

Changeover Systems

FDR-1L Series Automatic Changeover System without Line Pressure Regulator

Features

- ⦿ With 2 regulators similar to FCR-1 Series Regulators
- ⦿ Anodized Aluminium box with clearly marked panel
- ⦿ With vent valves to relieve residual pressure quickly, easy and safe to remove and replace gas source
- ⦿ Automatic switching of gas source to ensure continuous gas supply
- ⦿ Four fixed outlet pressure ranges available
- ⦿ With special cleaning and packaging, applicable to oxygen-enriched environments

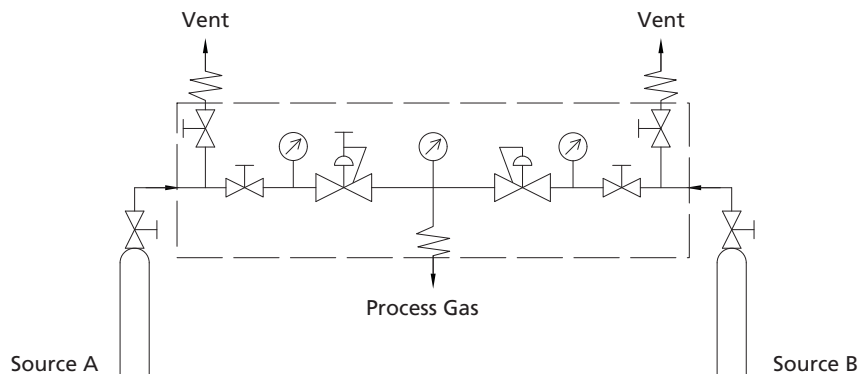


Model: FDR-1L6L-30-10-00-00-00

Technical Data

- ⦿ Maximum inlet pressure: 3000 or 4500 psig
- ⦿ Outlet pressure range: 85~115, 135~165, 185~215 or 235~265 psig
- ⦿ Material of the main components:
 - Seat: PCTFE (regulator and diaphragm valve)
 - Diaphragm: Hastelloy (regulator), Elgiloy (diaphragm valve)
 - Diaphragm valve body: 316L
- ⦿ Temperature: -10°F~+150°F (-23°C~+65°C)
- ⦿ Leak rates:
 - Internal: $\leq 1 \times 10^{-7}$ mbar·l/s helium
 - External: $\leq 1 \times 10^{-9}$ mbar·l/s helium
- ⦿ Flow coefficient (regulator Cv): 0.06
- ⦿ Weight: ≈ 12.1 lbs (5.5 kg)

Flow Schematic



Operation Overview

The FDR-1L Series Changeover System is mainly comprised of one adjustable outlet pressure regulator together with one fixed outlet pressure regulator.

When the 2 inlets are both open, the one side that the "IN SERVICE" arrow is pointing at by turning the handle would be the 1st source for gas supply.

Fig. 1 When the "In Service" arrow is pointing at side B, side B would be the gas source. At this time, the fixed outlet pressure of side B is higher than the set pressure of side A. Consequently, the diaphragm of side A regulator moves to enable the stem to close the regulator.

