



Submittal

Prepared For: Kroger

Date: May 24, 2022

Sold To: Kroger

Job Number:

Job Name: Kroger GA390 Alpharetta GA

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

Product Summary

Qty	Product
4	3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
1	3-10 Ton R-410A PKGD Unitary Cooling Rooftop

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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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Field Installed Options - Part/Order Number Summary

- 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop 52
- 3-10 Ton R-410A PKGD Unitary Cooling Rooftop 52

Tag Data - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop (Qty: 4)

Item	Tag(s)	Qty	Description	Model Number
A1	AC-7	1	4 Ton - base	YHC048F4RLA--B0C1A1B6000G000001000000000
A2	AC-8	1	7.5 Ton - base	YHC092F4RLA--F0C1A1B6000G000001000000000
A3	AC-9 RX	1	5 Ton - Pharmacy	YHC060E4RLA--F0C1A1B6B00G000001000000000
A4	AC-12	1	10 Ton - base	YHC120F4RLA--F0C1A1B6000G000001000000000

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

All Units

- DX cooling, gas heat
- High efficiency
- Convertible configuration
- 460/60/3
- Microprocessor controls
- Low gas heat
- Hinged panels/2 in pleated filters MERV 8
- Standard condenser coil w/hail guard
- Through the base electrical
- Non-fused disconnect
- Powered convenience outlet
- BACnet Communications Interface
- Fan failure switch, discharge air sensing & Condensate Drain Pan Overflow Switch
- Human Interface

Item: A1 Qty: 1 Tag(s): AC-7

- 4 Ton
- Motorized damper 0-50% 3hp
- Remote room sensor (Fld)

Item: A2 Qty: 1 Tag(s): AC-8

- 7.5 Ton Dual compressor
- Economizer Reference Enthalpy 0-100% with Barometric Relief
- Remote room sensor (Fld)

Item: A3 Qty: 1 Tag(s): AC-9 RX

- 5 Ton
- Economizer Reference Enthalpy 0-100% with Barometric Relief
- Dehumidification-hot gas reheat
- Humidity wall mounted sensor (Fld)

Item: A4 Qty: 1 Tag(s): AC-12

- 10 Ton
- Economizer Reference Enthalpy 0-100% with Barometric Relief
- Remote room sensor (Fld)

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

Tags	AC-7	AC-8	AC-9 RX	AC-12
Design Airflow (cfm)	1600	3200	2000	4200
Airflow Application	Downflow	Downflow	Downflow	Downflow
Elevation (ft)	-	0.00	-	-
Cooling Entering DB (F)	78.00	78.00	78.00	78.00
Cooling Entering WB (F)	64.00	64.00	64.00	64.00
Ent Air Relative Humidity (%)	46.60	46.60	46.60	46.60
Ambient Temp (F)	95.00	93.80	95.00	95.00
Evap Coil Leaving Air Temp (DB) (F)	-	-	55.21	-
Evap Coil Leaving Air Temp (DB) (F)	57.28	57.26	55.21	56.71
Evap Coil Leaving Air Temp (WB) (F)	-	-	53.50	-
Evap Coil Leaving Air Temp (WB) (F)	53.70	54.33	53.50	54.74
Cooling Leaving Unit DB (F)	58.57	58.81	57.15	57.88
Cooling Leaving Unit WB (F)	54.23	54.96	54.30	55.21
Cooling LDB with reheat (F)	-	-	73.58	-
Gross Total Capacity (MBh)	47.82	90.30	60.78	111.18
Gross Sensible Capacity (MBh)	35.80	71.66	49.24	96.58
Gross Latent Capacity (MBh)	12.02	18.63	11.54	14.60
Net sensible heat ratio w/reheat on (Number)	-	-	0.35	-
Net Total Capacity (MBh)	46.21	86.17	57.56	107.63
Net Sensible Capacity (MBh)	34.19	67.53	46.02	93.03
Net Sensible Heat Ratio (Number)	0.74	0.78	0.80	0.86
Heating EAT (F)	70.00	59.01	70.00	55.00
Heating LAT (F)	98.70	87.11	93.00	81.80
Heating Delta T (F)	28.70	28.10	23.00	26.80
Input Heating Capacity (MBh)	60.00	120.00	60.00	150.00
Output Heating Capacity (MBh)	49.00	96.00	49.00	120.00
Output Heating Cap. w/Fan (MBh)	50.61	100.13	52.22	123.55
Design ESP (in H2O)	0.650	0.900	0.800	0.800
Component SP (in H2O)	0.150	0.267	0.320	0.443
Field supplied drive kit required	-	None	None	None
Indoor mtr operating power (bhp)	0.51	1.43	0.98	1.22
Indoor RPM (rpm)	912	1285	1083	1465
Indoor Motor Power (kW)	0.38	1.06	0.73	0.91
Outdoor Motor Power (kW)	0.34	0.71	0.38	0.53
Compressor Power (kW)	3.13	5.97	4.00	7.79
System Power (kW)	3.85	7.75	5.10	9.24
MCA (A)	13.00	20.00	12.00	22.00
MOP (A)	15.00	25.00	15.00	25.00
Compressor 1 RLA (A)	6.20	7.10	7.10	8.20
Compressor 2 RLA (A)	0.00	4.70	0.00	6.00
Evaporator fan FLA (A)	4.00	0.00	1.60	3.60
Condenser fan FLA (A)	1.00	2.80	1.00	1.50
Evaporator face area (sq ft)	9.27	12.36	9.89	16.65
Evaporator rows (Each)	3.00	4.00	4.00	4.00
Evaporator fin spacing (Per Foot)	192	192	192	192
Evaporator face velocity (ft/min)	173	259	202	252
Min. unit operating weight (lb)	711.0	1026.0	748.0	1259.0
Max. unit operating weight (lb)	948.0	1291.0	999.0	1608.0
Fan motor heat (MBh)	1.61	4.13	3.22	3.55
Reheat Temp Rise (F)	-	-	18.37	-
Reheat Capacity (MBh)	-	-	39.87	-
Dew Point (F)	-	-	52.27	-
Dew Point (F)	51.07	52.24	52.27	53.36
Leaving Air Humidity Ratio (lb/lb)	-	-	0	-

Tags	AC-7	AC-8	AC-9 RX	AC-12
Moisture Removal (gal/hr) (gph)	-	-	1.31	-
Mixed Air Humidity Ratio (lb/lb)	-	-	0	-
Leaving Unit Rel Humid w/Reheat (%)	-	-	47.23	-
Max Available ESP (in H2O)	0.840	-	-	-
Rated capacity (AHRI) (MBh)	49.00	89.00	60.00	113.00
Refrig charge (HFC-410A) - ckt 1 (lb)	5.2	5.5	13.9	7.1
Refrig charge (HFC-410A) - ckt 2 (lb)	-	4.2	-	5.0
ASHRAE 90.1	Yes	Yes	Yes	Yes
Saturated Suction Temp Circuit 1 (F)	48.44	51.21	50.59	50.69
Saturated Discharge Temp Circuit 1 (F)	110.32	114.80	114.22	118.83
Saturated Suction Temp Circuit 2 (F)	-	53.09	-	54.83
Saturated Discharge Temp Circuit 2 (F)	-	111.94	-	122.18
IEER ()	15.00	14.50	14.20	14.70
EER @ AHRI Conditions (EER)	13.5	12.6	11.9	12.4
Total Static Pressure (in H2O)	0.800	1.167	1.120	1.243
Length (ft)	7.39	7.39	7.39	8.31
Width (ft)	4.44	4.44	4.44	5.27
Height (ft)	3.41	3.91	3.41	4.24
Indoor Fan Type	FC Centrifugal	BC Plenum	FC Centrifugal	BC Plenum
Indoor Fan Drive Type	Direct	Direct	Belt	Direct
Outdoor Fan Type	Propeller	Propeller	Propeller	Propeller
Outdoor Fan Drive Type	Direct	Direct	Direct	Direct
Outdoor Fan Quantity ()	1	1	1	1
Heating Type	Gas Heat	Gas Heat	Gas Heat	Gas Heat
Heating Stages	1	1	1	2

Mechanical Specifications - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop**Item: A1 - A4 Qty: 4 Tag(s): AC-7, AC-8, AC-9 RX, AC-12****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.

Two-Inch Pleated Filters

2" pleated media filters shall be available on all models.

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.

Condensate Overflow Switch

This option shall shut the unit down in the event that a clogged condensate drain line prevents proper condensate removal from the unit.

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.

BACnet Communications

The BACnet communications interface allows the unit to communicate directly with a generic open protocol BACnet MS/TP 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).

Dehumidification

The unit shall be equipped with internally finned, 5/16" copper tubes mechanically bonded to configured aluminum plate fins. The coil shall be 2 row with a minimum of 16 fins per inch. Dehumidification shall be achieved by routing hot refrigerant gas from the discharge line of the compressor through the reheat coil.

Hinged Access Doors

Sheet metal hinges are available on the Filter/Evaporator, Supply Fan/Heat, and the Compressor/Control Access Doors.

Powered or Unpowered Convenience Outlet

This is a GFCI, 120v/15amp, 2 plug, convenience outlet, either powered or unpowered. When the convenience outlet is powered, a service receptacle disconnect will be available. The convenience outlet is powered from the line side of the disconnect or circuit breaker, and therefore will not be affected by the position of the disconnect or circuit breaker. This option can only be ordered when the Through the Base Electrical with either the Disconnect Switch or Circuit Breaker option is ordered.

Plenum Fan

The following unit shall be equipped with a direct drive plenum fan design (all 10 tons and 7.5-8.5 ton high efficiency units). 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.

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.

Motorized Outside Air Dampers

Manually set outdoor air dampers shall provide up to 50 percent outside air. Once set, outdoor air dampers shall open to set position when indoor fan starts. The damper shall close to the full closed position when indoor fan shuts down.

Through the Base Electrical Access

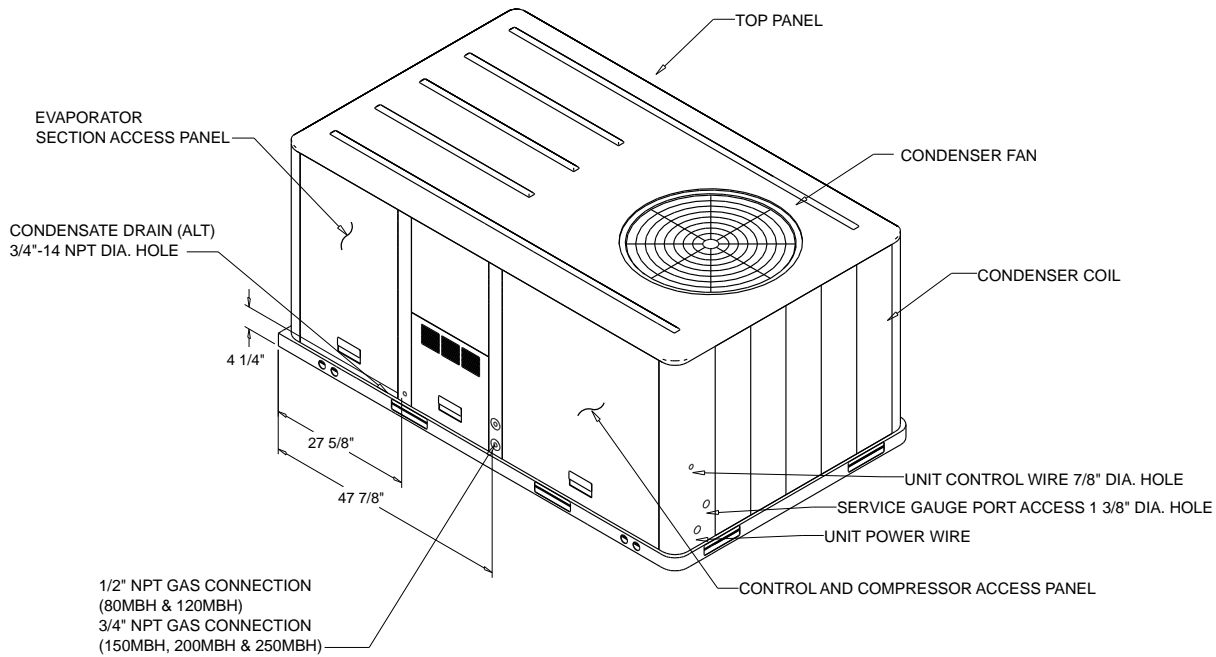
An electrical service entrance shall be provided allowing electrical access for both control and main power connections inside the curb and through the base of the unit. Option will allow for field installation of liquid-tight conduit and an external field-installed disconnect switch.

Through the Base Electrical with Disconnect Switch

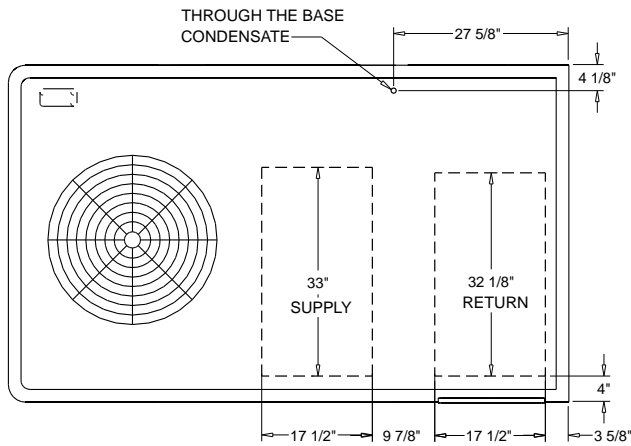
This 3-pole, molded case, disconnect switch with provisions for through the base electrical connections are available. The disconnect switch will be installed in the unit in a water tight enclosure with access through a swinging door. Wiring will be provided from the switch to the unit high voltage terminal block. The switch will be UL/CSA agency recognized.

Note: The disconnect switch will be sized per NEC and UL guidelines but will not be used in place of unit overcurrent protection.

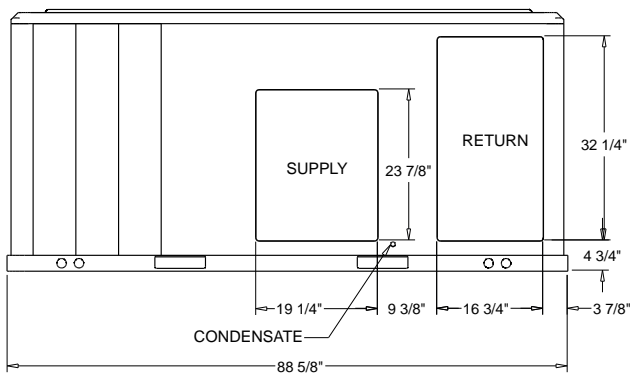
Unit Dimensions - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: A1, A3 Qty: 2 Tag(s): AC-7, AC-9 RX



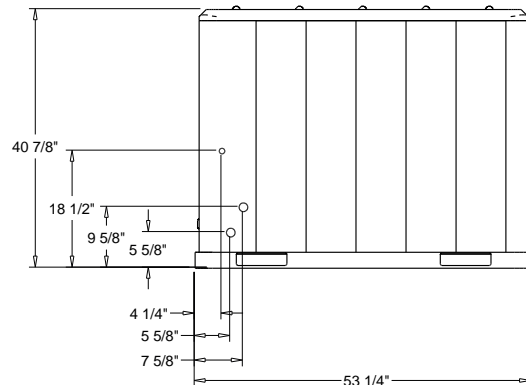
- NOTES:**
1. THRU -THE -BASE ELECTRICAL AND GAS IS NOT STANDARD ON ALL UNITS.
 2. VERIFY WEIGHT, CONNECTION, AND ALL DIMENSION WITH INSTALLER DOCUMENTS BEFORE INSTALLATION



PLAN VIEW UNIT
 DIMENSION DRAWING



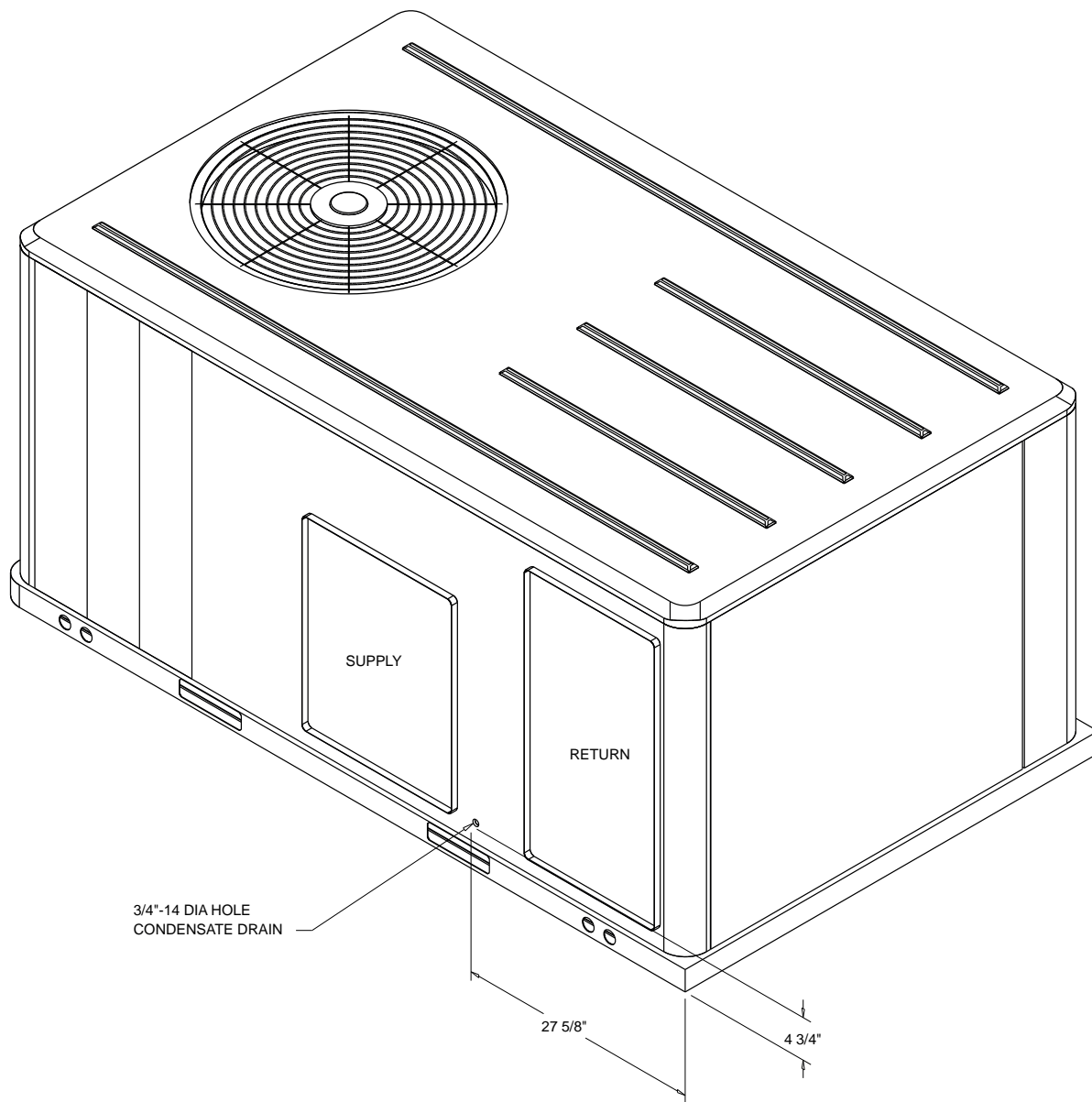
PACKAGED GAS / ELECTRICAL
 DIMENSION DRAWING



