PORTER

3200 SERIES MASS FLOWMETERS & MASS FLOW CONTROLLERS

- ANSI/ISA-76.00.02-Compliant (Models 3261 and 3271)
- CSA-Certified For Class I, Division 2, Groups A, B, C and D Hazardous Locations
- 2-Position Surface-Mount (Models 3261 and 3271)
- 15 to 24 Vdc Power

The Porter Models 3261 mass flow controller (MFC) and 3271 mass flowmeter (MFM) are designed to be an integral component in surface-mount fluid distribution systems utilized in process analyzer and sample handling applications. Specifically configured to ANSI/ISA-76.00.02 specifications for surface-mount components, Models 3261 and 3271 can be installed on two (2) spaces of an SP-76 compliant manifold without the use of process connections. Models 3201 MFC and 3211 MFM include compression fitting or metal gasket face seal process connections for inline installation. All models are CSA-certified for Class I, Division 2, Groups A, B, C and D hazardous locations and provide the accuracy, repeatability and response necessary for demanding process applications.

Specifications

Flow Capacity: Maximum flows from 5 SCCM to 10 SLPM (based on nitrogen [N_2])

Response Time (per SEMI E17-0600 Settling Time): 1-2 seconds

Accuracy and Linearity: ±1% full scale

Repeatability: Within ±0.2% full scale at any constant temperature within operating temperature range

Rangeability (Control Range):
50:1 (2%-100% full scale) (accuracy and control)

Ambient & Operating Temperature Range:
-10 to 70°C (+14 to 158°F)

Maximum Operating Pressure: 1000 PSIG

Temperature Coefficient (per SEMI E18-91 Zero Effect and Span Effect):
±0.05% full scale/°C of zero
±0.05% of reading/°C of span

Pressure Coefficient (per SEMI E28-92 Total Calibration Effect): ±0.1%/atmosphere typical using N_2

Setpoint Input/Flow Signal Output:
4-20 mAdc/4-20 mAdc (sourcing) (200-750 ohm load resistance for 15-30 Vdc loop supply voltage)

Power Supply Requirements (Current Consumption <45 mAdc for Models 3211 and 3271 and <250mAdc for Models 3201 & 3261):
+15 (±5%) to +24 (±15%) Vdc

Mounting Orientation: Attitude insensitive

Warm-up Time: 10 Minutes

External Electrical Connection: Ten (10)-foot, 22 AWG, 8-conductor power-limited tray cable (provides high level of RF shielding) with stripped and tinned ends

Inlet/Outlet Process Connections: Manifold-mount configuration (Models 3261 and 3271) or compression or metal gasket face seal (Models 3201 & 3211) (refer to dimensional data for details)

Weight (Approximate): 2.2 lbs.

Materials of Construction

Body: 316 Stainless Steel
Sensor Assembly: 316L Stainless Steel
Orifice: 316 Stainless Steel
Valve Components (Wetted): 302 Stainless Steel, 316 Stainless Steel, 430F Stainless Steel and Sandvik® 1802
Elastomers (O-rings and Valve Seat) (valve seat supplied on Models 3201 & 3261 only): Buna N, EPDM, Kalrez®, Neoprene or Viton®
Process Connections (Models 3201 and 3211 only): 316 Stainless Steel

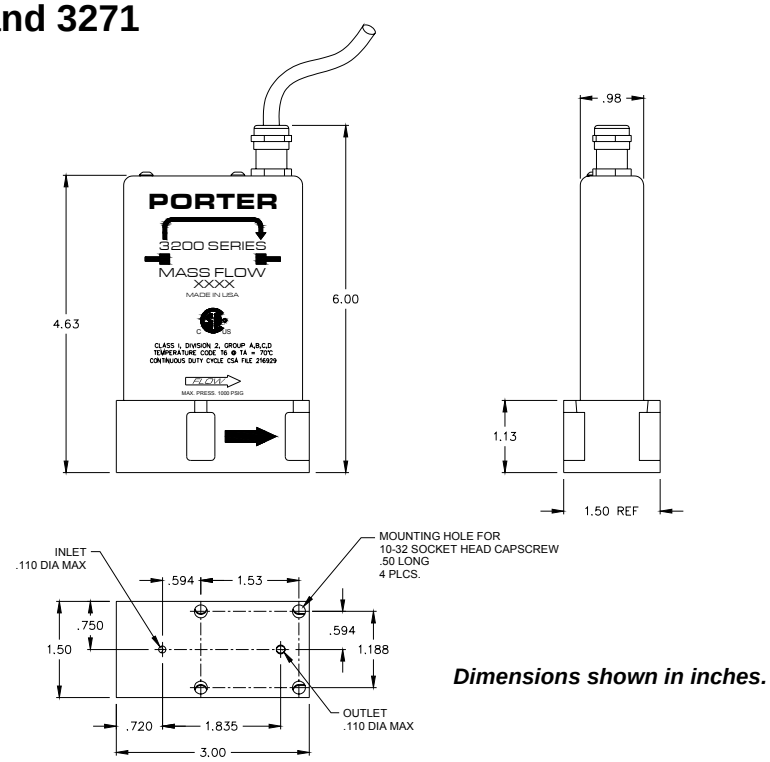
Sandvik® – AB Sandvik Materials Technology
Kalrez®, Viton® - DuPont Dow Elastomers L.L.C.

