HENDERSON ENGINEERS

SUBMITTAL REVIEW COMMENTS

PROJECT	Perry's - Vernon Hills
PROJECT NO	2150004520
DATE	3/8/2023
SUBMITTAL	Trane RTU Submittal
SUBMITTAL NO	230000-1.1
REVIEWER	MJW
HENDERSON NO	M001R1

☐Approved	Fabrication and/or installation may be undertaken. Approval does not authorize changes to the contract sum or contract time.
☒Approved as Corrected	
☐Revise and Resubmit	Fabrication and/or installation may not be undertaken. In resubmitting, limit corrections to items marked.
☐Rejected	
☐No Action Taken	Submittal either not required for this item or provided for information only. Contract requirements should be followed in all cases.

Review/approval neither extends nor alters any contractual obligations of the Engineer or Contractor. Checking of submittals is only for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Any action shown is subject to the general requirements of the plans and specifications. Contractor is responsible for dimensions, quantities, and coordination between trades and for coordinating approved items and accepted alternates.

HENDERSON ENGINEERS, INC.

ACTION CODES

1	2	3	4	5	6
Approved	Approved as Corrected	Revise & Resubmit Items Noted	Rejected	Not Reviewed	For Information Only

(Action Item Codes 1, 2, 5 or 6 are not to be resubmitted.)

COMMENT #	ACTION CODE	DESCRIPTION	COMMENTS
1	1	RTU-4	-Trane model 4YCC4030*170 w/ accessories approved.
2	1	RTU-2	-Trane model YSJ150A4S0H**K0C0A1A1A0 w/ accessories approved.
3	1	RTU-6	-Trane model YSJ090A4S0L**K0C0A1A1A0 w/ accessories approved.
4	1	RTU-7	-Trane model YSJ090A4S0M**K0C0A1A1A0 w/ accessories approved.
5	1	RTU-8	-Trane model YSJ120A4S0H**K0C0A1A1A0 w/ accessories approved.
6	1	RTU-9	-Trane model YSJ150A4S0H**K0C0A1A1A0 w/ accessories approved.
7	1	RTU-10	-Trane model YSJ090A4S0L**K0C0A1A1A0 w/ accessories approved.
8	2	RTU-11	-Trane model YSJ180A4S0H**K0C0A1A1A0 w/ accessories approved.

COMMENT #	ACTION CODE	DESCRIPTION	COMMENTS
			-Selected using high heat with 116F heating LAT. Confirm this can be selected at medium heat and still obtain a minimum 90F heating LAT.
9	1	RTU-12	-Trane model YSJ150A4S0H**K0C0A1A1A0 w/ accessories approved.
10	1	RTU-13	-Trane model YSJ090A4S0M**K0C0A1A1A0 w/ accessories approved.
11	1	RTU-1	-Trane model YHC060E4RMA**K0C1A1A0B w/ accessories approved.
12	1	RTU-3	-Trane model YHC048E4RMA**K0C1A1A0B w/ accessories approved.
13	1	RTU-5	-Trane model YHC037E4RMA**K0C1A1A0B w/ accessories approved.

Note: *Henderson's processing of these submittals does not relieve other members of the design and construction team from reviewing submittals for coordination, compliance and performance or reviewing submittals as outlined in the contract documents or both.*

Submittal Transmittal

Aria Group Architects, Inc. | 830 North Blvd Oak Park IL 60301 United States

PROJECT:	Perrys-Vernon Hills 214776.000	DATE SENT:	3/1/2023
		RETURN BY:	
SUBJECT:	230000-1.1 RTU Submittal - Trane RTU	SUBMITTAL ID:	230000-1-1
TYPE:	Submittal	TRANSMITTAL ID:	00053
PURPOSE:	For Review	VIA:	Email
SPEC SECTION:	230000		

FROM

NAME	COMPANY	EMAIL	PHONE
KYLE MILLER	Aria Group Architects, Inc.	kmiller@ariainc.com	(708) 445-8400

TO

NAME	COMPANY	EMAIL	PHONE
Rhonda Charlett	Henderson Engineers, Inc.	Rhonda.Charlett@hendersonengineers.com	(913) 742-5367
Coy Macy	Henderson Engineers, Inc.	Coy.Macy@hendersonengineers.com	(913) 742-5611

REMARKS:

NOTE: Received 2 files from Procore at 09:16 AM EST on 03/01/2023. Any changes made to the Submittal in Procore after this time are not shown in Newforma.

Procore Due Date:
03/08/2023

General Description:
Revised Trane RTU including RTU 4 performance

Workflow Comments:

DESCRIPTION OF CONTENTS

QTY	DATED	TITLE	NUMBER	NOTES
1	3/1/2023	230000-1-1 - Submittal Form.pdf		

Submittal Transmittal

DATE: 3/1/2023
ID: 00053

1	3/1/2023	230000-1.1 RTU Submittal - Trane RTU.pdf		

COPIES:

BRIAN ZIELINSKI (Aria Group Architects, Inc.)
DANIEL MOORE (Aria Group Architects, Inc.)

International Contractors, Inc.
1 Mid America Plaza, 7th Floor
Oakbrook Terrace, Illinois 60181
Phone: (630) 834-8043
Fax: (630) 834-8046
www.icibuilds.com

Aria Group Architects, Inc.
Shop Drawing Review

Project Name:	Perrys-Vernon Hills
Project Number:	214776.000
Submittal ID:	230000-1-1
Received On:	3/1/2023
Reviewed On:	3/8/2023
Reviewed By:	KYLE MILLER
Action:	Reviewed as Noted

Review applies to general arrangement and design, but not dimensions or details of construction, and is subject to the requirements of the specifications and contract, and is contingent on co-ordination of all trades with respect to field conditions, and satisfactory performance after installation.

Submittal#230000-1-1

Project: 001210 - Perry's Steakhouse-VernonHills
122 Hawthorn Center
Vernon Hills, Illinois 60061

230000-1.1 RTU Submittal - Trane RTU

SPEC SECTION:	230000 - HVAC	**SUBMITTAL #:**	230000-1
STATUS:	Open	**DATE CREATED:**	03/01/2023
ISSUE DATE:	03/01/2023	**REVISION:**	1
RESPONSIBLE CONTRACTOR:	Air Supply	**RECEIVED FROM:**	Jake Wolf
RECEIVED DATE:	03/01/2023	**SUBMIT BY:**	//
FINAL DUE DATE:	03/08/2023	**TYPE:**	Product Information
APPROVERS:	Suzy Cole **(International Contractors, Inc.)**, Kyle Miller **(Aria Group Architects, Inc.)**, Brian Zielinski **(Aria Group Architects, Inc.)**	**CREATED BY:**	Suzy Cole **(International Contractors, Inc.)**

BALL IN COURT:
Suzy Cole **(International Contractors, Inc.)**

DISTRIBUTION:
Austin Darrell **(International Contractors, Inc.)** , Scott Leadbetter **(International Contractors, Inc.)** , Heather Massa **(International Contractors, Inc.)** , Timothy Murphy, Jr. **(International Contractors, Inc.)**

DESCRIPTION:

- Revised Trane RTU including RTU 4 performance

ATTACHMENTS:

SUBMITTAL WORKFLOW

#	NAME	SUBMITTER/APPROVER	DUE DATE
1	Jake Wolf	Submitter	3/1/2023
2	Suzy Cole	Approver	3/1/2023
3	Kyle Miller	Approver	3/8/2023
4	Brian Zielinski	Approver	3/8/2023

INTERNATIONAL CONTRACTORS, INC.

INTERNATIONAL CONTRACTORS REVIEW OF THIS SUBMITTAL IS FOR GENERAL CONFORMANCE WITH THE CONTRACT DOCUMENTS. SUBCONTRACTOR IS RESPONSIBLE FOR DETAILS AND ACCURACY, FOR CONFIRMING AND VERIFYING ALL DIMENSIONS AND QUANTITIES, AND ASSURING COORDINATION WITH RESPECTIVE RELATED TRADES AND WORK.

ICI REVIEWER: AUSTIN DARRELL DATE: 3/1/2023
TIME:

Reviewer: Please redline and/or markup affected pages within the submittal package in addition to providing comments on transmittal coversheets.

GC TO VERIFY RTU HEIGHTS WITH THE CURB AND ROOF SLOPE WILL BE CONCEALED BY THE PARAPET IN THE FIELD, PER DIAGRAM ON SP1.3. NOTIFY ARCHITECT OF ANY CONFLICTS PRIOR TO FINAL ATTACHMENT AND INSTALL.

Submittal

Prepared For:
Henderson Engineers Inc - Corporat

Date: February 20, 2023

Job Name:
Perry's Steakhouse - Vernon Hills

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

Product Summary

Qty	Product
1	1.5-5 ton Pkgd. Gas/Elec. Rooftop Convert. R-410A (13YC)
9	PREC
3	3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop (Y4C)

Michael Pircon
Trane U.S. Inc.
7100 South Madison
Willowbrook, IL 60527
Office Phone: (630) 734-3200
Fax: (630) 323-9040

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

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

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

Table of Contents

Tag Data - 1.5-5 ton Pkgd. Gas/Elec. Rooftop Convert. R-410A (13YC) (Qty: 1)

Item	Tag(s)	Qty	Description	Model Number
A1	RTU-4	1	1.5-5 ton Pkgd. Gas/Elec. Rooftop Conver	4YCC4030*170

Product Data - 1.5-5 ton Pkgd. Gas/Elec. Rooftop Convert. R-410A (13YC)
Item: A1 Qty: 1 Tag(s): RTU-4

R-410A, convert pkg gas/elec 14 SEER
2.5 Tons 14 SEER
208-230/1
70,000 Btu/h
1-2" Filter frame (Field Installed)
Hinged Filter Access Door (Field Installed)
0-100% Mod. economizer w/bar. relief (Field Installed)
Touchscreen Programmable 4 heat/2 cool (Field Installed)
Lifting lug kit (Field Installed)
1st yr Labor warranty whole unit

TRANE

Product Specifications

MODEL	4TCC4024A1000A	4TCC4030A1000A	4TCC4036A1000A
RATED Volts/PH/Hz	208–230/1/60	208–230/1/60	208–230/1/60
Performance Cooling BTUH [a]	24600	28200	37000
Indoor Airflow (CFM)	805	870	1190
Power Input (KW)	1.99	2.39	3.08
EER/SEER (BTU/Watt-Hr.) [b]	12.0 / 14.00	12.0 / 14.00	12.0 / 14.00
Sound Power Rating [dB(A)] [c]	66.6	70	69.3
POWER CONN. — V/Ph/Hz	208–230/1/60	208–230/1/60	208–230/1/60
Min. Brch. Cir. Ampacity [d]	19.1	22.6	24.5
Fuse Size — Max. (amps)	30	35	40
Fuse Size — Recmd. (amps)	30	35	40
COMPRESSOR	SCROLL	SCROLL	SCROLL
Volts/Ph/Hz	208–230/1/60	208–230/1/60	208–230/1/60
R.L. Amps — L.R. Amps	12.8 / 58.0	14.1 /73.0	15.4 / 83.9
OUTDOOR COIL — TYPE	SPINE-FIN	SPINE-FIN	SPINE-FIN
Rows/F.P.I	2 / 24	2 / 24	2 / 24
Face Area (sq. ft.)	13.32	13.32	15.49
Tube Size (in.)	3/8	3/8	3/8
INDOOR COIL — TYPE	MCHE	MCHE	MCHE
Rows/F.P.I	2 / 16	2 / 16	2 / 16
Face Area (sq. ft.)	2.7	2.7	2.7
Tube Size (in.)	.81	.81	1.00
Refrigeration Control	EXPANSION VALVE	EXPANSION VALVE	EXPANSION VALVE
Drain Conn. Size (in.)	3/4 FEMALE NPT	3/4 FEMALE NPT	3/4 FEMALE NPT
OUTDOOR FAN — TYPE	PROPELLER	PROPELLER	PROPELLER
DIA. (IN.)	23.4	23.4	23.4
DRIVE/NO. SPEEDS	DIRECT / 1	DIRECT / 1	DIRECT / 1
CFM @ 0.0 in. w.g. [e]	2350	2800	3080
Motor — HP/R.P.M	1 / 12 / 810	1 / 6 / 825	1 / 5 / 825
Volts/Ph/Hz	208–230/1/60	208–230/1/60	208–230/1/60
F.L. Amps/L.R Amps	.54 / .82	.85 / 1.65	1.1 / 2.0
INDOOR FAN — TYPE	CONSTANT TORQUE ECM	CONSTANT TORQUE ECM	CONSTANT TORQUE ECM
Dia. x Width (in.)	10.62 X 10.62	10.62 X 10.62	10.62 X 10.62
Drive/No. Speeds	DIRECT / 3	DIRECT / 3	DIRECT / 3
CFM @ 0.0 in. w.g. [f]	SEE FAN PERF TABLE	SEE FAN PERF TABLE	SEE FAN PERF TABLE
Motor — HP/R.P.M.	1/3 / 1050	1/2 / 1050	1/2 / 1050
Volts/Ph/Hz	208–230/1/60	208–230/1/60	208–230/1/60
F.L. Amps	2.6	4.1	4.1
FILTER / FURNISHED	NO	NO	NO
Type Recommended	THROWAWAY	THROWAWAY	THROWAWAY
Recmd. Face Area (sq. ft) [g]	4.0	4.0	4.0
REFRIGERANT	R-410	R-410	R-410
Charge (lbs.)	5.24	6.94	7.2
CHARGING SPECIFICATIONS			
Subcooling	12°	11°	11°
DIMENSIONS	H X D X W	H X D X W	H X D X W
Crated (in.)	46 X 45 X 52	46 X 45 X 52	48 X 45 X 52

Mechanical Specifications - 1.5-5 ton Pkgd. Gas/Elec. Rooftop Convert. R-410A
Item: A1 Qty: 1 Tag(s): RTU-4

Modulating Economizer
This accessory shall be field installed and be composed of the following items: 0-100% fresh air damper, damper drive motor and fixed dry bulb enthalpy control. Solid state enthalpy or differential enthalpy control is optional. Economizer operations shall be controlled by the preset position of the enthalpy control. A barometric relief damper shall be standard with the economizer and provide a pressure operated damper that shall be gravity closing and prohibit entrance of outside air on equipment off cycle.

4YCC4 General
The units shall be horizontal airflow as shipped andconvertible to downflow. All units shall be factory assembled, piped, internally wired and fully charged with refrigerant. Units shall be certified to UL Standard 1995. Units shall be designed to operate at ambient temperatures as high as 115°F. Cooling performance shall be rated in accordance with AHRI standards. The YC heating/cooling unit design is certified to ANSI 221.47/CSA 2.3, specifically for outdoor applications using natural gas or propane. All units shall be designed for outdoor rooftop or ground level installation.

4YCC4 Unit Casing
All components shall be mounted in a weatherresistant steel cabinet with an enamel finish. Access panels shall be provided for unit controls and indoor coil and fans. Indoor air section compartment shall be completely insulated with fireproof, permanent, odorless fiber material. Knockouts shall be provided for utility and control connections. Drain connections shall be provided to accommodate indoor water runoff.

4YCC4 Compressor
The compressor shall be hermetically sealed, high efficiency scroll compressors. Internal overcurrent and over temperature protection, internal pressure relief shall be standard. Other features include centrifugal oil pump, low vibration and noise. Refrigeration System All units shall have refrigerant control. Service pressure tap ports and a refrigerant line filter shall be standard. Evaporator Coil (2-4 Ton Models) All aluminum micro channel, extruded tubes, mechanically bonded to aluminum fins, and factory pressure and leak tested at 480 -650 psig. All units have TXV to control refrigerant flow. Condenser Coil The Spine Fin condenser coil shall be continuously wrapped, corrosion resistant all aluminum with minimum brazed joints. This coil is 3/8? OD seamless aluminum tubing glued to a continuous aluminum fin. Coils are lab tested to withstand 2.000 pounds of pressure per square inch. The outdoor coil provides low airflow resistance and efficient heat transfer. The coil is protected on all four sides by louvered panels

4YCC4 Indoor Air Fan
Constant Torgue, forward-curved, centrifugal wheel in a Composite Vortica Blower housing. Motor shall have thermal overload protection and permanently lubricated motor bearings. Motor/blower assembly isolated from unit with rubber mounts.

4YCC4 Outdoor Fan
One direct-drive, statically and dynamically balanced propeller fan shall be used in a draw-through vertical discharge configuration. Permanently lubricated weather proof motor shall have built-in thermal overload protection.

4YCC4 System Controls
System controls include condenser fan, evaporator fan and compressor contactors.

4YCC4 Gas-Fired Heating Section
Models shall provide completely assembled, wired and piped gas fired heating systems within unit. Design certified by UL, specifically for outdoor application. Threaded gas connection on the unit.

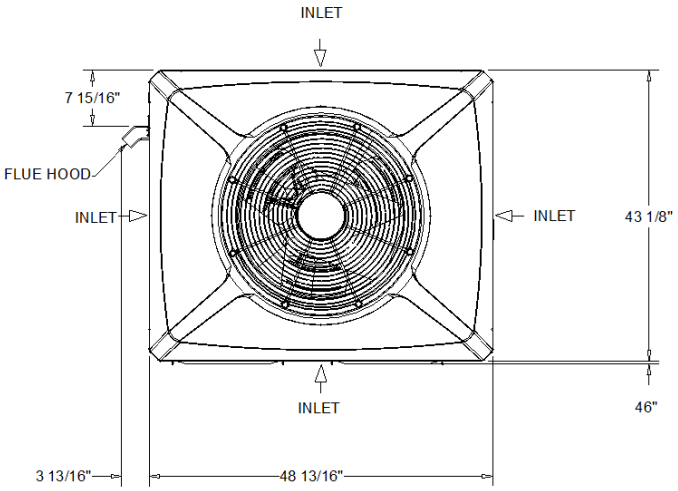
4YCC4 Electric Ignition System
Main burner is lit each time thermostat calls for heat. Flame sensor proves flame and keeps the main burner on. Should a loss of flame occur, the main valve closes and the spark recurs within 0.8 seconds. When thermostat is satisfied, main burner is extinquished.

4YCC4 Forced Combustion Blower
Insures flame stability under varying wind conditions. Gives higher combustion efficiency and location flexibility.

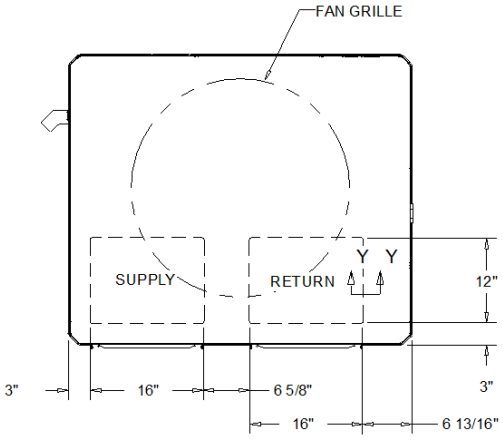
4YCC4 Heat Exchanger
Stainless steel tubes. Free floating design.

4YCC4 Burners
Stainless steel. Multi-port inshot.

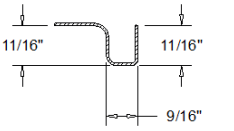
Dimensional Drawings - 1.5-5 ton Pkgd. Gas/Elec. Rooftop Convert. R-410A
Item: A1 Qty: 1 Tag(s): RTU-4



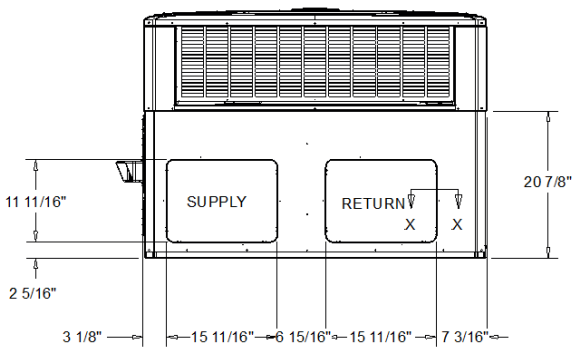
UNIT - TOP VIEW



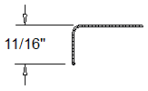
UNIT - BOTTOM PENETRATION VIEW



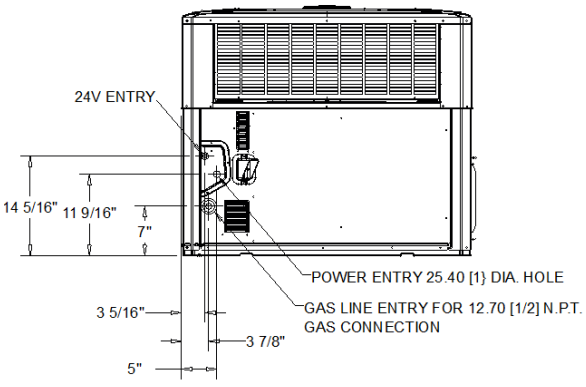
SECTION Y-Y
TYPICAL (8) SIDES OF
DOWNFLOW DUCT OPENINGS



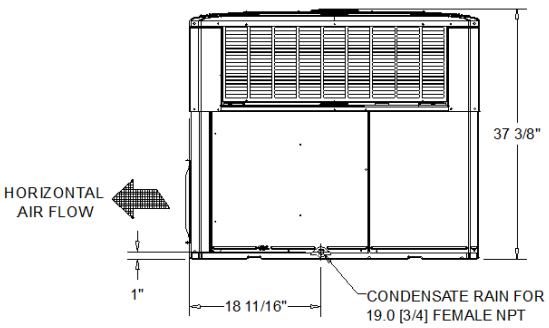
UNIT - BACK AND PENETRATION VIEW



SECTION X-X
TYPICAL (8) SIDES OF
SIDEFLOW DUCT OPENINGS



UNIT - RIGHT SIDE VIEW



UNIT - LEFT SIDE VIEW

Dimensional Drawings - 1.5-5 ton Pkgd. Gas/Elec. Rooftop Convert. R-410A
Item: A1 Qty: 1 Tag(s): RTU-4

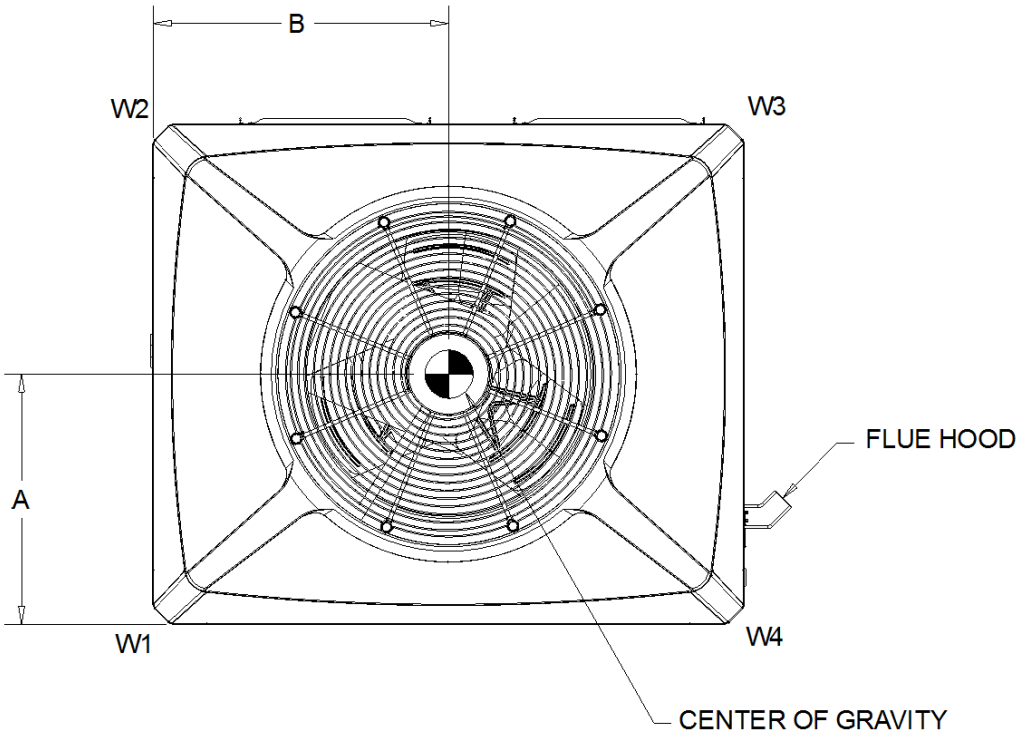
ELECTRICAL / GENERAL DATA

POWER CONNECTION		COMPRESSOR	
Model:	4YCC4030E1***	Number:	1
Voltage Range:	208-230/1/60	Phase:	1
Min. Circuit Ampacity:	20.8	Rated Load Amps:	14.1
Max. Circuit Breaker:	30.0	Locked Rotor Amps:	73.0
Prot. Rtg. Recmd:	30.0		
ERR/SEER	11.50/14.00		
EER2/SEER2	11.0/13.4		
Noise Rating # :	70.0		
GAS HEAT Type of Gas: NATURAL		**OUTDOOR MOTOR**	
Capacity BTUH:	70000	Number:	1
Temp. Rise F (Min./Mix):	30-60	Horsepower:	0.16
Gas Size Pipe:	1/2"	Phase	1
		Full Load Amps:	0.85
		Locked Rotor Amps:	1.65
REFRIGERANT		**INDOOR MOTOR**	
Type:	R-410	Number:	1
Factory Charge Circuit #1:	6.9 lb	Horsepower:	0.50
		Motor Speed (RPM):	1050
		Phase	1
		Full Load Amps:	4.1
		Locked Rotor Amps:	-

NOTES:

1. Capacity rated in accordance with A.H.R.I. Standard 210/240. Noise rated in accordance with A.H.R.I. standard 270. A.H.R.I. standard rating conditions are: 80 D.B. 67 W.B. entering air to indoor coil 95 D.B. entering air to outdoor coil.
2. All models are U.L. listed. Ratings shown are for elevations up to 2000 feet. For higher elevations reduce ratings at the rate of 4 percent per 1000 feet elevation.
3. Based on U. S. Government Standard Tests.
4. Unit ships on high input and is convertible to low input with a low fire accessory kit.
5. Convertible to LPG with orifice change.

Weight, Clearance & Rigging - 1.5-5 ton Pkgd. Gas/Elec. Rooftop Convert. R-410A
Item: A1 Qty: 1 Tag(s): RTU-4

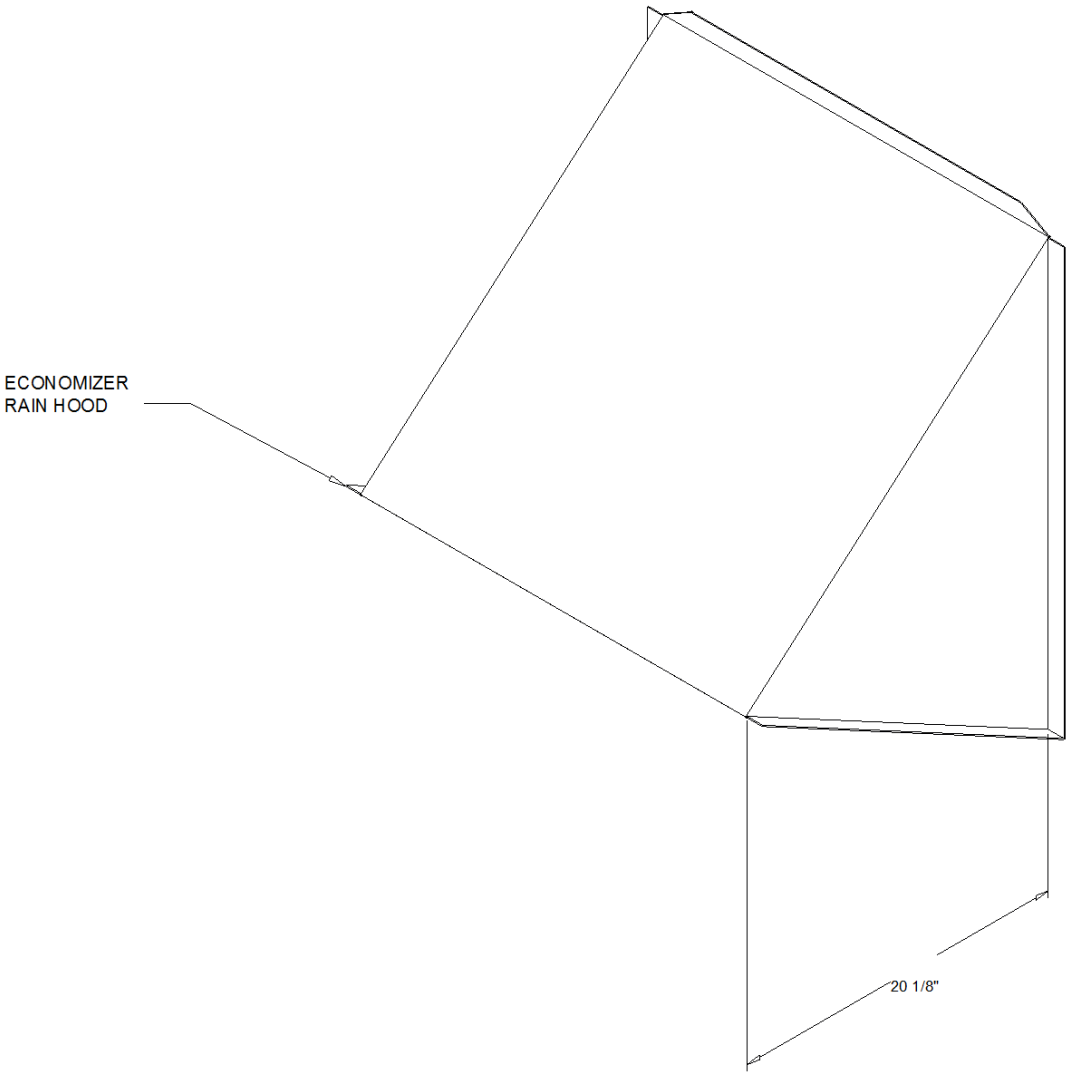


UNIT WEIGHT		CORNER WEIGHT					CENTER OF GRAVITY	
SHIPPING	NET	W1	W2	W3	W4		A	B
451.0 lb	377.0 lb	135.0 lb	85.0 lb	61.0 lb	95.0 lb	-	16"	23 3/8"

CLEARANCE TO COMBUSTIBLE MATERIAL		RECOMMENDED SERVICE CLEARANCE			
BOTTOM	0	UNIT		WITH O.A. DAMPER/ECON.	WITH 2 POS. DAMPER
BACK SIDE	1"	BACK SIDE	12"		24"
LEFT SIDE	6"	LEFT SIDE	36"	42"	
RIGHT SIDE	6"	RIGHT SIDE	42"		
FRONT SIDE	12"	FRONT SIDE	42"		
TOP	36"				

LIFTING LUG KITS
FOUR REUSABLE LUGS IN EACH KIT ALLOW UNITS TO BE EASILY LIFTED TO ROOFTOP INSTALLATIONS.
THESE LUGS SNAP (NO SCREWS REQUIRED) INTO SLOTS IN THE UNIT DRIP LIP CHANNEL.

