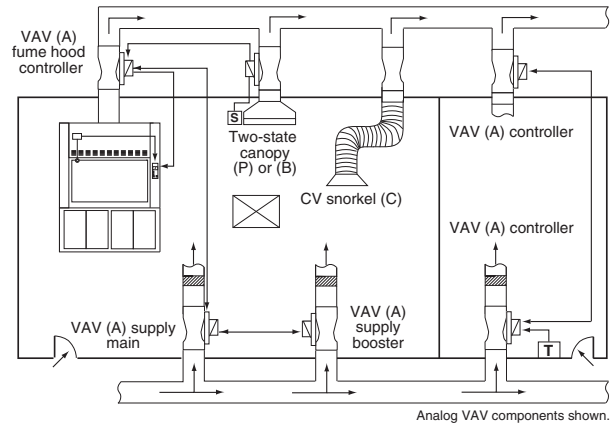


APPLICATIONS

Airflow Volume Control

Variable air volume (VAV)—Analog and digital VAV valve controllers are available. Both types are commonly used for laboratory airflow control of fume hoods, general exhaust and room supply air.

Analog (A) valves are more typically used for standalone and point-to-point BMS integrated systems, using analog circuitry with 0-10 Vdc input and output signals. Associated analog valves are used as booster valves, receiving a command signal from an analog main valve.



SPECIFICATIONS

Construction

- 16 ga. spun aluminum valve body with continuous welded seam
- Valve bodies available as uncoated aluminum or with corrosion-resistant baked phenolic coatings or with PVDF (Polyvinylidene fluoride)
- 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) drop across valve
- Volume control accurate to ±5%, 5cfm of airflow command signal
- 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 command signal: <1 second
- Response time to change in duct static pressure: <1 second

VAV Controller

Analog:

- ±15 Vdc, ±5% @ 0.145 amp (pneumatic only)
- 0-10 Vdc command signal
- 0-10 Vdc flow feedback signal
- 0-10 Vdc alarm signal

Actuation

Pneumatic:

- 20 psi (-0/+2 psi) with a 20 micron filter main air required (except for CVV)
- Compressor sizing:*
Accel II Valves are not continuous air-consuming devices, yet for compressor sizing, use:

- single and dual valves: 10 scim
- triple and quad valves: 20 scim

Electric (analog only):

- 24 Vac (±15%) @ 60 Hz
- single and dual valves: 96 VA
- triple and quad valves: 192 VA

Teflon is a registered trademark of DuPont Co.

FEATURES

FEATURE/OPTION	VAV (EXV/MAV) Pneumatic	VAV (EXV/MAV) Electric
Control type	A	E
Flow feedback signal	✓	✓
14-inch valve*	—	—
Failsafe	NO/NC	NO/NC or Last Posit.
Factory-insulated valve body (supply)	✓	✓
Field-adjustable flow	✓	✓
Flow alarm via feedback circuit	✓	✓
Flow alarm via pressure switch	Option	Option
Low noise diffuser construction†	✓	✓

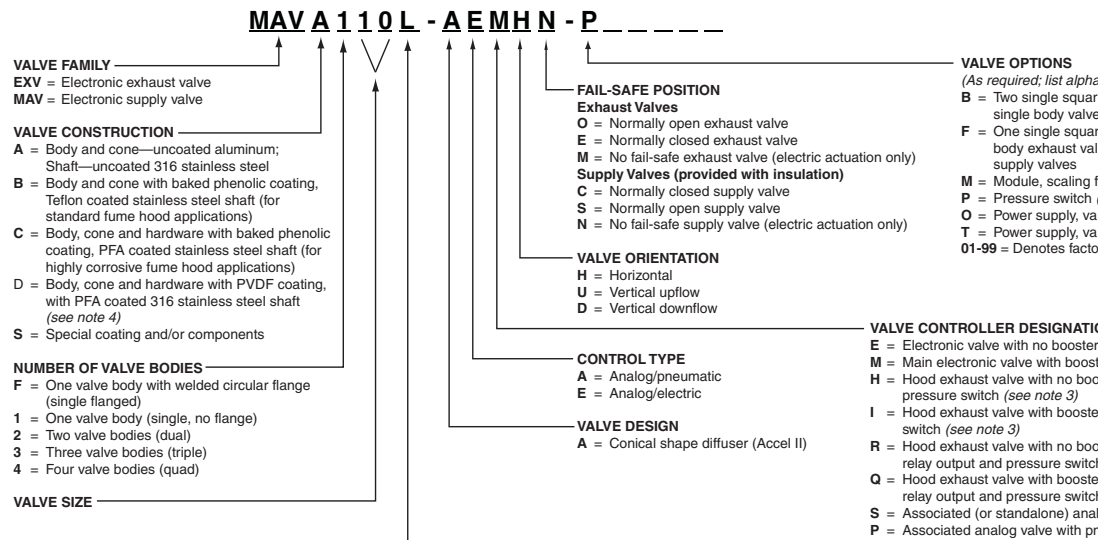
All valves include pressure independent controller, factory-calibrated position controller, and are available in flows from 35-5600 cfm (60-9514 m³/hr).

†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 offered in the 14-inch valve at this time.



ORDERING GUIDE



NOTES:

1. Pressure switch set point = 0.2" WC (50 Pa).
2. All hood exhaust booster valves must have P type controllers and pressure switches.
3. Electrically actuated hood valves require valve controller designation R or Q. Do not use H or I designators.
4. Class D valves are only available in single body valves (F or 1) without square flanges and only offered in sizes 8, 10 and 12-inch valve bodies.

VALVE CONTROLLERS AND OPTIONS

Valve Controller Designations

Hood exhaust (H or I)—Includes an interface board and pressure switch for tri-state alarming and connection to fume hood monitor.

