

# 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



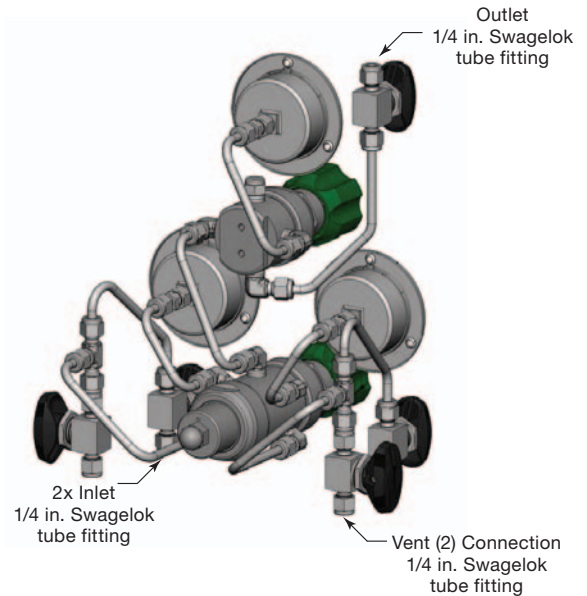
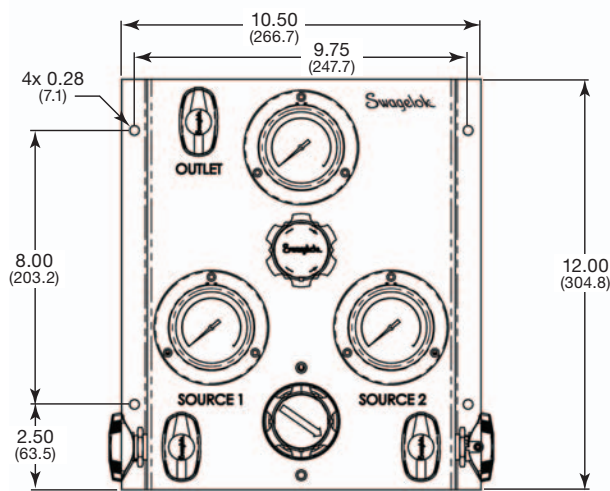
## Pressure-Temperature Ratings

- 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 in the fully open or fully closed position.**

Swagelok®



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)<sup>①</sup>

J = 0 to 500 psig (0 to 34.4 bar)<sup>②</sup>

<sup>①</sup> Not available with 100 psig (6.8 bar) nominal changeover pressure.

<sup>②</sup> Only available with 500 psig (34.4 bar) nominal changeover pressure.

### 6 Nominal Changeover Pressure<sup>①</sup>

F = 100 psig (6.8 bar)

G = 250 psig (17.2 bar)

J = 500 psig (34.4 bar)

<sup>①</sup> 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<sub>v</sub>)

2 = 0.06

### 11 Sensing Mechanism, Vent

A = Alloy X-750 diaphragm, no vent

C = Alloy X-750 diaphragm, self vent<sup>①</sup>

<sup>①</sup> 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](http://swagelok.com) or contact your authorized Swagelok representative.