

# Commercial Changeover Regulators



64SR/I22

Designed for large capacity multi-cylinder or tank installations, these regulators are used on applications such as bakeries, motels, restaurants and grain dryers. The manifold portion of the assembly consists of two 64SR regulators and a direct mounted 803 indicator.

64SR/I22... For high pressure (pounds to pounds) service with the outlet pressure supplied by a 64SR that has internal relief protection.



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## Fisher Commercial Automatic Changeover Regulators

| Part No.        | Capacity BTU/HR Propane | Inlet Connection | Outlet Connection | Outlet Pressure Setting | Outlet Adjustment Range |
|-----------------|-------------------------|------------------|-------------------|-------------------------|-------------------------|
| <b>64SR/I22</b> | 1,210,000               | 1/2" FNPT        | 1/2" FNPT         | 10 psig                 | 5 - 20 psig             |

### Changeover Manifold Assemblies

RI 10/21... This manifold supplies an outlet pressure of approximately 15 psig from the supply cylinder and 7 psig from the reserve cylinder. A built-in indicator gives indication of when the changeover has taken place. This manifold changeover regulator can connect to a Second-Stage regulator but does not comply with NFPA 58 or UL 144.

Type RI 30/21... Composed of two 67 regulators and a special 0-60 psig pressure gauge, the RI 30 delivers a 45 psig outlet pressure on supply and 30 psig on reserve. The gauge, which serves as the changeover indicator, is painted red from 0-35 psig. When the dial reads in the 0-35 psig range, it indicates that the manifold has switched from the supply to the reserve cylinder.

749B/21... Large capacity changeover manifold for commercial and industrial applications. It consists of two 64 Series regulators and an 803 direct indicator. The assembly is used primarily in conjunction with either an HSRL-749B or a 64SR regulator. The standard outlet setting is 15 psig from the supply and 5 psig from the reserve. Non-stock / Special Order Item.

RI 10/21



RI 30-21



## Fisher Changeover Manifold Assemblies

| Part No.                   | Capacity BTU/HR Propane <sup>1</sup> | Inlet Connection | Outlet Connection | Outlet Pressure |                 |
|----------------------------|--------------------------------------|------------------|-------------------|-----------------|-----------------|
|                            |                                      |                  |                   | Supply Setting  | Reserve Setting |
| <b>RI 10-21</b>            | 500,000                              | 1/4" Inv. Flare  | 1/4" FNPT         | 15 PSIG         | 7 PSIG          |
| <b>RI 30-21</b>            | 1,475,000                            | 1/4" FNPT        | 1/4" FNPT         | 45 PSIG         | 30 PSIG         |
| <b>749B-21<sup>2</sup></b> | 1,500,000                            | 1/2" FNPT        | 1/2" FNPT         | 15 PSIG         | 5 PSIG          |

1. Based on 100 PSIG inlet reserve setting. 2. Non-stock/Special Order.

Note: These units are intended for use with Second-Stage regulators and/or separate relief devices which provide overpressure protection required by NFPA 58. Capacity of all these changeover manifolds is dependent on the size of the Second-Stage regulator with which they are used. If the manifolds are used as a Final-Stage (pounds to pounds), a relief valve is required in the downstream system.

# High Pressure Regulator

High pressure (pounds to pounds) regulators usually reduce tank pressure to an intermediate pressure for use by another regulator. They may be used as high pressure regulators on distribution systems when used in conjunction with a First-Stage downstream regulator. The 64SR may be used for First-Stage when set at 10 psig. They are also used for Final-Stage service on high pressure burners in crop dryers and tobacco curers, as well as other medium sized commercial/industrial applications.

The 1/4" FNPT side outlet, which is normally plugged, provides an opening for an outlet pressure gauge. Standard 64's are capable of handling liquid or vapor at temperatures under 150°F (66°C). A cover or auxiliary vent assembly should be used to protect the 1/4" FNPT regulator vent opening on outdoor installations.

