number:	N/A	Horsepower:	3.00	Horsepower:	N/A	Motor Speed (RPM):	1,740	Motor Speed (RPM):	N/A	Phase:	3	Phase:	N/A	Full Load Amps:	10.6	Full Load Amps:	N/A	Locked Rotor Amps:	81.0	Locked Rotor Amps:	N/A																					
	Oversized Motor ⁽⁴⁾	Field Installed Oversized Motor ⁽⁴⁾																																																	
Number: ⁽³⁾	1	Number:	N/A																																																
Horsepower:	3.00	Horsepower:	N/A																																																
Motor Speed (RPM):	1,740	Motor Speed (RPM):	N/A																																																
Phase:	3	Phase:	N/A																																																
Full Load Amps:	10.6	Full Load Amps:	N/A																																																
Locked Rotor Amps:	81.0	Locked Rotor Amps:	N/A																																																
<p>OUTDOOR MOTOR</p> <table border="0"> <tr> <td>Number:</td> <td>2</td> </tr> <tr> <td>Horsepower:</td> <td>0.50</td> </tr> <tr> <td>Motor speed (RPM):</td> <td>1,100</td> </tr> <tr> <td>Phase:</td> <td>3</td> </tr> <tr> <td>Full Load Amps:</td> <td>2.7</td> </tr> <tr> <td>Locked Rotor Amps:</td> <td>9.65</td> </tr> </table>	Number:	2	Horsepower:	0.50	Motor speed (RPM):	1,100	Phase:	3	Full Load Amps:	2.7	Locked Rotor Amps:	9.65	<p>POWER EXHAUST (Field Installed Power Exhaust)</p> <table border="0"> <tr> <td>Horsepower:</td> <td>N/A</td> </tr> <tr> <td>Motor Speed (RPM):</td> <td>N/A</td> </tr> <tr> <td>Phase:</td> <td>N/A</td> </tr> <tr> <td>Full Load Amps:</td> <td>N/A</td> </tr> <tr> <td>Locked Rotor Amps:</td> <td>N/A</td> </tr> </table>	Horsepower:	N/A	Motor Speed (RPM):	N/A	Phase:	N/A	Full Load Amps:	N/A	Locked Rotor Amps:	N/A	<p>COMBUSTION BLOWER MOTOR (Gas-Fired Heating only)</p> <table border="0"> <tr> <td>Horsepower:</td> <td>0.05</td> </tr> <tr> <td>Motor Speed (RPM):</td> <td>3,500/2,800</td> </tr> <tr> <td>Phase:</td> <td>1</td> </tr> <tr> <td>Full Load Amps:</td> <td>0.5</td> </tr> <tr> <td>Locked Rotor Amps:</td> <td>0.78</td> </tr> </table>		Horsepower:	0.05	Motor Speed (RPM):	3,500/2,800	Phase:	1	Full Load Amps:	0.5	Locked Rotor Amps:	0.78																
Number:	2																																																		
Horsepower:	0.50																																																		
Motor speed (RPM):	1,100																																																		
Phase:	3																																																		
Full Load Amps:	2.7																																																		
Locked Rotor Amps:	9.65																																																		
Horsepower:	N/A																																																		
Motor Speed (RPM):	N/A																																																		
Phase:	N/A																																																		
Full Load Amps:	N/A																																																		
Locked Rotor Amps:	N/A																																																		
Horsepower:	0.05																																																		
Motor Speed (RPM):	3,500/2,800																																																		
Phase:	1																																																		
Full Load Amps:	0.5																																																		
Locked Rotor Amps:	0.78																																																		
<p>FILTER</p> <table border="0"> <tr> <td>Type:</td> <td>Throwaway</td> </tr> <tr> <td>Furnished:</td> <td>Yes</td> </tr> <tr> <td>Number:</td> <td>2 / 4</td> </tr> <tr> <td>Recommended Size:</td> <td>20"x20"x2" / 20"x25"x2"</td> </tr> </table>		Type:	Throwaway	Furnished:	Yes	Number:	2 / 4	Recommended Size:	20"x20"x2" / 20"x25"x2"	<p>REFRIGERANT ⁽²⁾</p> <table border="0"> <tr> <td></td> <td>Circuit #1 / 2</td> </tr> <tr> <td>Type:</td> <td>R410</td> </tr> <tr> <td>Factory Charge</td> <td></td> </tr> <tr> <td>Circuit #1 / 2:</td> <td>8.1 lb / 5.1 lb</td> </tr> </table>			Circuit #1 / 2	Type:	R410	Factory Charge		Circuit #1 / 2:	8.1 lb / 5.1 lb																																
Type:	Throwaway																																																		
Furnished:	Yes																																																		
Number:	2 / 4																																																		
Recommended Size:	20"x20"x2" / 20"x25"x2"																																																		
	Circuit #1 / 2																																																		
Type:	R410																																																		
Factory Charge																																																			
Circuit #1 / 2:	8.1 lb / 5.1 lb																																																		

