# Modular Surface Mount Components and Seals

- 1.5 in. (38.1 mm) c-ring modular design
- Valves: manual and pneumatic diaphragm and bellows-sealed designs
- Regulators: manual and preset, high-flow models
- Filters: ultrahigh-purity ceramic gas filters with maximum flow rates from 7 to 100 std L/min
- Gauges: ultrahigh-purity Bourdon tube pressure gauges
- Gaskets: c-ring style for 1-, 2-, and 3-port configurations

Swagelok®

## Surface Mount Components

### Low-Pressure Diaphragm Valves, DP Series

Directional

Locking

Toggle

Pneumatic

- Pressure rating: 145 psig (10 bar)
- Temperature rating: –10 to 150°F (–23 to 65°C)
- Directional handle—quarter-turn actuation with visual flow indication
- Toggle handle—spring-loaded toggle with lockout capability (can be locked in the closed position only)
- Locking 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 Number | |
|---|---|---|
| **Manual Actuators** | **2-port** | **3-port** |
| Directional | 6LVV-MSM-DP-2-P | 6LVV-MSM-DP-3-P |
| Locking | 6LVV-MSM-DPL-2-P | 6LVV-MSM-DPL-3-P |
| Toggle | 6LVV-MSM-DPT-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 is blue. To order a valve with an optional handle color, add the designator to the ordering number.

Example: 6LVV-MSM-DPT-2-P**-RD**

| Color | Designator |
|---|---|
| Black | **-BK** |
| Green | **-GR** |
| Orange | **-OR** |
| 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-C**M**

For additional information, see *Swagelok® Springless Diaphragm Valve for High Performance* catalog.

### Bellows Valves, BM Series

- Pressure rating: 700 psig (48 bar)
- Temperature rating: –20 to 600°F (–28 to 315°C)
- Micrometer handle for precise, repeatable flow settings

| | Ordering Number | |
|---|---|---|
| Actuators | **2-port** | **3-port** |
| **Metering** | 6LVV-MSM-BM-2 | 6LVV-MSM-BM-3 |

For additional information, see *Swagelok BM Series Bellows Sealed Metering Valves* catalog.

## High-Flow Regulators, HF Series

- Inlet pressure rating: 1000 psig (70 bar) for preset models; 500 psig (34.4) for manual models
- Outlet pressure rating: vacuum to 150 psig (10.3 bar) for preset models; 100 psig (6.8) for manual models
- Temperature rating: –10 to 150°F (–23 to 65°C)
- Flows 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.

### Regulators

| Model | Basic Ordering Number 2-port |
|---|---|
| Preset | SS-MSM-HFD3B-PXX① |
| Manual | SS-MSM-HFM3B-P② |

① To complete the 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* chart 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 |

For additional information, see *Swagelok Compact, High-Flow Gas Regulators* catalog for preset models, and *Swagelok High-Flow Manual Gas Regulators* catalog for manual models.

## Ultrahigh-Purity Gas Filters, SCF Series

- Pressure rating: 700 psig (48 bar)
- Temperature rating: –10 to 400°F (–23 to 204°C)
- Available in three sizes with maximum flow rates of 7, 30, and 100 std L/min

| Maximum Flow Rate std L/min | Ordering Number 2-port |
|---|---|
| 7 | SS-SCFMSM-P-7 |
| 30 | SS-SCFMSM-P-30 |
| 100 | SS-SCFMSM-P-100 |

For additional information, see *Swagelok Ultrahigh-Purity Gas Filters* catalog.

## Pressure Gauges, Ultrahigh-Purity, PGU Series

- 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)

| Maximum Pressure psig (bar) | Ordering Number 2-port | Maximum Pressure MPa | Ordering Number 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 |

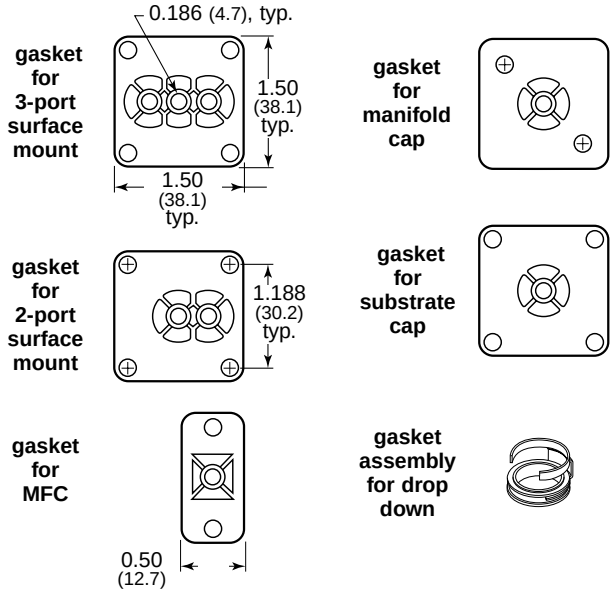
For additional information, see *Swagelok Pressure Gauges, Ultrahigh-Purity* catalog.

## Gaskets and Gasket Assemblies

- C-ring style seal for a 1.5 in. (38.1 mm) modular system
- 316L stainless steel material of construction
- Helium leak-tight integrity to less than $1 \times 10^{-9}$ std $cm^3/s$

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

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




**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 parts with those of other manufacturers.**

## 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 (21°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 *Swagelok IGC II Integrated Gas Components, Substrates, Manifolds, Mounting Components, and Assembly Hardware* catalog.

## IGC II System Configurator

This CD ROM program 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.

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