64...is an adjustable high pressure regulator with a wide range of available outlet pressure ranges. It does not contain a relief valve. It should always be used in conjunction with a downstream regulator and/or separate relief devices in compliance with NFPA 58 overpressure protection requirements.

64KB...has a special diaphragm protection that makes the unit suitable for NH<sub>3</sub> service. The 1/4" FNPT tapped and plugged side outlet can be used to install a pressure gauge (J542), or a hydrostatic relief valve. Removing the bottom plug permits easy access to the valve disc, without having to remove the regulator from the line.

64SR...is a high pressure regulator, which has an internal relief valve. As such it may be used as a Final-Stage regulator on high pressure systems. It may also be used as a First-Stage regulator when set at 10 psig or less.

*Note: If the installation location makes the ignition of vented gas a possibility, then a vent line should be installed from the 64SR vent to a safe location.*



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## Fisher High Pressure Regulators

| Part No.       | Description                | Capacity BTU/HR Propane <sup>1</sup> | Outlet Pressure Setting | Outlet Adjustment Range | Inlet and Outlet Connections |
|----------------|----------------------------|--------------------------------------|-------------------------|-------------------------|------------------------------|
| <b>64/33</b>   | Basic Regulator            | 2,625,000                            | 10 PSIG                 | 3-15 PSIG               | 1/2" FNPT                    |
| <b>64/35</b>   |                            | 3,600,000                            | 20 PSIG                 | 5-35 PSIG               |                              |
| <b>64/36</b>   |                            | 4,150,000                            | 40 PSIG                 | 30-60 PSIG              |                              |
| <b>64/222</b>  |                            | 5,250,000                            | 50 PSIG                 | 35-100 PSIG             |                              |
| <b>64SR/21</b> | With Internal Relief Valve | 2,625,000                            | 10 PSIG                 | 3-15 PSIG               |                              |
| <b>64SR/22</b> |                            | 3,000,000                            | 15 PSIG                 | 5-20 PSIG               |                              |
| <b>64SR/23</b> |                            | 3,600,000                            | 20 PSIG                 | 5-35 PSIG               |                              |

<sup>1</sup>. Based on inlet pressure 20 PSIG greater than outlet with 20% droop; Liquid capacity = 160 GPH.

## Fisher Type 64KB High Pressure Regulators - Suitable for NH<sub>3</sub> Service\*

| Part No.        | Capacity, CFH (NH <sub>3</sub> ) <sup>1</sup> | Outlet Adjustment Setting | Outlet Adjustment Range | Inlet & Outlet Connections |
|-----------------|---|---------------------------|-------------------------|----------------------------|
| <b>64KB/33</b>  | 1,650   | 10 PSIG                   | 3 - 15 PSIG             | 1/2" FNPT                  |
| <b>64KB/35</b>  | 2,250   | 20 PSIG                   | 5 - 35 PSIG             |                            |
| <b>64KB/36</b>  | 2,600   | 40 PSIG                   | 30 - 60 PSIG            |                            |
| <b>64KB/222</b> | 3,300   | 50 PSIG                   | 35 - 100 PSIG           |                            |

<sup>1</sup>. Liquid is 145 GPH at 20 PSIG above set point and 20% droop. Vapor capacity based on 20 PSIG above set point and 20% droop. \*Non-Stock, Call for pricing & availability.

# High Pressure Regulators



67CH

67 Series...Suitable for liquid or vapor service, the 67C Series high pressure (pounds to pounds) regulators are used on a variety of applications. All types within the series have a 1/4" FNPT side outlet in which a pressure gauge (J500 series) can be installed. The compact size of the 67C makes it particularly useful on installations where space is limited.

The regulator design utilizes precise guiding of the valve plug to provide close regulation and high performance.

Note: 67C Series regulators do not have an internal relief valve. These units should not be installed in fixed piping serving 1/2 psig appliance systems.



