NORRIS A. PREBLE CO., INC.
Plumbing & Heating
PO Box 59
MADISON ME 04950
(207) 696-5581 696-8107
FAX #696-3185

LETTER OF TRANSMIT

CITY OF PORTLAND, MAINE RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions

Date: _____

DATE	JOB NO.
8/25/16	
ATTENTION	
RE: UNE Armory	

TO Trane
860 Spring Street, Unit #1
Westbrook ME 04092

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via _____ the following items:

☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change order ☒ Submittals

COPIES	DATE	NO.	DESCRIPTION
1			237416.13 Trane Rooftop HVAC units RTU-1 and RTU-2

THESE ARE TRANSMITTED as checked below:

☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval
☐ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution
☐ As requested ☐ Returned for corrections ☐ Return _____ corrected prints
☐ For review and comment ☒ Furnish as corrected
☐ FOR BIDS DUE _____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS Please release for fabrication ASAP - must have 48 hours notice before delivery

COPY TO File

SIGNED: Robert M. Veneziano

If enclosures are not as noted, kindly notify us at once.

OAK POINT ASSOCIATES | arc eng pla

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Date: _____

SUBMITTAL REVIEW

Received: **08/11/2016**

Ledgewood Job Name: **UNE Armory Renovations**
Ledgewood Job No.: **16668**
Ledgewood Submittal No.: **48 / 0**

OPA Submittal No.: **23-20**

Title: **237416-3 Packaged Large Capacity Rooftop Air Conditioning Units**

OPA Job No.: **21502.10**

Project: **Renovations to Stevens Avenue Armory**
University Of New England
Portland, Maine

☐ REVIEWED
☐ REVISE AND RESUBMIT
☐ REJECTED
☑ FURNISH AS CORRECTED

Corrections or comments made on the shop drawings during this review do not relieve contractor from compliance with requirements of the drawings and specifications. This check is only for review of the general conformance with the design concept of the project and general compliance with the information given in the contract documents. The contractor is responsible for confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his or her work with that of all other trades and performing all work in a safe and satisfactory manner.

OAK POINT ASSOCIATES
231 MAIN STREET
BIDDEFORD, ME 04005

PMC — By

8-24-16 — Date

CONTRACTOR TO PROVIDE EQUIPMENT, MATERIALS AND LABOR TO SECURE ROOFTOP UNITS TO ELEVATED STEEL FRAME. THE GAS FUEL IS NATURAL GAS.

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TRANE' Submittal

Trane U.S. Inc.

Engineer: Oak Point Associates

Prepared For:
Norris Preble Company Inc
PO Box 50
Madison, ME 04950 U.S.A.
Customer P.O. Number:
4036

Date: August 05, 2016

Job Name:
UNE - Stevens Avenue Armory Renovation

Trane Job Number:
A224784

Specification Section: 237416.13

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

Qty	Product	Tag(s)
2	Trane Voyager Packaged Gas/Electric Rooftop Units	RTU-1, RTU-2

Please note:

- Confirm site has natural gas
- Schedule indicated modulating gas heat control. However, scheduled gas output does not match the Trane offering. The heating input is 350MBH w/ output of 280MBH. Modulating turndown is 2.5:1. Only available with natural gas.
- With modulating gas heat option the standard heat exchanger offering is stainless steel.
- Due to horizontal configuration, the powered exhaust is to be field installed by the mechanical contractor on the return air ductwork.
- BACnet interface provided. See additional programming/interface guide and provide to ATC.

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

Jeff Charette
Trane U.S. Inc. dba Trane
860 Spring Street, Unit 1
Westbrook, ME 04092
Phone: (207) 239-3401
Fax: (207) 828-1511

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Date: _____

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RESURGAM CITY OF PORTLAND, MAINE
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Tag Data - Packaged Gas/Electric Rooftop Units (Qty: 2)

Item	Tag(s)	Qty	Description	Model Number
A1	RTU-1	1	15 Ton Packaged Gas/Elec RTU	YSH180F4RVA--00E1A1B60104010000000000000
A2	RTU-2	1	12.5 Ton Packaged Gas/Elec RTU	YSH150F4RVA--00E1A1B60104010000000000000

Product Data - Packaged Gas/Electric Rooftop Units

All Units

- Trane Packaged Gas/Electric Rooftop Standard efficiency
- Horizontal Configuration
- 460/60/3
- Reliatel microprocessor controls
- Modulating Gas Heat – Stainless steel heat exchanger
- Hinged access panels
- 2" Pleated Filters Merv 13 – 1 SET
- Condenser coil with hail guard – coil is not coated – changed per addendum #3
- Through the base electric w/ unit mounted non-fused disconnect
- Powered convenience outlet
- BACnet communications interface
- Frostat, Clogged filter switch and fan failure switch
- Stainless steel drain pan
- 0-100% Economizer w/ Comparative enthalpy kit to be field installed by mechanical contractor
- 40% powered exhaust accessory to be field installed on return ductwork by mechanical contractor
- ***2 years parts and labor warranty on entire unit***
- 5 year compressor warranty – parts only
- 10 year heat exchanger warranty – parts only
- Trane Start-up

NOT INCLUDED: SMOKE DETECTOR, THERMOSTAT, CURB/ STEEL PLATFORM

Item: A1 Qty: 1 Tag(s): RTU-1
15 Ton

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

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Performance Data - Packaged Gas/Electric Rooftop Units

Tags	RTU-1	RTU-2
Design Airflow (cfm)	5300	4400
Cooling Entering Dry Bulb (F)	80.00	80.00
Cooling Entering Wet Bulb (F)	67.00	67.00
Ent Air Rel Humidity (%)	51.08	51.08
Ambient Temp (F)	95.00	95.00
Cooling Leaving Unit DB (F)	59.47	58.93
Cooling Leaving Unit WB (F)	56.81	57.05
Gross Total Capacity (MBh)	180.41	145.93
Gross Sensible Capacity (MBh)	131.04	110.50
Gross Latent Capacity (MBh)	49.37	35.43
Net Total Capacity (MBh)	169.09	137.47
Net Sensible Capacity (MBh)	119.72	102.04
Net Sensible Heat Ratio (Number)	0.71	0.74
Heating EAT (F)	70.00	70.00
Heating LAT (F)	118.69	128.65
Heating Temp Rise (F)	48.69	58.65
Output Htg Capacity (MBh)	280.00	280.00
Output Htg Capacity w/Fan (MBh)	291.32	288.46
Design ESP (in H2O)	1.500	1.500
Component SP Add (In H2O)	0.074	0.074
Field Supplied Drive Kit Required	High Static Drive Kit	High Static Drive Kit
Indoor Mtr. Operating Power (bhp)	3.59	2.68
Indoor RPM (rpm)	832	934
Indoor Motor Power (kW)	2.68	2.00
Outdoor Motor Power (kW)	0.96	1.14
Compressor Power (kW)	13.76	10.20
System Power (kW)	17.40	13.34
IPLV @ AHRI (IPLV)	12.2	12.2
MCA (A)	38.00	31.00
MOP (A)	50.00	40.00
Compressor 1 RLA (A)	15.60	10.60
Compressor 2 RLA (A)	9.60	9.00
Condenser Fan FLA (A)	1.60	1.60
Evaporator Fan FLA (A)	4.80	4.80
Evaporator Face Area (sq ft)	26.00	17.50
Evaporator Face Velocity (fl/min)	204	251
Evaporator Fin Spacing (Per Foot)	180	180
Evaporator Rows ( )	3	3
Min. Unit Operating Weight (lb)	1793.0	1397.0
Max Unit Operating Weight (lb)	2215.0	1799.0
Fan Motor Heat (MBh)	11.32	8.46
Evap Coil Leav Air Temp (DB) (F)	57.11	56.75
Evap Coil Leav Air Temp (WB) (F)	55.89	56.20
Dew Point Temp (F)	55.07	55.84
Rated capacity (AHRI) (MBh)	176.00	140.00
Refrig charge (HFC-410A) - ckt 1 (lb)	11.4	5.8
Refrig charge (HFC-410A) - ckt 2 (lb)	6.0	5.4
ASHRAE 90.1	Yes	Yes
Saturated Suction Temp Circuit 1 (F)	48.90	48.85
Saturated Discharge Temp Circuit 1 (F)	120.08	118.59
Saturated Suction Temp Circuit 2 (F)	50.46	50.05
Saturated Discharge Temp Circuit 2 (F)	118.05	118.17
IEER Rating ( )	12.20	12.20
EER @ AHRI Conditions (EER)	11.0	11.0
Total Static Pressure (in H2O)	1.574	1.574

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TRANE

UNE - Stevens Avenue Armory Renovation

Tag	RTU-1		
Quantity	1	Model number	YSH180

Unit Information

Tonnage	15 Ton	Unit function	Gas/Electric
Min. Unit Operating Weight	1793.0 lb	Max Unit Operating Weight	2215.0 lb
Design Airflow	6300 cfm		

Cooling Information

Gross Total Capacity	180.41 MBh	Gross Sensible Capacity	131.04 MBh
Gross Latent Capacity	49.37 MBh	Net Total Capacity	169.09 MBh
Net Sensible Capacity	119.72 MBh	Net Sensible Heat Ratio	0.71 Number
Cooling Entering Dry Bulb	80.00 F	Cooling Entering Wet Bulb	67.00 F
Cooling Leaving Unit DB	59.47 F	Cooling Leaving Unit WB	56.81 F
Ambient Temp	95.00 F		

Heating Information

Heating capacity	Gas Heat - Modulating	Output Htg Capacity	280.00 MBh
Output Htg Capacity w/Fan	291.32 MBh	Heating EAT	70.00 F
Heating LAT	118.69 F		

Motor/Electrical Information

Voltage	460/60/3	Design ESP	1.600 in H2O
Indoor Motor Power	2.68 kW	Indoor Mtr. Operating Power	3.59 bhp
Indoor RPM	832 rpm	Outdoor Motor Power	0.98 kW
Compressor Power	13.76 kW	System Power	17.40 kW
MCA	38.00 A	MOP	60.00 A
Compressor 1 RLA	16.60 A	Compressor 2 RLA	9.60 A
Evaporator Fan FLA	4.60 A	Condenser Fan FLA	1.60 A

LEED Information

ASHRAE 90.1	Yes		
Refrig charge (HFC-410A) - ckt 1	11.4 lb	Refrig charge (HFC-410A) - ckt 2	6.0 lb
Compressor Power	13.76 kW	Outdoor Motor Power	0.98 kW
Rated capacity (AHRI)	178.00 MBh		
Indoor Mtr. Operating Power	3.59 bhp	SEER @ AHRI	

