



INSTALLATION INSTRUCTIONS

PEHCPRD Series Power Exhaust for York 3 - 12½ Ton Units

Before Starting Installation

Warning

Severe injury can result from incorrect servicing. Only qualified HVAC service personnel should install, trouble-shoot, repair or service HVAC and related HVAC equipment.

Always disconnect power before servicing. Please note some installation configurations may have more than one disconnect.

Important

Always follow all local building electrical codes.

6½ to 8½ Tons

Voltage	ProVent P/N		External Static Pressure (Inch W.G.)				FLA	Hp
			0.1	0.2	0.3	0.4		
208/230V/3Ph	PEHCPRD3761DB25C PEHCPRD3761EN25C	PEHCPRD3761DB25M PEHCPRD3761EN25M	2,400 CFM	2,200 CFM	2,000 CFM	1,800 CFM	3.2	1
460V/3Ph	PEHCPRD3761DB46C PEHCPRD3761EN46C	PEHCPRD3761DB46M PEHCPRD3761EN46M					1.6	

6½ to 8½ Tons

Voltage	ProVent P/N		External Static Pressure (Inch W.G.)				FLA	Hp
			0.1	0.2	0.3	0.4		
208/230V/3Ph	PEHCPRDSCDB25C PEHCPRDSCEN25C	PEHCPRDSCDB25M PEHCPRDSCEN25M	3,300 CFM	3,090 CFM	2,930 CFM	2,685 CFM	3.2	1
460V/3Ph	PEHCPRDSCDB46C PEHCPRDSCEN46C	PEHCPRDSCDB46M PEHCPRDSCEN46M					1.6	