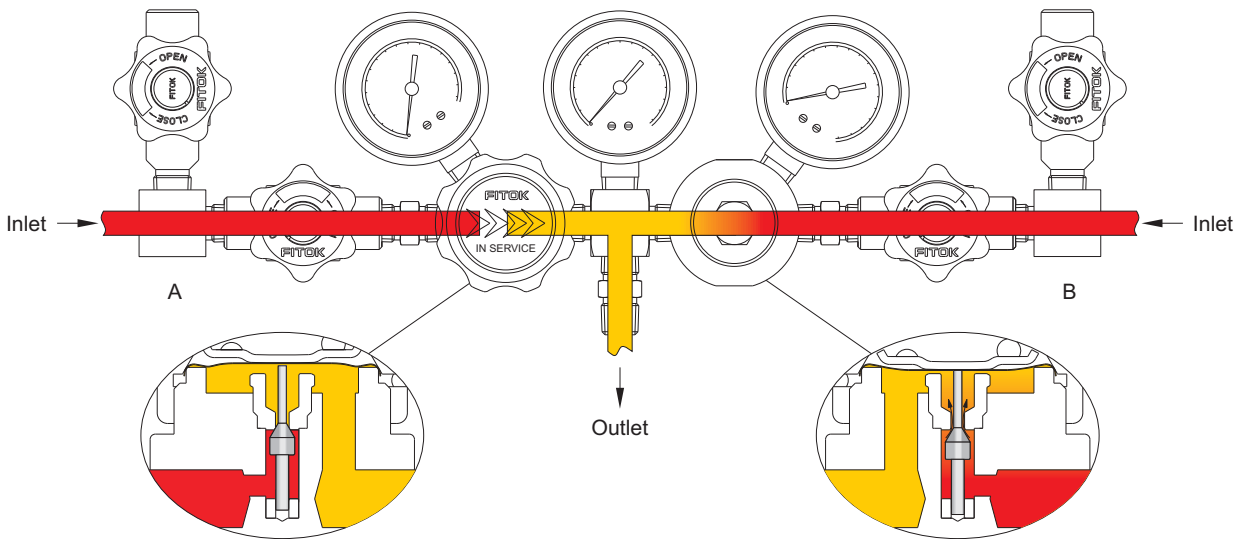


Fig. 1

Fig. 2 If side A is chosen as the gas source, the handle should be turned clockwise until the "IN SERVICE" arrow is pointing at side A. At this time, the set pressure of side A is higher than the fixed outlet pressure of side B. Consequently, the diaphragm of side B regulator moves to enable stem to close the regulator.

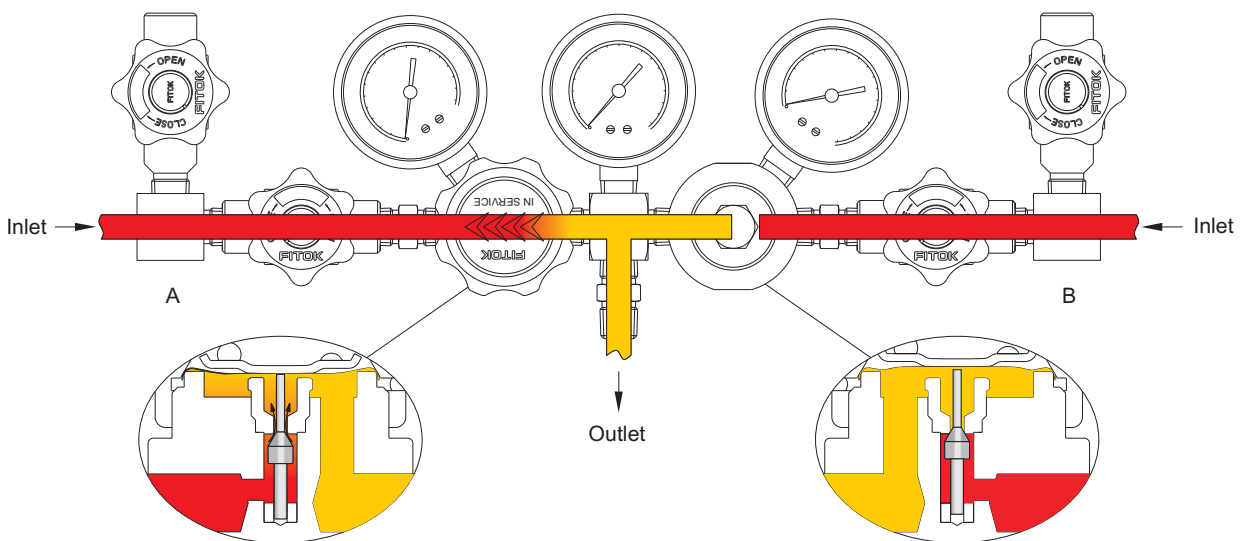


Fig. 2

When gas source of one side is depleted, gas source would automatically change to the other side.

