48PM16–28
Single Package Rooftop Units
Electric Cooling/Gas Heating with
***COMFORT*Link™ Controls and PURON® (R–410A) Refrigerant**

Carrier®
Turn to the Experts.℠

Installation Instructions

IMPORTANT: This installation instruction contains basic unit installation information including installation of field control devices. For information on unit start-up, service, and operation, refer to the unit Controls, Start-Up, Operation, Service, and Troubleshooting Instructions also enclosed in the unit literature packet.

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SAFETY CONSIDERATIONS

Installation and servicing of air-conditioning equipment can be hazardous due to system pressure and electrical components. Only trained and qualified service personnel should install, repair, or service air-conditioning equipment.

Untrained personnel can perform the basic maintenance functions of replacing filters. All other operations should be performed by trained service personnel. When working on air-conditioning equipment, observe precautions in the literature, tags and labels attached to the unit, and other safety precautions that may apply.

Follow all safety codes. Wear safety glasses and work gloves. Use quenching cloth for unbrazing operations. Have fire extinguishers available for all brazing operations.

Recognize safety information. This is the safety-alert symbol ⚠. When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING, and CAUTION. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies a hazard which **could** result in personal injury or death. CAUTION is used to identify unsafe practices which **may** result in minor personal injury or product and property damage. NOTE is used to highlight suggestions which **will** result in enhanced installation, reliability, or operation.

⚠ WARNING

ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury or death.

Before installing or servicing system, always turn off main power to system. There may be more than one disconnect switch.

⚠ CAUTION

UNIT OPERATION AND SAFETY HAZARD

Failure to follow this caution may result in personal injury or equipment damage.

Puron® (R-410A) refrigerant systems operate at higher pressures than standard R-22 systems. Do not use R-22 service equipment or components on Puron refrigerant equipment.

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⚠ WARNING

FIRE, EXPLOSION HAZARD

Failure to follow this warning could result in personal injury, death and/or property damage.

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance. What to do if you smell gas:

DO NOT try to light any appliance.
DO NOT touch any electrical switch, or use any phone in your building.
IMMEDIATELY call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
If you cannot reach your gas supplier, call the fire department.

⚠ WARNING

FIRE, EXPLOSION HAZARD

Failure to follow this warning could result in personal injury or death.

Disconnect gas piping from unit when pressure testing at pressure greater than 0.5 psig. Pressures greater than 0.5 psig will cause gas valve damage resulting in hazardous condition. If gas valve is subjected to pressure greater than 0.5 psig, it *must* be replaced before use. When pressure testing field-supplied gas piping at pressures of 0.5 psig or less, a unit connected to such piping must be isolated by closing the manual gas valve(s).

IMPORTANT: Units have high ambient operating limits. If limits are exceeded, the units will automatically lock the compressor out of operation. Manual reset will be required to restart the compressor.

INSTALLATION

Step 1 — Provide Unit Support

Roof Curb

Assemble or install accessory roof curb in accordance with instructions shipped with this accessory. (See Fig. 1.) Install insulation, cant strips, roofing, and counter flashing as shown. Ductwork can be installed to roof curb before unit is set in place. Ductwork must be attached to curb and not to the unit. Curb must be level. This is necessary to permit unit drain to function properly. Unit leveling tolerance is ± $^1/_{16}$-in. per linear ft in any direction. Refer to Accessory Roof Curb Installation Instructions for additional information as required. When accessory roof curb is used, unit may be installed on class A, B, or C roof covering material. Carrier roof curb accessories are for flat roofs or slab mounting.

IMPORTANT: The gasketing of the unit to the roof curb is critical for a watertight seal. Install gasket with the roof curb as shown in Fig. 1. Improperly applied gasket can also result in air leaks and poor unit performance. Do not slide unit to position on roof curb.

Alternate Unit Support

When a curb cannot be used, install unit on a noncombustible surface. Support unit with sleepers, using unit curb support area. If sleepers cannot be used, support long sides of unit with a minimum of 3 equally spaced 4-in. x 4-in. pads on each side.

Slab Mount (Horizontal Units Only)

Provide a level concrete slab that extends a minimum of 6 in. beyond unit cabinet. Install a gravel apron in front of condenser coil air inlet to prevent grass and foliage from obstructing airflow.

NOTE: Horizontal units may be installed on a roof curb if required.

Step 2 — Remove Shipping Rails

Remove shipping rails prior to lowering unit onto roof curb. (See Fig. 2.) The rails are attached to the unit at both the return end and condenser end. Remove the screws from both ends of each rail. Be careful not to drop the rails onto any surface that could be damaged. Discard the rails. It is important to replace the screws into the unit to avoid any air or water leakage.

⚠ CAUTION

UNIT OR PROPERTY DAMAGE HAZARD

Failure to follow this caution may result in equipment or property damage.

Do not allow the shipping rail to drop on the roof surface. Damage to the roof surface may result.

Step 3 — Rig and Place Unit

Inspect unit for transportation damage. See Table 1-3 for physical data. File any claim with transportation agency.

⚠ CAUTION

UNIT DAMAGE HAZARD

Failure to follow this caution may result in equipment damage.

All panels must be in place when rigging. Unit is not designed for handling by fork truck.

Do not drop unit; keep upright. Use spreader bars over unit to prevent sling or cable damage. Rollers may be used to move unit across a roof. Level by using unit frame as a reference. Leveling tolerance is ± $^1/_{16}$-in. per linear ft in any direction. See Fig. 3 for additional information and unit rigging weight.

Four lifting holes are provided in the unit base rails as shown in Fig. 3. Refer to rigging instructions on unit.

Positioning

Maintain clearance, per Fig. 4, around and above unit to provide minimum distance from combustible materials, proper airflow, and service access.

Do not install unit in an indoor location. Do not locate air inlets near exhaust vents or other sources of contaminated air. For proper unit operation, adequate combustion and ventilation air must be provided in accordance with Section 5.3 (Air for Combustion and Ventilation) of the National Fuel Gas Code, ANSI Z223.1 (American National Standards Institute).

Although unit is weatherproof, guard against water from higher level runoff and overhangs.

Locate mechanical draft system flue assembly at least 4 ft from any opening through which combustion products could enter the building, and at least 4 ft from any adjacent building (or per local codes). When unit is located adjacent to public walkways, flue assembly must be at least 7 ft above grade. Locate unit at least 10 ft away from adjacent units.

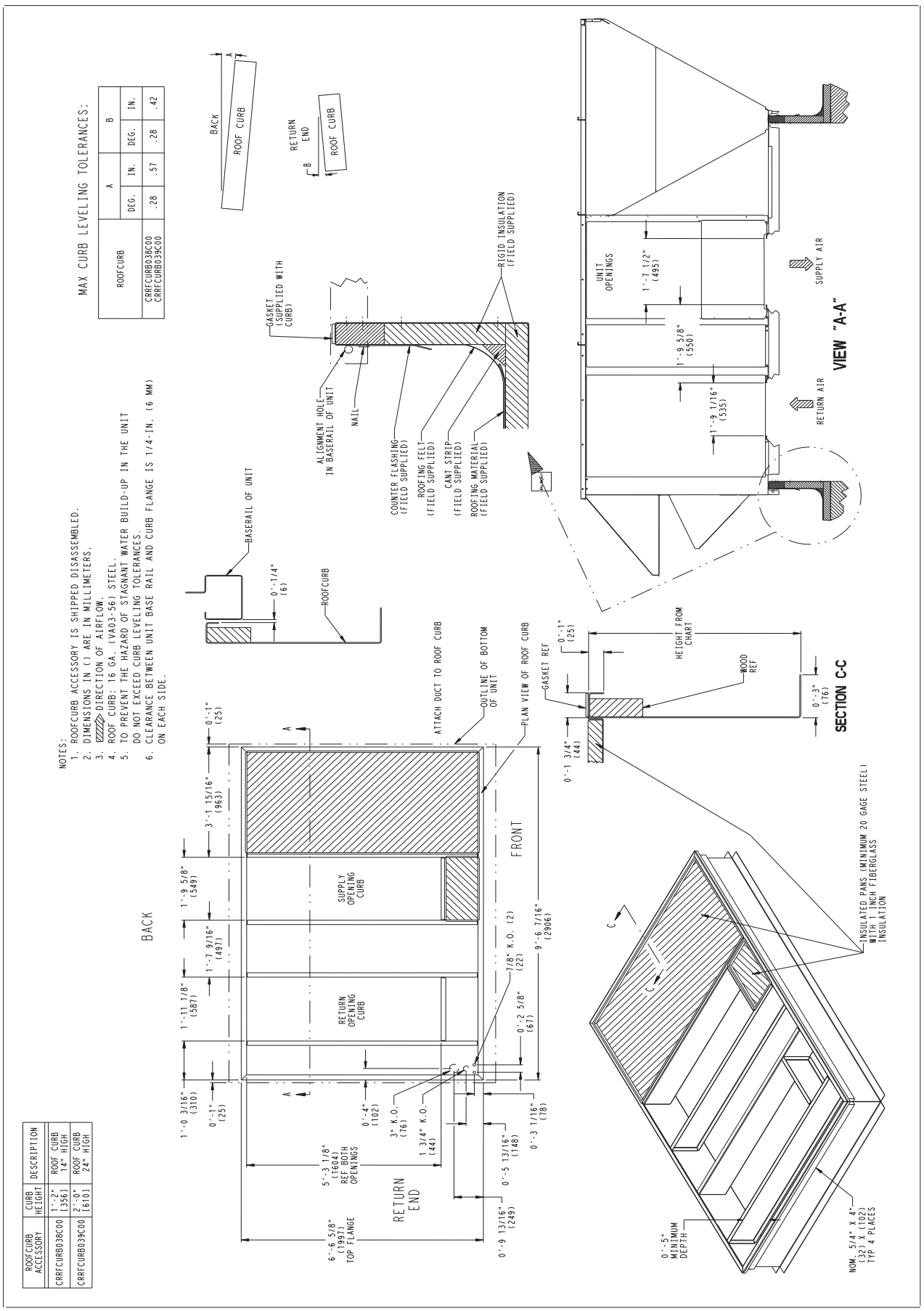

Fig. 1 - Roof Curb Details

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48PM

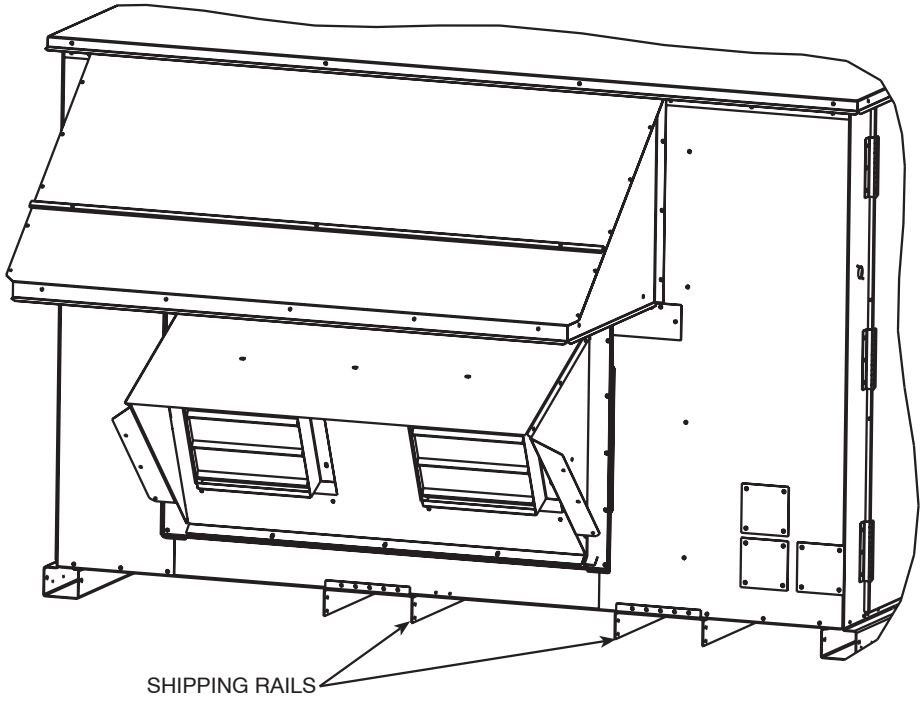

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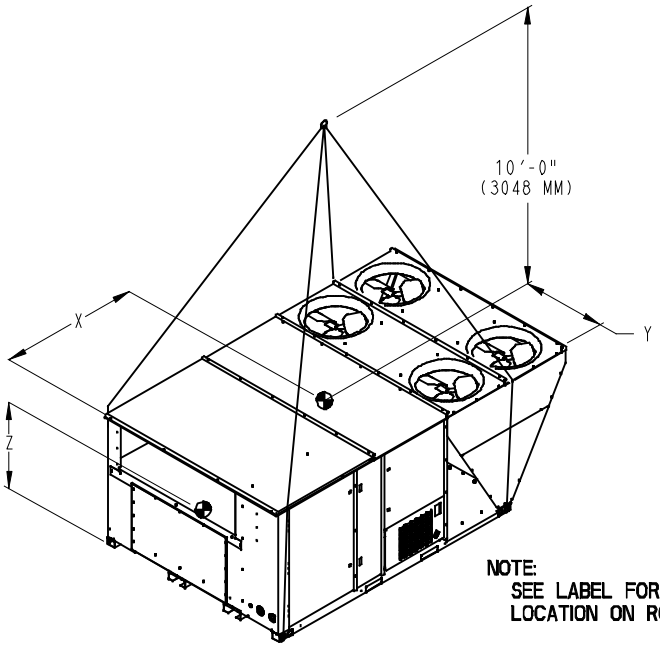
Fig. 2 - Shipping Rail Removal

CAUTION - NOTICE TO RIGGERS:

ALL PANELS MUST BE IN PLACE WHEN RIGGING.

NOTICE TO RIGGERS: Rig by inserting hooks into unit base rails as shown. Maintain a distance of 120 inches (3048 MM) from top of unit to eyehook. Leave coil cover attached to unit while rigging to protect coil of unit from damage.

UNIT SIZE	MAX WEIGHT (LBS)	CENTER OF GRAVITY (IN)		
		X	Y	Z
PG20	3825	73.0	36.0	30.5
PG24	4075	77.5	36.7	31.0
PG28	4300	70.9	35.1	34.3
PM16	3293	62.0	34.5	30.0
PM20	3338	62.0	34.5	30.0
PM24	3371	62.0	34.5	30.0
PM28	3633	66.0	34.5	34.5
PG20 ERV	4526	172.7	86.6	29.6
PG24 ERV	4698	172.7	86.6	29.6
PG28 ERV	4968	158.9	86.6	33.2
PM16 ERV	4330	74.5	38.0	29.0
PM20 ERV	4375	74.5	38.0	29.0
PM24 ERV	4454	74.5	38.0	29.0
PM28 ERV	4689	79.0	38.0	32.5



NOTE:
SEE LABEL FOR UNIT
LOCATION ON ROOF CURB

NOTE:
Add 150lb (68kg) for domestic crating.