10 to 12½ Tons

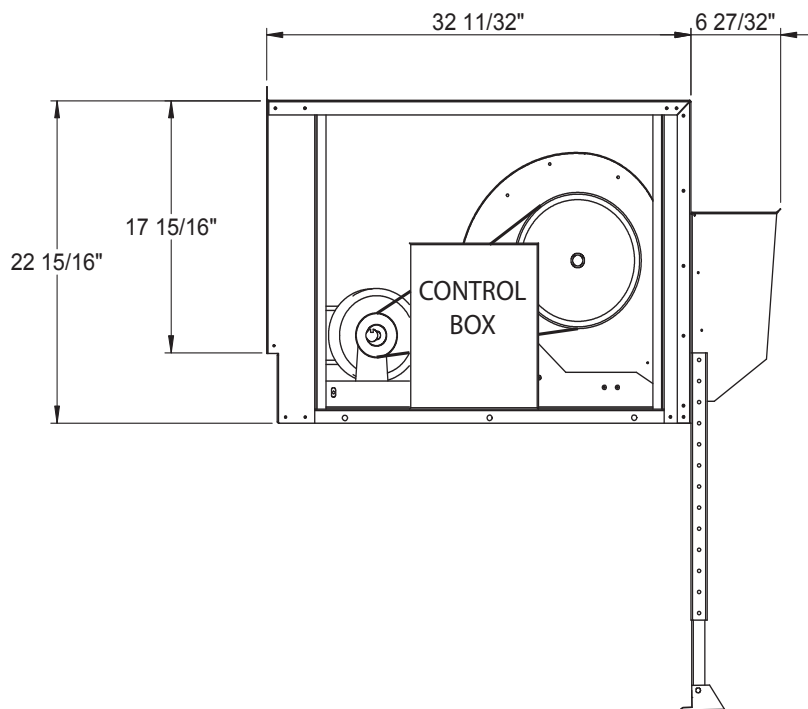
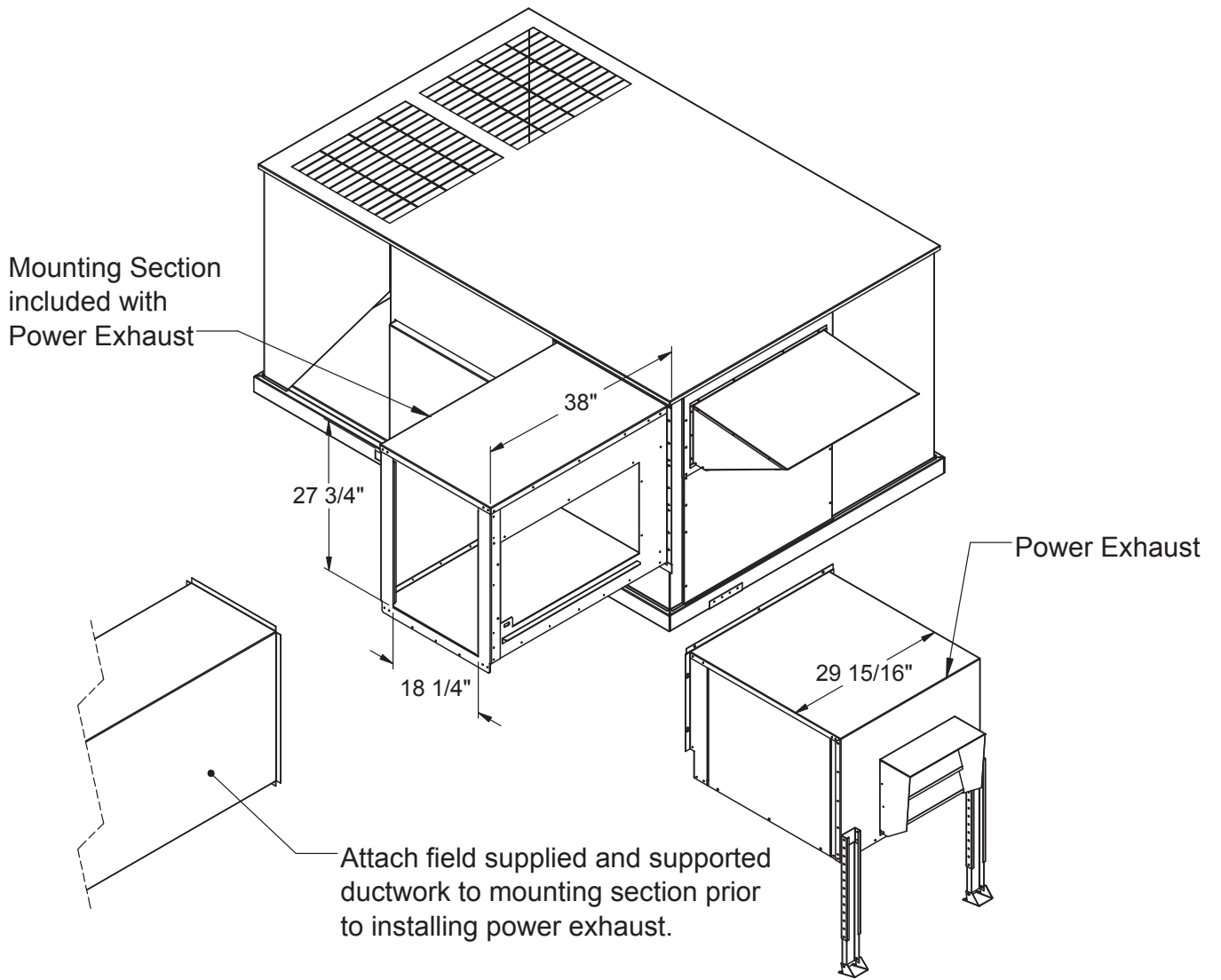
Voltage	ProVent P/N		External Static Pressure (Inch W.G.)				FLA	Hp
			0.1	0.2	0.3	0.4		
208/230V/3Ph	PEHCPRDLCDB25C PEHCPRDLCEN25C	PEHCPRDLCDB25M PEHCPRDLCEN25M	4,200 CFM	4,000 CFM	3,900 CFM	3,800 CFM	5.6	2
460V/3Ph	PEHCPRDLCDB46C PEHCPRDLCEN46C	PEHCPRDLCDB46M PEHCPRDLCEN46M					2.8	

PARTS INCLUDED	QTY.
#10 x 1/2 Sheet Metal Screw	22
3/16" Dia x 25' Pressure Tubing (w/Modulating Option Only)	1
Pressure Connection Port (w/Modulating Option Only)	1
VFD Instruction Booklet (w/Modulating Option Only)	1
VFD Instruction CD (w/Modulating Option Only)	1

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ILL. 1



Installation Instructions

Important

Exhaust hood is shipped loose inside the power exhaust cabinet.
Remove exhaust hood prior to installing power exhaust.

