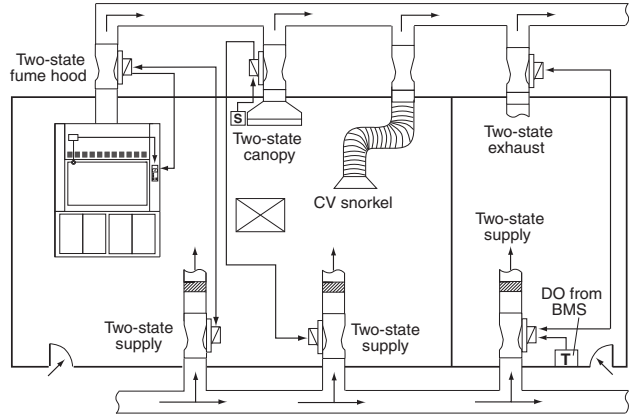


APPLICATIONS

Airflow Volume Control

Constant volume (CV)—Constant volume controllers (C) are typically used for snorkels, biosafety cabinets, CV fume hoods, ventilated cabinets and outside air regulation.

Two-position—Pneumatic controllers (P) are typically used for canopy hoods and two-position fume hoods. Base upgradable controllers (B) can be substituted when flow feedback is required or upgradability to VAV is desired.



Construction

- 16 ga. spun aluminum valve body with continuous welded seam
- Valve bodies available as uncoated aluminum or with corrosion-resistant baked phenolic coatings
- Composite Teflon® shaft bearings
- Spring grade stainless steel spring and polyester or PPS slider assembly
- Supply valves insulated with 3/8" (9.5 mm) flexible closed-cell polyethylene. Flame/smoke rating 25/50. Density is 2.0 lb/ft³ (32.0 kg/m³)

Operating Range

- 32-122 °F (0-50 °C) ambient
- 10-90% non-condensing RH

Sound

Designed for low sound power levels to meet or exceed ASHRAE noise guidelines.

Performance

- Pressure independent over a 0.3"-3.0" WC (75-750 Pa) across valve
- Pressure independent airflow accuracy to ± 5%
- No additional straight duct runs needed before or after valve
- Available in flows from 35-5600 CFM (9514 m³/hr)
- Response time to change in duct static pressure: <1 second

Pneumatic Actuation*

- Only applicable to PEV, PSV and BEV/BSV
- 20 psi (-0/+2 psi) with a 20 micron filter main air required
- Compressor sizing: Accel II Valves are not continuous air-consuming devices. For compressor sizing, use:
 - single and dual valves: 10 scim
 - triple and quad valves: 20 scim

Flow Feedback Card

Mounting

The flow feedback card is factory installed in a PPC flame retardant black box enclosure.

Enclosure

Dimensions: 6 x 3.2 x 1.9 inches
Color: Black

Power

±15 Vdc, ± 15%, 35 mA
Or
24 Vac, ± 15%, 50/60 Hz, 1.5 VA

FEATURES

FEATURE/OPTION	Constant Volume (CV)	Two-position (PEV/PSV)	Upgradable (BEV/BSV)
Control type	C Constant Volume	Pneumatic	B Base Upgradable
Actuator type	—	Pneumatic	Pneumatic or CV
Flow feedback signal	—	—	Option*
Failsafe	Fixed	NO/NC	NO/NC
Factory-insulated valve body (supply)	Option	✓	✓
Field-adjustable flow	✓	✓	✓
Flow alarm via feedback circuit	—	—	—
Flow alarm via pressure switch	Option	Option	Option
Low noise diffuser construction†			
Single 14-inch valve		Single Valve without flow feedback only	Single Valve without flow feedback only
Dual 14-inch valve		Not available	Not available

All valves include pressure-independent controller, factory-calibrated position controller.

†Accel II valves are designed to reduce sound over all frequencies, but significantly target the lower bands (125-500 Hz) to help eliminate the need for silencers.

* Not available with the 14-inch valve at this time.

Teflon is a registered trademark of DuPont Co.



ORDERING GUIDE

BSV A 1 1 0 L - A B F H C - P - - - - -

VALVE FAMILY
(see note 1)

- CVV = Constant volume valve
- PEV = Pneumatic exhaust valve
- PSV = Pneumatic supply valve
- BEV = Basic electronic exhaust valve
- BSV = Base electronic supply valve

VALVE CONSTRUCTION

- A = Body and cone—uncoated aluminum; Shaft—uncoated 316 stainless steel
- B = Body and cone with baked phenolic coating, Teflon coated stainless steel shaft (for standard fume hood applications)
- C = Body, cone and hardware with baked phenolic coating, PFA coated stainless steel shaft (for highly corrosive fume hood applications)
- S = Special coating and/or components

