

**MANUAL** – INSTALLATION, OPERATION, & MAINTENANCE

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# Fan Powered Constant Volume Terminals

FDC, FDCLP2

v100 – Issue Date: 01/05/24

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**PRICE**<sup>®</sup>

# FAN POWERED CONSTANT VOLUME TERMINALS

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# FAN POWERED CONSTANT VOLUME TERMINALS

## INSTALLATION OVERVIEW

### Quick Reference

This manual applies to Price Series Fan Powered Terminal Unit models FDC, FDCLP2, and FDCLP2-DOAS.

### Air Flow Sensor

The SP300 velocity sensor is normally supplied as standard with this terminal unit.

### Calibration Equation

$$VP = \left(\frac{Q}{K}\right)^2$$

**VP** - differential pressure at sensor, inches w.g.

**Q** - air flow rate, cfm at standard density.

**K** - calibration constant

Primary Duct Size	K-Factors
4	340
5	426
6	468
7	673
8	890
9	1155
10	1487
12	2141
14	3045
16	4074
14x8	2084

### Damper Rotation

Damper rotation is always clockwise to the open position. An identification mark on the end of the shaft indicates the damper position.

### Minimum Pressures Recommended for Stable Operation

Model	Minimum Downstream ΔPs (in. w.g.)	
	Motor Type	
	PSC	ECM
FDC, size 10 - 50	0.1	0.1
FDC, size 60	0.2	0.1
FDCLP2	0.1	0.1

\*Basic unit without accessories, most models and sizes.

### Controls

Price fan powered terminals are available with direct digital (DDC) controls. For information concerning controls, control components, and sequence of operations for DDC controls, please refer to the Price PIC Manual, or the documentation provided by the controls contractor.

# FAN POWERED CONSTANT VOLUME TERMINALS

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## INSTALLATION OVERVIEW

### Receiving Inspection

All Price fan powered terminal units are inspected before shipment. After unpacking the assembly, check it for damage. If any damage to the products is found, report it immediately to the delivery carrier. During unpacking and installation, **do not handle the unit by the inlet velocity sensor**. Caution is required when unpacking the fan powered units with electric coils as not to damage the elements.

**Ensure that all packing material is removed from the inside of the unit, especially around the blower wheel and coil section.**

**WARNING:** Do not adjust the control components.

### Caution To Contractors

1. Fan powered terminal units are not intended for use as temporary heat or ventilation sources during building construction. The terminal units are not designed nor equipped to operate in a dusty construction environment. Recirculating fan wheels can become coated in construction dust, resulting in an unbalanced wheel, which may contribute to reduced motor life. Inlet air filters, if supplied, provide little protection as they would quickly become plugged with construction dust.
2. A fan powered terminal unit should never be operated if the downstream duct work has not been installed. A minimum downstream static pressure resistance is required for safe operation of the motor and electric heater it installed.
3. Price recommends a minimum of three (3) duct diameters of straight inlet duct, the same size as the inlet, between the unit inlet and any transition, take-offs or fittings.
4. Price recommends sufficient clearance for access panel removal. Local code and the National Electrical Code clearance requirements take precedence and are the responsibility of the installing contractor.

**NOTE:** Price cannot warrant against any damage or poor performance due to operating outside of the conditions outlined above.

# FAN POWERED CONSTANT VOLUME TERMINALS

## INSTALLATION OVERVIEW

### Control Assembly Label

All Price fan powered terminal units are tagged with a control assembly label as shown on the left. This label identifies the model number, location tag #, controller type, actuator type, thermostat action, application and controller setpoints. Options, accessories and appropriate control diagrams are also identified. If field adjustment of the controller factory setpoints should become necessary, follow the appropriate procedure outlined in the manual.

All factory supplied controllers are tagged with a controller label as shown below. This label identifies the required sensor velocity pressure for both the minimum and maximum controller setpoints.