➔
 HORIZONTAL AIR FLOW

Unit Dimensions - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop

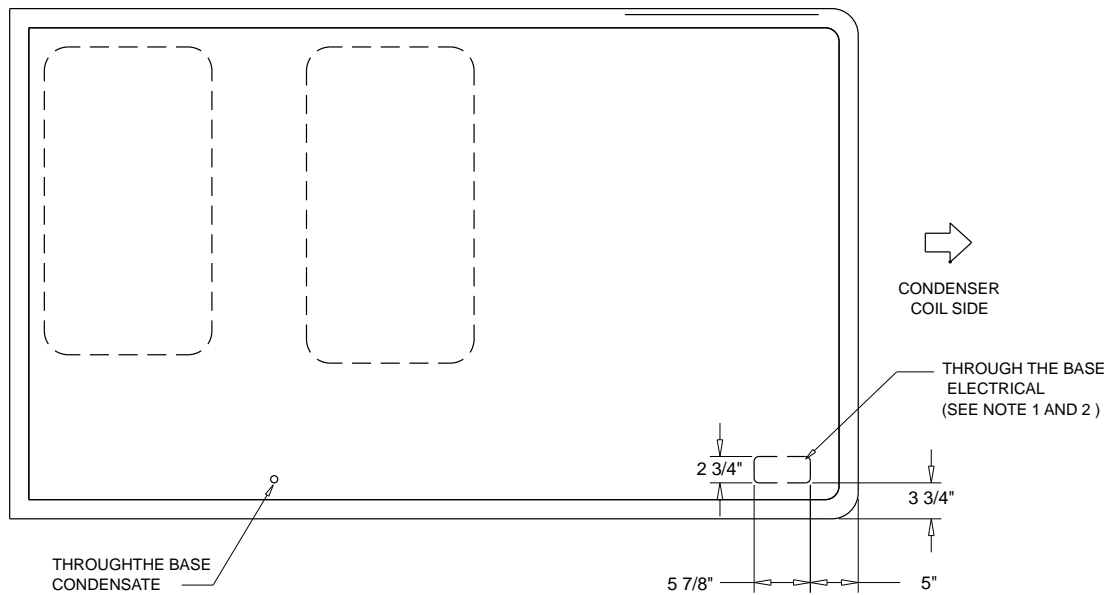
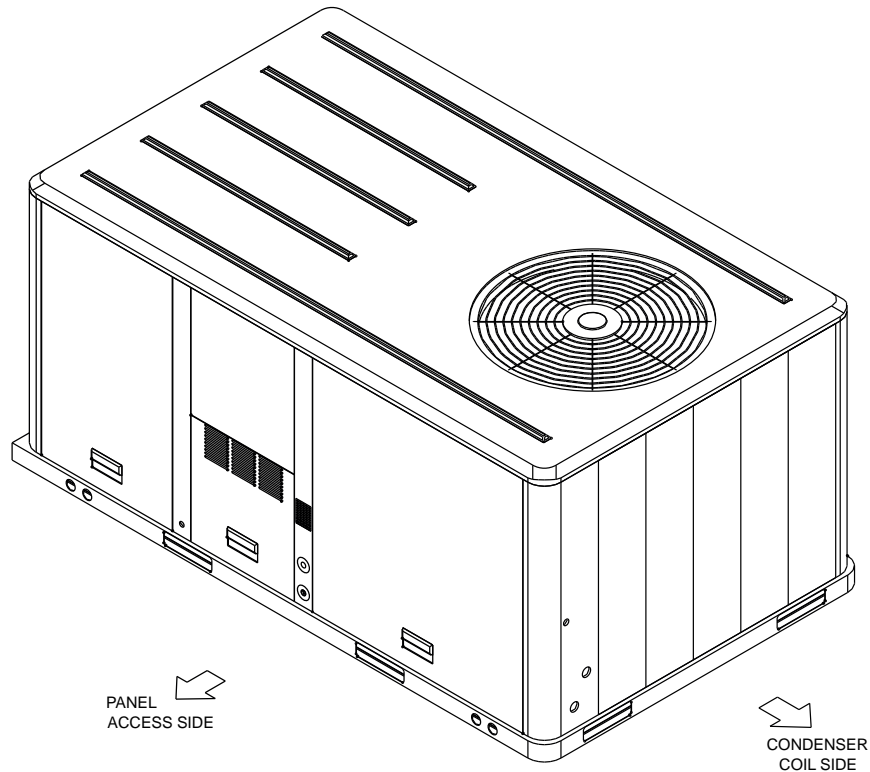
Item: A1, A2, A4 Qty: 3 Tag(s): AC-7, AC-8, AC-12



ISOMETRIC-PACKAGED COOLING

Unit Dimensions - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop

Item: A1 - A3 Qty: 3 Tag(s): AC-7, AC-8, AC-9 RX



↓
PANEL
ACCESS SIDE

- NOTES:
1. THRU -THE -BASE GAS AND ELECTRICAL IS NOT STANDARD. VERIFY OPTION IN PRODUCT DATA IN THIS DOCUMENT.
 2. VERIFY WEIGHT, CONNECTION, OPTION CONFIGURATION AND ALL DIMENSION WITH INSTALLER DOCUMENTS BEFORE INSTALLATION

THRU THE BASE ELECTRICAL
PLAN / ISO VIEW DRAWING

Unit Dimensions - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop

Item: A1 Qty: 1 Tag(s): AC-7

ELECTRICAL / GENERAL DATA

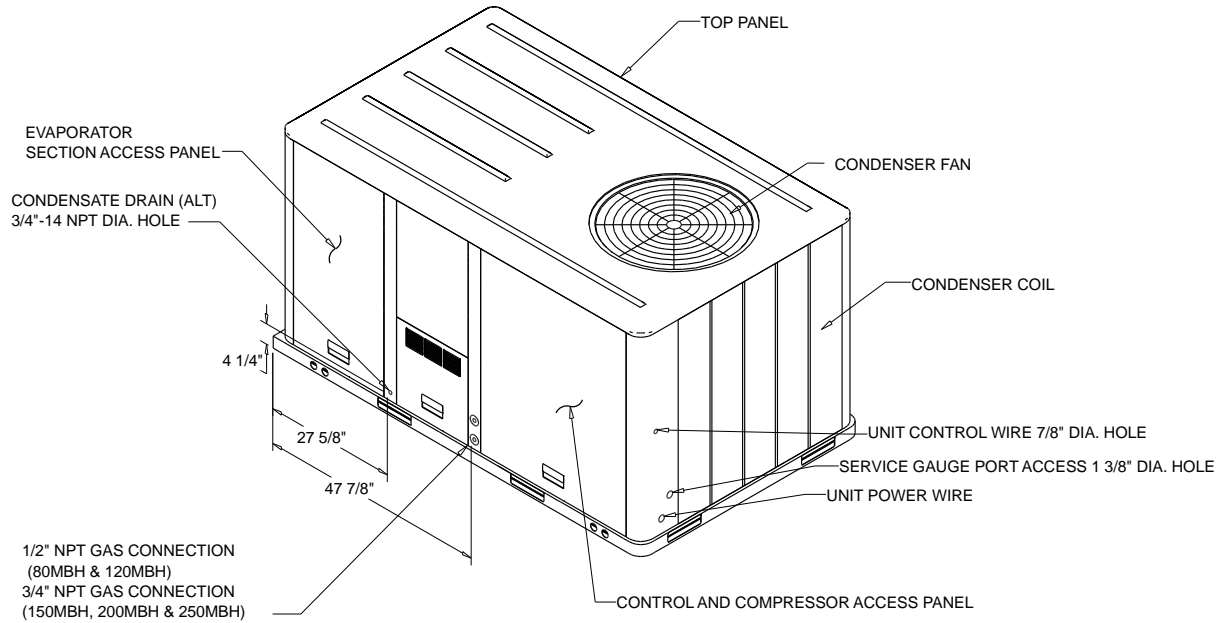
GENERAL (2)(4)(6) Model: YHC048F Oversized Motor Unit Operating Voltage: 414-506F MCA: N/A Unit Primary Voltage: 460 MFS: N/A Unit Secondary Voltage: -- MCB: N/A Unit Hertz: 60 Unit Phase: 3 EER/SEER 13.35/15.0 Standard Motor MCA: 13.0 MCA: N/A MFS: 15.0 MFS: N/A MCB: 15.0 MCB: N/A Field Installed Oversized Motor		HEATING PERFORMANCE HEATING - GENERAL DATA Heating Model: Low Heating Input (BTU): 60000 Heating Output (BTU): 49000 No. Burners: 2 No. Stages: 1 Gas Inlet Pressure Natural Gas (Min/Max): 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: Number: N/A Horsepower: 1.0 Horsepower: N/A Motor Speed (RPM): -- Motor Speed (RPM): N/A Phase: 1 Phase: N/A Full Load Amps: 4.0 Full Load Amps: N/A Locked Rotor Amps: -- Locked Rotor Amps: N/A			
COMPRESSOR Circuit 1/2 Number: 1 Horsepower: 3.5 Phase: 3 Rated Load Amps: 6.2 Locked Rotor Amps: -		OUTDOOR MOTOR Number: 1 Horsepower: 0.40 Motor Speed (RPM): 1075 Phase: 1 Full Load Amps: 1.0 -	
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: 16"x25"x2"	REFRIGERANT (2) Type: R-410 Factory Charge Circuit #1: 5.2 lb Circuit #2: N/A	

NOTES:

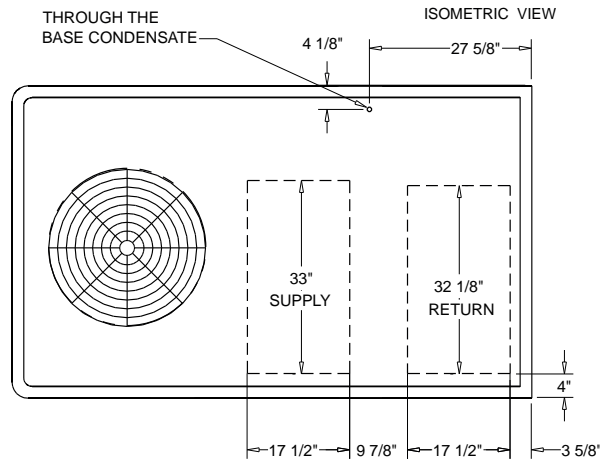
1. Maximum (HACR) Circuit Breaker sizing is for installations in the United States only.
2. Refrigerant charge is an approximate value. For a more precise value, see unit nameplate and service instructions.
3. Value does not include Power Exhaust Accessory.
4. Value includes oversized motor.
5. Value 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: A2 Qty: 1 Tag(s): AC-8



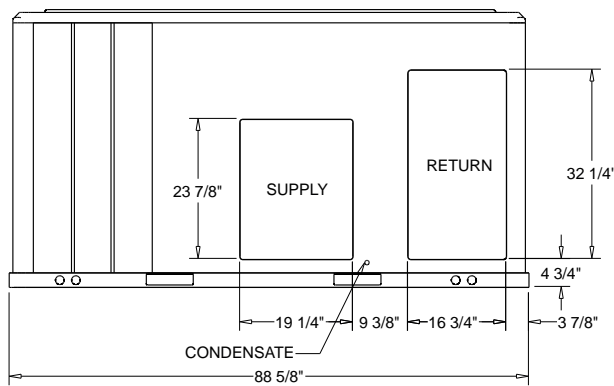
PACKAGED GAS / ELECTRICAL



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

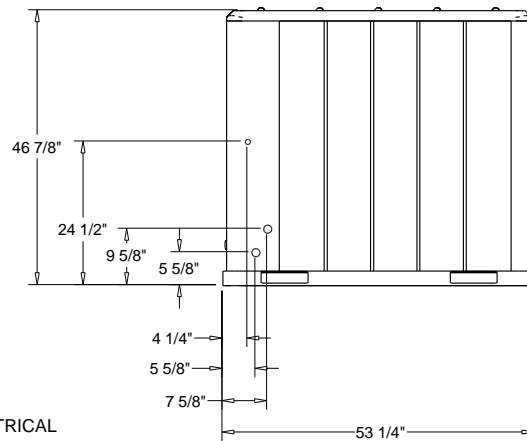
PLAN VIEW UNIT

DIMENSION DRAWING



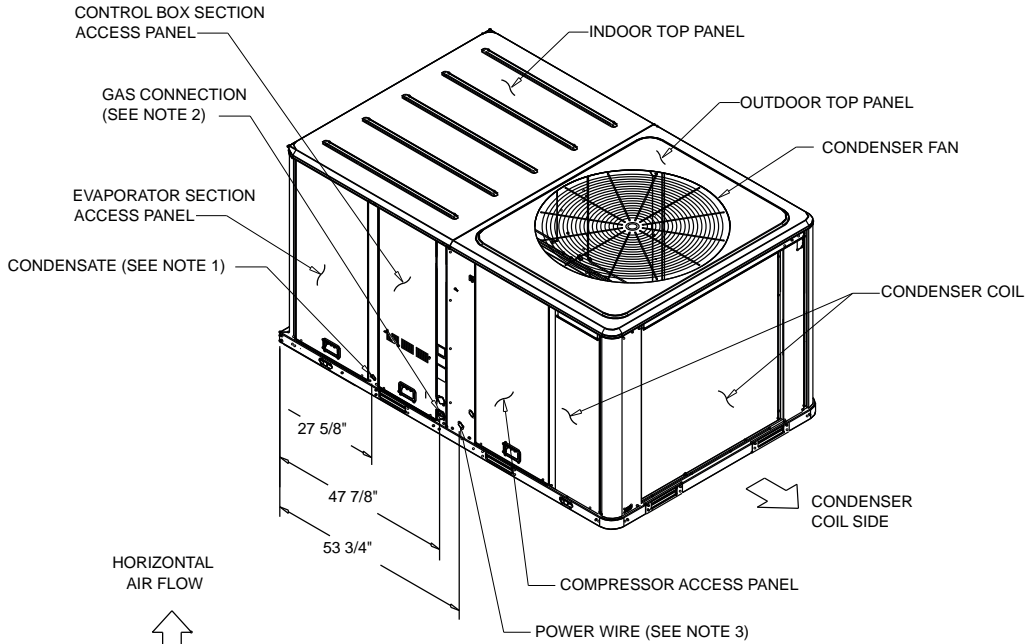
PACKAGED GAS / ELECTRICAL

DIMENSION DRAWING

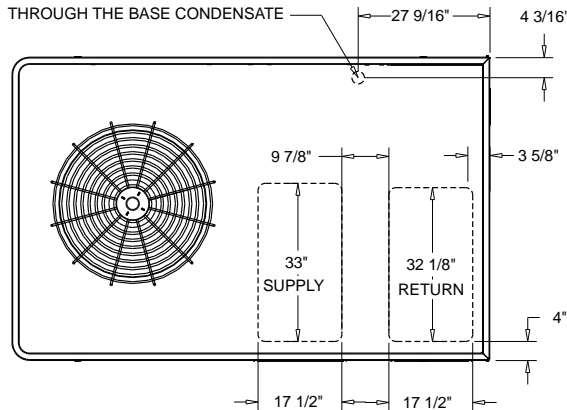


HORIZONTAL AIR FLOW

Unit Dimensions - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: A4 Qty: 1 Tag(s): AC-12

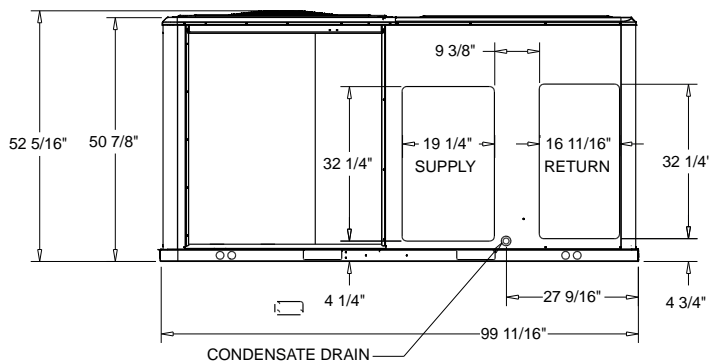


PACKAGED GAS / ELECTRICAL
 ISOMETRIC VIEW

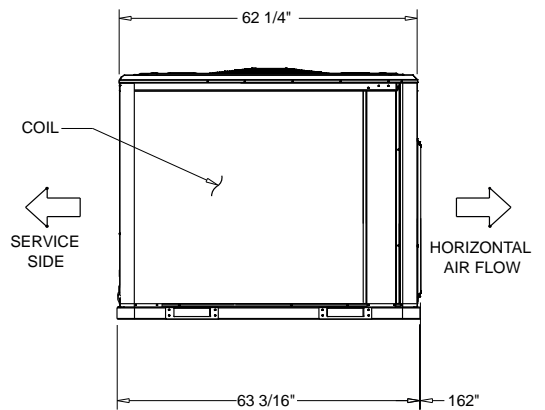


- NOTES:
 1. ALTERNATE CONDENSATE DRAIN CONNECTION
 3/4" - 14 NPT DIA. HOLE
 2. 1/2" NPT GAS CONNECTION (80 mbh, 120 mbh) ;
 3/4" NPT GAS CONNECTION (150mbh, 200mbh, 250mbh)
 3. UNIT POWER WIRE 1 3/8" DIA. HOLE.
 4. THRU -THE -BASE ELECTRICAL AND GAS IS NOT STANDARD ON ALL UNITS.
 5. VERIFY WEIGHT, CONNECTION, AND ALL DIMENSION WITH
 INSTALLER DOCUMENTS BEFORE INSTALLATION