1. Install economizer per instructions.
The power exhaust power (Molex) plug is located on economizer next to its power plug. Make sure to connect both Molex plugs to unit when installing economizer. (ILL. 2)

2. Install mounting section over return air opening and secure to unit using existing screws from factory return air opening panel. Caulk all mating flanges water tight. (ILL. 3)

3. Attach and support field supplied return air duct to mounting section. This step must be completed prior to attaching power exhaust to mounting section. (ILL. 3)

4. Connect other end of power exhaust power plug located on economizer return air damper frame to knockout on mounting section. (ILL. 4)

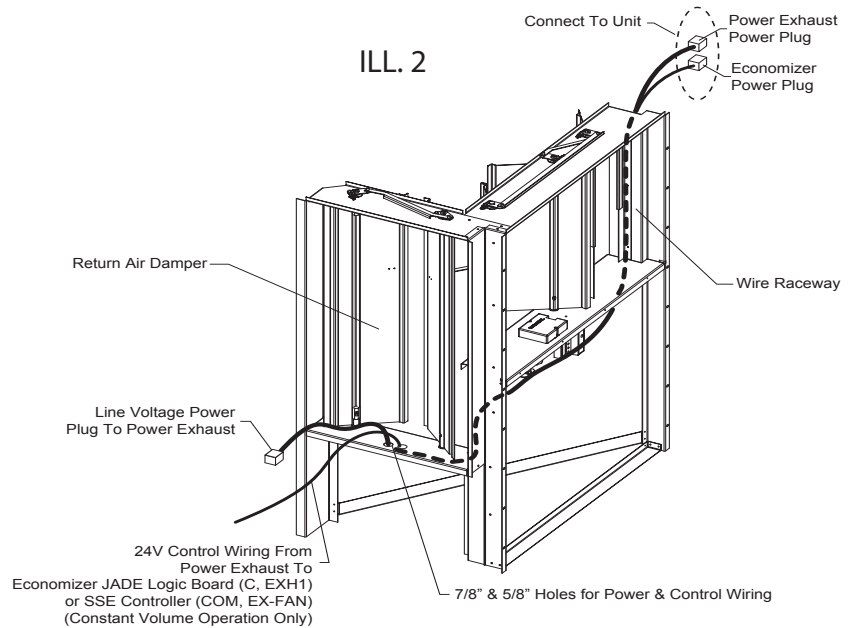
5. Set power exhaust in front of mounting section. Connect power exhaust power plug to plug in knockout on mounting section. (ILL. 3 & 4)

6. For constant volume operation, feed 24V yellow wire leads through economizer return air damper knockout. Connect wires to Economizer JADE Logic board (C, EXH1) or SSE Controller (COM, EX-FAN). (ILL. 2) (Not required for modulating operation.)

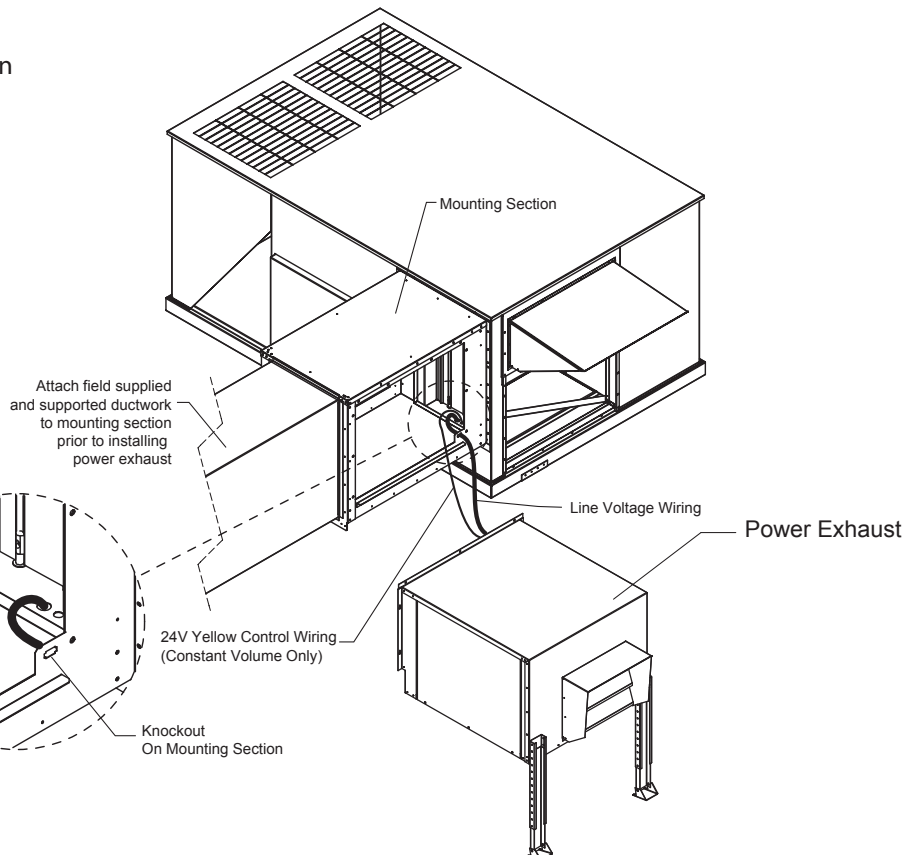
7. Install power exhaust over mounting section opening and secure with 1/4" bolts provided. Caulk all mating flanges water tight. (ILL. 3)