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TRANE

UNE - Stevens Avenue Armory Renovation

Tag	RTU-2		
Quantity	1	Model number	YSH150

Unit Information

Tonnage	12.5 Ton	Unit function	Gas/Electric
Min. Unit Operating Weight	1397.0 lb	Max Unit Operating Weight	1769.0 lb
Design Airflow	4400 cfm		

Cooling Information

Gross Total Capacity	146.93 MBh	Gross Sensible Capacity	110.50 MBh
Gross Latent Capacity	36.43 MBh	Net Total Capacity	137.47 MBh
Net Sensible Capacity	102.04 MBh	Net Sensible Heat Ratio	0.74 Number
Cooling Entering Dry Bulb	80.00 F	Cooling Entering Wet Bulb	67.00 F
Cooling Leaving Unit DB	58.93 F	Cooling Leaving Unit WB	57.05 F
Ambient Temp	95.00 F		

Heating Information

Heating capacity	Gas Heat - Modulating	Output Htg Capacity	280.00 MBh
Output Htg Capacity w/Fan	268.46 MBh	Heating EAT	70.00 F
Heating LAT	128.65 F		

Motor/Electrical Information

Voltage	460/60/3	Design ESP	1.600 in H2O
Indoor Motor Power	2.00 kW	Indoor Mtr. Operating Power	2.68 bhp
Indoor RPM	934 rpm	Outdoor Motor Power	1.14 kW
Compressor Power	10.20 kW	System Power	13.34 kW
MCA	31.00 A	MOP	40.00 A
Compressor 1 RLA	10.60 A	Compressor 2 RLA	9.00 A
Evaprator Fan FLA	4.60 A	Condenser Fan FLA	1.60 A

LEED Information

ASHRAE 90.1	Yes		
Refrig charge (HFC-410A) - ckt 1	5.8 lb	Refrig charge (HFC-410A) - ckt 2	5.4 lb
Compressor Power	10.20 kW	Outdoor Motor Power	1.14 kW
Rated capacity (AHRI)	140.00 MBh		
Indoor Mtr. Operating Power	2.68 bhp	SEER @ AHRI	

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Mechanical Specifications - Packaged Gas/Electric Rooftop Units
Item: A1, A2 Qty: 2 Tag(s): RTU-1, RTU-2

General
The units shall be dedicated downflow or horizontal airflow. The operating range shall be between 115°F and 0°F in cooling as standard from the factory for all units. Cooling performance shall be rated in accordance with AHRI testing procedures. All units shall be factory assembled, internally wired, fully charged with R-410A, and 100 percent run tested to check cooling operation, fan and blower rotation and control sequence, before leaving the factory. Wiring internal to the unit shall be colored and numbered for simplified identification. Units shall be UL listed and labeled, classified in accordance to UL 1995/C 22.2, 236-05 3rd Edition.

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

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

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

Compressors
All units shall have direct-drive, hermetic, scroll type compressors with centrifugal type oil pumps. Motor shall be suction gas-cooled and shall have a voltage utilization range of plus or minus 10 percent of nameplate voltage. Internal overloads shall be provided with the scroll compressors. All models shall have crankcase heaters, phase monitors and low and high pressure control as standard.

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

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

Evaporator and Condenser Coils
Microchannel coils will be burst tested by the manufacturer. Internally finned, 5/16¿ copper tubes mechanically bonded to a configured aluminum plate fin shall be standard for evaporator coils. Microchannel condenser coils shall be standard on all units. Coils shall be leak tested to ensure the pressure integrity. The evaporator coil and condenser coil shall be leak tested to 225 psig and pressure tested to 450 psig. Sloped condensate drain pans are standard.

Gas Heating Section
The heating section shall have a drum and tube heat exchanger design using corrosion resistant steel components. A forced combustion blower shall supply premixed fuel to a single burner ignited by a pilotless hot surface ignition system. In order to provide reliable operation, a negative pressure gas valve shall be used on standard furnaces and a pressure switch on furnaces with modulating heat that requires blower operation to initiate gas flow. On an initial call for heat, the combustion blower shall purge the heat exchanger 45 seconds before ignition. After three unsuccessful ignition attempts, the entire heating system shall be locked out until manually reset at the thermostat. Units shall be suitable for use with natural gas or propane (field installed kit) and shall also comply with California requirements for low NOx emissions. The 12½- 25 tons shall have two stage heating (Gas/Electric Only).

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

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

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

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

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

Modulating Gas Heat
The heating section shall have a drum and tube heat exchanger design using stainless steel components. A variable speed forced combustion blower shall supply premixed fuel to a single burner ignited by a pilotless hot surface ignition system. The leaving air temperature shall be communicated to the unit controls (ReliaTel) via a discharge air sensor. This information along with the space temperature will be used to modulate the heating output.

In order to provide reliable operation, a pressure switch will require blower operation to initiate gas flow.

On an initial call for heat the combustion blower shall purge the heat exchanger 45 seconds before ignition. The heat exchanger will operate at full fire initially and then modulate down to match the desired discharge air temperature. After three unsuccessful ignition attempts, the entire heating system shall be locked out until manually reset.

Units shall be suitable for use with natural gas.

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

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

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Through the Base Electrical with Disconnect Switch
Three-pole, molded case, disconnect switch with provisions for through the base electrical connections are availabl
The disconnect switch will be installed in the unit in a water tight RT-PRC028-EN 121 enclosure with access through a swinging door. Factory 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.

Hinged Access Doors
Sheet metal hinges are available on the Filter/Evaporator Access Door and the Compressor/Control Access Door. This option is available on all downflow models.

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

BACnet Communications
The BACnet communications interface allows the unit to communicate directly with a generic open protocol BACnet MS/TP Network Building Automation System Controls.

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

Stainless Steel Drain Pan
This option provides excellent corrosion and oxidation resistance. Drain pan shall be reversible and Constructed of 304 stainless steel.

Differential Pressure Switches
These options allow for individual fan failure and dirty filter indication. The fan failure switch will disable all unit functions and "flash" the Service LED on the zone sensor. The dirty filter switch will light the Service LED on the zone sensor and will allow continued unit operation.

Clogged Filter/Fan Failure Switch
A dedicated differential pressure switch is available to achieve active fan failure indication and/or clogged filter indication. These indications will be registered with either a zone sensor with status indication lights or an Integrated Comfort System.

Accessory - Economizer - Horizontal
The horizontal economizer shall contain the same features as the downflow economizer with the exception of barometric relief.

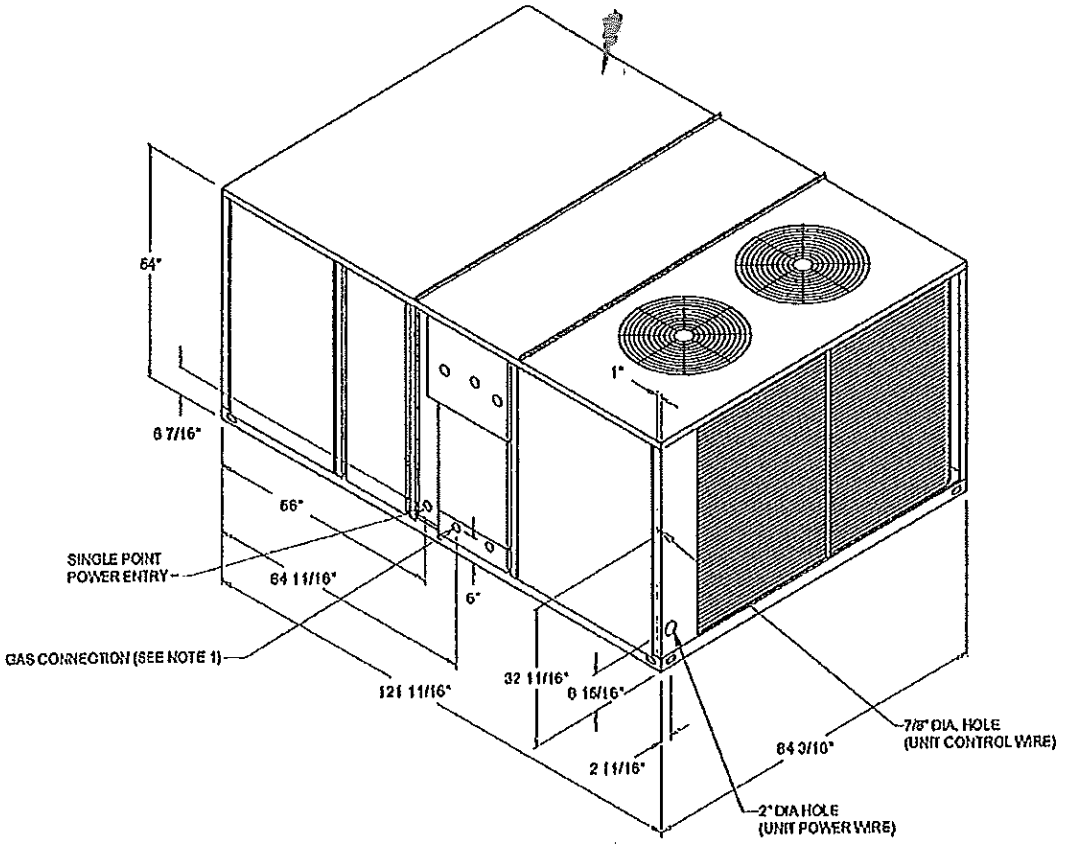
Accessory - Comparative Enthalpy
Comparative Enthalpy measures and communicates humidity for both outdoor and return air conditions, and return air temperature. The unit receives and uses this information to maximize use of economizer cooling, and to provide maximum occupant comfort control. Reference or Comparative Enthalpy option shall be available when a factory or field installed Downflow Economizer is ordered. This option is available on all downflow models.

Hinged Access Doors
Sheet metal hinges are available on the Filter/Evaporator Access Door and the Compressor/Control Access Door. This option is available on all downflow models.