67CD

## Fisher High Pressure Regulators

| Type Number      | Description                            | Capacity BTU/HR Propane | Outlet Pressure Setting | Inlet & Outlet Connection |
|------------------|--|-------------------------|-------------------------|---------------------------|
| <b>67CW-683</b>  | Basic Regulator (wrench adjustment)    | 675,000                 | 15 psig                 | 3 - 20 psig               |
| <b>67CW-684</b>  |  | 750,000                 | 20 psig                 | 3 - 35 psi                |
| <b>67CW-685</b>  |  | 1,200,000               | 40 psig                 | 30 - 60 psig              |
| <b>67CW-687</b>  |  | 750,000                 | 20 psig                 | 3 - 35 psi                |
| <b>67CW-701</b>  |  | 1,000,000               | 50 psig                 | 50 - 135 psig             |
| <b>67CH-751</b>  | Basic Regulator (Handwheel Adjustment) | 675,000                 | 15 psig                 | 3 - 20 psig               |
| <b>67CH-743</b>  |  | 750,000                 | 20 psig                 | 3 - 35 psig               |
| <b>67CH-742</b>  |  | 1,200,000               | 40 psig                 | 30 - 60 psig              |
| <b>67CH-741</b>  |  | 10,000,000              | 50 psig                 | 50 - 135 psig             |
| <b>67CD-100</b>  | Dial Cap Adjustment                    | 675,000                 | 15 spig                 | 5 - 20 psig               |
| <b>67CD-101*</b> |  | 750,000                 | 15 psig                 | 5 - 30 psig               |
| <b>67CD-102*</b> |  | 1,200,000               | 40 psig                 | 20 - 50 psig              |
| <b>67CD-103*</b> |  | 1,000,000               | 50 psig                 | 40 - 100 psig             |
| <b>67CN-106</b>  | Non-Adjustable                         | 400,000                 | 10 psig                 | Non-Adjustable            |
| <b>67CN-104</b>  |  | 600,000                 | 15 psig                 |                           |
| <b>67CN-105</b>  |  | 750,000                 | 20 psig                 |                           |

\* Pressure is permanently calibrated on spring case.



67CW



67CN



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# High Pressure Regulators (cont.)



912

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## High Pressure Regulators

| Type Number   | Capacity BTU/HR Propane <sup>1</sup> | Outlet Pressure Setting | Outlet Adjustment Range | Inlet and Outlet Connection |
|---------------|--------------------------------------|-------------------------|-------------------------|-----------------------------|
| <b>912</b>    | 1,200,000                            | 40PSIG                  | 30-60 PSIG              | 1/4" FNPT                   |
| <b>C6120</b>  | 600,000                              | 15PSIG                  | 5-45 PSIG               |                             |
| <b>350-00</b> | 1,000,000                            | 10 PSIG                 | 0-17 PSIG               |                             |



C6120



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350-00

# Commercial/Industrial Regulators

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For large loads like factories, office buildings, restaurants, etc., Fisher has a variety of commercial/industrial regulators. Only the most popular commercial and industrial regulators are shown here. Other orifice sizes and outlet pressure ranges are available. The higher capacities on commercial and industrial installations usually require a Two-Stage regulator system.



627

627 & 630... Large capacity high pressure regulators for use in conjunction with CS400 and S202G units. They can also be used on Final-Stage (pounds to pounds) service. An 1805 relief valve is recommended to prevent excessive build-up in the downstream line.

627M ... Monitor regulators

Gas system monitoring is overpressure control by containment. When the primary regulator fails to control the source pressure, a second regulator installed in series, which has been sensing the downstream pressure, goes into operation to maintain the downstream pressure at a slightly higher than normal pressure. The monitoring configuration is commonly used for large and multiple outlet installations, such as with jurisdictional systems.

The major advantage is there is no venting to atmosphere. During an overpressure situation, monitoring keeps the customer on line and keeps the downstream pressure close to the set point of the working regulator. To perform a periodic test on a monitor, increase the outlet set pressure and watch the pressure to determine if the monitor takes over.



CS400



When selecting regulators for use in a monitor system, the upstream regulator must have a control line. When determining the capacity of a monitor system, keep in mind the flow will be approximately 70% of the capacity of a single regulator when using the same regulator for both regulators in the system.