Based on return air duct supports, power exhaust may require field support.

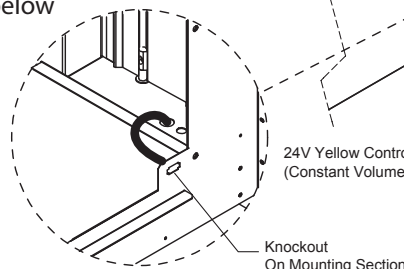
8. Reattach lower mixed air panel below outside air hood.



ILL. 3



ILL. 4



Installation Instructions (When Used With Pre-installed ProVent Economizer Only)

1. Remove existing ProVent economizer from unit.
2. On bottom of return air damper frame, bore a 7/8" diameter hole for the power cord and a 5/8" diameter hole for the 24V control wiring. (ILL. 2)

Install the snap bushings provided.

3. Feed power cord end with Molex connector sockets up thru the 7/8" diameter hole. This end of cord will attach to power exhaust. (ILL. 2)

Feed the other end of power cord thru wire race way on economizer. This end will attach to the York unit Molex connector. (ILL. 2)

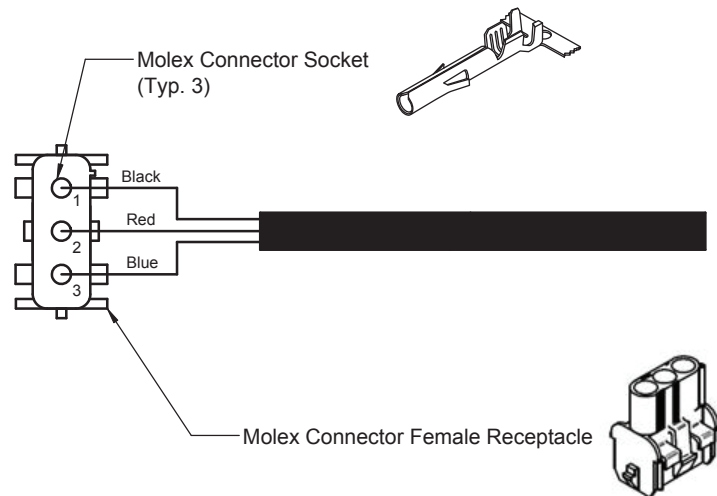
4. Attach Molex female receptacle to end of the power cord by inserting the three Molex connector sockets shown on ILL. 5.

Warning: To avoid electrical damage, confirm that wire colors match corresponding numbers on back of Molex receptacle as shown on ILL. 5.