PLAN VIEW UNIT
 DIMENSION DRAWING

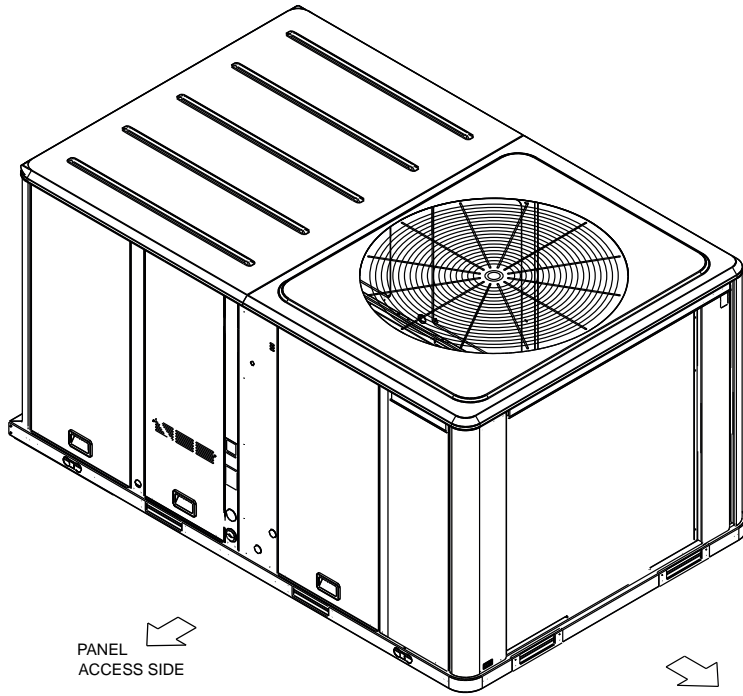


PACKAGED GAS / ELECTRICAL
 DIMENSION DRAWING



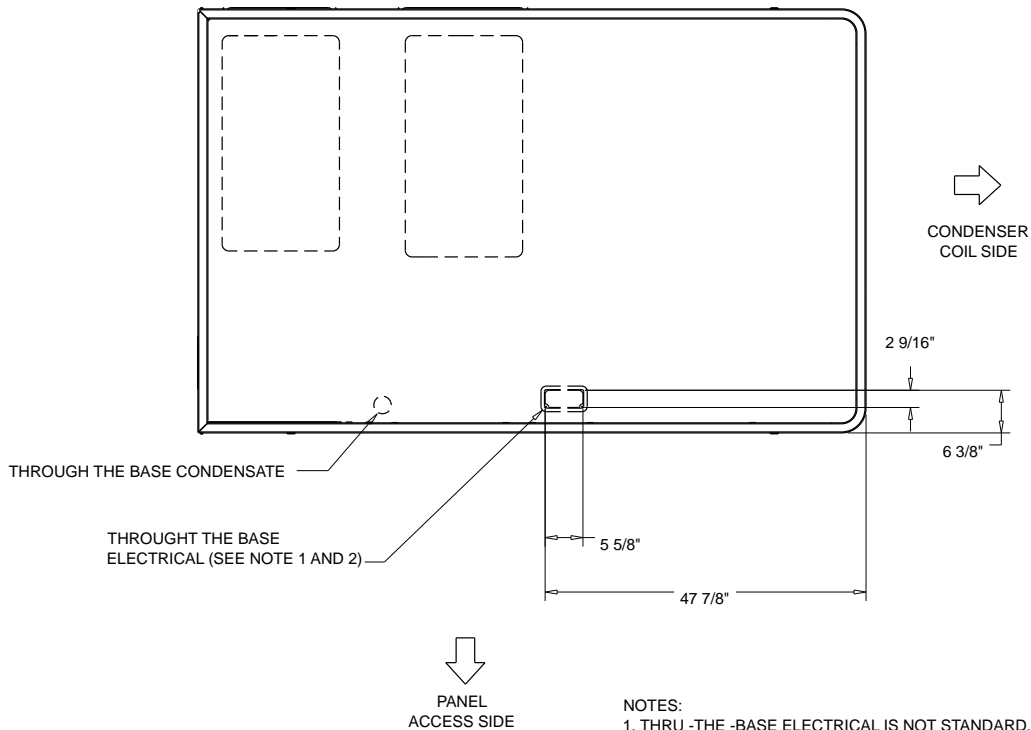
Unit Dimensions - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop

Item: A4 Qty: 1 Tag(s): AC-12



PANEL ACCESS SIDE

CONDENSER COIL SIDE



CONDENSER COIL SIDE

THROUGH THE BASE CONDENSATE

THROUGH THE BASE ELECTRICAL (SEE NOTE 1 AND 2)

PANEL ACCESS SIDE

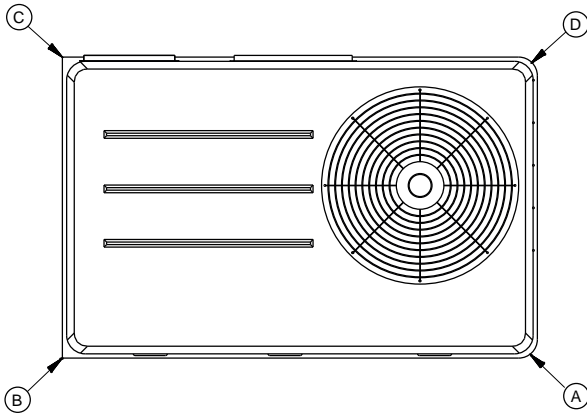
- NOTES:
1. THRU -THE -BASE ELECTRICAL IS NOT STANDARD. VERIFY OPTION IN PRODUCT DATA IN THIS DOCUMENT.
 2. VERIFY WEIGHT, CONNECTION, OPTION CONFIGURATION AND ALL DIMENSION WITH INSTALLER DOCUMENTS BEFORE INSTALLATION

THRU THE BASE ELECTRICAL
PLAN / ISO VIEW DRAWING

Weight, Clearance & Rigging Diagram - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
 Item: A1 Qty: 1 Tag(s): AC-7

INSTALLED ACCESSORIES NET WEIGHT DATA

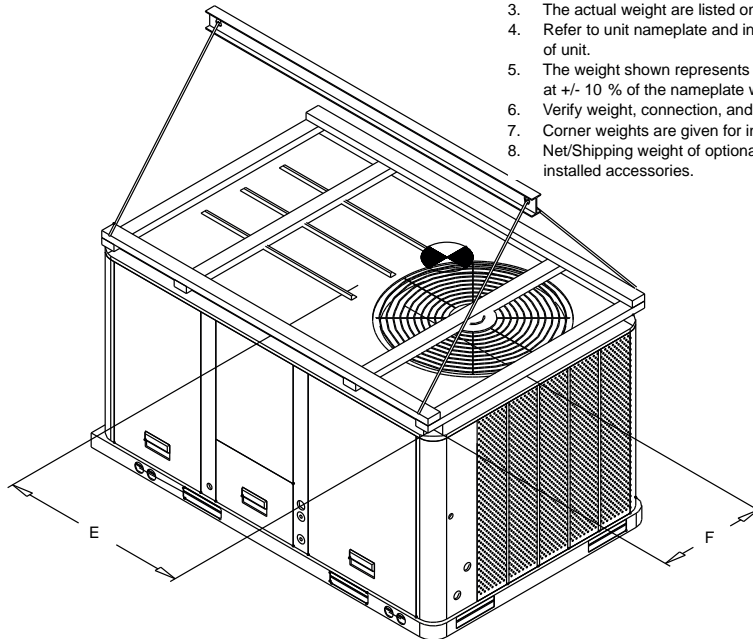
ACCESSORY		WEIGHTS			
ECONOMIZER					
MOTORIZED OUTSIDE AIR DAMPER		30.0 lb			
MANUAL OUTSIDE AIR DAMPER					
BAROMETRIC RELIEF					
OVERSIZED MOTOR					
BELT DRIVE MOTOR					
POWER EXHAUST					
THROUGH THE BASE ELECTRICAL/GAS (FIOPS)		13.0 lb			
UNIT MOUNTED CIRCUIT BREAKER (FIOPS)					
UNIT MOUNTED DISCONNECT (FIOPS)		5.0 lb			
POWERED CONVENIENCE OUTLET (FIOPS)		38.0 lb			
HINGED DOORS (FIOPS)		12.0 lb			
HAIL GUARD		20.0 lb			
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
806.0 lb	711.0 lb	(B) 199.0 lb	(D) 143.0 lb	44"	22"



PACKAGED GAS / ELECTRICAL
CORNER WEIGHT

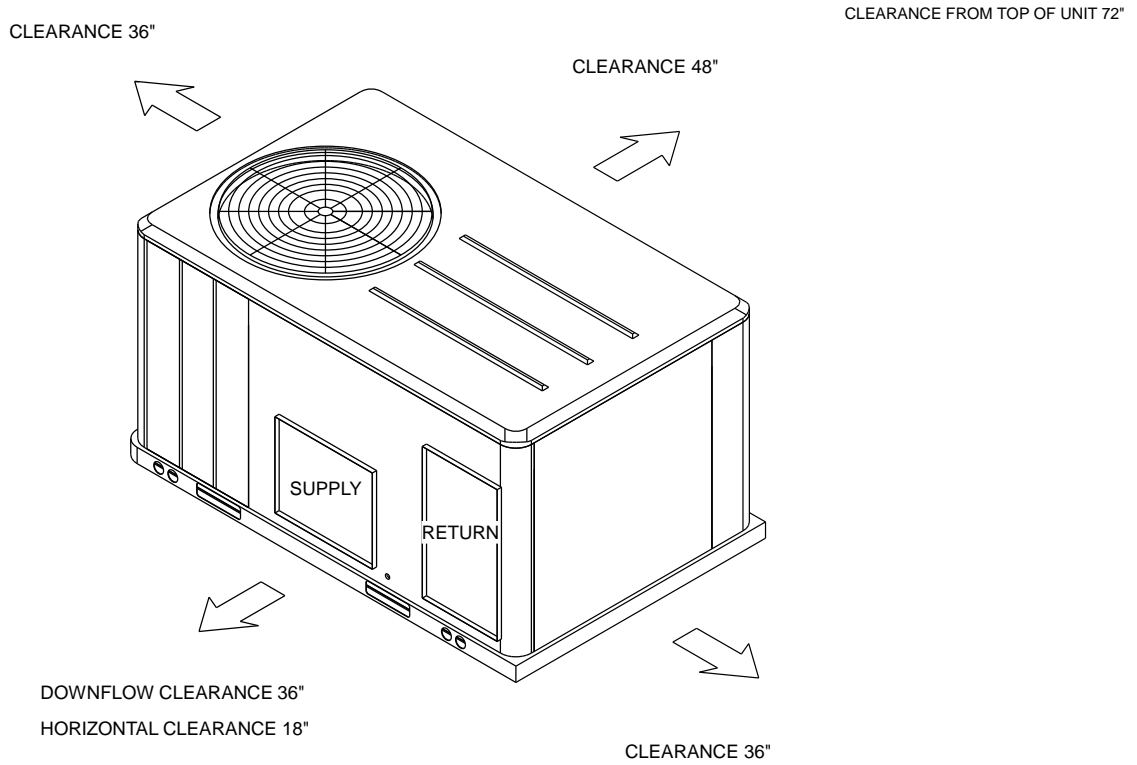
NOTE:

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.



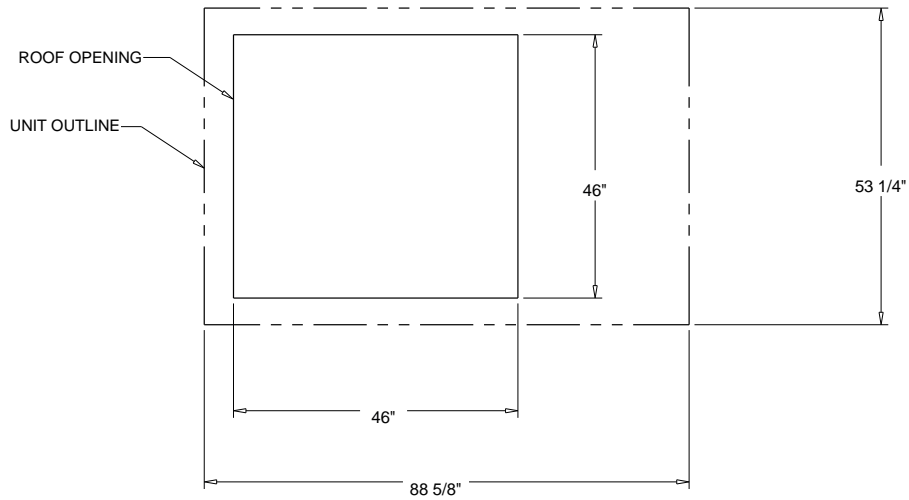
PACKAGED GAS / ELECTRICAL
RIGGING AND CENTER OF GRAVITY

Weight, Clearance & Rigging Diagram - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: A1 - A3 Qty: 3 Tag(s): AC-7, AC-8, AC-9 RX



PACKAGED GAS / ELECTRIC

CLEARANCE



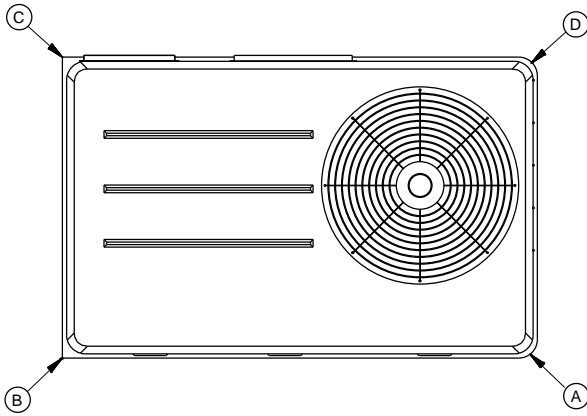
PACKAGED GAS / ELECTRIC

DOWNFLOW TYPICAL ROOF OPENING

Weight, Clearance & Rigging Diagram - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
 Item: A2 Qty: 1 Tag(s): AC-8

INSTALLED ACCESSORIES NET WEIGHT DATA

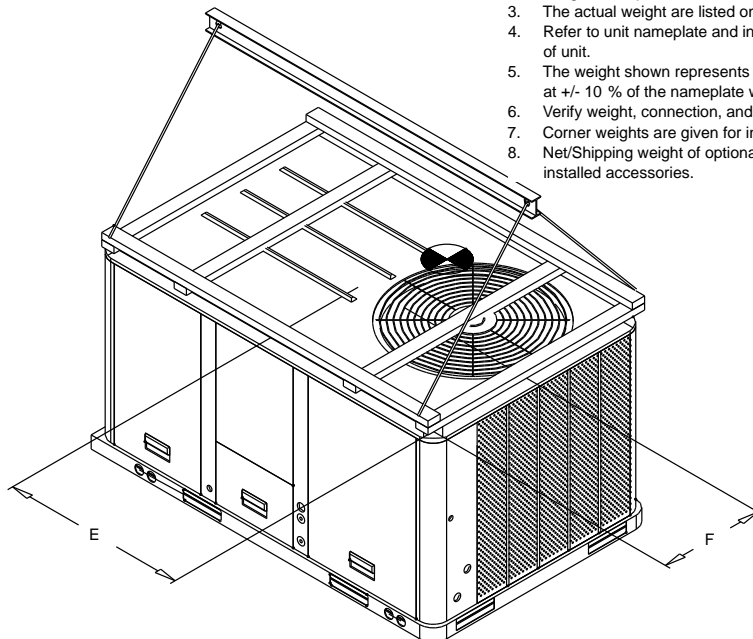
ACCESSORY		WEIGHTS			
ECONOMIZER		36.0 lb			
MOTORIZED OUTSIDE AIR DAMPER					
MANUAL OUTSIDE AIR DAMPER					
BAROMETRIC RELIEF					
OVERSIZED MOTOR					
BELT DRIVE MOTOR					
POWER EXHAUST					
THROUGH THE BASE ELECTRICAL/GAS (FIOPS)		13.0 lb			
UNIT MOUNTED CIRCUIT BREAKER (FIOPS)					
UNIT MOUNTED DISCONNECT (FIOPS)		5.0 lb			
POWERED CONVENIENCE OUTLET (FIOPS)		38.0 lb			
HINGED DOORS (FIOPS)		12.0 lb			
HAIL GUARD		20.0 lb			
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
1124.0 lb	1026.0 lb	(B) 233.0 lb	(D) 204.0 lb	41"	23"



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.

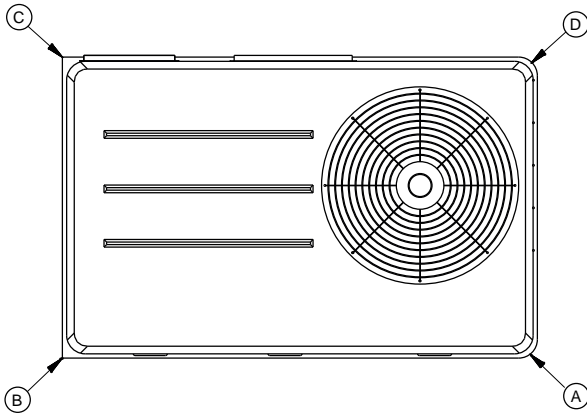


PACKAGED GAS / ELECTRICAL
RIGGING AND CENTER OF GRAVITY

Weight, Clearance & Rigging Diagram - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
 Item: A3 Qty: 1 Tag(s): AC-9 RX

INSTALLED ACCESSORIES NET WEIGHT DATA

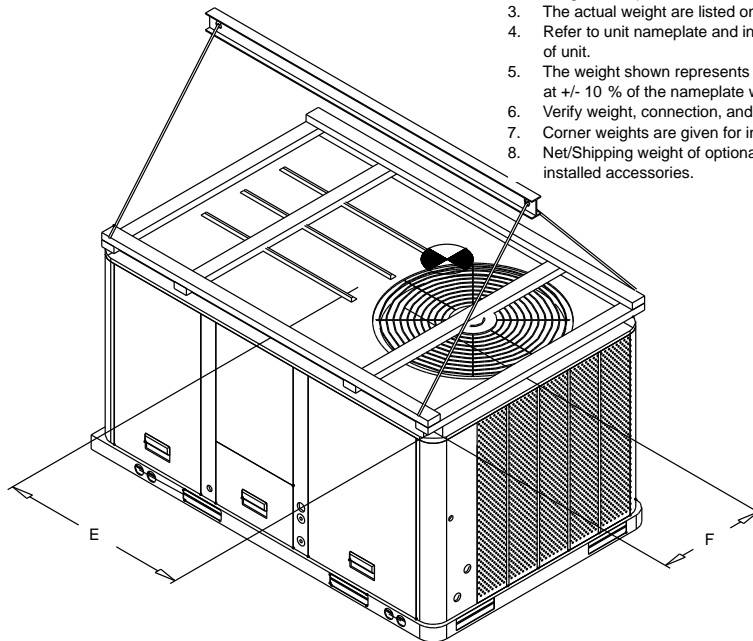
ACCESSORY		WEIGHTS			
ECONOMIZER		36.0 lb			
MOTORIZED OUTSIDE AIR DAMPER					
MANUAL OUTSIDE AIR DAMPER					
BAROMETRIC RELIEF					
OVERSIZED MOTOR					
BELT DRIVE MOTOR					
POWER EXHAUST					
THROUGH THE BASE ELECTRICAL/GAS (FIOPS)		13.0 lb			
UNIT MOUNTED CIRCUIT BREAKER (FIOPS)					
UNIT MOUNTED DISCONNECT (FIOPS)		5.0 lb			
POWERED CONVENIENCE OUTLET (FIOPS)		38.0 lb			
HINGED DOORS (FIOPS)		12.0 lb			
HAIL GUARD		20.0 lb			
SMOKE DETECTOR, SUPPLY / RETURN					
NOVAR CONTROL					
STAINLESS STEEL HEAT EXCHANGER					
REHEAT		14.0 lb			
ROOF CURB					
BASIC UNIT WEIGHTS		CORNER WEIGHTS		CENTER OF GRAVITY	
SHIPPING	NET	(A)	(C)	(E) LENGHT	(F) WIDTH
917.0 lb	822.0 lb	(B) 218.0 lb	(D) 187.0 lb	40"	22"



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.