S202G

CS400 AND CS200... Large capacity low pressure regulators for installation at schools, bakeries, and many other commercial/industrial applications. Both contain a limited capacity internal relief valve; for high capacity relief, a 289 or 289P relief valve is required in the downstream system.

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# Commercial/Industrial Regulators (cont.)

## Fisher Commercial/Industrial Regulators

| Type Number                  | BTU/HR Capacity <sup>3</sup> | Orifice Size | Inlet/Outlet Connection | Outlet Pressure Range | Outlet Pressure Setting | Maximum Operating Inlet Pressure |
|------------------------------|------------------------------|--------------|-------------------------|-----------------------|-------------------------|----------------------------------|
| <b>627/5810</b>              | 6,080,000                    | 3/8"         | 3/4" FNPT               | 5-20 psig             | 10 psig                 | 250 psig                         |
| <b>627/5810V'</b>            | 6,080,000                    | 3/8"         | 3/4" FNPT               | 5-20 psig             | 10 psig                 | 250 psig                         |
| <b>627R/1113<sup>2</sup></b> | 6,080,000                    | 3/8"         | 3/4" FNPT               | 5-20 psig             | 10 psig                 | 200 psig                         |
| <b>627/6210</b>              | 10,755,000                   | 1/2"         | 3/4" FNPT               | 5-20 psig             | 10 psig                 | 250 psig                         |
| <b>627/6210V'</b>            | 10,755,000                   | 1/2"         | 3/4" FNPT               | 5-20 psig             | 10 psig                 | 250 psig                         |
| <b>627/7710</b>              | 10,773,000                   | 1/2"         | 1" FNPT                 | 5-20 psig             | 10 psig                 | 250 psig                         |
| <b>627/7710V'</b>            | 10,773,000                   | 1/2"         | 1" FNPT                 | 5-20 psig             | 10 psig                 | 250 psig                         |
| <b>627M-416</b>              | 6,080,000                    | 3/8"         | 3/4" FNPT               | 5-20 psig             | 10 psig                 | 250 psig                         |
| <b>627M-421</b>              | 10,755,000                   | 1/2"         | 3/4" FNPT               | 5-20 psig             | 10 psig                 | 250 psig                         |
| <b>627M-471</b>              | 10,773,000                   | 1/2"         | 1" FNPT                 | 5-20 psig             | 10 psig                 | 250 psig                         |
| <b>627M-267</b>              | 10,142,200                   | 1/2"         | 2" FNPT                 | 5-20 psig             | 10 psig                 | 250 psig                         |
| <b>630-104/78</b>            | 14,000,000                   | 1/2"         | 1" FNPT                 | 8-20 psig             | 10 psig                 | 250 psig                         |
| <b>CS200IR6EC1</b>           | 2,500,000                    | 1/2"         | 3/4" FNPT               | 10 - 14" wc           | 11" wc                  | 40 psig                          |
| <b>CS200IR6EC3</b>           | 3,800,000                    | 1/2"         | 1" FNPT                 | 10 - 14" wc           | 11" wc                  | 40 psig                          |
| <b>CS200IR6EC6</b>           | 3,900,000                    | 1/2"         | 1 1/4" FNPT             | 10 - 14" wc           | 11" wc                  | 40 psig                          |
| <b>CS400IR-8EC6</b>          | 6,800,000                    | 3/4"         | 1 1/4" FNPT             | 10 - 14" wc           | 11" wc                  | 20 psig                          |
| <b>CS400IR-8EC7</b>          | 7,600,000                    | 3/4"         | 1 1/2" FNPT             | 10 - 14" wc           | 11" wc                  | 20 psig                          |
| <b>CS400IR-8EC8</b>          | 7,600,000                    | 3/4"         | 2" FNPT                 | 10 - 14" wc           | 11" wc                  | 20 psig                          |
| <b>S202G-BNC</b>             | 10,200,000                   | 1"           | 1 1/2" FNPT             | 9 - 18" wc            | 11" wc                  | 25 psig                          |
| <b>S202G-CNC</b>             | 21,600,000                   | 1"           | 2" FNPT                 | 9 - 18" wc            | 11" wc                  | 25 psig                          |
| <b>S202H-CNK</b>             | 21,954,000                   | 1"           | 2" FNPT                 | 1.5 - 3.25 psig       | 2 psig                  | 25 psig                          |

