

## Gas Filters



### FC Series

- Coalescing or particle filtration
- Designed for on-line process analyzers
- Easy element replacement
- 1/8 in., 1/4 in., and 6 mm end connections

## Features

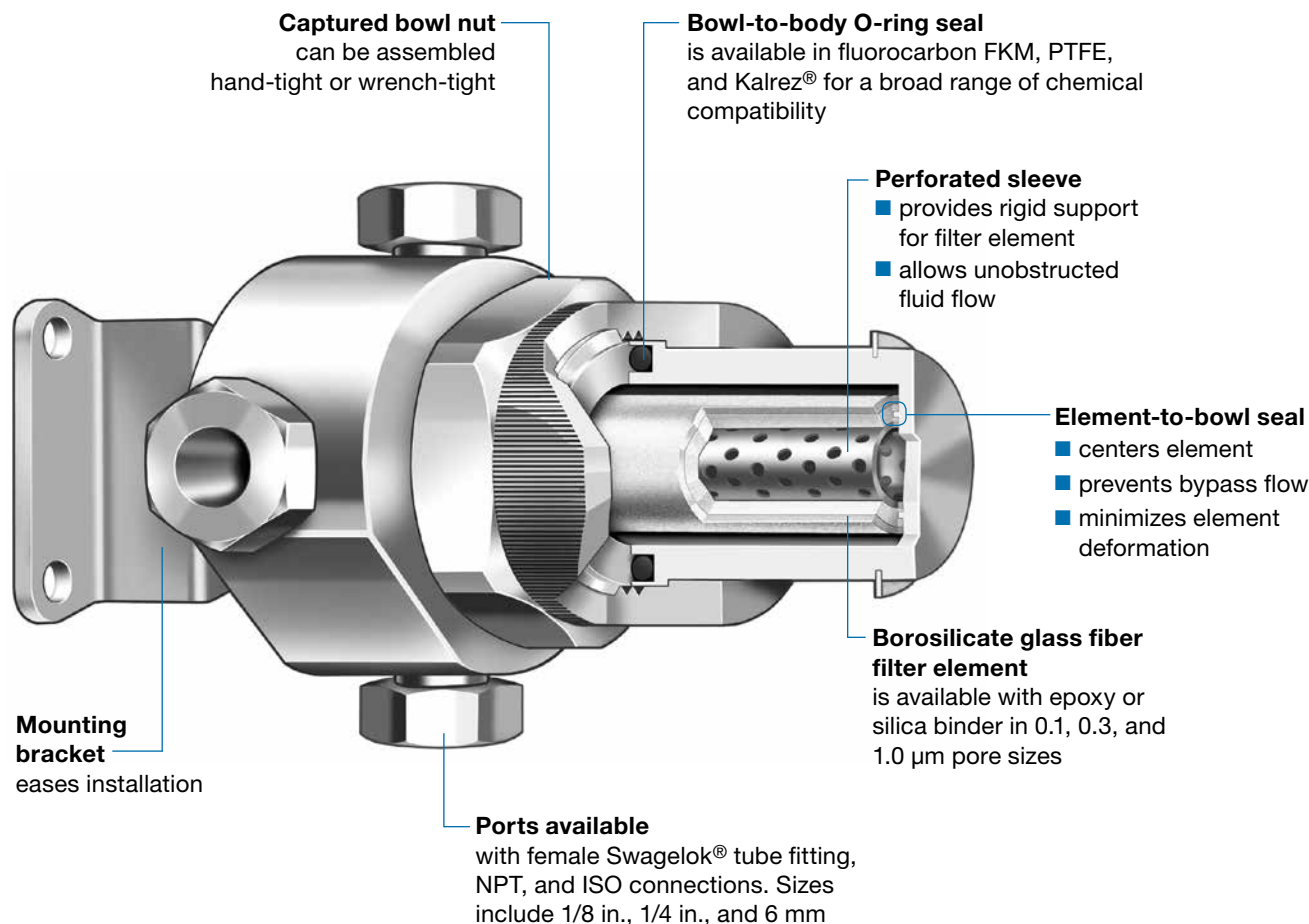
- Horizontal mounting reduces panel space requirements.
- Drain connection port located on body eliminates need to disconnect line when changing elements.
- Stainless steel construction enhances system cleanliness.