NUMBER OF VALVE BODIES

- F = One valve body with welded circular flange (single flanged)
- 1 = One valve body (single, no flange)
- 2 = Two valve bodies (dual)
- 3 = Three valve bodies (triple)
- 4 = Four valve bodies (quad)

VALVE SIZE

- 08 = 8" valve (7.88"/200 mm actual diameter)
- 10 = 10" valve (9.88"/251 mm actual diameter)
- 12 = 12" valve (11.88"/302 mm actual diameter)
- 14 = 14" valve (13.88"/352 mm actual diameter)

FLOW/PRESSURE OPERATING RANGE

Designation	Size	Operating Range in CFM (m3/hr)		Pressure Drop Across Valve
		Single	Dual	
L = Low pressure	08"	35-500 (60-845)	—	0.3-3.0" WC (75-750 Pa)
	10"	50-550 (85-930)	100-1100 (170-1860)	
	12"	90-1050 (155-1780)	180-2100 (310-3560)	
	14"	200-1400 (340-2375)	400-2800 (680-4750)	

FAIL-SAFE POSITION

- Exhaust Valves**
- O = Normally open exhaust valve
 - E = Normally closed exhaust valve
 - X = Fixed flow exhaust valve

Supply Valves

- C = Normally closed supply valve
- S = Normally open supply valve
- F = Fixed flow supply valve

VALVE ORIENTATION

- H = Horizontal
- U = Vertical upflow
- D = Vertical downflow

VALVE CONTROLLER DESIGNATION

- N = No electronics
- F = Flow feedback (BEV, BSV only)
- G = Two-state controller, flow feedback and high wattage 24 Vdc solenoid valve
- T = Two-state controller and high wattage 24 Vdc solenoid valve

CONTROL TYPE

- C = Constant volume
- P = Pneumatic
- B = Base upgradable/pneumatic
- F = Fixed, field adjustable (BEV, BSV only)

VALVE DESIGN

- A = Conical shape diffuser (Accel II)

VALVE OPTIONS

(As required; list alphabetically, then numerically)

- B = Two single square flanges mounted on both ends of single body valves
- F = One single square flange mounted on inlet of single body exhaust valves or discharge of single body supply valves
- H = High wattage 24 Vdc solenoid valve, controlled by FHM530 monitor (BxV/PxV/"S" analog only)
- I = High wattage 24 Vac solenoid valve, controlled by non-Phoenix device (BxV/PxV/"S" analog only)
- L = Low wattage 24 Vdc solenoid valve (BxV/PxV only)
- P = Pressure switch (see note 2)
- O = Power supply, valve-mounted, 120 V (see note 3)
- T = Power supply, valve-mounted, 230 V (see note 3)
- 01-99 = Denotes factory-assigned special

NOTES:

1. Accel II upgrades (AUG) are available to convert a BEV/BSV into a fully electronic, analog or digital valve.
2. Pressure switch set point = 0.2" wc (50 Pa).
3. Valve-mounted power supplies not available with CVV valves.

VALVE CONTROLLERS AND DESIGNATIONS

Valve Controller Designation

Flow feedback (F)—Includes a circuit board installed on a Base series control valve to provide a 0-10 Vdc feedback signal scaled to indicate airflow. (NOTE: This option is not available for the 14-inch valve at this time.)

Valve Options (components added to enhance a valve's functions)

Single square flange (F)—Provides a single connection from a round single body valve to a square duct. On the inlet of single body exhaust valves; discharge of single body supply valves. Typically used in Neutralizer™ applications.

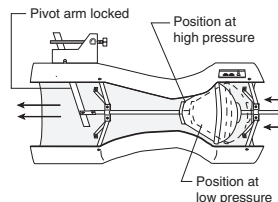
Solenoid valves (H, I, L)

Pressure switch (P)—Detects low static pressure across the valve. Installed on non-hood exhaust valves to provide low static pressure alarm monitoring.

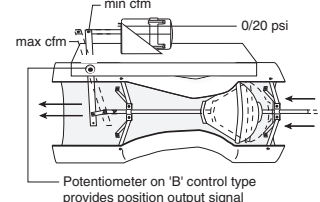
Power supply (O, T)

+15 Vdc, -15 Vdc power to Phoenix Controls base upgradable valves with flow feedback.

Constant Volume Accel II Valve
C—constant volume type

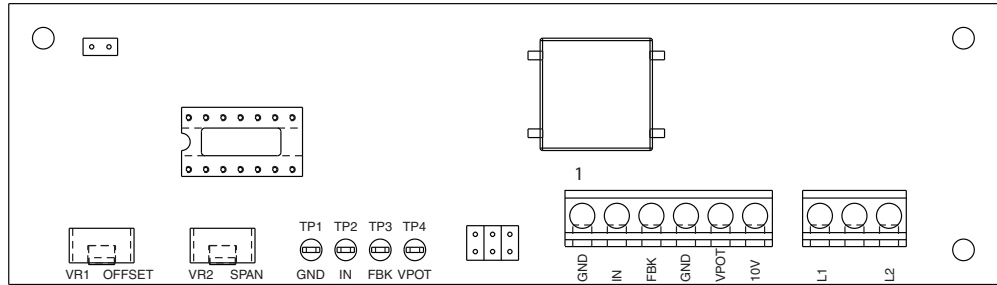


Two-position Accel II Valve
P—pneumatic type or B—base upgradable type



POINTS AND WIRING (See submittal wiring diagram for project-specific details.)