**VAV SPECIFICATIONS**

Price Order No: 957521  
 Branch PO: FDCLP2  
 Customer PO: \_\_\_\_\_  
 Job Name: PRICE RESEARCH CENTER  
 Package Tag: \_\_\_\_\_  
 Unit Location: VAV-101

AIR FLOW



INSTALLED



**AIR DISTRIBUTION PRODUCTS**  
 Manufactured by Fabriqué Par  
 Price

**Special Instructions / Instructions Spéciales:** \_\_\_\_\_

ITEM	MODEL	SIZE	CTRL TYPE - SEQ #	LINER	MOTOR
1	FDCLP2	3010	FLD/6000	FG50	ECM 277 Volts
AIR VOLUME (CFM)		RESET SPAN	DAMPER	THERMOSTAT	CONTROL OPTIONS
S	L				
0 L/S 0 CFM	472 L/S 1000 CFM				
COIL	COIL OPTIONS		UNIT OPTIONS		
			0, 1800, 200, 1390		
CXY CTRL	CXY WIRING	PXY DRAWING	PACKAGING		
	231204				



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**VAV SPECIFICATIONS**

Price Order No: 957521  
 Branch PO: FDC-1-X  
 Customer PO: \_\_\_\_\_  
 Job Name: PRICE RESEARCH CENTER  
 Package Tag: \_\_\_\_\_  
 Unit Location: VAV-101

**AIR DISTRIBUTION PRODUCTS**  
 Manufactured by Fabriqué Par  
 Price

**Special Instructions / Instructions Spéciales:** \_\_\_\_\_

ITEM	MODEL	SIZE	CTRL TYPE - SEQ #	LINER	MOTOR
1	FDC-1-1	3010	FLD/6000	FG1	277 Volts
AIR VOLUME (CFM)		RESET SPAN	DAMPER	THERMOSTAT	CONTROL OPTIONS
S	L				
0 L/S 0 CFM	472 L/S 1000 CFM				
COIL	COIL OPTIONS		UNIT OPTIONS		
CXY CTRL	CXY WIRING	PXY DRAWING	PACKAGING		
	236547				



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ORDER NO	ITEM	MODEL	SIZE	UNIT LOCATION
957521	1	FDCLP2	3010	VAV-101

PRICE ORDER NO	ITEM	MODEL	SIZE	UNIT LOCATION
957521	1	FDCLP2	3010	VAV-101
DAMPER	AIR VOLUME (CFM)		SETTINGS	RESET SPAN
	S	L		
	Min. 0 CFM	Max. 1000 CFM		
	Min. 0 L/S	Max. 0 L/S		

ORDER NO	ITEM	MODEL	SIZE	UNIT LOCATION
957521	1	FDC-1-1	3010	VAV-102

PRICE ORDER NO	ITEM	MODEL	SIZE	UNIT LOCATION
957521	1	FDC-1-1	3010	VAV-102
DAMPER	AIR VOLUME (CFM)		SETTINGS	RESET SPAN
	S	L		
	Min. 0 CFM	Max. 1000 CFM		
	Min. 0 L/S	Max. 0 L/S		

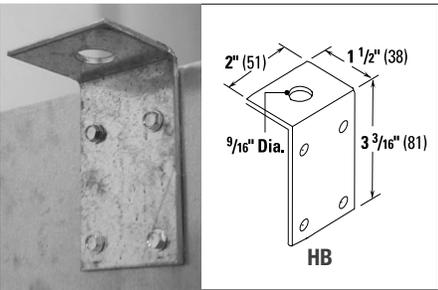
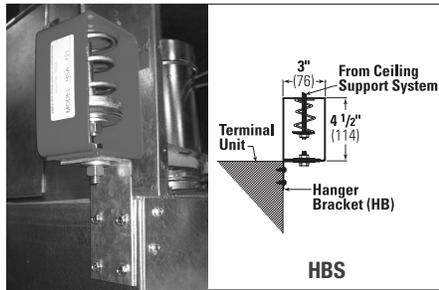
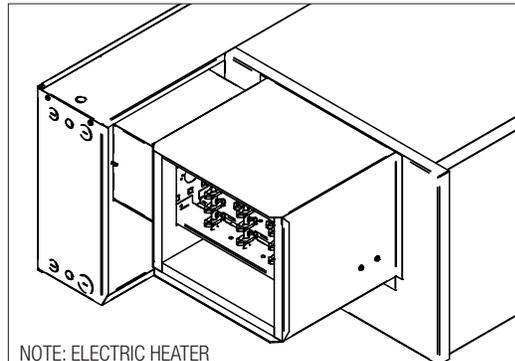
# FAN POWERED CONSTANT VOLUME TERMINALS