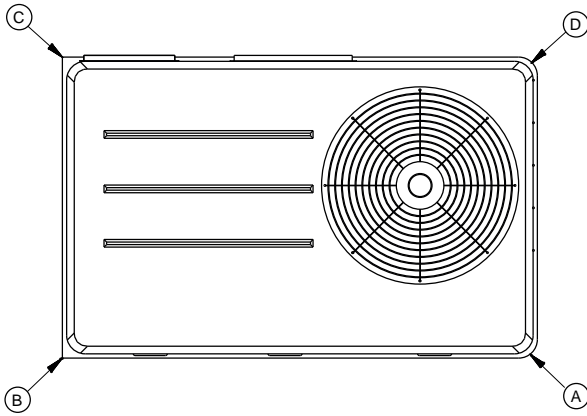


PACKAGED GAS / ELECTRICAL
RIGGING AND CENTER OF GRAVITY

Weight, Clearance & Rigging Diagram - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
 Item: A4 Qty: 1 Tag(s): AC-12

INSTALLED ACCESSORIES NET WEIGHT DATA

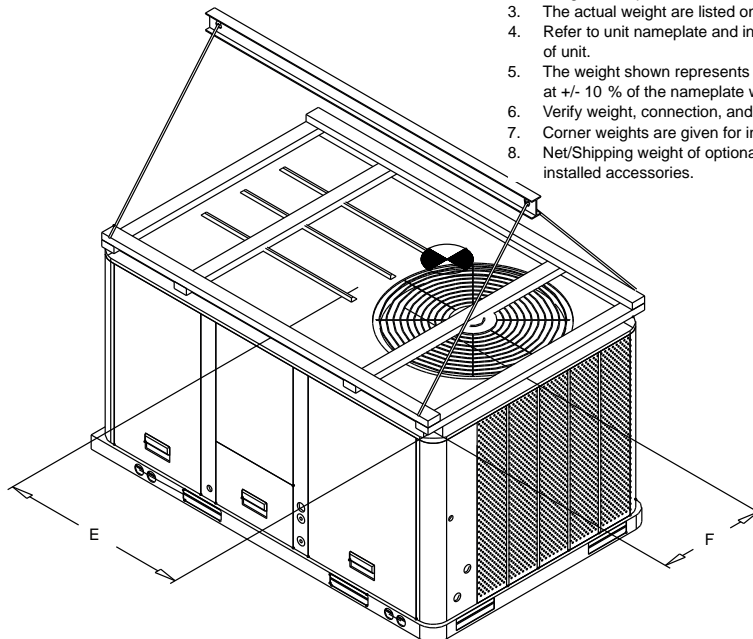
ACCESSORY		WEIGHTS			
ECONOMIZER		36.0 lb			
MOTORIZED OUTSIDE AIR DAMPER					
MANUAL OUTSIDE AIR DAMPER					
BAROMETRIC RELIEF					
OVERSIZED MOTOR					
BELT DRIVE MOTOR					
POWER EXHAUST					
THROUGH THE BASE ELECTRICAL/GAS (FIOPS)		13.0 lb			
UNIT MOUNTED CIRCUIT BREAKER (FIOPS)					
UNIT MOUNTED DISCONNECT (FIOPS)		5.0 lb			
POWERED CONVENIENCE OUTLET (FIOPS)		50.0 lb			
HINGED DOORS (FIOPS)		12.0 lb			
HAIL GUARD		30.0 lb			
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
1453.0 lb	1259.0 lb	(B) 371.0 lb	(D) 242.0 lb	54"	27"



PACKAGED GAS / ELECTRICAL
CORNER WEIGHT

NOTE:

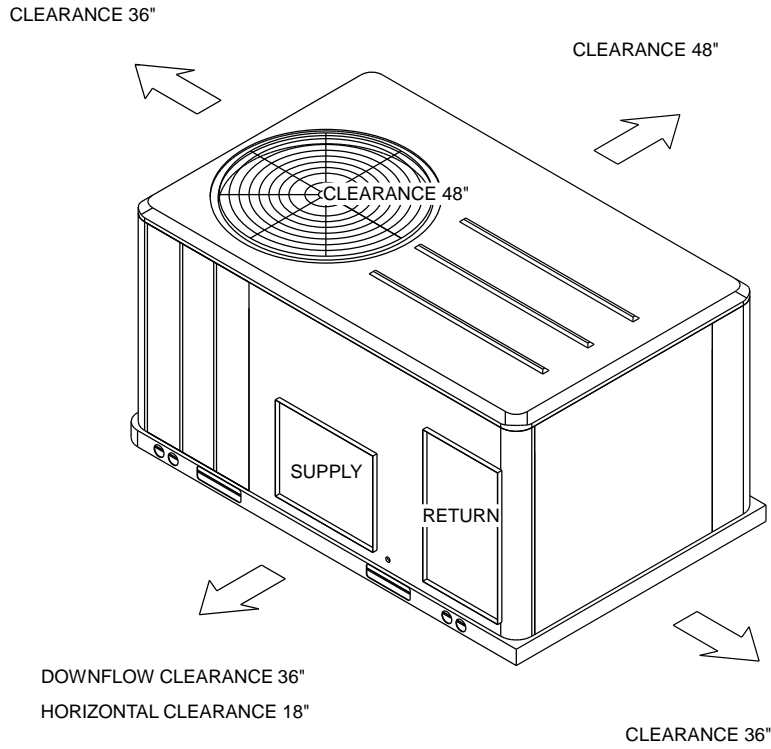
1. All weights are approximate.
2. Weights for options that are not list refer to Installation guide.
3. The actual weight are listed on the unit nameplate.
4. Refer to unit nameplate and installation guide for weights before scheduling transportation and installation of unit.
5. The weight shown represents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



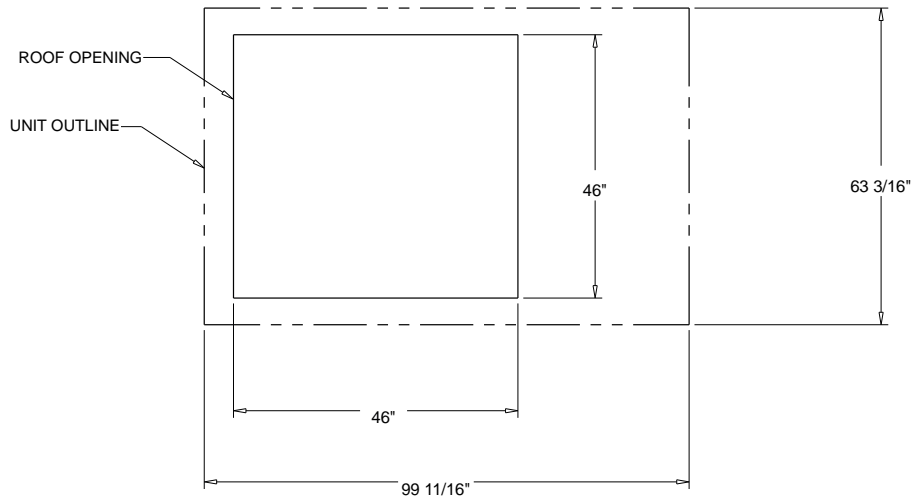
PACKAGED GAS / ELECTRICAL
RIGGING AND CENTER OF GRAVITY

Weight, Clearance & Rigging Diagram - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: A4 Qty: 1 Tag(s): AC-12

CLEARANCE FROM TOP OF UNIT 72"

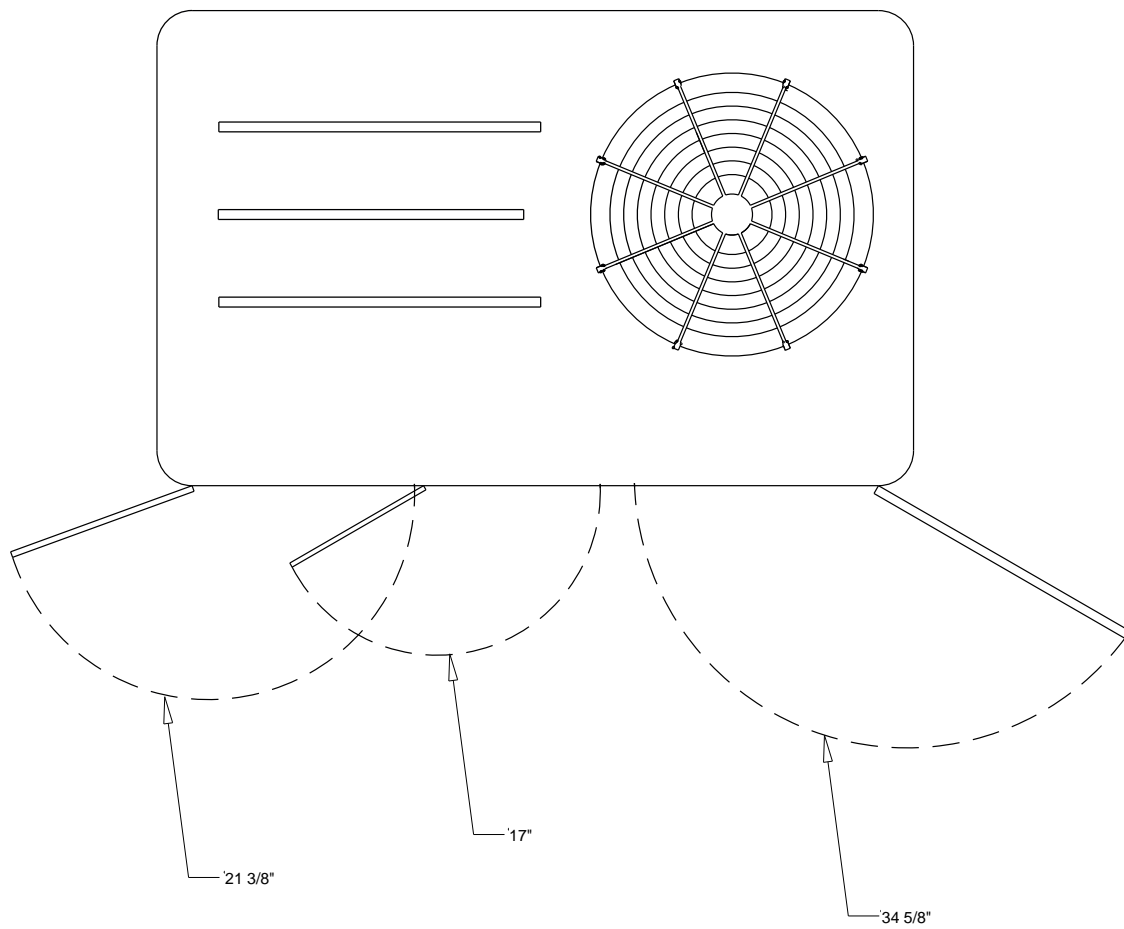


PACKAGED GAS / ELECTRIC
CLEARANCE



PACKAGED GAS / ELECTRIC
DOWNFLOW TYPICAL ROOF OPENING

Accessory - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: A1 - A3 Qty: 3 Tag(s): AC-7, AC-8, AC-9 RX

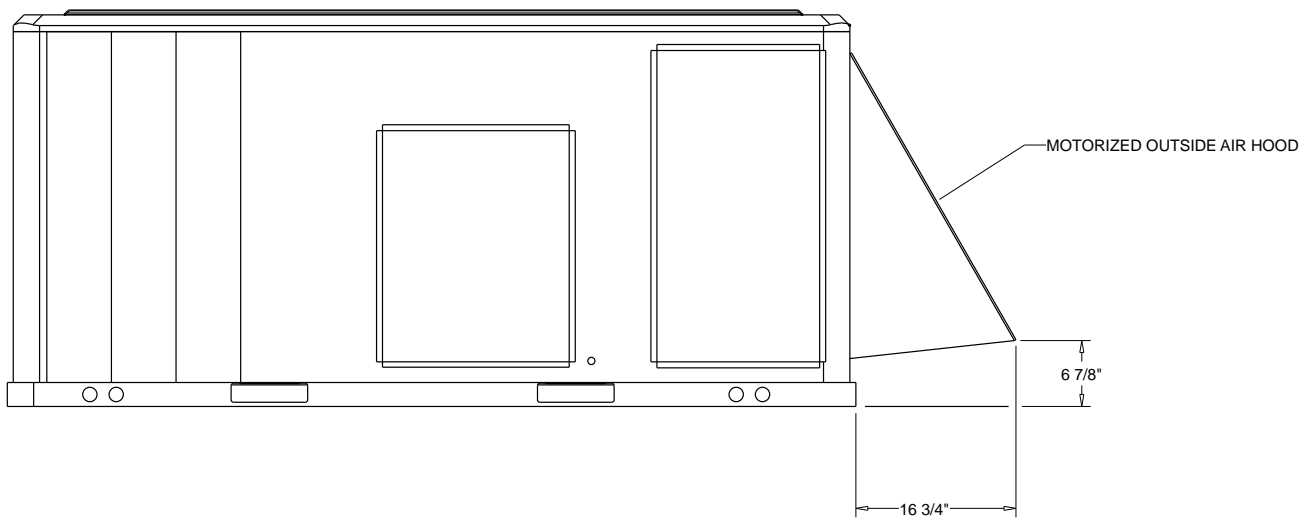
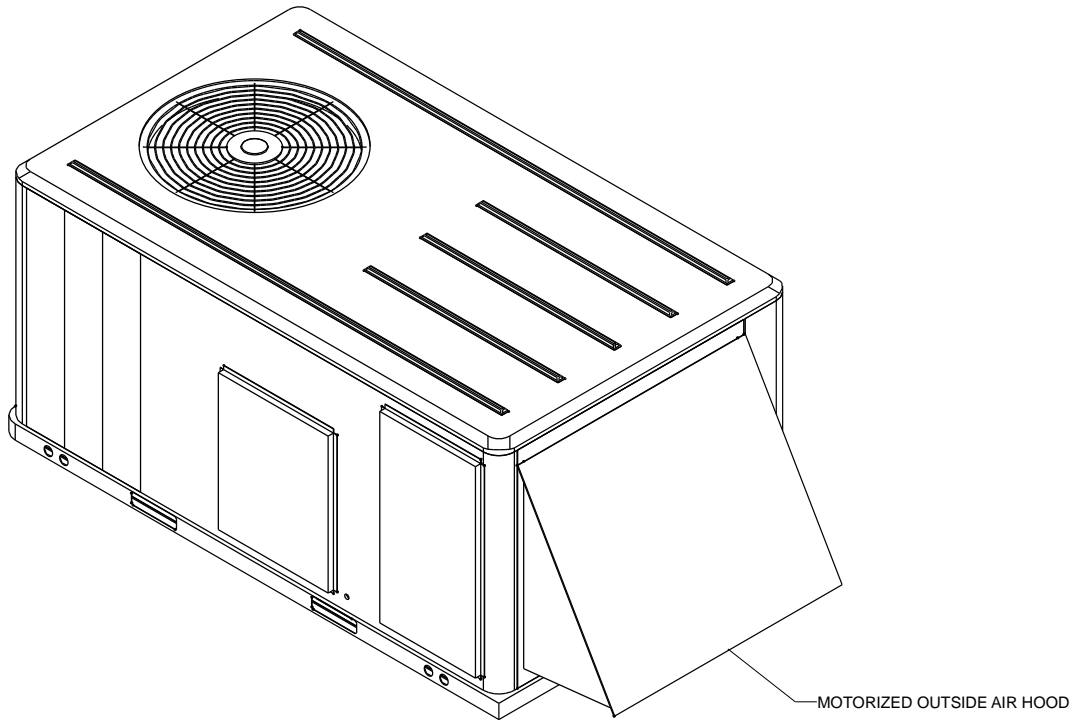