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Fig. 3 - Rigging Details

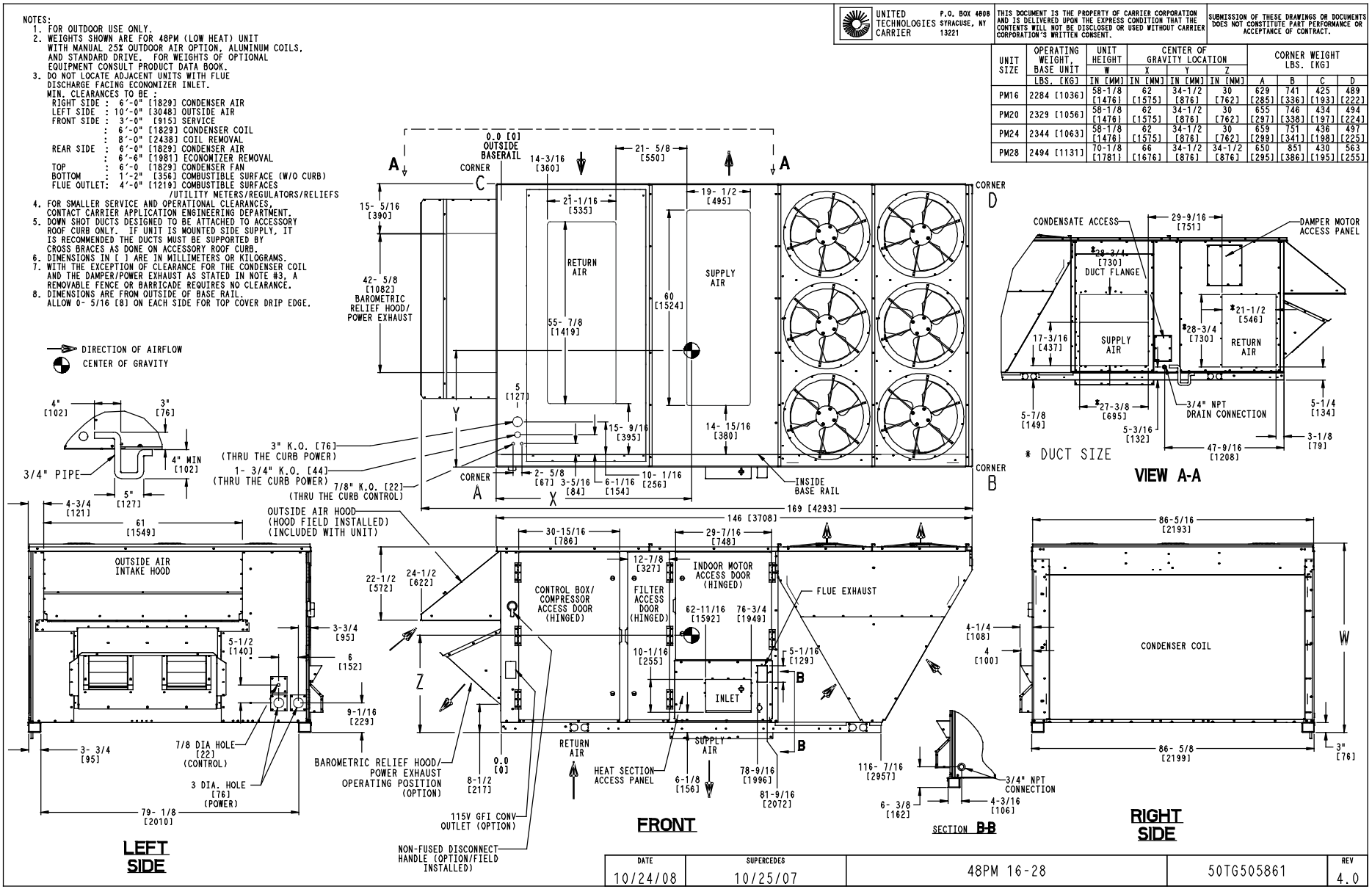

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Fig. 4 - Base Unit Dimensions

Table 1 – Physical Data

UNIT 48PM	Units	PM16	PM20	PM24	PM28
DIMENSIONS					
Length	in	145.8	145.8	145.8	145.8
Width	in	86.3	86.3	86.3	86.3
Height	in	57.8	57.8	57.8	69.8
OPERATING WEIGHT					
Base unit (50 series)	lb	2210	2216	2269	2389
Base unit (48 series, low heat)	lb	2325	2329	2344	2494
COMPRESSOR					
Type		Scroll			
Quantity		2	2	2	2
Number of circuits		2	2	2	2
Capacity Stages (%) Circuit 1 - Circuit 2		50 - 50	50 - 50	50 - 50	50 - 50
Oil type		Copeland 3MA			
Oil quantity					
Circuit A	fl oz	110	110	110	110
Circuit B	fl oz	60	60	110	110
REFRIGERANT					
Type		Puron (R410A)			
Operating charge - standard unit					
Circuit A	lb	13.7	13.7	15.0	16.7
Circuit B	lb	12.0	12.0	15.0	16.7
Operating charge - w/ Humidi-Mizer™					
Circuit A	lb	22.6	22.6	22.6	27.1
Circuit B	lb	20.9	20.9	22.6	27.1
CONDENSER COIL					
Type		MicroChannel			
Rows		1	1	1	1
Fin density	fins/in	20	20	20	20
Total face area	ft^2	52.6	52.6	57.0	65.5
CONDENSER FAN					
Type		Propeller			
Nominal airflow	ft^3/min	14400	14400	21000	21000
Quantity		4	4	6	6
Diameter	in	22	22	22	22
Motor Output (nominal)	HP	0.25	0.25	0.25	0.25
Motor speed (nominal)	rev/min	1100	1100	1100	1100
EVAPORATOR COIL					
Type		Round Tube Plate Fin			
Rows		4	4	4	4
Fin density	fins/in	15	15	15	15
Total face area	ft^2	23.1	23.1	23.1	28.9
Expansion device type		Balanced-Port TXV w/ bypass			
Humdi-MiZer™ COIL (OPTIONAL)					
Type		Round Tube Plate Fin			
Rows		2	2	2	2
Fin density	fins/in	15	15	15	15
Total face area	ft^2	12.4	12.4	12.4	17.1
EVAPORATOR FAN					
Type		Forward Curve Centrifugal			
Nominal airflow	ft^3/min	7200	7200	8000	10000
Quantity		2	2	2	2
Diameter x Width	in x in	15x11	15x11	15x11	15x11
Maximum allowable speed	RPM	1400	1400	1400	1400
Fan shaft diameter (nominal)	in	1 3/16	1 3/16	1 3/16	1 3/16
Drive type				Belt	
Motor Output (nominal)	HP	3.7, 5, 7.5, or 10	3.7, 5, 7.5, or 10	3.7, 5, 7.5, or 10	5, 7.5, or 10
FILTERS					
Type		Disposable			
Quantity		9	9	9	9
Size - 2" (standard)	in^3	16x25x2	16x25x2	16x25x2	20x25x2
Size - 4" (optional)	in^3	16x25x4	16x25x4	16x25x4	20x25x4
GAS HEAT SECTION					
Manifold Pressure					
Natural Gas Vertical - Horizontal	in. wg.	3.00 - 2.95	3.00 - 2.95	3.00 - 2.95	3.00 - 2.95
Liquid Propane Vertical - Horizontal	in. wg.	3.00 - 2.8	3.00 - 2.8	3.00 - 2.8	3.00 - 2.8
Thermostat Heat Anticipator Setting					
First Stage - Second Stage	amps	0.98 - 0.44	0.98 - 0.44	0.98 - 0.44	0.98 - 0.44
Field Gas Connection Size	in.	3/4	3/4	3/4	3/4
Gas Supply Pressure Range	in. wg.	5.5 - 13.0	5.5 - 13.0	5.5 - 13.0	5.5 - 13.0
Gas Supply Pressure Range	psig	0.235 - 0.469	0.235 - 0.469	0.235 - 0.469	0.235 - 0.469
Low Heat # of burners	total	5	5	5	5
Rollout switch opens - closes	deg F	225 - 175	225 - 175	225 - 175	225 - 175
Temperature Rise Min - Max	deg F	15 - 45	15 - 45	15 - 45	15 - 45
Natural Gas Input (Btuh) Stage1- Stage 2		199,000 - 250,000	199,000 - 250,000	199,000 - 250,000	199,000 - 250,000
Burner Orifice Diameter (in. - drill size)**		0.136 - 29	0.136 - 29	0.136 - 29	0.136 - 29
Liquid Propane Input* (Btuh)** Stage1- Stage 2		207,000 - 250,000	207,000 - 250,000	207,000 - 250,000	207,000 - 250,000
Burner Orifice Diameter (in.- drill size)**		0.110 - 35	0.110 - 35	0.110 - 35	0.110 - 35
Medium Heat # of burners	total	8	8	8	8
Rollout switch opens - closes	deg F	225 - 175	225 - 175	225 - 175	225 - 175
Temperature Rise Min - Max	deg F	25 - 55	25 - 55	25 - 55	25 - 55
Natural Gas Input (Btuh) Stage1- Stage 2		281,000 - 365,000	281,000 - 365,000	281,000 - 365,000	281,000 - 365,000
Burner Orifice Diameter (in. - drill size)**		0.1285 - 30	0.1285 - 30	0.1285 - 30	0.1285 - 30
Liquid Propane Input* (Btuh)** Stage1- Stage 2		291,000 - 365,000	291,000 - 365,000	291,000 - 365,000	291,000 - 365,000
Burner Orifice Diameter (in. - drill size)**		0.1015 - 38	0.1015 - 38	0.1015 - 38	0.1015 - 38
High Heat # of burners	total	8	8	8	8
Rollout switch opens - closes	deg F	225 - 175	225 - 175	225 - 175	225 - 175
Temperature Rise Min - Max	deg F	25 - 55	25 - 55	25 - 55	25 - 55
Natural Gas Input (Btuh) Stage1- Stage 2		317,000 - 400,000	317,000 - 400,000	317,000 - 400,000	317,000 - 400,000
Burner Orifice Diameter (in. - drill size)**		0.136 - 29	0.136 - 29	0.136 - 29	0.136 - 29
Liquid Propane Input* (Btuh)** Stage1- Stage 2		331,000 - 400,000	331,000 - 400,000	331,000 - 400,000	331,000 - 400,000
Burner Orifice Diameter (in. - drill size)**		0.110 - 35	0.110 - 35	0.110 - 35	0.110 - 35

* Aluminum evaporator coil/aluminum condenser coil with low heat ** For applications less than 2000 ft elevation *** Vertical application numbers shown.

Table 2 – Fan Motor and Drive Data — Vertical Supply/Return

UNIT 48PM	16		20		24		28	
Voltage (volts)	**208/230 and 460**	**575**	**208/230 and 460**	**575**	**208/230 and 460**	**575**	**208/230 and 460**	**575**
LOW RANGE								
Motor HP	3.7	5	3.7	5	3.7	5	5	5
Motor Nominal RPM	1750	1750	1750	1750	1750	1750	1750	1750
Maximum Continuous BHP	4.26	5.75	4.26	5.75	4.26	5.75	5.37 / 5.75	5.75
Maximum Continuous Watts	3700	5015	3700	5015	3700	5015	4578 / 5115	5015
Motor Frame Size	56HZ	S184T	56HZ	S184T	56HZ	S184T	S184T	S184T
Motor shaft diameter (in.)	7/8	1 1/8	7/8	1 1/8	7/8	1 1/8	1 1/8	1 1/8
Motor Pulley Pitch Diameter Min - Max (in)	2.7 - 3.7	3.7 - 4.7	2.7 - 3.7	3.7 - 4.7	2.7 - 3.7	3.7 - 4.7	3.7 - 4.7	3.7 - 4.7
Fan RPM Range	685-939	751-954	685-939	751-954	685-939	751-954	687-873	687-873
Blower Pulley Pitch Diameter (in.)	6.8	8.6	6.8	8.6	6.8	8.6	9.4	9.4
Pulley center line distance (in.)	11.293-13.544	9.81-13.055	11.293-13.544	9.81-13.055	11.293-13.544	9.81-13.055	9.81-13.055	9.81-13.055
Belt, Quantity..Type..Length (in.)	1..BX38..39.8	1..BX40..41.8	1..BX38..39.8	1..BX40..41.8	1..BX38..39.8	1..BX40..41.8	1..BX41..42.8	1..BX41..42.8
Speed change per turn - moveable pulley (RPM)	42	34	42	34	42	34	31	31
Moveable pulley maximum full turns	6	6	6	6	6	6	6	6
Factory Speed setting (RPM)	812	853	812	853	812	853	780	780
MID-LOW RANGE								
Motor HP	5	5	5	5	5	5	5	5
Motor Nominal RPM	1750	1750	1750	1750	1750	1750	1750	1750
Maximum Continuous BHP	5.37 / 5.75	5.75	5.37 / 5.75	5.75	5.37 / 5.75	5.75	5.37 / 5.75	5.75
Maximum Continuous Watts	4578 / 5115	5015	4578 / 5115	5015	4578 / 5115	5015	4578 / 5115	5015
Motor Frame Size	S184T	S184T	S184T	S184T	S184T	S184T	S184T	S184T
Motor shaft diameter (in.)	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8
Motor Pulley Pitch Diameter Min - Max (in)	3.7 - 4.7	3.7 - 4.7	3.7 - 4.7	3.7 - 4.7	3.7 - 4.7	3.7 - 4.7	4.8 - 6	4.8 - 6
Fan RPM Range	949-1206	949-1206	949-1206	949-1206	949-1206	949-1206	805-1007	805-1007
Blower Pulley Pitch Diameter (in.)	6.8	6.8	6.8	6.8	6.8	6.8	10.4	10.4
Pulley center line distance (in.)	9.81-13.055	9.81-13.055	9.81-13.055	9.81-13.055	9.81-13.055	9.81-13.055	9.81-13.055	9.81-13.055
Belt, Quantity..Type..Length (in.)	1..BX38..39.8	1..BX38..39.8	1..BX38..39.8	1..BX38..39.8	1..BX38..39.8	1..BX38..39.8	1..BX45..46.8	1..BX45..46.8
Speed change per turn - moveable pulley (RPM)	43	43	43	43	43	43	34	34
Moveable pulley maximum full turns	6	6	6	6	6	6	6	6
Factory Speed setting (RPM)	1078	1078	1078	1078	1078	1078	906	906
MID-HIGH RANGE								
Motor HP	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
Motor Nominal RPM	1750	1750	1750	1750	1750	1750	1750	1750
Maximum Continuous BHP	7.66/8.51 / 8.63	8.63	7.66/8.51 / 8.63	8.63	7.66/8.51 / 8.63	8.63	7.66/8.51 / 8.63	8.63
Maximum Continuous Watts	6458 / 7586	7586	6458 / 7586	7586	6458 / 7586	7586	6458 / 7586	7586
Motor Frame Size	S213T	S213T	S213T	S213T	S213T	S213T	S213T	S213T
Motor shaft diameter (in.)	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8
Motor Pulley Pitch Diameter Min - Max (in)	4.8 - 6.0	4.8 - 6.0	4.8 - 6.0	4.8 - 6.0	4.8 - 6.0	4.8 - 6.0	4.8 - 6.0	4.8 - 6.0
Fan RPM Range	941-1176	941-1176	941-1176	941-1176	941-1176	941-1176	941-1176	941-1176
Blower Pulley Pitch Diameter (in.)	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9
Pulley center line distance (in.)	9.025-12.179	9.025-12.179	9.025-12.179	9.025-12.179	9.025-12.179	9.025-12.179	9.025-12.179	9.025-12.179
Belt, Quantity..Type..Length (in.)	1..BX42..43.8	1..BX42..43.8	1..BX42..43.8	1..BX42..43.8	1..BX42..43.8	1..BX42..43.8	1..BX42..43.8	1..BX42..43.8
Speed change per turn - moveable pulley (RPM)	39	39	39	39	39	39	39	39
Moveable pulley maximum full turns	6	6	6	6	6	6	6	6
Factory Speed setting (RPM)	1059	1059	1059	1059	1059	1059	1059	1059
HIGH RANGE								
Motor HP	N/A	N/A	10	10	10	10	10	10
Motor Nominal RPM	N/A	N/A	1750	1750	1750	1750	1750	1750
Maximum Continuous BHP	N/A	N/A	9.94/10.45 / 11.19	11.5	9.94/10.45 / 11.19	11.5	9.94/10.45 / 11.19	11.5
Maximum Continuous Watts	N/A	N/A	8284 / 9330	9711	8284 / 9330	9711	8284 / 9330	9711
Motor Frame Size	N/A	N/A	S215T	S215T	S215T	S215T	S215T	S215T
Motor shaft diameter (in.)	N/A	N/A	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8
Motor Pulley Pitch Diameter Min - Max (in)	N/A	N/A	4.3 - 5.5	4.3 - 5.5	4.3 - 5.5	4.3 - 5.5	4.3 - 5.5	4.3 - 5.5
Fan RPM Range	N/A	N/A	1014-1297	1014-1297	1014-1297	1014-1297	1014-1297	1014-1297
Blower Pulley Pitch Diameter (in.)	N/A	N/A	7.4	7.4	7.4	7.4	7.4	7.4
Pulley center line distance (in.)	N/A	N/A	9.025-12.179	9.025-12.179	9.025-12.179	9.025-12.179	9.025-12.179	9.025-12.179
Belt, Quantity..Type..Length (in.)	N/A	N/A	2..BX38..39.8	2..BX38..39.8	2..BX38..39.8	2..BX38..39.8	2..BX38..39.8	2..BX38..39.8
Speed change per turn - moveable pulley (RPM)	N/A	N/A	47	47	47	47	47	47
Moveable pulley maximum full turns	N/A	N/A	6	6	6	6	6	6
Factory Speed setting (RPM)	N/A	N/A	1156	1156	1156	1156	1156	1156