## INSTALLATION & MOUNTING INSTRUCTIONS

### Mounting The Unit

1. Use hanger straps (by others) or optional hanger brackets (shipped loose) as illustrated. Hanging rods should be securely attached to joists or to mounting anchors which are properly secured to slab construction with lugs or poured in place anchors.
2. Price recommends the straps or hanger brackets to be fastened with screws no longer than  $\frac{3}{4}$  in (19 mm) to prevent damage to the internal insulation or heating coil components.
3. Price Fan Powered Terminal Units are designed to be mounted in the direction indicated by the Control Assembly Label found on the protective shroud.
4. Do not block the bottom access panel, maintain clearance for blower service.
5. Do not install tight to slab, avoid contact with other obstacles such as rigid conduit and sprinkler piping. This can cause excessive vibration and noise transmission.
6. Install the unit in a location that allows free access to the unit as well as all control components.
7. Ensure main power to the terminal and electric coil has been disconnected prior to performing any electrical work or inspection of the circuitry.

**WARNING:** Do not tamper with control components.

OPTIONAL HANGER BRACKETS ▼	OPTIONAL SPRING HANGER BRACKETS ▼	ELECTRIC HEAT ▼
		 <p data-bbox="1008 1270 1218 1344">NOTE: ELECTRIC HEATER IS FIELD FLIPPABLE ON FDC TERMINAL UNITS.</p>

# FAN POWERED CONSTANT VOLUME TERMINALS

## INSTALLATION & MOUNTING INSTRUCTIONS

### Duct Connection

1. Recommend a minimum of 3 duct diameters of straight inlet duct, either sheet metal or flexible, same size as the inlet, between the unit inlet and any transition, take-offs or fittings. Use of transitions or elbows at the unit inlet to be avoided. Where flexible duct is used it should be pulled tight to eliminate sags or folds.
2. To control radiated noise in critical applications it is recommended that the inlet ducts be fabricated of minimum 24 gauge sheet metal in place of flexible duct.
3. To prevent excessive air leakage, all cleat joints should be sealed with an approved duct sealer. This applies to all accessory connections as well as the basic fan powered terminal unit.
4. Holes that are drilled in the duct for testing or balancing purposes are to be sealed with duct tape or duct sealer.

### Control Connections

#### Digital

If controls have been factory mounted, a wiring diagram will be included with the unit indicating the factory mounted components. For field wiring of room sensors and other accessories, refer to the controls contractor's documentation for all wiring information.

### Electrical Connection

**CAUTION:** Disconnect all incoming power before any electrical installation or service is performed on the unit(s).

1. All field wiring is to be in accordance with the National Electrical Code ANSI/NFPA No. 70 or the Canadian Electrical Code, Part 1, CSA Standard C 22.1. Local codes and the National Electrical Code requirements take precedence over manufacturer recommendations, and adherence to these codes shall be the responsibility of the installing contractor.
2. Refer to the product identification label on each unit for information to determine the field wire size.
3. Check voltage requirements prior to power supply connection. Refer to the electrical label located on the electrical control box and also refer to the schematic drawing provided on the underside of the electrical control box cover. If an Electric Reheat Coil has been supplied, refer to the electrical schematic prior to hook-up.
4. If upon energizing the electric motor excessive noise is apparent, shut down the unit. Determine the cause by checking for packing materials, etc. and re-energize after corrective action has been taken.

**CAUTION:** For three phase power connections, be sure to account for fan motor load. Phases must be balanced accordingly.

### Cooling/Heating Coils

Prior to the water system start-up and balancing, the chilled/hot water systems should be flushed to clean out dirt and debris, which may have collected in the piping during construction.

During this procedure, all unit service valves must be in the closed position. This prevents foreign matter from entering the unit and clogging the valves and metering devices. Filters should be installed in the piping mains to prevent this material from entering the units during normal operation. During system filling, air venting from the unit is accomplished by the use of the standard manual air vent fitting installed on the coil. Manual air vent fitting: the screw should be turned counterclockwise no more than 1-1/2 turns to operate the air vent.

**CAUTION:** The air vent provided on the unit is not intended to replace the main system air vents and may not release air trapped in other parts of the system. Inspect the entire system for potential air traps and vent those areas as required, independently. In addition, some systems may require repeated venting over a period of time to properly eliminate air from the system.