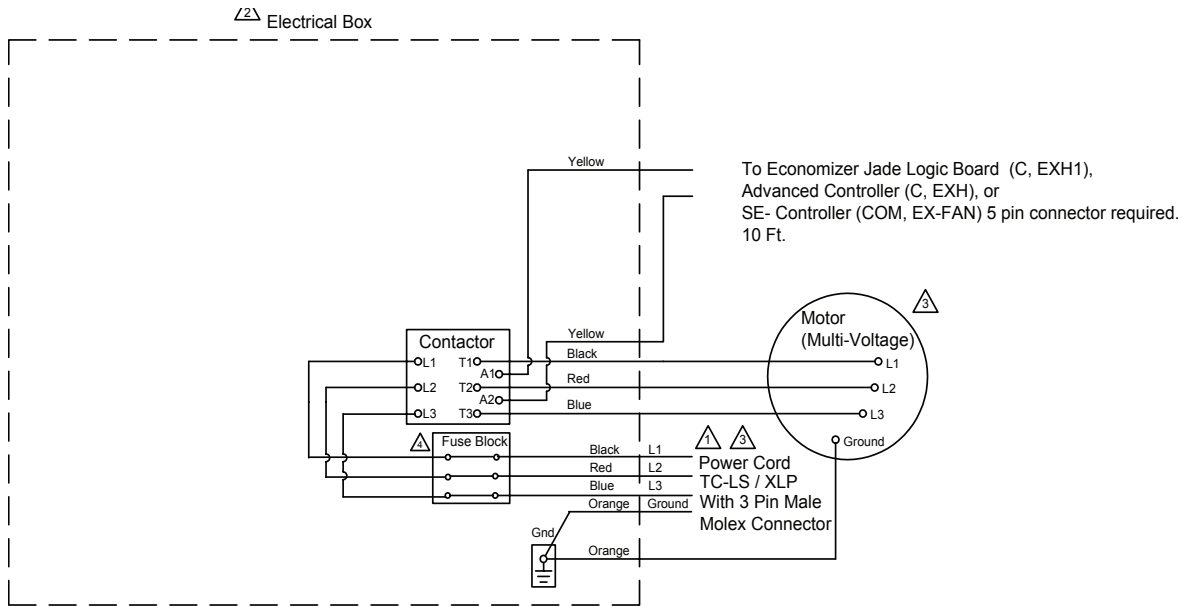
4. Follow instructions 1 thru 8 from previous section on Page 2.

ADDITIONAL PARTS INCLUDED	QTY.
Power Cord	1
Molex Connector Female Receptacle	1
7/8" Snap Bushing	1
5/8" Snap Bushing	1

ILL. 5



ILL. 6 - Constant Volume Power Exhaust Wiring



⚠ Power Supply. Provide disconnect means and circuit protection as required. See power exhaust name plate for electrical ratings. If local codes allow connecting to the HVAC unit power, make sure the disconnect and incoming wiring are sized to handle the load of both the HVAC unit and the power exhaust.

To determine MCA with power exhaust: $\text{New MCA} = \text{MCA of Unit Only} + \text{MCA of Power Exhaust}$

⚠ Transformer, contactor and fuses are to be in a NEMA type electrical enclosure.

⚠ For voltage, refer to label on exterior of power exhaust cabinet.

⚠ 3, 6 amp KTK fuses (460V-3PH). 7, 8, 10 amp KTK fuses (230V-3PH). 10, 15 amp KTK fuses (230-1PH)

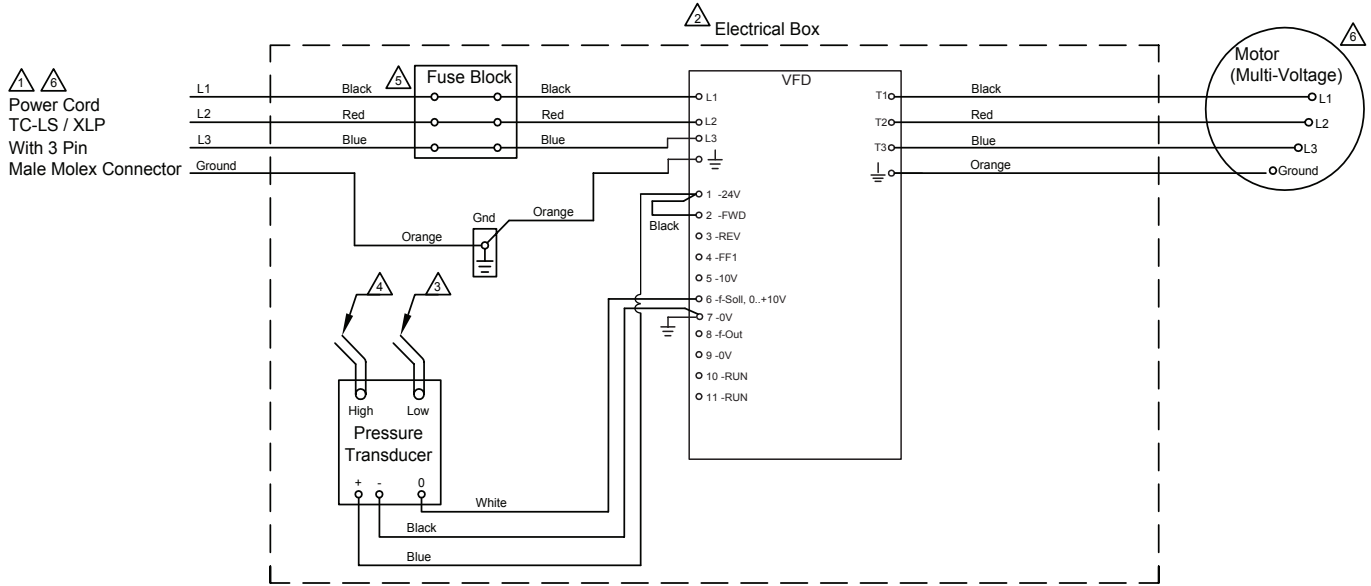
Example: With a unit that has $\text{MCA}=22.5$ amps and $\text{MOCP}=30$ amps,