Accessory - 1.5-5 ton Pkgd. Gas/Elec. Rooftop Convert. R-410A
Item: A1 Qty: 1 Tag(s): RTU-4



DOWN FLOW ECONOMIZER RAIN HOOD

Tag Data - PREC (Qty: 9)

Item	Tag(s)	Qty	Description	Model Number
B1	RTU-2	1	6- 25 Ton PKGD Precedent Unitary Rooftop	YSJ150A4S0H**K0C0A1A1A000000000000000000
B2	RTU-6	1	6- 25 Ton PKGD Precedent Unitary Rooftop	YSJ090A4S0L**K0C0A1A1A000000000000000000
B3	RTU-7	1	6- 25 Ton PKGD Precedent Unitary Rooftop	YSJ090A4S0M**K0C0A1A1A000000000000000000
B4	RTU-8	1	6- 25 Ton PKGD Precedent Unitary Rooftop	YSJ120A4S0H**K0C0A1A1A000000000000000000
B5	RTU-9	1	6- 25 Ton PKGD Precedent Unitary Rooftop	YSJ150A4S0H**K0C0A1A1A000000000000000000
B6	RTU-10	1	6- 25 Ton PKGD Precedent Unitary Rooftop	YSJ090A4S0L**K0C0A1A1A000000000000000000
B7	RTU-11	1	6- 25 Ton PKGD Precedent Unitary Rooftop	YSJ180A4S0H**K0C0A1A1A000000000000000000
B8	RTU-12	1	6- 25 Ton PKGD Precedent Unitary Rooftop	YSJ150A4S0H**K0C0A1A1A000000000000000000
B9	RTU-13	1	6- 25 Ton PKGD Precedent Unitary Rooftop	YSJ090A4S0M**K0C0A1A1A000000000000000000

Product Data - PREC

All Units

DX Cooling / Gas Heat
Standard Efficiency
R-410A
460/60/3
Symbio 700
Programmable zone sensor - Title 24 (Field Installed)
1st Yr Labor Whole Unit

Item: B1, B5, B8 Qty: 3 Tag(s): RTU-2, RTU-9, RTU-12

Standard Ship Cycle
12.5 Ton
High Gas Heat
Downflow Low Leak Economizer, Dry Bulb with Barometric Relief
Hinged Access Panels with 2-in MERV 8 Filters
Through the Base Electric
Non-Fused Disconnect Switch
Unpowered 20A Convenience Outlet
Advanced Controls and BACnet BAS
Dehumidification Coil (Modulating HGRH)

Item: B2, B6 Qty: 2 Tag(s): RTU-6, RTU-10

Standard Ship Cycle
7.5 Ton
Low Gas Heat
Downflow Low Leak Economizer, Dry Bulb with Barometric Relief
Hinged Access Panels with 2-in MERV 8 Filters
Through the Base Electric
Non-Fused Disconnect Switch
Unpowered 20A Convenience Outlet
Advanced Controls and BACnet BAS
Dehumidification Coil (Modulating HGRH)

Item: B3, B9 Qty: 2 Tag(s): RTU-7, RTU-13

Standard Ship Cycle
7.5 Ton
Medium Gas Heat
Downflow Low Leak Economizer, Dry Bulb with Barometric Relief
Hinged Access Panels with 2-in MERV 8 Filters

Through the Base Electric
Non-Fused Disconnect Switch
Unpowered 20A Convenience Outlet
Advanced Controls and BACnet BAS
Dehumidification Coil (Modulating HGRH)

Item: B4 Qty: 1 Tag(s): RTU-8

Standard Ship Cycle
10 Ton
High Gas Heat
Downflow Low Leak Economizer, Dry Bulb with Barometric Relief
Hinged Access Panels with 2-in MERV 8 Filters
Through the Base Electric
Non-Fused Disconnect Switch
Unpowered 20A Convenience Outlet
Advanced Controls and BACnet BAS
Dehumidification Coil (Modulating HGRH)

Item: B7 Qty: 1 Tag(s): RTU-11

Standard Ship Cycle
15 Ton
High Gas Heat
Downflow Low Leak Economizer, Dry Bulb with Barometric Relief
Hinged Access Panels with 2-in MERV 8 Filter
Through the Base Electric
Non-Fused Disconnect Switch
Unpowered 20A Convenience Outlet
Advanced Controls and BACnet BAS
Dehumidification Coil (Modulating HGRH)

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

Tags	RTU-2	RTU-6	RTU-7	RTU-8	RTU-9	RTU-10
Cooling Entering Dry Bulb (F)	74.10	75.30	76.20	78.30	76.10	73.80
Cooling Entering Wet Bulb (F)	61.80	64.60	65.00	66.50	65.30	61.50
Summer Ambient (F)	95.00	95.00	95.00	95.00	95.00	95.00
Entering Dry Bulb (in HGRH) (F)	73.00	73.00	73.00	73.00	73.00	73.00
Entering Wet Bulb (in HGRH) (F)	64.00	64.00	64.00	64.00	64.00	64.00
Ambient (In HGRH) (F)	75.00	75.00	75.00	75.00	75.00	75.00
Heating Entering Air Temperature (F)	54.90	53.30	53.10	45.60	53.50	60.60
Design Airflow (cfm)	4000	2400	2400	3200	4000	2400
Airflow Application	Downflow	Downflow	Downflow	Downflow	Downflow	Downflow
Design ESP (in H2O)	0.750	0.750	0.750	0.750	0.750	0.750
Fan Pressurized (in H2O)	1.136	1.024	1.024	1.218	1.136	1.024
Design ESP + Component SP (in H2O)	1.082	0.990	0.990	1.166	1.082	0.990
Elevation (ft)	0.00	0.00	0.00	0.00	0.00	0.00
Gross Total Capacity (MBh)	135.31	86.56	87.27	119.43	145.03	80.90
Gross Sensible Capacity (MBh)	102.71	58.70	59.98	81.47	96.76	62.33
Gross Latent Capacity (MBh)	32.61	27.86	27.29	37.96	48.27	18.57
Net Total Capacity (MBh)	130.47	84.41	85.11	116.10	140.07	78.78
Net Sensible Capacity (MBh)	97.86	56.54	57.82	78.15	91.81	60.20
Net Sensible Heat Ratio (%)	75.00	67.00	68.00	67.00	66.00	76.00
Coil LAT DB (F)	49.89	52.29	52.71	54.52	53.36	49.29
Coil LAT WB (F)	49.21	51.92	52.32	53.97	52.79	48.84
Cooling Leaving Unit Dry Bulb (F)	52.08	53.94	54.36	56.39	55.52	50.98
Cooling Leaving Unit WB (F)	50.20	52.63	53.03	54.75	53.71	49.61
Fan Motor Heat (MBh)	4.85	2.16	2.16	3.33	4.96	2.12
Dew Point Temperature (F)	48.68	51.65	52.05	53.62	52.41	48.48
Refrigerant charge (HFC-410A) - Ckt 1 (lb)	11.6	9.6	9.6	10.7	11.6	9.6
Saturated Discharge Temperature (F)	120.87	115.79	115.84	118.46	121.60	115.29
Saturated Suction Temperature (F)	42.77	46.65	47.06	48.46	46.90	43.20
Heat Static Pressure Adj (in H2O)	0.000	0.000	0.000	0.000	0.000	0.000
Component SP Add (in H2O)	0.332	0.240	0.240	0.416	0.332	0.240
Max Available ESP (in H2O)	1.668	1.760	1.760	1.584	1.668	1.760
Supply Motor Horsepower (hp)	3.100	3.100	3.100	3.100	3.100	3.100
Supply Operating Horsepower (hp)	1.590	0.840	0.840	1.410	1.590	0.840
Supply RPM (rpm)	1336	1072	1072	1271	1336	1072
Compressor Power (kW)	10.96	6.09	6.09	8.62	11.05	6.08
System Power (kW)	13.28	8.42	8.42	10.94	13.39	8.39
EER @ AHRI (Number)	10.80	11.00	11.00	11.00	10.80	11.00
IEER @ AHRI (Number)	14.00	14.60	14.60	14.60	14.00	14.60
MCA (A)	33.00	21.00	21.00	29.00	33.00	21.00
MOP (A)	45.00	25.00	25.00	40.00	45.00	25.00
Compressor 1 RLA (A)	14.60	8.20	8.20	13.20	14.60	8.20
Compressor 2 RLA (A)	6.50	4.30	4.30	5.80	6.50	4.30
Condenser Fan FLA (A)	2.20	1.50	1.50	1.40	2.20	1.50
Evaporator Fan FLA (A)	5.50	4.60	4.60	4.60	5.50	4.60
Heating Input Capacity (MBh)	250.00	120.00	150.00	240.00	250.00	120.00
Output Heating Capacity (MBh)	202.50	97.20	121.50	194.40	202.50	97.20
Heating Leaving Air Temperature (F)	101.78	90.80	99.98	101.85	100.38	98.10
Heating Temperature Rise (F)	46.88	37.50	46.88	56.25	46.88	37.50
Height (ft)	4.24	4.24	4.24	4.24	4.24	4.24
Width (ft)	5.26	4.44	4.44	4.44	5.26	4.44
Length (ft)	8.30	7.34	7.34	7.34	8.30	7.34
Approx Configured Weight (lb)	1458.0	1104.0	1119.0	1175.0	1458.0	1104.0
Approx Installed Weight (lb)	1458.0	1104.0	1119.0	1175.0	1458.0	1104.0

Tags	RTU-2	RTU-6	RTU-7	RTU-8	RTU-9	RTU-10
Corner weight A (lb)	442.0	365.0	365.0	374.0	442.0	365.0
Corner Weight B (lb)	448.0	340.0	340.0	348.0	448.0	340.0
Corner Weight C (lb)	313.0	196.0	196.0	200.0	313.0	196.0
Corner Weight D (lb)	310.0	210.0	210.0	215.0	310.0	210.0
Center of Gravity - Length (ft)	4.17	3.58	3.58	3.58	4.17	3.58
Center of Gravity - Width (ft)	2.17	1.58	1.58	1.58	2.17	1.58
Ducted Discharge - 63 Hz (dB)	84	80	80	86	84	80
Ducted Discharge - 125 Hz (dB)	81	74	74	83	81	74
Ducted Discharge - 250 Hz (dB)	77	73	73	77	77	73
Ducted Discharge - 500 Hz (dB)	72	66	66	70	72	66
Ducted Discharge - 1 kHz (dB)	68	61	61	65	68	61
Ducted Discharge - 2 kHz (dB)	64	59	59	62	64	59
Ducted Discharge - 4 kHz (dB)	63	58	58	61	63	58
Ducted Discharge - 8 kHz (dB)	62	58	58	62	62	58
Ducted Inlet - 63 Hz (dB)	81	76	76	81	81	76
Ducted Inlet - 125 Hz (dB)	77	68	68	74	77	68
Ducted Inlet - 250 Hz (dB)	72	67	67	71	72	67
Ducted Inlet - 500 Hz (dB)	66	57	57	61	66	57
Ducted Inlet - 1 kHz (dB)	62	53	53	58	62	53
Ducted Inlet - 2 kHz (dB)	60	50	50	58	60	50
Ducted Inlet - 4 kHz (dB)	57	49	49	55	57	49
Ducted Inlet - 8 kHz (dB)	55	49	49	54	55	49
Outdoor Noise - 63 Hz (dB)	88	85	85	86	88	85
Outdoor Noise - 125 Hz (dB)	90	84	84	87	90	84
Outdoor Noise - 250 Hz (dB)	96	89	89	92	96	89
Outdoor Noise - 500 Hz (dB)	94	90	90	89	94	90
Outdoor Noise - 1 kHz (dB)	91	87	87	87	91	87
Outdoor Noise - 2 kHz (dB)	87	81	81	83	87	81
Outdoor Noise - 4 kHz (dB)	82	78	78	79	82	78
Outdoor Noise - 8 kHz (dB)	74	72	72	73	74	72
Acoustic Footnote 1	Ducted Discharge and Ducted Inlet Sound in accordance with AHRI 260-2017	Ducted Discharge and Ducted Inlet Sound in accordance with AHRI 260-2017	Ducted Discharge and Ducted Inlet Sound in accordance with AHRI 260-2017	Ducted Discharge and Ducted Inlet Sound in accordance with AHRI 260-2017	Ducted Discharge and Ducted Inlet Sound in accordance with AHRI 260-2017	Ducted Discharge and Ducted Inlet Sound in accordance with AHRI 260-2017
Acoustic Footnote 2	Outdoor Sound in accordance with AHRI 370-2015	Outdoor Sound in accordance with AHRI 270-2015	Outdoor Sound in accordance with AHRI 270-2015	Outdoor Sound in accordance with AHRI 270-2015	Outdoor Sound in accordance with AHRI 370-2015	Outdoor Sound in accordance with AHRI 270-2015
Leaving dry bulb w HGRH (F)	72.12	72.55	72.55	69.78	72.12	72.55
Net Sensible Heat Ratio w HGRH (Number)	1.57	1.59	1.63	1.47	1.47	1.69
Temperature Rise (HGRH) (F)	10.72	11.52	11.52	9.02	10.72	11.52
HGRH Capacity (MBh)	84.83	54.12	54.12	56.51	84.83	54.12
Dew Point Temperature (HGRH) (F)	50.39	50.52	50.52	51.36	50.39	50.52
Reheat Coil LAT DB (HGRH) (F)	70.51	71.70	71.70	68.46	70.51	71.70
Reheat Coil LAT WB (HGRH) (F)	58.56	59.07	59.07	58.26	58.56	59.07
Moisture Removal Rate (HGRH) (gph)	6.35	3.72	3.72	4.53	6.35	3.72

Tags	RTU-2	RTU-6	RTU-7	RTU-8	RTU-9	RTU-10
Evap Coil LAT DB (HGRH) (F)	51.21	50.97	50.97	52.23	51.21	50.97
Evap Coil LAT WB (HGRH) (F)	50.74	50.71	50.71	51.72	50.74	50.71
Heat pump heating ambient temperature (F)	47.00	47.00	47.00	47.00	47.00	47.00
Heat pump heating ambient relative humid (%)	70.00	70.00	70.00	70.00	70.00	70.00
Supply Fan Count (Number)	1.00	1.00	1.00	1.00	1.00	1.00

Tags	RTU-11	RTU-12	RTU-13
Cooling Entering Dry Bulb (F)	77.20	77.20	73.80
Cooling Entering Wet Bulb (F)	64.20	65.10	63.50
Summer Ambient (F)	95.00	95.00	95.00
Entering Dry Bulb (in HGRH) (F)	73.00	73.00	73.00
Entering Wet Bulb (in HGRH) (F)	64.00	64.00	64.00
Ambient (In HGRH) (F)	75.00	75.00	75.00
Heating Entering Air Temperature (F)	53.50	55.40	54.20
Design Airflow (cfm)	4800	4800	2720
Airflow Application	Downflow	Downflow	Downflow
Design ESP (in H2O)	0.750	0.750	0.750
Fan Pressurized (in H2O)	0.964	1.251	1.097
Design ESP + Component SP (in H2O)	0.932	1.184	1.054
Elevation (ft)	0.00	0.00	0.00
Gross Total Capacity (MBh)	173.26	148.68	86.71
Gross Sensible Capacity (MBh)	129.51	111.94	61.25
Gross Latent Capacity (MBh)	43.75	36.73	25.46
Net Total Capacity (MBh)	169.14	141.73	84.16
Net Sensible Capacity (MBh)	125.39	105.00	58.70
Net Sensible Heat Ratio (%)	74.00	74.00	70.00
Coil LAT DB (F)	52.08	55.42	52.63
Coil LAT WB (F)	51.48	54.58	52.18
Cooling Leaving Unit Dry Bulb (F)	53.53	57.57	54.21
Cooling Leaving Unit WB (F)	52.11	55.46	52.86
Fan Motor Heat (MBh)	4.12	6.95	2.56
Dew Point Temperature (F)	51.04	54.03	51.86
Refrigerant charge (HFC-410A) - Ckt 1 (lb)	15.8	11.6	9.6
Saturated Discharge Temperature (F)	120.28	122.01	115.87
Saturated Suction Temperature (F)	45.71	48.35	46.75
Heat Static Pressure Adj (in H2O)	0.000	0.000	0.000
Component SP Add (in H2O)	0.182	0.434	0.304
Max Available ESP (in H2O)	1.818	1.566	1.696
Supply Motor Horsepower (hp)	3.100	3.100	3.100
Supply Operating Horsepower (hp)	1.400	2.320	1.040
Supply RPM (rpm)	1025	1526	1149
Compressor Power (kW)	12.67	11.10	6.10
System Power (kW)	16.95	14.03	8.54
EER @ AHRI (Number)	10.80	10.80	11.00
IEER @ AHRI (Number)	14.00	14.00	14.60
MCA (A)	41.00	33.00	21.00
MOP (A)	50.00	45.00	25.00
Compressor 1 RLA (A)	16.70	14.60	8.20
Compressor 2 RLA (A)	8.20	6.50	4.30
Condenser Fan FLA (A)	1.10	2.20	1.50
Evaporator Fan FLA (A)	4.60	5.50	4.60
Heating Input Capacity (MBh)	400.00	250.00	150.00
Output Heating Capacity (MBh)	324.00	202.50	121.50
Heating Leaving Air Temperature (F)	116.00	94.46	95.56

Tags	RTU-11	RTU-12	RTU-13
Heating Temperature Rise (F)	62.50	39.06	41.36
Height (ft)	4.92	4.24	4.24
Width (ft)	7.25	5.26	4.44
Length (ft)	10.25	8.30	7.34
Approx Configured Weight (lb)	2009.0	1458.0	1119.0
Approx Installed Weight (lb)	2009.0	1458.0	1119.0
Corner weight A (lb)	671.0	442.0	365.0
Corner Weight B (lb)	492.0	448.0	340.0
Corner Weight C (lb)	365.0	313.0	196.0
Corner Weight D (lb)	483.0	310.0	210.0
Center of Gravity - Length (ft)	4.33	4.17	3.58
Center of Gravity - Width (ft)	3.00	2.17	1.58
Ducted Discharge - 63 Hz (dB)	79	85	77
Ducted Discharge - 125 Hz (dB)	78	85	80
Ducted Discharge - 250 Hz (dB)	74	80	74
Ducted Discharge - 500 Hz (dB)	66	74	67
Ducted Discharge - 1 kHz (dB)	61	70	63
Ducted Discharge - 2 kHz (dB)	57	66	60
Ducted Discharge - 4 kHz (dB)	55	66	59
Ducted Discharge - 8 kHz (dB)	54	65	60
Ducted Inlet - 63 Hz (dB)	77	81	74
Ducted Inlet - 125 Hz (dB)	74	79	74
Ducted Inlet - 250 Hz (dB)	68	75	68
Ducted Inlet - 500 Hz (dB)	62	67	58
Ducted Inlet - 1 kHz (dB)	57	63	54
Ducted Inlet - 2 kHz (dB)	55	62	51
Ducted Inlet - 4 kHz (dB)	55	59	51
Ducted Inlet - 8 kHz (dB)	52	58	51
Outdoor Noise - 63 Hz (dB)	84	88	84
Outdoor Noise - 125 Hz (dB)	87	90	85
Outdoor Noise - 250 Hz (dB)	93	96	89
Outdoor Noise - 500 Hz (dB)	91	94	90
Outdoor Noise - 1 kHz (dB)	87	92	87
Outdoor Noise - 2 kHz (dB)	83	87	82
Outdoor Noise - 4 kHz (dB)	80	83	78
Outdoor Noise - 8 kHz (dB)	74	74	72
Acoustic Footnote 1	Ducted Discharge and Ducted Inlet Sound in accordance with AHRI 260-2017	Ducted Discharge and Ducted Inlet Sound in accordance with AHRI 260-2017	Ducted Discharge and Ducted Inlet Sound in accordance with AHRI 260-2017
Acoustic Footnote 2	Outdoor Sound in accordance with AHRI 370-2015	Outdoor Sound in accordance with AHRI 370-2015	Outdoor Sound in accordance with AHRI 270-2015
Leaving dry bulb w HGRH (F)	74.28	72.26	72.66
Net Sensible Heat Ratio w HGRH (Number)	2.23	1.68	1.64
Temperature Rise (HGRH) (F)	12.05	9.60	10.85
HGRH Capacity (MBh)	113.25	91.09	57.78
Dew Point Temperature (HGRH) (F)	51.35	52.03	51.53
Reheat Coil LAT DB (HGRH) (F)	73.41	70.49	71.75
Reheat Coil LAT WB (HGRH) (F)	60.10	59.34	59.58

Tags	RTU-11	RTU-12	RTU-13
Moisture Removal Rate (HGRH) (gph)	6.81	6.34	3.78
Evap Coil LAT DB (HGRH) (F)	51.73	53.22	52.22
Evap Coil LAT WB (HGRH) (F)	51.50	52.51	51.82
Heat pump heating ambient temperature (F)	47.00	47.00	47.00
Heat pump heating ambient relative humid (%)	70.00	70.00	70.00
Supply Fan Count (Number)	2.00	1.00	1.00

Mechanical Specifications - PREC
Item: B1 - B9 Qty: 9 Tag(s): RTU-2, RTU-6, RTU-7, RTU-8, RTU-9, RTU-10, RTU-11, RTU-12, RTU-13

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

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

Hail Guards
-Provides condenser coil protection.

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

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

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

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

Frostat
-Utilized as a safety device.

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

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

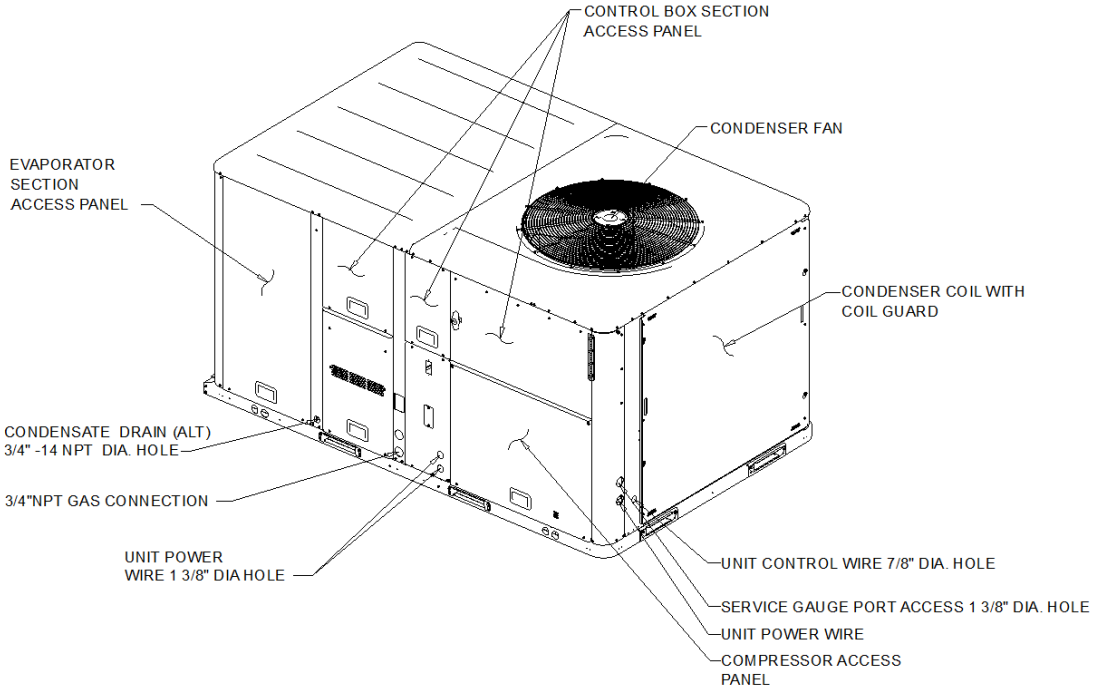
Heat Exchanger
-Compact cabinet features a tubular heat exchanger in low, medium and high heat capacities.
-Corrosion-resistant aluminized steel tubes and burners are standard on all models.
-Induced draft blower to pull the gas mixture through the burner tubes.
-Direct spark ignition and a flame sensor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

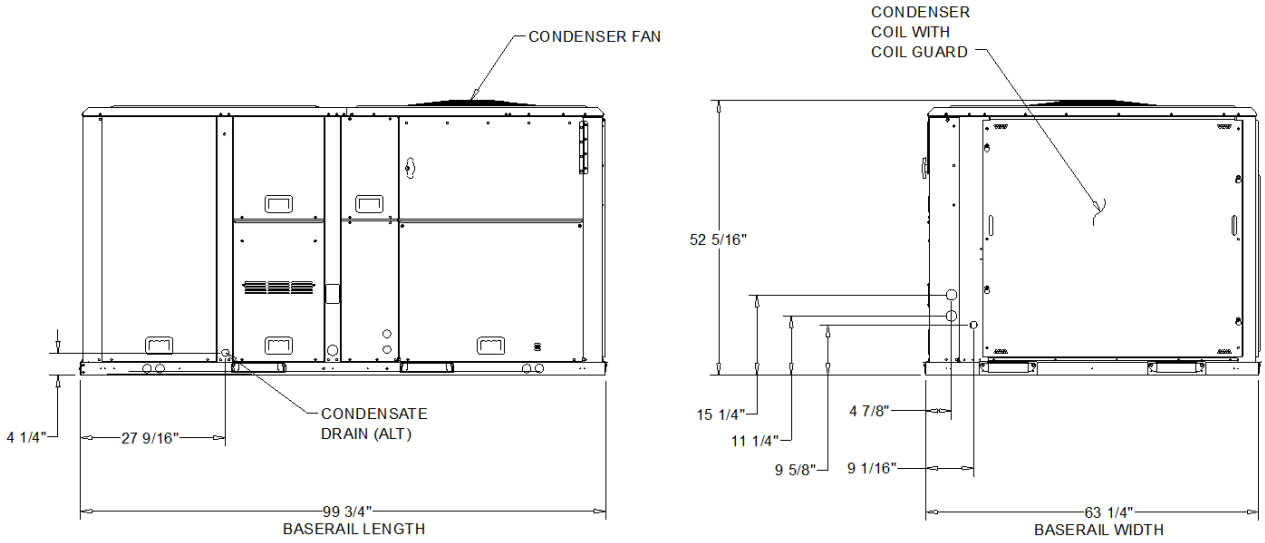
Indoor Fan
- Direct drive plenum fan design - 6 to 25 tons units.
- Plenum fan design - backward-curved fan wheel along with an external rotor direct drive variable speed indoor motor.
- Supply fan speed adjustments can be made using the Symbio 700 or Mobile App.
- Motors are thermally protected.
- Variable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

Through-the-Base Electrical with Disconnect Switch
-3-pole, molded case, disconnect switch with provisions for through-the-base electrical connections.
-Disconnect switch installed within unit in a water tight enclosure.
-Wiring provided from the switch to the unit high voltage terminal block.
-Switch cULus agency recognized.
Note: Disconnect switch sized per NEC and cULus guidelines but will not be used in place of unit overcurrent protection.