# FAN POWERED CONSTANT VOLUME TERMINALS

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## START UP & OPERATION

### Air System Balancing

#### Overview

All ductwork must be complete and connected, and all grilles, filters, access doors and panels must be properly installed to establish actual system operating conditions BEFORE beginning air balancing operations. Each individual unit and attached ductwork is a unique system with its own operating characteristics. For this reason, air balancing is normally done by balance specialists who are familiar with all procedures required to properly establish air distribution and fan system operating conditions.

These procedures should not be attempted by unqualified personnel.

After the proper system operation is established, the actual unit air delivery and the actual fan motor amperage draw for each unit should be recorded in a convenient place for future reference such as the inspection, installation, & start-up check sheet, a copy of which is provided on the back of this manual. Contact the sales representative or the factory for additional copies of this sheet.

The manufacturer assumes no responsibility for undesirable system operation due to improper design, equipment or component selection, and/or installation of ductwork, grilles, and other field supplied components.

### Air Balancing Procedure

Before Air Balancing the terminal unit, the following general items should be verified.

1. The primary fan system is operating at the specified volume, static pressure, RPM and current.
2. Return filters (if supplied) are clean.
3. All balancing dampers are adjusted and locked. Dampers downstream of the terminal unit should be proportionally balanced.
4. Thermostats are calibrated and operational.
5. All duct work and connections are free from leaks.
6. Sufficient duct static pressure is available at the terminal primary air inlet.
7. All diffusers are installed and adjusted for the proper air pattern.
8. A fan powered terminal unit should never be operated if the downstream duct work has not been installed. A minimum downstream static pressure resistance of 0.1 in wg (or 0.2 in wg for Size 60 FDC units and units with an electric heater).
9. The primary air volume (both minimum and maximum) setpoints) are factory calibrated for pneumatic or electronic controls supplied by Price. If field adjustment should be necessary, follow the appropriate calibration procedures for the controller type supplied with the unit. If DDC controls are supplied, refer to the control contractor's documentation for calibration instructions.
10. Set the thermostat to full cooling. The fan should be on and the primary air valve at maximum air flow. Verify the air flow with the sensor tube or pitot tube traverse. Adjust if necessary.
11. The fan volume must be field adjusted with the fan speed controller. Fan curves (available at [priceindustries.com](http://priceindustries.com)) indicate the volume range of each size unit. Adjust the speed control until the desired air flow is measured at the outlet.
12. Set the thermostat to full heating. The fan should be on and the primary air valve at minimum flow. Verify the primary air volume with sensor taps or pitot tube traverse. Adjust if necessary.
13. Always set the fan volume at full cooling.

# FAN POWERED CONSTANT VOLUME TERMINALS

## START UP & OPERATION

### Electronically Commutated Motor (ECM) Information

Do not switch 120/208/240/277 VAC power to turn ECM motor on and off. Instead control the 24VAC signal or BAS signal to turn the ECM motor on and off. The ECM motor has large capacitors that charge quickly on mains power up. Switching on several motors frequently could reduce building power quality and is not recommended.

### Standard ECM Speed Controller

The Price standard speed controller allows manual adjustment of the fan flow using the adjustment dial on the control board and a voltmeter. Remote control of the fan speed is also possible with the BAS input. The following chart describes the controller response to a 0-10 VDC input.

Input Voltage	Mode of Operation
0-1 VDC	Manual Control
1-2 VDC	Fan Off
2-10 VDC	Remote Control 0 - 100%

Note: Refer to “Fan Curves” performance data documents for fan curves.

### FDC EC Motor Voltage Equations

“VDC” is a 0-10 VDC input from the BAS.

FDC-1-X	Pressure Independent Flow	High-Turndown Flow *
Size 10	CFM = (131.97) (VDC) – 180.93	CFM = (114.29) (VDC) – 103.57
Size 20	CFM = (154.45) (VDC) – 266.95	CFM = (152.14) (VDC) – 179.29
Size 30	CFM = (217.94) (VDC) – 417.13	CFM = (197.86) (VDC) – 270.71
Size 40	CFM = (250.01) (VDC) – 262.90	CFM = (267.86) (VDC) – 410.71
Size 50	CFM = (304.40) (VDC) – 222.11	CFM = (317.86) (VDC) – 510.71
Size 60	CFM = (574.27) (VDC) – 928.28	CFM = (554.29) (VDC) – 858.57

\* ASSUMES 0.25 IN. W.G. OF EXTERNAL STATIC PRESSURE AND NO WATER COIL.

