

# 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<sub>2</sub>])

**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<sub>2</sub>

**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

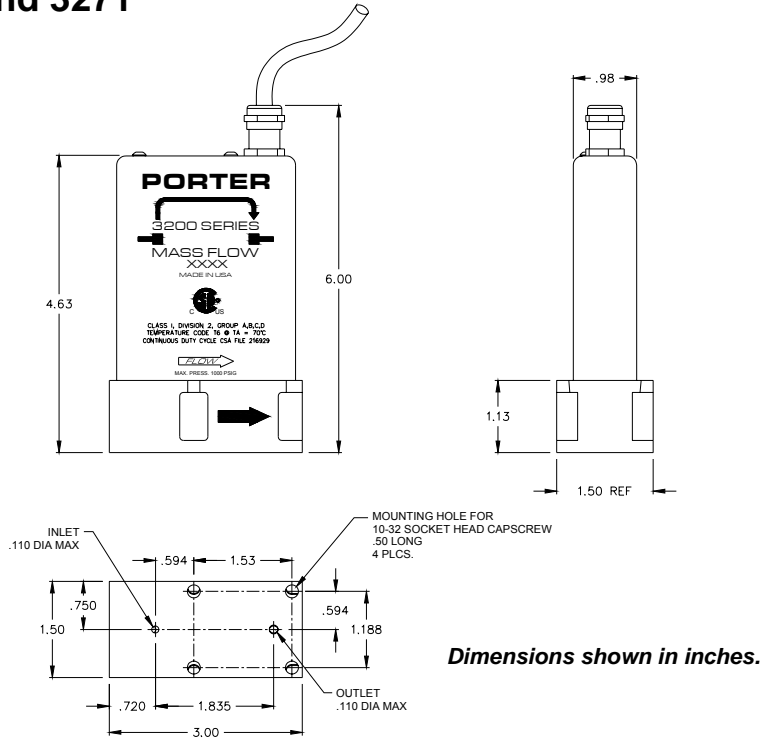
*Sandvik® – AB Sandvik Materials Technology  
Kalrez®, Viton® - DuPont Dow Elastomers L.L.C.*

## External Wiring Diagram

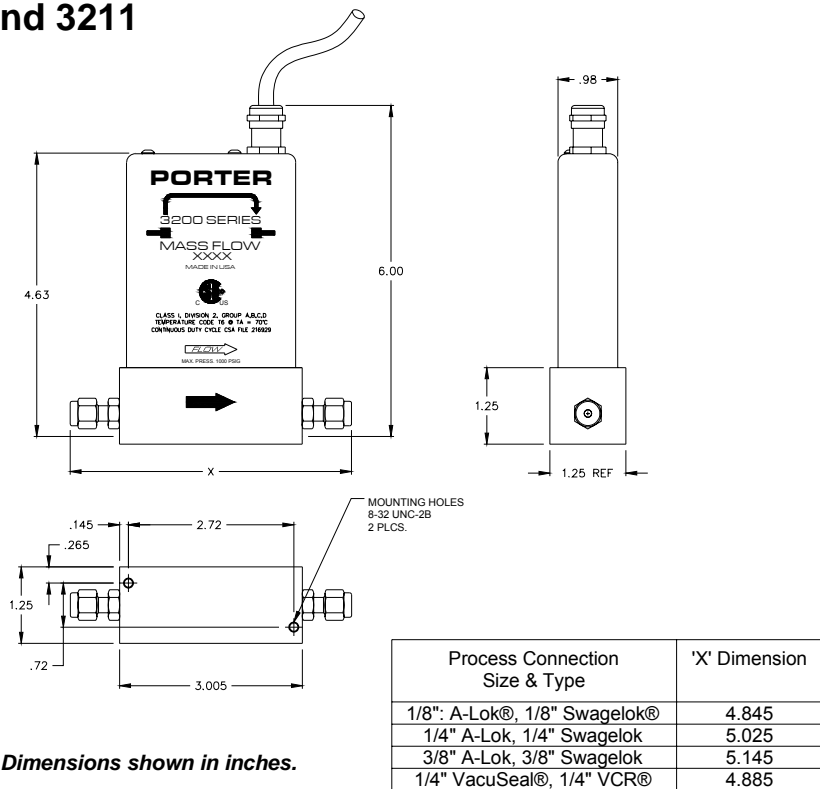
Cable Assembly Wire Designation & Color	Function
1 - ONE (Black)	Flow Signal
1 - ONE (Red)	ABZ Disable
2 - TWO (Black)	Power In
2 - TWO (Red)	Setpoint
3 - THREE (Black)	Power Common / 0 Vdc
3 - THREE (Red)	Signal Common
4 - FOUR (Black)	Not used
4 - FOUR (Red)	Valve Voltage Monitor
Cable Shield	Ground