Table 3 – Fan Motor and Drive Data — Horizontal Supply/Return

UNIT 48PM	16		20		24		28	
Voltage (volts)	**208/230 and 460**	**575**	**208/230 and 460**	**575**	**208/230 and 460**	**575**	**208/230 and 460**	**575**
LOW RANGE								
Motor HP	N/A	N/A	N/A	N/A	N/A	N/A	5	5
Motor Nominal RPM	N/A	N/A	N/A	N/A	N/A	N/A	1750	1750
Maximum Continuous BHP	N/A	N/A	N/A	N/A	N/A	N/A	5.37 / 5.75	5.75
Maximum Continuous Watts	N/A	N/A	N/A	N/A	N/A	N/A	4578 / 5115	5015
Motor Frame Size	N/A	N/A	N/A	N/A	N/A	N/A	S184T	S184T
Motor shaft diameter (in.)	N/A	N/A	N/A	N/A	N/A	N/A	1 1/8	1 1/8
Motor Pulley Pitch Diameter Min - Max (in)	N/A	N/A	N/A	N/A	N/A	N/A	3.7 - 4.7	3.7 - 4.7
Fan RPM Range	N/A	N/A	N/A	N/A	N/A	N/A	687-873	687-873
Blower Pulley Pitch Diameter (in.)	N/A	N/A	N/A	N/A	N/A	N/A	9.4	9.4
Pulley center line distance (in.)	N/A	N/A	N/A	N/A	N/A	N/A	9.81-13.055	9.81-13.055
Belt, Quantity..Type..Length (in.)	N/A	N/A	N/A	N/A	N/A	N/A	1..BX41..42.8	1..BX41..42.8
Speed change per turn - moveable pulley (RPM)	N/A	N/A	N/A	N/A	N/A	N/A	31	31
Moveable pulley maximum full turns	N/A	N/A	N/A	N/A	N/A	N/A	6	6
Factory Speed setting (RPM)	N/A	N/A	N/A	N/A	N/A	N/A	780	780
MID-LOW RANGE								
Motor HP	3.7	5	3.7	5	3.7	5	5	5
Motor Nominal RPM	1750	1750	1750	1750	1750	1750	1750	1750
Maximum Continuous BHP	4.26	5.75	4.26	5.75	4.26	5.75	5.37 / 5.75	5.75
Maximum Continuous Watts	3700	5015	3700	5015	3700	5015	4578 / 5115	5015
Motor Frame Size	56HZ	S184T	56HZ	S184T	56HZ	S184T	S184T	S184T
Motor shaft diameter (in.)	7/8	1 1/8	7/8	1 1/8	7/8	1 1/8	1 1/8	1 1/8
Motor Pulley Pitch Diameter Min - Max (in)	2.7 - 3.7	3.7 - 4.7	2.7 - 3.7	3.7 - 4.7	2.7 - 3.7	3.7 - 4.7	4.8 - 6.0	4.8 - 6.0
Fan RPM Range	896-1227	873-1108	896-1227	873-1108	896-1227	873-1108	805-1007	805-1007
Blower Pulley Pitch Diameter (in.)	5.2	7.4	5.2	7.4	5.2	7.4	10.4	10.4
Pulley center line distance (in.)	11.293-13.544	9.81-13.055	11.293-13.544	9.81-13.055	11.293-13.544	9.81-13.055	9.81-13.055	9.81-13.055
Belt, Quantity..Type..Length (in.)	1..BX35..36.8	1..BX38..39.8	1..BX35..36.8	1..BX38..39.8	1..BX35..36.8	1..BX38..39.8	1..BX45..46.8	1..BX45..46.8
Speed change per turn - moveable pulley (RPM)	55	39	55	39	55	39	34	34
Moveable pulley maximum full turns	6	6	6	6	6	6	6	6
Factory Speed setting (RPM)	1062	991	1062	991	1062	991	906	906
MID-HIGH RANGE								
Motor HP	5	5	5	5	5	5	7.5	7.5
Motor Nominal RPM	1750	1750	1750	1750	1750	1750	1750	1750
Maximum Continuous BHP	5.37 / 5.75	5.75	5.37 / 5.75	5.75	5.37 / 5.75	5.75	7.66/8.51 / 8.63	8.63
Maximum Continuous Watts	4578 / 5115	5015	4578 / 5115	5015	4578 / 5115	5015	6458 / 7586	7586
Motor Frame Size	S184T	S184T	S184T	S184T	S184T	S184T	S213T	S213T
Motor shaft diameter (in.)	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8
Motor Pulley Pitch Diameter Min - Max (in)	3.7 - 4.7	3.7 - 4.7	3.7 - 4.7	3.7 - 4.7	3.7 - 4.7	3.7 - 4.7	4.8 - 6.0	4.8 - 6.0
Fan RPM Range	1113-1414	1113-1414	1113-1414	1113-1414	1113-1414	1113-1414	941-1176	941-1176
Blower Pulley Pitch Diameter (in.)	5.8	5.8	5.8	5.8	5.8	5.8	8.9	8.9
Pulley center line distance (in.)	9.81-13.055	9.81-13.055	9.81-13.055	9.81-13.055	9.81-13.055	9.81-13.055	9.025-12.179	9.025-12.179
Belt, Quantity..Type..Length (in.)	1..BX35..36.8	1..BX35..36.8	1..BX35..36.8	1..BX35..36.8	1..BX35..36.8	1..BX35..36.8	1..BX42..43.8	1..BX42..43.8
Speed change per turn - moveable pulley (RPM)	50	50	50	50	50	50	39	39
Moveable pulley maximum full turns	6	6	6	6	6	6	6	6
Factory Speed setting (RPM)	1264	1264	1264	1264	1264	1264	1059	1059
HIGH RANGE								
Motor HP	7.5	7.5	7.5	7.5	7.5	7.5	10	10
Motor Nominal RPM	1750	1750	1750	1750	1750	1750	1750	1750
Maximum Continuous BHP	7.66/8.51 / 8.63	8.63	7.66/8.51 / 8.63	8.63	7.66/8.51 / 8.63	8.63	9.94/10.45 / 11.19	11.5
Maximum Continuous Watts	6458 / 7586	7586	6458 / 7586	7586	6458 / 7586	7586	8284 / 9330	9711
Motor Frame Size	S213T	S213T	S213T	S213T	S213T	S213T	S215T	S215T
Motor shaft diameter (in.)	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8
Motor Pulley Pitch Diameter Min - Max (in)	5.4 - 6.6	5.4 - 6.6	5.4 - 6.6	5.4 - 6.6	5.4 - 6.6	5.4 - 6.6	4.3 - 5.5	4.3 - 5.5
Fan RPM Range	1096-1339	1096-1339	1096-1339	1096-1339	1096-1339	1096-1339	1014-1297	1011-1293
Blower Pulley Pitch Diameter (in.)	8.6	8.6	8.6	8.6	8.6	8.6	7.4	7.4
Pulley center line distance (in.)	9.025-12.179	9.025-12.179	9.025-12.179	9.025-12.179	9.025-12.179	9.025-12.179	9.025-12.179	9.025-12.179
Belt, Quantity..Type..Length (in.)	1..BX42..43.8	1..BX42..43.8	1..BX42..43.8	1..BX42..43.8	1..BX42..43.8	1..BX42..43.8	1..BX38..39.8	1..BX38..39.8
Speed change per turn - moveable pulley (RPM)	41	41	41	41	41	41	47	47
Moveable pulley maximum full turns	6	6	6	6	6	6	6	6
Factory Speed setting (RPM)	1218	1218	1218	1218	1218	1218	1156	1156

Roof Mount

Check building codes for weight distribution requirements. Unit operating weight is shown in Table 1.

Installation onto Curb

The 48PM units are designed to fit on the accessory full perimeter curb. Correct placement of the unit onto the curb is critical to operating performance. To aid in correct positioning, 3/8-in. diameter locating holes have been added to the unit base rails. When placing the unit, these holes should line up with the roof curb edge as shown in Fig. 5 and 6, to assure proper duct opening alignment. For placement on the roof PM curb, use the alignment holes located approximately 2-in. from the end of the base rail on the return end of the unit. See labels on the side of the unit for more details.

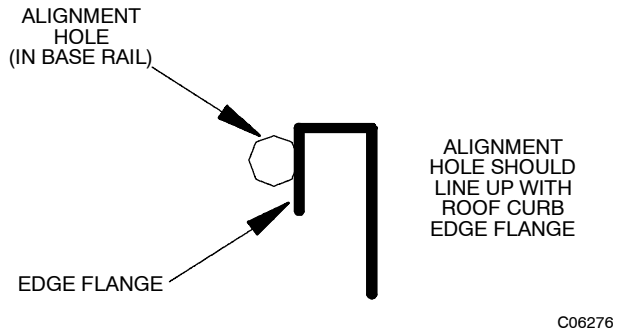


Fig. 5 - Alignment Hole Details

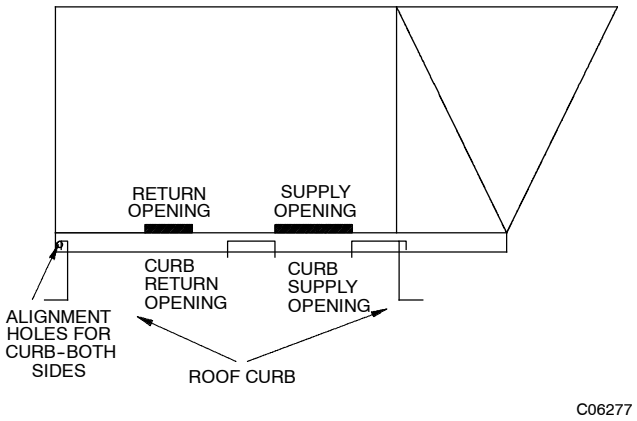


Fig. 6 - Alignment Hole Location

Step 4 — Field Fabricate Ductwork

On vertical units, secure all ducts to roof curb and building structure. *Do not connect ductwork to unit.* For horizontal applications, field-supplied flanges should be attached to horizontal discharge openings and all ductwork secured to the flanges. Insulate and weatherproof all external ductwork, joints, and roof openings with counter flashing and mastic in accordance with applicable codes.

Ducts passing through an unconditioned space must be insulated and covered with a vapor barrier.

If a plenum return is used on a vertical unit, the return should be ducted through the roof deck to comply with applicable fire codes.

A minimum clearance is not required around ductwork. Cabinet return-air static pressure (a negative condition) shall not exceed 0.35-in. wg with economizer or 0.45-in. wg without economizer.

These units are designed for a minimum continuous return-air temperature in heating of 50°F (dry bulb), or an intermittent operation down to 45°F (dry bulb), such as when used with a night set-back thermostat.

To operate at lower return-air temperatures, a field-supplied outdoor-air temperature control must be used to initiate both stages of heat when the temperature is below 45°F. Indoor comfort may be compromised when these lower air temperatures are used with insufficient heating temperature rise.

Step 5 — Make Unit Duct Connections

Vertical Configuration

Unit is shipped for vertical supply and return duct connections. Ductwork openings are shown in Fig. 1 and 4. Duct connections for vertical configuration are shown in Fig. 7. Field-fabricated concentric ductwork may be connected as shown in Fig. 8. The unit is designed to attach the ductwork to the roof curb. Do not attach duct directly to the unit.

⚠ CAUTION

PERSONAL INJURY HAZARD

Failure to follow this caution may result in personal injury.

For vertical supply and return units, tools or parts could drop into ductwork and cause an injury. Install a 90° turn in the return ductwork between the unit and the conditioned space. If a 90° elbow cannot be installed, then a grille of sufficient strength and density should be installed to prevent objects from falling into the conditioned space.

Horizontal Applications

Horizontal units are shipped with outer panels that allow for side by side horizontal duct connections. If specified during ordering, the unit will be shipped with the vertical duct openings blocked off from the factory, ready for side supply installation. If the horizontal supply/return option was not specified at time of ordering the unit, a field-installed accessory kit is required to convert the vertical unit into a horizontal supply configuration.

Installation of the duct block-off covers should be completed prior to placing the unit unless sufficient side clearance is available. A minimum of 66-in. is required between the unit and any obstruction to install the duct block-off covers. Side supply duct dimensions and locations are shown in Fig. 4. Install ductwork to horizontal duct flange connections on side of unit.

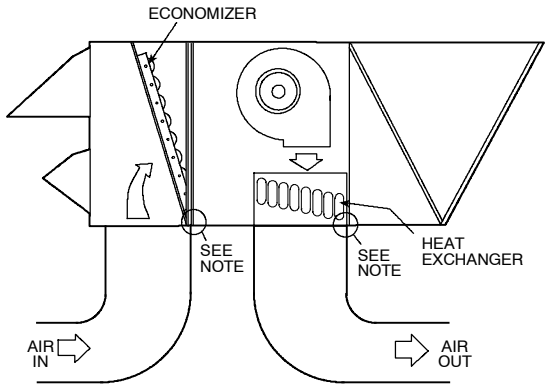
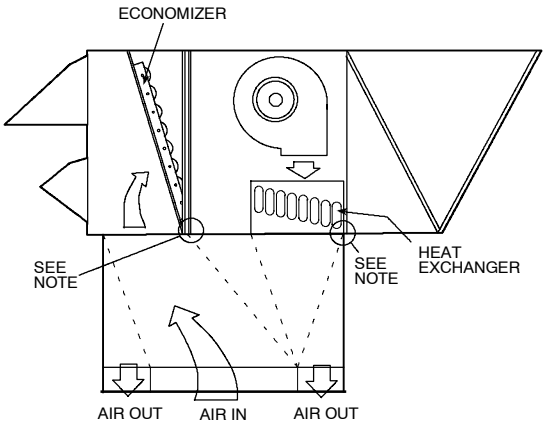


Fig. 7 - Air Distribution - Vertical Supply/Return



NOTE: Do not drill in this area. Damage to basepan may result in water leak.

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Fig. 8 - Air Distribution - Concentric Duct

Step 6 — Install Flue Hood and Inlet Hood

Flue hood (smaller hood), inlet hood (larger hood), and screens are shipped inside the unit in the fan section. To install, remove the heat panel. The flue hood is attached to the heat section panel from the outside using the screws provided. (See Fig. 9.)

The inlet hood is installed by inserting the hood through the back of the heat panel. Attach the hood by inserting the screws provided through the clearance holes in the heat panel and into the intake hood.

Install the screens into both hoods using the screws and retaining nuts provided with the unit.

Attach the cover of the observation hole on the intake hood and then replace the heat panel onto the unit to complete the installation.

NOTE: When properly installed, the flue hood will line up with the combustion fan housing. (See Fig. 10.)

Step 7 — Trap Condensate Drain

See Fig. 11 for drain location. One $^{3}/_{4}$-in. half coupling is provided outside unit evaporator section for condensate drain connection. A trap at least 4-in. deep must be used. (See Fig. 12.)

All units must have an external trap for condensate drainage. Install a trap at least 4-in. deep and protect against freeze-up. If drain line is installed downstream from the external trap, pitch the line away from the unit at 1 in. per 10 ft of run. Do not use a pipe size smaller than the unit connection.