Dimensional Drawings - PREC
Item: B1, B5, B8 Qty: 3 Tag(s): RTU-2, RTU-9, RTU-12

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

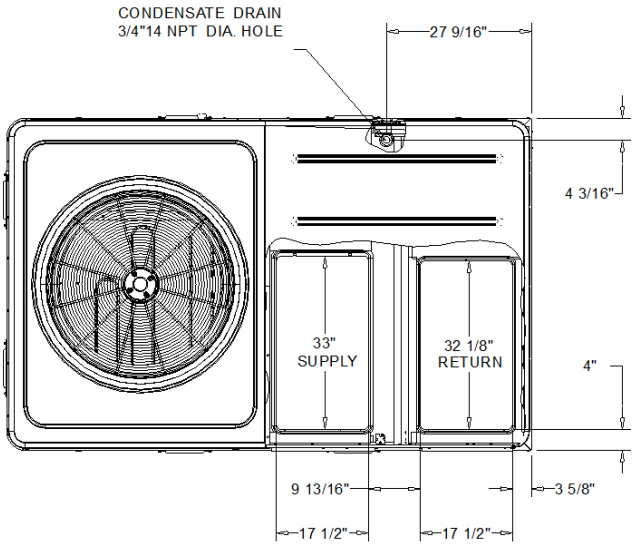




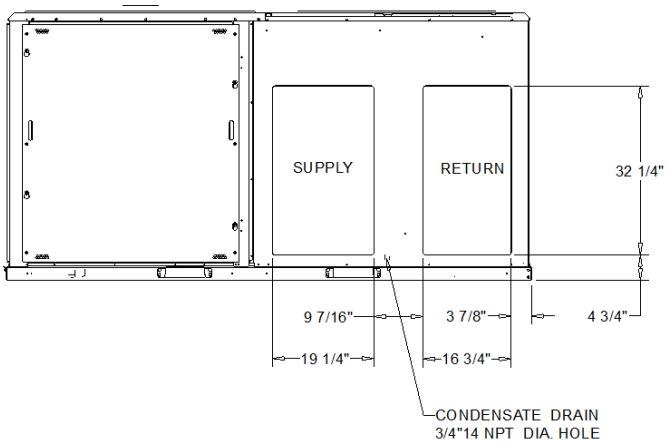
DX COOLING / GAS HEAT STANDARD EFFICIENCY

DIMENSION DRAWING

Dimensional Drawings - PREC
Item: B1, B5, B8 Qty: 3 Tag(s): RTU-2, RTU-9, RTU-12



PLAN VIEW OF DOWNFLOW OPENINGS

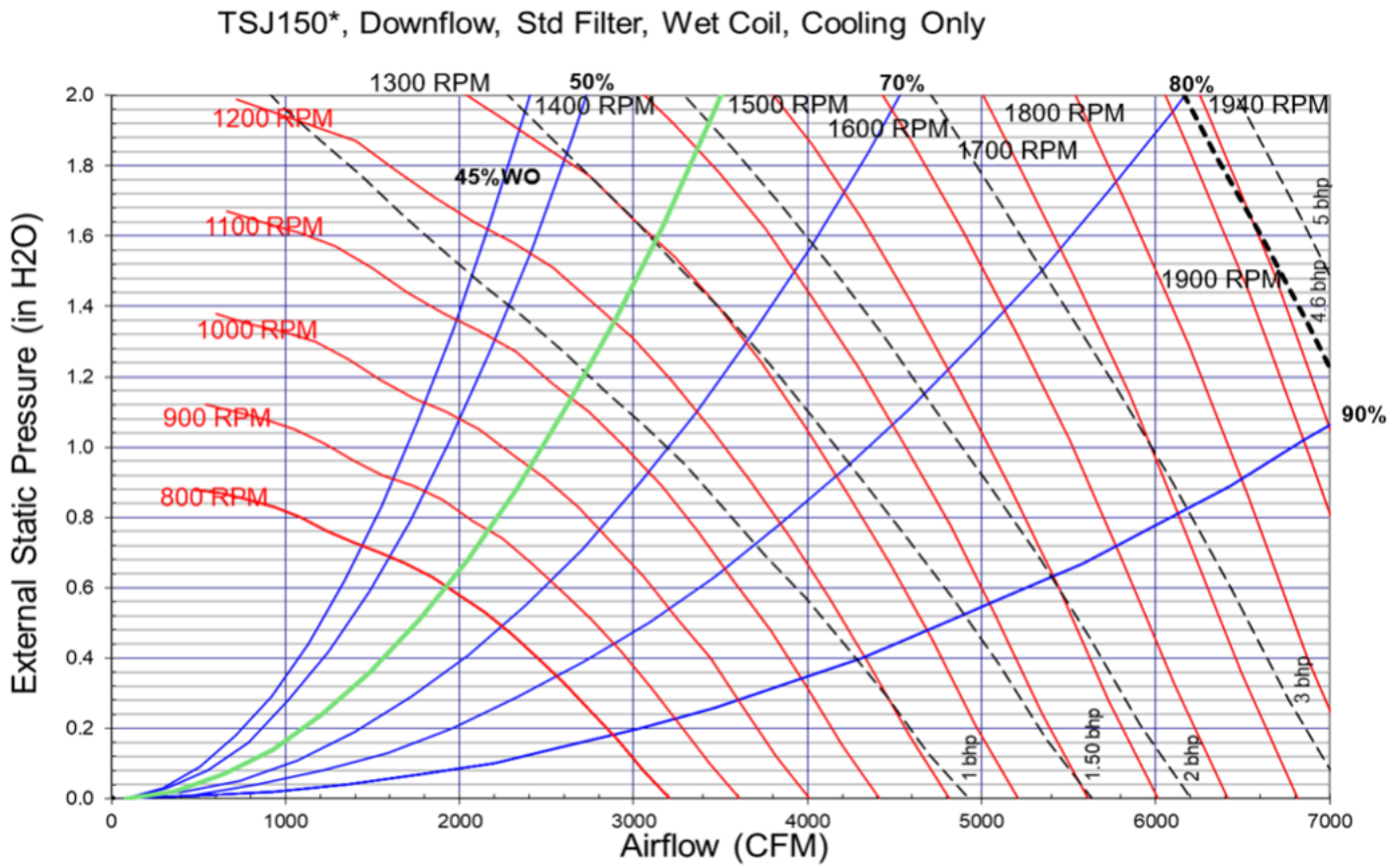


HORIZONTAL AIR FLOW OPENING

DX COOLING / GAS HEAT STANDARD EFFICIENCY

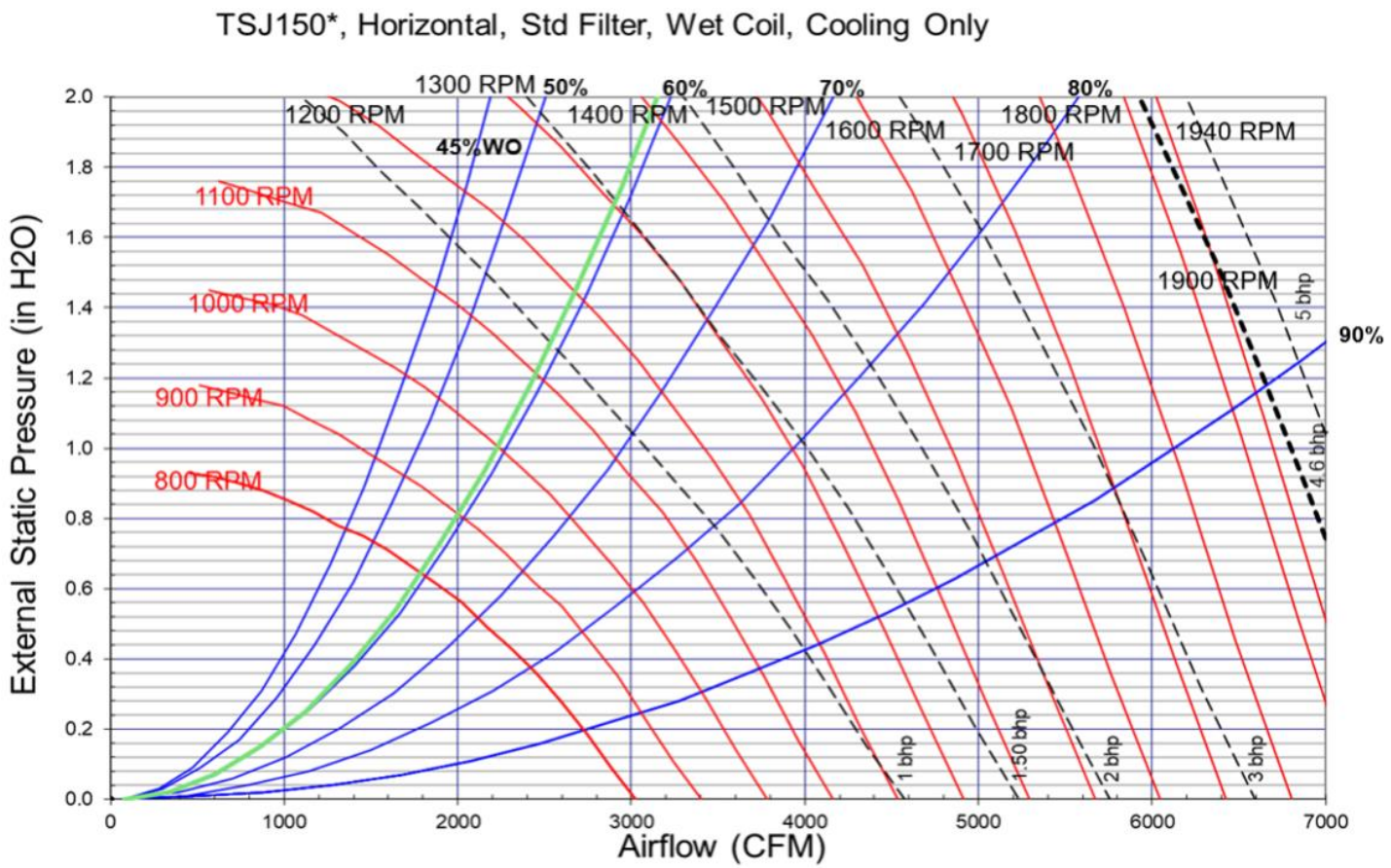
DIMENSION DRAWING

Dimensional Drawings - PREC
Item: B1, B5, B8 Qty: 3 Tag(s): RTU-2, RTU-9, RTU-12



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

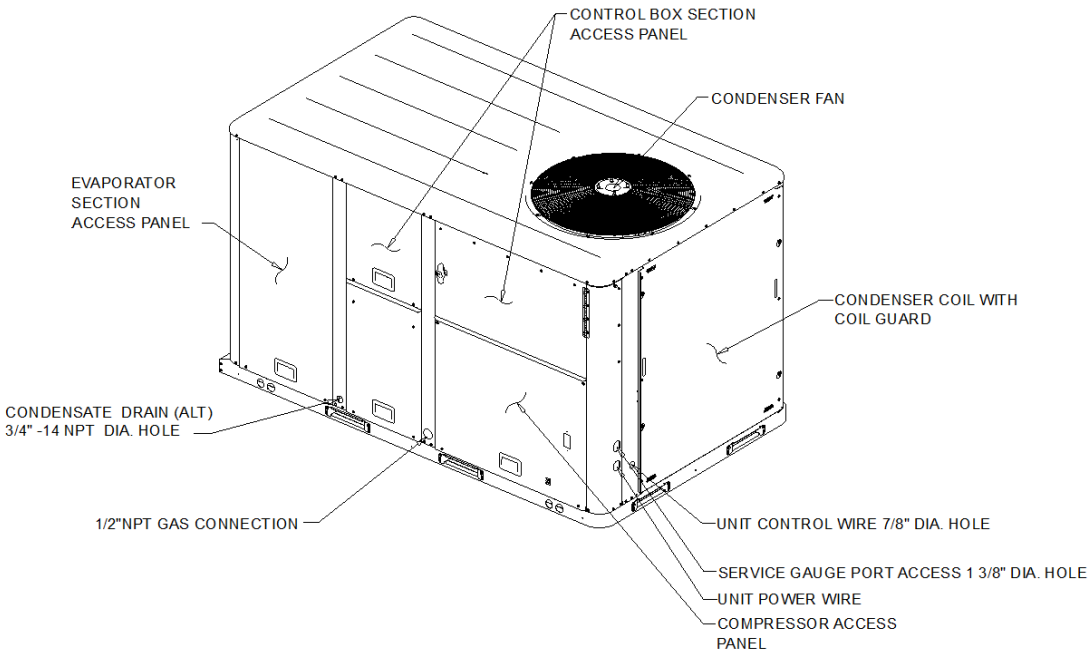
Dimensional Drawings - PREC
Item: B1, B5, B8 Qty: 3 Tag(s): RTU-2, RTU-9, RTU-12

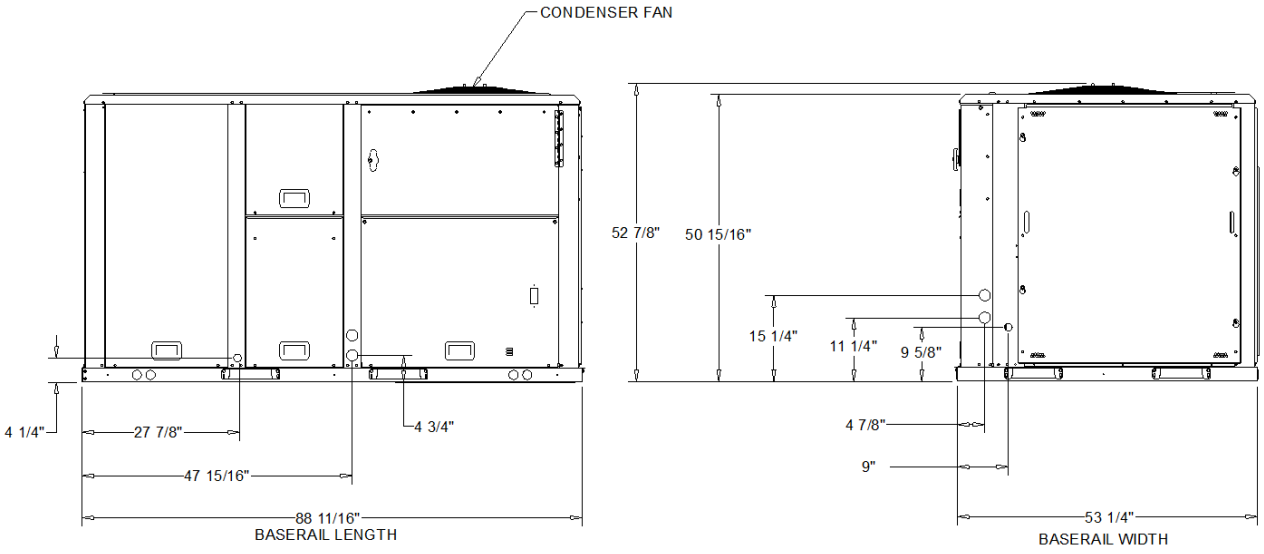


Note: Fan Curves are for TSJ/WSJ units. For YSJ units, add additional static pressure for Gas Heat Exchanger (ref. RT-PRC098*, table 47)

Dimensional Drawings - PREC
Item: B2, B6 Qty: 2 Tag(s): RTU-6, RTU-10

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

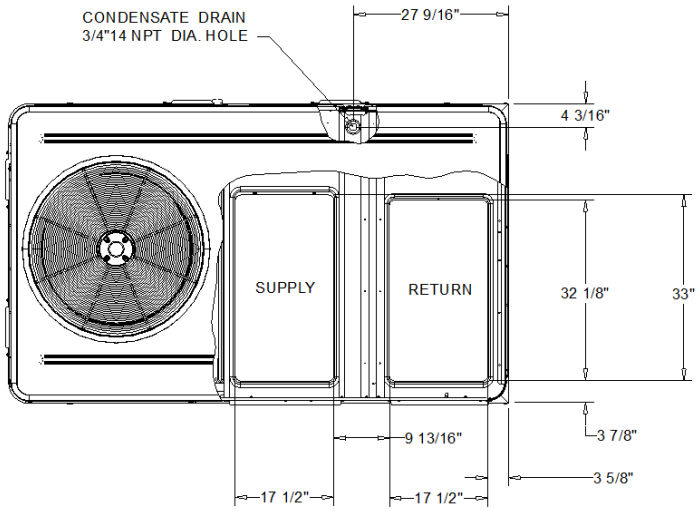




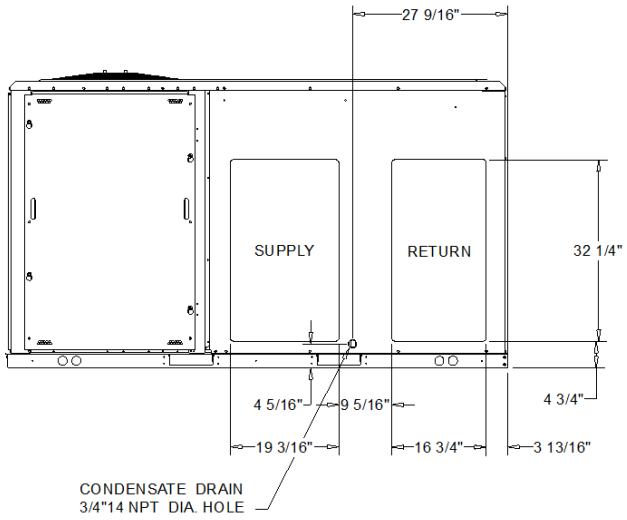
DX COOLING / GAS HEAT STANDARD EFFICIENCY

DIMENSION DRAWING

Dimensional Drawings - PREC
Item: B2, B6 Qty: 2 Tag(s): RTU-6, RTU-10



PLAN VIEW OF DOWNFLOW OPENINGS

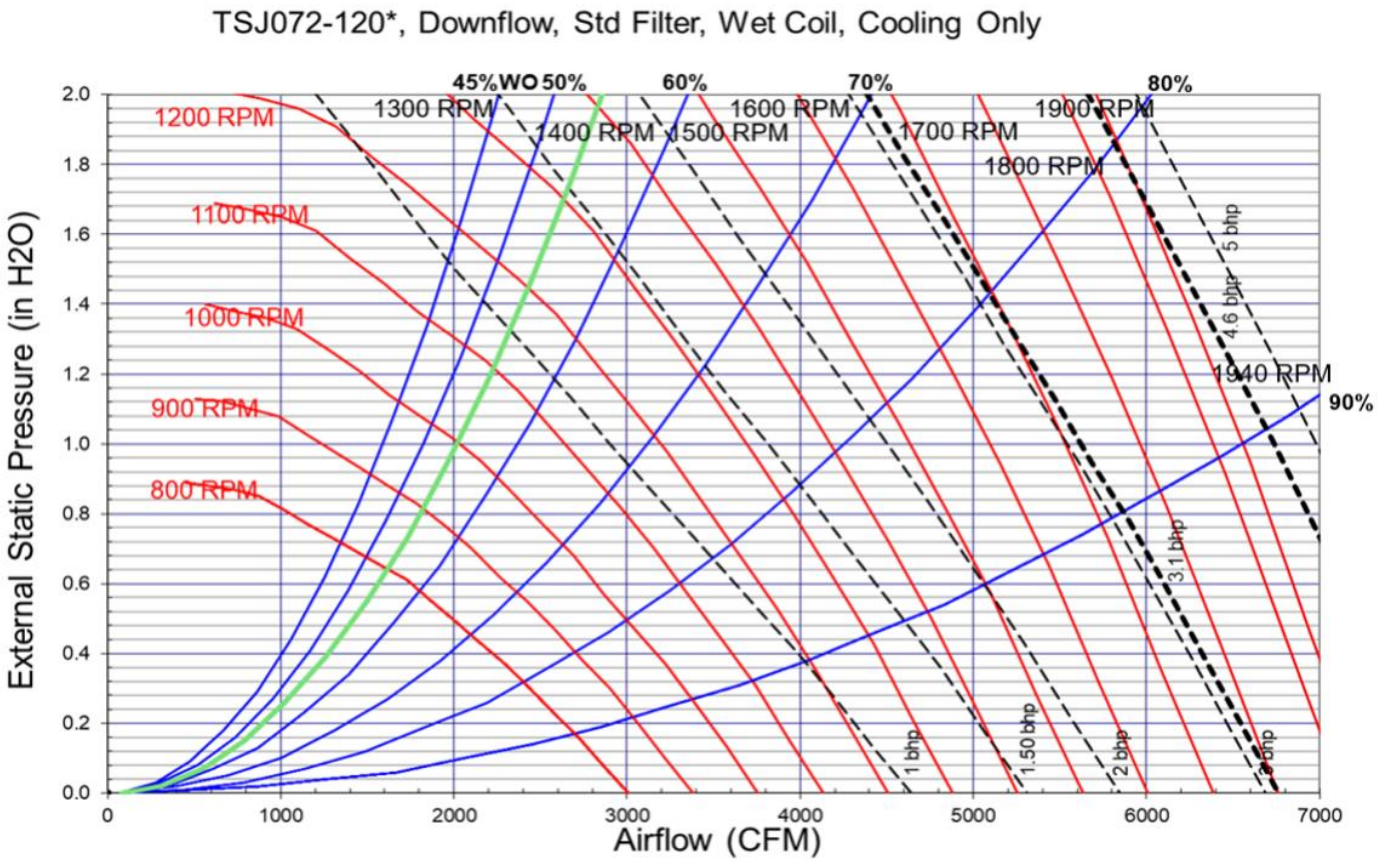


HORIZONTAL AIR FLOW OPENING

DX COOLING / GAS HEAT STANDARD EFFICIENCY

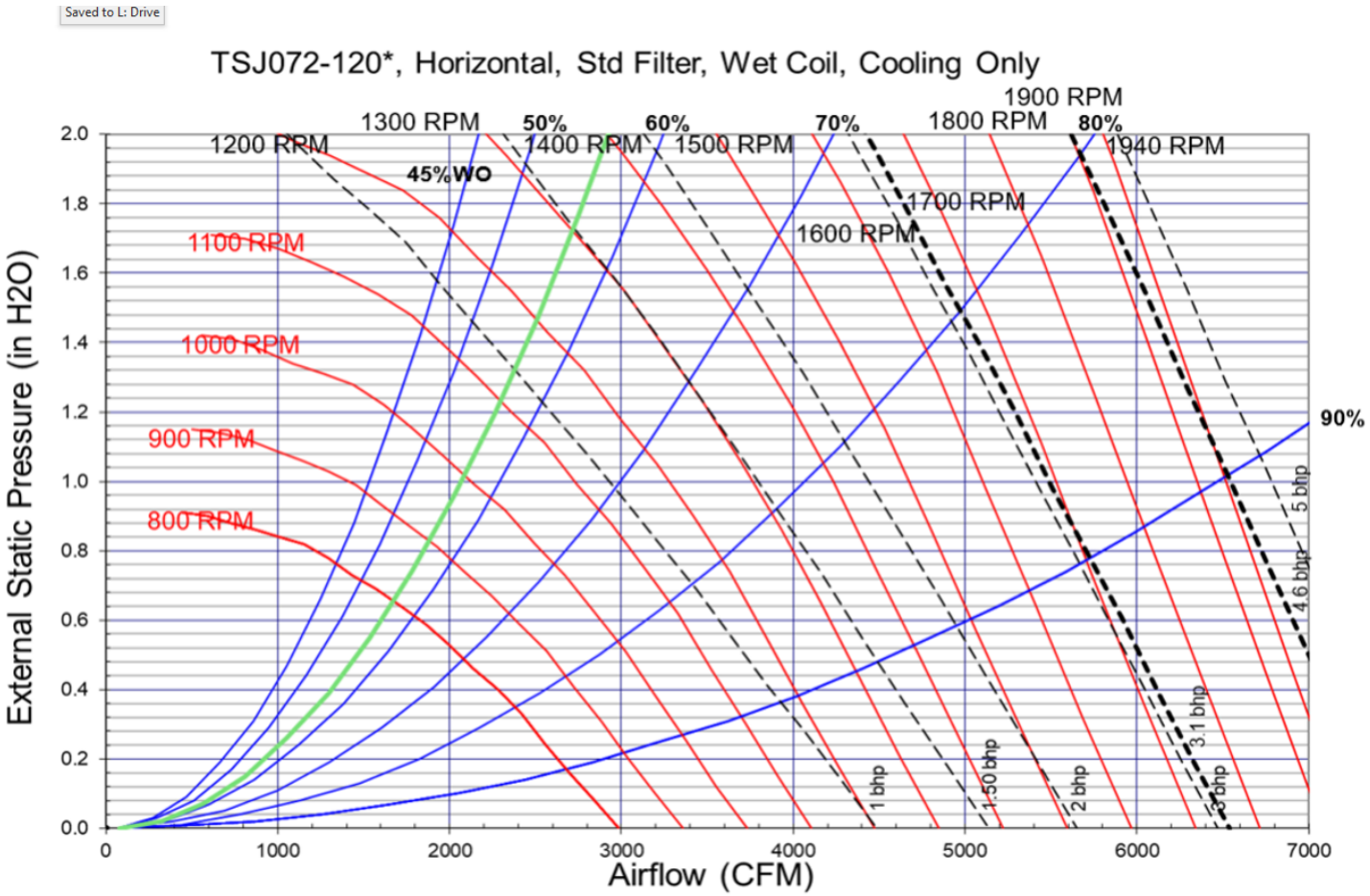
DIMENSION DRAWING

Dimensional Drawings - PREC
Item: B2 - B4, B6, B9 Qty: 5 Tag(s): RTU-6, RTU-7, RTU-8, RTU-10, RTU-13



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

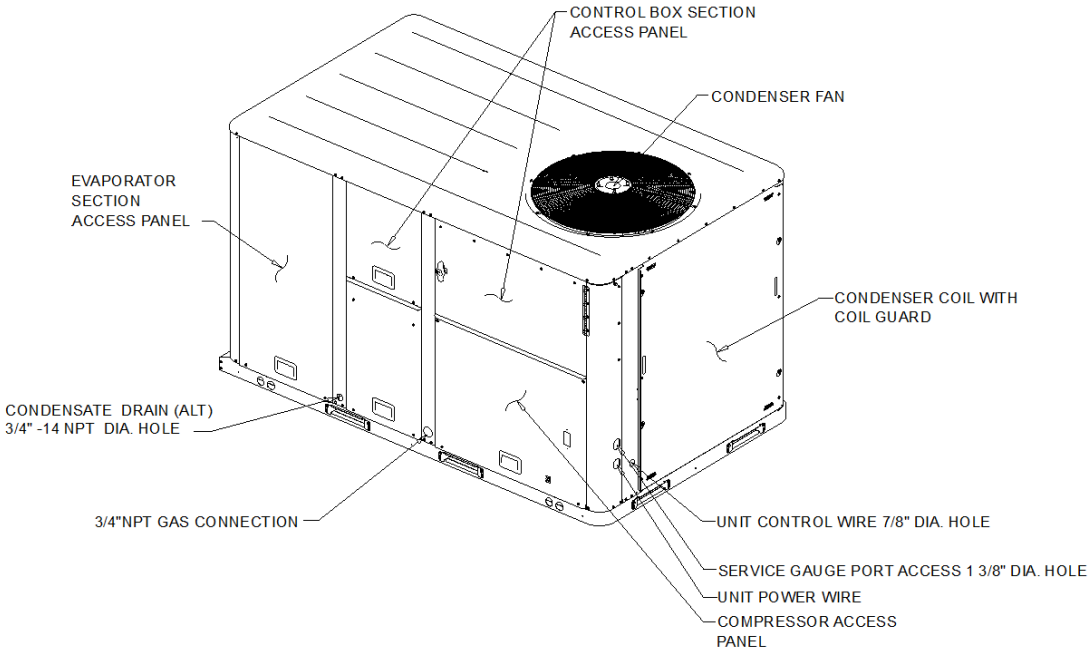
Dimensional Drawings - PREC
Item: B2 - B4, B6, B9 Qty: 5 Tag(s): RTU-6, RTU-7, RTU-8, RTU-10, RTU-13

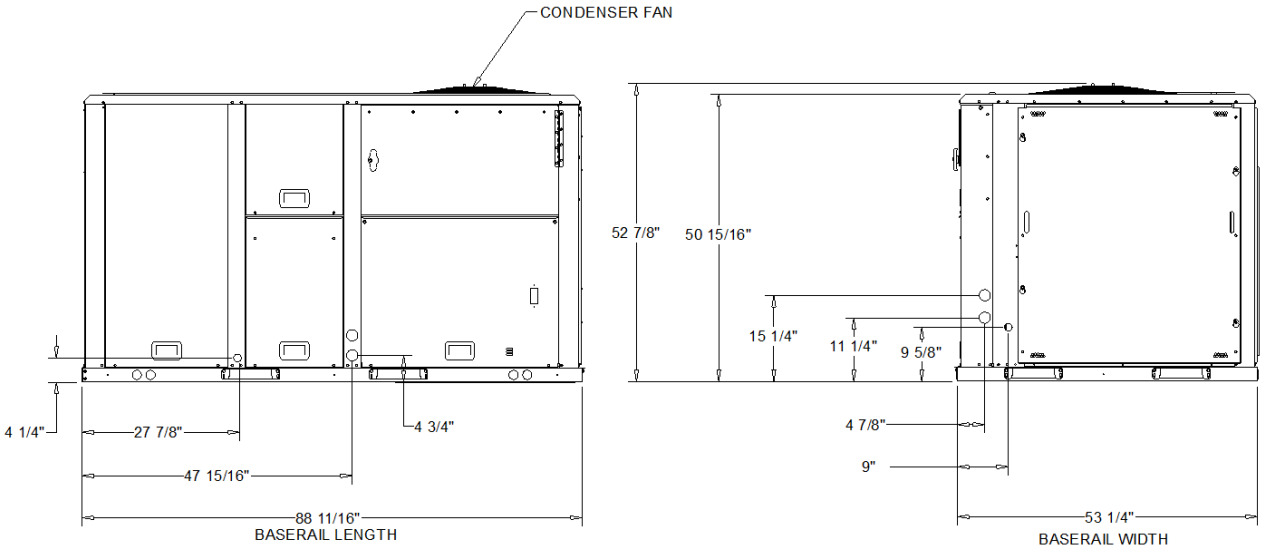


Note: Fan Curves are for TSJ/WSJ units. For YSJ units, add additional static pressure for Gas Heat Exchanger (ref. RT-PRC098*, table 47)

Dimensional Drawings - PREC
Item: B3, B4, B9 Qty: 3 Tag(s): RTU-7, RTU-8, RTU-13

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

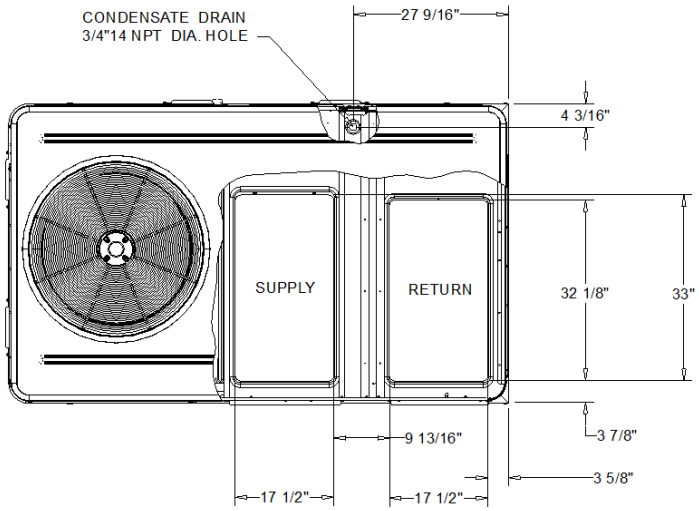




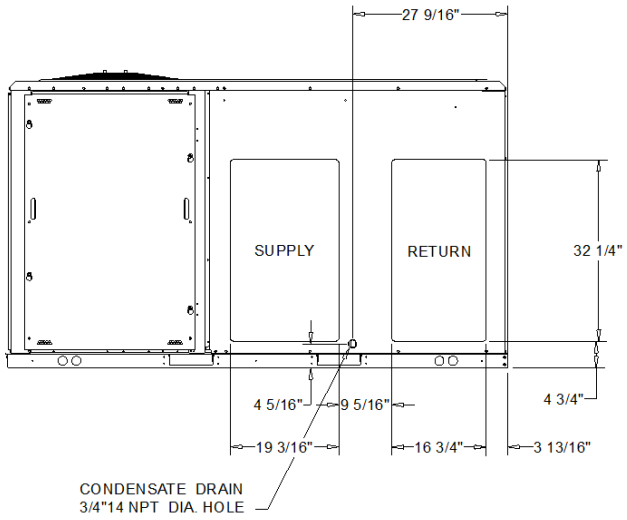
DX COOLING / GAS HEAT STANDARD EFFICIENCY

