

# FR1400 Series

UHP Single Stage, High Flow, Pressure Reducing Regulator



## Precise Control, High Flow Performance

The FR1400 Series ultra high purity, pressure reducing regulator offers high flow capability with an inlet pressure up to 3000 psig and is an excellent choice for cylinder or point of use bulk and specialty gas applications.

The large, tied Hastelloy C-22® diaphragm provides stable control over its full operational range while providing a robust seal for hazardous gas applications.



## Contact Information:

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## Product Features:

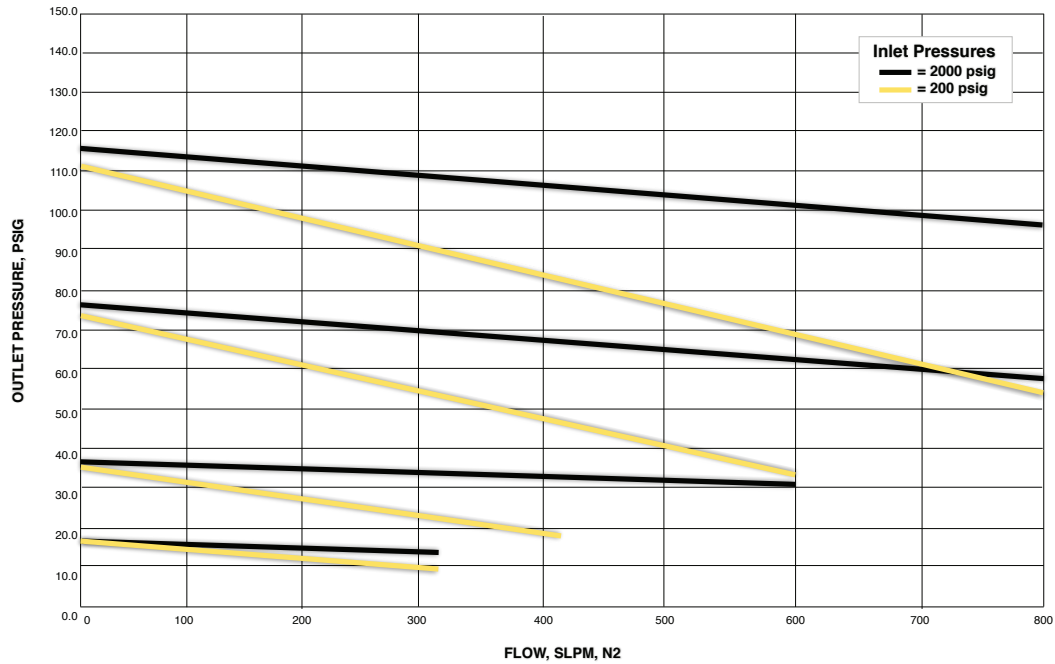
- 316L stainless steel body
- Manufactured for ultra high purity semiconductor gas applications
- Metal-to-metal diaphragm seal
- 10  $\mu$  in. Ra surface finish
- Passivated & Electropolished
- Tied diaphragm design
- Hastelloy C-22® diaphragm and poppet standard
- Flows up to 800 slpm (28 scfm)



ENGINEERING YOUR SUCCESS.

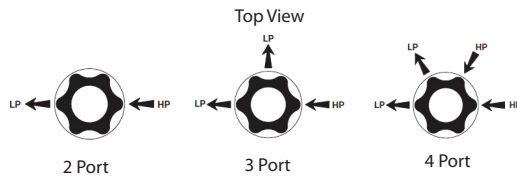
# FR1400 Series

## Flow Curves

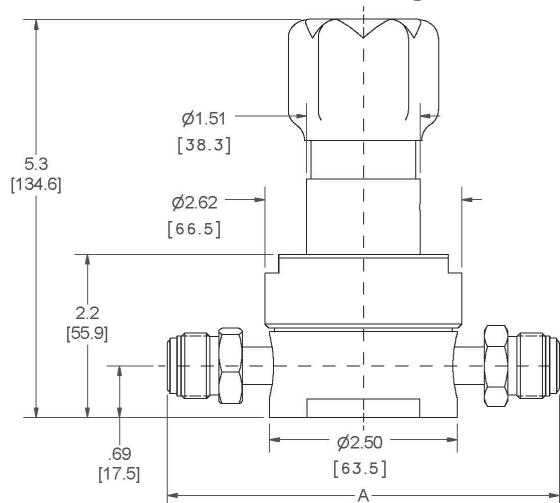


Additional flow curves available upon request

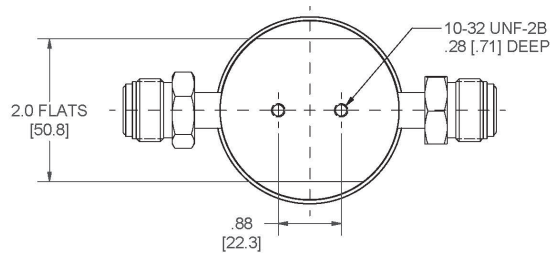
## Porting Configurations



## Dimensional Drawings



All dimensions in inches. Metric dimensions are for reference only.