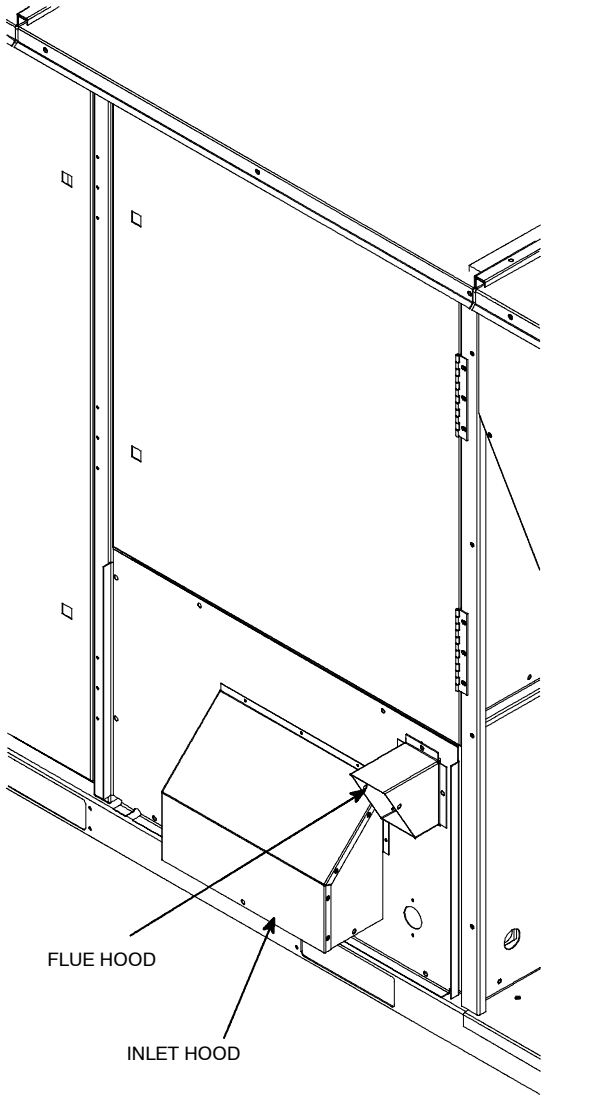

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Fig. 9 - Flue and Inlet Hood Locations

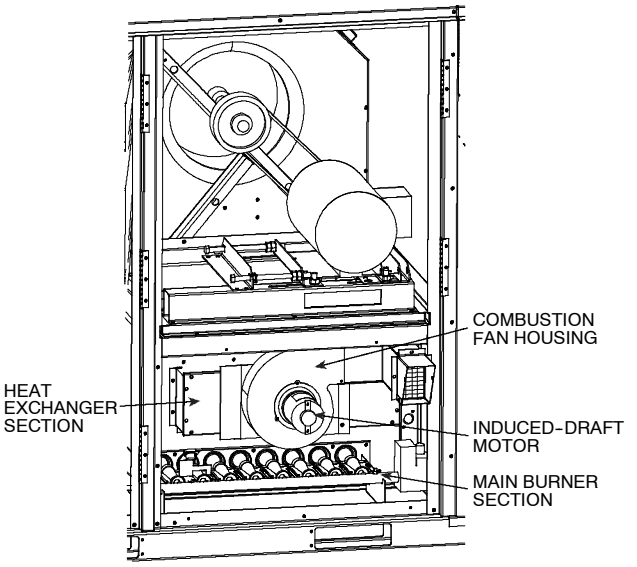

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Fig. 10 - Combustion Fan Housing Location

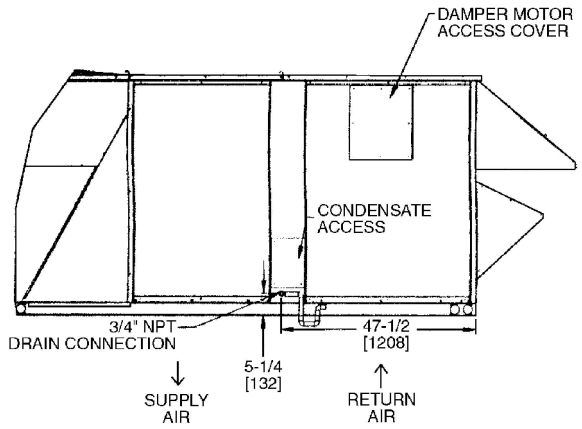


Fig. 11 - Condensate Drain Details

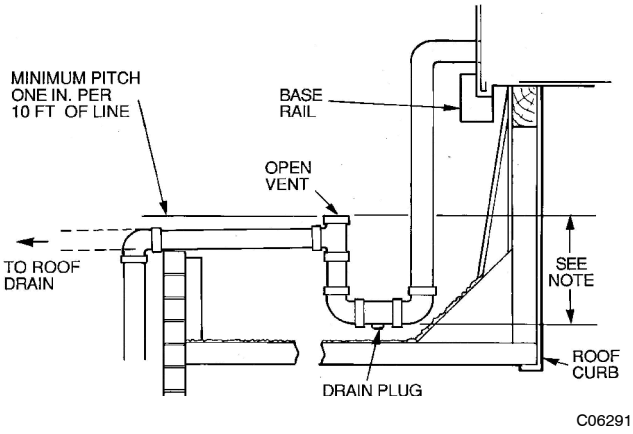


Fig. 12 - Condensate Drain Piping Details

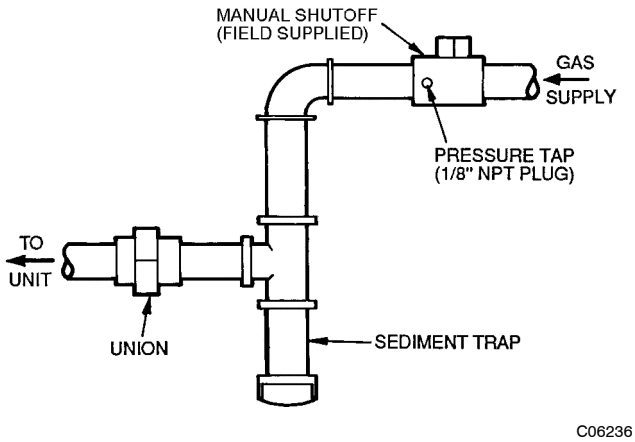


Fig. 13 - Field Gas Piping

Step 8 — Install Gas Piping

Unit is equipped for use with natural gas. Refer to local building codes, or in the absence of local codes, to ANSI Z223.1-latest year and addendum Z223.1A-latest year entitled NFGC. In Canada, installation must be in accordance with the CAN1.B149.1 and CAN1.B149.2 installation codes for gas burning appliances.

Support gas piping. For example, a $^3/_4$-in. gas pipe must have one field-fabricated support beam every 8 ft. Therefore, an 18-ft long gas pipe would have a minimum of 3 support beams.

Install field-supplied manual gas shutoff valve with a $^1/_8$-in. NPT pressure tap for test gauge connection at unit. The pressure tap is located on the gas manifold, adjacent to the gas valve. Field gas piping must include sediment trap and union. (See Fig. 13.)

⚠ WARNING

FIRE, EXPLOSION HAZARD

Failure to follow this warning could result in personal injury or death.

Do not pressure test gas supply while connected to unit. Always disconnect union before servicing. High pressures can cause gas valve damage resulting in a hazardous condition.

IMPORTANT: Natural gas pressure at unit gas connection must not be less than 5.5-in. wg or greater than 13.0-in. wg.

Size gas-supply piping for 0.5-in. wg maximum pressure drop. Do not use supply pipe smaller than unit gas connection.

Step 9 — Orifice Change

This unit is factory assembled for heating operation using natural gas at an elevation from sea level to 2000 ft. This unit uses orifice type LH32RFnnn, where "nnn" indicates the orifice size based on drill size diameter in thousands of an inch.

High Elevation (Above 2000 ft)

Use accessory high altitude kit when installing this unit at an elevation of 2000 to 7000 ft. For elevations above 7000 ft, refer to Table 4 to identify the correct orifice size for the elevation. See Table 5 for the number of orifices required for each unit size. Purchase these orifices from your local Carrier dealer. Follow instructions in accessory Installation Instructions to install the correct orifices.

Table 4 – Altitude Compensation*

ELEVATION (ft)	NATURAL GAS ORIFICE†			
	Low Heat	Med. Heat	High Heat (6 Cell)	High Heat (8 Cell)
0-1,999	29	30	29	29
2,000	29	30	29	29
3,000	30	31	30	30
4,000	30	31	30	30
5,000	30	31	30	30
6,000	30	31	30	30
7,000	31	32	31	31
8,000	31	32	31	31
9,000	31	32	31	31
10,000	32	33	32	32

*As the height above sea level increases, there is less oxygen per cubic ft. of air. Therefore, heat input rate should be reduced at higher altitudes. Includes a 4% input reduction per each 1000 ft. Orifices available through your Carrier dealer.

Table 5 – Orifice Quantity

UNIT	ORIFICE QUANTITY
Low Heat (48PMD/L)	5
Medium Heat (48PME/M)	8
High Heat (48PMF/N)	8

Conversion to LP (Liquid Propane) Gas

Use accessory LP gas conversion kit when converting this unit for use with LP fuel usage for elevations up to 7000 ft. For elevations above 7000 ft, refer to Table 6 to identify the correct orifice size for the elevation. See Table 5 for the number of orifices required for each unit size. Purchase these orifices from your local Carrier dealer. Follow instructions in accessory Installation Instructions to install the correct orifices.

Table 6 – LP Gas Conversion*

ELEVATION (ft)	LP GAS ORIFICE†			
	Low Heat	Med. Heat	High Heat (6 Cell)	High Heat (8 Cell)
0-1,999	35	38	35	35
2,000	36	39	36	36
3,000	36	39	36	36
4,000	37	40	37	37
5,000	37	40	37	37
6,000	38	41	38	38
7,000	39	42	39	39
8,000	40	43	40	40
9,000	41	44	41	41
10,000	42	45	42	42

*As the height above sea level increases, there is less oxygen per cubic ft. of air. Therefore, heat input rate should be reduced at higher altitudes. Includes a 4% input reduction per each 1000 ft.

Step 10 — Make Electrical Connections

Field Power Supply

(For more details, refer to the Controls, Start-Up, Operation, and Troubleshooting manual).

Unit is factory wired for voltage shown on unit nameplate. Be sure to check for correct voltage.

All 208/230-v units are factory wired for 230-v power supply. If the 208/230-v unit is to be connected to a 208-v power supply, transformers (TRAN1 and TRAN2) must be rewired by moving the black wire with the $^1/_4$-in. female quick connect from the 230-volt connection and moving to the 200-volt $^1/_4$-in. male terminal on the primary side of the transformer.

When installing units, provide disconnect per NEC (National Electrical Code) of adequate size (MOCP [Maximum Overcurrent protection] of unit is on the informative plate). (See Appendix A.) All field wiring must comply with NEC and local codes. Size wire based on MCA (Minimum Circuit Amps) on the unit informative plate. See Fig. 14 for power wiring connection to the unit power terminal block and equipment ground.

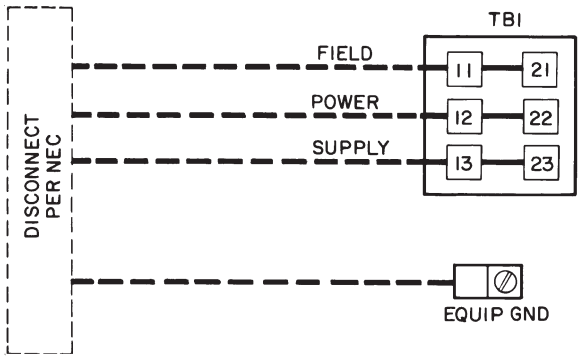
Route power and ground lines through control box end panel or unit basepan (see Fig. 4) to connections as shown on unit wiring diagram and Fig. 14.

⚠ CAUTION

UNIT DAMAGE HAZARD

Failure to follow this caution may result in equipment damage.

The correct power phasing is critical to the operation of the scroll compressors. An incorrect phasing will result in compressor shutdown on thermal overload and possible damage to compressor. Should this occur, power phase correction must be made to the incoming power.



LEGEND
EQUIP - Equipment
GND - Ground
NEC - National Electrical Code
TB - Terminal Board

NOTE: The maximum wire size for TB1 is 2/0

C06293

Fig. 14 - Field Power Wiring Connections

⚠ WARNING

ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury or death.

Unit cabinet must have an uninterrupted, unbroken electrical ground to minimize the possibility of personal injury if an electrical fault should occur. This ground may consist of electrical wire connected to unit ground lug in control compartment, or conduit approved for electrical ground when installed in accordance with NEC; ANSI (American National Standards Institute)/NFPA (National Fire Protection Association), latest edition, and local electrical codes. *Do not use gas piping as an electrical ground.*

Field wiring must conform to temperature limitations for type "T" wire. All field wiring must comply with NEC and local requirements.

Operating voltage to compressor must be within voltage range indicated on unit nameplate. On 3-phase units, voltages between phases must be balanced within 2%.

Unit failure as a result of operation on improper line voltage or excessive phase imbalance constitutes abuse and may cause damage to electrical components.

Field Control Wiring (Units Without Optional Humidi-MiZer™ Adaptive Dehumidification System)

Unit can be controlled with either a Carrier-approved accessory thermostat or a Carrier-approved space temperature sensor. Install thermostat according to the installation instructions included with accessory. Locate thermostat assembly or space temperature sensor on a solid interior wall in the conditioned space to sense average temperature.

Route thermostat or space temperature sensor cable or equivalent single leads of colored wire from subbase terminals through conduit into unit to low-voltage connections as shown on unit label wiring diagram and in Fig. 15.

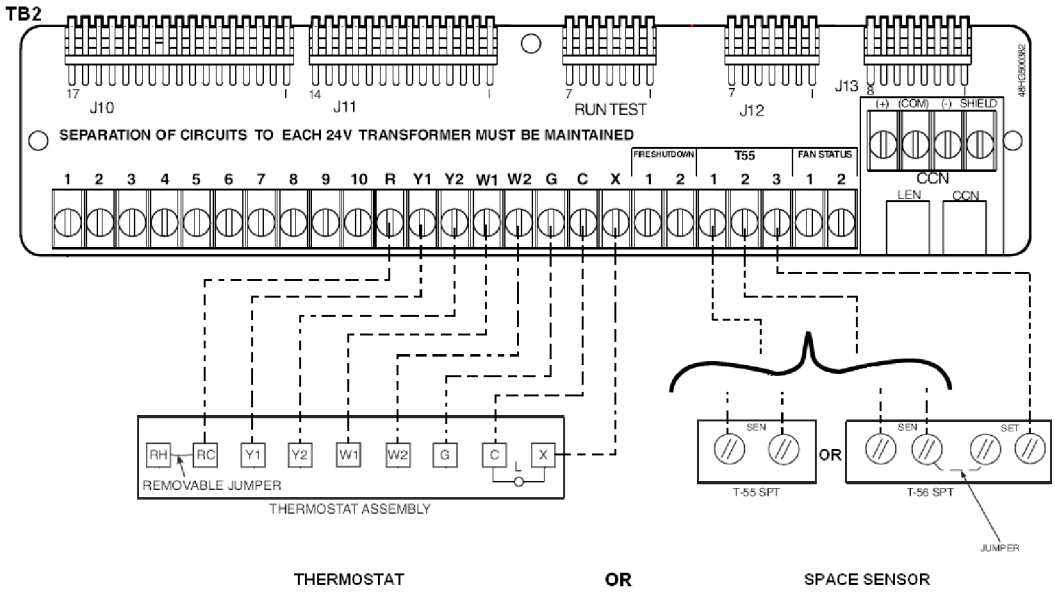


Fig. 15 – Low Voltage Terminal Board – Thermostat and Space Sensor

NOTE: For wire runs up to 50 ft, use no. 18 AWG (American Wire Gauge) insulated wire (35°C minimum). For 50 to 75 ft, use no. 16 AWG insulated wire (35°C minimum). For over 75 ft, use no. 14 AWG insulated wire (35°C minimum). All wire larger than no. 18 AWG cannot be directly connected at the thermostat and will require a junction box and splice at the thermostat.