SWING DIAMETER - HINGED DOOR(S) OPTION

ACCESSORY

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

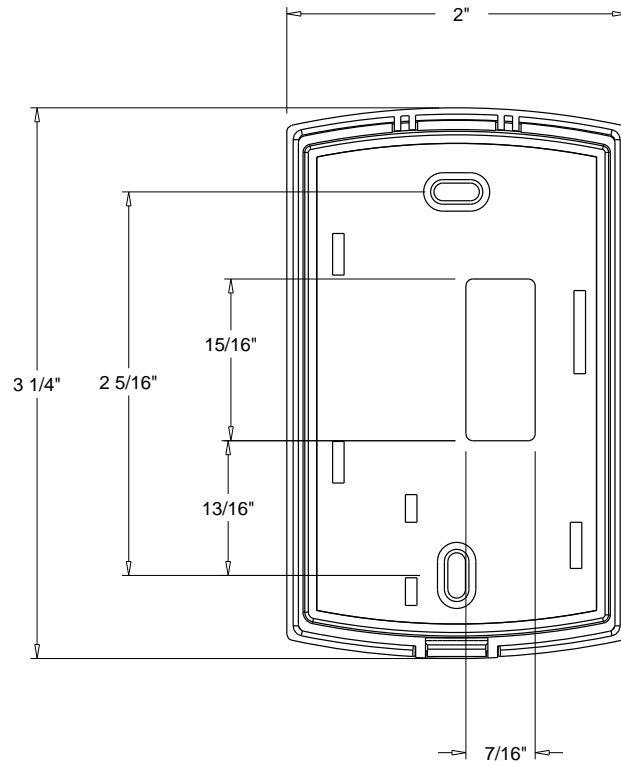
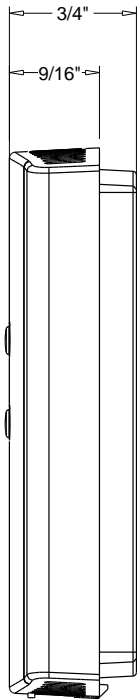
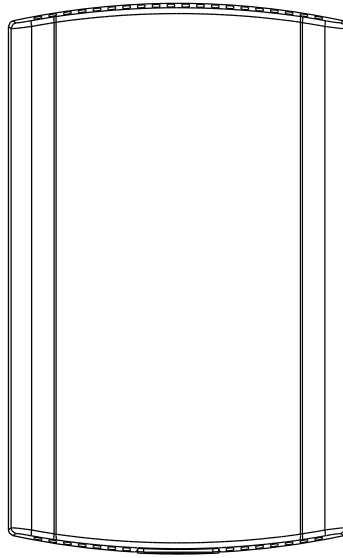
Item: A1 Qty: 1 Tag(s): AC-7



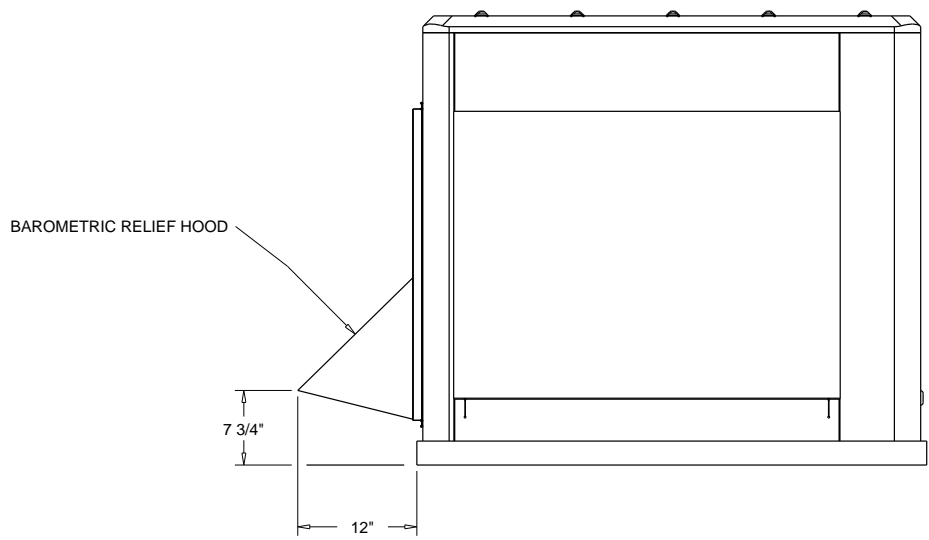
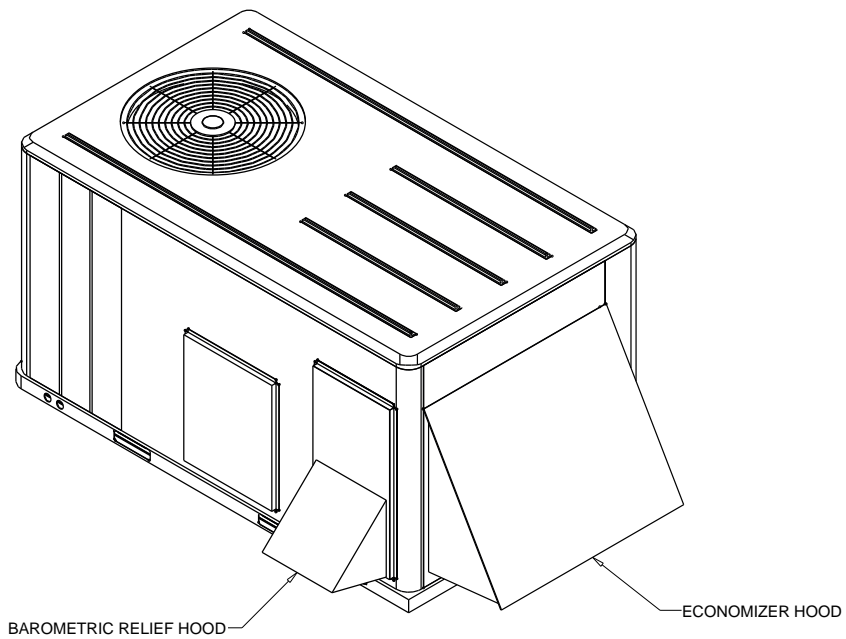
ACCESSORY - MOTORIZED OUTSIDE AIR HOOD

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

Item: A1, A2, A4 Qty: 3 Tag(s): AC-7, AC-8, AC-12

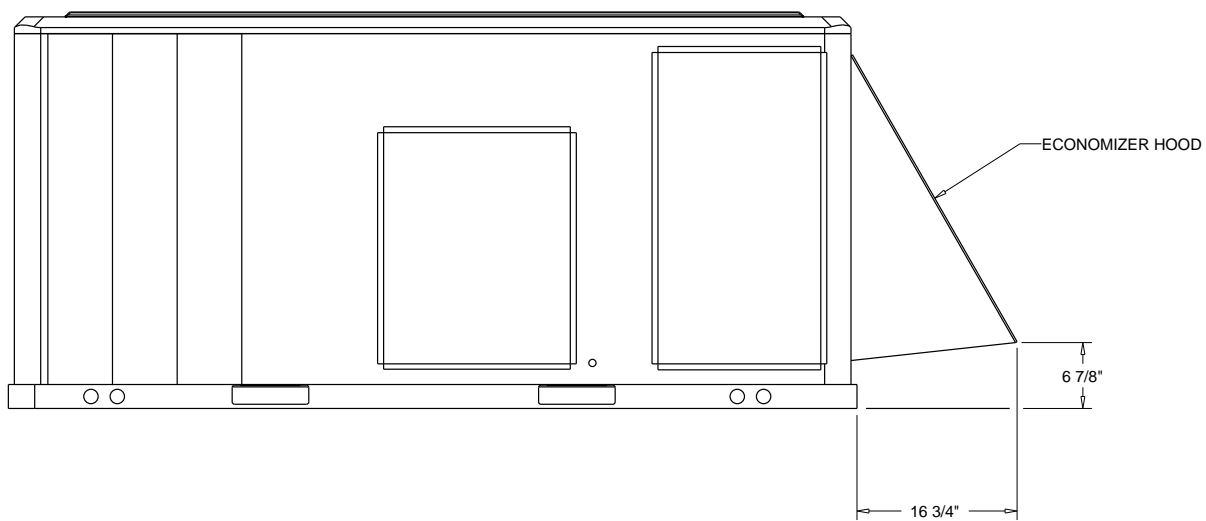
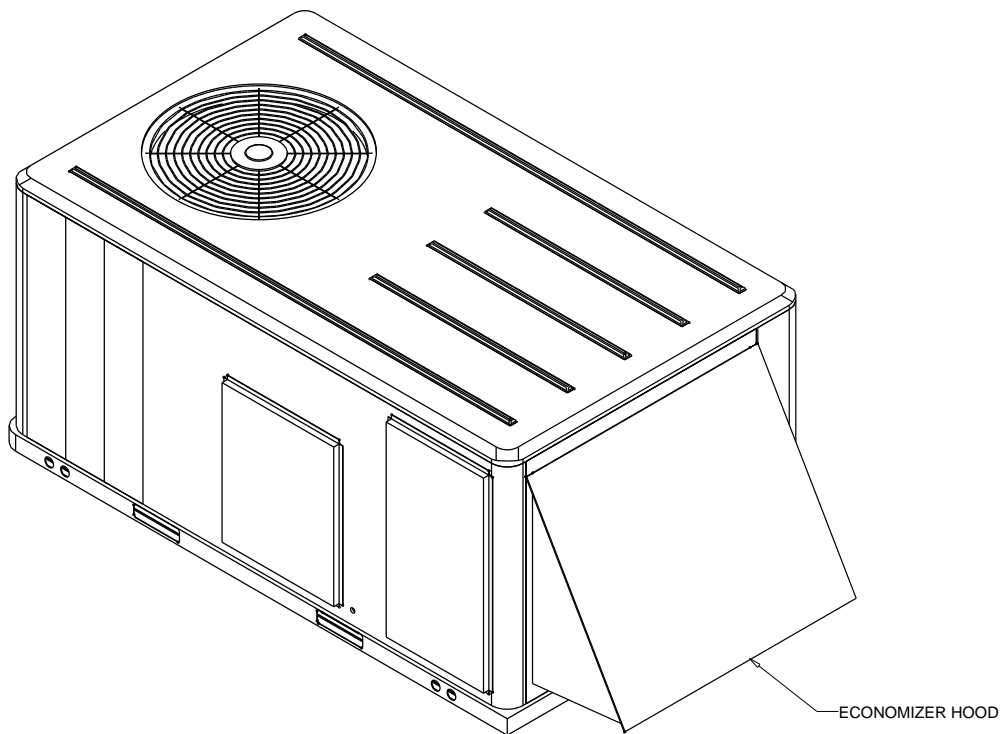


Accessory - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: A2, A3 Qty: 2 Tag(s): AC-8, AC-9 RX



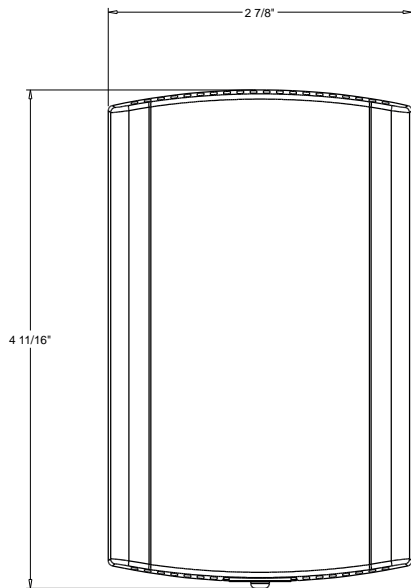
ACCESSORY - BAROMETRIC RELIEF DAMPER HOOD

Accessory - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: A2, A3 Qty: 2 Tag(s): AC-8, AC-9 RX

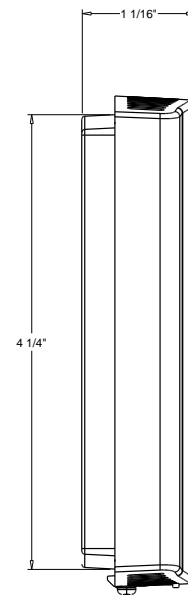
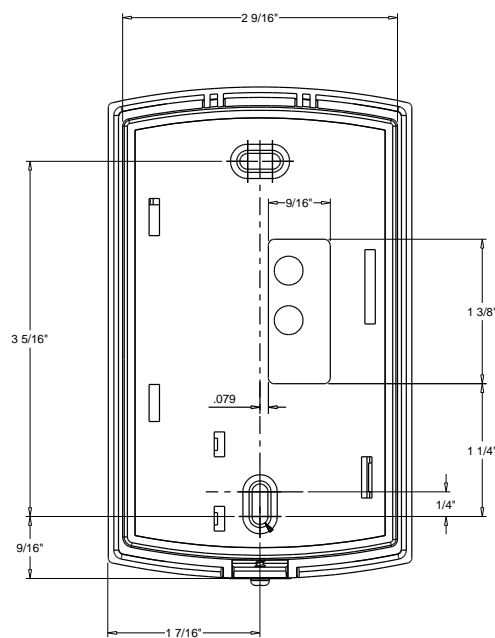


ACCESSORY - ECONOMIZER HOOD

Accessory - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: A3 Qty: 1 Tag(s): AC-9 RX

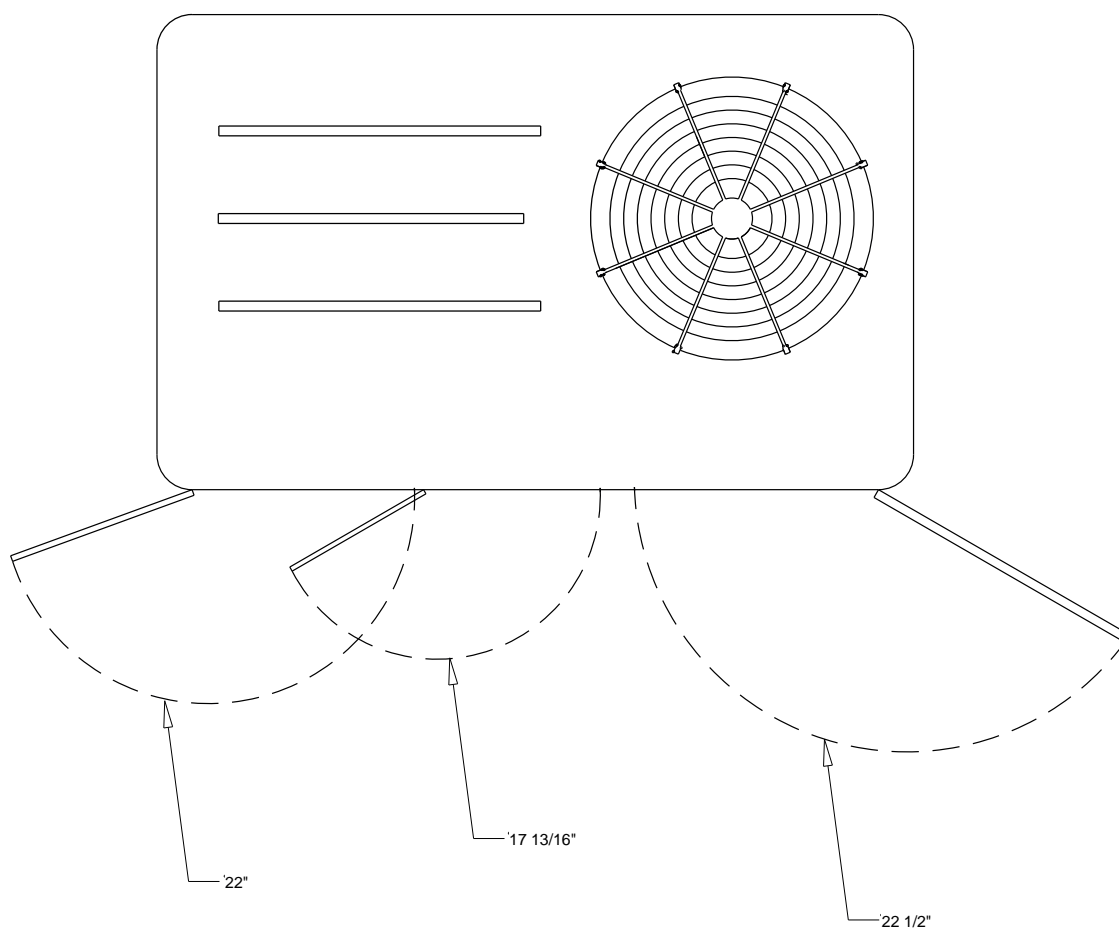


- NOTES:
1. SEE ENGINEERING SPECIFICATION FOR DETAILS.
2. VERIFY ALL DIMENSION WITH INSTALLER DOCUMENTS BEFORE INSTALLATION.



BAYSENS036A - WALL MOUNT HUMIDITY SENSOR
ACCESSORY

Accessory - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: A4 Qty: 1 Tag(s): AC-12

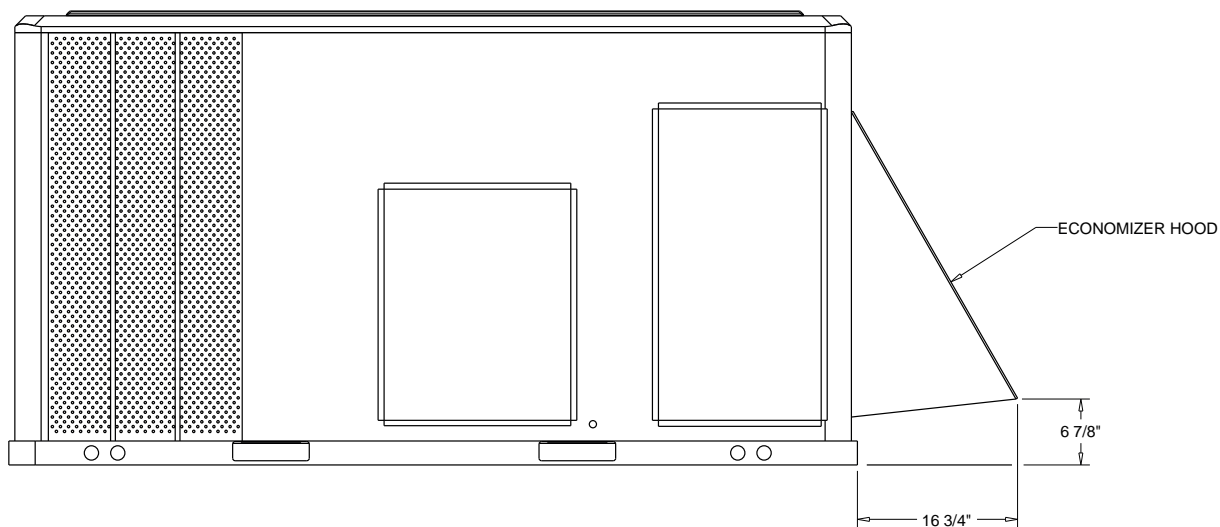
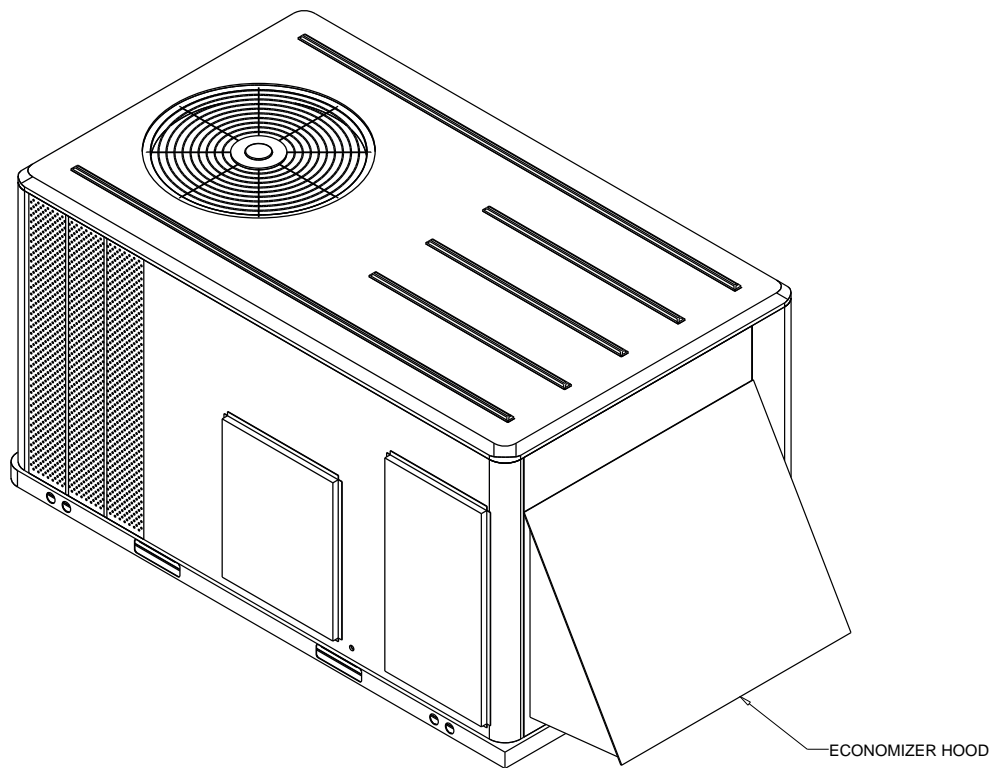