NOTES:

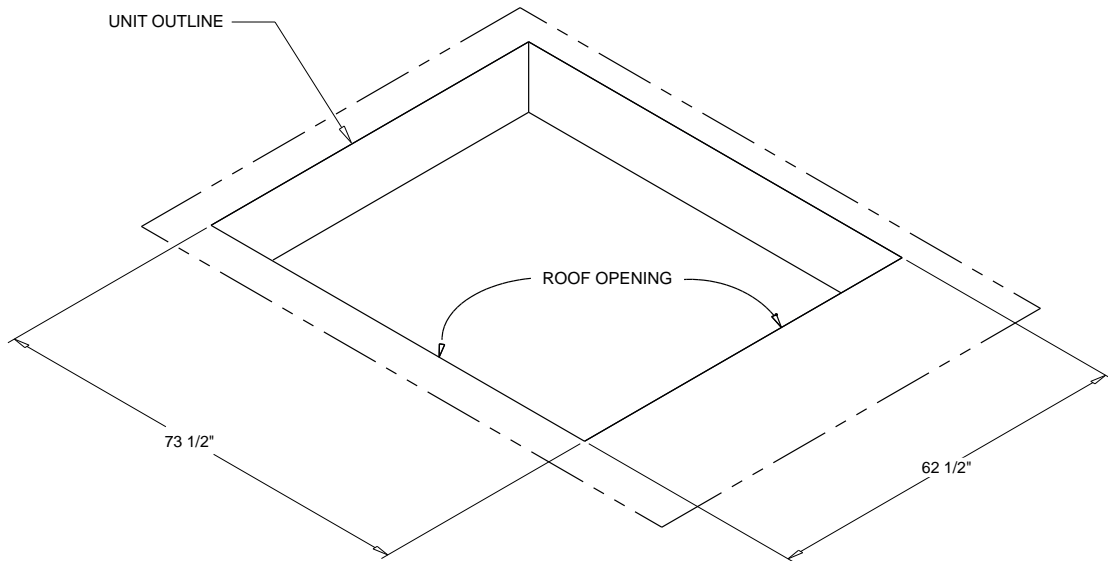
1. Maximum (HACR) Circuit Breaker sizing is for installations in the United States only.
2. Refrigerant charge is an approximate value. For a more precise value, see unit nameplate and service instructions.
3. Value includes oversized motor.
4. Value does not include Power Exhaust Accessory.
5. EER is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