Notes:

- (1) Regulator denoted with V has Vitron Trim
- (2) Regulator has an internal relief
- (3) For all 627 & 630 series regulators the capacities are based in inlet pressure 20 psig greater than outlet pressure, internal registration and 20% droop. For the S202G-BNC and CNC regulators the capacities are based on 10 psig inlet pressure and 2" wc droop. The S202H regulator capacity is based on 10 psig inlet and 20% droop

All regulator models have alternate orifice sizes and pressure ranges available - please discuss your needs with our sales team

*Note: Because of various spring ranges and orifice sizes, all commercial and industrial regulators should be individually sized for the particular installation. Consult specific product bulletins for maximum pressures.*



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Supplemental relief valves for use with;

627 & 630 regulators use 1805-19 (1") or 1805-52 (2")  
S302 & S202 regulators use 289H-2 (2")

# High Capacity Commercial/Industrial Regulators

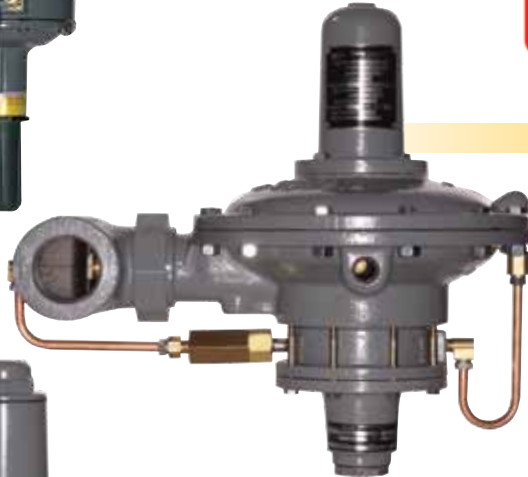
299H



Type 299H...A high capacity pressure control regulator which uses the same operating principles as the Type 99. A lightweight (21 lbs.), yet dependable regulator for applications from large commercial sites to smaller multi-dwelling establishments. Cast iron body with internal or external registration.



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Type 99...Pilot operated unit keeps outlet pressure constant despite varying flow rates and inlet pressures. The 99 can be used for low or high pressure. A downstream control line is required.

Notes:

- 1) Because of various spring ranges and orifice sizes, all commercial and industrial regulators should be individually sized for the particular installation. Consult specific product bulletins for maximum pressures, or call Bergquist, 800-537-7518 for assistance.
- 2) Additional relief valves are usually required with the above regulators.

99

Type 133...Self-operating Second-Stage regulator for either low pressure or pounds service. Maximum inlet pressure is 60 psig, and a downstream control line is required.