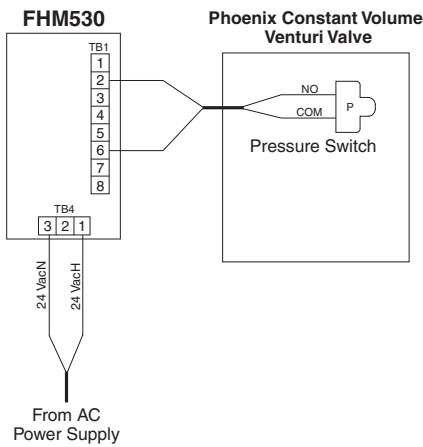
Flow Feedback Option



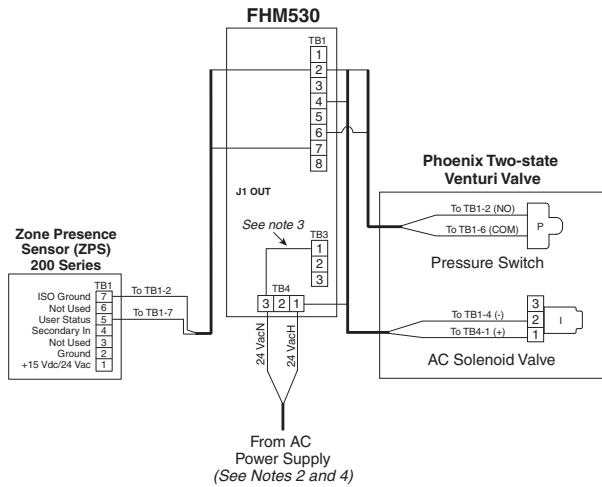
Typical Wiring Diagrams

(see Note 1.)

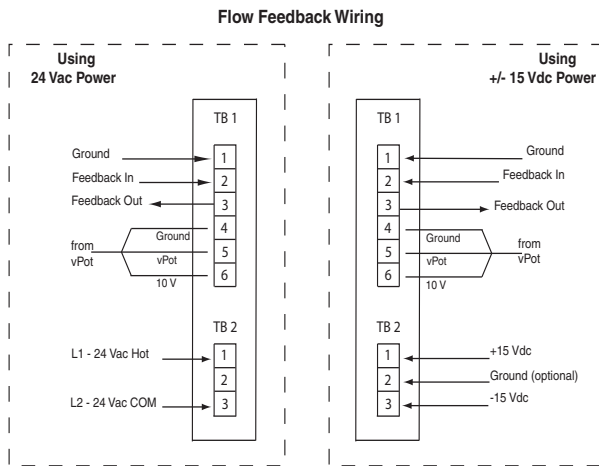
Hood Applications: Constant Volume



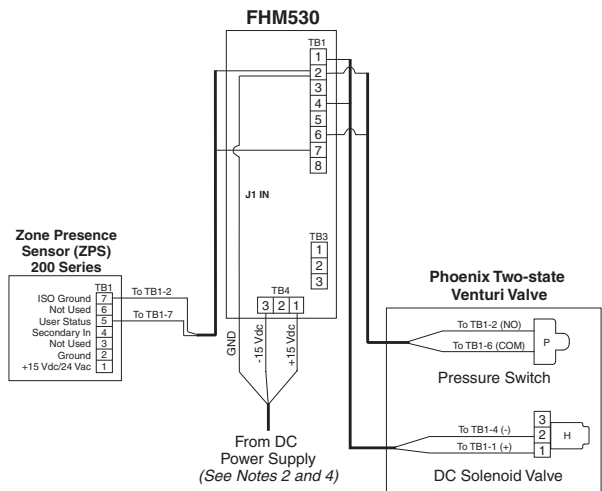
Hood Applications: Two-State with AC Solenoid



Flow Feedback Wiring (24 Vac and +/-15 Vdc)



Hood Applications: Two-State with DC Solenoid



Notes:

1. Eight-conductor wire is Belden 9421 or equivalent.
2. Fume hood monitor enclosure must be earth grounded via the mounting hole ground straps.
3. For AC-powered solenoid, two-position applications, you must install a field jumper between TB3-1 and TB4-3 (not required for DC-powered solenoids).
4. AC solenoids require the fume hood monitor to have AC power. DC solenoids require the fume hood monitor to have DC power.