## Particulate Efficiency

99.99 % (all elements)

## Internal Volume

1.2 in.<sup>3</sup> (19.7 cm<sup>3</sup>)



## Materials of Construction

| Component                        | Material Grade/<br>ASTM Specification                       |
|----------------------------------|---|
| <i>Body, bowl</i>                | 316 SS/A479   |
| Bowl nut                         | 316 SS/A479   |
| O-ring                           | Fluorocarbon FKM  |
| <i>Filter element</i>            | <i>Borosilicate glass fiber with epoxy or silica binder</i> |
| Sleeve                           | 316 SS/A240   |
| Retaining ring, mounting bracket | 316 SS/A240   |
| Mounting bracket bolt (2)        | 316 SS  |

Wetted components listed in *italics*.

## Pressure-Temperature Ratings

Ratings are based on bowl nut tightened to 45 in.·lb (5 N·m). Ratings are limited to 250°F (121°C) with epoxy binder. Ratings extend to 400°F (204°C) with silica binder.

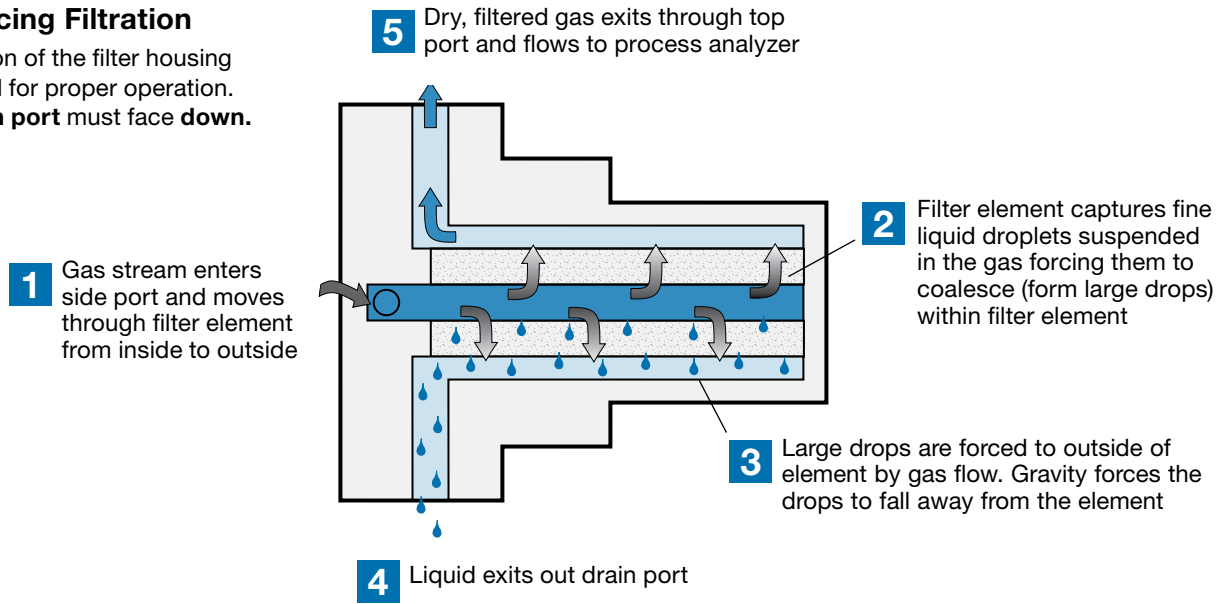
Fluorocarbon FKM O-rings are standard; for optional O-ring materials and ratings, see **Options**, page 4.

| Material            | 316 SS                      |
|---------------------|-----------------------------|
| Temperature °F (°C) | Working Pressure psig (bar) |
| 0 (-17) to 100 (37) | 1000 (68.9)                 |
| 150 (65)            | 955 (65.7)                  |
| 200 (93)            | 915 (63.0)                  |
| 250 (121)           | 870 (59.9)                  |
| 300 (148)           | 825 (56.8)                  |
| 350 (176)           | 795 (54.7)                  |
| 400 (204)           | 760 (52.3)                  |