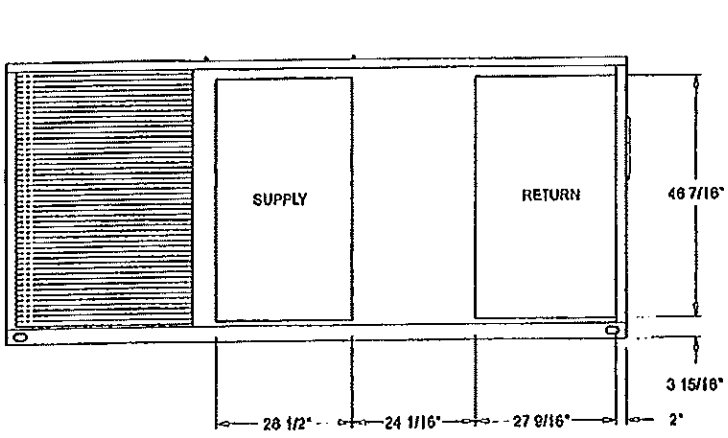
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Unit Dimensions - Packaged Gas/Electric Rooftop Units

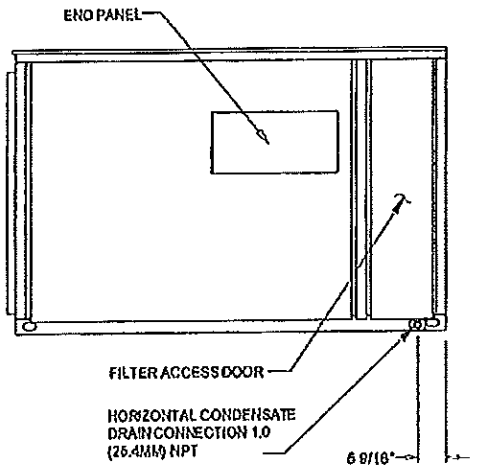
Item: A1 Qty: 1 Tag(s): RTU-1



PACKAGED COOLING - HORIZONTAL
ISOMETRIC DRAWING



PACKAGED GAS/ELECTRIC - HORIZONTAL
AIR FLOW SIDE



HORIZONTAL CONDENSATE DRAIN AND FILTER ACCESS
SIDE VIEW

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Unit Dimensions - Packaged Gas/Electric Rooftop Units
Item: A1 Qty: 1 Tag(s): RTU-1

ELECTRICAL / GENERAL DATA

GENERAL PERFORMANCE

Model (Ton):	YSH180F (15.0)
Unit Operating Voltage Range:	414-506
Unit Primary Voltage:	460
Unit Secondary Voltage:	-
Unit Hertz:	60
Unit Phase:	3
EER. [5]	11.0

Standard Motor [1][3]

Minimum Circuit Ampacity:	38.0
Maximum Fuse Size:	60.0
Maximum (HACR) Circuit Breaker:	60.0

Oversized Motor [1][4]

MCA:	N/A
MFS:	N/A
MCB (HACR):	N/A

Field Installed Oversized Motor [1][4]

MCA:	N/A
MFS:	N/A
MCB (HACR):	N/A

GAS HEATING

Heating Models:	Modulating Gas
Heating and 1 Stage Input (Btuh)	350,000 / 70,000
Heating and 1 Stage Output (Btuh):	283, 500 / 56,700
Min/Max. Gas Input -	
Pressure Natural or LP:	2.6 / 14.0 (Natural Gas Only)
Gas Connection Pipe Size:	3/4"

COMPRESSOR

	Circuit(s)
Number:	2
Horsepower:	8.50/4.75
Phase:	3
Rated Load Amps:	15.6/9.6
Locked Rotor Amps:	142.0/62.0

INDOOR MOTOR

Number: [3]	1
Horsepower:	3.00
Motor Speed (RPM):	1,740
Phase:	3
Full Load Amps:	4.8
Locked Rotor Amps:	40.6

Oversized Motor [4]

Number:	N/A
Horsepower:	N/A
Motor Speed (RPM)	N/A
Phase:	N/A
Full Load Amps:	N/A
Locked Rotor Amps:	N/A

Field Installed Oversized Motor [4]

Number:	N/A
Hp:	N/A
Motor Speed (RPM):	N/A
Phase:	N/A
FLA:	N/A
LRA:	N/A

OUTDOOR MOTOR

Number:	2
Horsepower:	0.50
Motor speed (RPM):	1,100
Phase:	1
Full Load Amps:	1.6
Locked Rotor Amps	3.8

POWER EXHAUST
(Field Installed Power Exhaust)

Horsepower:	N/A
Motor Speed (RPM):	N/A
Phase:	N/A
Full Load Amps:	N/A
Locked Rotor Amps.	N/A

COMBUSTION BLOWER MOTOR
(Gas-Fired Heating only)

Horsepower:	0.1
Motor Speed (RPM):	3,500/2,500
Phase:	1
Full Load Amps:	0.6
Locked Rotor Amps:	2.00

FILTER

Type:	Throwaway
Furnished:	Yes
Number:	6
Recommended Size:	20"x25"x2"

REFRIGERANT [2]

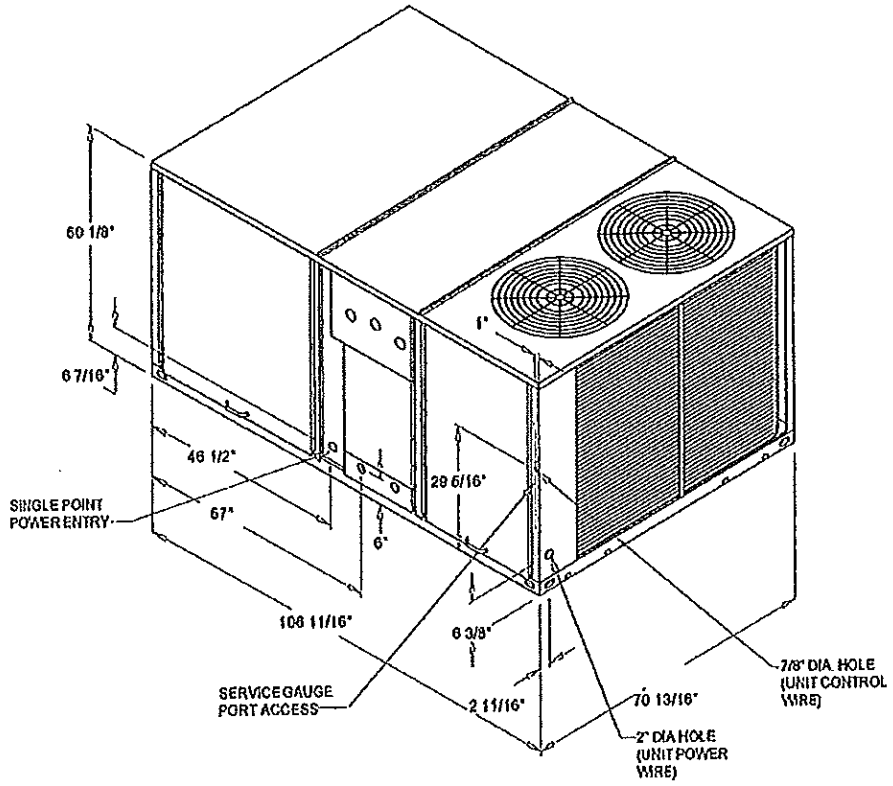
	Circuit #1 / 2
Type:	R410
Factory Charge Circuit #1 / 2:	11.4lb / 6.0lb

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

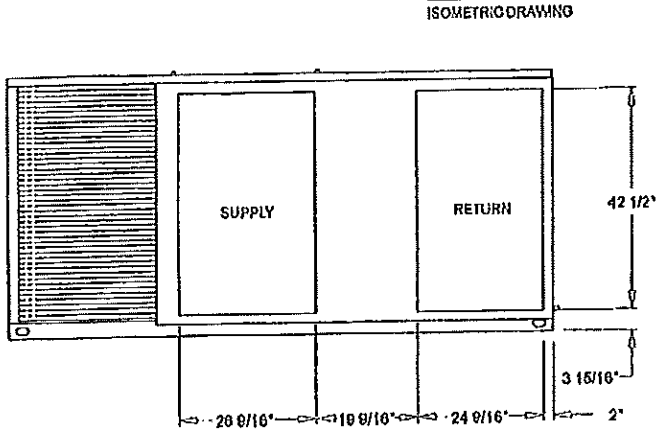
CITY OF PORTLAND, MAINE RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: _____

Unit Dimensions - Packaged Gas/Electric Rooftop Units

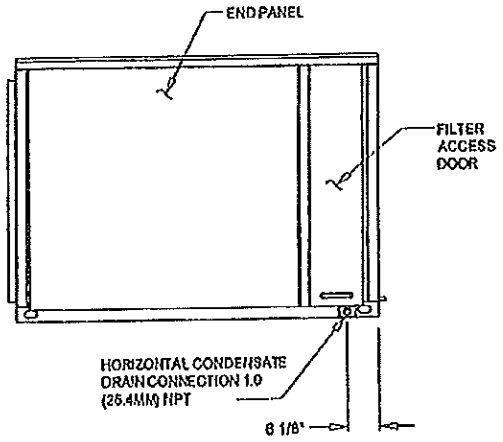
Item: A2 Qty: 1 Tag(s): RTU-2



PACKAGED GAS/ELECTRIC -HORIZONTAL
ISOMETRIC DRAWING



PACKAGED GAS/ELECTRIC -HORIZONTAL
AIR FLOW SIDE



HORIZONTAL CONDENSATE DRAIN AND FILTER ACCESS
SIDE VIEW

CITY OF PORTLAND, MAINE RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: _____

Unit Dimensions - Packaged Gas/Electric Rooftop Units
Item: A2 Qty: 1 Tag(s): RTU-2

ELECTRICAL / GENERAL DATA

GENERAL PERFORMANCE

Model (Ton):	YSH150F (12.5)
Unit Operating Voltage Range:	414-506
Unit Primary Voltage:	460
Unit Secondary Voltage:	-
Unit Hertz:	60
Unit Phase:	3
EER: [5]	11.0

Standard Motor [1][3]

Minimum Circuit Ampacity:	31.0
Maximum Fuse Size:	40.0
Maximum (HACR) Circuit Breaker:	40.0

Oversized Motor [1][4]

MCA:	N/A
MFS:	N/A
MCB (HACR):	N/A

Field Installed Oversized Motor [1][4]

MCA:	N/A
MFS:	N/A
MCB (HACR):	N/A

GAS HEATING

Heating Models:	Modulating Gas
Heating and 1 Stage Input (Btuh)	350,000 / 70,000
Heating and 1 Stage Output (Btu/h):	283,500 / 56,700
Min/Max. Gas Input -	
Pressure Natural or LP:	2.5 / 14.0 (Natural Gas Only)
Gas Connection Pipe Size:	3/4"

COMPRESSOR

	Circuit(s)
Number:	2
Horsepower:	5.6/4.5
Phase:	3
Rated Load Amps:	10.6/9.0
Locked Rotor Amps:	76.0/62.0

INDOOR MOTOR

Number: [1]	1
Horsepower:	3.00
Motor Speed (RPM):	1,740
Phase:	3
Full Load Amps:	4.8
Locked Rotor Amps:	40.6

Oversized Motor [4]

Number:	N/A
Horsepower:	N/A
Motor Speed (RPM):	N/A
Phase:	N/A
Full Load Amps:	N/A
Locked Rotor Amps:	N/A

Field Installed Oversized Motor [4]