External Wiring Diagram

Cable Assembly Wire Designation & Color	Function
1 - ONE (Black)	Flow Signal
1 - ONE (Red)	ABZ Disable
2 - TWO (Black)	Power In
2 - TWO (Red)	Setpoint
3 - THREE (Black)	Power Common / 0 Vdc
3 - THREE (Red)	Signal Common
4 - FOUR (Black)	Not used
4 - FOUR (Red)	Valve Voltage Monitor
Cable Shield	Ground

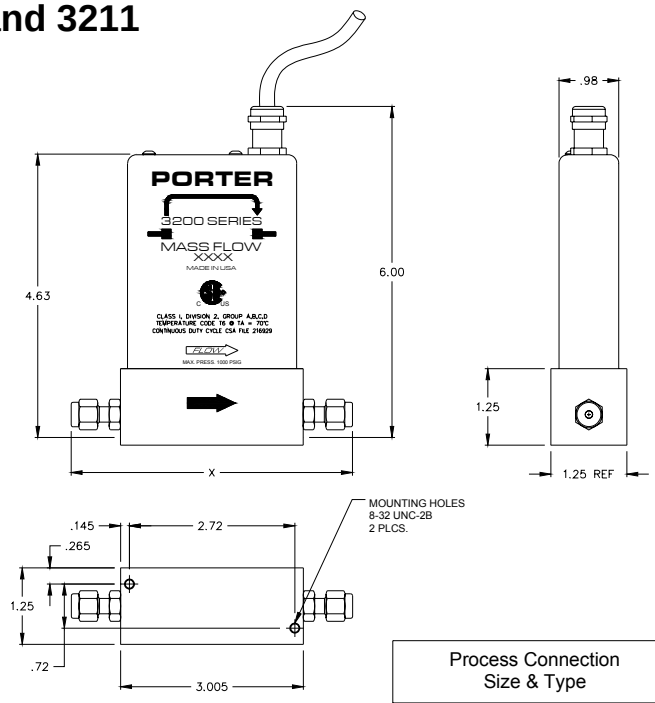
Dimensional Data

Models 3261 and 3271



Dimensions shown in inches.

Models 3201 and 3211

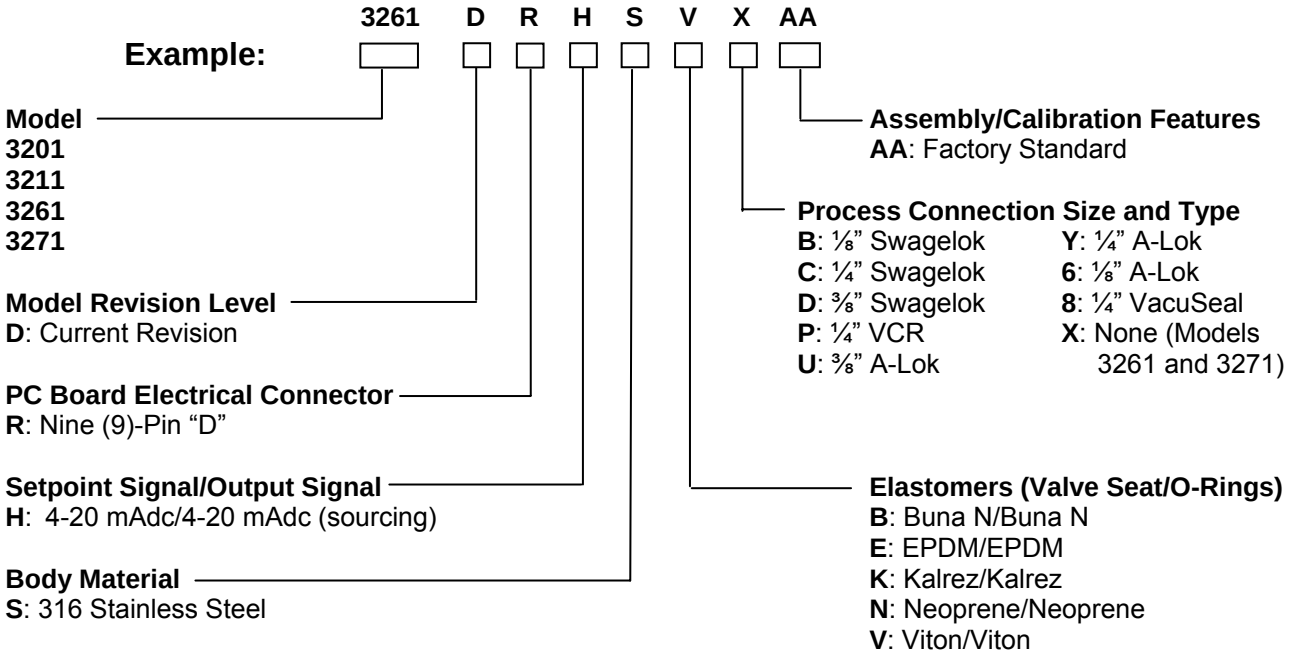


Dimensions shown in inches.

Process Connection Size & Type	'X' Dimension
1/8": A-Lok®, 1/8" Swagelok®	4.845
1/4" A-Lok, 1/4" Swagelok	5.025
3/8" A-Lok, 3/8" Swagelok	5.145
1/4" VacuSeal®, 1/4" VCR®	4.885

Swagelok®, VCR® - Swagelok Co.
CPI®, A-Lok® - Parker Hannifin Corp.

Model Number and Description



For model number options not shown above, please consult factory

Ordering Information

To order, please specify:

- Model number
- Flow capacity
- Inlet (supply) pressure
- Elastomer material
- Gas type
- Outlet pressure
- Process connection size and type
- Operating temperature
- Calibration standard (i.e. 0°C, 20°C, 21.1°C or 25°C)

Parker Hannifin Corporation
Porter Instrument Division
245 Township Line Rd.
P.O. Box 907
Hatfield, PA 19440-0907 USA
(215) 723-4000 / fax (215) 723-2199