

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



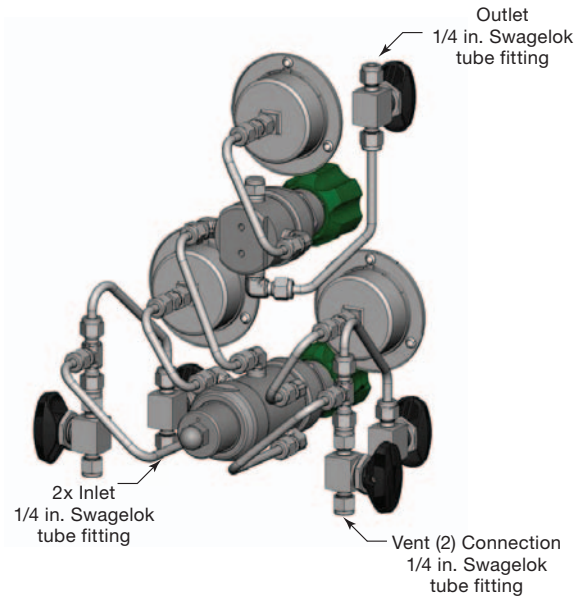
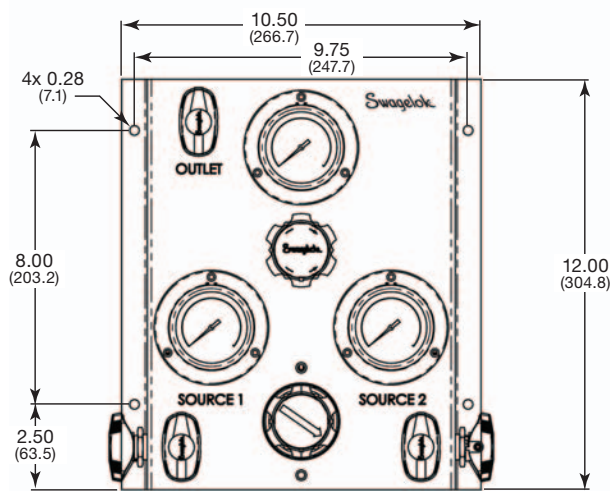
Pressure-Temperature Ratings

- 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)^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 vent^①

^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.