**DIMENSION TABLE**

| Connection Type | End to End Dimension (A)     |
|-----------------|------------------------------|
| 1/4" Face Seal  | 4.30 ± .02 in. (109 ± .5 mm) |
| 3/8" Face Seal  | 5.22 ± .02 in. (133 ± .5 mm) |
| 3/8" Tube Stub  | 4.00 ± .02 in. (102 ± .5 mm) |
| 1/2" Face Seal  | 5.22 ± .02 in. (133 ± .5 mm) |
| 1/2" Tube Stub  | 4.34 ± .02 in. (110 ± .5 mm) |

Safety Guide and Installation and Operating Instructions available at  
[www.parker.com/veriflo](http://www.parker.com/veriflo)

# FR1400 Series

## Ordering Information

Build an FR1400 Series regulator by replacing the numbered symbols with an option from the corresponding tables below.

Sample: **FR1415 H S 5 K 4P X X FS6 FF TH**  
Finished **FR1415HS5K4PXXFSFFTH**

### 1 Basic Series Configuration

FR1403 = 1 - 30 psig  
FR1406 = 5 - 60 psig  
FR1410 = 10 - 100 psig  
FR1415 = 15 - 150 psig

### 2 Source Pressure Range

H = 300 - 3000 psig  
L = 0 - 300 psig

### 3 Body Material

S = 316L SS  
D = 316L SS (Double melt) \*

\* Captured bonnet with 1/8" FNPT vent port standard with 316L SS double melt body.

### 4 Flow Capacity

5 = 0.5 Cv

### 5 Seat Material

K = PCTFE  
V = Polyimide

### 6 Porting\*

2P = 2 Ports  
3P = 3 Ports  
4P = 4 Ports

\* Refer to the Regulator Porting Guide, 25000156, for additional porting configurations.

### 7 Outlet Gauge\*

X = No Gauge  
03 = 0 - 30 psig  
OL = 0 - 60 psig  
01 = 0 - 100 psig  
2 = 0 - 200 psig  
4 = 0 - 400 psig

\* Only include with "3P" or "4P" body configurations.

### 8 Inlet Gauge\*

X = No Gauge  
01 = 0 - 100 psig  
4 = 0 - 400 psig  
10 = 0 - 1000 psig  
20 = 0 - 2000 psig  
30 = 0 - 3000 psig  
40 = 0 - 4000 psig

\* Only include with "4P" body configuration.

### 9 Port Style

FS = 1/4" Face Seal  
FS6 = 3/8" Face Seal \*  
TS6 = 3/8" Tube Stub  
FS8 = 1/2" Face Seal  
TS8 = 1/2" Tube Stub

\* Provided with 1/2" face seal nuts.

### 10 Port Configuration

M = Male  
F = Female  
I = Internal Face Seal  
(gauge ports only)

\* 1/4" FS-M Gauge Ports are Standard

\*\* Extended lead times for configurations with non-matching end connections.

### 11 Optional Features

This section can have multiple options

Blank = None  
PM = Panel Mount  
TH = Hastelloy® Trim (Seat Retainer)

Blue = Configurations that have selections in blue may have an extended lead time. Contact Parker Veriflo for further details.

# FR1400 Series

## Specifications

| Wetted Materials of Construction |  |
|----------------------------------|--|
| Body                             | 316L SS (std),<br>316L SS Double melt - VeriClean® |
| Diaphragm                        | Hastelloy C-22®                                    |
| Poppet                           | Hastelloy C-22®                                    |
| Poppet Spring                    | Inconel®   |
| Seat Retainer                    | 316L SS, Hastelloy C-22®                           |
| Seat                             | PCTFE (std), Polyimide                             |
| Finish                           | Passivated & Electropolished                       |

For additional information on materials of construction, functional performance and operating conditions, please contact factory.

All specifications subject to change without notice.

Hastelloy C-22® is a registered trademark of Haynes International, Inc.  
Inconel® is a registered trademark of Special Metals Corporation

| Functional Performance     |   |
|----------------------------|---|
| Flow Capacity (Cv)         | 0.5   |
| Internal Leakage (seat)    | $\leq 4 \times 10^{-8}$ scc/sec He                        |
| External Leakage (Inboard) | $\leq 2 \times 10^{-10}$ scc/sec He                       |
| Supply Pressure Effect     | 1.6 psig / 100 psig                                       |
| Internal Volume            |   |
| 1/4" Face Seal             | .20 in <sup>3</sup> (3.3 cm <sup>3</sup> ) <sup>1</sup>   |
| 1/2" Face Seal             | 1.07 in <sup>3</sup> (17.5 cm <sup>3</sup> ) <sup>1</sup> |
| Proof Pressure             | 4,500 psig  |
| Burst Pressure             | 9,000 psig  |
| Operating Conditions       |   |
| Maximum Inlet Pressure     | 300 or 3000 psig <sup>2</sup>                             |
| Temperature                | -40°F to 160°F <sup>2</sup> (-40°C to 71°C)               |
| Mounting                   | Surface (std.), panel                                     |

1. Internal volume includes end connections.
2. Pressure rating based on nominal temperature conditions.  
Contact Parker Veriflo for specific information regarding regulator performance at temperature.

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