Number:	N/A
Hp:	N/A
Motor Speed (RPM):	N/A
Phase:	N/A
FLA:	N/A
LRA:	N/A

OUTDOOR MOTOR

Number:	2
Horsepower:	0.50
Motor speed (RPM):	1,100
Phase:	1
Full Load Amps:	1.6
Locked Rotor Amps:	3.8

POWER EXHAUST
(Field Installed Power Exhaust)

Horsepower	N/A
Motor Speed (RPM):	N/A
Phase:	N/A
Full Load Amps:	N/A
Locked Rotor Amps.	N/A

COMBUSTION BLOWER MOTOR
(Gas-Fired Heating only)

Horsepower:	0.05
Motor Speed (RPM):	3,600/2,800
Phase:	1
Full Load Amps:	0.6
Locked Rotor Amps:	0.78

FILTER

Type:	Throwaway
Furnished.	Yes
Number.	2/4
Recommended Size:	20"X20"X2" / 20"X25"X2"

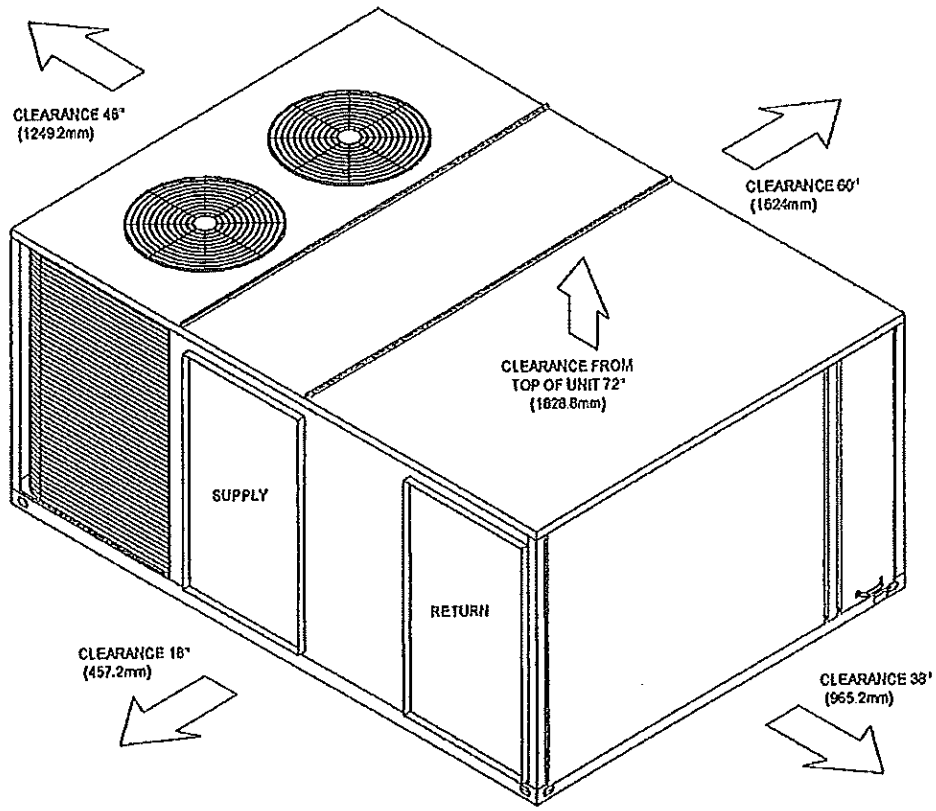
REFRIGERANT [2]

	Circuit#1 / 2
Type:	R410
Factory Charge Circuit#1 / 2	6.3 lb / 6.9 lb

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

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: _____

Weight, Clearance & Rigging Diagram - Packaged Gas/Electric Rooftop Units
Item: A1 Qty: 1 Tag(s): RTU-1

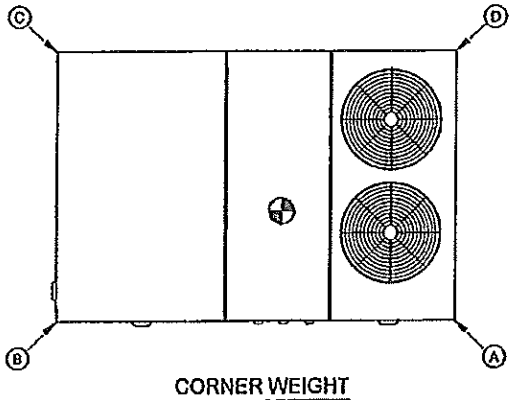


HORIZONTAL ISOMETRIC-PACKAGED GAS/ELECTRIC CLEAERANCE

CITY OF PORTLAND, MAINE RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: _____

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

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



CORNER WEIGHT

Base Unit and Corner Weights only

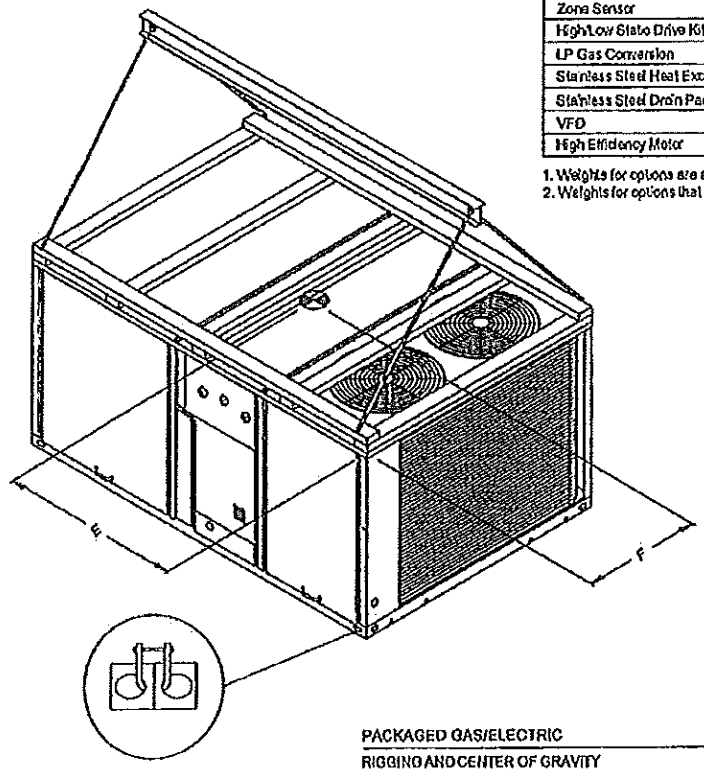
Base unit weights		Corner Weights				Center of Gravity	
SHIPPING	NET	(A)	(B)	(C)	(D)	E	F
2364.0 lb	1925.0 lb	666.0 lb	605.0 lb	343.0 lb	410.0 lb	66"	33"

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

Installed Options Net Weight Data

Accessory	Weight
Economizer, Manual and Motorized Outside Air Damper	60.0 lb
Power Exhaust	
Roof Curb	
Oversized Motor	
Hail Guard	43.0 lb
Hinged Access Doors	27.0 lb
Power Conv. Outlet	38.0 lb
Through the Base Electrical	23.0 lb
Circuit Breaker	
Disconnect	10.0 lb
Smoke Detector	
Novar	
Zone Sensor	
High/Low Static Drive Kit	
LP Gas Conversion	
Stainless Steel Heat Exchanger	8.1 lb
Stainless Steel Drain Pan	
VFD	
High Efficiency Motor	

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

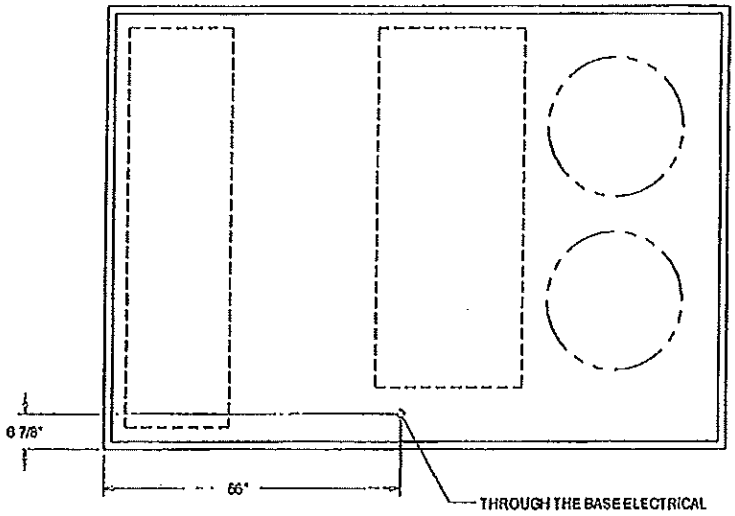


PACKAGED GAS/ELECTRIC
RIGGING AND CENTER OF GRAVITY

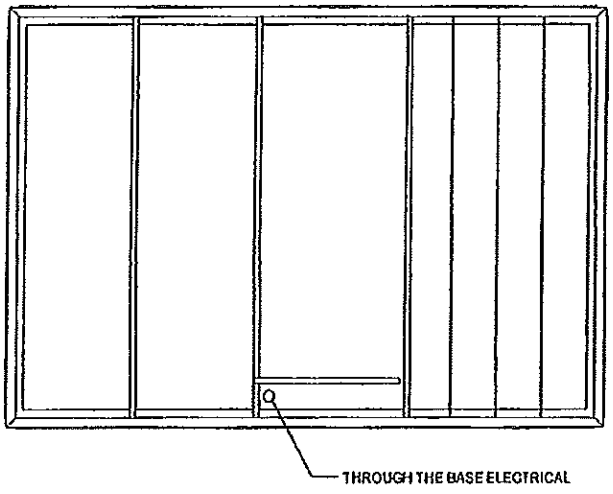
Reviewed for Code Compliance
Inspections Division
Approved with Conditions

Date: _____

Weight, Clearance & Rigging Diagram - Packaged Gas/Electric Rooftop Units
Item: A1 Qty: 1 Tag(s): RTU-1