## Operation

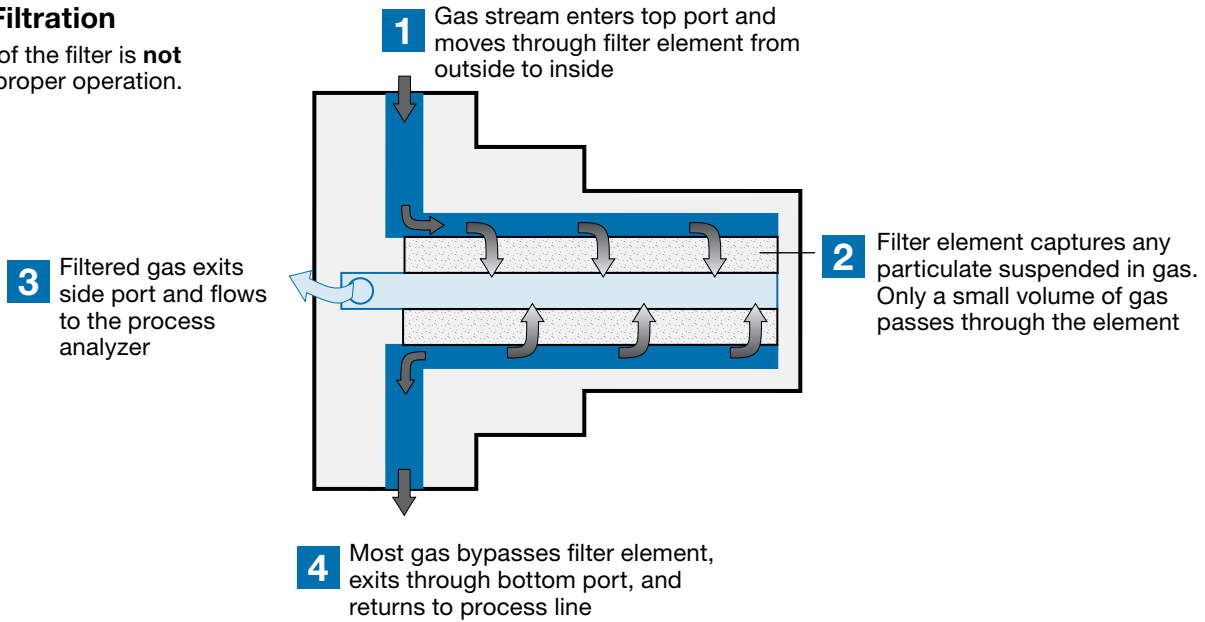
### Coalescing Filtration

Orientation of the filter housing is **critical** for proper operation. The **drain port** must face **down**.



### Particle Filtration

Orientation of the filter is **not critical** for proper operation.



### Air Flow Data at 70°F (20°C)

2 psi (0.13 bar) pressure differential

| Pore Size<br>µm | Inlet Pressure, psig (bar)                     |           |           |           |           |            |            |             |
|-----------------|--|-----------|-----------|-----------|-----------|------------|------------|-------------|
|                 | 5 (0.34)                                       | 10 (0.68) | 20 (1.3)  | 40 (2.7)  | 100 (6.8) | 250 (17.2) | 500 (34.4) | 1000 (68.9) |
|                 | Air Flow, std ft <sup>3</sup> /min (std L/min) |           |           |           |           |            |            |             |
| 0.1, 0.3        | 1.7 (48)                                       | 1.9 (53)  | 2.5 (70)  | 3.4 (96)  | 6.0 (160) | 10 (280)   | 15 (420)   | 25 (700)    |
| 1.0             | 2.8 (79)                                       | 3.2 (90)  | 3.8 (100) | 4.8 (130) | 7.3 (200) | —          | —          | —           |

### Cleaning and Packaging

All FC series filters are cleaned in accordance with Swagelok *Standard Cleaning and Packaging (SC-10)*, (MS-06-62).

## Ordering Information and Dimensions

Select a filter ordering number and an element ordering number.