### ECM Adjustment – Balancing with BAS

1. Determine BAS signal voltage (VDC) from the formula above.
2. Send the appropriate signal to the speed controller via the BAS.
3. Wait a few seconds for the motor to adjust the speed and then verify fan flow with measurements at the supply outlets.
4. If necessary, fine tune the BAS signal in accordance with the measured outlet flow.

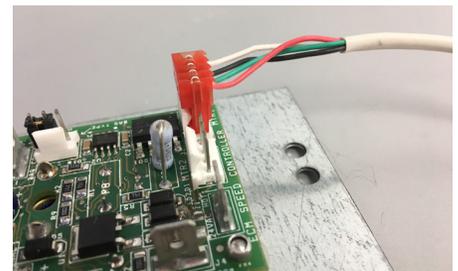
### ECM Adjustment – Local Balancing with Potentiometer

1. Connect the leads from a DC voltmeter or multimeter to the DC voltage (+) and (-) terminals indicated to the right. These terminals can be found on the outside of the electrical enclosure, next to the potentiometer.
2. Determine BAS signal voltage (VDC) from the formula above and divide by 2 to calculate the test point voltage.
  - a. For example, if the airflow set point for the size 10 FDC is 610 CFM, a BAS signal of 6 VDC is required therefore, the test points should measure 3 VDC.
3. Adjust the manual speed control dial on the outside of the box with a screwdriver until the test point voltage is achieved.
4. Wait a few seconds for the motor to adjust the speed and then verify fan flow with measurements at the supply outlets.
5. If necessary, fine tune the speed control in accordance with the measured outlet flow.

### ECM SPEED CONTROLLER ▼



### ECM CABLE CONNECTION ▼



NOTE: CABLE MUST BE INSTALLED IN THE CONFIGURATION OR THE UNIT WILL NOT FUNCTION AS EXPECTED.

# FAN POWERED CONSTANT VOLUME TERMINALS

## MAINTENANCE

### Fan and Motor Maintenance

1. Disconnect all incoming power before servicing the unit.
2. Price fan powered terminal units are supplied with permanently lubricated motors.
3. The blower and motor should be inspected annually for accumulation of dust and dirt. Clean as necessary.
4. To access blower and motor for servicing, remove the bottom access panel or alternate access panels if equipped.  
**CAUTION:** Motor may be very hot. Ensure motor has cooled before service.
5. Motors are provided with thermal overload protection. If the motor overheats and trips the thermal overload, it will automatically reset after cooling down to a proper operating temperature.
6. If the fan motor is turned off while the primary air system is operational the following start-up procedure should be employed for constant volume units.
  - i. Override the primary air damper to the closed position with the DDC software.
  - ii. Wait at least 2 minutes to allow the fan wheel to stop rotation.
  - iii. Turn power on to the terminal unit.
  - iv. Restore damper to normal position. The above procedure will prevent backward rotation of the fan motor on start-up.
7. If field amperage draw readings of the fan motor are required, measurements should be taken with a true RMS meter. Non-true RMS meters will not provide accurate reading due to alteration of the sine wave by the fan speed control. Refer to Page 7 for motor voltage equations.

### Filter(s)

1. Filters, if supplied, should be replaced or removed after system start-up.
2. If filters are used beyond system start-up they should be changed regularly to avoid excessive restriction of air flow. The time interval between each replacement should be established based on regular inspection of the filter and should be recorded in the log for each unit.
3. Refer to the “Replacement Parts” section of this manual for list of replacement filter media.
4. If the replacement filters are not purchased from the factory, the filters used should be the same type and size as that furnished from or recommended by the factory. Consult the factory for applications using filter types other than the factory standard or optional product.

# FAN POWERED CONSTANT VOLUME TERMINALS

## MAINTENANCE

### Motor/Blower Field Replacement

Tools you will need to replace the motor/blower assembly in the field:

- Cordless drill with a 1/4 inch nut driver bit.
- 3/8 inch nut driver bit.
- Wiring diagram (located inside the control panel).