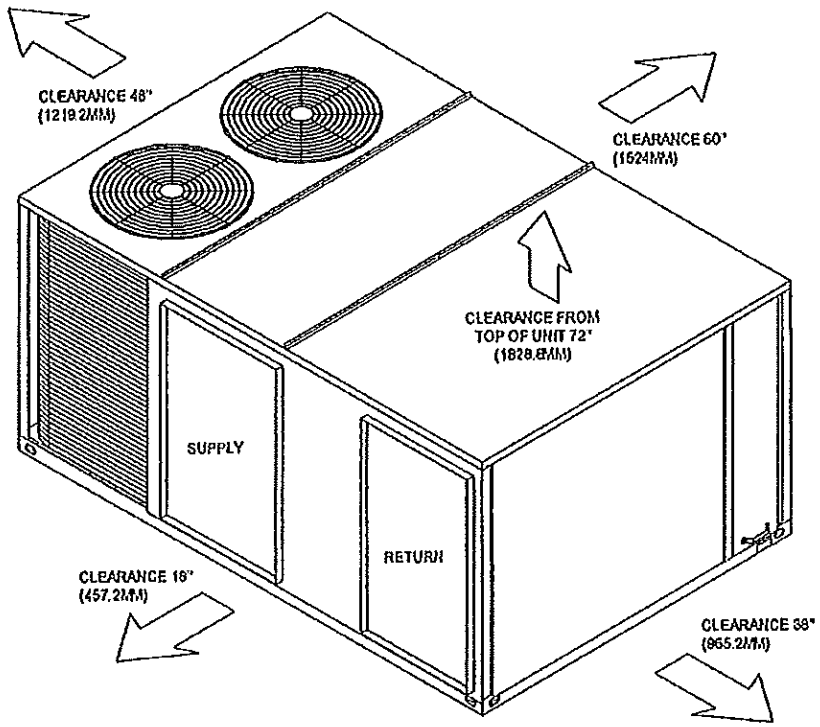
THROUGH THE BASE ELECTRICAL
ACCESSORY-PLANVIEW



THROUGH THE BASE ELECTRICAL ROOF CURB
ACCESSORY-PLANVIEW

CITY OF PORTLAND, MAINE RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: _____

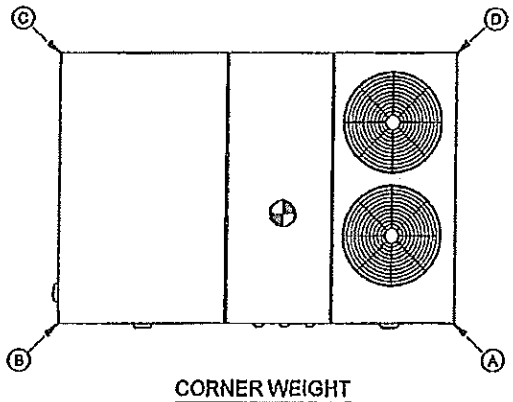
Weight, Clearance & Rigging Diagram - Packaged Gas/Electric Rooftop Units
Item: A2 Qty: 1 Tag(s): RTU-2



HORIZONTAL-PACKAGED GAS/ELECTRIC CLEARANCE

CITY OF PORTLAND, MAINE RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: _____

Weight, Clearance & Rigging Diagram - Packaged Gas/Electric Rooftop Units
Item: A2 Qty: 1 Tag(s): RTU-2



CORNER WEIGHT

Base Unit and Corner Weights only

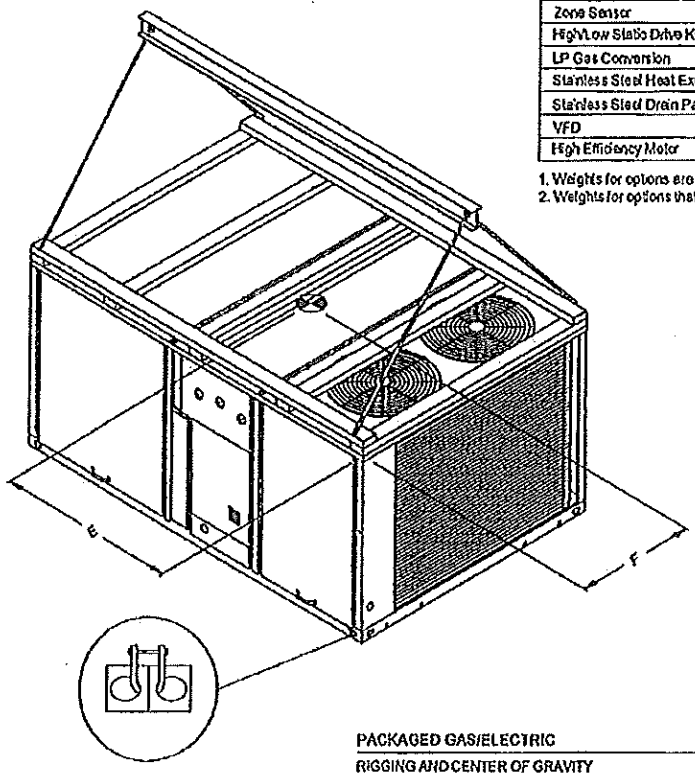
Base unit weights		Corner Weights				Center of Gravity	
SHIPPING	NET	Ⓐ	Ⓑ	Ⓒ	Ⓓ	E	F
1878.0 lb	1508.0 lb	606.0 lb	390.0 lb	276.0 lb	337.0 lb	60"	29"

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

Installed Options Net Weight Data

Accessory	Weight
Economizer, Manual and Motorized Outside Air Damper	65.0 lb
Power Exhaust	
Roof Curb	
Oversized Motor	
Hail Guard	34.0 lb
Hinged Access Doors	27.0 lb
Power Conv. Outlet	38.0 lb
Through the Base Electrical	23.0 lb
Circuit Breaker	
Disconnect	10.0 lb
Smoke Detector	
Novar	
Zone Sensor	
High/Low Static Drive Kit	
LP Gas Conversion	
Stainless Steel Heat Exchanger	8.6 lb
Stainless Steel Drain Pan	
VFD	
High Efficiency Motor	

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

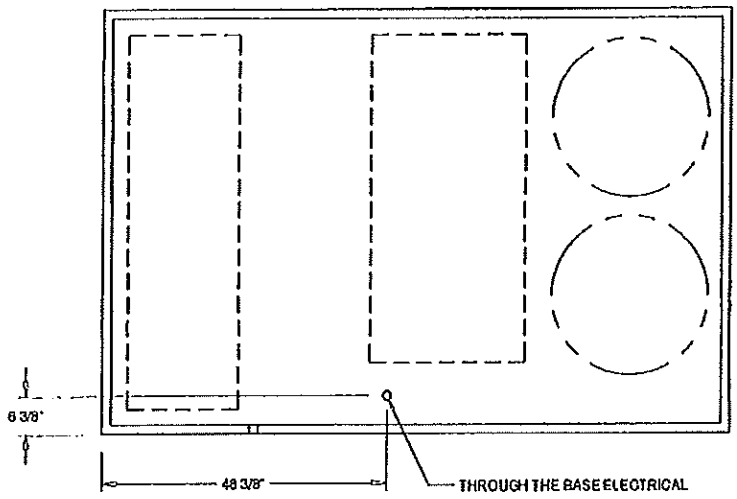


PACKAGED GAS/ELECTRIC
RIGGING AND CENTER OF GRAVITY

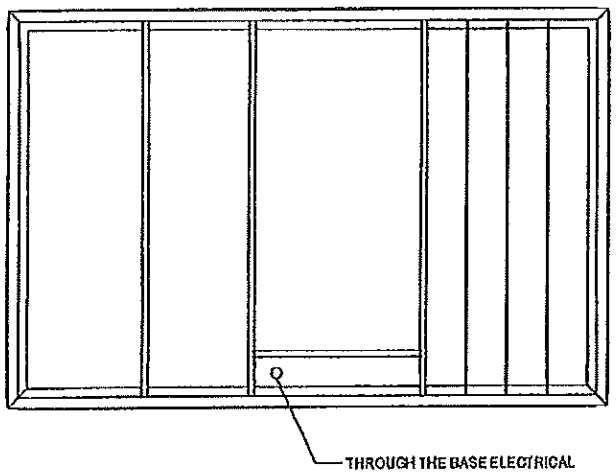
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: _____

