

Model VCD 1000

Variable Constant Differential Flow Controller

Customer Value Proposition:

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).



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Product Features:

- 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



ENGINEERING YOUR SUCCESS.

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 on next page

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

VCD 1000 Capacities

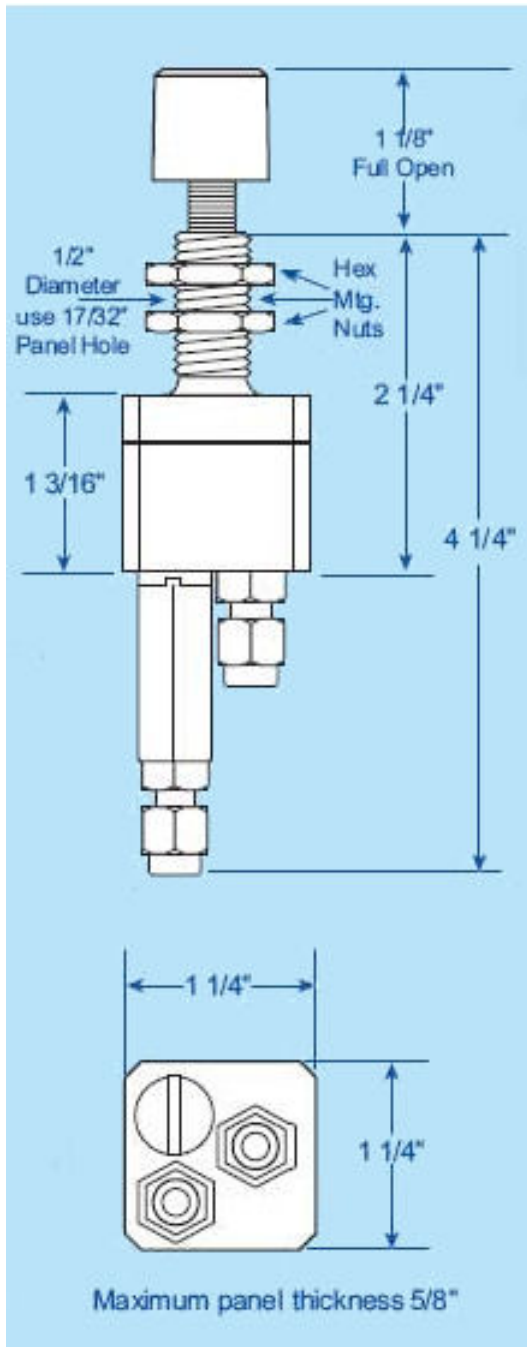
Maximum Flow Range	Flow Element Size Number	Color Code on Flow Element
5 cc/min	5	Gold Anodize w/ Red Dot
10 cc/min	10	Blue Anodize
15 cc/min	15	Silver Anodize w/ Blue Dot
25 cc/min	25	Red Anodize w/ Silver Dot
35 cc/min	35	Black Anodize w/ White Dot
45 cc/min	45	Blue Anodize w/ Green Dot
60 cc/min	60	Red Anodize
95 cc/min	95	Gold Anodize

Maximum Flow Range	Flow Element Size Number	Color Code on Flow Element
110 cc/min	110	Green Anodize
144 cc/min	144	Silver Anodize w/ Red Dot
180 cc/min	180	Silver Anodize
535 cc/min	400	Black Anodize
465 cc/min	465	Black Anodize w/ Silver Dot
750 cc/min	750	Silver Anodize w/ Green Dot
1060 cc/min	1000	Black Anodize w/ Red Dot
1600	1500	Black Anodize w/ Green Dot

* 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.

Dimensions



Ordering Information

Ordering Information

Model Number and Description

VCD Flow

Controller Example:

VCD A B F 8

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.

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