# Changeover Systems

## FDR-1T Series Automatic Changeover System with Line Pressure Regulator

### Features

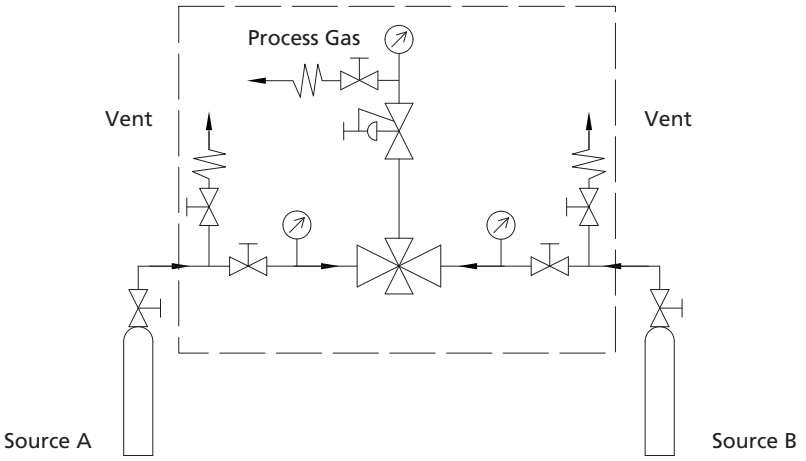
- With a FCR-1 Series Regulator and a FLR-1 Series Regulator to enable outlet pressure adjustment
- Anodized Aluminium box with clearly marked panel
- With vent valves to relieve residual pressure quickly, easy and safe to remove and replace gas source
- Automatic switching of gas source to ensure continuous gas supply
- With special cleaning and packaging, applicable to oxygen-enriched environments

Model: FDR-1T6L-45-150-00-00-00

### Technical Data

- Maximum inlet pressure: 3000 or 4500 psig
- Outlet pressure range: 0~25, 0~50, 0~100 or 0~150 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: $\leqslant 1x10^{-7}$ mbar·l/s helium
  External: $\leqslant 1x10^{-9}$ mbar·l/s helium
- Flow coefficient (regulator Cv): 0.05
- Weight: ≈19.6 lbs (8.9 kg)

### Flow Schematic



## Operation Overview

The FDR-1T Series Changeover System is mainly comprised of one adjustable outlet pressure regulator and one fixed outlet pressure regulator, together with a line pressure regulator on the outlet port.

**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.*

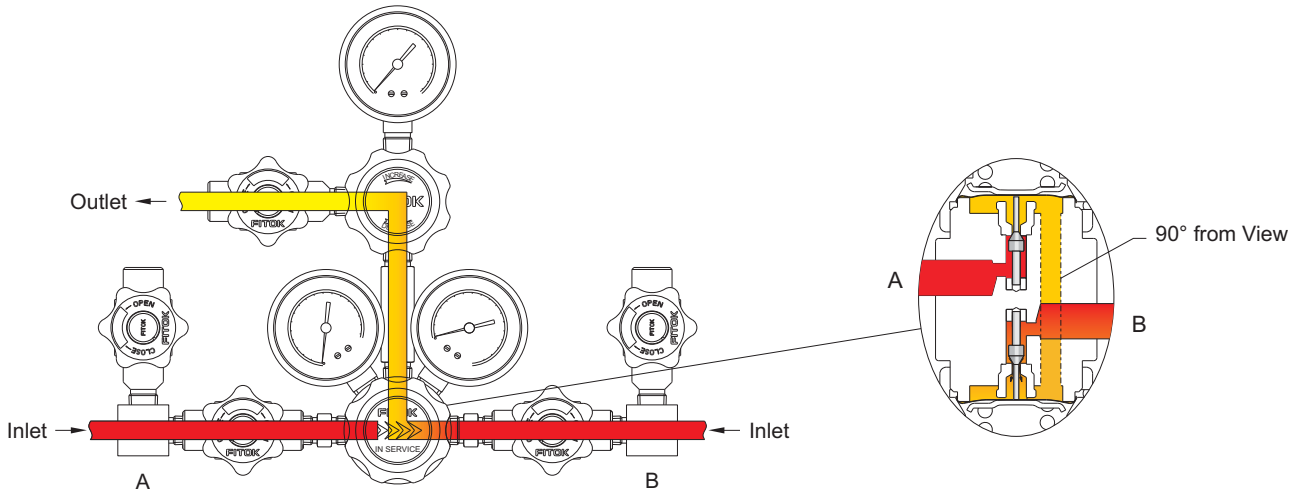



Fig. 1

*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 the stem to close the regulator.*