Set heat anticipator settings as follows:

VOLTAGE	STAGE 1 (W1) ON	STAGE 1 AND 2 (W1 AND W2) ON
All	0.15	0.30

Settings may be changed slightly to provide a greater degree of comfort for a particular installation.

Field Control Wiring (Units With Optional Humidi-MiZer™ Adaptive Dehumidification System)

Units require temperature control inputs for cooling and heating operation and humidity control inputs for Humidi-MiZer™ operation.

Temperature Control

The unit can be controlled with either a Carrier-approved space temperature sensor, a Carrier accessory Thermidistat™ device, or a Carrier-approved accessory thermostat. Install the temperature control device according to the installation instructions included with the accessory. Locate the device on a solid interior wall in the conditioned space to sense average temperature. Carrier space temperature sensor wiring connections and thermostat field wiring connections are shown in Fig. 15. Carrier Thermidistat device wiring connections are shown in Fig. 16. Configuration of the unit control is required to specify the control input type before unit operation.

Route thermostat or space temperature sensor cable or equivalent single leads of colored wire from subbase terminals through conduit into unit to low-voltage connections as shown on unit label wiring diagram and in Fig. 15.

NOTE: For wire runs up to 50 ft, use no. 18 AWG (American Wire Gauge) insulated wire (35°C minimum). For 50 to 75 ft, use no. 16 AWG insulated wire (35°C minimum). For over 75 ft, use no. 14 AWG insulated wire (35°C minimum). All wire larger than no. 18 AWG cannot be directly connected at the thermostat and will require a junction box and splice at the thermostat.

Set heat anticipator settings as follows:

VOLTAGE	STAGE 1 (W1) ON	STAGE 1 AND 2 (W1 AND W2) ON
All	0.15	0.30

Settings may be changed slightly to provide a greater degree of comfort for a particular installation.

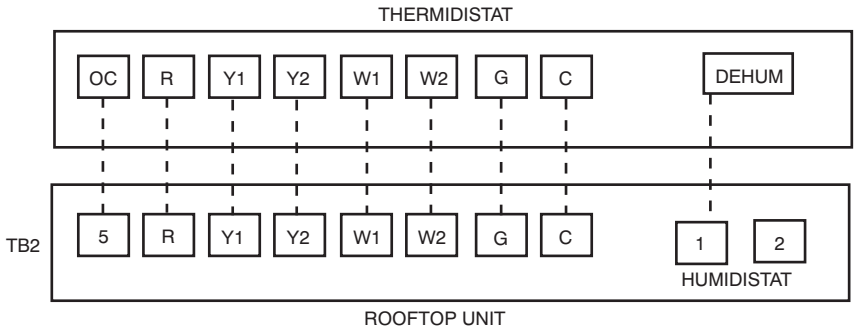
Humidity Control

Unit can be controlled with either a Carrier accessory Thermidistat device or a Carrier-approved accessory humidistat (switch output). The input for an accessory humidity sensor with 4 to 20 mA output is another option available when an economizer board is installed. Install the humidity control device according to the installation instructions included with the accessory. Locate the device on a solid interior wall in the conditioned space to sense average humidity. Carrier Thermidistat device wiring connections are shown in Fig. 16. General humidistat wiring connections are shown in Fig. 17. Configuration of the unit control is required to specify the control input type before unit operation. Refer to the Controls, Start-Up, Operation and Troubleshooting manual for configuration.

Units with the Humidi-MiZer™ option receive a discrete input from a field-installed device (such as from the Carrier humidistat or Thermidistat device). The discrete input is connected to the TB2 terminal strip points labeled Humidistat 1 and 2. As this is a discrete input, one of the connection points is for power to the switch and the other is the return path. (See Fig. 17.) A space relative humidity sensor input (SP.RH) is only available if an economizer board (ECB) is installed in the unit and then the sensor can be connected to the OAQ point TB2-4. (See Fig. 17.)

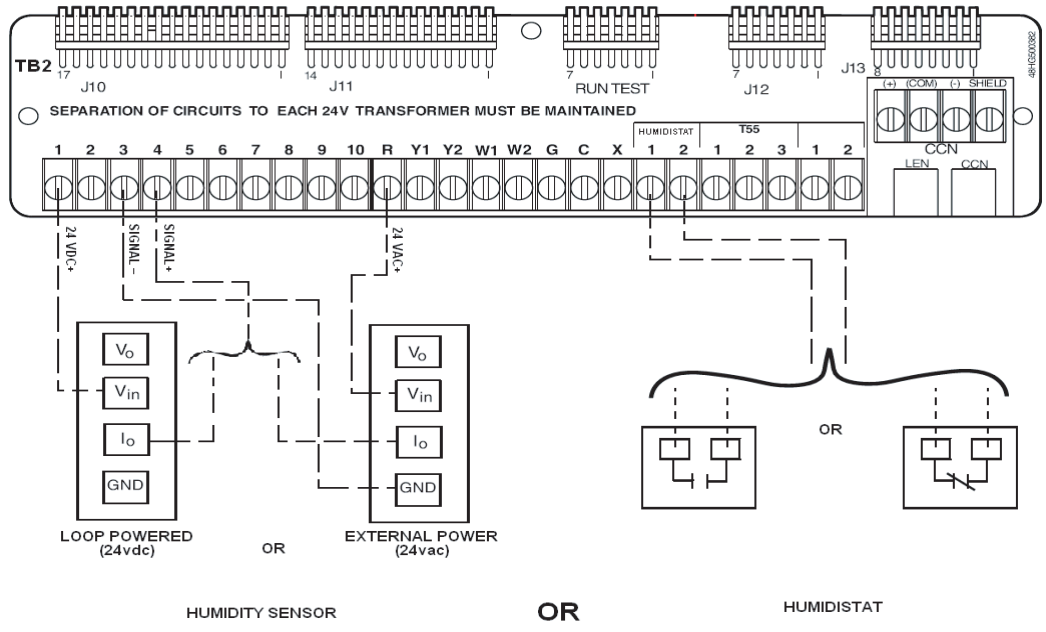
This input is used instead of the discrete humidistat or Thermidistat inputs. The input controls the Humidi-MiZer™ using the 4 to 20mA as percent humidity. The relative humidity value (measured by the relative humidity sensor) can be displayed on the Scrolling Marquee, in the space through a System Pilot™ device, or can be read by other CCN devices where it can be used to perform more advanced functions. The humidity sensor must be configured correctly. Refer to the Controls, Start-Up, Operation, and Troubleshooting manual for details.

If the customer also wishes to install a smoke detector into a Humidi-MiZer™ equipped 48PM unit, the fire shutdown connection points are on Plug PL-19, located in the compressor section outside the control box. See the unit wiring schematic for wiring. For third-party smoke detector, see Fig. 18.



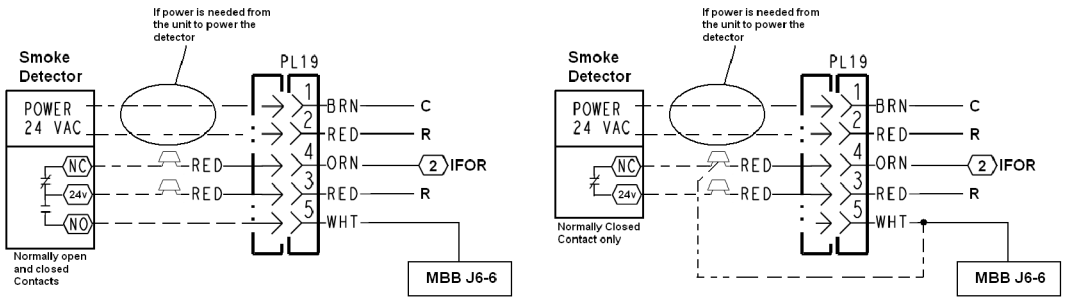
C06295

Fig. 16 - Field Control Thermidistat Wiring



C07354

Fig. 17 - Humidi-MiZer™ Low-Voltage Terminal Strip - Humidity Sensor/Humidistat Wiring



C09198

Fig. 18 - Third-Party Smoke Detector on Humidi-MiZer™ Units

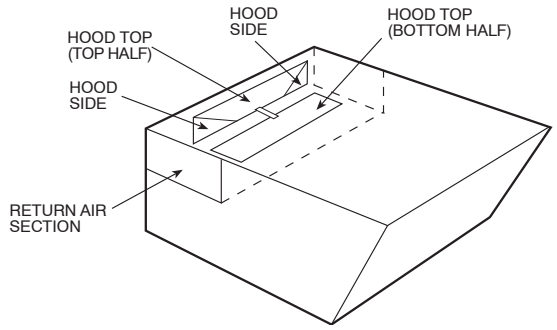
Point 19-3 is the 24 vac power source for the detector. Point 19-4 is 24 vac power for the indoor fan contactor control. Point 19-5 is the 24 vac signal input for the shutdown. If an immediate fan shutdown is desired, install a normally closed contactor between 19-3 and 19-4.

More information is available in the third party control section of the Controls, Start-up, Operation, and Troubleshooting manual.

Step 11 — Install Outdoor Air Hood

Perform the following procedure to install the outdoor-air hood on units equipped with an economizer, two-position damper, or manual outdoor air damper:

1. Remove blank panel from return end of unit (hood section). Save the screws. See Fig. 19 for shipping location of components.
2. Hood sides are fastened to sides of outdoor air opening. Remove the hood sides and save the screws (3 each side).
3. Remove the bracket holding the bottom half of the hood in the shipping position. Remove the hood bottom half and filters (or manual dampers on units so equipped) from outdoor section.



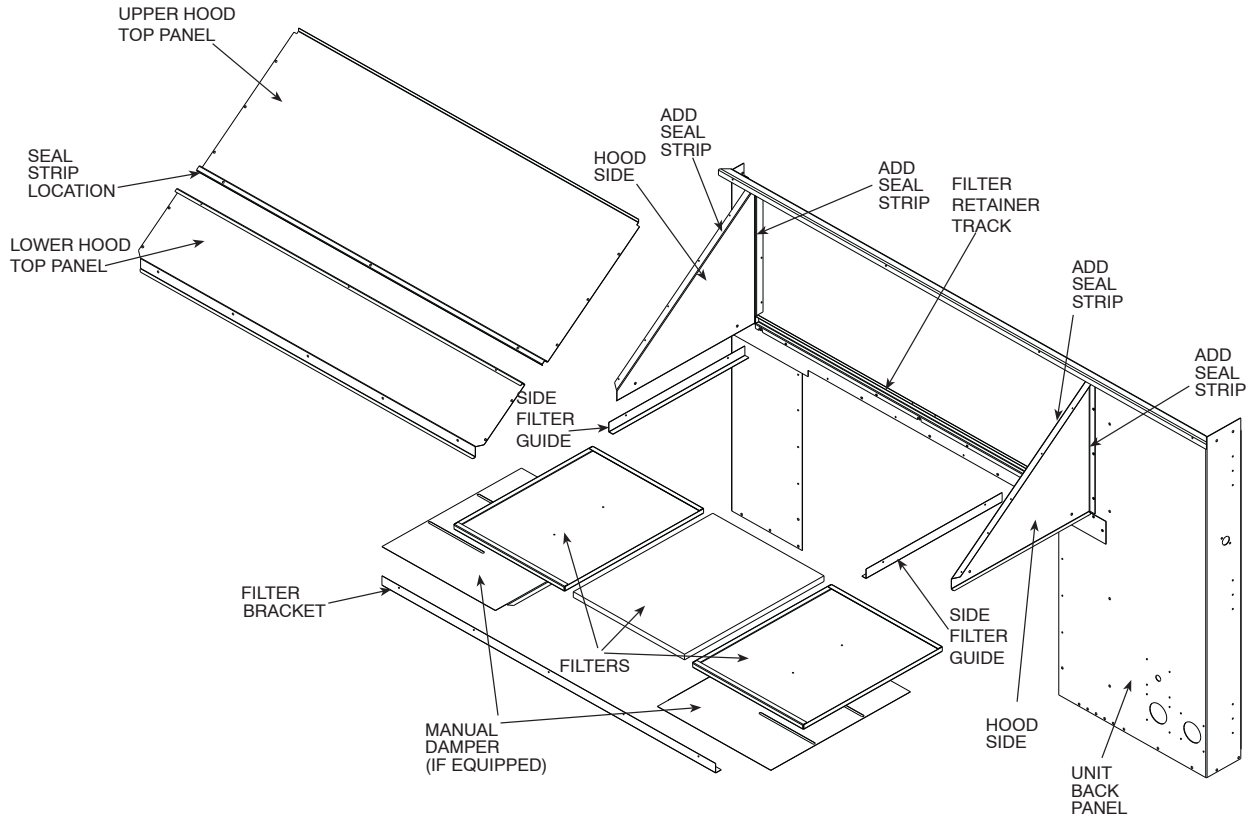
C06283

Fig. 19 - Power Exhaust or Barometric Relief Damper Mounting Details

NOTE: On units without economizers, the components are attached to the unit basepan. To access the components, remove the panel below the outdoor air intake section.

4. Remove inner filter track from shipping position in outdoor section. Position inner filter track so track is facing outward from the unit. Install the filter track with 4 screws provided.
5. Apply seal strip (provided) to back flange of both hood sides where hood side connects to the unit back panel. (See Fig. 20.)
6. Apply seal strip (provided) to top flange of both hood sides where hood sides connect to the hood top panels. (See Fig. 20.)
7. Install hood sides to the back panels using the screws from item 2. The sloped flanges point outward. The drip edges of the side panels should face outward as well. The filter guides to the hood sides. The flanges of the filter guides should face inward to hold the filters in place. (See Fig. 20.)
8. Apply seal strip along the entire length of the bottom flange of the hood top. (See Fig. 20.)
9. Install the bottom part of the hood top using 4 screws provided. (See Fig. 20.)
10. Remove the packaging from filters (3) and install into the filter tracks. Slide the filters to the sides then place the last filter into the center of the filter track.

NOTE: For units with manual dampers, replace the end filters with the manual dampers. Install the filter in the center between the manual dampers.



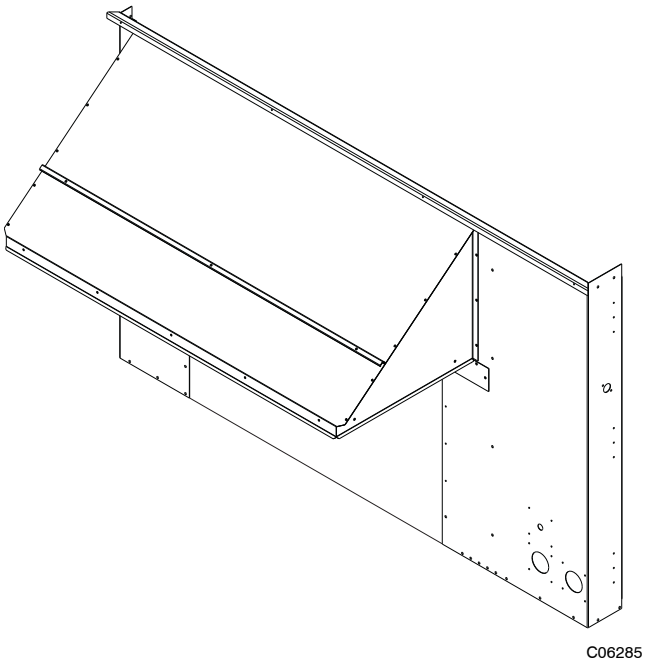
NOTE: Units with manual damper only use one filter.

C06284

Fig. 20 - Bracket and Hood Positioning

11. Install the filter retainer track along the bottom edge of the outdoor air hood using 4 screws provided. (See Fig. 20.)
12. Install top section of the outdoor air hood using 9 screws provided. (See Fig. 20.) See Fig. 21 for a picture of the assembled outdoor air hood.

NOTE: For filter removal, remove the four screws holding the filter retainer. The filters can then be removed, cleaned, or replaced. Install the filters by reversing the procedure.