Recommended, but not required:

- Right-angle attachment for drill.
- 12 inch extension.

#### Removal Instructions:

1. Disconnect all power to the unit.
2. Remove the access panel.
3. Remove the screw attaching the power and control cables to the side of the blower. Once that is complete, unplug the power and control wires from the motor (Figure 1).

**NOTE:** For PSC motors, the wires do not disconnect from the motor, so the wires must be disconnected from the terminal in the control panel. Be sure not to disconnect the wires for the speed controller.

4. Remove the four retaining bolts holding the blower assembly in place while supporting the blower assembly (Figure 2).

**NOTE:** If working from below, remove the top two bolts first, then allow the unit to rotate around the bottom two screws before removing them. Support the motor/blower assembly while removing the last two screws (Figure 3).



# FAN POWERED CONSTANT VOLUME TERMINALS

## MAINTENANCE

### Motor/Blower Field Replacement

#### Installation Instructions:

1. Lift the blower assembly up and tilt into place. Start with the bottom two bolts first and tighten them by hand.
2. Rotate the blower into position so the top two holes line up. Insert the bolts and hand-tighten them in place.
3. Use the 3/8 inch nut driver to tighten them.
4. Plug the control and power wires into the motor. The connectors are keyed and will only go in one way

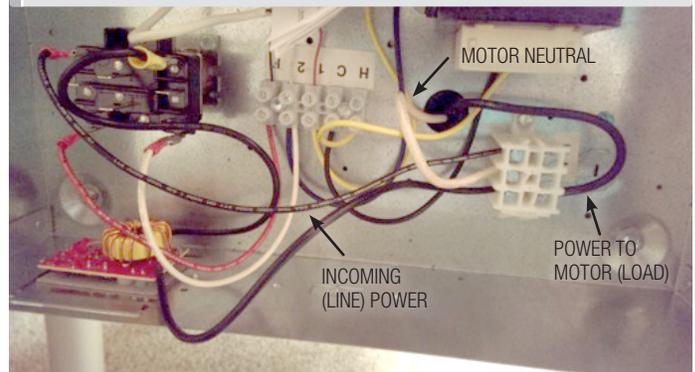
**NOTE:** For PSC motors, pass the wires through the side of the unit back into the control panel and reconnect the wires into the same location from which they were removed (Figure 3).

5. Attach the screw holding the wires to the side of the blower assembly.
6. Install the access panel.

FIGURE 1: POWER CABLE ▼



FIGURE 3: PSC MOTOR WIRING ▼



#### Coils:

1. Disconnect all incoming power before servicing unit.
2. To access coils for servicing, remove the coil access door (optional), or remove blower and motor assemblies.
3. The coil should be inspected periodically for accumulation of dust and dirt. Clean as necessary. Cleaning can be done by brushing the coils in the direction of the fins. Compressed air can also be used to blow out dust particles in the coil. Vacuum all dust particles so they cannot damage the blower and motor.

# FAN POWERED CONSTANT VOLUME TERMINALS

## MAINTENANCE

### Troubleshooting Guide

#### 1. The terminal is louder than expected. What might be causing this?

- a. The first thing to look for is any foreign material in the fan or terminal casing, like packing material or small parts shipped with the unit. Ensure the power is off, and spin the fan wheel to make sure it is balanced so it is not making contact with the fan housing.
- b. Once it's confirmed that the fan and terminal casing are free of foreign material and balanced, ensure the terminal is the correct size. Check the label for the model and size, and match that against the schedule to ensure the correct size was selected and installed. A terminal that is too small for the application will cause high air velocity and excessive noise.
- c. If an electric coil is present, ensure there is sufficient downstream static pressure of 0.2 inches water gauge to prevent any chatter of the air proving switch.

#### 2. The terminal is not providing the specified primary air volume. How do I adjust the primary air volume?

- a. First, the airflow may simply need to be balanced correctly to ensure the primary airflow isn't short circuiting into the plenum. See page 6 for air balancing procedures.
- b. Check the controller. Make sure it is set up according to the wiring diagram. There should be a wiring diagram mounted inside the door of the controls enclosure, or contact [airmovement@priceindustries.com](mailto:airmovement@priceindustries.com) for assistance.
- c. Next, ensure the following items are operating correctly:
  - i. Cycle the thermostat to see if a signal is being sent to the controller and the controller is reacting appropriately.
  - ii. Check the operation of the damper actuator and the linkage.
  - iii. Check the flow sensor and tubing for blockage.