DIMENSION DRAWING

Dimensional Drawings - PREC
Item: B3, B4, B9 Qty: 3 Tag(s): RTU-7, RTU-8, RTU-13



PLAN VIEW OF DOWNFLOW OPENINGS



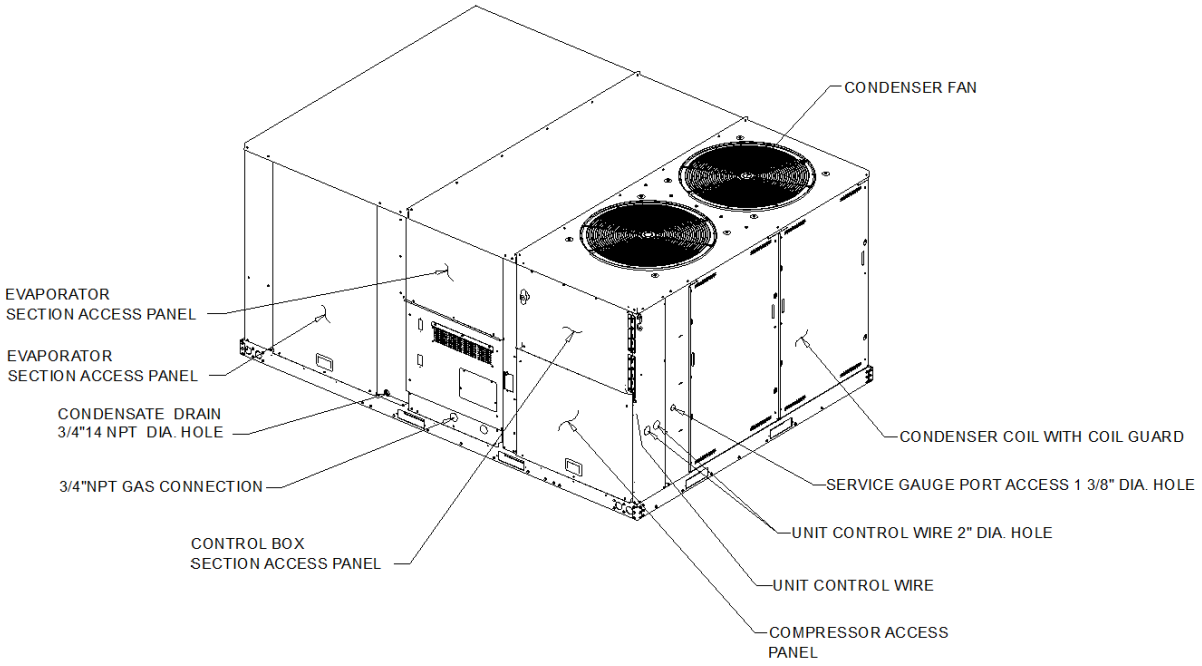
HORIZONTAL AIR FLOW OPENING

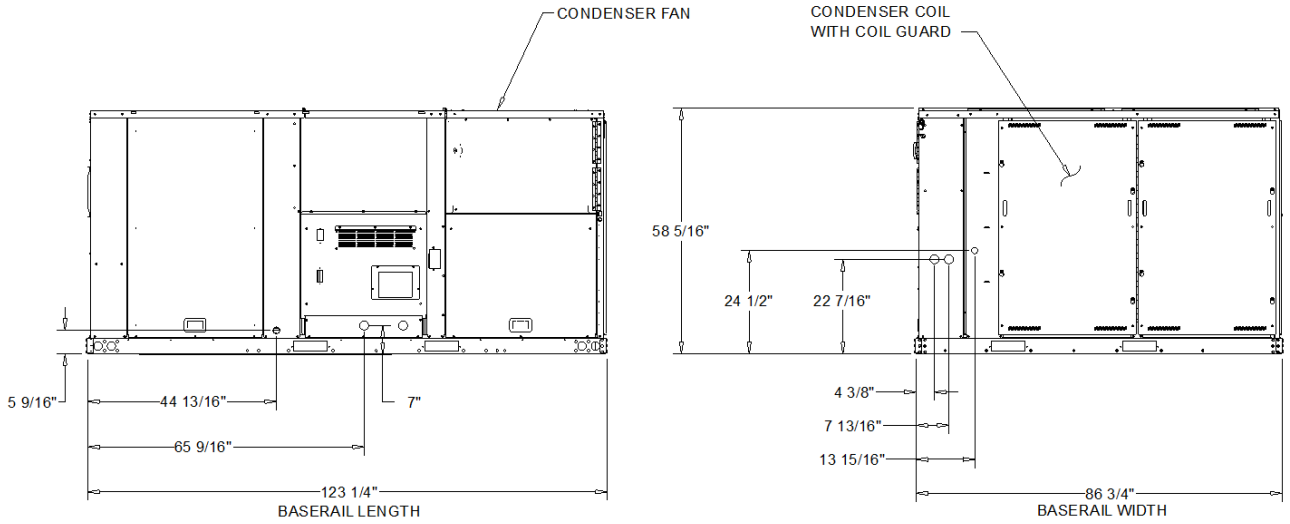
DX COOLING / GAS HEAT STANDARD EFFICIENCY

DIMENSION DRAWING

Dimensional Drawings - PREC
Item: B7 Qty: 1 Tag(s): RTU-11

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

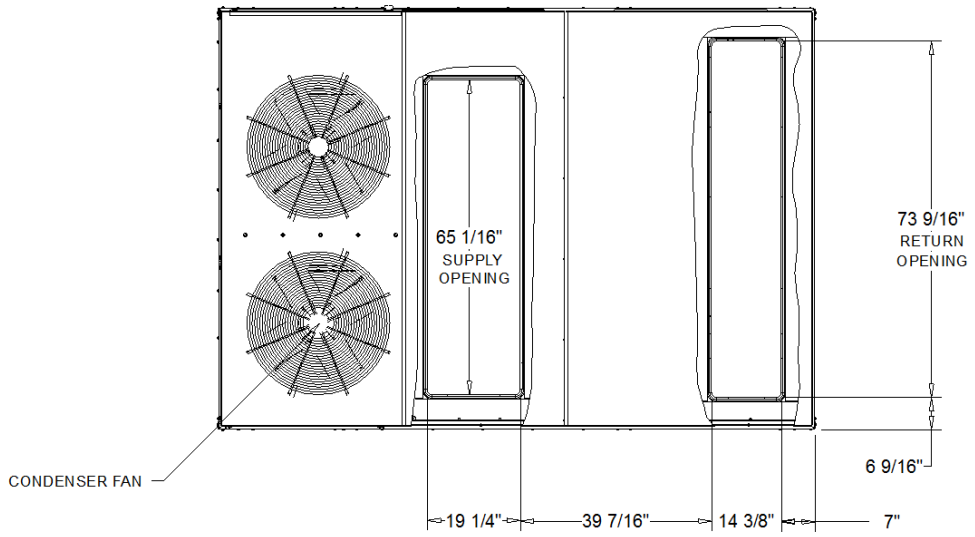




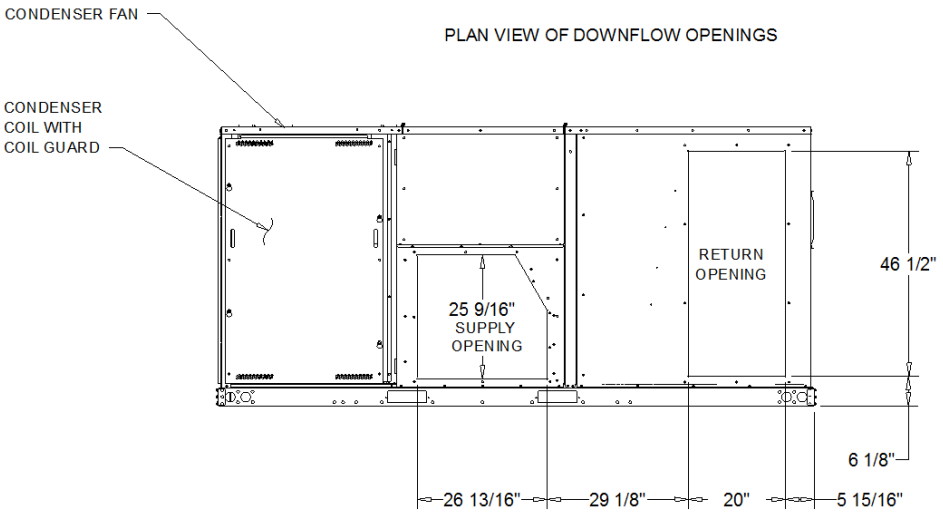
DX COOLING / GAS HEAT STANDARD EFFICIENCY

DIMENSION DRAWING

Dimensional Drawings - PREC
Item: B7 Qty: 1 Tag(s): RTU-11



PLAN VIEW OF DOWNFLOW OPENINGS

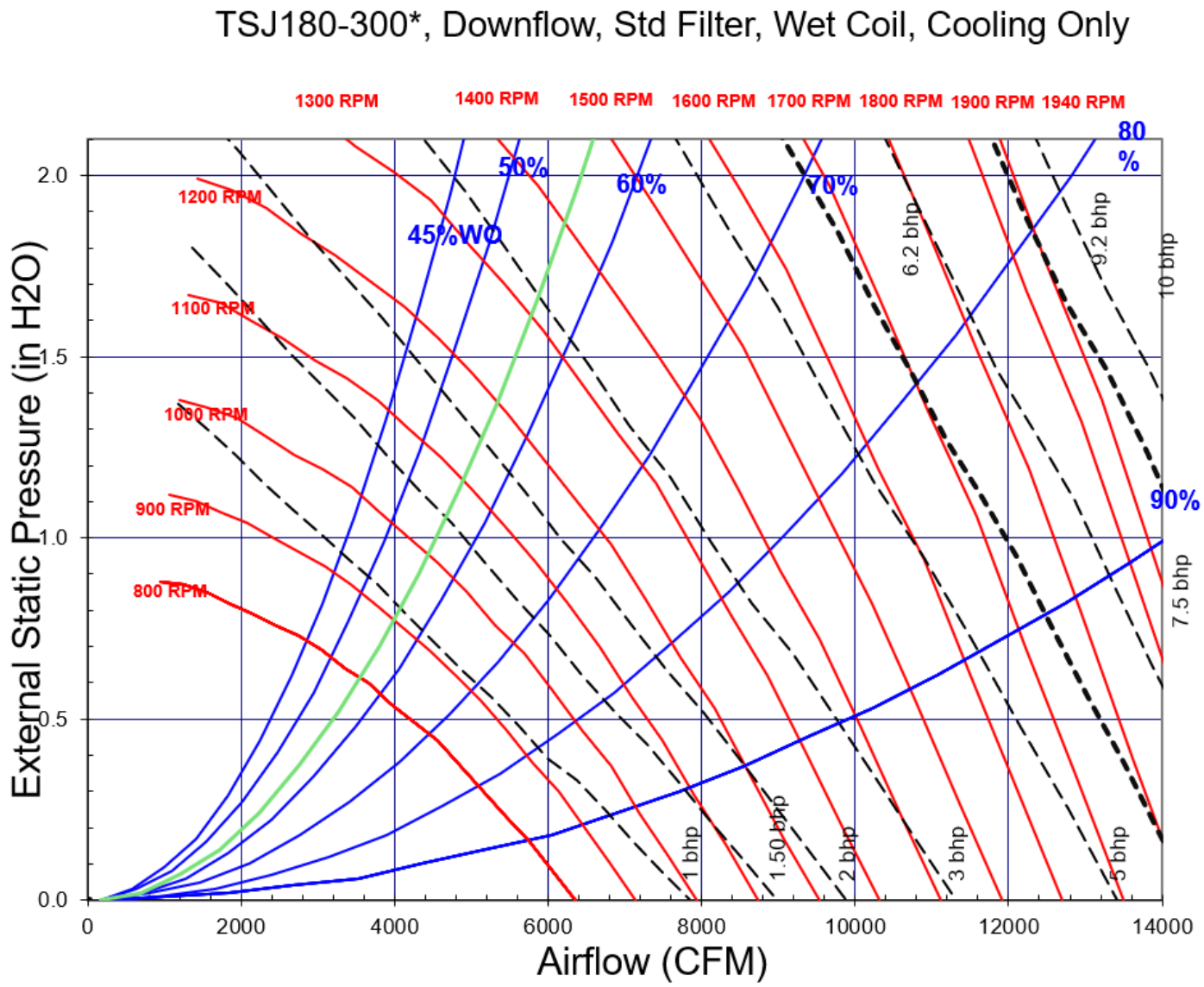


HORIZONTAL AIR FLOW OPENING

DX COOLING / GAS HEAT STANDARD EFFICIENCY

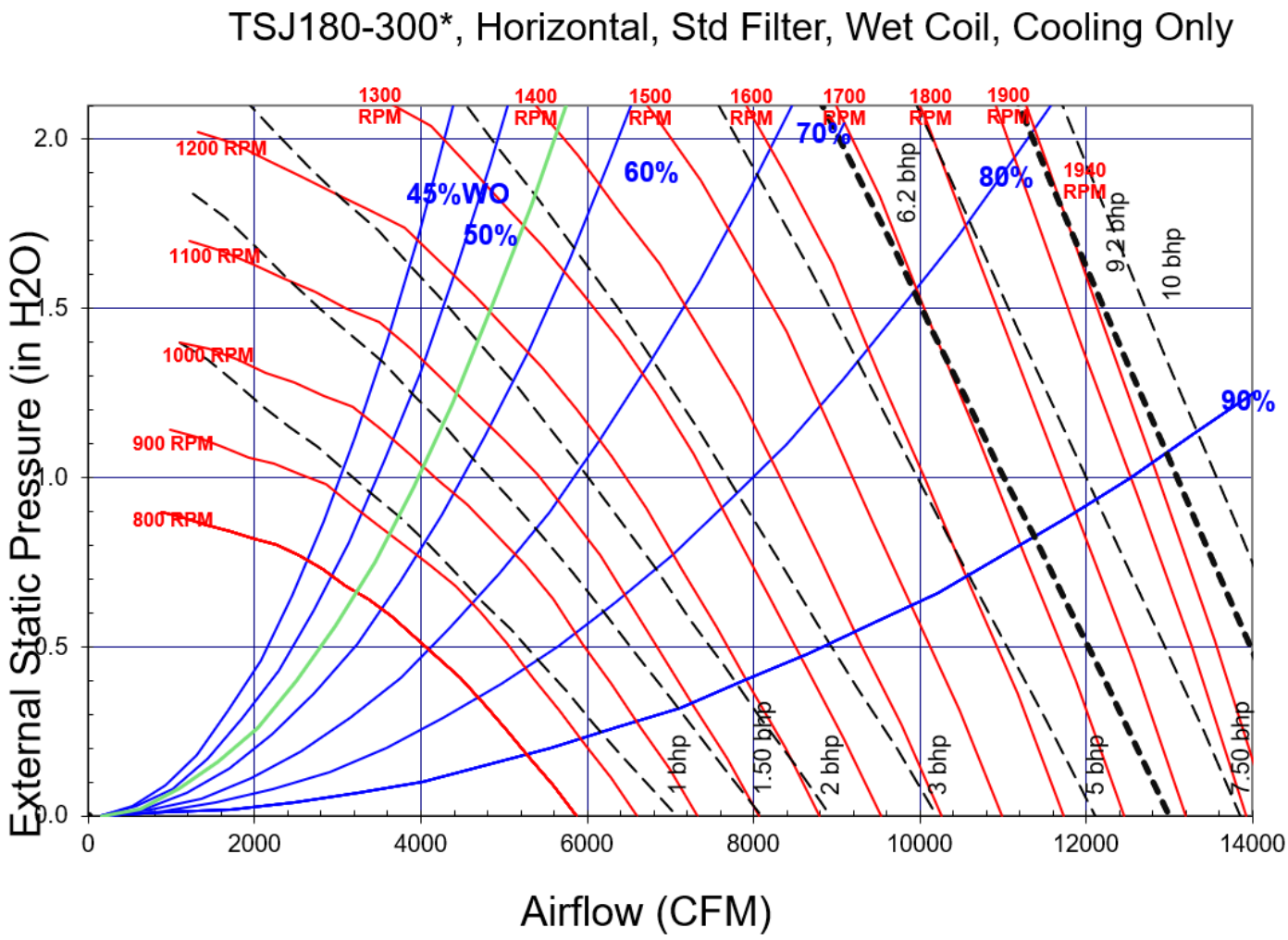
DIMENSION DRAWING

Dimensional Drawings - PREC
Item: B7 Qty: 1 Tag(s): RTU-11



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

Dimensional Drawings - PREC
Item: B7 Qty: 1 Tag(s): RTU-11



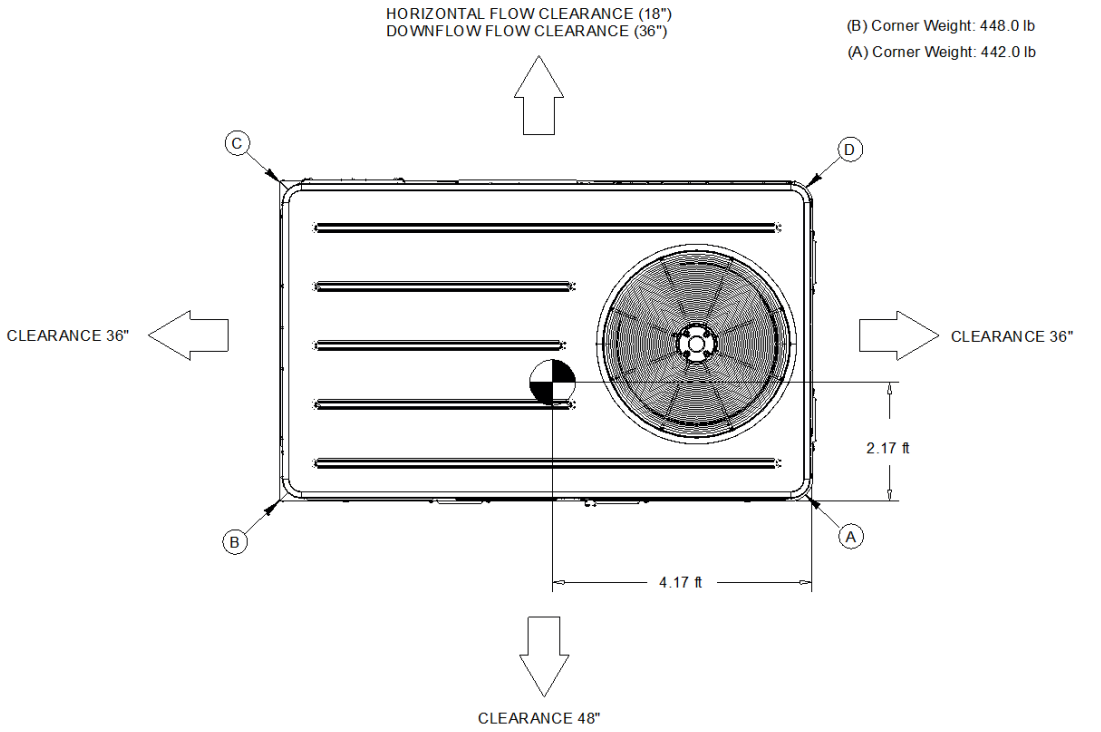
Note: Fan Curves are for TSJ/WSJ units. For YSJ units, add additional static pressure for Gas Heat Exchanger (ref. RT-PRC098*, table 47)

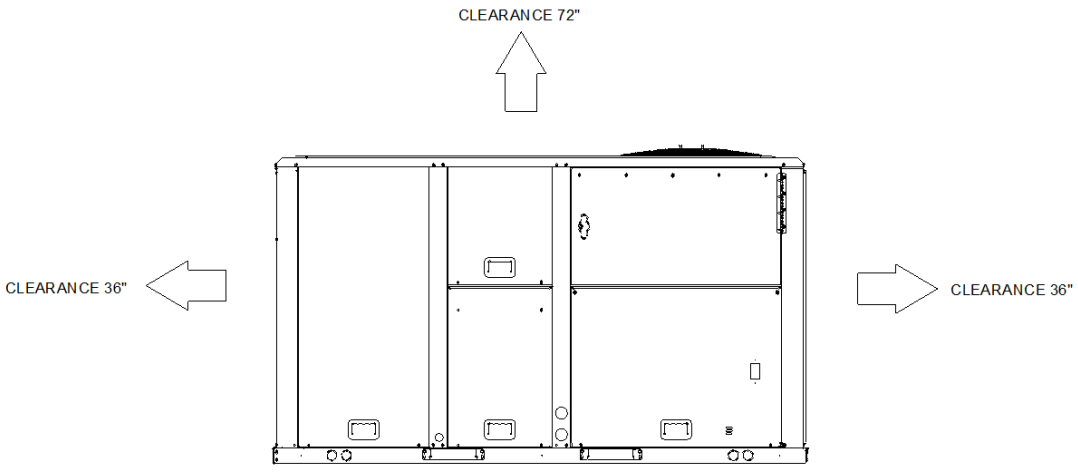
Weight, Clearance & Rigging - PREC
Item: B1, B5, B8 Qty: 3 Tag(s): RTU-2, RTU-9, RTU-12

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

Approximate Installed Weight: 1,458.0 lb

(B) Corner Weight: 448.0 lb
(C) Corner Weight: 313.0 lb
(A) Corner Weight: 442.0 lb
(D) Corner Weight: 310.0 lb





DX COOLING / GAS HEAT STANDARD EFFICIENCY

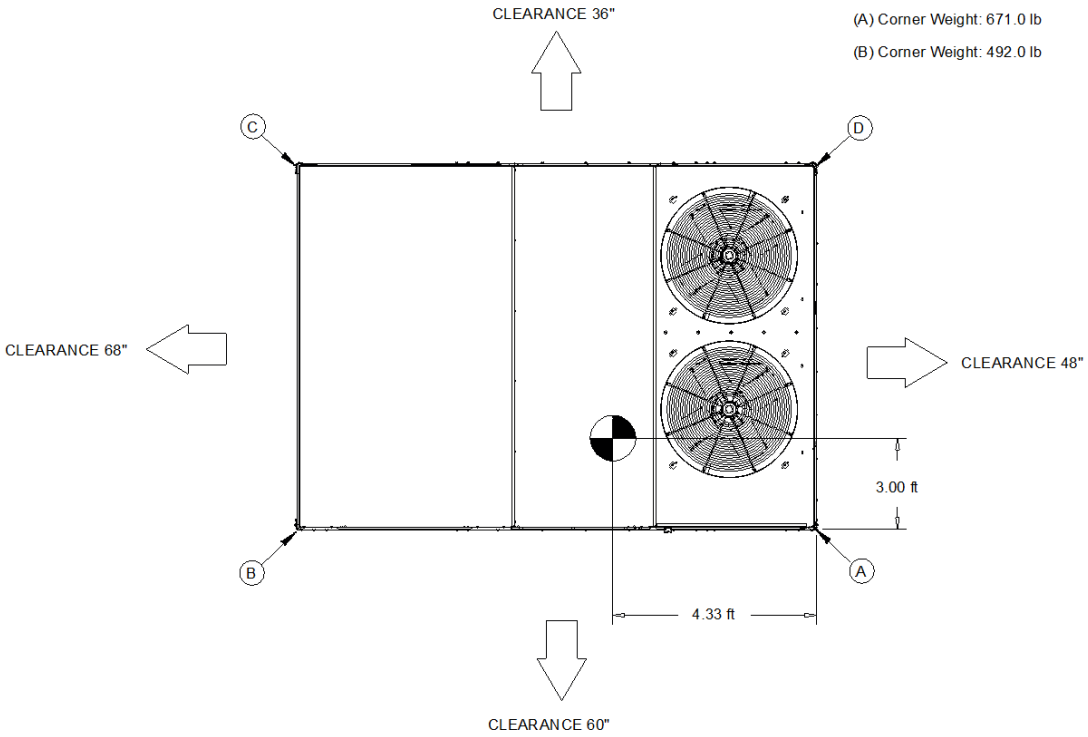
WEIGHTS AND CLEARANCES

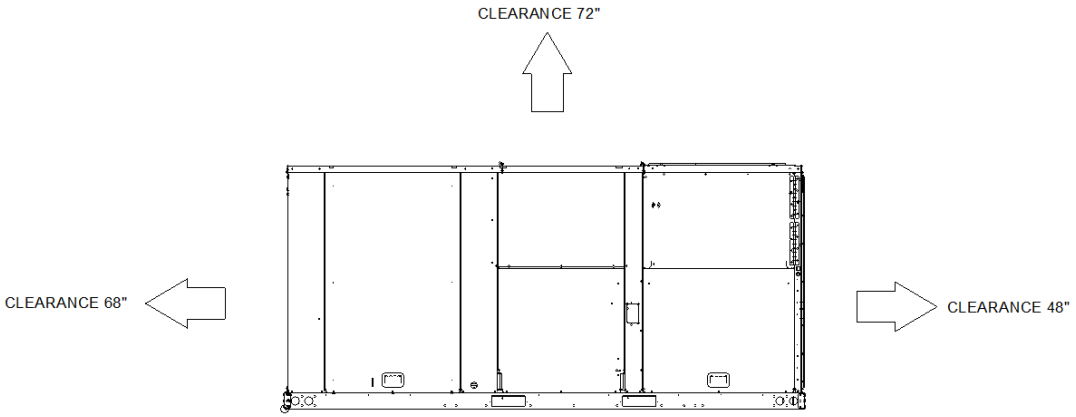
Weight, Clearance & Rigging - PREC
Item: B7 Qty: 1 Tag(s): RTU-11

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

Approximate Installed Weight: 2,009.0 lb

(A) Corner Weight: 671.0 lb	(C) Corner Weight: 365.0 lb
(B) Corner Weight: 492.0 lb	(D) Corner Weight: 483.0 lb





DX COOLING / GAS HEAT STANDARD EFFICIENCY

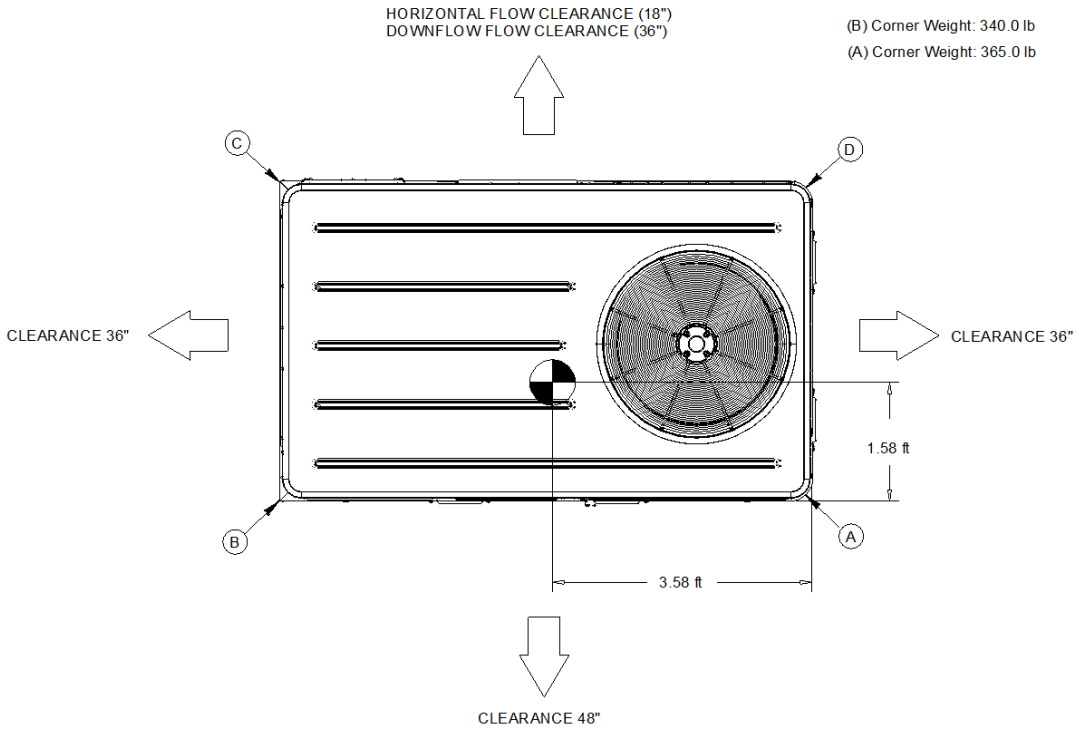
WEIGHTS AND CLEARANCES

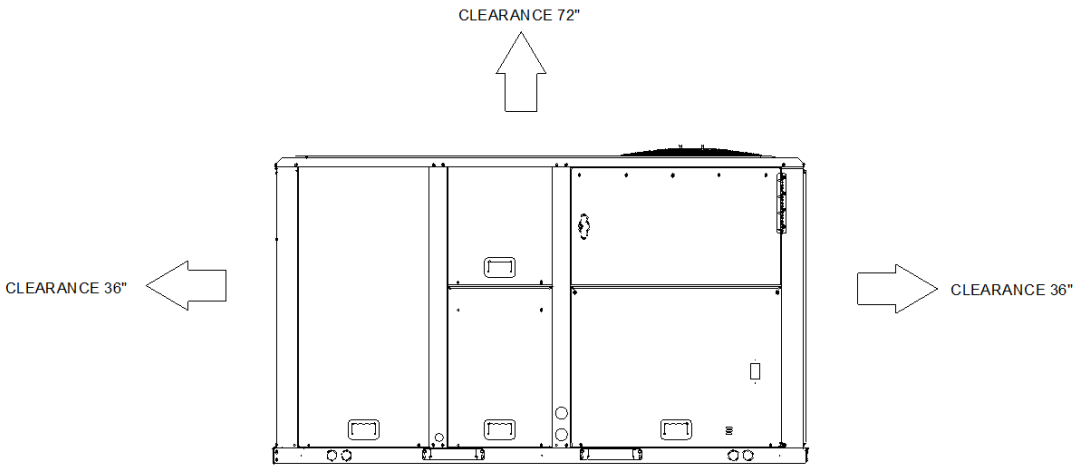
Weight, Clearance & Rigging - PREC
Item: B2, B6 Qty: 2 Tag(s): RTU-6, RTU-10

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

Approximate Installed Weight: 1,104.0 lb

(B) Corner Weight: 340.0 lb	(C) Corner Weight: 196.0 lb
(A) Corner Weight: 365.0 lb	(D) Corner Weight: 210.0 lb





DX COOLING / GAS HEAT STANDARD EFFICIENCY

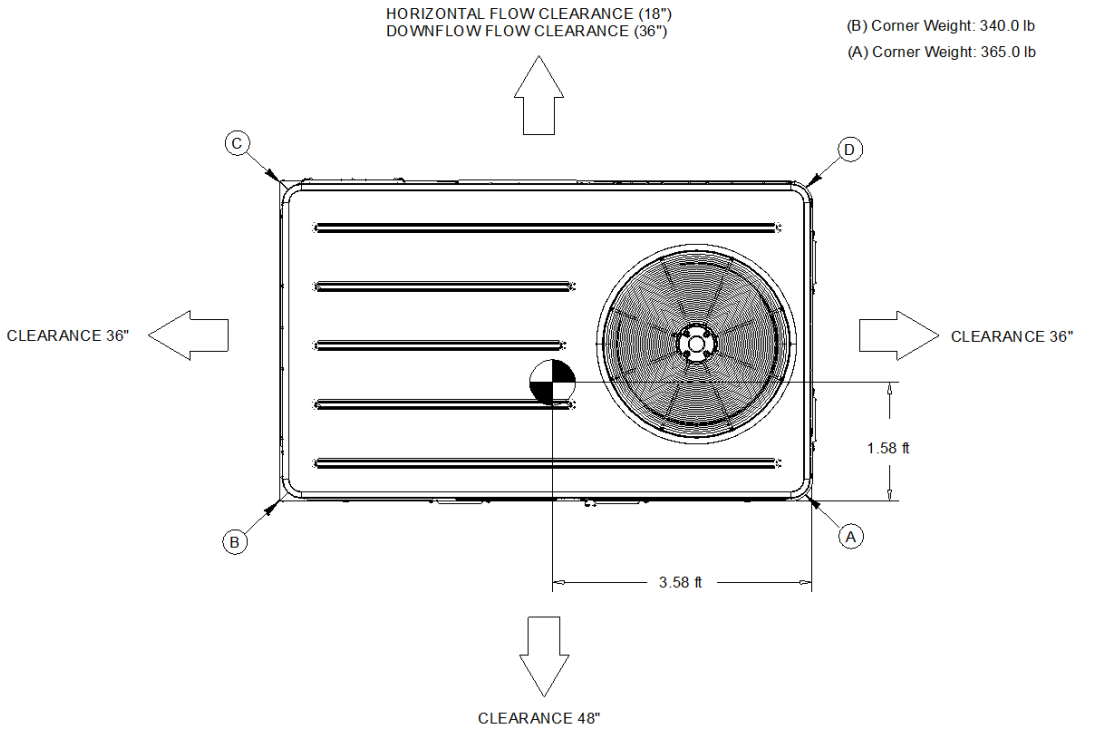
WEIGHTS AND CLEARANCES

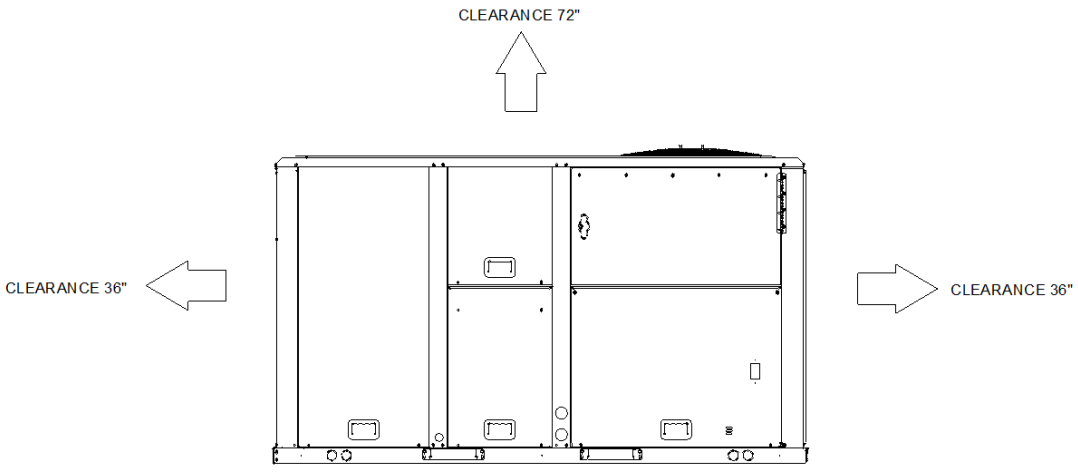
Weight, Clearance & Rigging - PREC
Item: B3, B9 Qty: 2 Tag(s): RTU-7, RTU-13