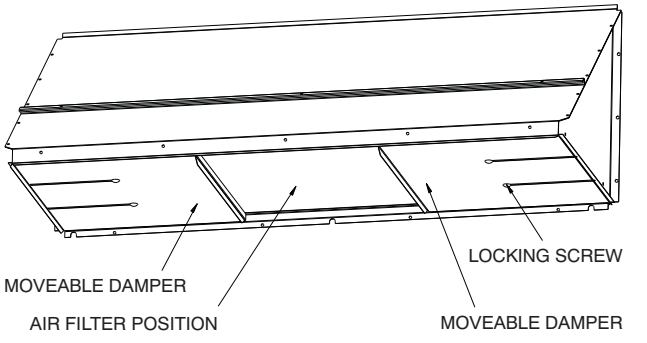


C06285

Fig. 21 - Outdoor-Air Hood Assembled

Manual Damper Assembly

For units equipped with manual dampers, the assembly process is similar to the outdoor air hood for units with economizers. There are two slide dampers shipped with the unit to allow for manual setting of the outside air volume. When assembling the hood, place one of the manual slide dampers in each of the end positions and the remaining filter in the center position. The manual dampers can then be moved to the appropriate position and then locked into place using the screws mounted in the adjustment slots. (See Fig. 22.)



C06286

Fig. 22 - Manual Damper Details

Step 12 — Position Optional Power Exhaust or Barometric Relief Damper Hood

The optional power exhaust or barometric relief dampers are shipped assembled and tilted back into the unit for shipping. Brackets and extra screws are shipped in shrink wrap around the dampers.

1. Remove 9 screws holding each damper assembly in place. (See Fig. 23.) Each damper assembly is secured with 3 screws on each side and 3 screws along the bottom. Save screws.

⚠ CAUTION

PERSONAL INJURY HAZARD

Failure to follow this caution may result in personal injury.

Be careful when tilting blower assembly. Hoods and blowers are heavy and can cause injury if dropped.

2. Pivot the damper assembly outward until top edge of the damper assembly rests against the inside wall of unit.
3. Secure each damper assembly to unit with 6 screws across top (3 screws provided) and bottom (3 screws from item 1) of damper.
4. With screws saved from item 1, install brackets on each side of damper assembly. (See Fig. 24.)
5. Remove tape from damper blades.

Step 13 — Non-Fused Disconnect

The handle for the factory-installed non-fused disconnect is shipped inside the unit to prevent the handle from damage during shipping. Follow these steps to complete installation of the handle.

⚠ WARNING

ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury or death.

Be sure power is shut-off to the unit from the building power supply.

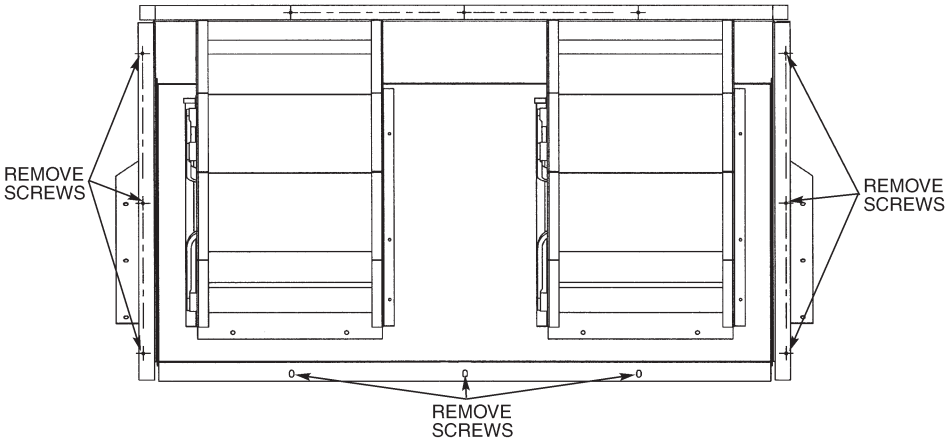
1. Open the control box access door.
2. Remove the small cover plate located on the unit corner post near the control section.
3. Remove the inner control box cover. The handle and shaft are located in a plastic bag at the bottom of the control box.
4. Insert the square shaft into the disconnect with the pins vertical. On the 100-amp disconnect, the shaft is keyed into the disconnect and can only be installed one way (with the pins vertical).
5. Insert the handle through the corner post and onto the shaft with the handle positioned so that “OFF” is on top.
6. Rotate the handle to the “ON” position to lock the pins into the handle.
7. From the inside of the corner post, attach the handle mounting screws to the handle. Slide the shaft fully into the handle and tighten the set screw(s) on the disconnect to lock the shaft. Tighten the screws that attach the handle to the corner post.
8. Rotate the handle back to the “OFF” position.
9. Replace all panels and doors. Power can now be turned back on to the unit.

Step 14 — Install All Accessories

After all of the factory-installed options have been adjusted, install all field-installed accessories. Refer to the accessory installation instructions included with each accessory, and the unit Controls, Start-Up, Operation, Service, and Troubleshooting Instructions.

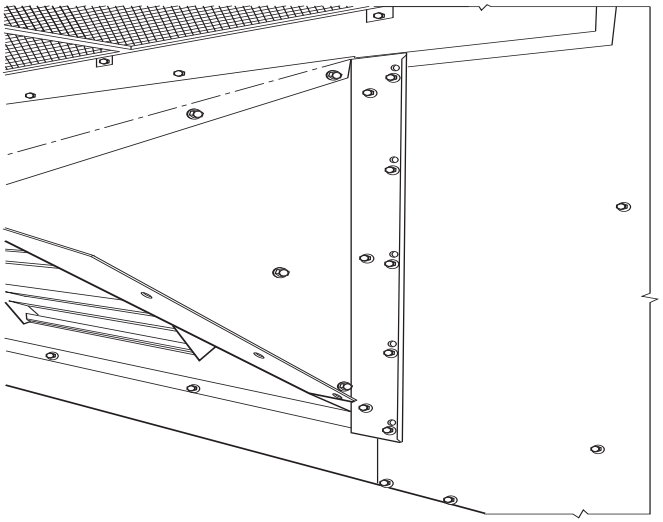
Step 15 — Configure Controls

Refer to unit Controls and Troubleshooting book for information on configuring controls.



C06287

Fig. 23 - Power Exhaust or Barometric Relief Damper Mounting Details



C06288

Fig. 24 - Bracket and Hood Positioning

APPENDIX A - ELECTRICAL DATA

Electrical Data - 48PM-16 Units Without Optional Powered Convenience Outlet

UNIT 48PM	NOMINAL POWER SUPPLY (V-Ph-Hz)	VOLTAGE RANGE		COMPRESSOR #1		COMPRESSOR #2		OFM		IFM			POWER EXHAUST			COMBUSTION FAN MOTOR FLA	POWER SUPPLY *		POWER SUPPLY UNITS WITH OPTIONAL BREAKER		DISCONNECT SIZE
		Min	Max	RLA	LRA	RLA	LRA	QTY	FLA (ea)	TYPE	BHP	FLA (ea)	Qty	Hp	FLA (ea)		MCA	MOCP	MCA	MOCP	FLA
16	208/230-3-60	187	253	25	164	25	164	4	0.25	Low	3.7	10.6/9.6	—	—	—	0.5	73/72	90/90	73/73	90/90	77/75
													2	1	5.9		85/84	100/100	85/85	100/100	90/89
										Mid-Low	5	16.7/15.2	—	—	—		79/77	100/100	79/79	100/100	84/82
													2	1	5.9		91/89	100/100	91/91	100/100	97/95
										Mid-High	7.5	24.2/22.0	—	—	—		86/84	100/100	86/86	100/100	92/90
													2	1	5.9		98/96	110/100	98/98	100/100	106/103
	460-3-60	414	506	12.8	100	12.8	100	4	0.25	Low	3.7	4.8	—	—	—	0.3	36	45	36	40	38
													2	1	5.9		43	50	43	50	45
										Mid-Low	5	7.6	—	—	—		39	50	39	50	41
													2	1	5.9		45	50	45	50	49
										Mid-High	7.5	11	—	—	—		43	50	43	50	45
													2	1	5.9		49	60	49	60	52
	575-3-60	518	633	9.6	78	9.6	78	4	0.25	Mid-Low	5	9	—	—	—	0.24	31	40	31	40	32
													2	1	5.9		35	40	35	40	38
										Mid-High	7.5	11	—	—	—		33	40	33	40	36
													2	1	5.9		38	45	38	40	41

Electrical Data - 48PM-16 Units with Optional Powered Convenience Outlet

UNIT 48PM	NOMINAL POWER SUPPLY (V-Ph-Hz)	VOLTAGE RANGE		COMPRESSOR #1		COMPRESSOR #2		OFM		IFM			POWER EXHAUST			COMBUSTION FAN MOTOR FLA	POWER SUPPLY *		POWER SUPPLY UNITS WITH OPTIONAL BREAKER		DISCONNECT SIZE
		Min	Max	RLA	LRA	RLA	LRA	QTY	FLA (ea)	TYPE	BHP	FLA (ea)	Qty	Hp	FLA (ea)		MCA	MOCP	MCA	MOCP	FLA
16	208/230-3-60	187	253	25	164	25	164	4	0.25	Low	3.7	10.6/9.6	—	—	—	0.5	78/77	100/100	78/78	100/100	82/81
													2	1	5.9		90/89	100/100	90/90	100/100	96/95
										Mid-Low	5	16.7/15.2	—	—	—		84/82	100/100	84/84	100/100	89/88
													2	1	5.9		96/94	100/100	96/96	100/100	103/101
										Mid-High	7.5	24.2/22.0	—	—	—		91/89	100/100	91/91	100/100	98/95
													2	1	5.9		103/101	125/125	103/103	125/125	112/109
	460-3-60	414	506	12.8	100	12.8	100	4	0.25	Low	3.7	4.8	—	—	—	0.3	39	50	39	50	42
													2	1	5.9		46	50	46	50	49
										Mid-Low	5	7.6	—	—	—		42	50	42	50	45
													2	1	5.9		48	60	48	60	52
										Mid-High	7.5	11	—	—	—		46	50	46	50	49
													2	1	5.9		52	60	52	60	56
	575-3-60	518	633	9.6	78	9.6	78	4	0.25	Mid-Low	5	9	—	—	—	0.24	34	40	34	40	36
													2	1	5.9		38	45	38	40	41
										Mid-High	7.5	11	—	—	—		36	45	36	40	39
													2	1	5.9		41	50	41	50	45

See General Notes for Electrical Data Tables on page 26.

Electrical Data - 48PM16 - 28 EnergyX Without Optional Unit Powered Convenience Outlet

UNIT SIZE	NOMINAL VOLTAGE	VOLTAGE RANGE		COMPRESSOR				OFM			IFM		ERV SUPPLY		ERV EXHAUST			ERV WHEEL		COMBUSTION FAN MOTOR	POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2																	
		Min	Max	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	Hp	FLA	Hp	FLA (ea)	Qty	Hp	FLA (ea)	Hp	FLA	FLA	MCA	MOCP	FLA
16	208/230-3-60	187	253	25	164	25	164	4	0.25	1.5	3.7	10.6/9.6	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6	0.5	98/95	110/100	106/102
											5	16.7/15.2	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		104/100	125/125	113/108
											7.5	24.2/22	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		112/107	125/125	121/116
	460-3-60	414	506	12.8	100	12.8	100	4	0.25	0.7	3.7	4.8	2	3.2	2	3	4	0.167	0.35	0.3	48	60	51
											5	7.6	2	3.2	2	3	4	0.167	0.35		51	60	55
											7.5	11	2	3.2	2	3	4	0.167	0.35		54	60	59
	575-3-60	518	633	9.6	78	9.6	78	4	0.25	0.7	5	6.1	2	2.4	2	3	3.3	0.167	0.3	0.24	40	45	43
											7.5	9	2	2.4	2	3	3.3	0.167	0.3		43	50	46
20	208/230-3-60	187	253	33.5	225	29.6	164	4	0.25	1.5	3.7	10.6/9.6	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6	0.5	114/110	125/125	121/117
											5	16.7/15.2	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		120/116	150/125	128/123
											7.5	24.2/22	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		127/122	150/150	137/131
											10	30.8/28	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		134/128	150/150	144/138
	460-3-60	414	506	17.7	114	14.8	100	4	0.25	0.7	3.7	4.8	2	3.2	2	3	4	0.167	0.35	0.3	56	60	59
											5	7.6	2	3.2	2	3	4	0.167	0.35		59	60	63
											7.5	11	2	3.2	2	3	4	0.167	0.35		62	70	67
											10	14	2	3.2	2	3	4	0.167	0.35		65	80	70
	575-3-60	518	633	13	80	11	78	4	0.25	0.7	5	6.1	2	2.4	2	3	3.3	0.167	0.3	0.24	45	50	49
											7.5	9	2	2.4	2	3	3.3	0.167	0.3		48	60	52
											10	11	2	2.4	2	3	3.3	0.167	0.3		50	60	54
24	208/230-3-60	187	253	40	239	33.5	225	6	0.25	1.5	3.7	10.6/9.6	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6	0.5	129/125	150/150	136/132
											5	16.7/15.2	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		135/131	150/150	143/139
											7.5	24.2/22	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		142/138	175/175	152/147
											10	30.8/28	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		149/144	175/175	160/154
	460-3-60	414	506	19.5	125	17.7	114	6	0.25	0.7	3.7	4.8	2	3.2	2	3	4	0.167	0.35	0.3	63	80	66
											5	7.6	2	3.2	2	3	4	0.167	0.35		65	80	70
											7.5	11	2	3.2	2	3	4	0.167	0.35		69	80	74
											10	14	2	3.2	2	3	4	0.167	0.35		72	90	77
	575-3-60	518	633	16.6	80	13	80	6	0.25	0.7	5	6.1	2	2.4	2	3	3.3	0.167	0.3	0.24	53	60	57
											7.5	9	2	2.4	2	3	3.3	0.167	0.3		56	60	60
											10	11	2	2.4	2	3	3.3	0.167	0.3		58	60	62
28	208/230-3-60	187	253	48.1	245	48.1	245	6	0.25	1.5	5	16.7/15.2	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6	0.5	159/155	200/200	169/165
											7.5	24.2/22	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		167/162	200/200	178/173
											10	30.8/28	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		173/168	200/200	186/180
	460-3-60	414	506	22.5	125	22.5	125	6	0.25	0.7	5	7.6	2	3.2	2	3	4	0.167	0.35	0.3	74	90	79
											7.5	11	2	3.2	2	3	4	0.167	0.35		77	90	83
											10	14	2	3.2	2	3	4	0.167	0.35		80	100	86
	575-3-60	518	633	18	100	18	100	6	0.25	0.7	5	6.1	2	2.4	2	3	3.3	0.167	0.3	0.24	60	70	64
											7.5	9	2	2.4	2	3	3.3	0.167	0.3		63	80	67
											10	11	2	2.4	2	3	3.3	0.167	0.3		65	80	70

See General Notes for Electrical Data Tables on page 26.