133L-4



## Fisher High Capacity Commercial / Industrial Regulators

| Type Number | Capacity BTU/Hr | Orifice Size | Inlet/Outlet Connection | Outlet Pressure Range | Inlet and Outlet for Capacity Calculation | Maximum Inlet Pressure | Pressure Registraion  |
|-------------|-----------------|--------------|-------------------------|-----------------------|---|------------------------|-----------------------|
| 299-101     | 13,100,000      | 3/4"         | 1 1/2" FPT              | 9 - 20" WC            | 10 PSI - 14" WC                           | 150                    | Internal Registration |
| 299-102     | 19,700,000      | 3/4"         | 2" FPT                  | 9 - 20" WC            | 10 PSI - 14" WC                           | 150                    | Internal Registration |
| 299-103     | 23,400,000      | 3/4"         | 1 1/2" FPT              | 6 - 16 PSI            | 30 PSI - 10 PSI                           | 150                    | Internal Registration |
| 299-104     | 38,200,000      | 3/4"         | 2" FPT                  | 6 - 16 PSI            | 30 PSI - 10 PSI                           | 150                    | Internal Registration |
| 299-105     | 20,500,000      | 3/4"         | 1 1/2" FPT              | 9 - 20" WC            | 10 PSI - 14" WC                           | 150                    | External Registration |
| 299-106     | 20,500,000      | 3/4"         | 2" FPT                  | 9 - 20" WC            | 10 PSI - 14" WC                           | 150                    | External Registration |
| 99-501      | 49,000,000      | 1 1/8"       | 2" FPT                  | 1/4 PSI - 2 PSI       | 20 PSI - 2 PSI                            | 150                    | External Registration |
| 99-505PH    | 37,900,000      | 1 1/8"       | 2" FPT                  | 10 - 20 PSI           | 20 PSI - 10 PSI                           | 300                    | External Registration |
| 99-510      | 29,400,000      | 7/8"         | 2" FPT                  | 1/4 PSI - 2 PSI       | 20 PSI - 2 PSI                            | 150                    | External Registration |
| 99-515      | 36,300,000      | 7/8"         | 2" FPT                  | 10 - 20 PSI           | 20 PSI - 10 PSI                           | 250                    | External Registration |
| 133H-2      | 106,000,000     | 2"           | 2" FPT                  | 2 - 5 PSI             | 20 PSI - 5 PSI                            | 60                     | External Registration |
| 133H-3      | 80,700,000      | 2"           | 2" FPT                  | 5 - 10 PSI            | 20 PSI - 10 PSI                           | 60                     | External Registration |
| 133L-4      | 71,200,000      | 2"           | 2" FPT                  | 8.5 - 18" WC          | 10 PSI - 14" WC                           | 60                     | External Registration |
| 133L-6      | 72,700,000      | 2"           | 2" FPT                  | .75 - 2 PSI           | 10 PSI - 2 PSI                            | 60                     | External Registration |

# High Capacity Commercial/Industrial Regulators



## Diaphragm Relief Valves

Both the **Type 1805** and **289H** are diaphragm relief valves that protect piping downstream of a regulator from excessive pressure.

**Type 1805** is usually installed between a First and Second-Stage regulator or in the downstream line from a high pressure regulator used for Final-Stage service. Its internal parts can be removed without taking the body out of the line.



1805-19

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**Type 289H** is installed between large Second-Stage regulators and the burner to provide high capacity relief. The large diaphragm in these valves provides extremely sensitive operation.



289H-2



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## Fisher Diaphragm Relief Valves

| Type Number    | Body Size | Relief Pressure Setting | Relief Adjustment Range | Propane Relief Capacity at Following Pressure Buildup Over Relief Setting |             |
|----------------|-----------|-------------------------|-------------------------|---|-------------|
|                |           |                         |                         | 1 psig  | 15 psig     |
| <b>1805-19</b> | 1" FNPT   | 30 psig                 | 10 - 60 psig            | ---   | 3,800 scfh  |
| <b>1805-52</b> | 2" FNPT   | 30 psig                 | 10 - 50 psig            | ---   | 11,300 scfh |
| <b>289H-1</b>  | 2" FNPT   | 1.0 psig                | 7' - 18' wc             | 10,000 scfh   | ---         |
| <b>289H-2</b>  | 2" FNPT   | 1.0 psig                | .5 - 2.25 psig          | 11,000 scfh   | ---         |
| <b>289H-41</b> | 1" FNPT   | 1.0 psig                | 1 - 4.5 psig            | 4,396 scfh  | ---         |
| <b>289H-42</b> | 1" FNPT   | 1.0 psig                | 4 - 15 psig             | ---   | 24,500 scfh |
| <b>289H-43</b> | 1" FNPT   | 1.0 psig                | 10 - 20 psig            | ---   | 26,500 scfh |
| <b>289L-21</b> | 1" FNPT   | 1.0 psig                | 12" - 40" wc            | 4,100 scfh  | ---         |

Fisher offers a wide variety of sizes and spring ranges in addition to the above commonly asked for valves. Contact our inside sales staff for additional valves and information.