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

Approximate Installed Weight: 1,119.0 lb

(B) Corner Weight: 340.0 lb
(C) Corner Weight: 196.0 lb
(A) Corner Weight: 365.0 lb
(D) Corner Weight: 210.0 lb





DX COOLING / GAS HEAT STANDARD EFFICIENCY

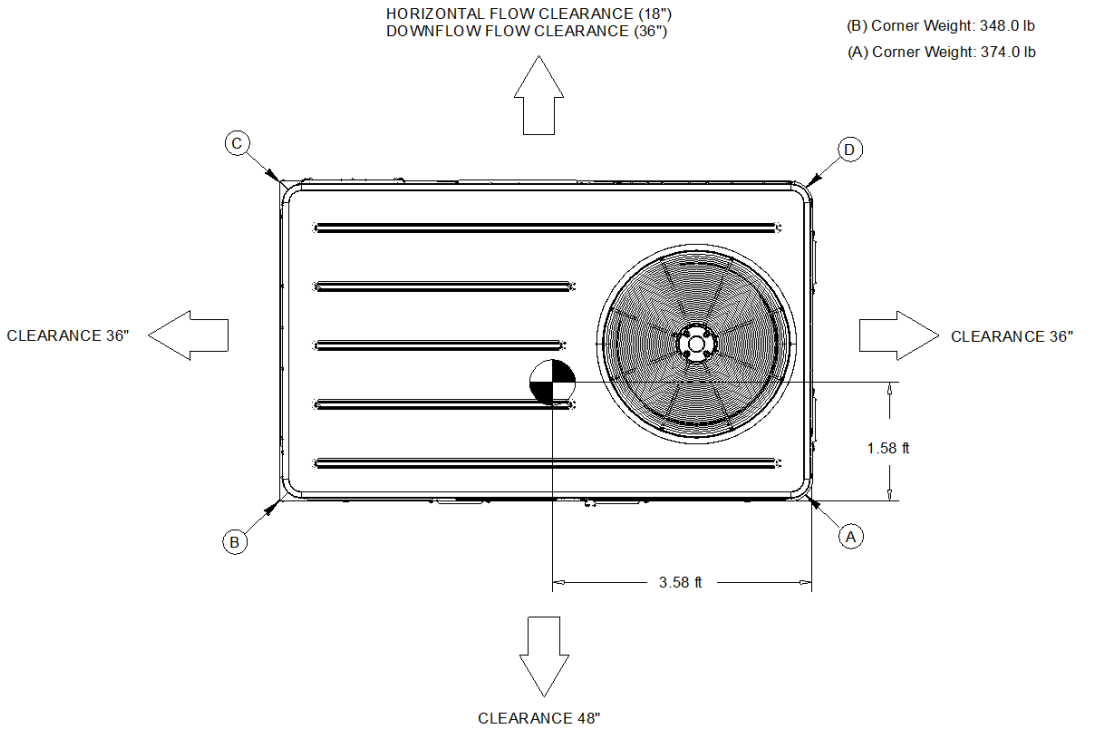
WEIGHTS AND CLEARANCES

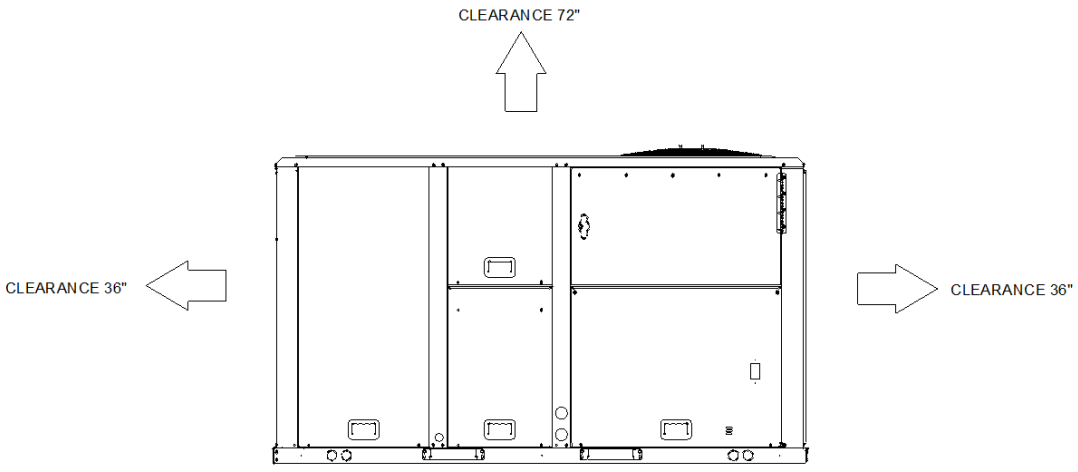
Weight, Clearance & Rigging - PREC
Item: B4 Qty: 1 Tag(s): RTU-8

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

Approximate Installed Weight: 1,175.0 lb

(B) Corner Weight: 348.0 lb
(C) Corner Weight: 200.0 lb
(A) Corner Weight: 374.0 lb
(D) Corner Weight: 215.0 lb

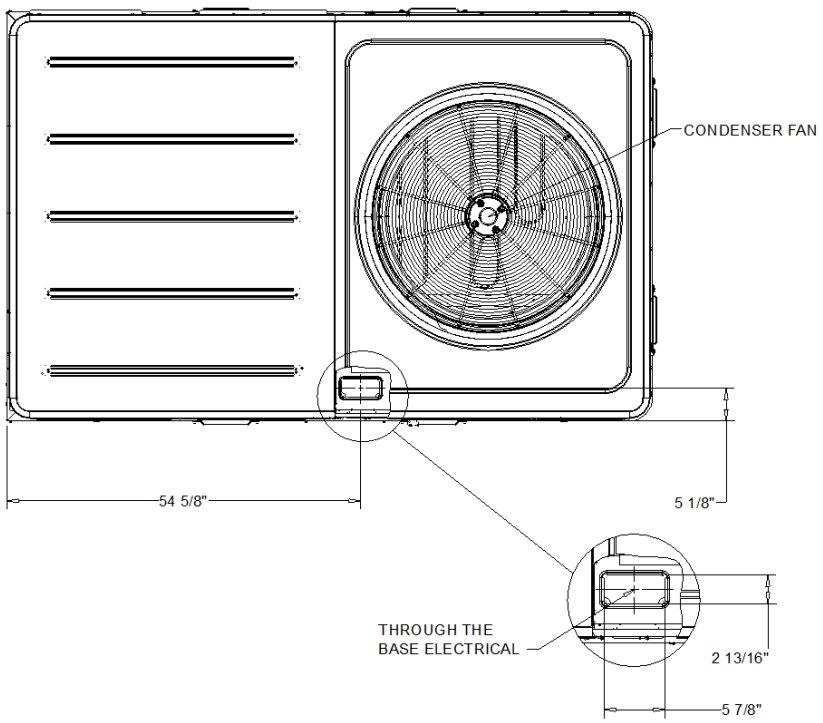


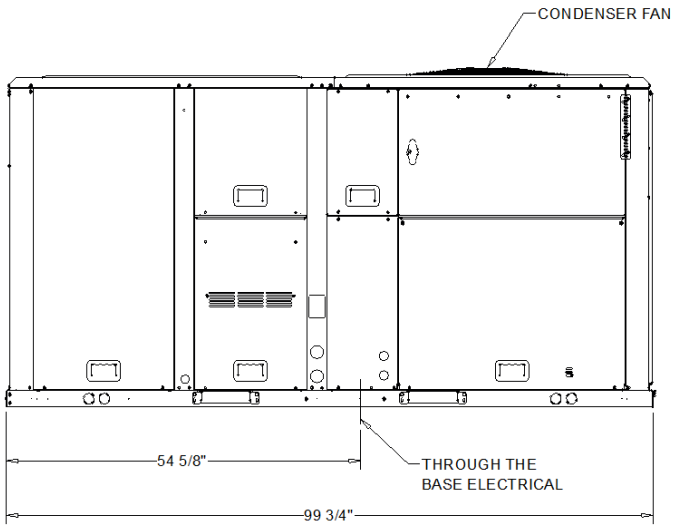


DX COOLING / GAS HEAT STANDARD EFFICIENCY

WEIGHTS AND CLEARANCES

Accessory - PREC
Item: B1, B5, B8 Qty: 3 Tag(s): RTU-2, RTU-9, RTU-12

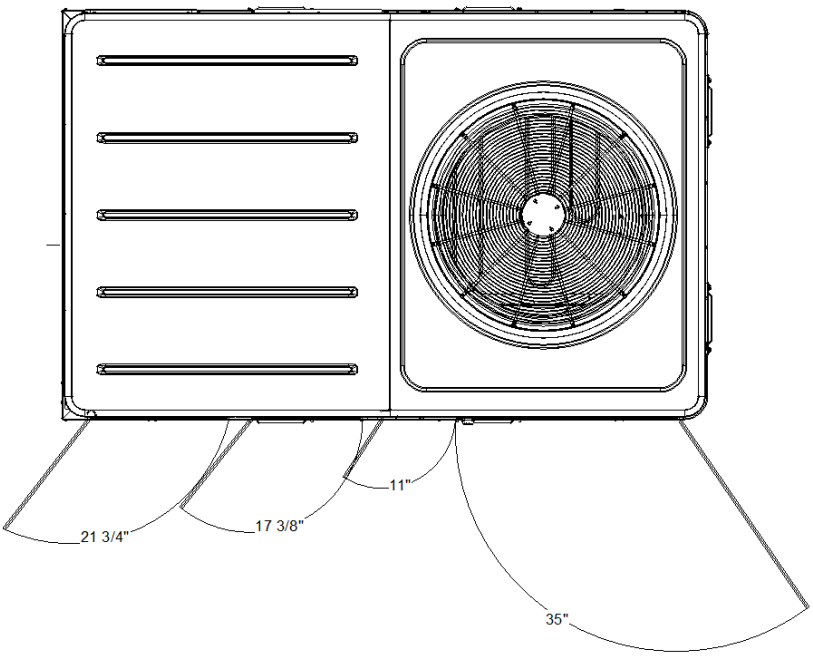


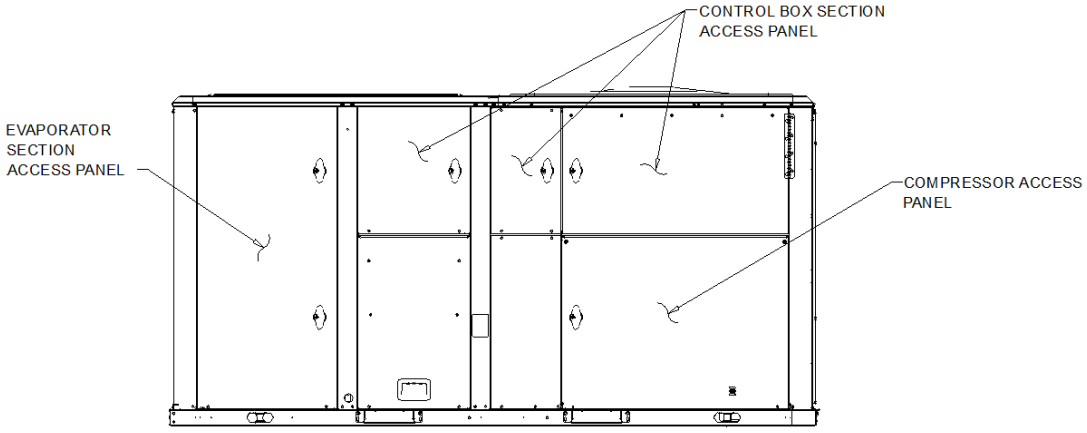


THROUGH-THE-BASE ELECTRICAL (OPTION)

12.5 TON STANDARD GAS/ELECTRIC UNIT

Accessory - PREC
Item: B1, B5, B8 Qty: 3 Tag(s): RTU-2, RTU-9, RTU-12

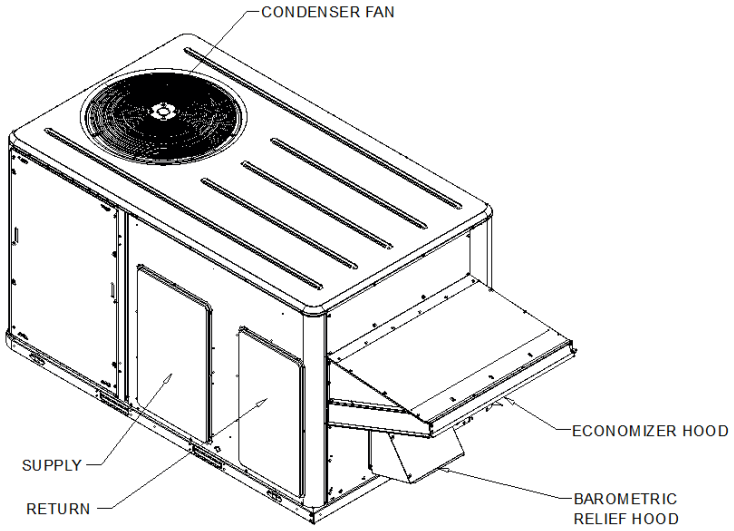


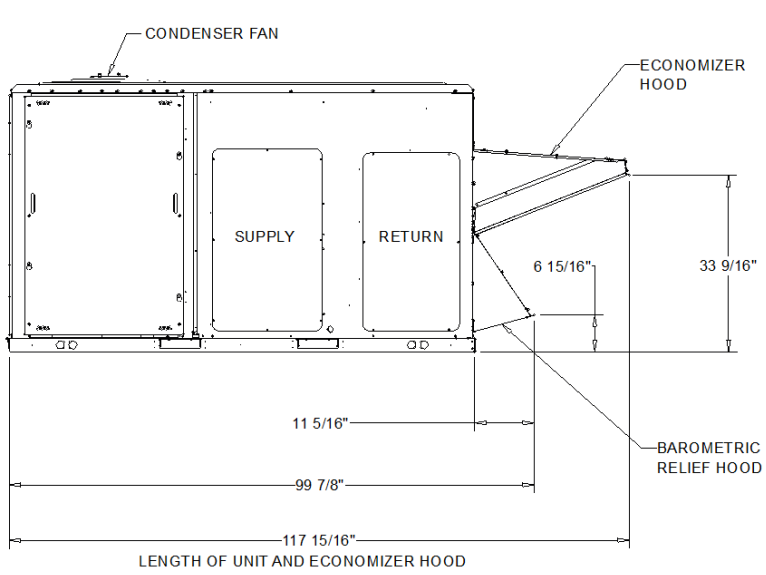


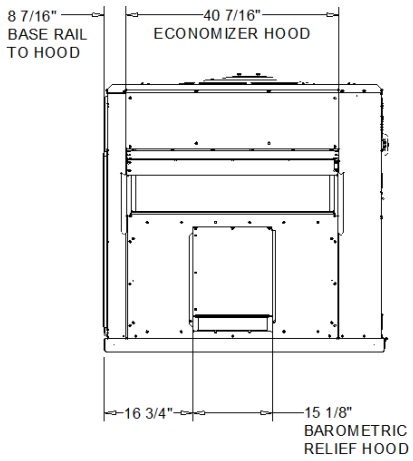
SWING DIAMETER FOR HINGED DOOR(S) (OPTION)

12.5 TON STANDARD GAS/ELECTRIC UNIT

Accessory - PREC
Item: B2, B3, B6, B9 Qty: 4 Tag(s): RTU-6, RTU-7, RTU-10, RTU-13



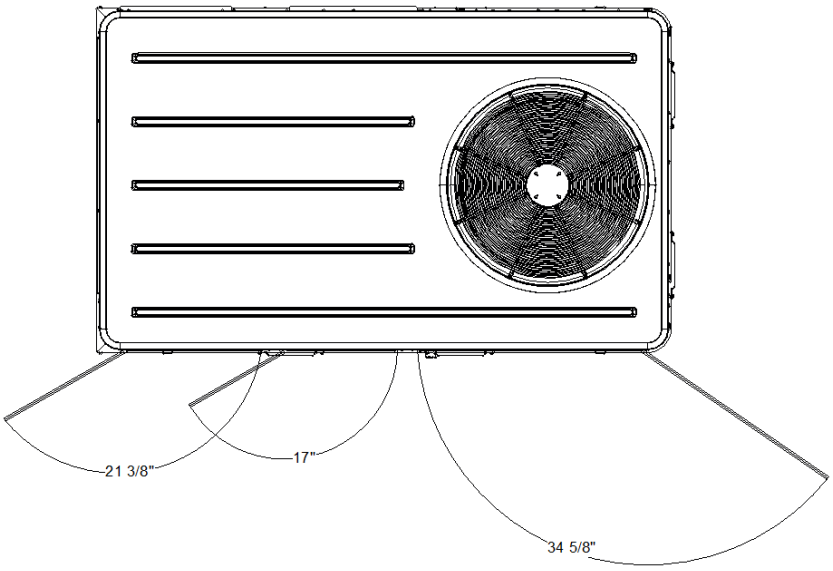


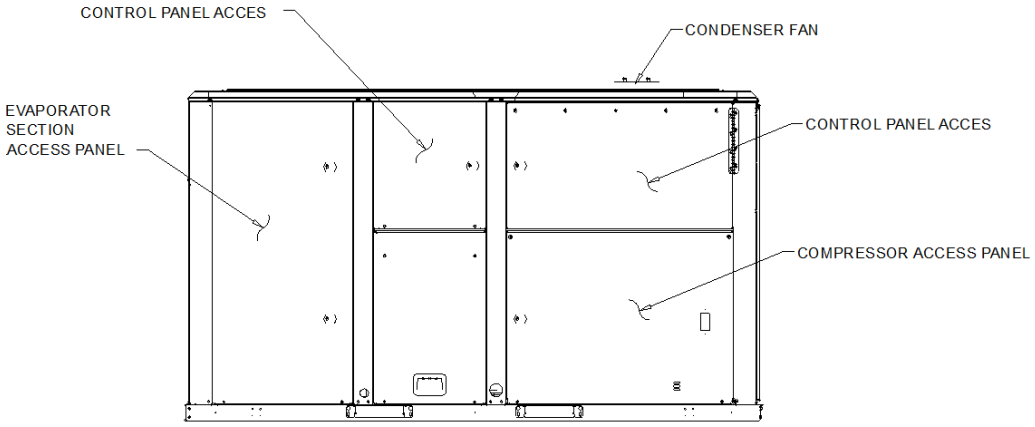


LOW LEAK ECONOMIZER AIR DAMPER (OPTION)

7.5 TON STANDARD GAS/ELECTRIC UNIT

Accessory - PREC
Item: B2, B3, B6, B9 Qty: 4 Tag(s): RTU-6, RTU-7, RTU-10, RTU-13

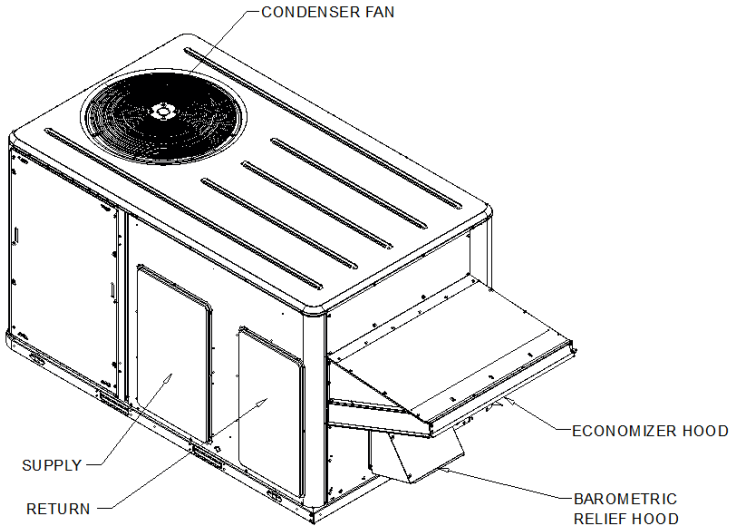


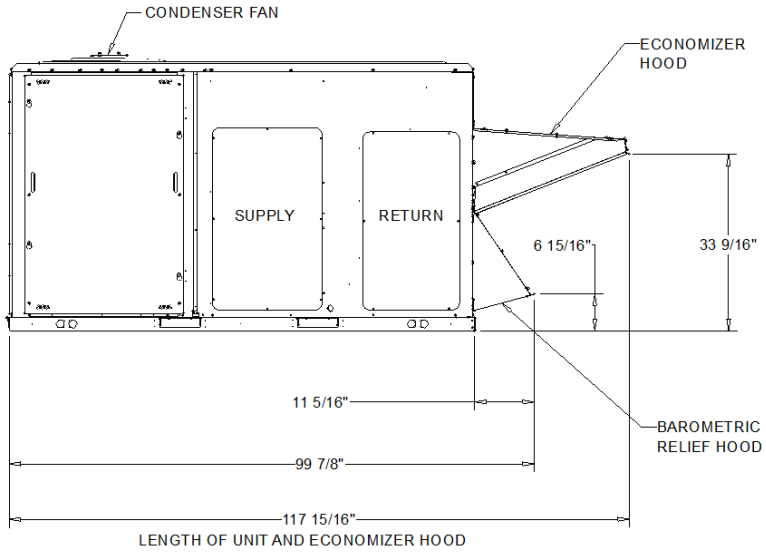


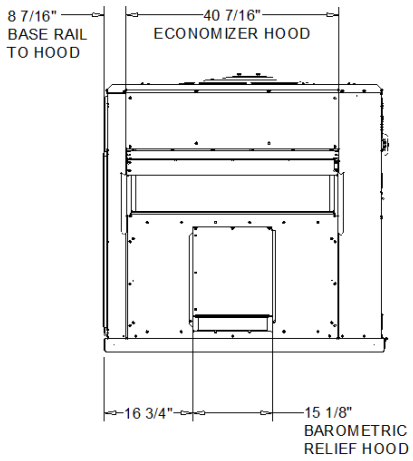
SWING DIAMETER FOR HINGED DOOR(S) (OPTION)

7.5 TON STANDARD GAS/ELECTRIC UNIT

Accessory - PREC
Item: B4 Qty: 1 Tag(s): RTU-8



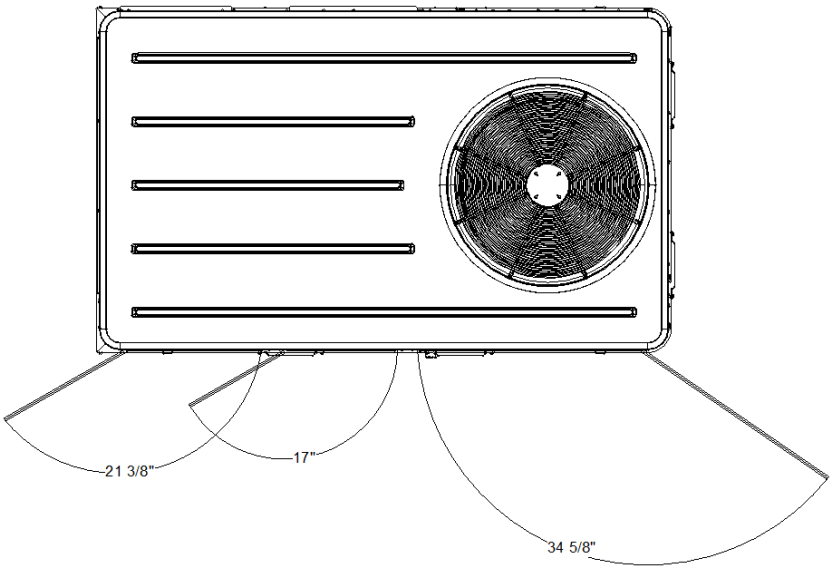


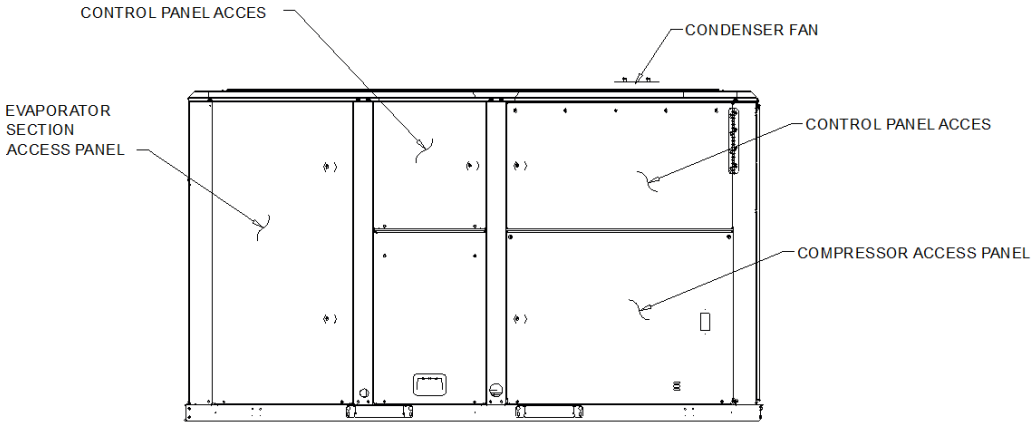


LOW LEAK ECONOMIZER AIR DAMPER (OPTION)

10 TON STANDARD GAS/ELECTRIC UNIT

Accessory - PREC
Item: B4 Qty: 1 Tag(s): RTU-8

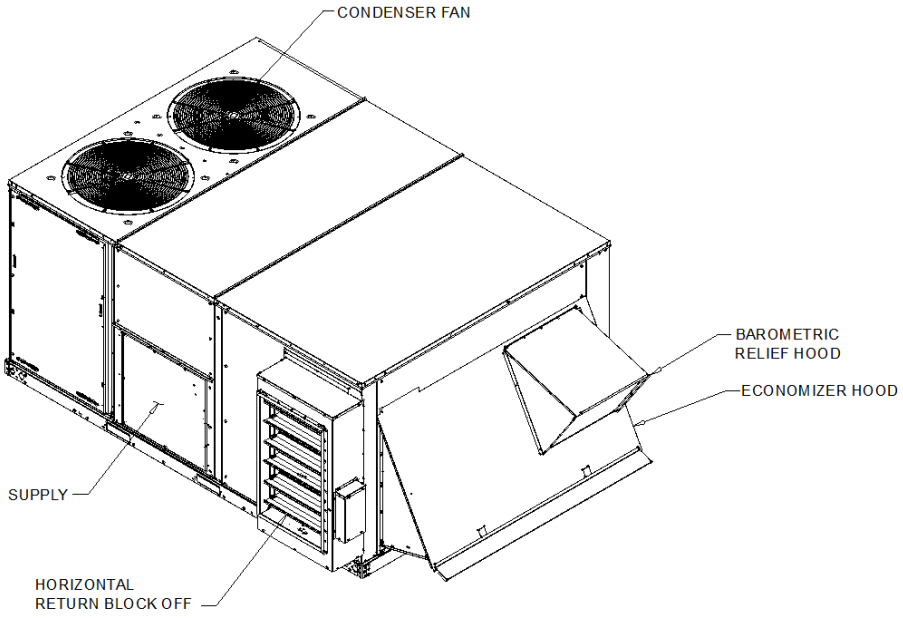


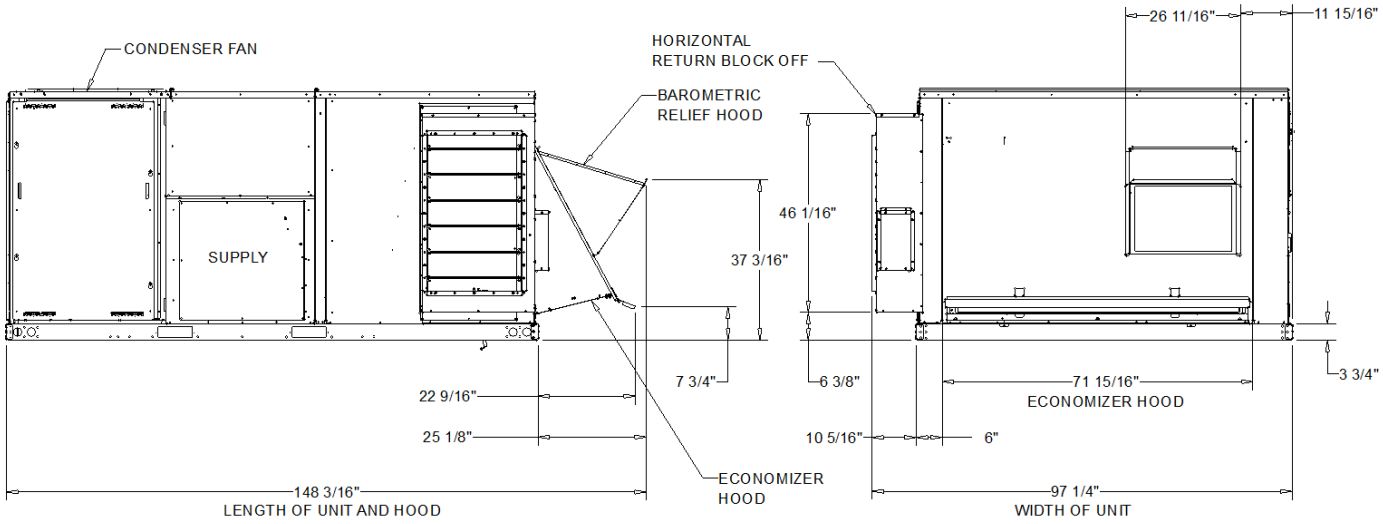


SWING DIAMETER FOR HINGED DOOR(S) (OPTION)