SWING DIAMETER - HINGED DOOR(S) OPTION

ACCESSORY

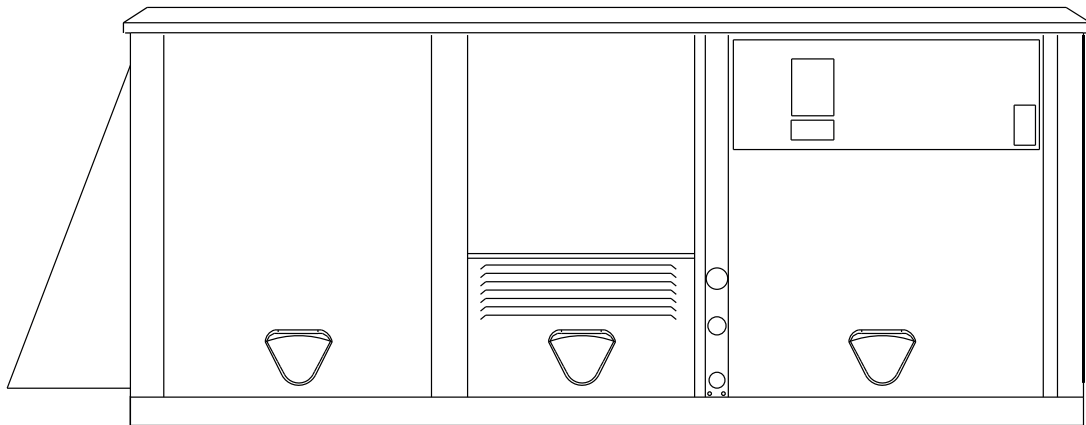
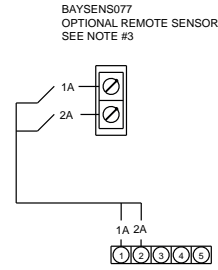
Accessory - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop

Item: A4 Qty: 1 Tag(s): AC-12



ECONOMIZER HOOD
ACCESSORY

Field Wiring - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: A1, A2, A4 Qty: 3 Tag(s): AC-7, AC-8, AC-12



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.

Tag Data - 3-10 Ton R-410A PKGD Unitary Cooling Rooftop (Qty: 1)

Item	Tag(s)	Qty	Description	Model Number
B1	AC-5	1	5 Ton - Cool Base	THC060F4RGA--F0C1A1B6000H000001000000000

Product Data - 3-10 Ton R-410A PKGD Unitary Cooling Rooftop**Item: B1 Qty: 1 Tag(s): AC-5**

DX cooling
 High efficiency
 Convertible configuration
 5 Ton
 460/60/3
 Microprocessor controls 3ph
 18 kW @240,480,600 derate to unit voltage
 Economizer Reference Enthalpy 0-100% with Barometric relief
 Hinged panels/2" Pleated Filters MERV 8
 Standard condenser coil with hail guard
 Through the base 3 ph
 Non-fused disconnect 3 ph
 Powered convenience outlet
 BACnet communications interface 3 ph
 Clogged filter switch, fan failure switch, discharge air sensing & Condensate Dr
 Human Interface
 Remote room sensor (Fld)

Performance Data - 3-10 Ton R-410A PKGD Unitary Cooling Rooftop

Tags	AC-5
Airflow Application	Downflow
Design Airflow (cfm)	2000
Cooling Entering Dry Bulb (F)	78.00
Cooling Entering Wet Bulb (F)	64.00
Ent Air Rel Humidity (%)	46.60
Ambient Temp (F)	95.00
Cooling Leaving Unit DB (F)	57.86
Cooling Leaving Unit WB (F)	54.51
Gross Total Capacity (MBh)	58.56
Gross Sensible Capacity (MBh)	46.58
Gross Latent Capacity (MBh)	11.98
Net Total Capacity (MBh)	56.34
Net Sensible Capacity (MBh)	44.37
Net Sensible Heat Ratio (Number)	0.79
Heating LAT (F)	28.30
Heating Temp Rise (F)	28.30
Output Htg Capacity (MBh)	61.47
Output Htg Capacity w/Fan (MBh)	63.69
Design ESP (in H2O)	0.600
Electric Heat Static Press Add (in H2O)	0.026
Component SP Add (in H2O)	0.190
Max Available ESP (in H2O)	0.870
Indoor Mtr. Operating Power (bhp)	0.72
Indoor RPM (rpm)	999
Indoor Motor Power (kW)	0.54
Outdoor Motor Power (kW)	0.36
Compressor Power (kW)	3.71
System Power (kW)	4.61
IPLV @ AHRI (IPLV)	15.0
MCA (A)	33.00
MOP (A)	35.00
Compressor 1 RLA (A)	7.10
Compressor 2 RLA (A)	0.00
Condenser Fan FLA (A)	1.00
Evaporator Fan FLA (A)	4.00
Electric Heat FLA (A)	21.70
Evaporator Face Area (sq ft)	9.89
Evaporator Face Velocity (ft/min)	202
Evaporator Fin Spacing (Per Foot)	192
Evaporator Rows ()	4
Min. Unit Operating Weight (lb)	679.0
Max Unit Operating Weight (lb)	942.0
Fan Motor Heat (MBh)	2.22
Evap Coil Leav Air Temp (DB) (F)	56.43
Evap Coil Leav Air Temp (WB) (F)	53.93
Dew Point Temp (F)	52.12
Rated capacity (AHRI) (MBh)	60.00
Refrig charge (HFC-410A) - ckt 1 (lb)	6.1
ASHRAE 90.1	Yes
Saturated Suction Temp Circuit 1 (F)	49.89
Saturated Discharge Temp Circuit 1 (F)	112.15
IEER Rating ()	15.00
EER @ AHRI Conditions (EER)	12.9
Total Static Pressure (in H2O)	0.816

Tags	AC-5
Height (ft)	3.41
Width (ft)	4.44
Length (ft)	7.39
T24_SZVZV	NA
Indoor Fan Type	FC Centrifugal
Indoor Fan Drive Type	Direct
Outdoor Fan Type	Propeller
Outdoor Fan Drive Type	Direct
Outdoor Fan Quantity ()	1
Heating Type	Electric
Heating Stages	2

Mechanical Specifications - 3-10 Ton R-410A PKGD Unitary Cooling Rooftop**Item: B1 Qty: 1 Tag(s): AC-5****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. Units 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 units 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.

Hinged Access Doors

Sheet metal hinges are available on the Filter/Evaporator, Supply Fan/Heat, and the Compressor/Control Access Doors.

Powered or Unpowered Convenience Outlet

This is a GFCI, 120v/15amp, 2 plug, convenience outlet, either powered or unpowered. When the convenience outlet is powered, a service receptacle disconnect will be available. The convenience outlet is powered from the line side of the disconnect or circuit breaker, and therefore will not be affected by the position of the disconnect or circuit breaker. This option can only be ordered when the Through the Base Electrical with either the Disconnect Switch or Circuit Breaker option is ordered.

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.

Two-Inch Pleated Filters

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

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.

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.

Condensate Overflow Switch

This option shall shut the unit down in the event that a clogged condensate drain line prevents proper condensate removal from the unit.

Tool-less Hail Guards

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

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.

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 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).

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 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 Microprocessor shall provide anti-short cycle timing and time delay between compressors to provide a higher level of machine protection.

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.

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.

Electric Heaters

Electric heat modules shall be available for installation within basic unit. Electric heater elements shall be constructed of heavy-duty nickel chromium elements internally delta connected for 240 volt, wye connected for 480 and 600 volt. Staging shall be achieved through ReliaTel. Each heater package shall have automatically reset high limit control operating through heating element contactors. All heaters shall be individually fused from the factory, where required, and shall meet all NEC and CEC requirements when properly installed. Power assemblies shall provide single point connection. Electric heat modules shall be UL listed or CSA certified.

Through the Base Electrical with Disconnect Switch

This 3-pole, molded case, disconnect switch with provisions for through the base electrical connections are available. The disconnect switch will be installed in the unit in a water tight enclosure with access through a swinging door. Wiring will be provided from the switch to the unit high voltage terminal block. The switch will be UL/CSA agency recognized.

Note: The disconnect switch will be sized per NEC and UL guidelines but will not be used in place of unit overcurrent protection.

Economizer

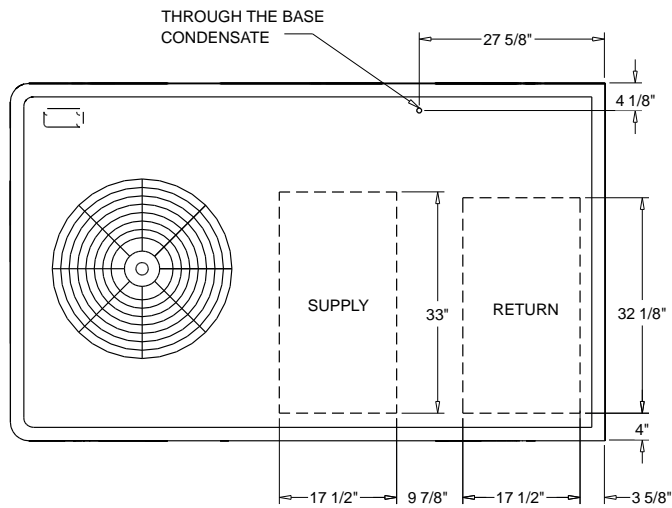
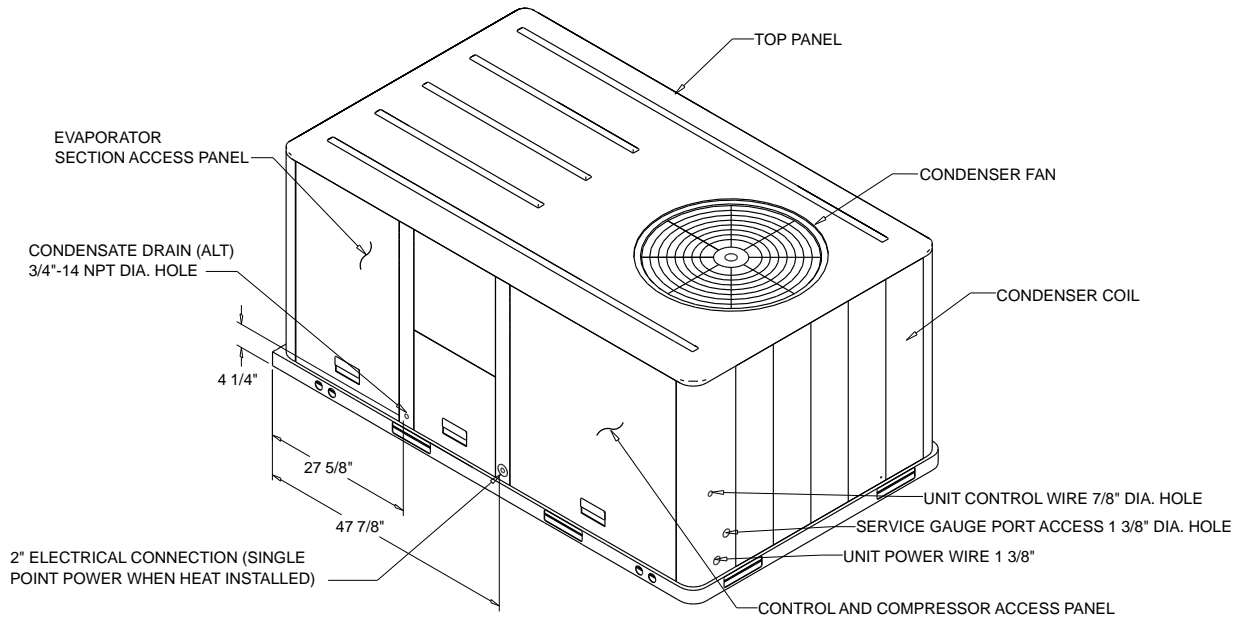
This accessory shall be available with or without barometric relief. The assembly includes fully modulating 0-100 percent motor and dampers, minimum position setting, preset linkage, wiring harness with plug, spring return actuator and fixed dry bulb control. The barometric relief shall provide a pressure 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.

Human Interface

The Human Interface shall have a 5 inch color touchscreen display that conforms to FCC Part 15 Class B with an Ingress Protection Rating of IP24. The display text shall be readable by a person with 20/20 vision at a distance of 3 feet and 60° angle at lighting levels ranging from 100 lux - 25,000 lux. Also, the display shall operate at temperatures of -40° C to 70° C. Firmware and unit configurations shall be able to be restored via a USB storage device.

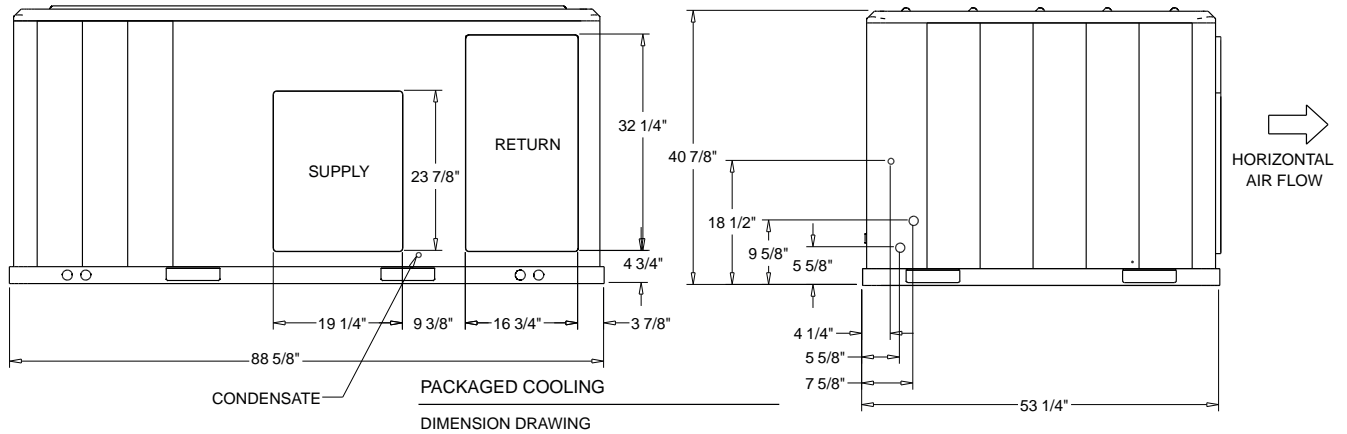
Unit Dimensions - 3-10 Ton R-410A PKGD Unitary Cooling Rooftop

Item: B1 Qty: 1 Tag(s): AC-5



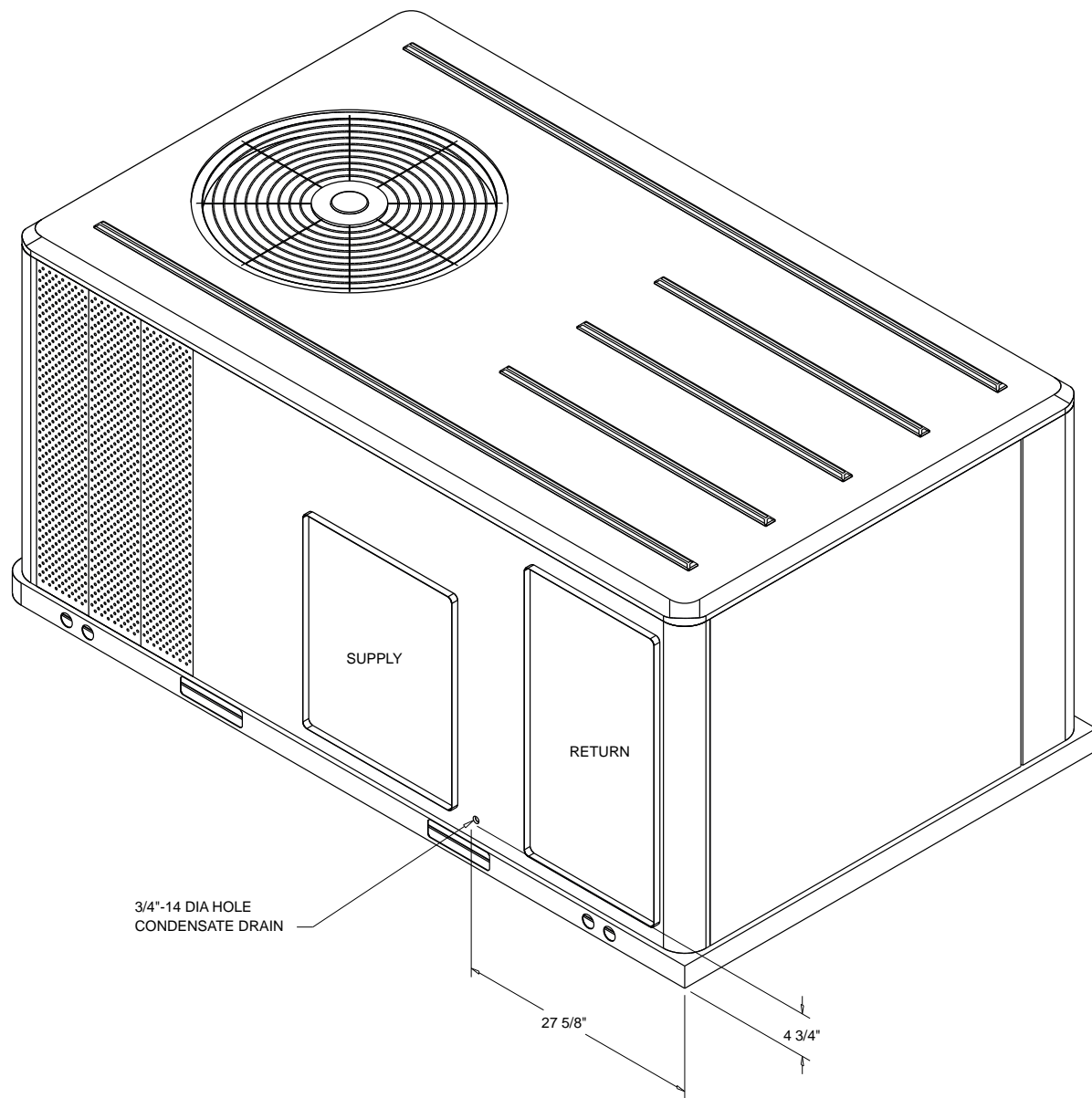
- NOTES:
1. THRU -THE -BASE ELECTRICAL IS NOT STANDARD ON ALL UNITS.
 2. VERIFY ALL DIMENSIONS WITH INSTALLER DOCUMENTS BEFORE INSTALLATION.