Fig. 3 When "IN SERVICE" arrow is pointing at side B, but gas source of side B is depleted, its outlet pressure shall decrease to be lower than the set pressure of side A. By the force of spring, side A regulator will be opened to begin gas supply.

Before replacing new gas source of side B, the diaphragm valve should be turned off. Otherwise, gas from side A will flow back into side B. Then open the vent valve to exhaust the remaining pressure.

After the replacement, if the "IN SERVICE" arrow still points at side B, side B would be the gas source. If the arrow is turned towards side A, side A would thus be the gas source.

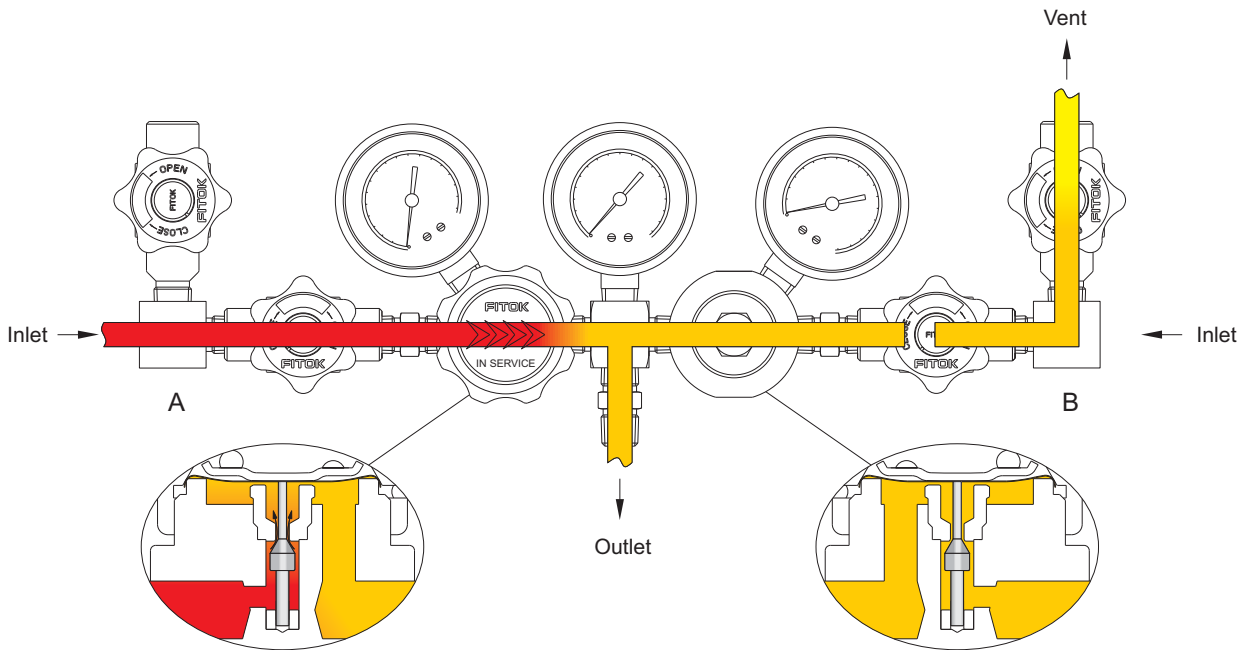