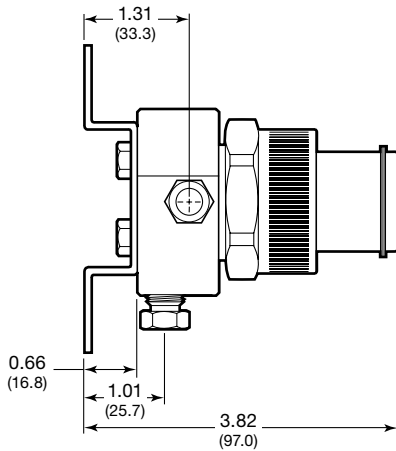
| End Connections              |         | Filter Ordering Number |
|------------------------------|---------|------------------------|
| Type                         | Size    |                        |
| Female Swagelok tube fitting | 1/4 in. | SS-FCB                 |
|                              | 6 mm    | SS-FCC                 |
| Female NPT                   | 1/8 in. | SS-FCD                 |
|                              | 1/4 in. | SS-FCE                 |
| Female ISO <sup>①</sup>      | 1/4 in. | SS-FCG                 |

① See specifications ISO7/1, BS EN 10226-1, DIN 2999, JIS B0203.

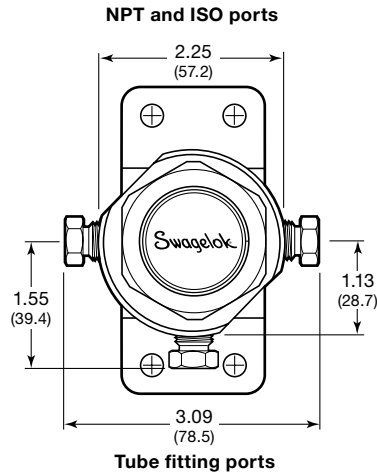
| Nominal Pore Size $\mu\text{m}$ | Filtration Service      | Element Ordering Number |
|---------------------------------|-------------------------|-------------------------|
| <b>Epoxy Binder</b>             |                         |                         |
| 0.1                             | Particle                | GE-15K-FC-01            |
| 0.3                             | Coalescing and particle | GE-15K-FC-03            |
| 1.0                             | Particle                | GE-15K-FC-10            |
| <b>Silica Binder</b>            |                         |                         |
| 0.1                             | Particle                | GS-15K-FC-01            |

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

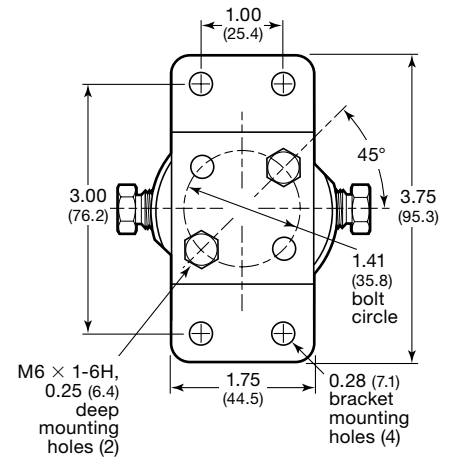
Side



Top



Bottom



## Options

### Special Cleaning and Packaging (SC-11)

To order FC series filters with optional cleaning and packaging in accordance with Swagelok *Special Cleaning and Packaging (SC-11)* (MS-06-63), to ensure compliance with product cleanliness requirements stated in ASTM G93 Level C, add -SC11 to the filter ordering number.

Example: SS-FCB-SC11

### Oxygen Service Hazards

For more information about hazards and risks of oxygen-enriched systems, see the Swagelok *Oxygen System Safety* technical report (MS-06-13).

### O-Ring Materials

Fluorocarbon FKM is standard. PTFE and Kalrez are available.

To order an FC series filter with an optional O-ring, add a designator to the ordering number.

Example: SS-FCB-KZ

### O-Ring Kits

Select a kit ordering number.

| O-Ring Material  | Temperature Rating, °F (°C) | Designator | Kit Ordering Number |
|------------------|-----------------------------|------------|---------------------|
| Fluorocarbon FKM | 0 to 400 (-17 to 204)       | —          | VT-9K-FC            |
| Kalrez           | 32 to 350 (0 to 176)        | -KZ        | KZ-9K-FC            |
| PTFE             | 0 to 400 (-17 to 204)       | -TR        | T-9K-FC             |

**Caution: Do not mix or interchange parts with those of other manufacturers.**

## About this document

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### 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.**

## Warranty Information

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