PLAN VIEW UNIT
DIMENSION DRAWING



Unit Dimensions - 3-10 Ton R-410A PKGD Unitary Cooling Rooftop

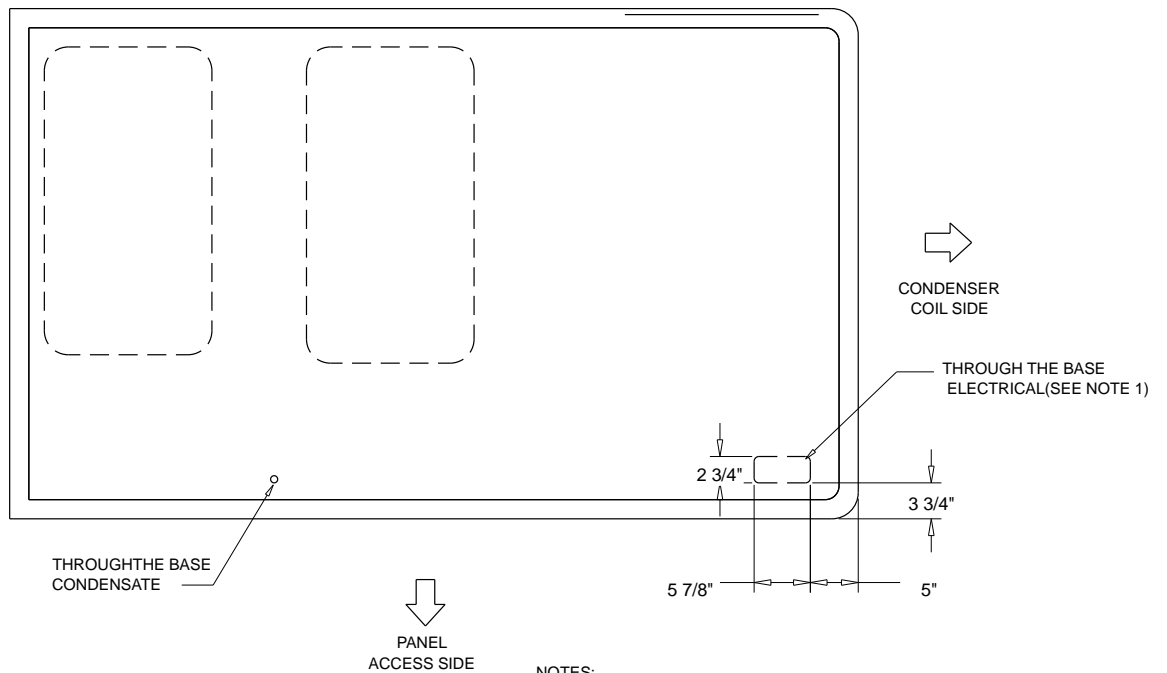
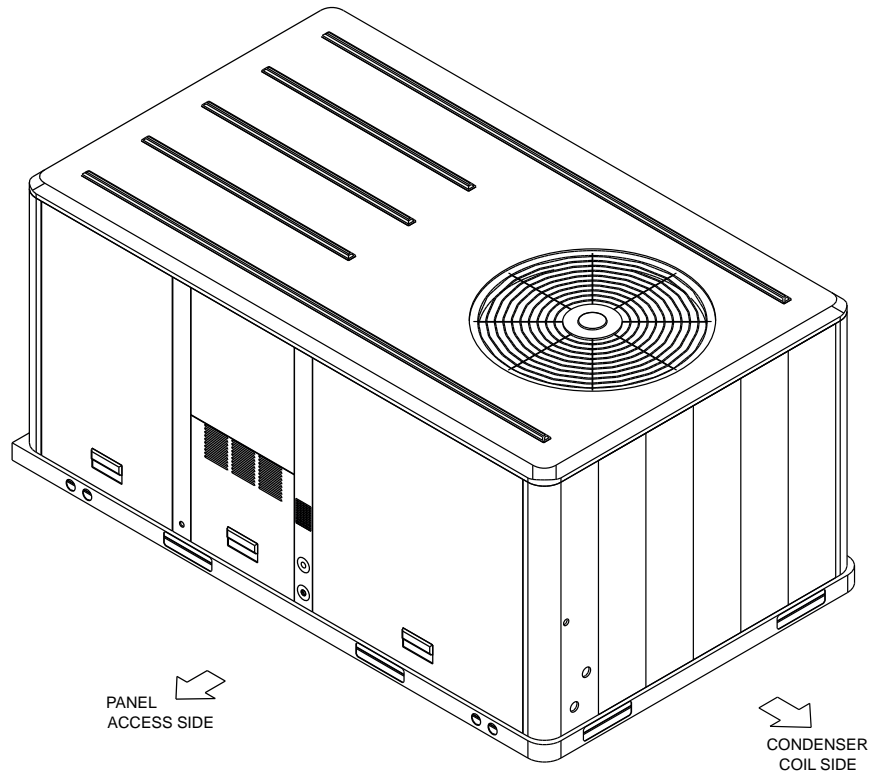
Item: B1 Qty: 1 Tag(s): AC-5



ISOMETRIC-PACKAGED COOLING

Unit Dimensions - 3-10 Ton R-410A PKGD Unitary Cooling Rooftop

Item: B1 Qty: 1 Tag(s): AC-5



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

THRU THE BASE ELECTRICAL
PLAN / ISO VIEW DRAWING

Unit Dimensions - 3-10 Ton R-410A PKGD Unitary Cooling Rooftop

Item: B1 Qty: 1 Tag(s): AC-5

ELECTRICAL / GENERAL DATA

GENERAL (2)(4)(6) Model: THC060F Oversized Motor Unit Operating Voltage: 414-506 Unit Primary Voltage: 460 Unit Secondary Voltage: -- Unit Hertz: 60 Unit Phase: 3 SEER: 15.0 Standard Motor MCA: 14.0 MFS: 20.0 MCB: 20.0		WITH HEATER Heater kW Rating : 17.4 Stage: 2 MCA: 33.0 MFS: 35.0 MCB: 35.0 Oversized Motor MCA: N/A MFS: N/A MCB: N/A									
Field Installed Oversized Motor MCA: N/A MFS: N/A MCB: N/A		Field Installed Oversized Motor MCA: N/A MFS: N/A MCB: N/A									
INDOOR MOTOR Standard Motor Number: 1 Horsepower: 1.0 Motor Speed (RPM): -- Phase: 1 Full Load Amps: 4.0 Locked Rotor Amps: --				Outsized Motor Number: N/A Horsepower: N/A Motor Speed (RPM): N/A Phase: N/A Full Load Amps: N/A Locked Rotor Amps: N/A				Field Installed Oversized Motor Number: N/A Horsepower: N/A Motor Speed (RPM): N/A Phase: N/A Full Load Amps: N/A Locked Rotor Amps: N/A			
COMPRESSOR Circuit 1/2 Number: 1 Horsepower: 4.3 Phase: 3 Rated Load Amps: 7.1 Locked Rotor Amps: --		OUTDOOR MOTOR Number: 1 Horsepower: 0.40 Motor Speed (RPM): 1075 Phase: 3 Full Load Amps: 1.0 Locked Rotor Amps: --									
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: 16"x25"x2"		REFRIGERANT (2) Type: R-410 Factory Charge Circuit #1: 6.1 lb Circuit #2: N/A							

NOTES:

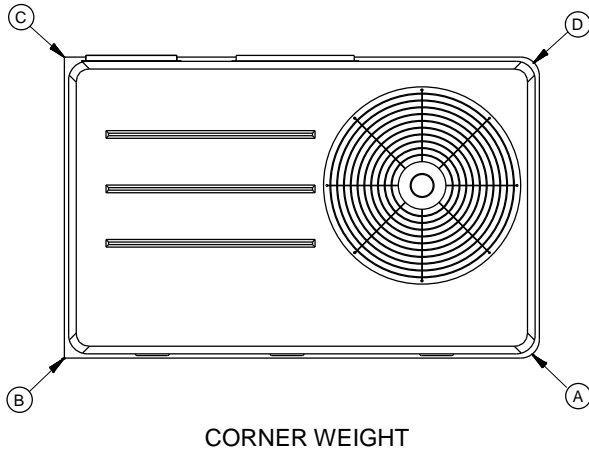
1. Maximum (HACR) Circuit Breaker sizing is for installations in the United States only.
2. Refrigerant charge is an approximate value. For a more precise value, see unit nameplate and service instructions.
3. Value does not include Power Exhaust Accessory.
4. Value includes oversized motor.
5. Value 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 Cooling Rooftop

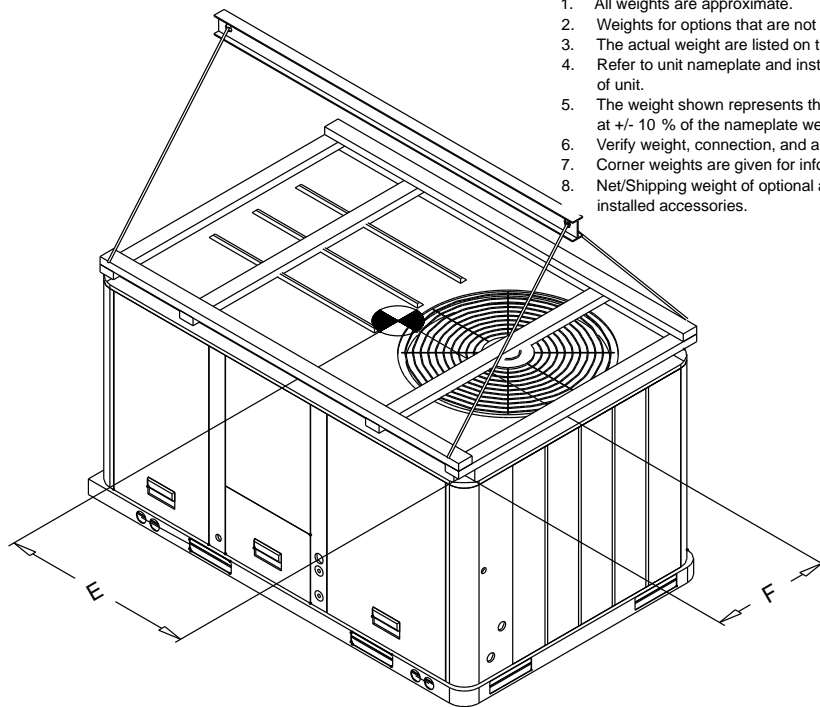
Item: B1 Qty: 1 Tag(s): AC-5

INSTALLED ACCESSORIES NET WEIGHT DATA

ACCESSORY		WEIGHTS			
ECONOMIZER		36.0 lb			
MOTORIZED OUTSIDE AIR DAMPER					
MANUAL OUTSIDE AIR DAMPER					
BAROMETRIC RELIEF					
OVERSIZED MOTOR					
BELT DRIVE MOTOR					
POWER EXHAUST					
HEATER		30.0 lb			
REHEAT		15.0 lb			
THROUGH THE BASE ELECTRICAL (FIOPS)					
UNIT MOUNTED CIRCUIT BREAKER (FIOPS)					
UNIT MOUNTED DISCONNECT (FIOPS)		5.0 lb			
POWERED CONVENIENCE OUTLET (FIOPS)		38.0 lb			
HINGED DOORS (FIOPS)		12.0 lb			
HAIL GUARD		20.0 lb			
SMOKE DETECTOR, SUPPLY / RETURN					
NOVAR CONTROL					
ROOF CURB					
BASIC UNIT WEIGHTS		CORNER WEIGHTS		CENTER OF GRAVITY	
SHIPPING	NET	(A)	(C)	(E) LENGHT	(F) WIDTH
774.0 lb	679.0 lb	(B)	(D)	43"	21"



CORNER WEIGHT

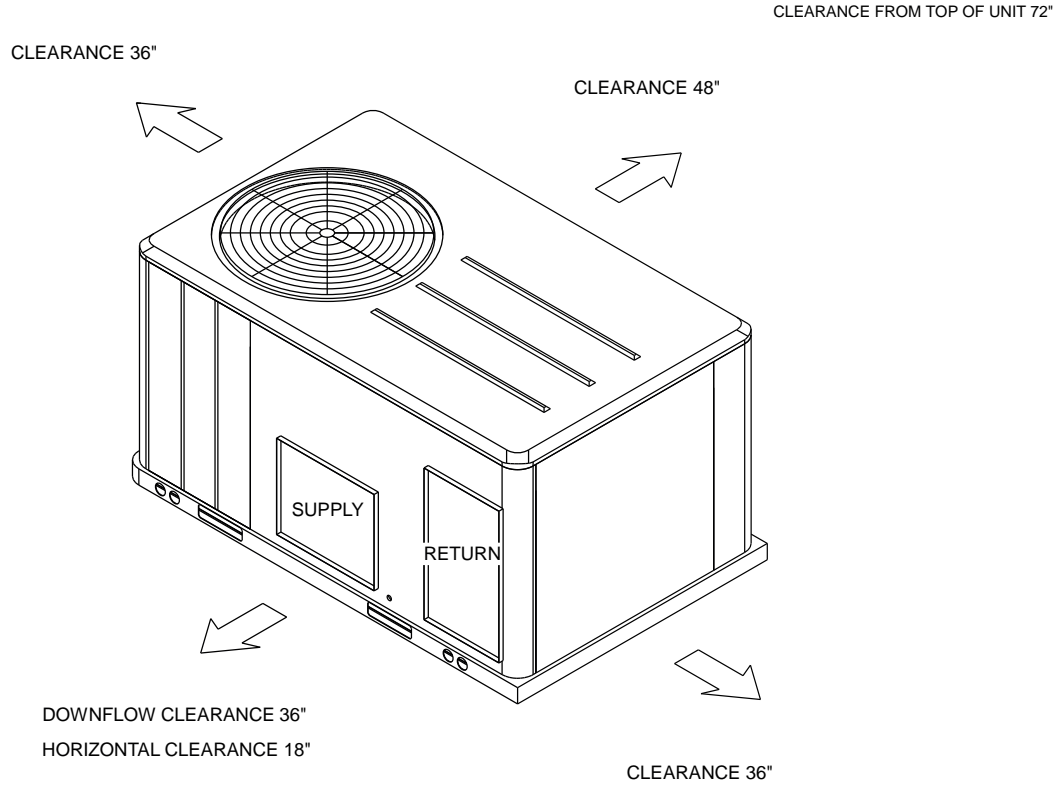


RIGGING AND CENTER OF GRAVITY

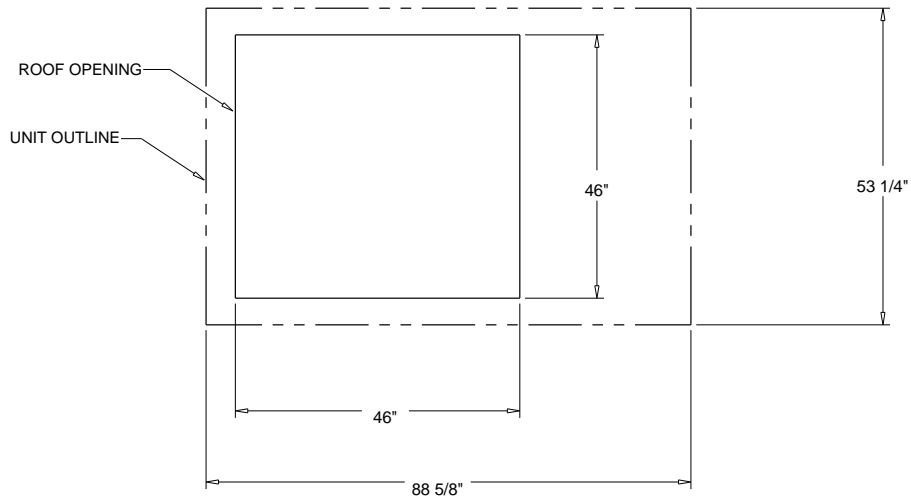
NOTE:

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.

