

Continuous Gas Delivery System

KCA Series Installation and Operation Instructions

Swagelok®

These instructions cover the installation and operation of the Swagelok® KCA series continuous gas delivery system.

Refer to Swagelok *Oxygen System Safety technical report, MS-06-13*, for additional information about hazards and risks of oxygen-enriched systems.



General

An auxiliary filter is recommended. Gaseous media should be free of excessive moisture to prevent icing of the manifold at high flow rates.

CAUTION

- **SWAGELOK SERIES REGULATORS ARE NOT "SAFETY ACCESSORIES" AS DEFINED IN THE PRESSURE EQUIPMENT DIRECTIVE 2014/68/EU.**
- **TO AVOID DOWNSTREAM CREEP, DO NOT USE THE REGULATOR AS A SHUTOFF DEVICE.**

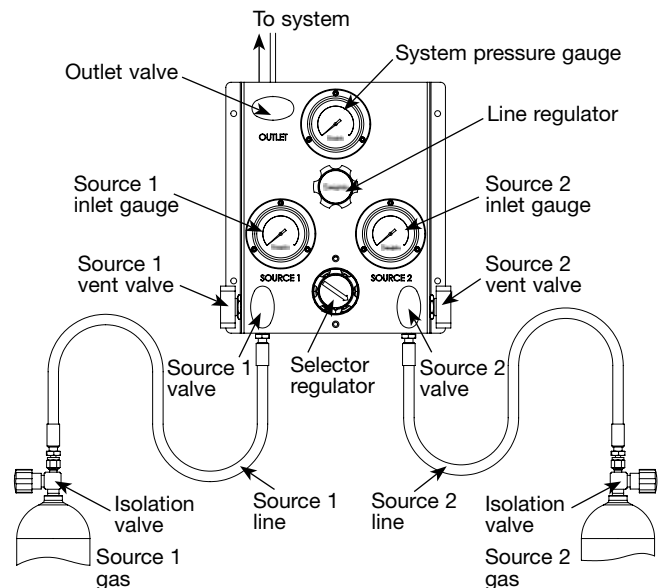
Installation

1. Mount the manifold using four M6 or 1/4 in. bolts.
2. Before pressurizing the manifold:
 - A. Close the **line regulator** by turning the line regulator handle counterclockwise, when viewed from the front of the manifold, until it stops.
 - B. Fully turn the **selector regulator** handle to the inlet port of the initial gas source.

CAUTION

TO PREVENT DOWNSTREAM PLUGGING AND/OR FLUID CONTAMINATION, DO NOT ALLOW ANY LOOSE TAPE OR THREAD SEALANT TO ENTER THE REGULATOR OR FLUID STREAM.

3. Connect both sources to the inlet ports of the manifold. Position or label the sources for positive identification.
4. Check all connections for leakage.



Operation

1. Open **source valves 1 & 2**.
2. Open the **isolation valves** on both gas sources. The two inlet gauges will indicate the pressure in each source.

The manifold is now fully pressurized and ready to supply the system.

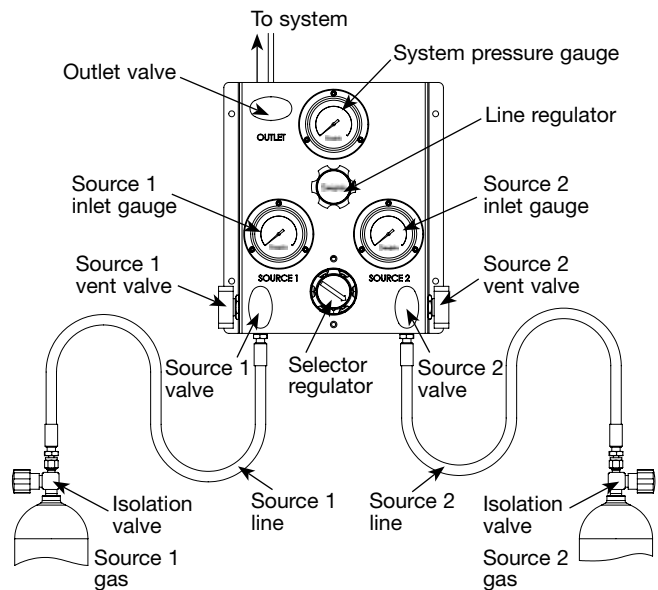
Adjust the **line regulator** handle to control the outlet pressure settings, clockwise to increase the pressure, counterclockwise to decrease.

Note: All handle directions are when viewed from the front of the manifold.

- Rotating the line regulator handle clockwise will raise the outlet pressure.
- Rotating the line regulator handle counterclockwise coupled with venting of the downstream side of the regulator will lower the outlet pressure.

3. Make final adjustments in the direction of increasing the pressure to obtain the most accurate set points.

Once fluid is flowing through the system, a small adjustment to the delivery pressure may be necessary.



Supply Selection and Replacement

The **selector regulator** arrow points towards the initial **source** in use. When this source is depleted, the manifold automatically switches over to the alternative source with the arrow still pointing to the now depleted source. The respective **inlet gauge** on the manifold shows the pressure of each source bottle so that the operator can confirm when a source is depleted and needs to be changed.

To change a depleted source:

1. Shut off the **isolation valve** of the depleted source.
2. Turn the selector regulator away from the depleted source until maximum rotation is achieved. The handle should now be pointing toward the source currently in use.
3. Open the vent valve of the depleted source.
4. Close the source valve of the depleted source.
5. Replace the depleted source.
6. Open the source valve of the replaced source.
7. Open the isolation valve of the replaced source.
8. Ensure air is purged from the line.

9. Close the vent valve of the replaced source.

If the operator wishes to use the replaced source prior to the secondary source being emptied, the selector regulator handle should be turned back to the replaced source after the replacement procedure has been completed.

Note: When changing the arrow position, make sure the selector regulator handle reaches its maximum rotation to the desired gas source.