

Modular Surface-Mount Components and Seals



- 1.5 in. (38.1 mm) C-seal modular design
- Valves: manual and pneumatic diaphragm and bellows-sealed designs
- Regulators: manual and preset, high-flow models
- Gauges: ultrahigh-purity Bourdon tube pressure gauges
- Gaskets: C-seal style for 1-, 2-, and 3-port configurations

Surface-Mount Components

Low-Pressure Diaphragm Valves, DP Series



Directional



Locking



Toggle



Pneumatic

For additional information, see the Swagelok *Springless Diaphragm Valves for High Performance—DP Series* catalog, MS-01-165.

Features

- Pressure rating: 250 psig (17.2 bar)
- Temperature rating: -10 to 150°F (-23 to 65°C)
- Directional handle—quarter-turn actuation with visual indication of open and closed position
- Toggle handle—spring-loaded toggle with lockout capability (can be locked in the closed position only)
- Integral lockout handle—quarter-turn actuation with lockout safety feature to prevent actuation (can be locked in the closed position only)
- Interchangeable pneumatic and manual actuators

Ordering Information

Manual Actuators	Ordering Numbers	
	2-Port	3-Port
Directional	6LVV-MSM-DP-2-P	6LVV-MSM-DP-3-P
Integral lockout	6LVV-MSM-DPL-2-P	6LVV-MSM-DPL-3-P
Toggle	6LVV-MSM-DP2-2-P	6LVV-MSM-DPT-3-P
Pneumatic Actuators	2-Port	3-Port
Normally closed	6LVV-MSM-DP-2-P-C	6LVV-MSM-DP-3-P-C
Normally open	6LVV-MSM-DP-2-P-O	6LVV-MSM-DP-3-P-O

Handle Color Options

Standard handle color is blue. To order an optional color, add a color designator to the ordering number. Example: 6LVV-MSM-DPT-2-P-**RD**

Handle Color	Designator
Black	-BK
Green	-GR
Orange	-OG
Red	-RD
White	-WH
Yellow	-YW

Indicator Switch Option

To order a **normally closed** pneumatically actuated valve with an indicator switch, add **M** to the ordering number.

Example: 6LVV-MSM-DP-2-P-**CM**

Bellows-Sealed Metering Valves, BM Series



Features

- Pressure rating: 700 psig (48.2 bar)
- Temperature rating: -20 to 600°F (-28 to 315°C)
- Micrometer handle for precise, repeatable flow settings

Ordering Information

Ordering Numbers	
2-Port	3-Port
6LVV-MSM-BM-2	6LVV-MSM-BM-3

For additional information, see the Swagelok *Bellows-Sealed Metering Valves—BM Series* catalog, MS-01-23.

Surface-Mount Components

High-Flow Regulators, HF Series



For additional information, see the Swagelok *Compact, High-Flow Gas Regulators—HF Series* catalog, MS-01-156, for preset models, and the Swagelok *High-Flow Manual Gas Regulators—HF Series* catalog, MS-02-157, for manual models.

Features

- Inlet pressure rating: 1000 psig (68.9 bar) for preset models; 500 psig (34.4 bar) for manual models
- Outlet pressure rating: vacuum to 150 psig (10.3 bar) for preset models; 100 psig (6.8 bar) for manual models
- Temperature rating: -10 to 150°F (-23 to 65°C)
- Flow rates up to 200 std L/min
- Preset models can be factory-charged to a specific delivery pressure or set up for remote adjustment of delivery pressure.
- Manually adjustable models are offered with a choice of three spring ranges for delivery pressure.

Ordering Information

Regulators

Model	Basic Ordering Number
	2-Port
Preset	SS-MSM-HFD3B-PXX ^①
Manual	SS-MSM-HFM3B-P ^②

① For a complete ordering number, change **XX** to a factory-set outlet pressure of **10, 20, 30,** or **50** psig (0.69, 1.3, 2.0, or 3.4 bar).

Example: SS-MSM-HFD3B-P**10**

② To order a complete assembly, order a regulator and a spring kit. See **Spring Kits for Manual Models** table at right for ordering numbers.

Spring Kits for Manual Models

Pressure Range psig (bar)	Kit Ordering Number
Vacuum to 25 (1.7)	177-13K-HFM-A
5 to 50 (0.34 to 3.4)	177-13K-HFM-B
10 to 100 (0.68 to 6.8)	177-13K-HFM-C

Pressure Gauges, Ultrahigh-Purity, PGU Series



For additional information, see Swagelok *Pressure Gauges, Ultrahigh-Purity and Clean Dry Air—PGU and PGC Series* catalog, MS-02-163.