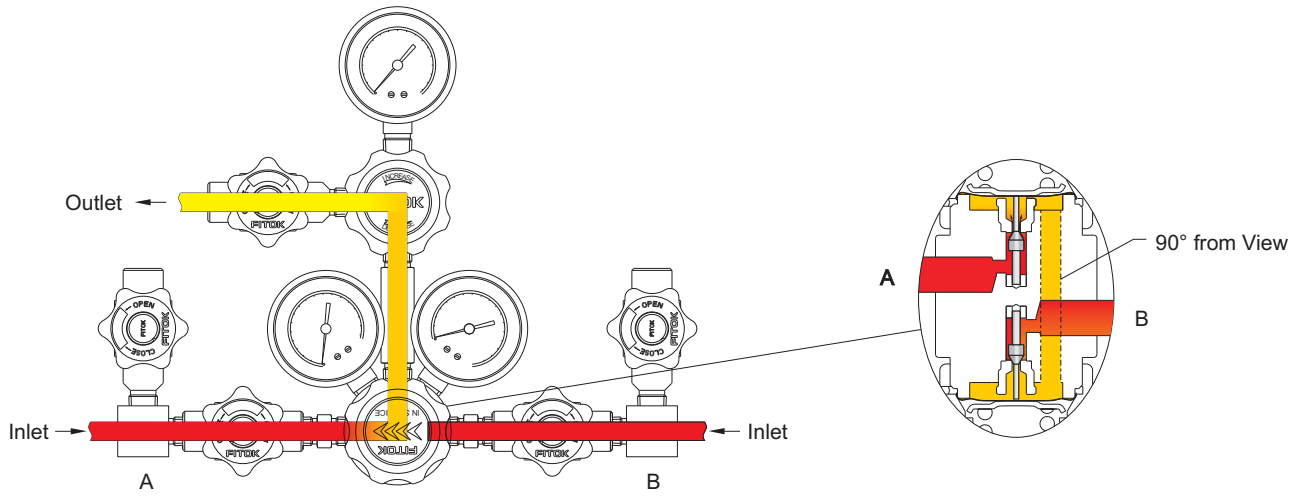



Fig. 2

**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.*

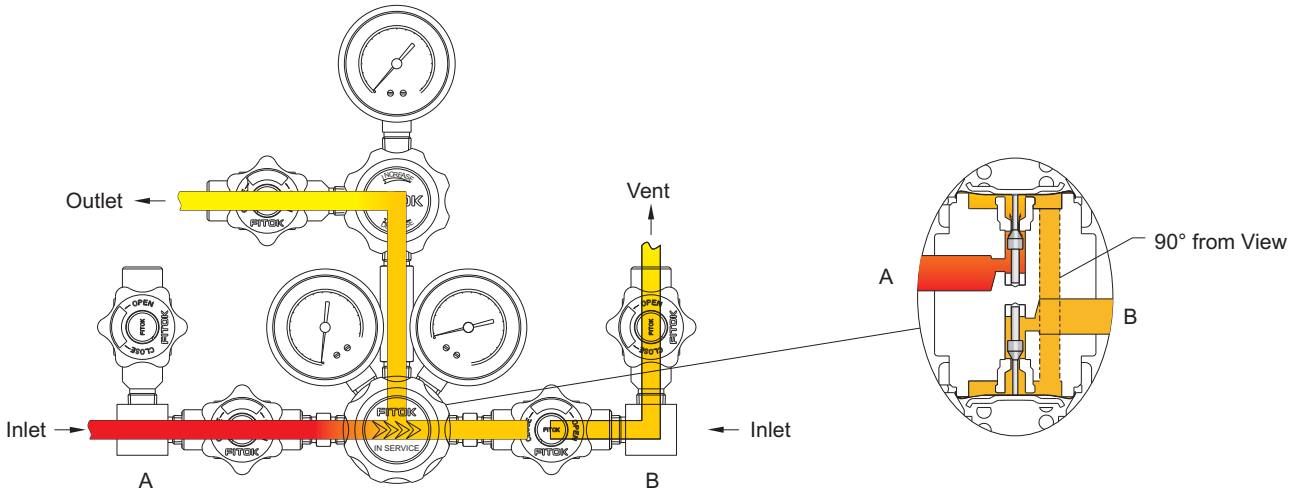
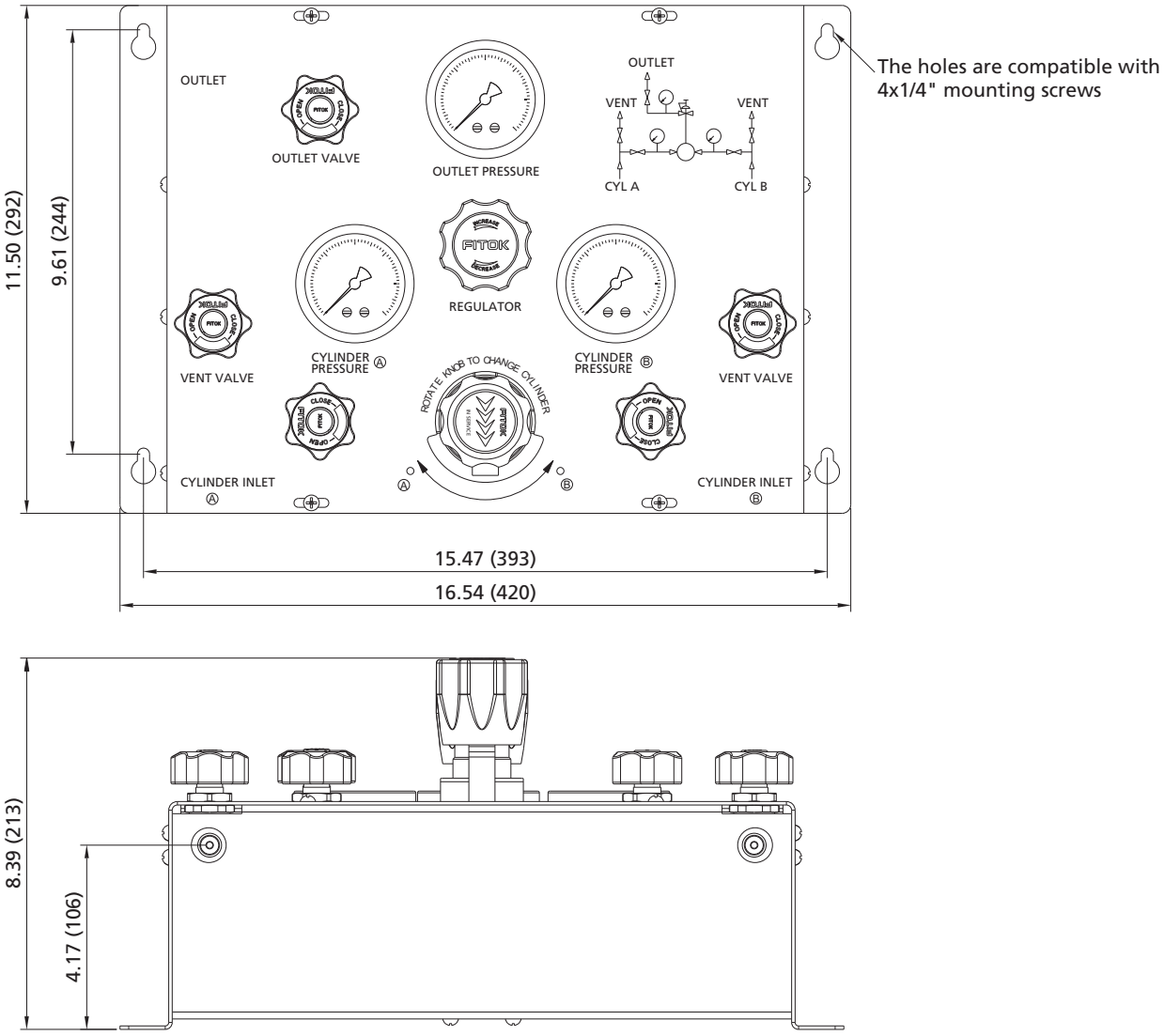



Fig. 3

## Dimensions

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




## Part Number Description

FDR – 1T6L – 30 – 25 – 10 – 00 – 00

| Body Material (Regulator) | |
|---|---|
| 6L | 316L SS |
| SS | 316 SS |
| HC | Hastelloy C-276 |
| B | Brass (Nickel-plated) |

| Inlet Pressure P1 | |
|---|---|
| 30 | 3000 psig |
| 45 | 4500 psig |

| Outlet Pressure Range P2 | |
|---|---|
| 25 | 0~25 psig |
| 50 | 0~50 psig |
| 100 | 0~100 psig |
| 150 | 0~150 psig |

| Inlet A | |
|---|---|
| 00 | 1/4" Female NPT |
| 01 | 1/4" Male NPT |
| 10 | 1/4" Tube Fitting |
| 11 | 3/8" Tube Fitting |
| Other connections are available upon request | |

| Inlet B |
|---|
| Same as Inlet A |

| Outlet |
|---|
| Same as Inlet A |