FDR-1,FDR-2, FDR-1L and FDR-1T Series









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FDR-1 Series Manual Changeover System (up to 500 psig)

Features

- A small manual changeover system with a regulator similar to FCR-1 Series Regulators
- Connecting with two independent gas sources at a time, gas source selected through diaphragm valves
- O Applicable to corrosive or toxic gases
- With vent valves to relieve residual pressure quickly, easy and safe to remove and replace gas source
- O Anodized Aluminium panel



Model: FDR-16L-30-500-00-B-B-01-00-R

Technical Data

- O Maximum inlet pressure: 3000 or 4500 psig
- Outlet pressure range: 0~25, 0~50, 0~100, 0~250 or 0~500 psig
- Material of the main components:
 Seat: PCTFE (regulator and diaphragm valve)
 Diaphragm: Hastelloy (regulator), Elgiloy (diaphragm valve)
 Diaphragm valve body: 316L
 O-ring: Viton
- Temperature: -10°F~+150°F (-23°C~+65°C)
- Leak rates: Internal: ≤1x10⁻⁷ mbar·l/s helium External: ≤1x10⁻⁹ mbar·l/s helium
- Flow coefficient (regulator Cv): 0.06

Typical Flow Chart



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Flow Schematic



Dimensions

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







Components Introduction



Part Number Description



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25 0~25 psig
50 0~50 psig
100 0~100 psig
250 0~250 psig
500 0~500 psig

FDR-2 Series Manual Changeover System (up to 2500 psig)

Features

- A small manual changeover system with a regulator similar to FCR-2 Series Regulators
- Connecting with two independent gas sources at a time, gas sources switched through diaphragm valves
- O Applicable to non-corrosive gases
- O Venting model available
- O Anodized Aluminium panel

Technical Data

- O Maximum inlet pressure: 3000 or 4500 psig
- ◎ Outlet pressure range: 0~750, 0~1500 or 0~2500 psig
- Material of the main components: Seat: PCTFE (regulator and diaphragm valve) Piston: 316L
 Diaphragm: Elgiloy (diaphragm valve)
 Diaphragm valve body: 316L
 O-ring: Viton or Kalrez
 Filter: 316L
- Temperature: -10°F~+150°F (-23°C~+65°C)
- Leak rates:
 Internal: Bubble-tight

External: Bubble-tight

 Flow coefficient (regulator Cv): Without vent: 0.06
 Vent: 0.1

Typical Flow Chart





Model: FDR-2VSS-45-2500-00-B-B-01-00



- 3000 - 1500

— 500



Flow Schematic



Dimensions

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







Flow Rate - SCFM (SLPM) Nitrogen

Components Introduction



Part Number Description



B Brass (Nickelplated)



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

Features

- With 2 regulators similar to FCR-1 Series Regulators
- \bigcirc 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
- \bigcirc Four fixed outlet pressure ranges available
- With special cleaning and packaging, applicable to oxygen-enriched environments



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

Technical Data

- O 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
- O Temperature: -10°F~+150°F (-23°C~+65°C)
- Leak rates: Internal: ≤1x10⁷ mbar·l/s helium External: ≤1x10⁹ 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. 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.



Part Number Description



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
- $\ensuremath{\mathbb O}$ 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

Technical Data

- O 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)
- O 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): 0.05
- ◎ Weight: \approx 19.6 lbs (8.9 kg)

Flow Schematic



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





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. 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.



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



Part Number Description



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