Electrical Data - 48PM16 - 28 EnergyX with Optional Unit Powered Convenience Outlet

UNIT SIZE	NOMINAL VOLTAGE	VOLTAGE RANGE		COMPRESSOR				OFM			IFM		ERV SUPPLY		ERV EXHAUST			ERV WHEEL		COMBUSTION FAN MOTOR	POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2																	
		Min	Max	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	Hp	FLA	Hp	FLA (ea)	Qty	Hp	FLA (ea)	Hp	FLA	FLA	MCA	MOCP	FLA
16	208/230-3-60	187	253	25	164	25	164	4	0.25	1.5	3.7	10.6/9.6	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6	0.5	103/100	125/110	112/108
											5	16.7/15.2	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		109/105	125/125	119/114
											7.5	24.2/22	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		117/112	125/125	127/122
	460-3-60	414	506	12.8	100	12.8	100	4	0.25	0.7	3.7	4.8	2	3.2	2	3	4	0.167	0.35	0.3	51	60	55
											5	7.6	2	3.2	2	3	4	0.167	0.35		54	60	58
											7.5	11	2	3.2	2	3	4	0.167	0.35		57	60	62
	575-3-60	518	633	9.6	78	9.6	78	4	0.25	0.7	5	6.1	2	2.4	2	3	3.3	0.167	0.3	0.24	43	50	46
											7.5	9	2	2.4	2	3	3.3	0.167	0.3		46	50	50
20	208/230-3-60	187	253	33.5	225	29.6	164	4	0.25	1.5	3.7	10.6/9.6	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6	0.5	119/115	150/125	127/123
											5	16.7/15.2	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		125/121	150/150	134/129
											7.5	24.2/22	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		132/127	150/150	142/137
											10	30.8/28	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		139/133	150/150	150/144
	460-3-60	414	506	17.7	114	14.8	100	4	0.25	0.7	3.7	4.8	2	3.2	2	3	4	0.167	0.35	0.3	59	60	63
											5	7.6	2	3.2	2	3	4	0.167	0.35		62	70	66
											7.5	11	2	3.2	2	3	4	0.167	0.35		65	80	70
											10	14	2	3.2	2	3	4	0.167	0.35		68	80	73
	575-3-60	518	633	13	80	11	78	4	0.25	0.7	5	6.1	2	2.4	2	3	3.3	0.167	0.3	0.24	48	60	52
											7.5	9	2	2.4	2	3	3.3	0.167	0.3		51	60	55
											10	11	2	2.4	2	3	3.3	0.167	0.3		53	60	58
24	208/230-3-60	187	253	40	239	33.5	225	6	0.25	1.5	3.7	10.6/9.6	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6	0.5	134/130	150/150	142/138
											5	16.7/15.2	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		140/136	175/175	149/145
											7.5	24.2/22	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		147/143	175/175	158/152
											10	30.8/28	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		154/149	175/175	165/159
	460-3-60	414	506	19.5	125	17.7	114	6	0.25	0.7	3.7	4.8	2	3.2	2	3	4	0.167	0.35	0.3	66	80	70
											5	7.6	2	3.2	2	3	4	0.167	0.35		68	80	73
											7.5	11	2	3.2	2	3	4	0.167	0.35		72	90	77
											10	14	2	3.2	2	3	4	0.167	0.35		75	90	80
	575-3-60	518	633	16.6	80	13	80	6	0.25	0.7	5	6.1	2	2.4	2	3	3.3	0.167	0.3	0.24	56	60	60
											7.5	9	2	2.4	2	3	3.3	0.167	0.3		59	60	63
											10	11	2	2.4	2	3	3.3	0.167	0.3		61	70	66
28	208/230-3-60	187	253	48.1	245	48.1	245	6	0.25	1.5	5	16.7/15.2	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6	0.5	164/160	200/200	175/171
											7.5	24.2/22	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		172/167	200/200	184/178
											10	30.8/28	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		178/173	225/200	191/185
	460-3-60	414	506	22.5	125	22.5	125	6	0.25	0.7	5	7.6	2	3.2	2	3	4	0.167	0.35	0.3	77	90	82
											7.5	11	2	3.2	2	3	4	0.167	0.35		80	100	86
											10	14	2	3.2	2	3	4	0.167	0.35		83	100	89
	575-3-60	518	633	18	100	18	100	6	0.25	0.7	5	6.1	2	2.4	2	3	3.3	0.167	0.3	0.24	63	80	67
											7.5	9	2	2.4	2	3	3.3	0.167	0.3		66	80	71
											10	11	2	2.4	2	3	3.3	0.167	0.3		68	80	73

See General Notes for Electrical Data Tables on page 26.

Electrical Data – 48PM16 - 28 Without Optional Unit Powered Convenience Outlet and with HACR Breaker

UNIT SIZE	NOMINAL VOLTAGE	VOLTAGE RANGE		COMPRESSOR				OFM			IFM		ERV SUPPLY		ERV EXHAUST			ERV WHEEL		COMBUSTION FAN MOTOR	POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2																	
		Min	Max	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	Hp	FLA	Hp	FLA (ea)	Qty	Hp	FLA (ea)	Hp	FLA	FLA	MCA	MOCP	FLA
16	208/230-3-60	187	253	25	164	25	164	4	0.25	1.5	3.7	10.6/9.6	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6	0.5	98/98	100/100	106/102
											5	16.7/15.2	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		104/104	125/125	113/108
											7.5	24.2/22	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		112/112	125/125	121/116
	460-3-60	414	506	12.8	100	12.8	100	4	0.25	0.7	3.7	4.8	2	3.2	2	3	4	0.167	0.35	0.3	48	60	51
											5	7.6	2	3.2	2	3	4	0.167	0.35		51	60	55
											7.5	11	2	3.2	2	3	4	0.167	0.35		54	60	59
	575-3-60	518	633	9.6	78	9.6	78	4	0.25	0.7	5	6.1	2	2.4	2	3	3.3	0.167	0.3	0.24	40	40	43
											7.5	9	2	2.4	2	3	3.3	0.167	0.3		43	50	46
20	208/230-3-60	187	253	33.5	225	29.6	164	4	0.25	1.5	3.7	10.6/9.6	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6	0.5	114/114	125/125	121/117
											5	16.7/15.2	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		120/120	150/150	128/123
											7.5	24.2/22	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		127/127	150/150	137/131
											10	30.8/28	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		134/134	150/150	144/138
	460-3-60	414	506	17.7	114	14.8	100	4	0.25	0.7	3.7	4.8	2	3.2	2	3	4	0.167	0.35	0.3	56	70	59
											5	7.6	2	3.2	2	3	4	0.167	0.35		59	70	63
											7.5	11	2	3.2	2	3	4	0.167	0.35		62	70	67
											10	14	2	3.2	2	3	4	0.167	0.35		65	80	70
	575-3-60	518	633	13	80	11	78	4	0.25	0.7	5	6.1	2	2.4	2	3	3.3	0.167	0.3	0.24	45	50	49
											7.5	9	2	2.4	2	3	3.3	0.167	0.3		48	60	52
											10	11	2	2.4	2	3	3.3	0.167	0.3		50	60	54
24	208/230-3-60	187	253	40	239	33.5	225	6	0.25	1.5	3.7	10.6/9.6	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6	0.5	129/129	150/150	136/132
											5	16.7/15.2	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		135/135	150/150	143/139
											7.5	24.2/22	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		142/142	175/175	152/147
											10	30.8/28	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		149/149	175/175	160/154
	460-3-60	414	506	19.5	125	17.7	114	6	0.25	0.7	3.7	4.8	2	3.2	2	3	4	0.167	0.35	0.3	63	80	66
											5	7.6	2	3.2	2	3	4	0.167	0.35		65	80	70
											7.5	11	2	3.2	2	3	4	0.167	0.35		69	80	74
											10	14	2	3.2	2	3	4	0.167	0.35		72	90	77
	575-3-60	518	633	16.6	80	13	80	6	0.25	0.7	5	6.1	2	2.4	2	3	3.3	0.167	0.3	0.24	53	60	57
											7.5	9	2	2.4	2	3	3.3	0.167	0.3		56	70	60
											10	11	2	2.4	2	3	3.3	0.167	0.3		58	70	62
28	208/230-3-60	187	253	48.1	245	48.1	245	6	0.25	1.5	5	16.7/15.2	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6	0.5	159/159	200/200	169/165
											7.5	24.2/22	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		167/167	200/200	178/173
											10	30.8/28	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		173/173	200/200	186/180
	460-3-60	414	506	22.5	125	22.5	125	6	0.25	0.7	5	7.6	2	3.2	2	3	4	0.167	0.35	0.3	74	90	79
											7.5	11	2	3.2	2	3	4	0.167	0.35		77	90	83
											10	14	2	3.2	2	3	4	0.167	0.35		80	100	86
	575-3-60	518	633	18	100	18	100	6	0.25	0.7	5	6.1	2	2.4	2	3	3.3	0.167	0.3	0.24	60	70	64
											7.5	9	2	2.4	2	3	3.3	0.167	0.3		63	80	67
											10	11	2	2.4	2	3	3.3	0.167	0.3		65	80	70

See General Notes for Electrical Data Tables on page 26.

Electrical Data – 48PM16 - 28 EnergyX with Optional Unit Powered Convenience Outlet and with HACR Breaker

UNIT SIZE	NOMINAL VOLTAGE	VOLTAGE RANGE		COMPRESSOR				OFM			IFM		ERV SUPPLY		ERV EXHAUST			ERV WHEEL		COMBUSTION FAN MOTOR	POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2																	
		Min	Max	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	Hp	FLA	Hp	FLA (ea)	Qty	Hp	FLA (ea)	Hp	FLA	FLA	MCA	MOCP	FLA
16	208/230-3-60	187	253	25	164	25	164	4	0.25	1.5	3.7	10.6/9.6	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6	0.5	103/103	125/125	112/108
											5	16.7/15.2	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		109/109	125/125	119/114
											7.5	24.2/22	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		117/117	125/125	127/122
	460-3-60	414	506	12.8	100	12.8	100	4	0.25	0.7	3.7	4.8	2	3.2	2	3	4	0.167	0.35	0.3	51	60	55
											5	7.6	2	3.2	2	3	4	0.167	0.35		54	60	58
											7.5	11	2	3.2	2	3	4	0.167	0.35		57	60	62
	575-3-60	518	633	9.6	78	9.6	78	4	0.25	0.7	5	6.1	2	2.4	2	3	3.3	0.167	0.3	0.24	43	50	46
											7.5	9	2	2.4	2	3	3.3	0.167	0.3		46	50	50
20	208/230-3-60	187	253	33.5	225	29.6	164	4	0.25	1.5	3.7	10.6/9.6	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6	0.5	119/119	150/150	127/123
											5	16.7/15.2	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		125/125	150/150	134/129
											7.5	24.2/22	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		132/132	150/150	142/137
											10	30.8/28	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		139/139	150/150	150/144
	460-3-60	414	506	17.7	114	14.8	100	4	0.25	0.7	3.7	4.8	2	3.2	2	3	4	0.167	0.35	0.3	59	70	63
											5	7.6	2	3.2	2	3	4	0.167	0.35		62	70	66
											7.5	11	2	3.2	2	3	4	0.167	0.35		65	80	70
											10	14	2	3.2	2	3	4	0.167	0.35		68	80	73
	575-3-60	518	633	13	80	11	78	4	0.25	0.7	5	6.1	2	2.4	2	3	3.3	0.167	0.3	0.24	48	60	52
											7.5	9	2	2.4	2	3	3.3	0.167	0.3		51	60	55
											10	11	2	2.4	2	3	3.3	0.167	0.3		53	60	58
24	208/230-3-60	187	253	40	239	33.5	225	6	0.25	1.5	3.7	10.6/9.6	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6	0.5	134/134	150/150	142/138
											5	16.7/15.2	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		140/140	175/175	149/145
											7.5	24.2/22	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		147/147	175/175	158/152
											10	30.8/28	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		154/154	175/175	165/159
	460-3-60	414	506	19.5	125	17.7	114	6	0.25	0.7	3.7	4.8	2	3.2	2	3	4	0.167	0.35	0.3	66	80	70
											5	7.6	2	3.2	2	3	4	0.167	0.35		68	80	73
											7.5	11	2	3.2	2	3	4	0.167	0.35		72	90	77
											10	14	2	3.2	2	3	4	0.167	0.35		75	90	80
	575-3-60	518	633	16.6	80	13	80	6	0.25	0.7	5	6.1	2	2.4	2	3	3.3	0.167	0.3	0.24	56	70	60
											7.5	9	2	2.4	2	3	3.3	0.167	0.3		59	70	63
											10	11	2	2.4	2	3	3.3	0.167	0.3		61	70	66
28	208/230-3-60	187	253	48.1	245	48.1	245	6	0.25	1.5	5	16.7/15.2	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6	0.5	164/164	200/200	175/171
											7.5	24.2/22	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		172/172	200/200	184/178
											10	30.8/28	2	7.08/6.4	2	3	8.85/8.0	0.167	0.66/0.6		178/178	225/225	191/185
	460-3-60	414	506	22.5	125	22.5	125	6	0.25	0.7	5	7.6	2	3.2	2	3	4	0.167	0.35	0.3	77	90	82
											7.5	11	2	3.2	2	3	4	0.167	0.35		80	100	86
											10	14	2	3.2	2	3	4	0.167	0.35		83	100	89
	575-3-60	518	633	18	100	18	100	6	0.25	0.7	5	6.1	2	2.4	2	3	3.3	0.167	0.3	0.24	63	80	67
											7.5	9	2	2.4	2	3	3.3	0.167	0.3		66	80	71
											10	11	2	2.4	2	3	3.3	0.167	0.3		68	80	73

See General Notes for Electrical Data Tables on page 26.

Electrical Data - 48PM16 - 28 EnergyX Unit Without Optional Powered Convenience Outlet, With Economizer

UNIT SIZE	NOMINAL VOLTAGE	VOLTAGE RANGE		COMPRESSOR				OFM			IFM		ERV SUPPLY		ERV EXHAUST			ERV WHEEL		COMBUSTION FAN MOTOR	POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2																	
		Min	Max	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	Hp	FLA	Hp	FLA (ea)	Qty	Hp	FLA (ea)	Hp	FLA	FLA	MCA	MOCP	FLA
16	208/230-3-60	187	253	25	164	25	164	4	0.25	1.5	3.7	10.6/9.6	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6	0.5	107/103	125/125	116/111
											5	16.7/15.2	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		113/108	125/125	123/118
											7.5	24.2/22	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		121/115	125/125	132/125
	460-3-60	414	506	12.8	100	12.8	100	4	0.25	0.7	3.7	4.8	2	3.2	3	3	4	0.167	0.35	0.3	52	60	56
											5	7.6	2	3.2	3	3	4	0.167	0.35		55	60	59
											7.5	11	2	3.2	3	3	4	0.167	0.35		58	60	63
	575-3-60	518	633	9.6	78	9.6	78	4	0.25	0.7	5	6.1	2	2.4	3	3	3.3	0.167	0.3	0.24	43	50	47
											7.5	9	2	2.4	3	3	3.3	0.167	0.3		46	50	50
20	208/230-3-60	187	253	33.5	225	29.6	164	4	0.25	1.5	3.7	10.6/9.6	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6	0.5	122/118	150/150	131/126
											5	16.7/15.2	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		128/124	150/150	138/133
											7.5	24.2/22	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		136/130	150/150	147/140
											10	30.8/28	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		143/136	175/150	154/147
	460-3-60	414	506	17.7	114	14.8	100	4	0.25	0.7	3.7	4.8	2	3.2	3	3	4	0.167	0.35	0.3	60	70	64
											5	7.6	2	3.2	3	3	4	0.167	0.35		63	80	67
											7.5	11	2	3.2	3	3	4	0.167	0.35		66	80	71
											10	14	2	3.2	3	3	4	0.167	0.35		69	80	75
	575-3-60	518	633	13	80	11	78	4	0.25	0.7	5	6.1	2	2.4	3	3	3.3	0.167	0.3	0.24	49	60	52
											7.5	9	2	2.4	3	3	3.3	0.167	0.3		52	60	56
											10	11	2	2.4	3	3	3.3	0.167	0.3		54	60	58
24	208/230-3-60	187	253	40	239	33.5	225	6	0.25	1.5	3.7	10.6/9.6	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6	0.5	137/133	175/150	146/142
											5	16.7/15.2	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		143/139	175/175	154/148
											7.5	24.2/22	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		151/146	175/175	162/156
											10	30.8/28	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		158/152	175/175	170/163
	460-3-60	414	506	19.5	125	17.7	114	6	0.25	0.7	3.7	4.8	2	3.2	3	3	4	0.167	0.35	0.3	67	80	71
											5	7.6	2	3.2	3	3	4	0.167	0.35		69	80	74
											7.5	11	2	3.2	3	3	4	0.167	0.35		73	90	78
											10	14	2	3.2	3	3	4	0.167	0.35		76	90	82
	575-3-60	518	633	16.6	80	13	80	6	0.25	0.7	5	6.1	2	2.4	3	3	3.3	0.167	0.3	0.24	57	60	60
											7.5	9	2	2.4	3	3	3.3	0.167	0.3		60	60	64
											10	11	2	2.4	3	3	3.3	0.167	0.3		62	70	66
28	208/230-3-60	187	253	48.1	245	48.1	245	6	0.25	1.5	5	16.7/15.2	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6	0.5	168/163	200/200	180/174
											7.5	24.2/22	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		176/170	200/200	188/182
											10	30.8/28	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		182/176	225/200	196/189
	460-3-60	414	506	22.5	125	22.5	125	6	0.25	0.7	5	7.6	2	3.2	3	3	4	0.167	0.35	0.3	78	100	83
											7.5	11	2	3.2	3	3	4	0.167	0.35		81	100	87
											10	14	2	3.2	3	3	4	0.167	0.35		84	100	91
	575-3-60	518	633	18	100	18	100	6	0.25	0.7	5	6.1	2	2.4	3	3	3.3	0.167	0.3	0.24	63	80	68
											7.5	9	2	2.4	3	3	3.3	0.167	0.3		66	80	71
											10	11	2	2.4	3	3	3.3	0.167	0.3		68	80	73

See General Notes for Electrical Data Tables on page 26.