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

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



THROUGH THE BASE ELECTRICAL
ACCESSORY-PLAN VIEW

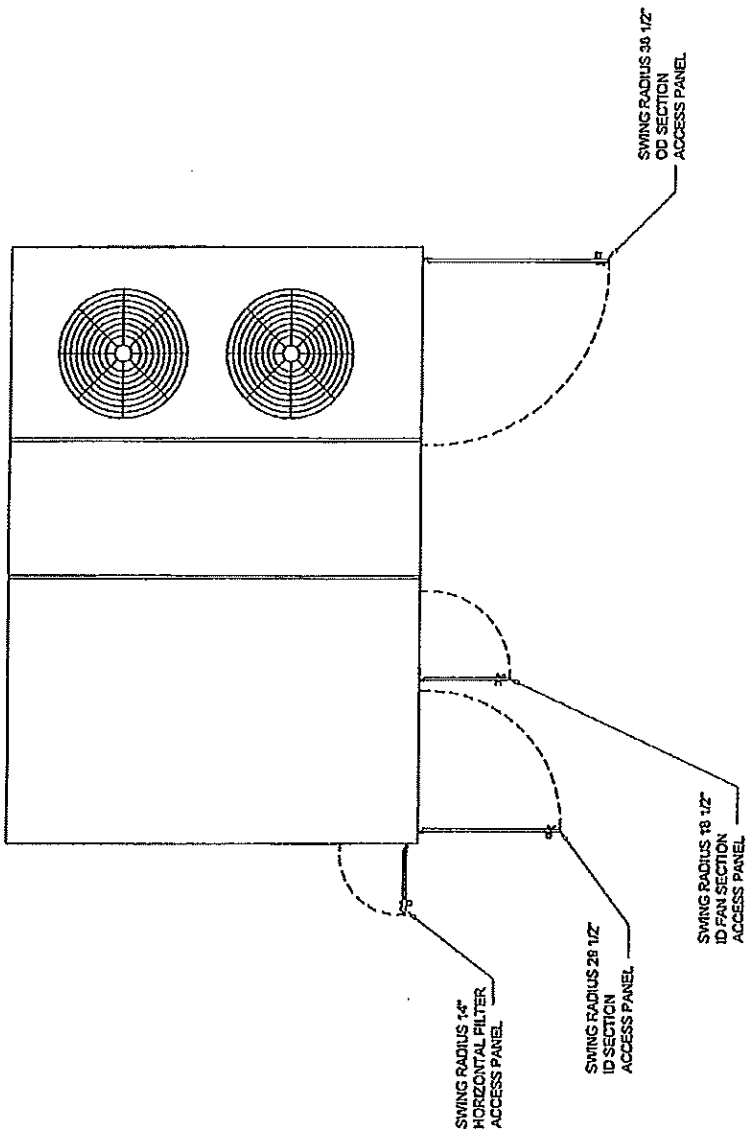


THROUGH THE BASE ELECTRICAL ROOF CURB
ACCESSORY-PLAN VIEW

Reviewed for Code Compliance
Inspections Division
Approved with Conditions

Date: _____

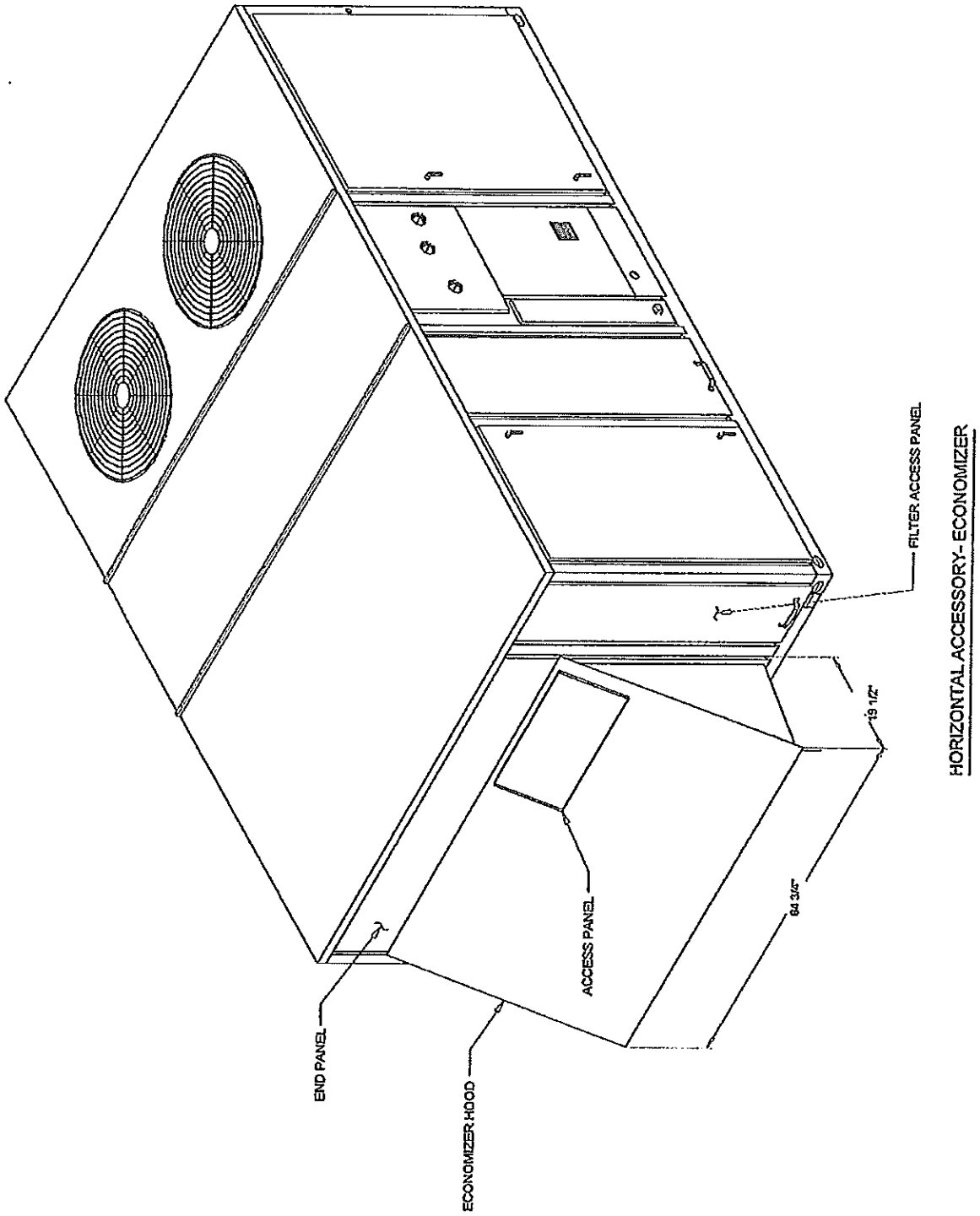
Hinged Access Doors - Packaged Gas/Electric Rooftop Units
Item: A1 Qty: 1 Tag(s): RTU-1



ACCESSORY-HINGGING ACCESS DOORS

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: _____

Economizer Accessory - Packaged Gas/Electric Rooftop Units
Item: A1 Qty: 1 Tag(s): RTU-1