Hood exhaust with relay (R or Q)—Same as analog H or I, but also includes an alarm relay output.

Associated analog valve (S or P)—Depopulated versions of the analog valve controller.

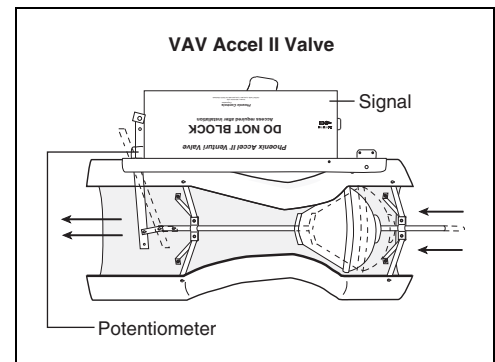
Valve Options (*components added to enhance a valve's functions*)

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

Scaling function module (M)—Electronic board installed on an analog E or M valve controller to adjust input signal for offset control, inverse operation or scaling.

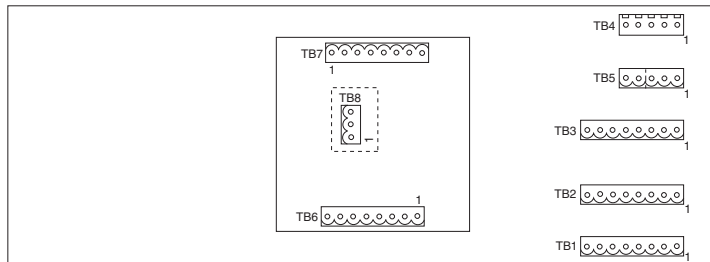
Pressure switch (P)—Detects low static pressure across the valve. Installed on non-hood exhaust valves to provide low static pressure alarm monitoring.

Power supply (O, T)—Valve-mounted power supply provides +15 Vdc, -15 Vdc power to Phoenix Controls system.



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

Analog Pneumatic Controller

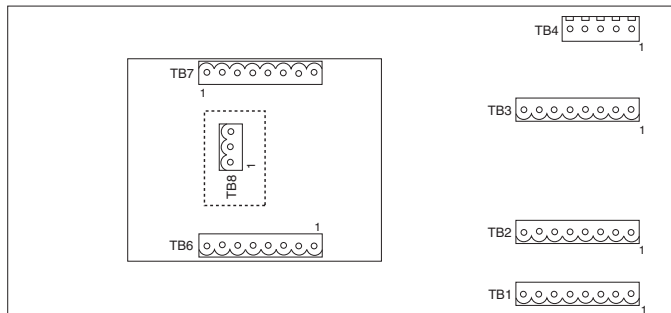


Legend: Dashed line around TBB denotes HR option.

TERMINAL BLOCK—ANALOG PNEUMATIC VALVE CONTROLLERS

Terminal Block	Typical Function	No. of Terminations
TB1*	Input from command device	8
TB2*	Output	8
TB2S*	Booster valve output	8
TB3	Prior booster valve input	8
TB4	Pot and pressure switch	5
TB5	Power input	3**
TB6*	Input from monitor (H/I card)	8
TB7*	Hood valve output (H/I card)	8

Analog Electric Controller



Legend: Dashed line around TBB denotes HR option.

TERMINAL BLOCK—ANALOG ELECTRIC VALVE CONTROLLERS

Terminal Block	Typical Function	No. of Terminations
TB1*	Input from command device	6
TB2*	Output	6
TB2S*	Booster valve output	6
TB3	Prior booster valve input	6
TB4	Pot and pressure switch	5
TB5	Power input and test	3**
TB6*	Input from monitor (H/I card)	8
TB7*	Hood valve output (H/I card)	8
TB8*	Relay output	3
J1	Power input (see note 3)	2

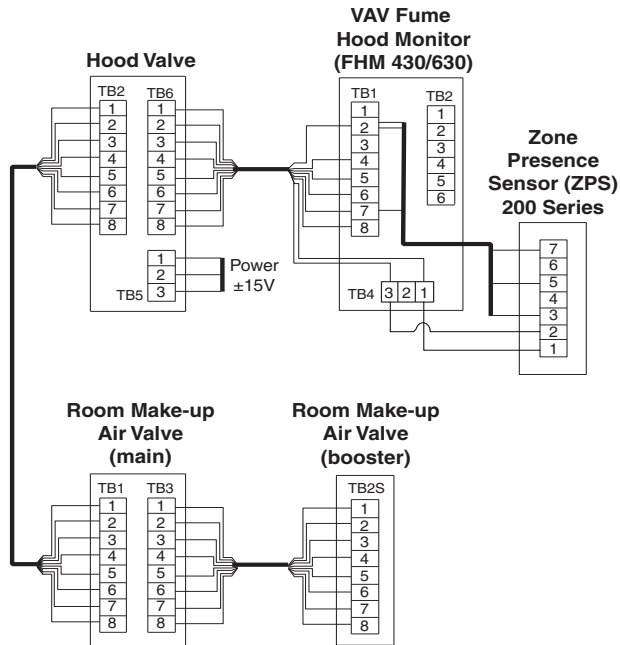
NOTES:

1. Cable is 22 ga. Eight-conductor is Belden 9421 or equivalent.
2. Each termination block (except TB4) uses a depluggable connector with screw-down terminations for ease of installation.
3. Electric actuation power wiring must be 14 AWG, connected in a star configuration.

*These terminal blocks are application specific and are provided only when required.
 **For electric actuation, S and P type valve controllers, TB5 is a 5 pin.

Typical Wiring Diagrams

ANALOG PNEUMATIC VALVES



ANALOG ELECTRIC VALVES