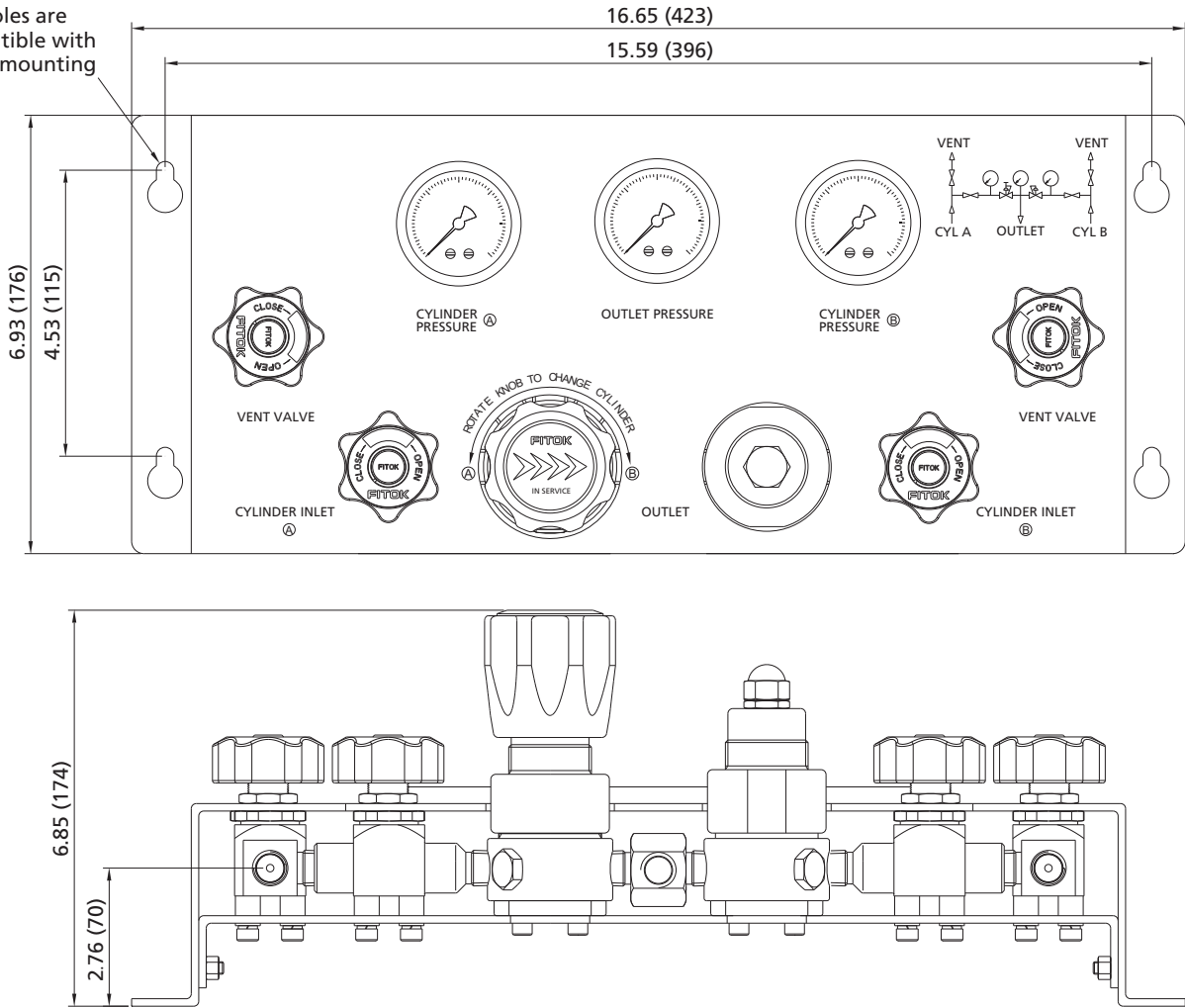


Fig. 3

Dimensions

Dimensions, in inches (millimeters), are for reference only.

The holes are compatible with 4x1/4" mounting screws



Part Number Description

FDR - 1L6L - 30 - 20 - 10 - 00 - 00

Body Material (Regulator)	Inlet Pressure P1	Outlet Pressure Range P2	Inlet A	Inlet B	Outlet
6L 316L SS	30 3000 psig	10 85~115 psig	00 1/4" Female NPT	Same as Inlet A	Same as Inlet A
SS 316 SS	45 4500 psig	15 135~165 psig	01 1/4" Male NPT		
HC Hastelloy C-276		20 185~215 psig	10 1/4" Tube Fitting		
B Brass (Nickel-plated)		25 235~265 psig	11 3/8" Tube Fitting		
			20 6 mm Tube Fitting		
			21 8 mm Tube Fitting		
Other connections are available upon request					