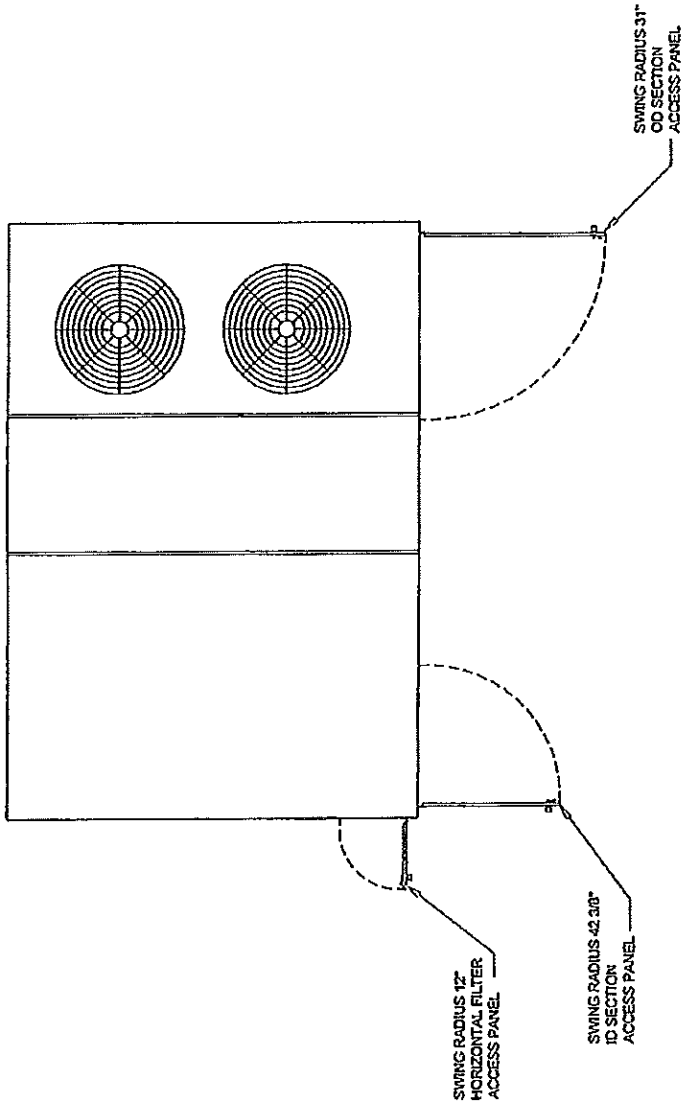
HORIZONTAL ACCESSORY- ECONOMIZER

Reviewed for Code Compliance
Inspections Division
Approved with Conditions

Date: _____

Hinged Access Doors - Packaged Gas/Electric Rooftop Units

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

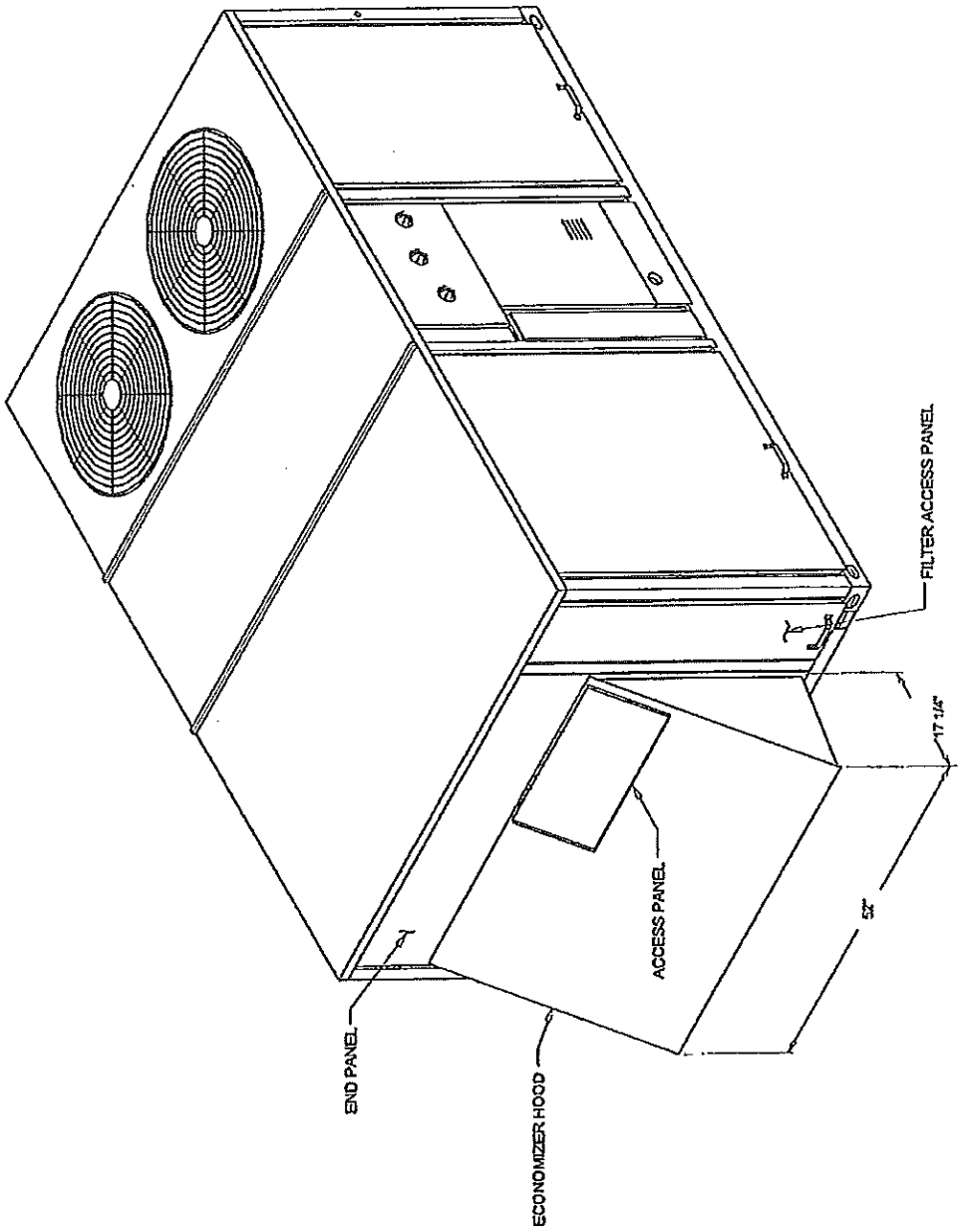


ACCESSORY-HINGGING ACCESS DOORS

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: _____

Economizer Accessory - Packaged Gas/Electric Rooftop Units

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



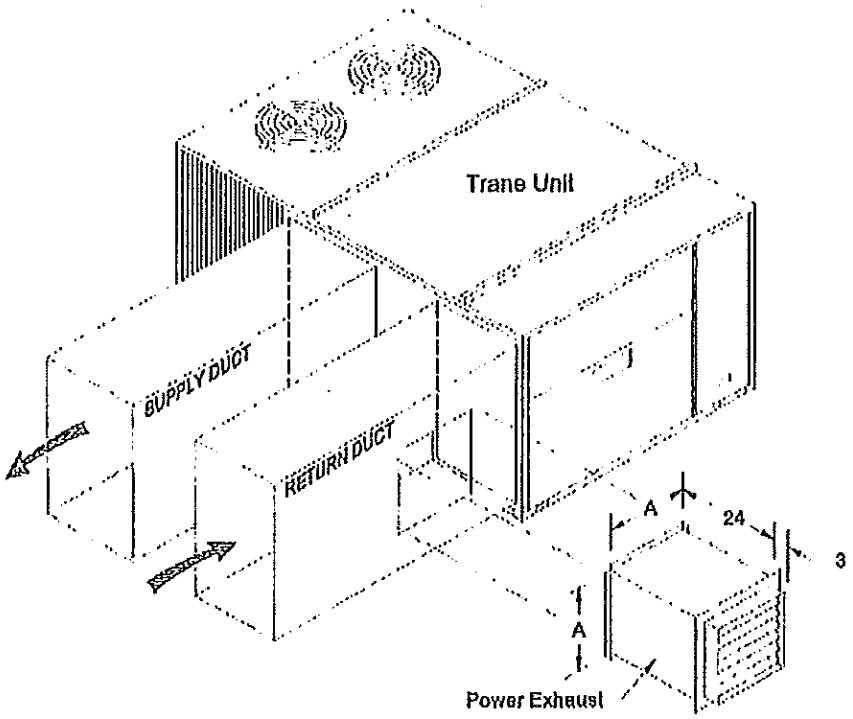
HORIZONTAL ACCESSORY- ECONOMIZER

Powered Exhaust Accessory - Packaged Gas/Electric Rooftop Units
Item: A1, A2 Qty: 2 Tag(s): RTU-1, RTU-2

RESURGAM CITY OF PORTLAND, MAINE
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Approved with Conditions
Date: _____

ThyCurb
by the fabricating division of
Thybar Corporation

40% & 100% Power Exhaust For Trane Horizontal Flow Voyager II Units



Power exhaust must be field wired and installed.

40% Power Exhaust	100% Power Exhaust	ThyCurb	A	Size	HP	PH	CFM@1/4" S.P.	Qty.	Tag
T/YCH 150E, 151E , WCH 150E		TR5PE2000-3	20	16	1/3	3	2000	1	RTU-2
T/W/YCH 180E, T/YCH 181E		TR5PE2500-3	22	18	1/2	3	2500	1	RTU-1
T/W/YCH 210E, 211E		TR5PE3000-3	22	18	1/2	3	3000		
T/W/YCH 240E, 241E		TR5PE3400-3	24	20	1/2	3	3400		
T/YCH 300E,301E		TR5PE4000-3	24	20	3/4	3	4000		
	T/YCH 150E, 151E , WCH 150E	TR5PE5000-3	30	24	3/4	3	5000		
	T/W/YCH 180E, T/YCH 181E	TR5PE6000-3	30	24	3/4	3	6000		
	T/YCH 210E, 211E	TR5PE7000-3	30	24	1	3	7000		
	T/W/YCH 240E, 241E	TR5PE8000-3	30	24	1 1/2	3	8000		
	T/YCH 300E,301E	TR5PE10000-3	30	24	2	3	10000		

CITY OF PORTLAND, MAINE RESURGAM
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Inspections Division
Approved with Conditions
Date: _____

ThyCurb
by the fabricating division of
Thybar Corporation

Horizontal Flow and Curb Mounted Power Exhaust Installation Operation & Maintenance Instructions For Trane Voyager II Units

CAUTION

ROTATING EQUIPMENT MUST BE PROPERLY GUARDED TO PREVENT PERSONAL INJURY.

By acceptance of this merchandise, the purchaser and user assume complete responsibility for the safe operation of this equipment. The manufacturer disclaims any and all responsibility unless this unit is operated in compliance with all federal and local laws and regulations.

A WORD ABOUT SAFETY the above CAUTION decal appears on fans. Air moving equipment involves electrical wiring, moving parts, and air velocity or pressure, which can create safety hazards if the equipment is not properly installed, operated and maintained. To minimize this danger, follow these instructions as well as the additional instructions and warnings on the equipment itself.

ELECTRICAL DISCONNECTS

Every motor driven fan should have an independent disconnect switch to isolate the unit from the electrical supply. It should be close to the fan and should be capable of being locked by maintenance personnel while servicing the unit.

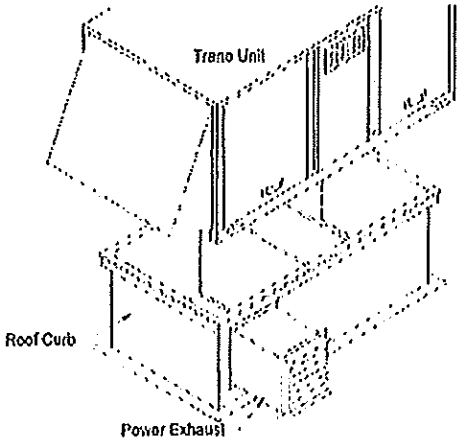
NOTE: All local, state and federal codes should be checked to make sure all wiring, guarding and intended usage of the unit(s) comply with all applicable codes. The proper type and class of motor should be used for air being handled such as explosive or other hazardous air mixtures.

WARNING ... CAUTION

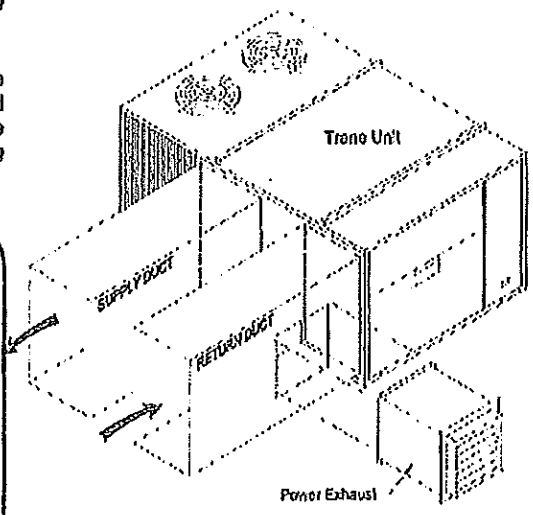


Do not install fan with moving parts within 7 feet of floor or grade level without a guard that complies with OSHA regulations. Do not use unless electrical wiring complies with all applicable codes. Do not wire without providing for a power source disconnect at the fan itself. Do not service except by a qualified maintenance technician and only after disconnecting the power source. Failure to observe these precautions can result in serious injury or death.

Curb Mounted Power Exhaust



Horizontal Flow Power Exhaust



Instruction Page 1 of 4
General Instructions Section Page 35 3/05

CITY OF PORTLAND, MAINE RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: _____

Horizontal Flow and Curb Mounted Power Exhaust

GENERAL

These Power Exhaust Accessories for Trane T/W/YCD or H 150 to 301 units are after market kits made for installation on the return air duct for horizontal units or on the ThyCurb power exhaust curb to the Trane Voyager II unit. For horizontal units a minimum of 3'- 0" of external ductwork beyond the unit is required to provide an adequate mounting surface for the accessory. They are designed to be used in conjunction with and interface to Trane factory economizer.

These accessories include a fan/shroud/backdraft damper assembly with a three-phase 230/460-volt motor, relay, caulk, edge projector, snap bushings, wiring harness and schematics. It requires field installation and assembly as well as some internal modifications to the Trane unit.

For horizontal units a hole must be field cut in the return air duct to allow passage of exhaust air. The fan assembly is sheet metal screwed to the ductwork or to the curb wall. Additional field supplied and installed bracing may be required to support the cantilevered weight of the accessory on the duct. The entire assembly must then be field wired and caulked weather tight by the Installer.

Check for damage from shipping: If parts are damaged, Mark the bill of lading and contact Thybar Corporation.

INSTALLATION INSTRUCTIONS

WARNING: Open and lock unit disconnect switch before installing this accessory. Failure to do so could result in severe injury or death due to electrical shock or contact with moving parts.

IMPORTANT NOTE: If this accessory is mounted on a 230 volt unit, the power exhaust motor must be rewired from 460 volts to 230 volts, per the diagram on the motor terminal plate.

1. Ensure all power to the unit has been disconnected and locked out.
2. Economizer must be installed before attempting to install the power exhaust.
3. Remove unit filter access panel to expose economizer actuator.
4. Remove all access panels on the left side of the unit and the dead front cover from the control box.
5. For horizontal applications cut a hole in return air duct to match the I.D. of the exhaust fan assembly housing. (See figure 1)

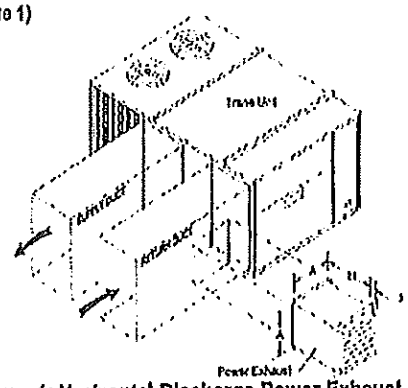


Figure 1: Horizontal Discharge Power Exhaust

6. For downflow applications the unit must be installed on the special ThyCurb with return air plenum and exhaust opening. (See Figure 2)

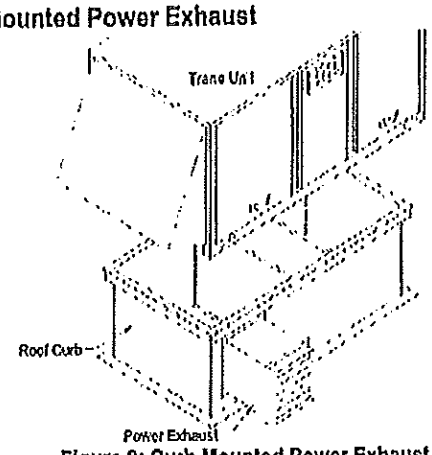


Figure 2: Curb Mounted Power Exhaust

7. Power exhaust fan assembly is now ready for installation. While it is still on the roof or ground, caulk all four flanges that mate with duct or curb wall.
8. Position the power exhaust fan assembly around the square hole in the return air duct or curb wall and secure through flanges with sheet metal screws. Brace if necessary with field supplied and installed material.
9. Remove power exhaust fan assembly access door.
10. Drill hole for 3/4" diameter conduit fitting in wall of power exhaust fan assembly closest to unit.
11. Drill another hole for 3/4" diameter conduit fitting in hood of unit to allow access to actuator area. Take care to locate hole out of the area covered by the actuator access plate.
12. Run conduit (field supplied) and connect with fittings (field supplied) between the two holes drilled in Step 10 & 11.