$\text{New MCA} = 22.5 \text{ amps} + 3 \text{ amps (example for power exhaust)} = 25.5 \text{ amps}$

If New MCA is less than MOCP for the HVAC unit, you can tie the power wire to the HVAC contactor terminal strip, if local code allows. Make sure tap off terminal block is capable for handling more than one unit.

If new MCA is greater than MOCP or local code requires, you must run power wire for the power exhaust to an external disconnect. Make sure the disconnect is sized properly for the power from the power exhaust as well as the HVAC unit.

ILL. 7 - Modulating Power Exhaust Option Wiring



⚠ Power Supply. Provide disconnect means and circuit protection as required. See power exhaust name plate for electrical ratings. If local codes allow connecting to the HVAC unit power, make sure the disconnect and incoming wiring are sized to handle the load of both the HVAC unit and the power exhaust.

To determine MCA with power exhaust: $\text{New MCA} = \text{MCA of Unit Only} + \text{MCA of Power Exhaust}$

⚠ Transformer, contactor and fuses are to be in a NEMA type electrical enclosure.

⚠ Factory mounted 3/16" low pressure tubing.

⚠ 25 feet of 3/16" high pressure tubing and connection port provided for field mounting in conditioned space. Architectural finishing field provided. (Follow local codes).

⚠ For fuse size, refer to label on the exterior of power exhaust cabinet.

⚠ For Voltage, refer to label on exterior of power exhaust cabinet.

⚠ Field Required.

If the Power Exhaust is installed with the Simplicity Smart Equipment (SSE) board, please change the following fan type settings:

Details <enter>

Control <enter>

Power Ex <enter>

Ex FType <enter>

select "Non- Modulating" <enter>

To change the setpoints for "ON" and "OFF"

EconDmpPos- FanOn <60% default>

EconDmpPos- FanOff <20% default>

The motor/blower is connected to a motor controller (VFD) that varies the speed to maintain an acceptable conditioned space pressure. The power exhaust system includes a low pressure transducer that compares room pressure to atmospheric. This transducer sends a signal to the motor controller (VFD) which varies the motor frequency in order to provide pressure relief.

1. Install 3/16" pressure tubing as per wiring diagram making sure it is not located near any S/A or R/A diffuser or door.
2. The VFD is factory preprogrammed to accept the 0 to 10 VDC signal through the pressure transducer.

Table 1 - Pressure vs. VFD Frequency

Transducer Output Signal (VDC)	Conditioned Space Pressure (Inch W.G.)	VFD Setting (Hz)
0	0	0
1	0.01	10
2	0.02	20
3	0.03	30
4	0.04	40
5	0.05	50
6	0.06	60
7	0.07	70
8	0.08	80
9	0.09	90
10	0.10	100

VFD is factory set at 0.04 inches w.g. To change setting, press and hold "OK" to access the programming menu; up/down to display P-45, hit "OK" move arrows up/down to set desired frequency that determines pressure requirement, then press "OK" to save parameter.