#### 3. The fan air volume is too low. How do I adjust the fan air volume?

- a. Measure the downstream static pressure. It needs to be at least 0.1 in wg (0.2 in wg for a Size 60 FDC or if an electric coil is present). If the downstream static pressure is too low, the blower motor will overheat, turn off, and restart after it cools, and will continue in this cycle.
- b. Once the downstream static pressure is confirmed, check the supply voltage is the same as stated on the wiring diagram. The supply voltage must be identical to the wiring diagram.

- c. For ECM applications, the motor will be furnished with one of two programs:

- i. High Turndown flow program: This program will maintain constant motor torque to vary the airflow with fluctuations in static pressure.
- ii. Pressure Independent program: This program will maintain the desired airflow by varying the motor torque to compensate for changes in static pressure.

Check the product label to confirm which program was supplied with your motor, and determine if the program matches the behavior of the fan with respect to duct static pressure. If it is not operating as described for the appropriate program, contact [airmovement@priceindustries.com](mailto:airmovement@priceindustries.com) for assistance.

- d. Next, check the filter for excessive dust build-up, and then check the fan, any coils, and the inside of the terminal casing for particle blockage, or loose insulation. If needed, changed the filter and clear any blockages.
- e. Check the fan rotation to ensure it is spinning in the direction marked on the blower casing. If the fan is not energized for morning warm-up, for example, the warm primary air may short-circuit through the return opening to the plenum, inducing the fan to spin in the wrong direction. When the fan is energized, it will continue to spin in the wrong direction, which will sharply decrease fan flow.
- f. Finally, inspect the ductwork for leaks or obstructions, sharp elbows near the fan inlet, or improperly designed turning vanes. Any of these items can decrease the fan's efficiency.

#### 4. The fan will not operate. How do I get it to start?

- a. Check the wiring diagram provided with the terminal unit. Make sure that all the wiring inside the electrical enclosure matches the wiring diagram exactly.
- b. If the fan is cycling on and off, it may be insufficient downstream static pressure causing the motor to overheat and cycle. Ensure the downstream static pressure is a minimum of 0.1 in wg (0.2 in wg for a Size 60 FDC or if an electric heater is installed).
- c. Cycle the thermostat to full heating and verify the signal output from the thermostat to the controller.
- d. Check the disconnect switch or breaker.
- e. Ensure the fan wheel is not touching the blower casing.

# FAN POWERED CONSTANT VOLUME TERMINALS

## MAINTENANCE

### Replacement Parts

Component	Part#	Description
<b>PSC Fan Motors</b>	019 169-001	115V - 1/8 HP (FDC Size 10)
	019 169-004	115V - 1/4 HP (FDC Size 20)
	019 169-007	115V - 1/2 HP (FDC Size 30)
	019 169-010	115V - 3/4 HP (FDC Size 40 & 60)
	019 169-003	208-240V 1/8 HP (FDC Size 10)
	019 169-006	208-240V - 1/4 HP (FDC Size 20)
	019 169-009	208-240V - 1/2 HP (FDC Size 30)
	019 169-012	208-240V - 3/4 HP (FDC Size 40 & 60)
	019 592-001	208-240V - 1 HP (FDC Size 50)
	019 169-002	277V - 1/8 HP (FDC Size 10)
	019 169-005	277V - 1/4 HP (FDC Size 20)
	019 169-008	277V - 1/2 HP (FDC Size 30)
	019 169-011	277V - 3/4 HP (FDC Size 40 & 60)
	019 167-001	277V - 1 HP (FDC Size 50)
	<b>PSC Fan Speed Controllers</b>	233 563-100
233 563-400		15A / 115V (FDC Size 40, 50, 70)
233 563-200		8A / 208/240/277V (FDC Size 20-70)
233 563-500		10A / 240/277V (FDC Size 60)
<b>EON Fan Motors</b>	019179-002	120/208/240/277V - 1/3 HP (FDC Size 10)
	019218-001	120/240/277V - 1/3 HP (FDC Size 20)
	019221-001	120/240/277V - 1/2 HP (FDC Size 30)
	019179-004	120/240/277V - 1 HP (FDC Size 50)
	019223-001	120/240/277V - 3/4 HP (FDC Size 40, 60)
	019179-006	120/240/277V - 1/3 HP (FDCLP2 Size 10)
	019179-007	120/240/277V - 1/2 HP (FDCLP2 Size 30 & 40)
019179-005	120/240/277V - 1/3 HP (FDCLP2 Size 20 & 50)	
<b>ECM Speed Controller</b>	232 953-100	ECM Standard Fan Speed Controller, all sizes
<b>Capacitors</b>	019 874-001	5 mfd
	019 874-006	7.5 mfd
	019 874-002	10 mfd
	019 874-003	15 mfd
	019 874-007	20 mfd
<b>Blowers</b>	100 186-010	FDC Size 10
	100 092-004	FDC Size 20, 30, 40, 60
	100 186-005	FDC Size 50
	100 186-009	FDCLP2 Size 10
	100 185-009	FDCLP2 Size 20
	100 092-002	FDCLP2 Size 40
	100185-009	FDCLP2 Size 30 & 50
<b>Actuators</b>	For actuators information please reference PIC & PAC manual	
<b>Thermostats</b>	For thermostat information please reference PIC & PAC manual	