10 TON STANDARD GAS/ELECTRIC UNIT

Accessory - PREC
Item: B7 Qty: 1 Tag(s): RTU-11

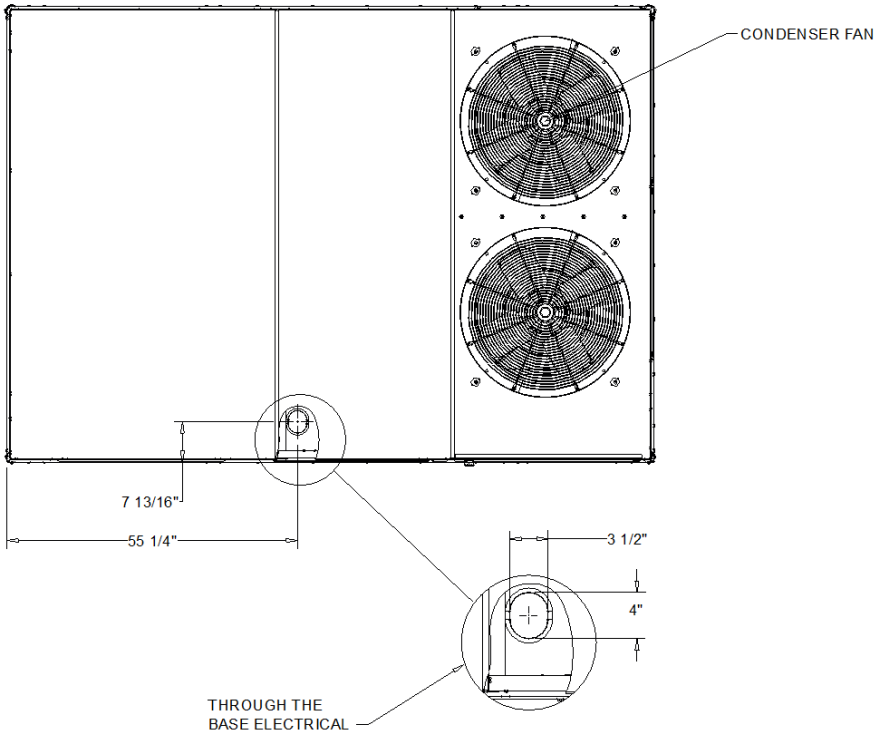


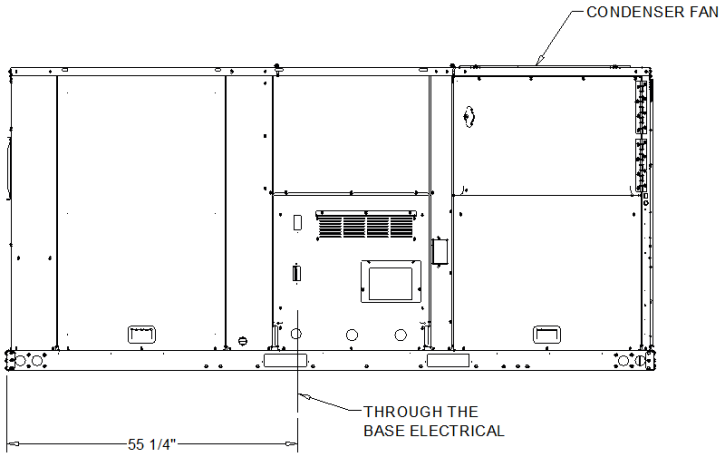


LOW LEAK ECONOMIZER AIR DAMPER (OPTION)

15 TON STANDARD GAS/ELECTRIC UNIT

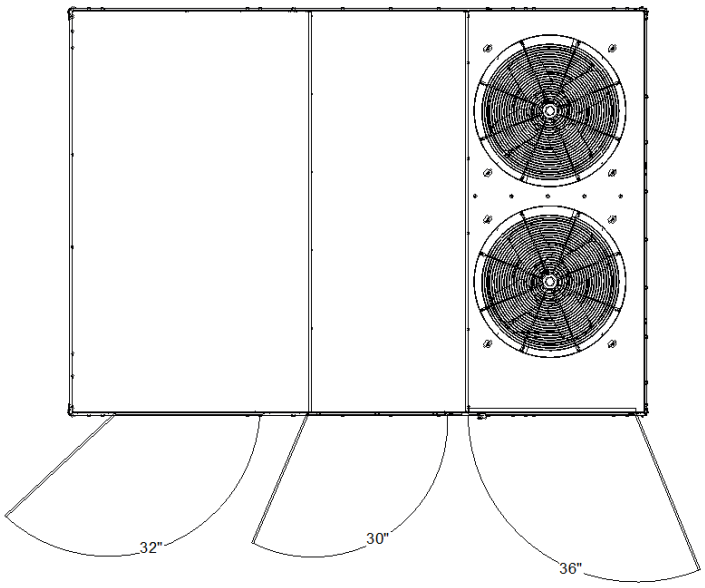
Accessory - PREC
Item: B7 Qty: 1 Tag(s): RTU-11

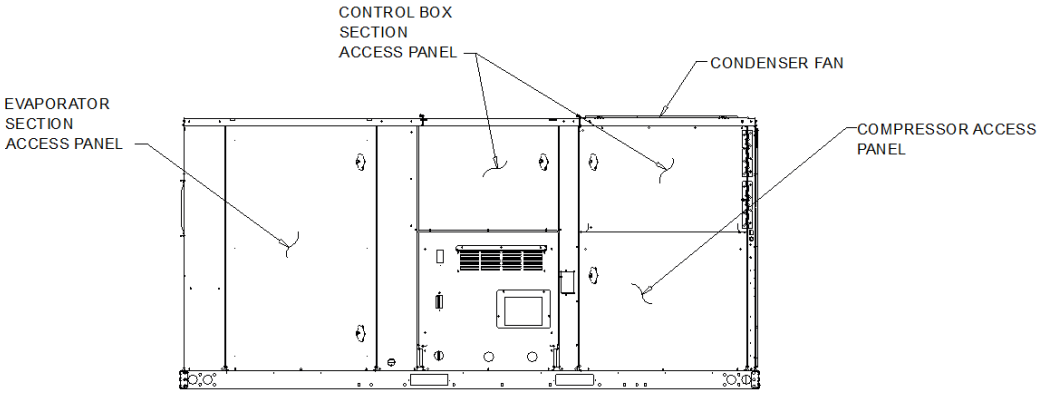




THROUGH-THE-BASE ELECTRICAL (OPTION)

Accessory - PREC
Item: B7 Qty: 1 Tag(s): RTU-11



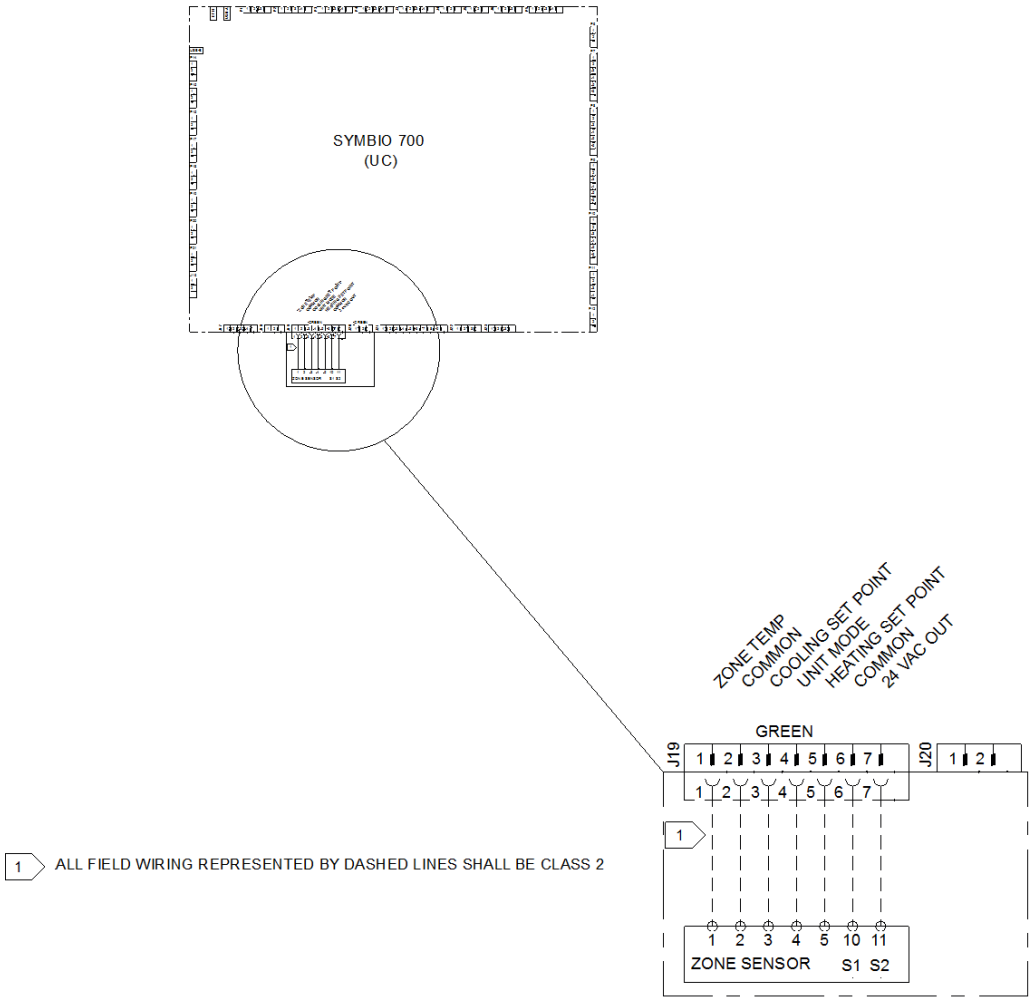


SWING DIAMETER FOR HINGED DOOR(S) (OPTION)

15 TON STANDARD GAS/ELECTRIC UNIT

Field Wiring - PREC
Item: B1 - B9 Qty: 9 Tag(s): RTU-2, RTU-6, RTU-7, RTU-8, RTU-9, RTU-10, RTU-11, RTU-12, RTU-13

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



OPTIONAL ZONE SENSOR (J19)

FIELD WIRING DRAWING SYMBIO 700)

Tag Data - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop (Y4C) (Qty: 3)

Item	Tag(s)	Qty	Description	Model Number
C1	RTU-1	1	3-10 Ton R-410A PKGD Unitary Gas/Electri	YHC060E4RMA**K0C1A1A0B000000000000000000
C2	RTU-3	1	3-10 Ton R-410A PKGD Unitary Gas/Electri	YHC048E4RMA**K0C1A1A0B000000000000000000
C3	RTU-5	1	3-10 Ton R-410A PKGD Unitary Gas/Electri	YHC037E4RMA**K0C1A1A0B000000000000000000

Product Data - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop (Y4C)

All Units

DX cooling, gas heat
High efficiency
Convertible configuration
460/60/3
Microprocessor controls
Medium gas heat
Low Leak Econ-dry bulb 0-100%/bar rel 3p
Hinged panels/2 in pleated filters MERV 8
Standard condenser coil w/hail guard
Through the base electrical
Non-fused disconnect
Unpowered convenience outlet
Dehumidification-hot gas reheat
Programmable zone sensor (Field Installed)
1st Year Labor warranty

Item: C1 Qty: 1 Tag(s): RTU-1

5 Ton

Item: C2 Qty: 1 Tag(s): RTU-3

4 Ton

Item: C3 Qty: 1 Tag(s): RTU-5

3 Ton 17 SEER

Performance Data - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop (Y4C)

Tags	RTU-1	RTU-3	RTU-5
Design Airflow (cfm)	1600	1280	960
Airflow Application	Downflow	Downflow	Downflow
Cooling Entering DB (F)	74.40	73.40	76.10
Cooling Entering WB (F)	63.90	63.30	64.30
Ent Air Relative Humidity (%)	56.65	57.60	52.92
Ambient Temp (F)	95.00	95.00	95.00
Evap Coil Leaving Air Temp (DB) (F)	52.66	52.67	53.77
Evap Coil Leaving Air Temp (DB) (F)	52.66	52.67	53.77
Evap Coil Leaving Air Temp (WB) (F)	51.32	51.12	52.48
Evap Coil Leaving Air Temp (WB) (F)	51.32	51.12	52.48
Cooling Leaving Unit DB (F)	54.58	54.54	55.58
Cooling Leaving Unit WB (F)	52.14	51.93	53.24
Cooling LDB with reheat (F)	74.07	73.71	72.35
Gross Total Capacity (MBh)	57.16	43.91	32.69
Gross Sensible Capacity (MBh)	37.57	28.66	23.15
Gross Latent Capacity (MBh)	19.59	15.26	9.54
Net sensible heat ratio w/reheat on (Number)	-0.12	-0.19	0.20
Net Total Capacity (MBh)	54.73	42.00	31.33
Net Sensible Capacity (MBh)	35.14	26.74	21.78
Net Sensible Heat Ratio (Number)	0.64	0.64	0.70
Heating EAT (F)	59.40	59.40	59.40
Heating LAT (F)	96.70	105.90	121.30
Heating Delta T (F)	37.30	46.50	61.90
Input Heating Capacity (MBh)	80.00	80.00	80.00
Output Heating Capacity (MBh)	64.00	64.00	64.00
Output Heating Cap. w/Fan (MBh)	66.43	65.92	65.37
Design ESP (in H2O)	0.750	0.750	0.750
Component SP (in H2O)	0.290	0.190	0.220
Field supplied drive kit required	None	None	None
Indoor mtr operating power (bhp)	0.71	0.52	0.45
Indoor RPM (rpm)	1010	933	933
Indoor Motor Power (kW)	0.53	0.39	0.33
Outdoor Motor Power (kW)	0.38	0.37	0.22
Compressor Power (kW)	3.97	2.98	2.35
System Power (kW)	4.88	3.73	2.91
MCA (A)	12.00	11.00	12.00
MOP (A)	15.00	15.00	15.00
Compressor 1 RLA (A)	7.10	6.20	5.70
Compressor 2 RLA (A)	0.00	0.00	0.00
Evaporator fan FLA (A)	1.60	1.60	3.70
Condenser fan FLA (A)	1.00	1.00	0.60
Evaporator face area (sq ft)	9.89	9.27	7.71
Evaporator rows (Each)	4.00	3.00	3.00
Evaporator fin spacing (Per Foot)	192	192	192
Evaporator face velocity (ft/min)	162	138	125
Min. unit operating weight (lb)	748.0	725.0	544.0
Max. unit operating weight (lb)	999.0	976.0	767.0
Fan motor heat (MBh)	2.43	1.92	1.37
Reheat Temp Rise (F)	21.41	21.04	18.57
Reheat Capacity (MBh)	37.17	29.22	19.35
Dew Point (F)	50.28	49.91	51.52
Dew Point (F)	50.28	49.91	51.52
Leaving Air Humidity Ratio (lb/lb)	0.01	0.01	0.01
Moisture Removal (gal/hr) (gph)	2.22	1.73	1.08

Tags	RTU-1	RTU-3	RTU-5
Mixed Air Humidity Ratio (lb/lb)	0.01	0.01	0.01
Leaving Unit Rel Humid w/Reheat (%)	43.17	43.08	47.88
Run Acoustics	Yes	Yes	Yes
Ducted Discharge - 63 Hz (dB)	90	88	-
Ducted Discharge - 125 Hz (dB)	78	76	-
Ducted Discharge - 250 Hz (dB)	71	69	-
Ducted Discharge - 500 Hz (dB)	68	66	-
Ducted Discharge - 1 kHz (dB)	66	64	-
Ducted Discharge - 2 kHz (dB)	63	62	-
Ducted Discharge - 4 kHz (dB)	60	57	-
Ducted Discharge - 8 kHz (dB)	53	50	-
Ducted Inlet - 63 Hz (dB)	84	83	-
Ducted Inlet - 125 Hz (dB)	72	71	-
Ducted Inlet - 250 Hz (dB)	61	60	-
Ducted Inlet - 500 Hz (dB)	57	56	-
Ducted Inlet - 1 kHz (dB)	56	54	-
Ducted Inlet - 2 kHz (dB)	53	51	-
Ducted Inlet - 4 kHz (dB)	51	48	-
Ducted Inlet - 8 kHz (dB)	45	42	-
Outdoor Noise - 63 Hz (dB)	80	80	-
Outdoor Noise - 125 Hz (dB)	86	86	-
Outdoor Noise - 250 Hz (dB)	84	84	-
Outdoor Noise - 500 Hz (dB)	85	85	-
Outdoor Noise - 1 kHz (dB)	83	83	-
Outdoor Noise - 2 kHz (dB)	79	79	-
Outdoor Noise - 4 kHz (dB)	73	73	-
Outdoor Noise - 8 kHz (dB)	67	67	-
Rated capacity (AHRI) (MBh)	60.00	49.00	38.00
Refrig charge (HFC-410A) - ckt 1 (lb)	13.9	12.0	7.6
ASHRAE 90.1	Yes	Yes	Yes
Saturated Suction Temp Circuit 1 (F)	47.02	44.95	47.23
Saturated Discharge Temp Circuit 1 (F)	113.42	109.30	111.02
SEER/IEER @ AHRI conditions ( )	14.20	14.20	17.50
EER @ AHRI Conditions ( )	11.90	11.60	13.00
EER2 @ AHRI Conditions ( )	11.70	11.70	12.50
SEER2 @ AHRI Conditions ( )	14.70	14.70	15.90
Rated Capacity (AHRI EER2/SEER2) ( )	59.00	48.00	36.00
Total Static Pressure (in H2O)	1.040	0.940	0.970
Length (ft)	7.39	7.39	5.82
Width (ft)	4.44	4.44	3.69
Height (ft)	3.41	3.41	3.02
Indoor Fan Type	FC Centrifugal	FC Centrifugal	FC Centrifugal
Indoor Fan Drive Type	Belt	Belt	Direct
Outdoor Fan Type	Propeller	Propeller	Propeller
Outdoor Fan Drive Type	Direct	Direct	Direct
Outdoor Fan Quantity ( )	1	1	1
Heating Type	Gas Heat	Gas Heat	Gas Heat
Heating Stages	1	1	1

Mechanical Specifications - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: C1 - C3 Qty: 3 Tag(s): RTU-1, RTU-3, RTU-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.

General (Precedent 17 Plus)
The units shall be convertible airflow. The operating range shall be between 125°F and 0°F incooling as standard from the factory for units with microprocessor controls. 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.

Compressors (Precedent 17 Plus)
All units shall have direct-drive and hermetic 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.
Crankcase heaters shall be included. Two-stage compressor is outstanding for humidity control and light load cooling conditions.

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).

Indoor Fan (Precedent 17 Plus)
All motors shall be thermally protected. 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.

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

Controls (Precedent 17 Plus)
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. 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.

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).

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.

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.

Accessory - BAYSENS119 Programmable Zone Temperature Sensor Configured as a Constant Volume Unit
The electronic programmable sensor is Auto or Manual changeover with seven day programming. Auto or Manual selection of Fan Auto, Fan On. Programmable sensor has System Off, Auto, Heat, Cool, and Service /LCD indicators as standard. Night setback sensor has up to four programs per day which can be individually configured to occupied or unoccupied.

Enhanced Dehumidification (Precedent 17 Plus)
Enhanced Dehumidification will be available on all units equipped with a Space Humidity sensor, regardless of whether the unit is configured with traditional Hot Gas Reheat. Humidity levels are decreased while increasing the comfort level in an air space through advanced controls of compressor and indoor fan operation.

ATTENTION
For installation in SCAQMD only: This furnace does not meet the SCAQMD Rule 1111 14 ng/J NOx emission limit, and thus is subject to a mitigation fee of up to $450. This furnace is not eligible for the Clean Air Furnace Rebate Program: www.CleanAirFurnaceRebate.com.

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.

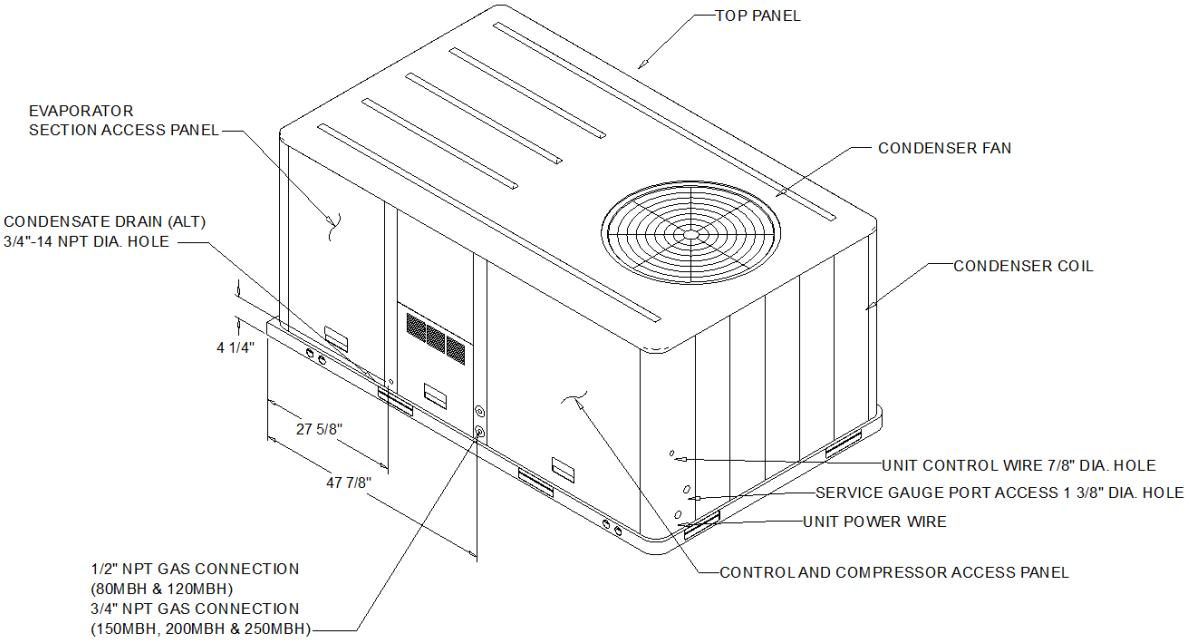
D. CHANGEOVER BYPASS SYSTEM

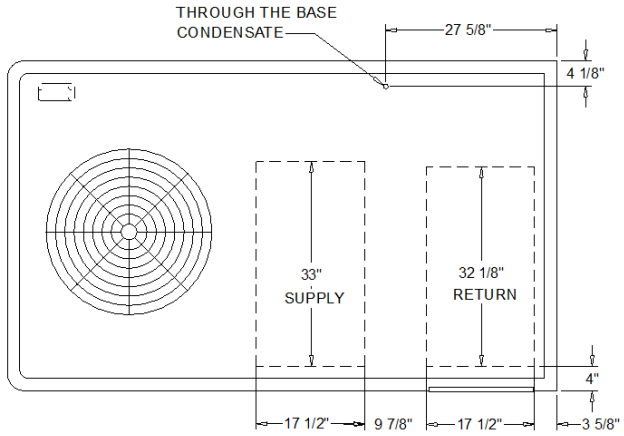
1. OCCUPIED HEAT/COOL:
Each VAV terminal shall use pressure-independent control, with airflow measurement, to vary primary airflow to maintain zone temperature at its occupied setpoint. The RTU shall modulate the bypass damper to maintain duct static pressure at setpoint and modulate (or cycle) compressors, 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.

Dimensional Drawings - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: C1, C2 Qty: 2 Tag(s): RTU-1, RTU-3

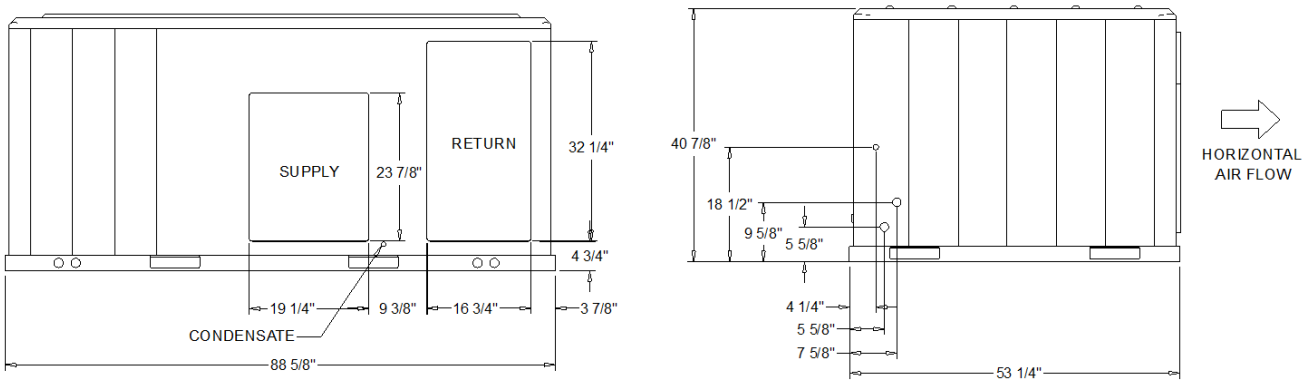




PLAN VIEW UNIT

DIMENSION DRAWING

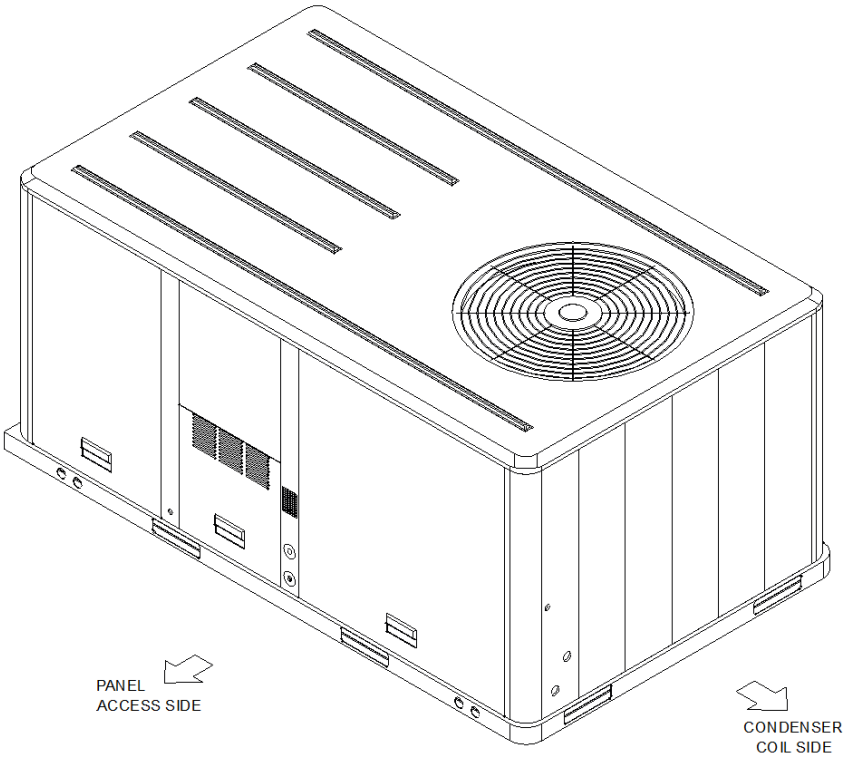
NOTES:
1. THRU -THE -BASE ELECTRICAL AND GAS IS NOT STANDARD ON ALL UNITS.
2. VERIFY WEIGHT, CONNECTION, AND ALL DIMENSION WITH INSTALLER DOCUMENTS BEFORE INSTALLATION

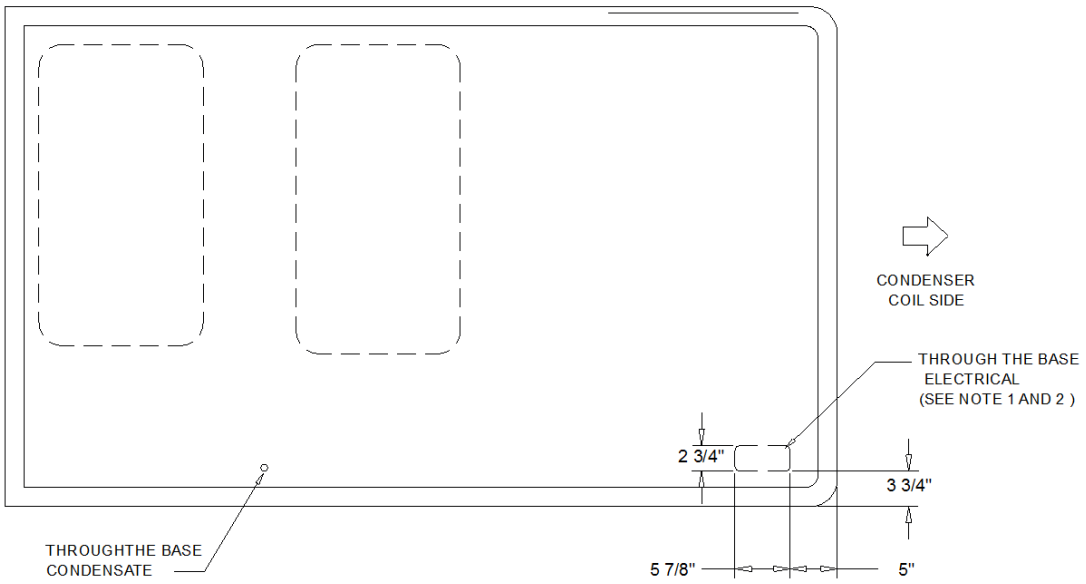


PACKAGED GAS / ELECTRICAL

DIMENSION DRAWING

Dimensional Drawings - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: C1, C2 Qty: 2 Tag(s): RTU-1, RTU-3





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

Dimensional Drawings - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: C1 Qty: 1 Tag(s): RTU-1

ELECTRICAL / GENERAL DATA

GENERAL (2)(4)(6)

		Oversized Motor	
Model:	YHC060E	MCA:	N/A
Unit Operating Voltage:	414-506	MFS:	N/A
Unit Primary Voltage:	460	MCB:	N/A
Unit Secondary Voltage	--		
Unit Hertz:	60		
Unit Phase:	3		

EER/SEER

Standard Motor		Field Installed Oversized Motor	
MCA:	12.3	MCA:	N/A
MFS:	15.0	MFS:	N/A
MCB:	15.0	MCB:	N/A

HEATING PERFORMANCE

HEATING - GENERAL DATA

Heating Model:	Medium
Heating Input (BTU):	80000
Heating Output (BTU):	64000
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:		Horsepower:	N/A
Motor Speed (RPM):	--	Motor Speed (RPM):		Motor Speed (RPM):	N/A
Phase	3	Phase		Phase	N/A
Full Load Amps:	1.6	Full Load Amps:		Full Load Amps:	N/A
Locked Rotor Amps:	--	Locked Rotor Amps:		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:	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	15.7 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.