# Dimensional Data

## Models 3261 and 3271

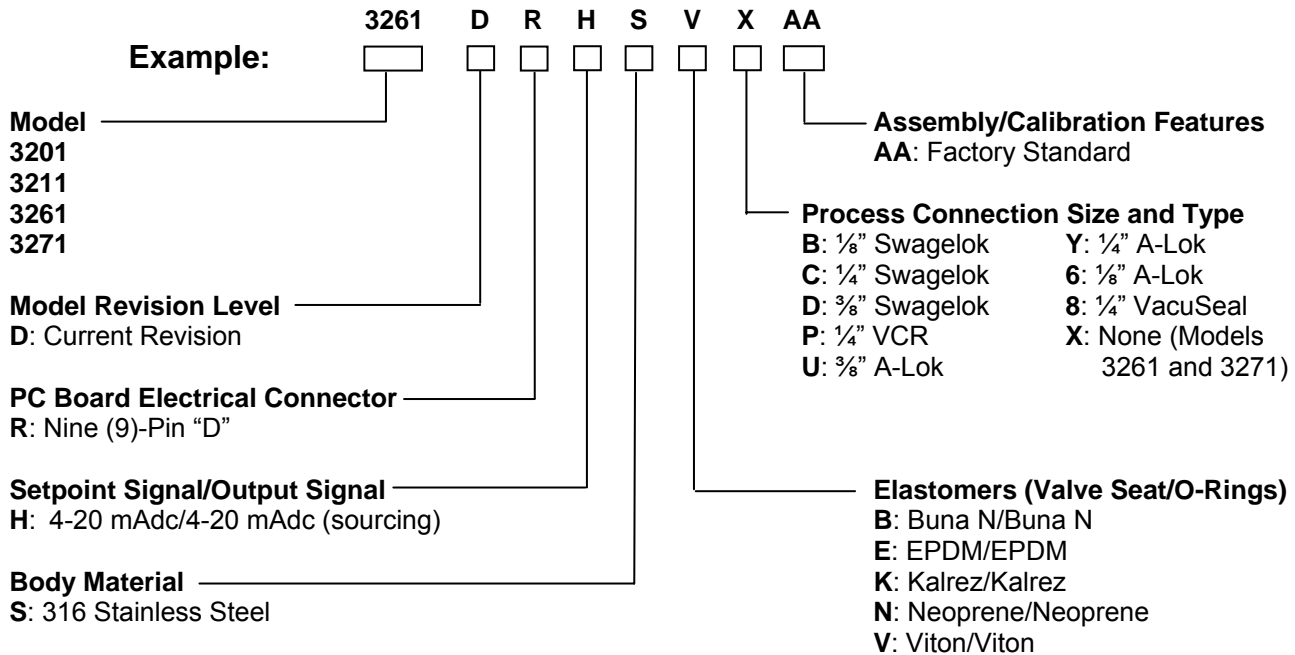


## Models 3201 and 3211



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)



### WARNING

FAILURE, IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized representatives or distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

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The items described in this document are hereby offered for sale by Parker Hannifin Corporation, its subsidiaries or its authorized representatives or distributors. This offer and its acceptance are governed by the provisions stated in our policies and certificate of warranty which are available upon request.



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