# Swagelok® KCA Series Continuous Gas Delivery System


The Swagelok KCA series continuous gas delivery system automatically switches between sources to extend gas supply. When one source is depleted below a selected changeover pressure, the continuous gas delivery system automatically switches to a back-up supply. The depleted source can then be changed, in-line, without downtime. This system:

- provides carrier gas for gas chromatographs both in the field and laboratory
- enables continuous flow of gases in critical applications
- is used in process analytical installations, R&D centers, and universities

## Features and Benefits

- Proven Swagelok components which are readily available and provide leak-tight integrity and reliability. The KCA series includes:
  - Swagelok tube fittings
  - Swagelok 43G series ball valves
  - Swagelok gauges
  - Swagelok KPR series regulators
- Assembly is highly configurable to meet many different industry needs.
- System clearly identifies source gas pressures and easily controls delivery pressure.

## Materials of Construction

Standard materials of construction for Swagelok 316 stainless steel components all mounted to a 304 stainless steel panel.

## Testing, Cleaning, and Packaging

- Shell testing is performed to a requirement of no detectable leakage with a liquid detector at 80 psig (5.5 bar) nitrogen.
- All KCA series systems are cleaned in accordance with Swagelok standard cleaning and packaging specification (SC-10), MS-06-62.
- Regulator is 100 % factory tested for changeover pressure.

For product technical data, including materials of construction, see the following catalogs:
Swagelok Gaugable Tube Fittings and Adapter Fittings, MS-01-140
Swagelok 40G Series Ball Valves, MS-02-331
Swagelok Pressure Gauges, MS-02-170
Swagelok Pressure Regulators, MS-02-230

## Pressure-Temperature Ratings

- Maximum inlet pressure: 3000 psig (206 bar)
- Outlet pressure range: 0 to 500 psig (0 to 34.4 bar)
- Maximum ambient temperature: 140°F (60°C)
- Maximum system media temperature: 176°F (80°C) with PCTFE seated regulators, 212°F (100°C) with PEEK seated regulators.

**⚠ Failure to periodically inspect and maintain valve packing may result in leakage.**

**⚠ Swagelok ball valves are designed to be used inthe fully open or fully closed position.**

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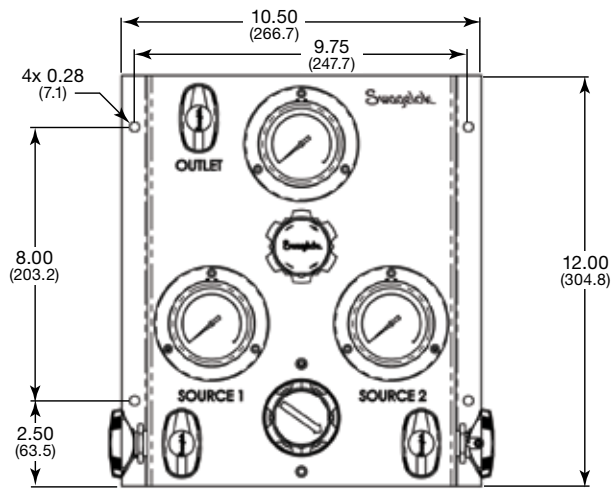


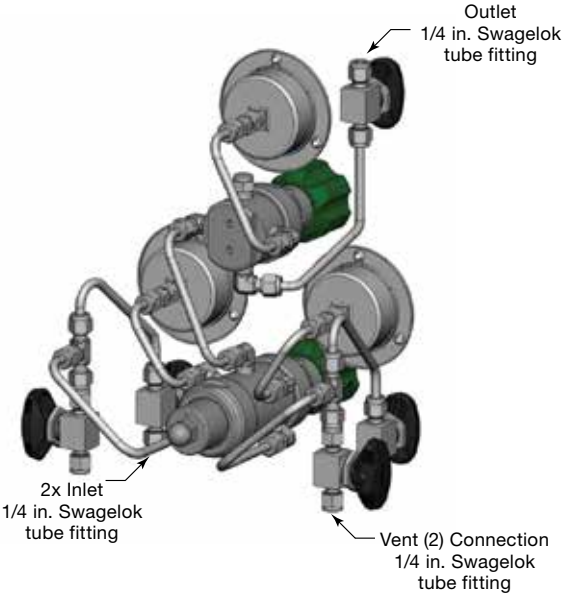


Dimensions, in inches (millimeters), are for reference only and are subject to change.

## Ordering Information

Build a KCA series system ordering number by combining the designators in the sequence shown below.

| 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KCA | 1 | **F** | **F** | B | B | **1** | 2 | **A** | **D** | K | 0 | **1** | **0** |

**4 Body Material**
1 = 316 SS

**5 Pressure Control Range**
**C** = 0 to 10 psig (0 to 0.68 bar)
**D** = 0 to 25 psig (0 to 1.7 bar)
**E** = 0 to 50 psig (0 to 3.4 bar)
**F** = 0 to 100 psig (0 to 6.8 bar)
**G** = 0 to 250 psig (0 to 17.2 bar)①
**J** = 0 to 500 psig (0 to 34.4 bar)②

① Not available with 100 psig (6.8 bar) nominal changeover pressure.
② Only available with 500 psig (34.4 bar) nominal changeover pressure.

**6 Nominal Changeover Pressure**①
**F** = 100 psig (6.8 bar)
**G** = 250 psig (17.2 bar)
**J** = 500 psig (34.4 bar)

① Inlet pressure must exceed changeover pressure for automatic switching to occur.

**7 Configuration**
B = outlet on top left

**8 End Connections**
B = 1/4 in. Swagelok tube fittings

**9 Regulator Seat Material**
**1** = PCTFE
**2** = PEEK

**10 Flow Coefficient ($C_v$)**
2 = 0.06

**11 Sensing Mechanism, Vent**
**A** = Alloy X-750 diaphragm, no vent
**C** = Alloy X-750 diaphragm, self vent①

① Self vent through line regulator only.

**12 Line Regulator Handle**
**D** = Knob
**E** = 316 SS antitamper nut

*Selector regulator has knob handle.*

**13 Isolation and Vent Valves**
K = Swagelok 43G series ball valves inlet, outlet, and vent.

**14 Cylinder Connections**
0 = No connections

*Contact your authorized Swagelok sales and service representative for cylinder connections available with optional Swagelok FM and TH series hose.*

**15 Gauge Scale/Model**
**1** = psig (bar)/*C model (general purpose gauge)*-*available only in North America*
**2** = bar (psig)/*B model (general purpose gauge with adjustable pointer)*
**3** = psig (bar)/*B model (general purpose gauge with adjustable pointer)*
**4** = MPa/*B model (general purpose gauge with adjustable pointer)*
**5** = psig (kPa)/*C model (general purpose gauge)*-*available only in North America*

**16 Options**
**0** = No options
**3** = 3 ft, 1/4 in. FM series metal flexible hose, 1/4 in. female NPT inlet
**4** = 3 ft, 1/4 in. TH series PTFE-lined, stainless steel braided hose, 1/4 in. female NPT inlet

**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.**

## Warranty Information

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

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