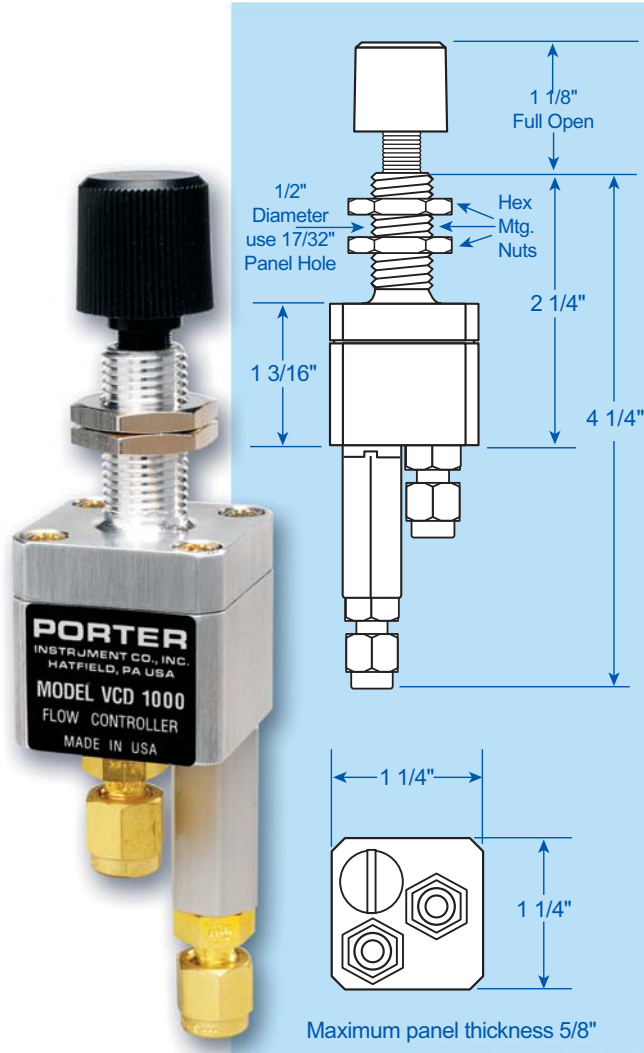


Variable Constant Differential Flow Controllers

The Porter Model VCD 1000 Flow Controller is precision-engineered to control low gas flows at constant mass flow rates regardless of changes in downstream pressure. The VCD 1000 maintains a preset pressure differential across a laminar flow element. Turning the fine-pitched adjusting stem varies the force on an internal diaphragm, which alters the differential pressure across the laminar flow element, thereby changing the flow rate. This design yields extremely linear flow output in relation to stem rotation and virtually eliminates the sawtoothing associated with valve-based controllers. The laminar flow elements are available in full scale flow rates from 5 sccm up to 1500 sccm (He @ 70°F and 50 PSIG).



Ordering Information

Model Number and Description

Example:



Basic Model

Body Material

A - Aluminum

S - Stainless Steel

O-Ring Material

B - Buna N

V - Viton

Diaphragm Material

F - Fairprene BN-5029

S - 316 Stainless Steel

Flow Element Size Number

5, 8, 10, 15, 25, 35, 45, 60, 95, 110

144, 180, 400, 465, 750, 1000, 1500

To order, specify:

- Model Number
- Flow Rate
- Gas Type
- Operating Pressure (inlet)
- Operating Temperature
- Body Material
- O-Ring Material
- Diaphragm Material

Delrin® - DuPont de Nemours & Co.
Fairprene® - Fairprene, Inc.

Design Features & Advantages

- Delrin® adjusting stem with 56 pitch threads.
- Turns vs. flow relationship is linear.
- Bubble-tight shut-off
- Full scale flow rates from 5 SCCM up to 1500 SCCM (He @ 70°F and 50 PSIG)
- Replaceable inlet filter included.
- Standard panel mount configuration.

Specifications

Capacities - see chart on next page.

Ratings - Maximum operating pressure: 250 psig; Maximum operating temperature: 160°F; Pressure Drop required: 15 psi minimum.

Performance - Control Accuracy: 0.3% of instantaneous flow rate. Adjustability: 0-100% of flow over 14 turns.

Connections - 1/8" compression fitting (brass) with aluminum body; 1/8" compression fitting (stainless steel) with SS body.

Dimensions - Refer to diagram

Materials of Construction

Controller Body- Aluminum or stainless steel.

Controller Diaphragm- Fairprene® BN-5029 or stainless steel.

Orifice- Brass with aluminum body; 316 stainless steel with stainless steel body.

O-Rings- Buna N or Viton.

Filter- Aluminum with aluminum body; stainless steel with stainless steel body.

Variable Constant Differential Flow Controllers

VCD 1000 Capacities

Maximum Flow Range*	Flow Element Size Number	Color Code on Flow Element**	Maximum Flow Range*	Flow Element Size Number	Color Code on Flow Element**
5 cc/min	5	Gold Anodize w/ Red Dot	110 cc/min	110	Green Anodize
8 cc/min	8	Blue Anodize w/ Red Dot	144 cc/min	144	Silver Anodize w/ Red Dot
10 cc/min	10	Blue Anodize	180 cc/min	180	Silver Anodize
15 cc/min	15	Silver Anodize w/ Blue Dot	535 cc/min	400	Black Anodize
25 cc/min	25	Red Anodize w/ Silver Dot	465 cc/min	465	Black Anodize w/ Silver Dot
35 cc/min	35	Black Anodize w/ White Dot	750 cc/min	750	Silver Anodize w/ Green Dot
45 cc/min	45	Blue Anodize w/ Green Dot	1060 cc/min	1000	Black Anodize w/ Red Dot
60 cc/min	60	Red Anodize	1600 cc/min	1500	Black Anodize w/ Green Dot
95 cc/min	95	Gold Anodize			

* Flow ranges stated are based on helium gas at 50 psig supply pressure.

** Color-coded flow element packages appear on aluminum units only. Stainless steel flow controllers have flow element size etched on the flow element holder.