For units with electromechanical controls

a) Uncoil the wires from the power exhaust harness assembly. Remove the polarized plug (on the power exhaust wiring harness) by cutting the longer wire close to plug. Splice the control leads to the common and 24V leads on economizer actuator. (See figures 5) Secure all wires.

b) Using wire routing guide shown in figure 3,4 route one end of the long wires up over the coil and along the unit wire harness through the fan partition panel to the unit electrical box. Use wire ties provided to secure and prevent the wires from interfering with other components and to protect them from damage.

c) Connect the (3) black line power wires to L1, L2 & L3 on the unit main terminal block.

d) Connect the other end of the (3) black line power wires to the normally open terminals L1, L2 & L3 on the power exhaust fan relay. Check circuit to verify if it is wired in accordance with figure 5.

For units with ReliaTel controls

a) Uncoil the wires from the power exhaust harness assembly. Mate the polarized plug on the wire harness to the EXF terminal on the unit economizer actuator. Splice the other ends of the control leads to the common and 24V leads on the economizer actuator. (See figure 6) Secure all wires.

b) Using wire routing guide shown in figure 3,4 route one end of the long wires up over the coil and along the unit wire harness through the fan partition panel to the unit electrical box. Use wire ties provided to secure and

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prevent the wires from interfering with other components and to protect them from damage.

c) Connect the (3) black line power wires to L1, L2 & L3 on the unit main terminal block.

d) Connect the other end of the (3) black line power wires to the normally open terminals L1, L2 & L3 on the power exhaust fan relay. Check circuit to verify if it is wired in accordance with figure 6.

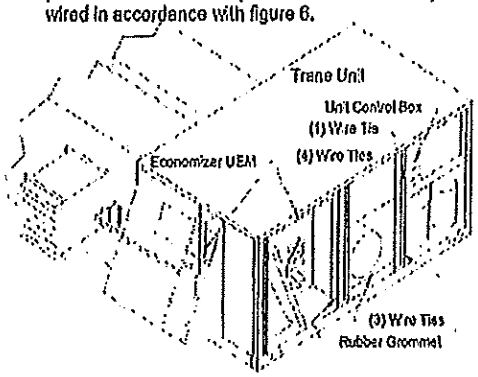


Figure 3: Horizontal Wire Routing

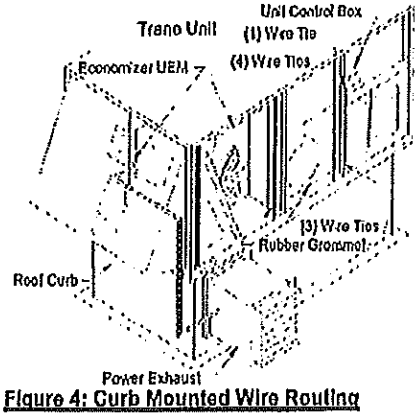


Figure 4: Curb Mounted Wire Routing

13. Place the 1" by 3" label (power exhaust installed) next to the main unit-wiring diagram.
14. Replace the electrical box dead front cover and all unit panels, except the filter/economizer access panel.

POWER EXHAUST FAN CHECK-OUT

WARNING: Bodily injury can result from high voltage electrical components and fast moving fan drives. For protection from these inherent hazards during installation and servicing, the electrical supply must be disconnected. If operating checks must be performed with the unit operating, it is the technician's responsibility to recognize these hazards and proceed safely.

CAUTION: Before applying power to the unit ensure that the power exhaust motor is wired for the same voltage as the unit. If this accessory is mounted on a 230-volt unit the power exhaust motor **MUST** be rewired from 460 volts to 230 volts, per the diagram on the motor terminal plate.

15. To adjust the economizer minimum position setting and check out the power exhaust the power must be connected.
16. Close unit disconnect, and place the zone sensor fan selector in the fan "ON" position, and the heat/cool selector in the "OFF" position. This will place the damper in the minimum ventilation position.
17. To adjust the minimum position setting for the required ventilation air, turn the potentiometer clockwise to "open" or increase the amount of ventilation and counterclockwise to "close" or decrease the amount of ventilation.
18. When the arrow on the adjustment of the potentiometer is pointing toward 8 o'clock, the minimum position should be approximately zero (0) percent. When pointing toward 12 o'clock it should be approximately twenty-five (25) percent. When pointing toward 4 o'clock it should be approximately fifty (50) percent.

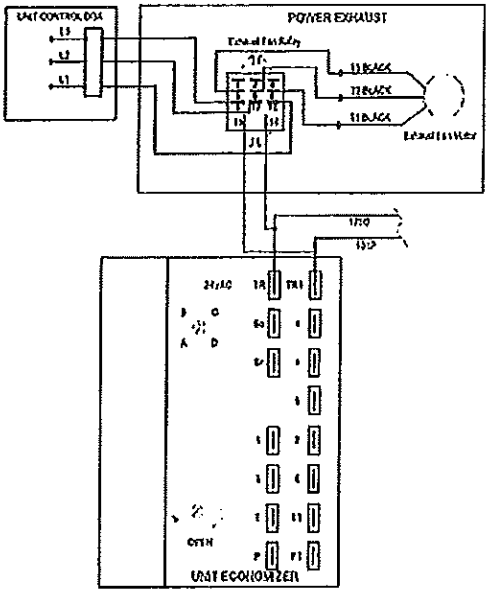


Figure 5: Electromechanical Wiring Diagram

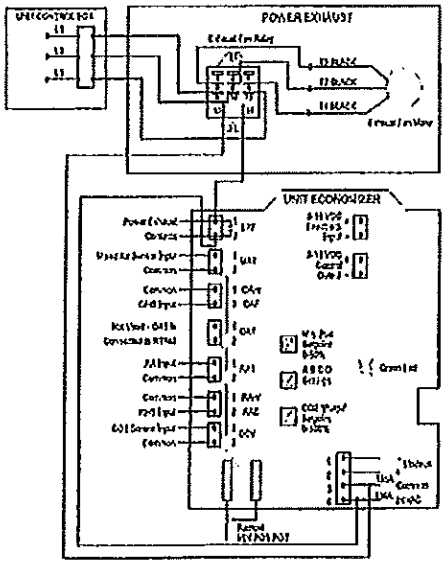


Figure 6: RellaTel Wiring Diagram

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Notes:

a) At minimum position settings of 26% and above, the power exhaust will operate each time the indoor fan is energized, except when the repositioning damper is still below 25%.
b) At minimum position settings of 25% and below, the power exhaust will operate only when the unit is economizing and the damper is open more than 25%.
c) For units with electromechanical controls the power exhaust fan will operate each time the indoor fan is energized regardless of minimum position setting. A minimum setting of 25% or greater is recommended.
d) For check out purposes, there is a drive indicator light is located on the face of the economizer motor. This light glows any time the motor is driving the damper, either open or closed.
e) When adjusting minimum position, the damper may move to the new setting in several small steps. Once the damper has remained in a position for 10-16 seconds without movement, it can be assumed it is at the new position.

WARNING: Open and lock unit disconnect switch before continuing installation of this accessory; Failure to do so could result in severe injury or death due to electrical shock or contact with moving parts.

19. Replace the filter/economizer panel at this time.
20. Before leaving the installation, check all seams on the economizer and power exhaust and ensure they are all sealed watertight with caulk provided.
21. Reconnect power. Unit is now ready for operation with power exhaust.

These units are tested at the factory and the amp, RPM, and pitch of the blades are set to match the unit ordered. The fans must be operated within the catalog performance data. These adjustments are not intended for field readjustments. They are not designed for a reversing airflow operation.

Inspect for transit damage upon delivery and provide adequately protected storage at the construction site. All equipment is inspected prior to shipment but satisfactory operation of all applications requires thoughtful handling along the way.

AFTER INITIAL OPERATION

1. Check rotation of airflow direction immediately upon startup for 3-phase motors. Only if operating in the wrong direction, interchange any two leads.
2. Check for vibration. If severe, stop unit and determine corrective action required.

IMPORTANT

Do not attempt to increase speed on any equipment before checking the catalog or consulting the factory for brake horsepower for the particular unit so as not to overload the motor or place the fan in another class due to tip speed of the wheel, which may result in damage to the fan or cause personal injury.

MAINTENANCE

The basic fan unit has been designed for minimum, routine maintenance. As with all machinery, regularly scheduled inspections and prompt adjustments or repairs are essential to satisfactory service life.

The rotating propeller requires particular attention in most applications since materials in the air being handled can build up on the blades to cause destructive vibrations; and may also corrode and/or erode the blade metal to weaken the structure of the propeller. Regular inspection and corrective action at the intervals determined by the severity of each application are essential to good service life and safety.

LUBRICATION

Electric motor bearing lubrication is specified by the manufacturer and instructions are packed with the motor or stenciled on the nameplate

Caution!

Guards must be installed when fan is within reach of personnel or within seven (7) feet of working level or when advisable for safety.

Warranty

Fans are free from defects in materials and workmanship for one year from date of shipment. Any units or parts, which prove to be defective and are reported during the warranty period will be replaced at our option when returned to our factory, transportation prepaid. Deterioration or wear caused by heat, abrasive action, chemicals, improper installation or operation or lack of normal maintenance shall not constitute defect and are not covered by warranty.

The motor is warranted by the motor manufacturer for one year. If the motor becomes defective in the warranty period, it should be taken to the nearest authorized service station. If this is not done, the motor manufacturer will not warrant the motor. Call the factory for instructions if authorized service is not known.

MANUFACTURER WILL NOT BE RESPONSIBLE FOR ANY INSTALLATION, REMOVAL OR REINSTALLATION COSTS OR ANY CONSEQUENTIAL DAMAGES.

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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 - Packaged Gas/Electric Rooftop Units

Item	Tag(s)	Qty	Description	Model Number
A1	RTU-1	1	15 Ton Packaged Gas/Elec RTU	YSH180F4RVA--00E1A1B60104 010000000000000

Field Installed Option Description	Part/Ordering Number
0-100% Economizer, dry bulb control	BAYECON092B
Comparative enthalpy kit	BAYENTH008B
40% powered exhaust from Thybar	TR5PE2500-3

Item	Tag(s)	Qty	Description	Model Number
A2	RTU-2	1	12.5 Ton Packaged Gas/Elec RTU	YSH150F4RVA--00E1A1B60 104010000000000000

Field Installed Option Description	Part/Ordering Number
0-100% Economizer, dry bulb control	BAYECON091B
Comparative enthalpy kit	BAYENTH008B
40% powered exhaust from Thybar	TR5PE2000-3