Electrical Data – 48PM16 - 28 EnergyX Unit with Optional Unit Powered Convenience Outlet, with Economizer

UNIT SIZE	NOMINAL VOLTAGE	VOLTAGE RANGE		COMPRESSOR				OFM			IFM		ERV SUPPLY		ERV EXHAUST			ERV WHEEL		COMBUSTION FAN MOTOR	POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2																	
		Min	Max	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	Hp	FLA	Hp	FLA (ea)	Qty	Hp	FLA (ea)	Hp	FLA	FLA	MCA	MOCP	FLA
16	208/230-3-60	187	253	25	164	25	164	4	0.25	1.5	3.7	10.6/9.6	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6	0.5	112/108	125/125	122/117
											5	16.7/15.2	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		118/113	125/125	129/123
											7.5	24.2/22	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		126/120	150/125	137/131
	460-3-60	414	506	12.8	100	12.8	100	4	0.25	0.7	3.7	4.8	2	3.2	3	3	4	0.167	0.35	0.3	55	60	60
											5	7.6	2	3.2	3	3	4	0.167	0.35		58	60	63
											7.5	11	2	3.2	3	3	4	0.167	0.35		61	70	67
	575-3-60	518	633	9.6	78	9.6	78	4	0.25	0.7	5	6.1	2	2.4	3	3	3.3	0.167	0.3	0.24	46	50	50
											7.5	9	2	2.4	3	3	3.3	0.167	0.3		49	50	54
20	208/230-3-60	187	253	33.5	225	29.6	164	4	0.25	1.5	3.7	10.6/9.6	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6	0.5	127/123	150/150	137/132
											5	16.7/15.2	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		133/129	150/150	144/138
											7.5	24.2/22	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		141/135	150/150	152/146
											10	30.8/28	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		148/141	175/150	160/153
	460-3-60	414	506	17.7	114	14.8	100	4	0.25	0.7	3.7	4.8	2	3.2	3	3	4	0.167	0.35	0.3	63	80	67
											5	7.6	2	3.2	3	3	4	0.167	0.35		66	80	71
											7.5	11	2	3.2	3	3	4	0.167	0.35		69	80	75
											10	14	2	3.2	3	3	4	0.167	0.35		72	80	78
	575-3-60	518	633	13	80	11	78	4	0.25	0.7	5	6.1	2	2.4	3	3	3.3	0.167	0.3	0.24	52	60	56
											7.5	9	2	2.4	3	3	3.3	0.167	0.3		55	60	59
											10	11	2	2.4	3	3	3.3	0.167	0.3		57	60	61
24	208/230-3-60	187	253	40	239	33.5	225	6	0.25	1.5	3.7	10.6/9.6	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6	0.5	142/138	175/175	152/147
											5	16.7/15.2	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		148/144	175/175	159/154
											7.5	24.2/22	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		156/151	175/175	168/162
											10	30.8/28	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		163/157	200/175	175/168
	460-3-60	414	506	19.5	125	17.7	114	6	0.25	0.7	3.7	4.8	2	3.2	3	3	4	0.167	0.35	0.3	70	80	74
											5	7.6	2	3.2	3	3	4	0.167	0.35		72	90	78
											7.5	11	2	3.2	3	3	4	0.167	0.35		76	90	82
											10	14	2	3.2	3	3	4	0.167	0.35		79	90	85
	575-3-60	518	633	16.6	80	13	80	6	0.25	0.7	5	6.1	2	2.4	3	3	3.3	0.167	0.3	0.24	60	60	64
											7.5	9	2	2.4	3	3	3.3	0.167	0.3		63	70	67
											10	11	2	2.4	3	3	3.3	0.167	0.3		65	80	69
28	208/230-3-60	187	253	48.1	245	48.1	245	6	0.25	1.5	5	16.7/15.2	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6	0.5	173/168	200/200	185/180
											7.5	24.2/22	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		181/175	225/200	194/188
											10	30.8/28	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		187/181	225/225	202/195
	460-3-60	414	506	22.5	125	22.5	125	6	0.25	0.7	5	7.6	2	3.2	3	3	4	0.167	0.35	0.3	81	100	87
											7.5	11	2	3.2	3	3	4	0.167	0.35		84	100	91
											10	14	2	3.2	3	3	4	0.167	0.35		87	100	94
	575-3-60	518	633	18	100	18	100	6	0.25	0.7	5	6.1	2	2.4	3	3	3.3	0.167	0.3	0.24	66	80	71
											7.5	9	2	2.4	3	3	3.3	0.167	0.3		69	80	75
											10	11	2	2.4	3	3	3.3	0.167	0.3		71	80	77

See General Notes for Electrical Data Tables on page 26.

Electrical Data - 48PM16 - 28 EnergyX Unit Without Optional Unit Powered Convenience Outlet, with HACR, with Economizer

UNIT SIZE	NOMINAL VOLTAGE	VOLTAGE RANGE		COMPRESSOR				OFM			IFM		ERV SUPPLY		ERV EXHAUST			ERV WHEEL		COMBUSTION FAN MOTOR	POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2																	
		Min	Max	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	Hp	FLA	Hp	FLA (ea)	Qty	Hp	FLA (ea)	Hp	FLA	FLA	MCA	MOCP	FLA
16	208/230-3-60	187	253	25	164	25	164	4	0.25	1.5	5	16.7/15.2	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6	0.5	113/113	125/125	123/118
											5	16.7/15.2	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		113/113	125/125	123/118
											7.5	24.2/22	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		121/121	125/125	132/125
	460-3-60	414	506	12.8	100	12.8	100	4	0.25	0.7	5	7.6	2	3.2	3	3	4	0.167	0.35	0.3	55	60	59
											5	7.6	2	3.2	3	3	4	0.167	0.35		55	60	59
											7.5	11	2	3.2	3	3	4	0.167	0.35		58	70	63
	575-3-60	518	633	9.6	78	9.6	78	4	0.25	0.7	5	6.1	2	2.4	3	3	3.3	0.167	0.3	0.24	43	50	47
											7.5	9	2	2.4	3	3	3.3	0.167	0.3		46	50	50
20	208/230-3-60	187	253	33.5	225	29.6	164	4	0.25	1.5	5	16.7/15.2	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6	0.5	128/128	150/150	138/133
											5	16.7/15.2	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		128/128	150/150	138/133
											7.5	24.2/22	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		136/136	150/150	147/140
											10	30.8/28	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		143/143	175/175	154/147
	460-3-60	414	506	17.7	114	14.8	100	4	0.25	0.7	5	7.6	2	3.2	3	3	4	0.167	0.35	0.3	63	80	67
											5	7.6	2	3.2	3	3	4	0.167	0.35		63	80	67
											7.5	11	2	3.2	3	3	4	0.167	0.35		66	80	71
											10	14	2	3.2	3	3	4	0.167	0.35		69	80	75
	575-3-60	518	633	13	80	11	78	4	0.25	0.7	5	6.1	2	2.4	3	3	3.3	0.167	0.3	0.24	49	60	52
											7.5	9	2	2.4	3	3	3.3	0.167	0.3		52	60	56
											10	11	2	2.4	3	3	3.3	0.167	0.3		54	60	58
24	208/230-3-60	187	253	40	239	33.5	225	6	0.25	1.5	5	16.7/15.2	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6	0.5	143/143	175/175	154/148
											5	16.7/15.2	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		143/143	175/175	154/148
											7.5	24.2/22	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		151/151	175/175	162/156
											10	30.8/28	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		158/158	175/175	170/163
	460-3-60	414	506	19.5	125	17.7	114	6	0.25	0.7	5	7.6	2	3.2	3	3	4	0.167	0.35	0.3	69	80	74
											5	7.6	2	3.2	3	3	4	0.167	0.35		69	80	74
											7.5	11	2	3.2	3	3	4	0.167	0.35		73	90	78
											10	14	2	3.2	3	3	4	0.167	0.35		76	90	82
	575-3-60	518	633	16.6	80	13	80	6	0.25	0.7	5	6.1	2	2.4	3	3	3.3	0.167	0.3	0.24	57	70	60
											7.5	9	2	2.4	3	3	3.3	0.167	0.3		60	70	64
											10	11	2	2.4	3	3	3.3	0.167	0.3		62	70	66
28	208/230-3-60	187	253	48.1	245	48.1	245	6	0.25	1.5	5	16.7/15.2	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6	0.5	168/168	200/200	180/174
											7.5	24.2/22	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		176/176	200/200	188/182
											10	30.8/28	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		182/182	225/225	196/189
	460-3-60	414	506	22.5	125	22.5	125	6	0.25	0.7	5	7.6	2	3.2	3	3	4	0.167	0.35	0.3	78	100	83
											7.5	11	2	3.2	3	3	4	0.167	0.35		81	100	87
											10	14	2	3.2	3	3	4	0.167	0.35		84	100	91
	575-3-60	518	633	18	100	18	100	6	0.25	0.7	5	6.1	2	2.4	3	3	3.3	0.167	0.3	0.24	63	80	68
											7.5	9	2	2.4	3	3	3.3	0.167	0.3		66	80	71
											10	11	2	2.4	3	3	3.3	0.167	0.3		68	80	73

See General Notes for Electrical Data Tables on page 26.

Electrical Data - 48PM16 - 28 EnergyX Unit with Optional Unit Powered Convenience Outlet, with HACR, with Economizer

UNIT SIZE	NOMINAL VOLTAGE	VOLTAGE RANGE		COMPRESSOR				OFM			IFM		ERV SUPPLY		ERV EXHAUST			ERV WHEEL		COMBUSTION FAN MOTOR	POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2																	
		Min	Max	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	Hp	FLA	Hp	FLA (ea)	Qty	Hp	FLA (ea)	Hp	FLA	FLA	MCA	MOCP	FLA
16	208/230-3-60	187	253	25	164	25	164	4	0.25	1.5	3.7	10.6/9.6	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6	0.5	112/112	125/125	122/117
											5	16.7/15.2	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		118/118	125/125	129/123
											7.5	24.2/22	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		126/126	150/150	137/131
	460-3-60	414	506	12.8	100	12.8	100	4	0.25	0.7	3.7	4.8	2	3.2	3	3	4	0.167	0.35	0.3	55	60	60
											5	7.6	2	3.2	3	3	4	0.167	0.35		58	70	63
											7.5	11	2	3.2	3	3	4	0.167	0.35		61	70	67
	575-3-60	518	633	9.6	78	9.6	78	4	0.25	0.7	5	6.1	2	2.4	3	3	3.3	0.167	0.3	0.24	46	50	50
											7.5	9	2	2.4	3	3	3.3	0.167	0.3		49	50	54
20	208/230-3-60	187	253	33.5	225	29.6	164	4	0.25	1.5	3.7	10.6/9.6	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6	0.5	127/127	150/150	137/132
											5	16.7/15.2	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		133/133	150/150	144/138
											7.5	24.2/22	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		141/141	150/150	152/146
											10	30.8/28	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		148/148	175/175	160/153
	460-3-60	414	506	17.7	114	14.8	100	4	0.25	0.7	3.7	4.8	2	3.2	3	3	4	0.167	0.35	0.3	63	80	67
											5	7.6	2	3.2	3	3	4	0.167	0.35		66	80	71
											7.5	11	2	3.2	3	3	4	0.167	0.35		69	80	75
											10	14	2	3.2	3	3	4	0.167	0.35		72	80	78
	575-3-60	518	633	13	80	11	78	4	0.25	0.7	5	6.1	2	2.4	3	3	3.3	0.167	0.3	0.24	52	60	56
											7.5	9	2	2.4	3	3	3.3	0.167	0.3		55	60	59
											10	11	2	2.4	3	3	3.3	0.167	0.3		57	60	61
24	208/230-3-60	187	253	40	239	33.5	225	6	0.25	1.5	3.7	10.6/9.6	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6	0.5	142/142	175/175	152/147
											5	16.7/15.2	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		148/148	175/175	159/154
											7.5	24.2/22	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		156/156	175/175	168/162
											10	30.8/28	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		163/163	200/200	175/168
	460-3-60	414	506	19.5	125	17.7	114	6	0.25	0.7	3.7	4.8	2	3.2	3	3	4	0.167	0.35	0.3	70	80	74
											5	7.6	2	3.2	3	3	4	0.167	0.35		72	90	78
											7.5	11	2	3.2	3	3	4	0.167	0.35		76	90	82
											10	14	2	3.2	3	3	4	0.167	0.35		79	90	85
	575-3-60	518	633	16.6	80	13	80	6	0.25	0.7	5	6.1	2	2.4	3	3	3.3	0.167	0.3	0.24	60	70	64
											7.5	9	2	2.4	3	3	3.3	0.167	0.3		63	70	67
											10	11	2	2.4	3	3	3.3	0.167	0.3		65	80	69
28	208/230-3-60	187	253	48.1	245	48.1	245	6	0.25	1.5	5	16.7/15.2	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6	0.5	173/173	200/200	185/180
											7.5	24.2/22	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		181/181	225/225	194/188
											10	30.8/28	2	7.08/6.4	3	3	8.85/8.0	0.167	0.66/0.6		187/187	225/225	202/195
	460-3-60	414	506	22.5	125	22.5	125	6	0.25	0.7	5	7.6	2	3.2	3	3	4	0.167	0.35	0.3	81	100	87
											7.5	11	2	3.2	3	3	4	0.167	0.35		84	100	91
											10	14	2	3.2	3	3	4	0.167	0.35		87	100	94
	575-3-60	518	633	18	100	18	100	6	0.25	0.7	5	6.1	2	2.4	3	3	3.3	0.167	0.3	0.24	66	80	71
											7.5	9	2	2.4	3	3	3.3	0.167	0.3		69	80	75
											10	11	2	2.4	3	3	3.3	0.167	0.3		71	80	77

General Notes for Electrical Data Tables

LEGEND

FLA – Full Load Amps
HACR – Heating, Air Conditioning and Refrigeration
IFM – Indoor (Evaporator) Fan Motor
LRA – Locked Rotor Amps
MCA – Minimum Circuit Amps
MOCP – Maximum Overcurrent Protection
NEC – National Electrical Code
OFM – Outdoor–Fan Motor
RLA – Rated Load Amps

*Fuse or HACR circuit breaker

NOTES:

1. In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker.
2. **Unbalanced 3-Phase Supply Voltage**
   Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percentage of voltage imbalance.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

Example: Supply voltage is 460–3–60

AB = 452 v
BC = 464 v
AC = 455 v

$$\text{Average Voltage} = \frac{452 + 464 + 455}{3} = \frac{1371}{3} = 457$$

Determine maximum deviation from average voltage.
(AB) 457 – 452 = 5 v
(BC) 464 – 457 = 7 v
(AC) 457 – 455 = 2 v
Maximum deviation is 7 v.
Determine percent of voltage imbalance.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{7}{457} = 1.53\%$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

3. The convenience outlet full load amps (FLA) are 5,, 3, and 3 for 208/230, 460, 575–V units, respectively.