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

Item: B1 Qty: 1 Tag(s): 12.5 Ton

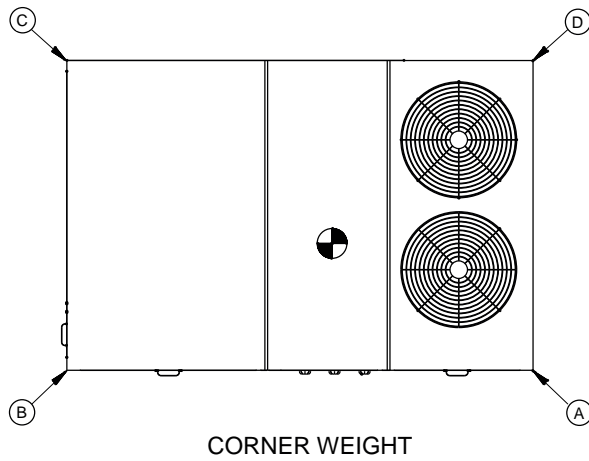


DOWNFLOW-PACKAGED GAS/ELECTRIC CLEARANCE



DOWNFLOW-PACKAGED GAS/ELECTRIC ROOF OPENING CLEARANCE

Weight, Clearance & Rigging Diagram - Packaged Gas/Electric Rooftop Units
 Item: B1 Qty: 1 Tag(s): 12.5 Ton



Base Unit and Corner Weights only

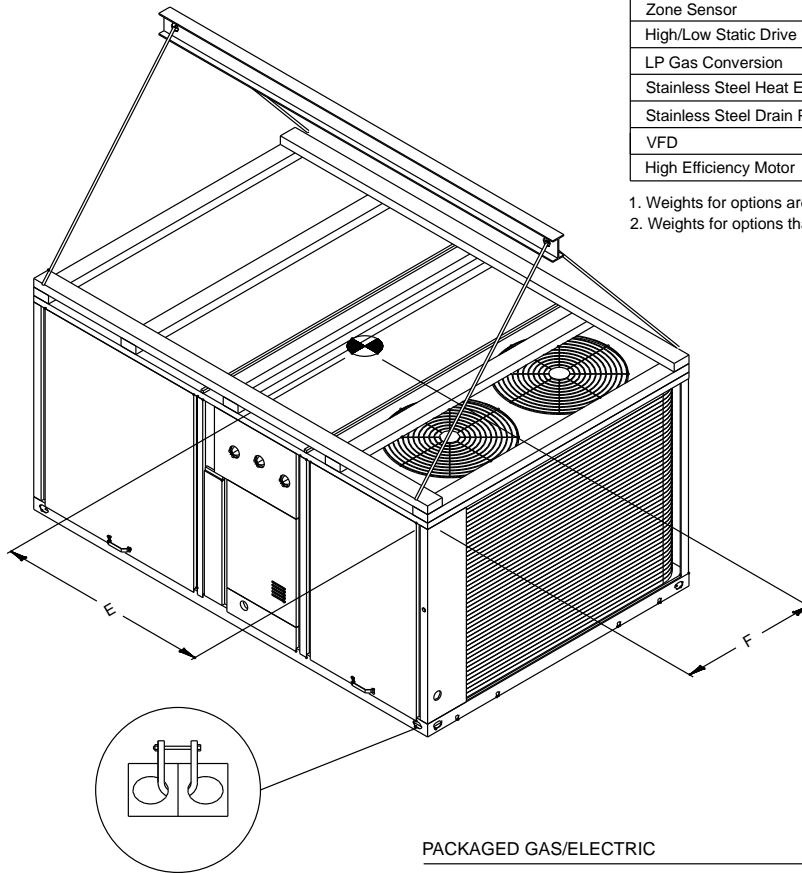
Base unit weights		Corner Weights				Center of Gravity	
SHIPPING	NET	(A)	(B)	(C)	(D)	E	F
1820.0 lb	1448.0 lb	537.0 lb	381.0 lb	225.0 lb	306.0 lb	45'	26'

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.