Dimensional Drawings - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: C2 Qty: 1 Tag(s): RTU-3

ELECTRICAL / GENERAL DATA

GENERAL (2)(4)(6)

		Oversized Motor	
Model:	YHC048E		
Unit Operating Voltage:	414-506	MCA:	N/A
Unit Primary Voltage:	460	MFS:	N/A
Unit Secondary Voltage	--	MCB:	N/A
Unit Hertz:	60		
Unit Phase:	3		
EER/SEER	- / 14.2		
Standard Motor		Field Installed Oversized Motor	
MCA:	11.0	MCA:	N/A
MFS:	15.0	MFS:	N/A
MCB:	15.0	MCB:	N/A

HEATING PERFORMANCE

HEATING - GENERAL DATA

Heating Model:	Medium
Heating Input (BTU):	80000
Heating Output (BTU):	64000
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:		Horsepower:	N/A
Motor Speed (RPM):	--	Motor Speed (RPM):		Motor Speed (RPM):	N/A
Phase	3	Phase		Phase	N/A
Full Load Amps:	1.6	Full Load Amps:		Full Load Amps:	N/A
Locked Rotor Amps:	16.1	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"

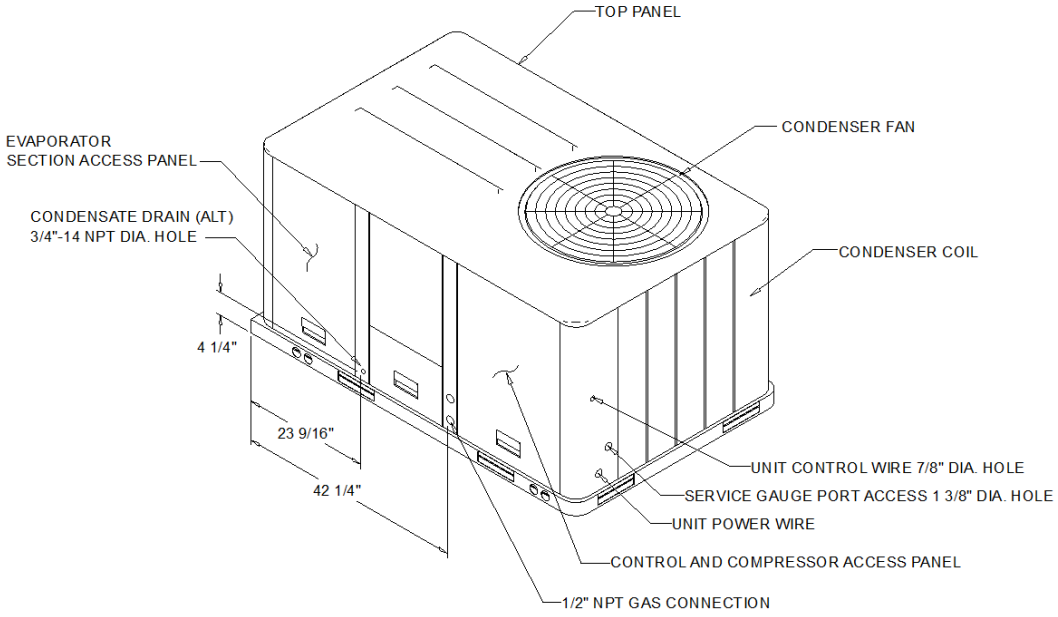
REFRIGERANT (2)

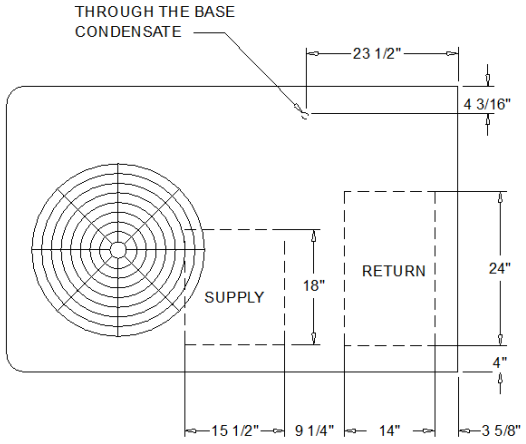
Type	R-410
Factory Charge	
Circuit #1	15.7 lb
Circuit #2	N/A

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.

Dimensional Drawings - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: C3 Qty: 1 Tag(s): RTU-5

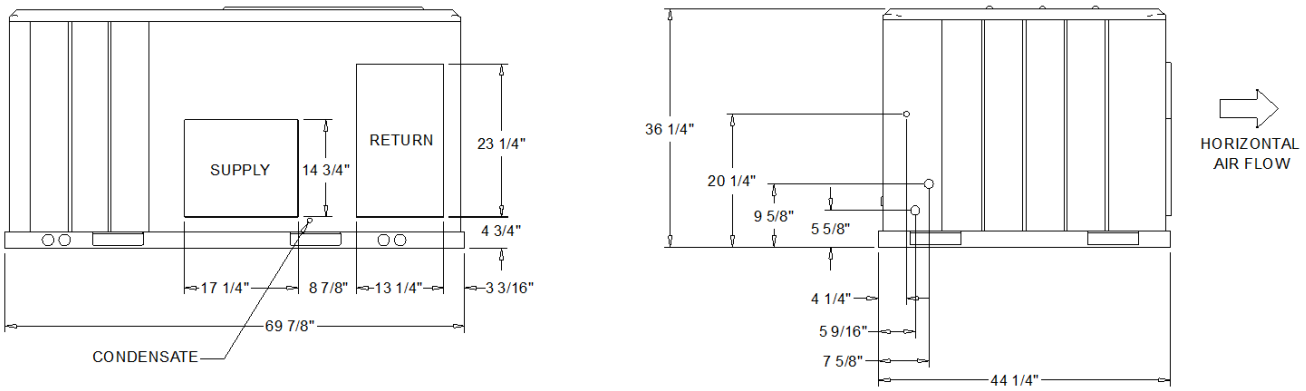




PLAN VIEW UNIT

DIMENSION DRAWING

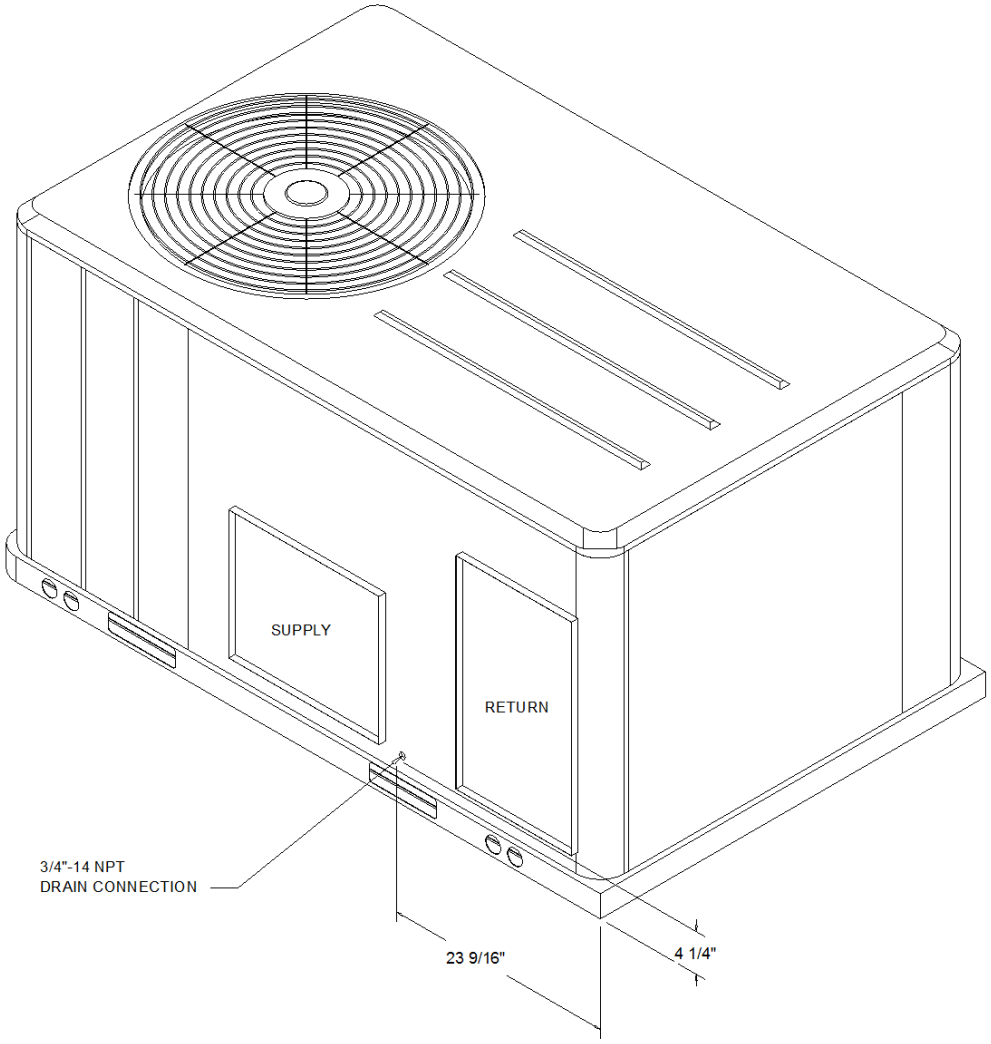
NOTES:
1. THRU -THE -BASE GAS AND ELECTRICAL IS NOT STANDARD ON ALL UNITS.
2. VERIFY WEIGHT, CONNECTION, AND ALL DIMENSION WITH INSTALLER DOCUMENTS BEFORE INSTALLATION



PACKAGED GAS / ELECTRICAL

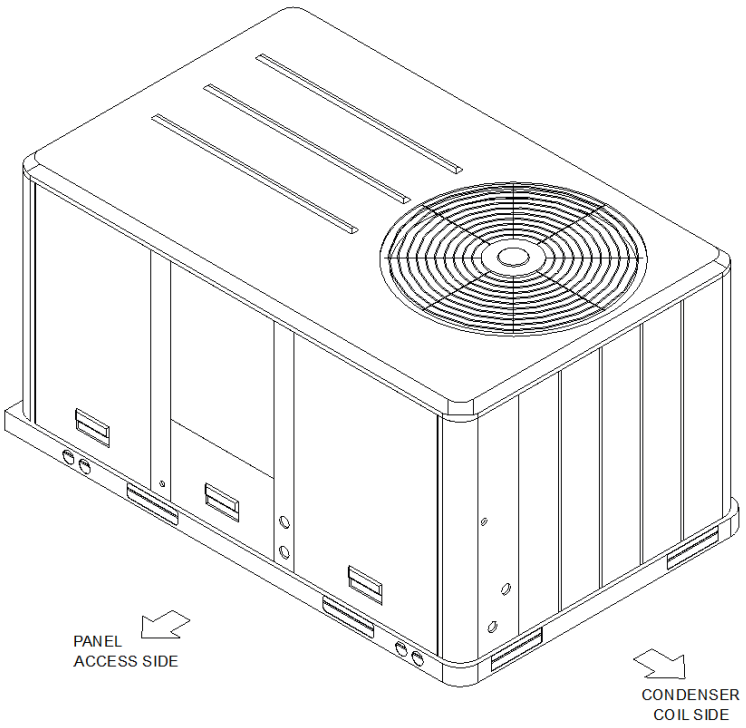
DIMENSION DRAWING

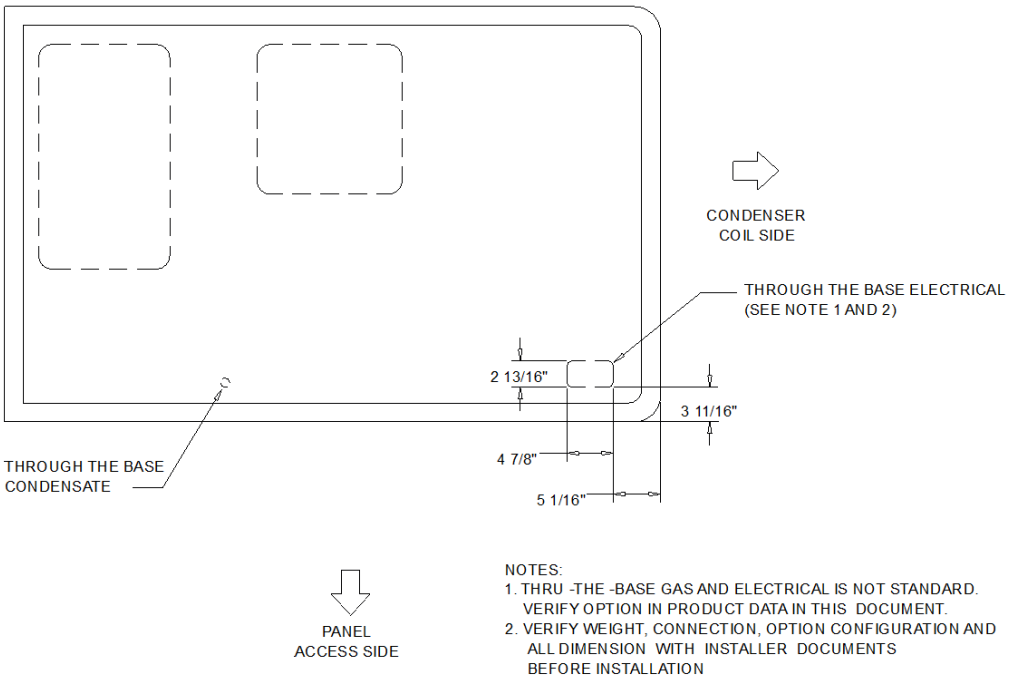
Dimensional Drawings - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: C3 Qty: 1 Tag(s): RTU-5



ISOMETRIC-PACKAGED COOLING

Dimensional Drawings - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: C3 Qty: 1 Tag(s): RTU-5





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

Dimensional Drawings - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: C3 Qty: 1 Tag(s): RTU-5

ELECTRICAL / GENERAL DATA

GENERAL (2)(4)(6)

Model:	YHC037E
Unit Operating Voltage:	414-506
Unit Primary Voltage:	460
Unit Secondary Voltage	--
Unit Hertz:	60
Unit Phase:	3
	13.0/17.5

Oversized Motor: MCA: N/A; MFS: N/A; MCB: N/A

Standard Motor: MCA: ; MFS: ; MCB:

Field Installed Oversized Motor: MCA: N/A; MFS: N/A; MCB: N/A

HEATING PERFORMANCE

HEATING - GENERAL DATA

Heating Model:	Medium
Heating Input (BTU):	80,000
Heating Output (BTU):	64,000
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		N/A
Horsepower:	0.75		N/A
Motor Speed (RPM):	--		N/A
Phase	1		N/A
Full Load Amps:	3.7		N/A
Locked Rotor Amps:	--		N/A

COMPRESSOR Circuit 1/2

Number:	1
Horsepower:	2.7
Phase:	3
Rated Load Amps:	5.7
Locked Rotor Amps:	-

OUTDOOR MOTOR

Number:	1
Horsepower:	0.20
Motor Speed (RPM):	1075
Phase:	1
Full Load Amps:	0.6
	-

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"x30"x2"

REFRIGERANT (2)

Type

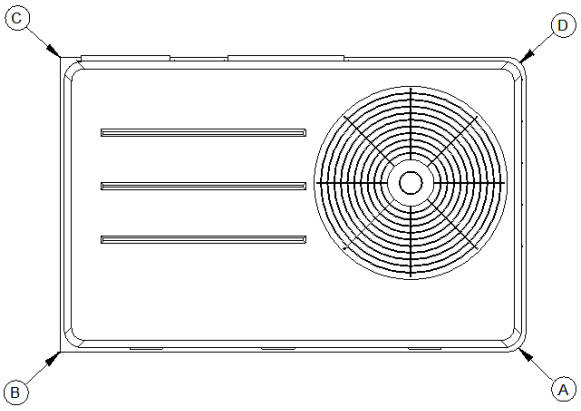
Factory Charge

Circuit #1	10.5 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 - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: C1 Qty: 1 Tag(s): RTU-1



PACKAGED GAS / ELECTRICAL

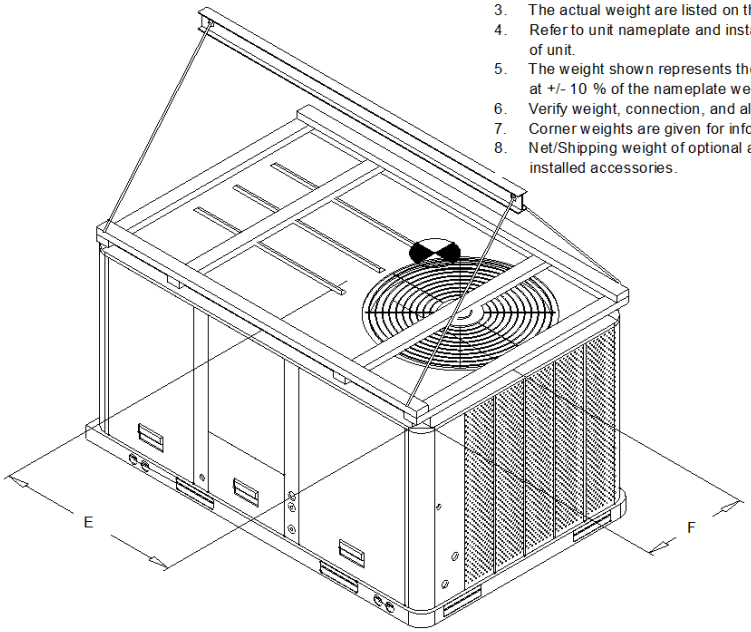
CORNER WEIGHT

INSTALLED ACCESSORIES NET WEIGHT DATA

ACCESSORY	WEIGHTS
ECONOMIZER	91.0 lb
MOTORIZED OUTSIDE AIR DAMPER	
MANUAL OUTSIDE AIR DAMPER	
BAROMETRIC RELIEF	
OVERSIZED MOTOR	
BELT DRIVE MOTOR	
POWER EXHAUST	
THROUGHT THE BASE ELECTRICAL/GAS (FIOPS)	13.0 lb
UNIT MOUNTED CIRCUIT BREAKER (FIOPS)	
UNIT MOUNTED DISCONNECT (FIOPS)	5.0 lb
POWERED CONVENIENCE OUTLET (FIOPS)	
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 GRAVITIY	
SHIPPING	NET	A	261.0 lb	C	156.0 lb	(E) LENGHT	(F) WIDTH
917.0 lb	822.0 lb	B	218.0 lb	D	187.0 lb	40"	22"

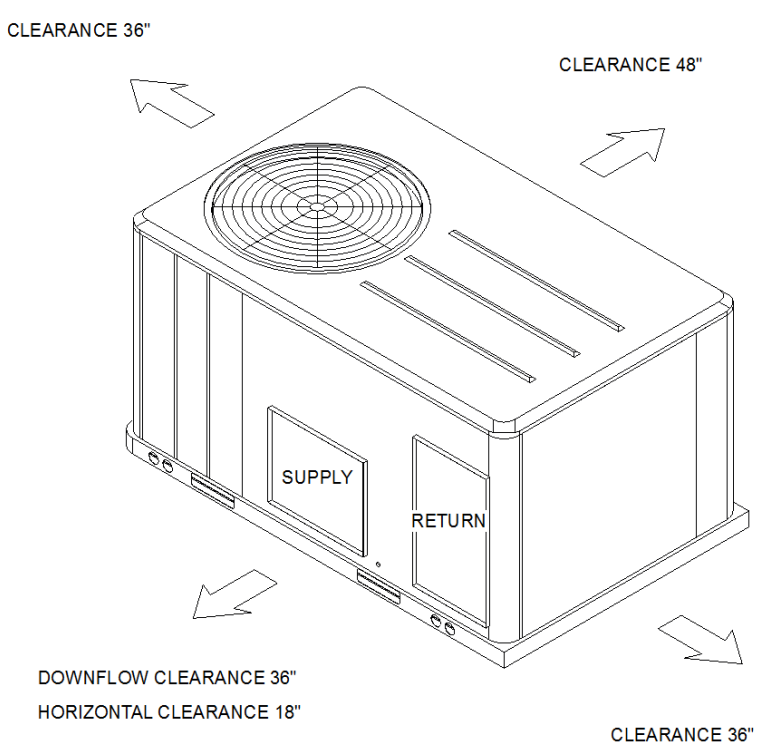
NOTE:
1. All weights are approximate.
2. Weights for options that are not list refer to Installation guide.
3. The actual weight are listed on the unit nameplate.
4. Refer to unit nameplate and installation guide for weights before scheduling transportation and installation of unit.
5. The weight shown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



PACKAGED GAS / ELECTRICAL

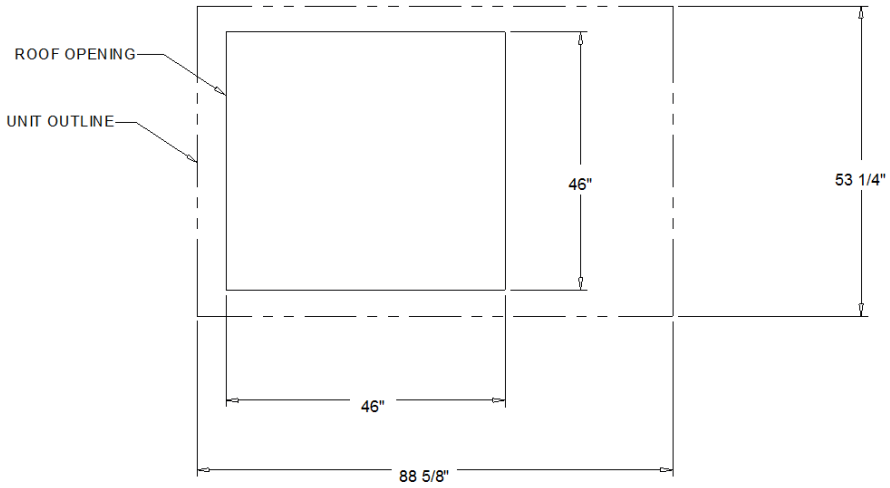
RIGGING AND CENTER OF GRAVITY

Weight, Clearance & Rigging - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: C1, C2 Qty: 2 Tag(s): RTU-1, RTU-3



PACKAGED GAS / ELECTRIC

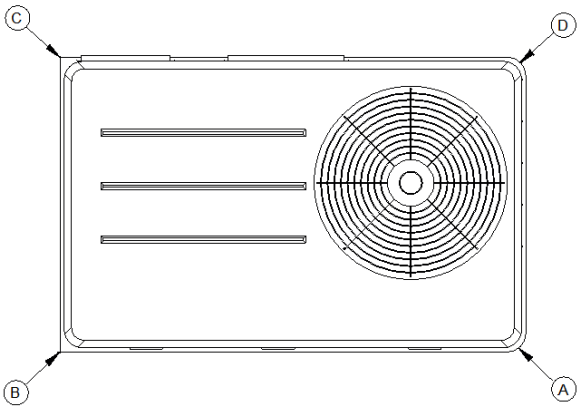
CLEARANCE



PACKAGED GAS / ELECTRIC

DOWNFLOW TYPICAL ROOF OPENING

Weight, Clearance & Rigging - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: C2 Qty: 1 Tag(s): RTU-3



PACKAGED GAS / ELECTRICAL

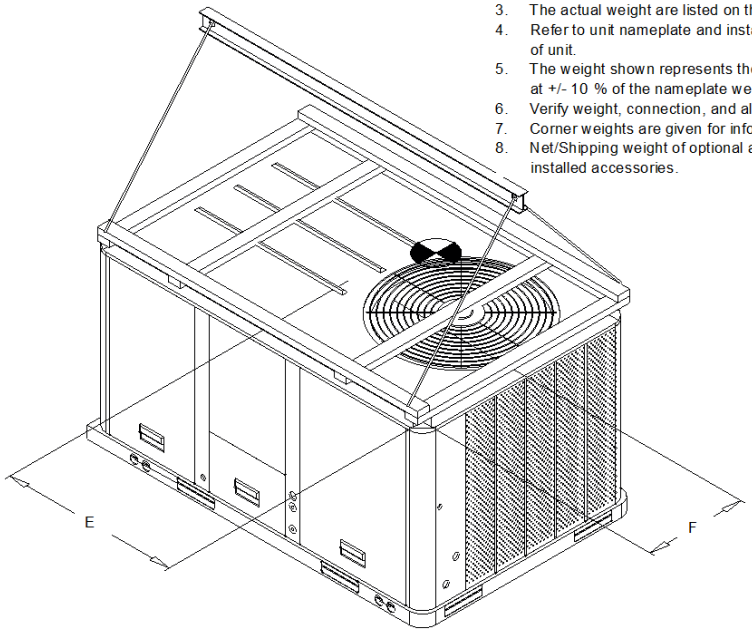
CORNER WEIGHT

INSTALLED ACCESSORIES NET WEIGHT DATA

ACCESSORY	WEIGHTS
ECONOMIZER	91.0 lb
MOTORIZED OUTSIDE AIR DAMPER	
MANUAL OUTSIDE AIR DAMPER	
BAROMETRIC RELIEF	
OVERSIZED MOTOR	
BELT DRIVE MOTOR	
POWER EXHAUST	
THROUGHT THE BASE ELECTRICAL/GAS (FIOPS)	13.0 lb
UNIT MOUNTED CIRCUIT BREAKER (FIOPS)	
UNIT MOUNTED DISCONNECT (FIOPS)	5.0 lb
POWERED CONVENIENCE OUTLET (FIOPS)	
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 GRAVITIY	
SHIPPING	NET	A	238.0 lb	C	148.0 lb	(E) LENGHT	(F) WIDTH
858.0 lb	763.0 lb	B	200.0 lb	D	176.0 lb	40"	23"

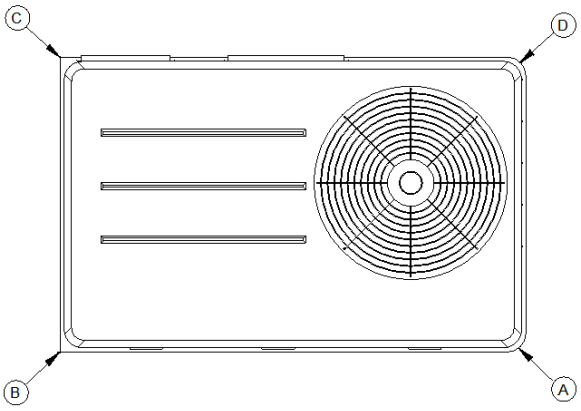
NOTE:
1. All weights are approximate.
2. Weights for options that are not list refer to Installation guide.
3. The actual weight are listed on the unit nameplate.
4. Refer to unit nameplate and installation guide for weights before scheduling transportation and installation of unit.
5. The weight shown 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 - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: C3 Qty: 1 Tag(s): RTU-5



PACKAGED GAS / ELECTRICAL

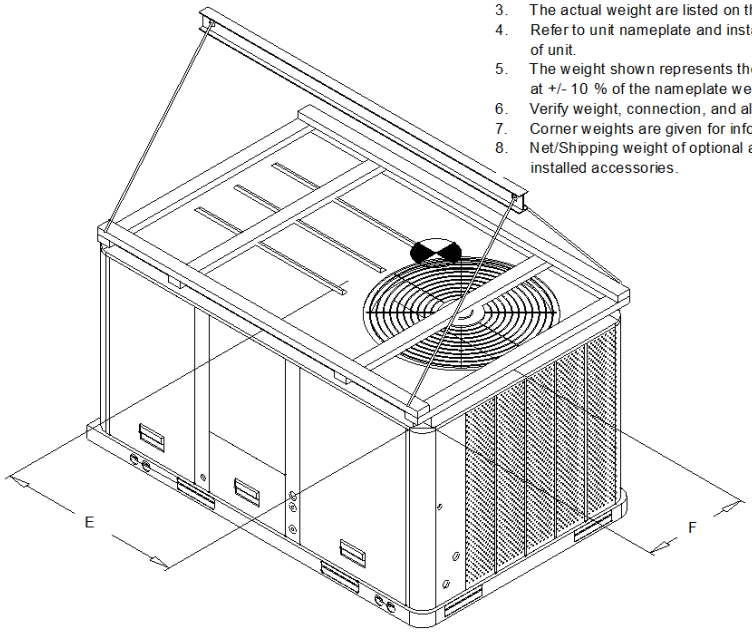
CORNER WEIGHT

INSTALLED ACCESSORIES NET WEIGHT DATA

ACCESSORY	WEIGHTS
ECONOMIZER	70.0 lb
MOTORIZED OUTSIDE AIR DAMPER	
MANUAL OUTSIDE AIR DAMPER	
BAROMETRIC RELIEF	
OVERSIZED MOTOR	
BELT DRIVE MOTOR	
POWER EXHAUST	
THROUGHT THE BASE ELECTRICAL/GAS (FIOPS)	8.0 lb
UNIT MOUNTED CIRCUIT BREAKER (FIOPS)	
UNIT MOUNTED DISCONNECT (FIOPS)	5.0 lb
POWERED CONVENIENCE OUTLET (FIOPS)	
HINGED DOORS (FIOPS)	10.0 lb
HAIL GUARD	12.0 lb
SMOKE DETECTOR, SUPPLY / RETURN	
NOVAR CONTROL	
STAINLESS STEEL HEAT EXCHANGER	
REHEAT	
ROOF CURB	

BASIC UNIT WEIGHTS		CORNER WEIGHTS				CENTER OF GRAVITIY	
SHIPPING	NET	A	178.0 lb	C	126.0 lb	(E) LENGHT	(F) WIDTH
676.0 lb	606.0 lb	B	162.0 lb	D	139"	33"	19"