Weight, Clearance & Rigging Diagram - 3-10 Ton R-410A PKGD Unitary Cooling Rooftop
Item: B1 Qty: 1 Tag(s): AC-5



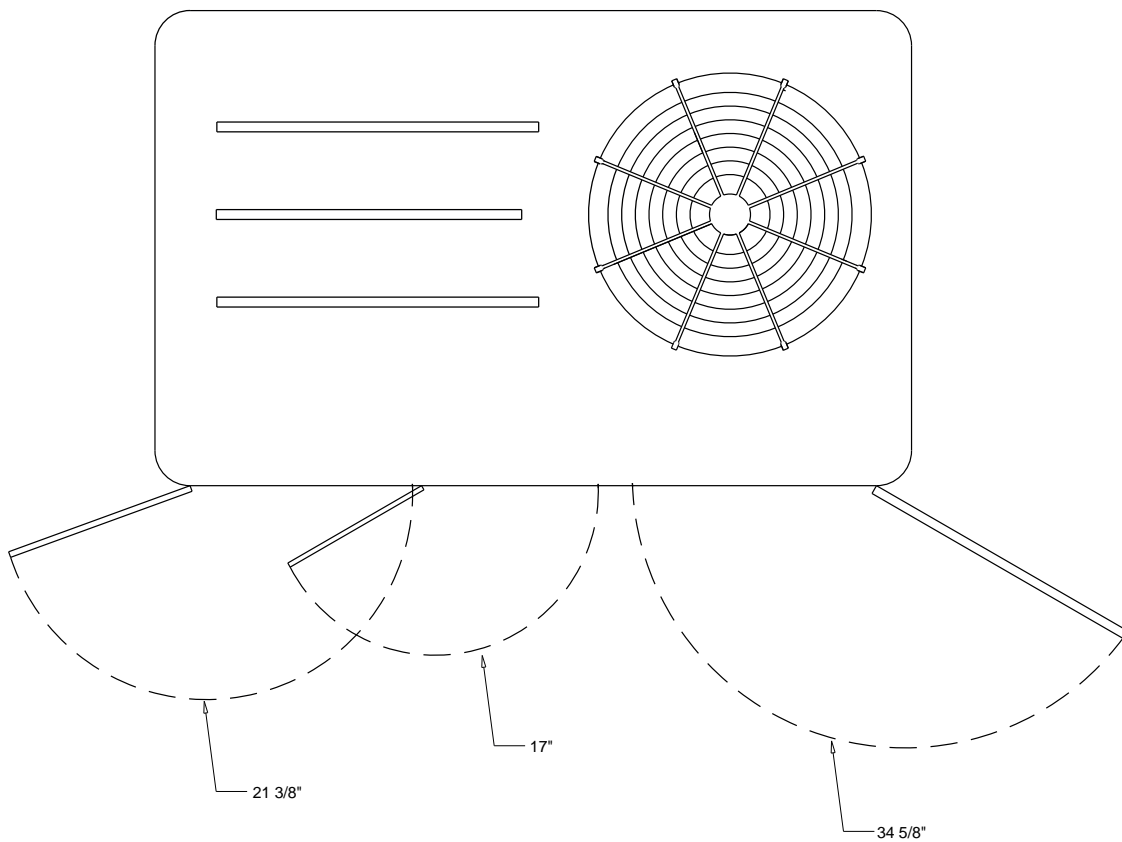
PACKAGED COOLING
CLEARANCE



PACKAGED COOLING
DOWNFLOW TYPICAL ROOF OPENING

Accessory - 3-10 Ton R-410A PKGD Unitary Cooling Rooftop

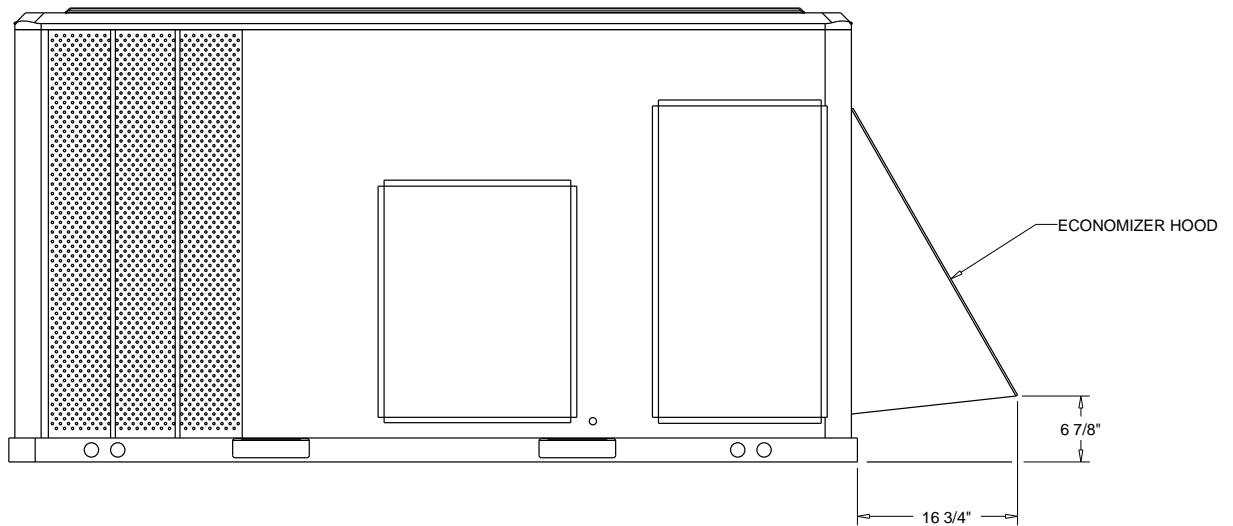
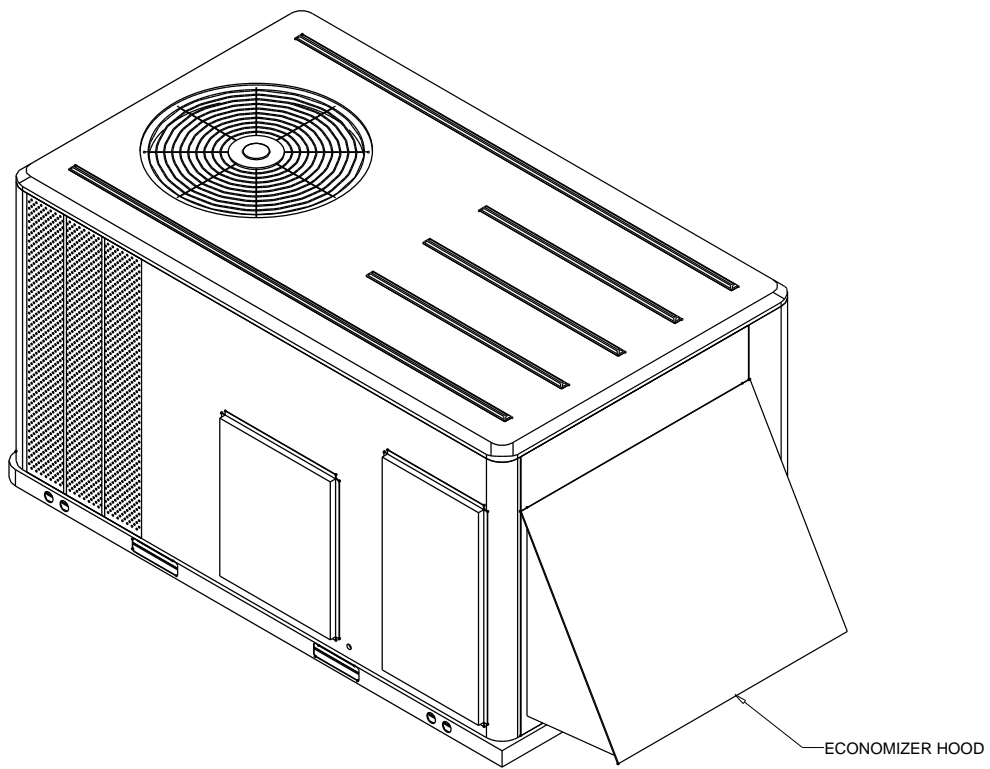
Item: B1 Qty: 1 Tag(s): AC-5



SWING DIAMETER - HINGED DOOR(S) OPTION

Accessory - 3-10 Ton R-410A PKGD Unitary Cooling Rooftop

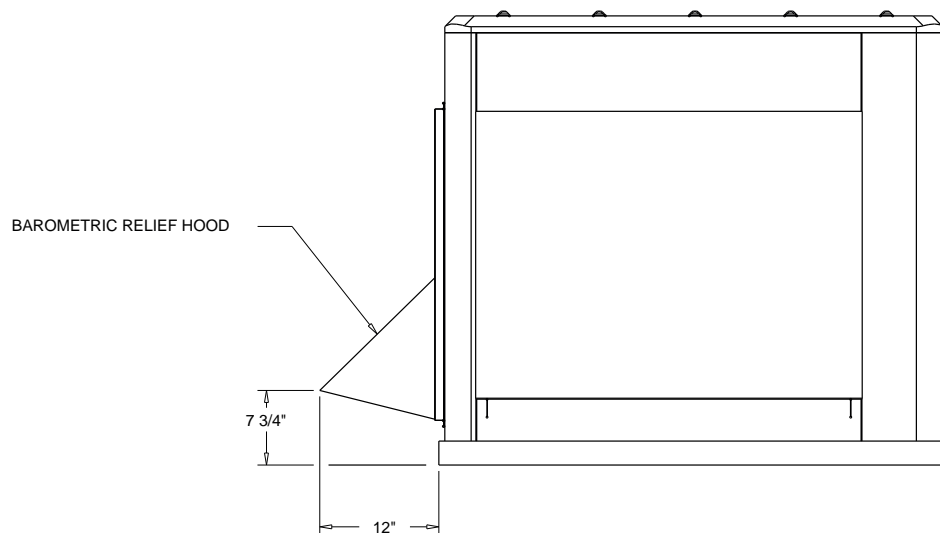
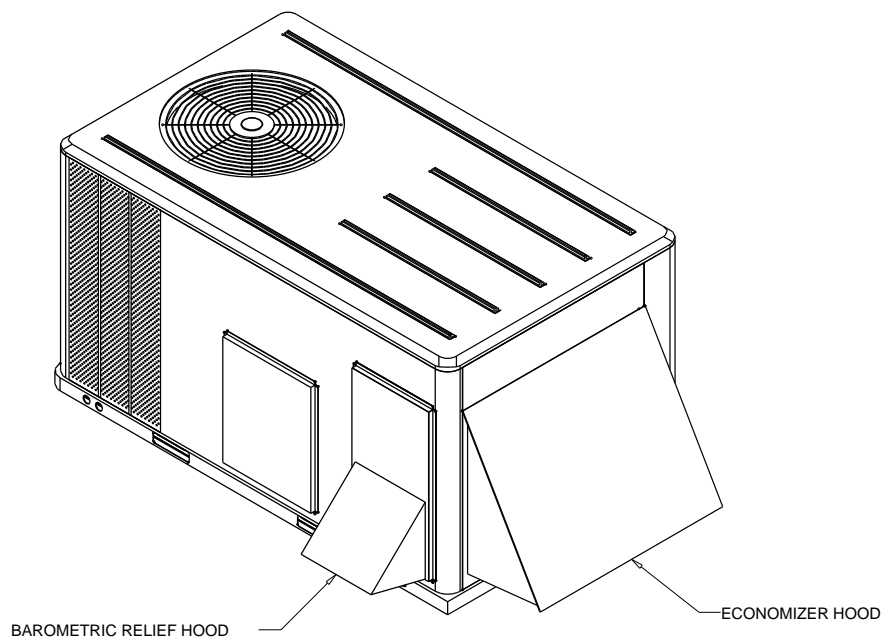
Item: B1 Qty: 1 Tag(s): AC-5



ECONOMIZER HOOD
ACCESSORY

Accessory - 3-10 Ton R-410A PKGD Unitary Cooling Rooftop

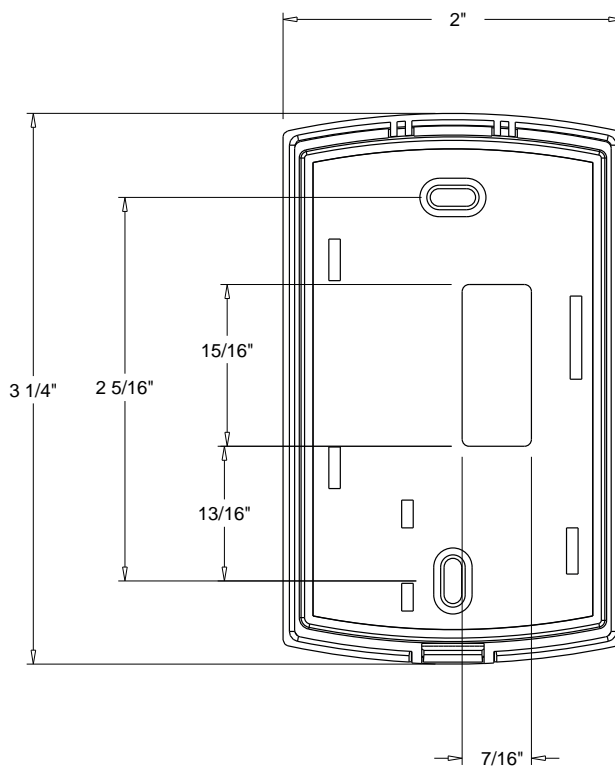
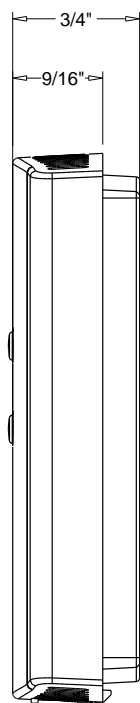
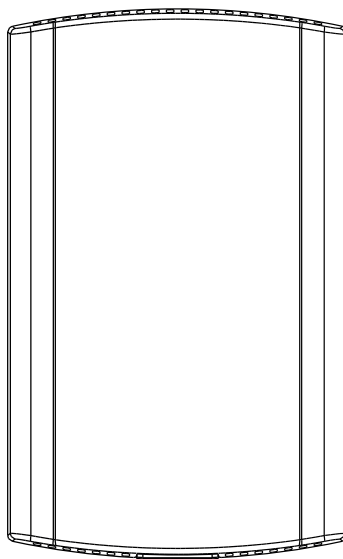
Item: B1 Qty: 1 Tag(s): AC-5



BAROMETRIC RELIEF DAMPER HOOD
ACCESSORY

Accessory - 3-10 Ton R-410A PKGD Unitary Cooling Rooftop

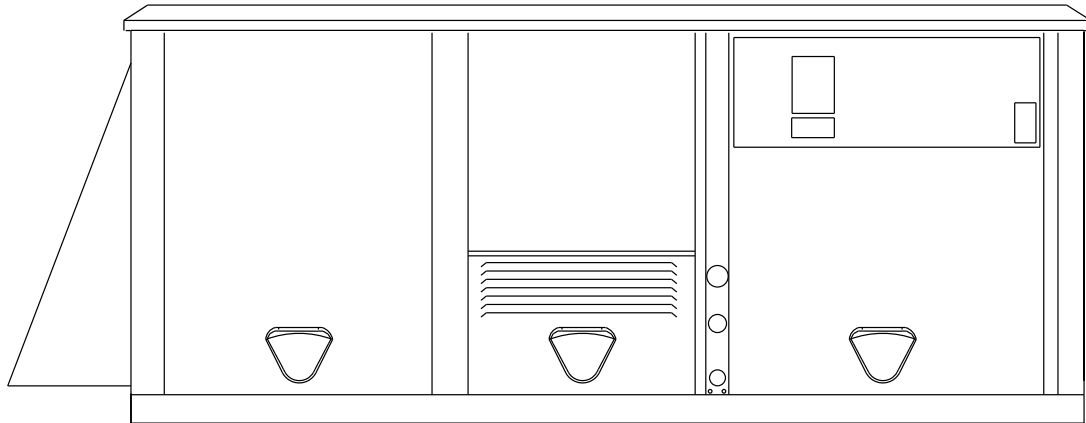
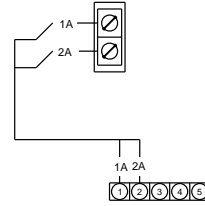
Item: B1 Qty: 1 Tag(s): AC-5



Field Wiring - 3-10 Ton R-410A PKGD Unitary Cooling Rooftop

Item: B1 Qty: 1 Tag(s): AC-5

BAYSENS077
OPTIONAL REMOTE SENSOR
SEE NOTE #3



ZONE SENSOR WIRE TABLE

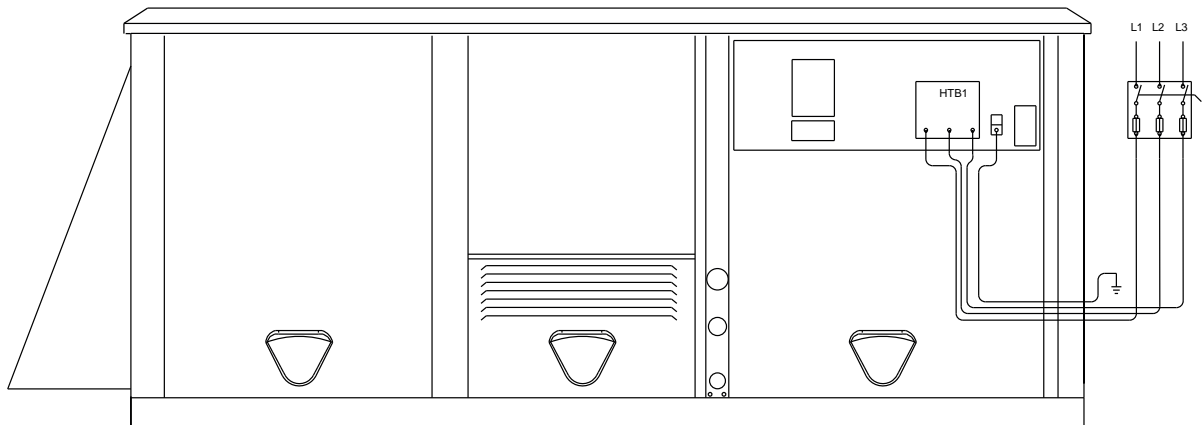
WIRE SIZE	MAXIMUM WIRE LENGTH
22 GAUGE	1800"
20 GAUGE	3000"
18 GAUGE	4500"
16 GAUGE	7200"
14 GAUGE	11700"

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 R-410A PKGD Unitary Cooling Rooftop

Item: B1 Qty: 1 Tag(s): AC-5



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 Installed Options - Part/Order Number Summary

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

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

Item	Tag(s)	Qty	Description	Model Number
A1	AC-7	1	4 Ton - base	YHC048F4RLA--B 0C1A1B6000G000 001000000000
A2	AC-8	1	7.5 Ton - base	YHC092F4RLA--F 0C1A1B6000G000 001000000000
A4	AC-12	1	10 Ton - base	YHC120F4RLA--F 0C1A1B6000G000 001000000000

Field Installed Option Description	Part/Ordering Number
Remote room sensor	BAYSENS077A

Item	Tag(s)	Qty	Description	Model Number
A3	AC-9 RX	1	5 Ton - Pharmacy	YHC060E4RLA--F 0C1A1B6B00G000 001000000000

Field Installed Option Description	Part/Ordering Number
Humidity wall mounted sensor	BAYSENS036A

Product Family - 3-10 Ton R-410A PKGD Unitary Cooling Rooftop

Item	Tag(s)	Qty	Description	Model Number
B1	AC-5	1	5 Ton - Cool Base	THC060F4RGA--F 0C1A1B6000H000 001000000000

Field Installed Option Description	Part/Ordering Number
Remote room sensor	BAYSENS077A