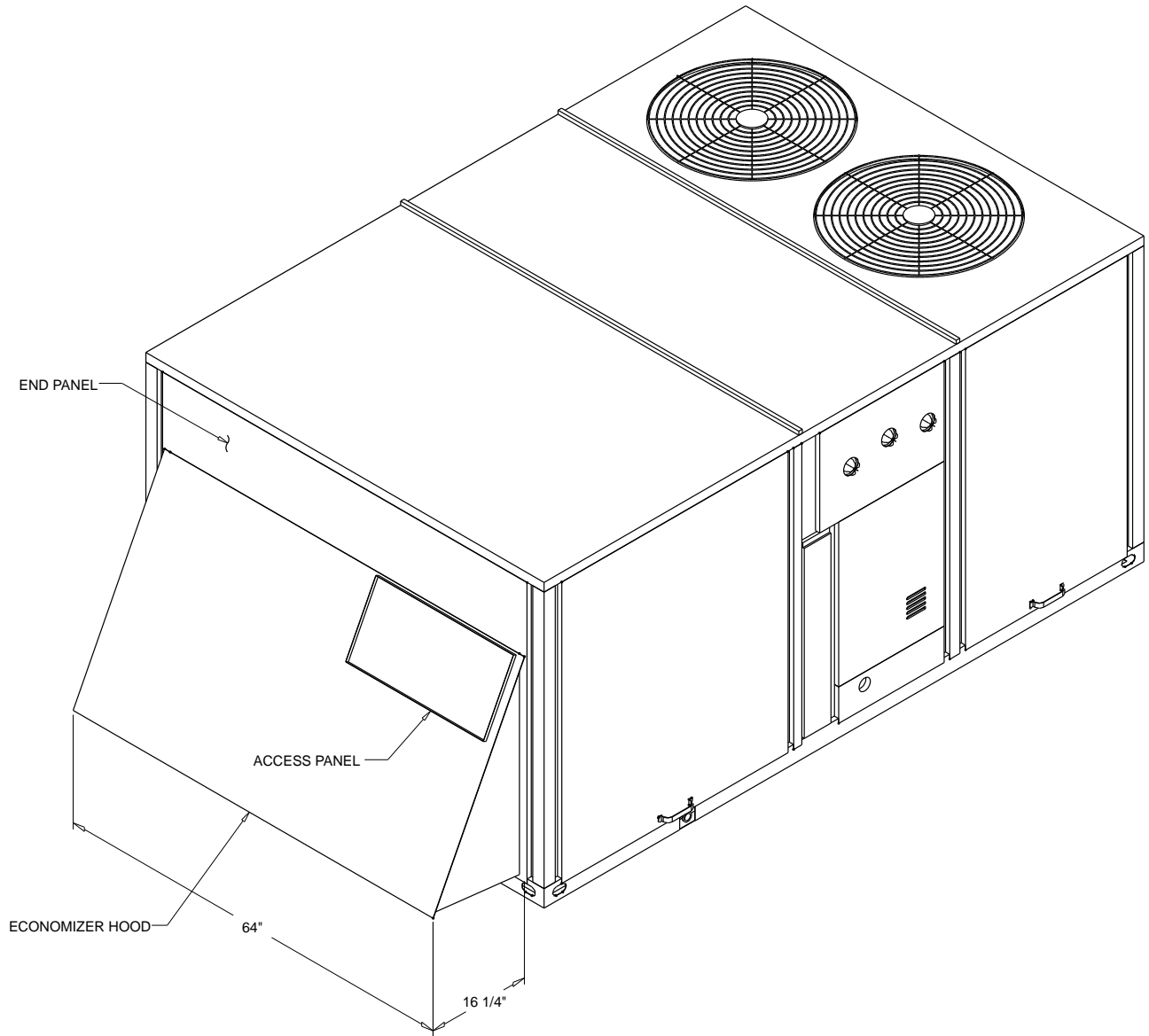
Installed Options Net Weight Data

Accessory	Weight
Economizer, Manual and Motorized Outside Air Damper	65.0 lb
Power Exhaust	
Roof Curb	
Oversized Motor	
Hail Guard	
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.



Accessory - Packaged Gas/Electric Rooftop Units
Item: B1 Qty: 1 Tag(s): 12.5 Ton



ECONOMIZER HOOD
PLAN VIEW DRAWING