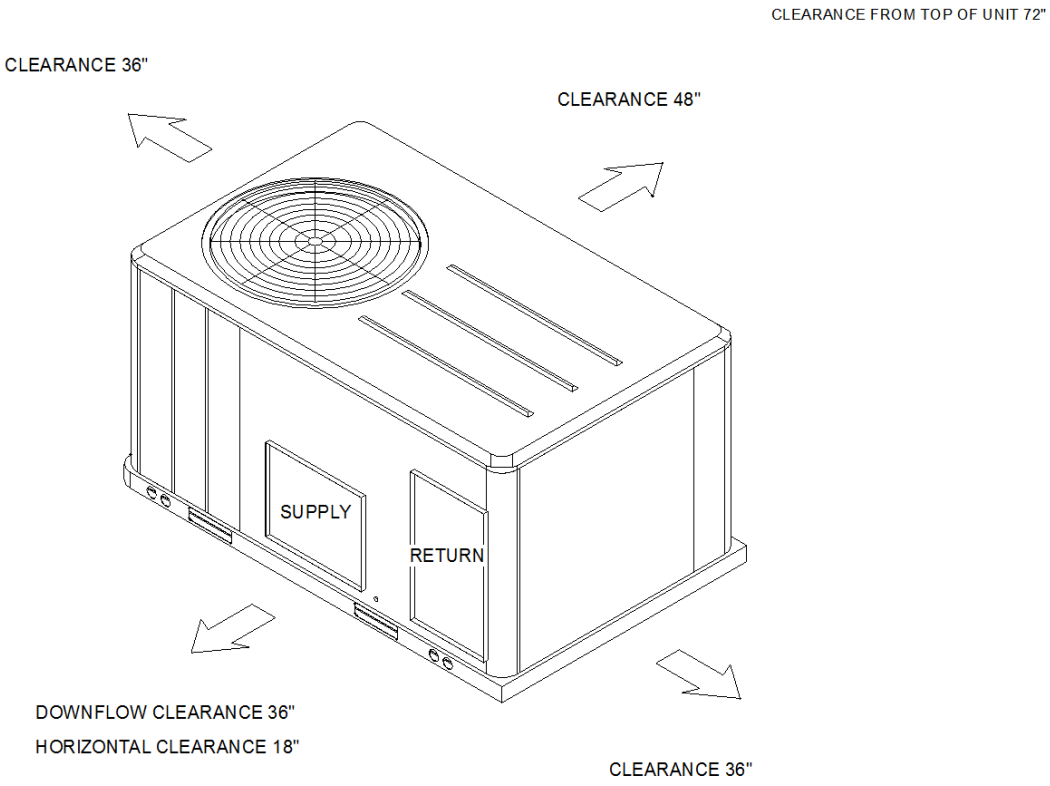
NOTE:
1. All weights are approximate.
2. Weights for options that are not list refer to Installation guide.
3. The actual weight are listed on the unit nameplate.
4. Refer to unit nameplate and installation guide for weights before scheduling transportation and installation of unit.
5. The weight shown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

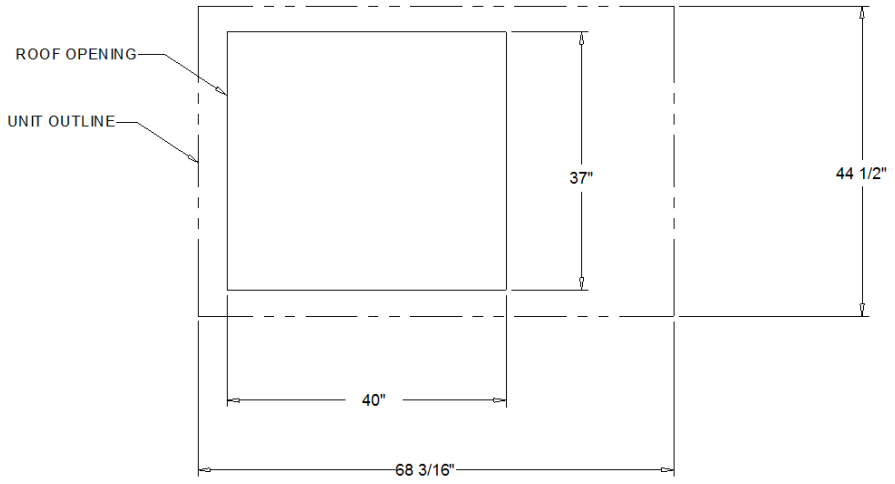
RIGGING AND CENTER OF GRAVITY

Weight, Clearance & Rigging - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: C3 Qty: 1 Tag(s): RTU-5



PACKAGED GAS / ELECTRIC

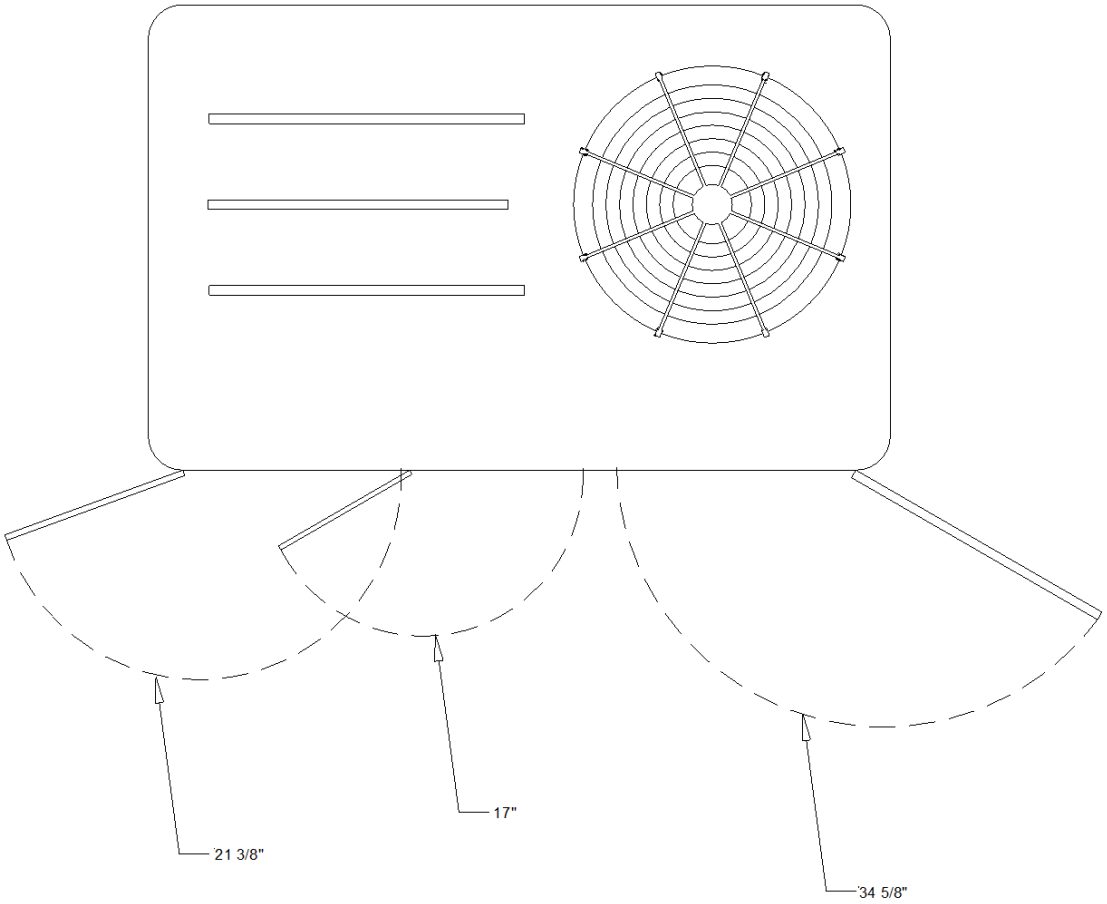
CLEARANCE



PACKAGED GAS / ELECTRIC

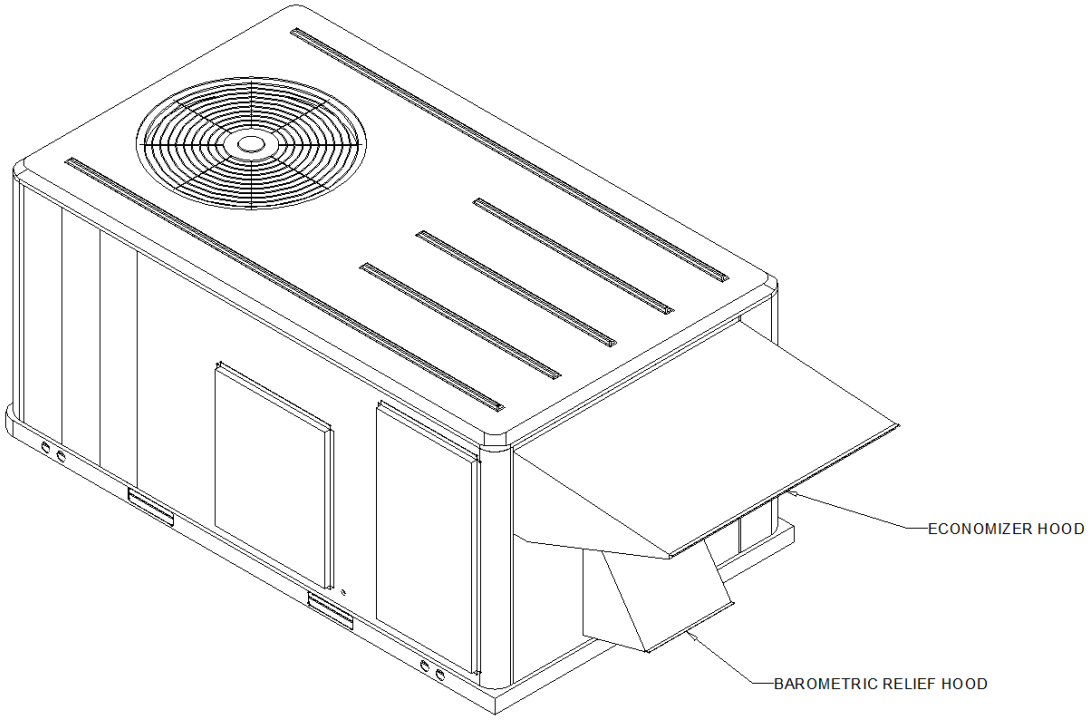
DOWNFLOW TYPICAL ROOF OPENING

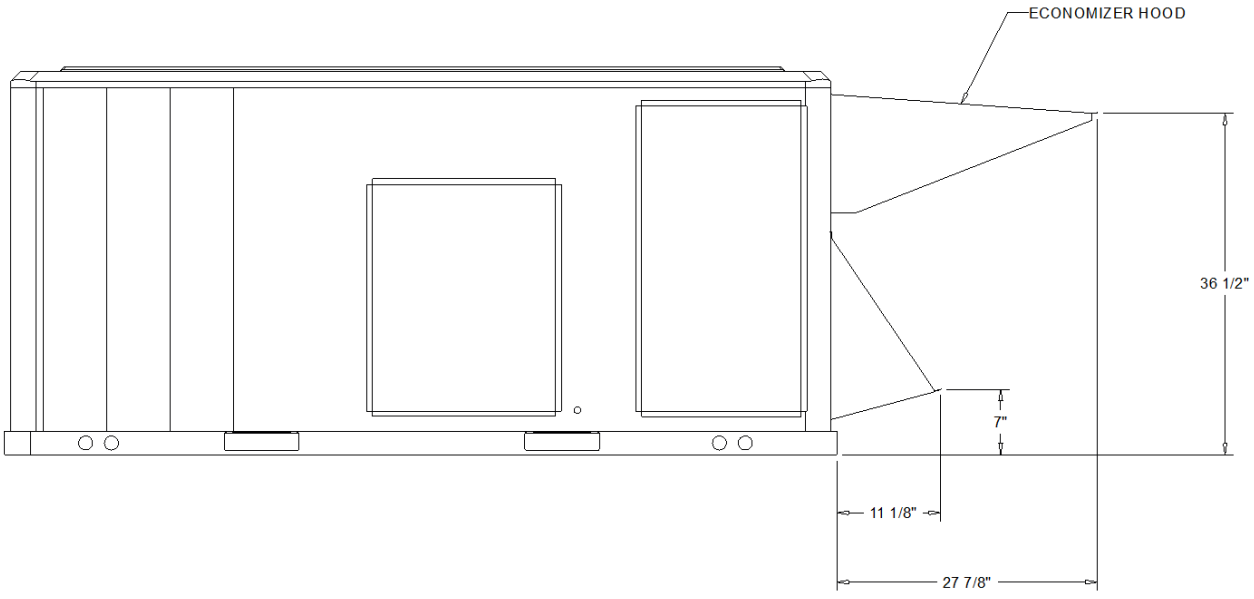
Accessory - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: C1, C2 Qty: 2 Tag(s): RTU-1, RTU-3



SWING DIAMETER - HINGED DOOR(S) OPTION
ACCESSORY

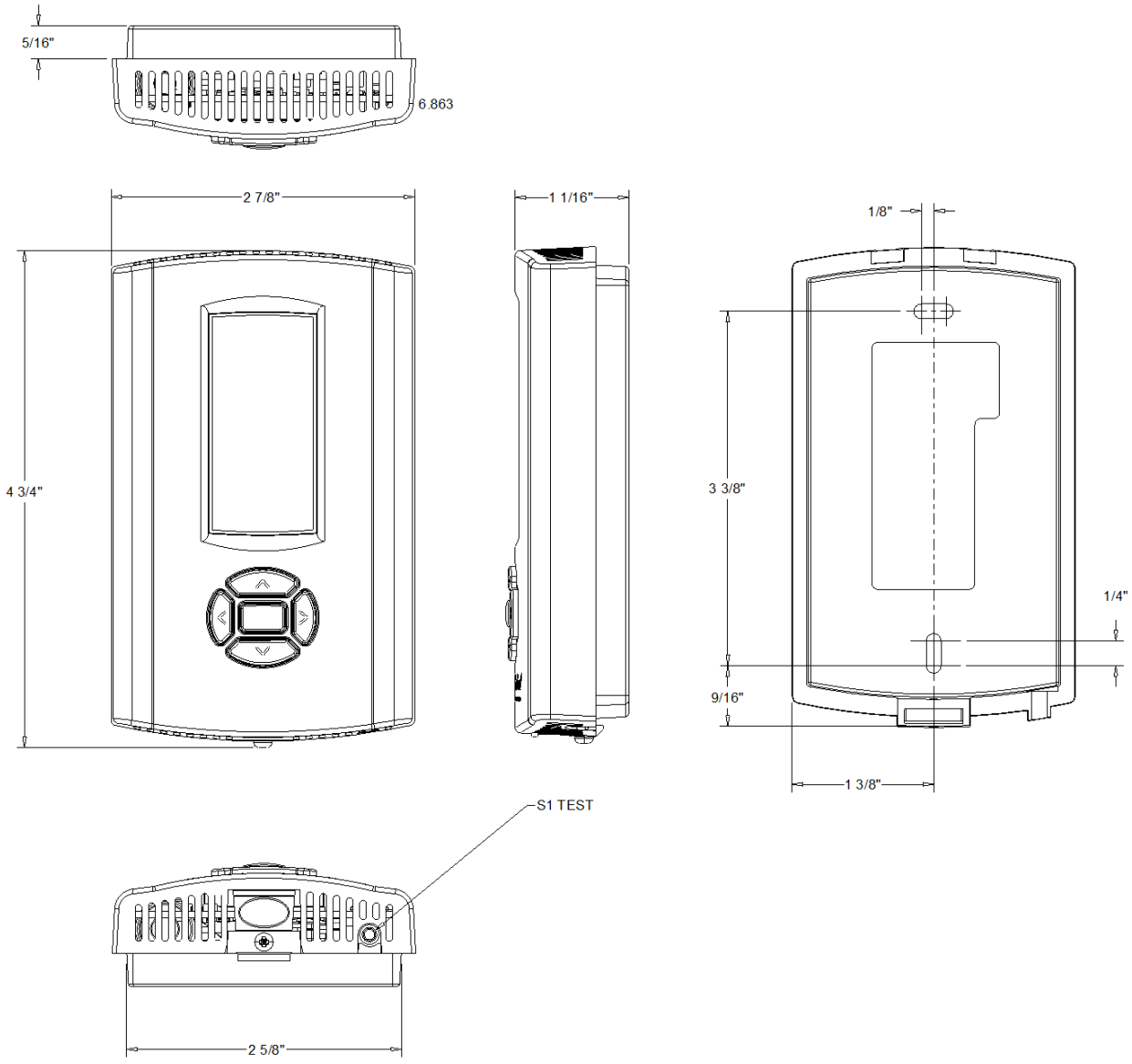
Accessory - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: C1, C2 Qty: 2 Tag(s): RTU-1, RTU-3





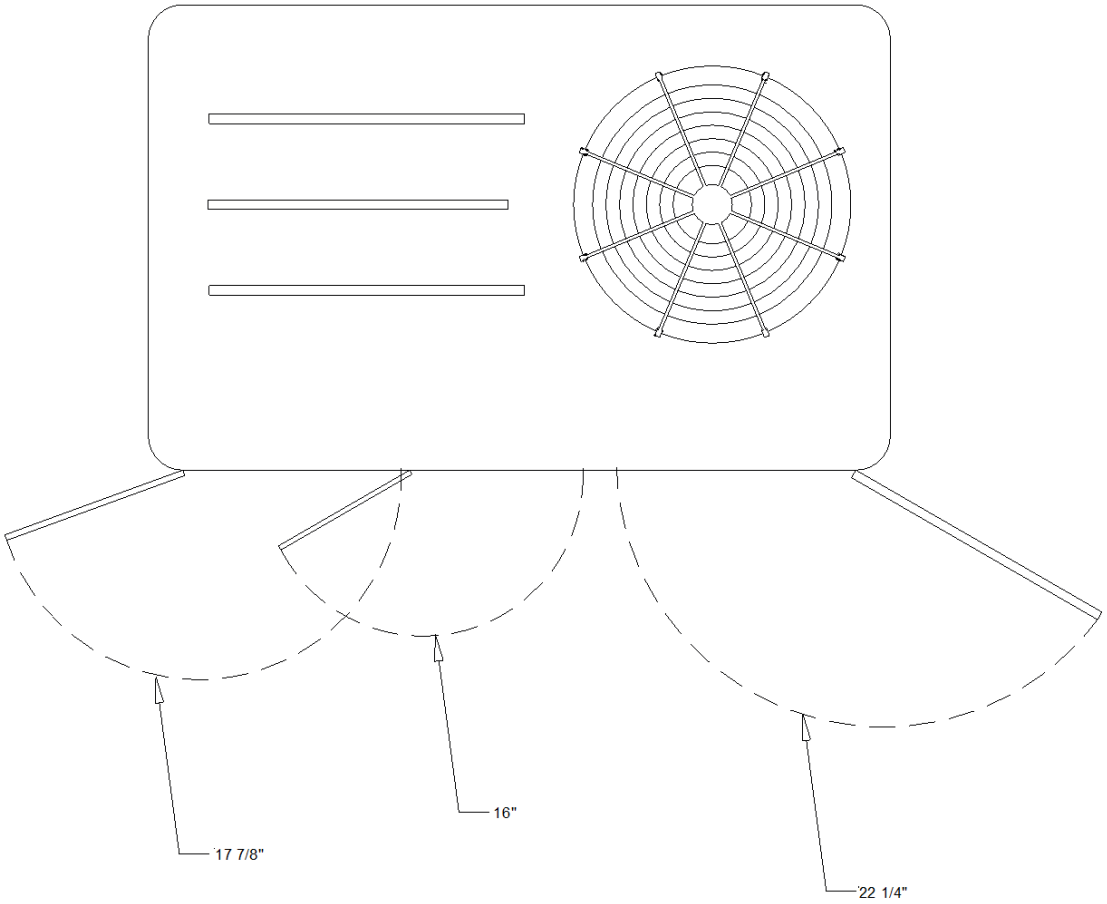
LOW LEAK ECONOMIZER HOOD
ACCESSORY

Accessory - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: C1 - C3 Qty: 3 Tag(s): RTU-1, RTU-3, RTU-5



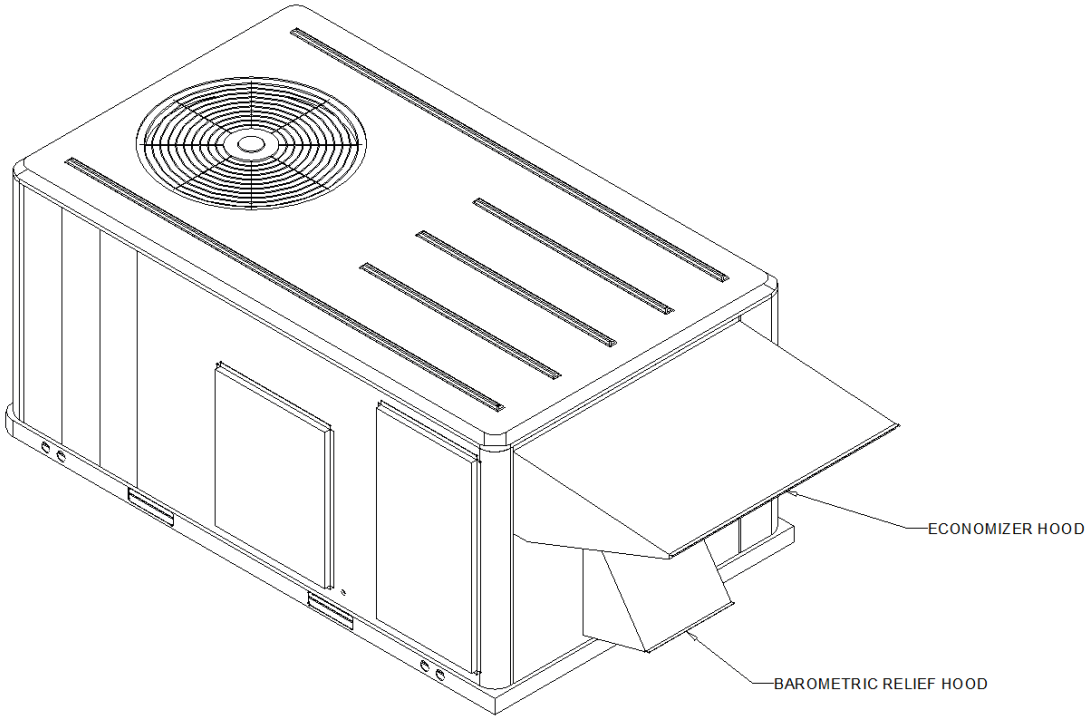
ZONE SENSOR-BAYSENS119 PROGRAMMABLE SENSOR

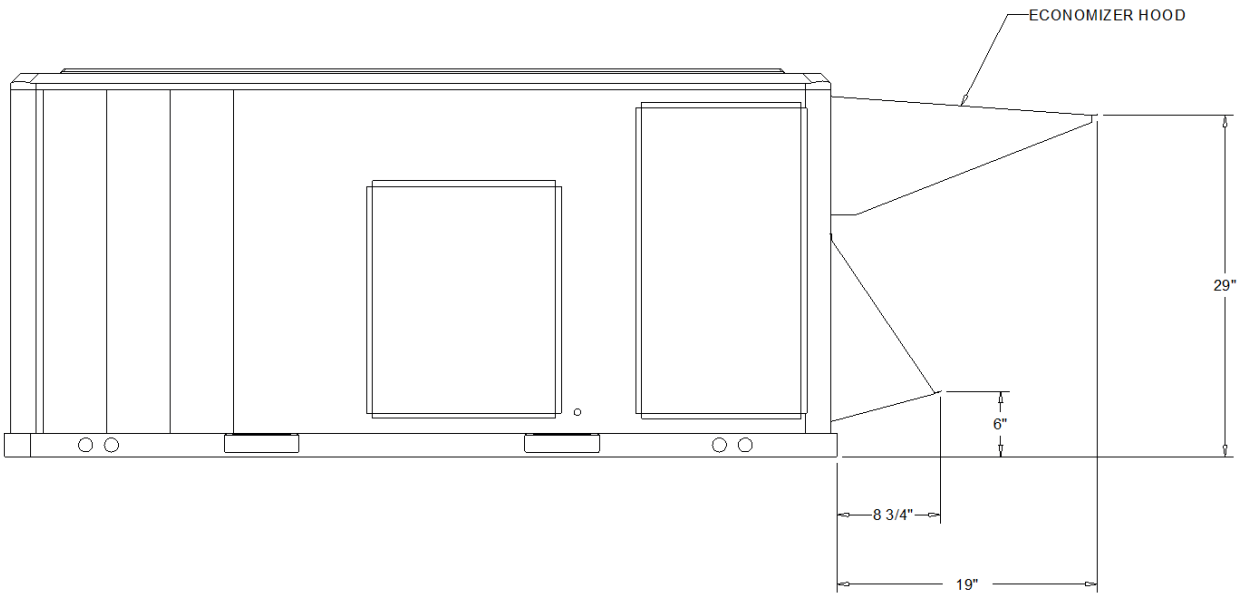
Accessory - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: C3 Qty: 1 Tag(s): RTU-5



SWING DIAMETER - HINGED DOOR(S) OPTION
ACCESSORY

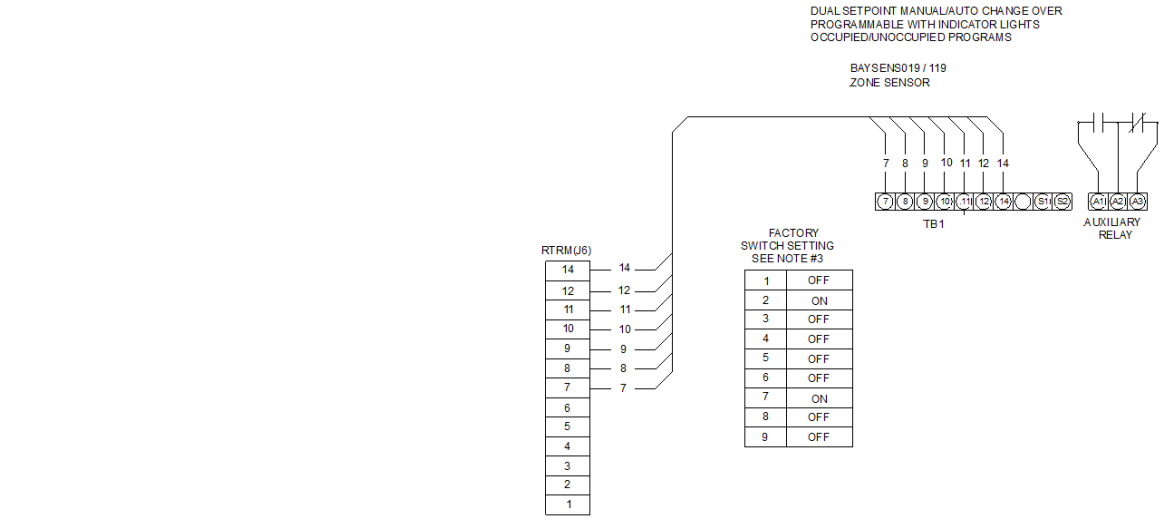
Accessory - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: C3 Qty: 1 Tag(s): RTU-5

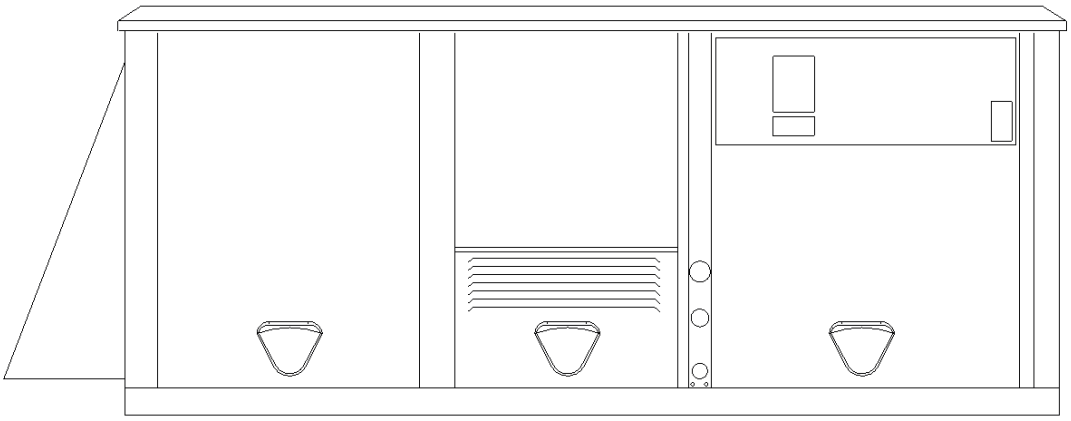




LOW LEAK ECONOMIZER HOOD
ACCESSORY

Field Wiring - 3-10 Ton R-410A PKGD Unitary Gas/Electric Rooftop
Item: C1 - C3 Qty: 3 Tag(s): RTU-1, RTU-3, RTU-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 - 1.5-5 ton Pkgd. Gas/Elec. Rooftop Convert. R-410A

Item	Tag(s)	Qty	Description	Model Number
A1	RTU-4	1	1.5-5 ton Pkgd. Gas/Elec. Rooftop Conver	4YCC4030*170

Field Installed Option Description	Part/Ordering Number
1-2" Filter frame	BAYFLTR101C
Hinged Filter Access Door	BAYACCDOR1A
0-100% Mod. economizer w/bar. relief	BAYECON101A
Touchscreen Programmable 4 heat/2 cool	TCONT302AS42DA
Lifting lug kit	BAYLIFT002B

Product Family - PREC

Item	Tag(s)	Qty	Description	Model Number
B1	RTU-2	1	6- 25 Ton PKGD Precedent Unitary Rooftop	YSJ150A4S0H**K0C0A1A1A000000000000000000
B2	RTU-6	1	6- 25 Ton PKGD Precedent Unitary Rooftop	YSJ090A4S0L**K0C0A1A1A000000000000000000
B3	RTU-7	1	6- 25 Ton PKGD Precedent Unitary Rooftop	YSJ090A4S0M**K0C0A1A1A000000000000000000
B4	RTU-8	1	6- 25 Ton PKGD Precedent Unitary Rooftop	YSJ120A4S0H**K0C0A1A1A000000000000000000
B5	RTU-9	1	6- 25 Ton PKGD Precedent Unitary Rooftop	YSJ150A4S0H**K0C0A1A1A000000000000000000
B6	RTU-10	1	6- 25 Ton PKGD Precedent Unitary Rooftop	YSJ090A4S0L**K0C0A1A1A000000000000000000
B7	RTU-11	1	6- 25 Ton PKGD Precedent Unitary Rooftop	YSJ180A4S0H**K0C0A1A1A000000000000000000
B8	RTU-12	1	6- 25 Ton PKGD Precedent Unitary Rooftop	YSJ150A4S0H**K0C0A1A1A000000000000000000
B9	RTU-13	1	6- 25 Ton PKGD Precedent Unitary Rooftop	YSJ090A4S0M**K0C0A1A1A000000000000000000

Field Installed Option Description	Part/Ordering Number
Programmable zone sensor - Title 24	BAYSENS800A

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

Item	Tag(s)	Qty	Description	Model Number
C1	RTU-1	1	3-10 Ton R-410A PKGD Unitary Gas/Electri	YHC060E4RMA**K0C1A1A0B000000000000000000
C2	RTU-3	1	3-10 Ton R-410A PKGD Unitary Gas/Electri	YHC048E4RMA**K0C1A1A0B000000000000000000
C3	RTU-5	1	3-10 Ton R-410A PKGD Unitary Gas/Electri	YHC037E4RMA**K0C1A1A0B000000000000000000

Field Installed Option Description	Part/Ordering Number
Programmable zone sensor	BAYSENS119A