# FAN POWERED CONSTANT VOLUME TERMINALS

## MAINTENANCE

### Replacement Parts

Component		Part#	Description
Transformers		019 436-001	115/24V - 50VA Transformer
		019 436-011	208, 240/24V - 50VA Transformer
		019436-010	277/24V - 50VA Transformer
<b>1" MERV 3 Filters</b>			
<b>Height</b>	<b>Width</b>		
15.250	10.000	042297-074	FDC size 10 (with & without IAS)
17.875	15.875	042297-030	FDC size 20, 30, 40 (no IAS) and FDC size 20, 30, 60 (with IAS, 2x required)
17.875	17.875	042297-031	FDC size 40 (with IAS)
19.875	17.875	042297-009	FDC size 50 (with & without IAS)
19.875	15.750	042297-015	FDC size 60 (no IAS) (2x required)
8.500	16.000	042297-062	FDCLP2 Size 10 1" MERV3
11.000	16.000	042297-072	FDCLP2 Size 20 1" MERV3
11.000	16.000	042297-072	FDCLP2 Size 30 1" MERV3
11.000	26.000	042297-066	FDCLP2 Size 50 1" MERV3
7.500	21.750	042297-067	FDCLP2 Size 10 DOAS 1" MERV3 (2x required)
10.000	18.250	042297-068	FDCLP2 Size 20 DOAS 1" MERV3 (2x required)
10.000	18.250	042297-068	FDCLP2 Size 30 DOAS 1" MERV3 (2x required)
15.000	20.750	042297-070	FDCLP2 Size 40 DOAS 1" MERV3 (2x required)
11.000	26.000	042297-066	FDCLP2 Size 50 DOAS 1" MERV3 (2x required)
<b>2" MERV 8 Filters</b>			
<b>Height</b>	<b>Width</b>		
7.500	21.750	042313-038	FDCLP2 Size 10 DOAS 2" MERV8 (2x required)
10.000	18.250	042313-039	FDCLP2 Size 20 DOAS 2" MERV8 (2x required)
10.000	18.250	042313-039	FDCLP2 Size 30 DOAS 2" MERV8 (2x required)
15.000	20.750	042313-041	FDCLP2 Size 40 DOAS 2" MERV8 (2x required)
10.000	26.000	042313-042	FDCLP2 Size 50 DOAS 2" MERV8 (2x required)
<b>2" MERV 13 Filters</b>			
<b>Height</b>	<b>Width</b>		
7.500	21.750	042314-035	FDCLP2 Size 10 DOAS 2" MERV13 (2x required)
10.000	18.250	042314-036	FDCLP2 Size 20 DOAS 2" MERV13 (2x required)
10.000	18.250	042314-036	FDCLP2 Size 30 DOAS 2" MERV13 (2x required)
15.000	20.750	042314-038	FDCLP2 Size 40 DOAS 2" MERV13 (2x required)
10.000	26.000	042314-039	FDCLP2 Size 50 DOAS 2" MERV13 (2x required)

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