Features

- Pressure range: -30 in. Hg to maximum pressures listed below
- Temperature rating, ambient: -40 to 140°F (-40 to 60°C); temperature rating, media: -40 to 212°F (-40 to 100°C)
- Accuracy: ASME B40.1 Grade B (± 3 % / 2 % / 3 % of span)

Ordering Information

The selected dial range should be approximately two times the system working pressure, and the system working pressure should be in the middle half (25 to 75 %) of the dial range. Contact your authorized Swagelok representative if the system working pressure will exceed 75 % of the dial range.

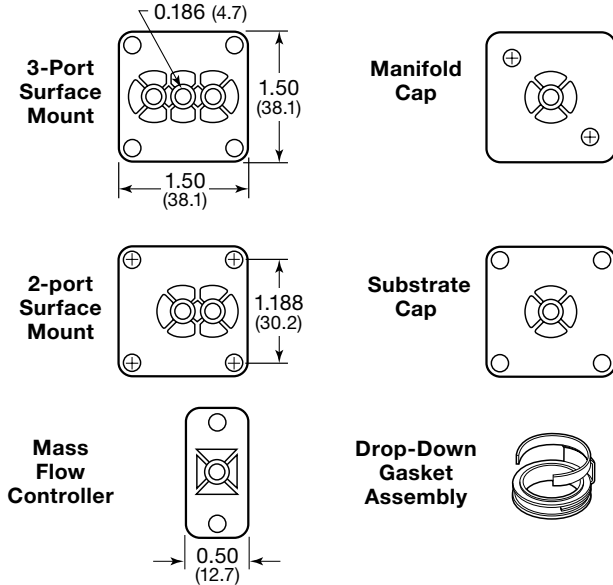
Maximum Pressure psig (bar)	Ordering Number	Maximum Pressure MPa	Ordering Number
	2-Port		2-Port
30 (2)	PGU-40-PC30-C-4MSM	0.2	PGU-40-MC02-C-4MSM
60 (4)	PGU-40-PC60-C-4MSM	0.4	PGU-40-MC04-C-4MSM
100 (6.8)	PGU-40-PC100-C-4MSM	0.7	PGU-40-MC07-C-4MSM

Gaskets and Gasket Assemblies

- C-seal for a 1.5 in. (38.1 mm) modular system
- 316L stainless steel material of construction
- Helium leak-tight integrity to less than 1×10^{-9} std cm³/s

Ordering Information and Dimensions

Dimensions, in inches (millimeters), are for reference only and are subject to change.



Gasket Description	Ordering Number	Assembly Requirements
3-port surface mount	201097	1 for each 3-port surface-mount component
2-port surface mount	201096	1 for each 2-port surface-mount component
Mass flow controller	201098	2 for each mass flow controller
Manifold cap	201105	1 for each manifold cap
Substrate cap	201102	1 for each substrate cap
Drop-down gasket assembly	SS-IG2-MH-07	1 for each drop-down component

Flow-Through Cap

- Two-port surface mount cap provides continuous flow across a surface mount position
- Pressure rating: 3000 psig (206 bar) at 70°F (20°C)
- Orifice size: 0.16 in. (4.1 mm)
- Ordering number: **6LVV-MSM-CAP-2-P**

IGC® II Integrated Gas Components

For a complete selection of IGC II integrated gas components, including substrates, manifolds, assembly hardware, and mounting accessories, see the Swagelok *IGC II Integrated Gas Components, Substrates, Manifolds, Mounting Components, and Assembly Hardware* catalog, MS-03-134.

IGC II System Configurator

The *IGC II System Configurator* is a free Windows®-based software program that can be downloaded from www.swagelok.com. It simplifies the layout, selection, ordering, and assembly of IGC II integrated gas components. It automates the process of converting a conventional gas distribution design into a IGC II-based design, and produces a bill of materials and an assembly diagram.

Safe Product Selection

When selecting a product, the total system design must be considered to ensure safe, trouble-free performance. Function, material compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibilities of the system designer and user.

Caution: Do not mix or interchange surface-mount component parts with those of other manufacturers.

Warranty Information

Swagelok products are backed by The Swagelok Limited Lifetime Warranty. For a copy, visit swagelok.com or contact your authorized Swagelok representative.