

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.



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Product Features:

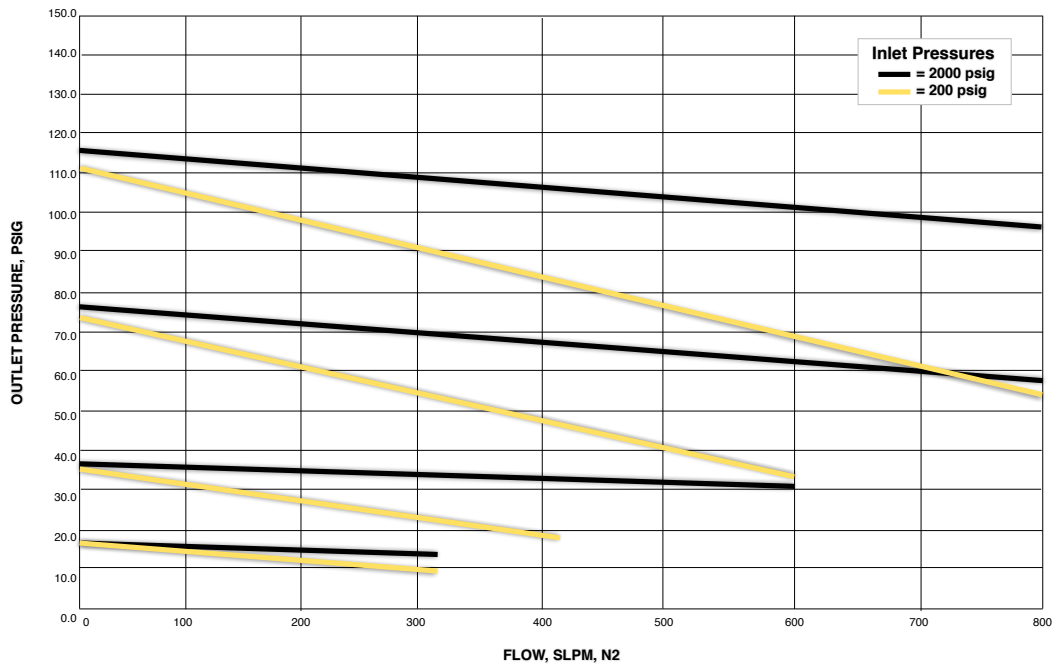
- 316L stainless steel body
- Manufactured for ultra high purity semiconductor gas applications
- Metal-to-metal diaphragm seal
- 10 μ in. Ra surface finish
- Passivated & Electropolished
- Tied diaphragm design
- Hastelloy C-22® diaphragm and poppet standard
- Flows up to 800 slpm (28 scfm)



ENGINEERING YOUR SUCCESS.

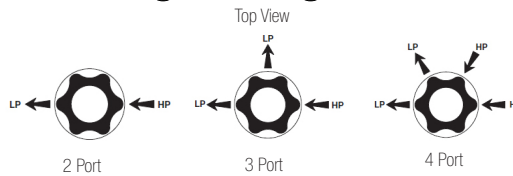
FR1400 Series

Flow Curves

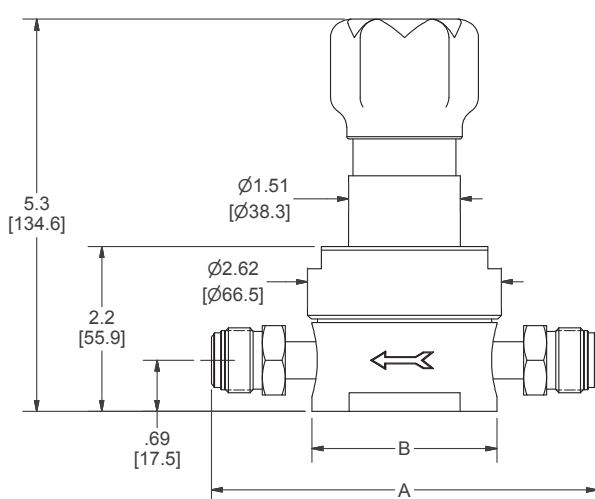


Additional flow curves available upon request

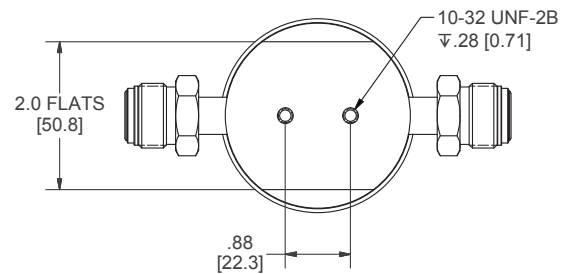
Porting Configurations



Dimensional Drawings



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



DIMENSION TABLE

Body Style	Connection Type	End to End Dimension (A)	Body Diameter (B)
Single Melt	1/4" Face Seal	4.30 ± .02 in. [109 ± .5 mm]	Ø2.50
	1/4" Face Seal (female)	3.70 ± .02 in. [94 ± .5 mm]	Ø2.38
Double Melt	1/4" Face Seal (male)	4.00 ± .02 in. [102 ± .5 mm]	Ø2.38
	1/4" Tube Stub	3.46 ± .02 in. [88 ± .5 mm]	Ø2.38
	3/8" Face Seal	5.22 ± .02 in. [133 ± .5 mm]	Ø2.50
Single/Double Melt	3/8" Tube Stub	4.00 ± .02 in. [102 ± .5 mm]	Ø2.50
	1/2" Face Seal	5.22 ± .02 in. [133 ± .5 mm]	Ø2.50
	1/2" Tube Stub	4.34 ± .02 in. [110 ± .5 mm]	Ø2.50
Double Melt	3/4" Face Seal	6.26 ± .02 in. [159 ± .5 mm]	Ø2.50
	3/4" Tube Stub	5.00 ± .02 in. [127 ± .5 mm]	Ø2.50

Safety Guide and Installation and Operating Instructions available at

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.

Contact factory for most up to date lead time information.

Blue = Configurations that have selections in blue will require a quote from the factory

Sample: **FR1415** **H** **S** **5** **K** **4P** **X** **X** **FS6** **FF** **TH**
Finished Order: **FR1415HS5K4PXXFS6FFTH**

1 Basic Series

FR1403 = 1 - 30 psig
FR1406 = 5 - 60 psig
FR1410 = 10 - 100 psig
FR14135 = 15 - 135 psig
FR1415 = 15 - 150 psig

2 Source Pressure Range*

H = 0 - 3000 psig
L = 0 - 300 psig
** For low inlet pressure applications below 300 psig, specify "L" model for improved droop performance.*

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*

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

TS = 1/4" Tube Stub *Standard only when configured as TSTS*
FS = 1/4" Face Seal *Standard only when configured as FSFS*
FS6 = 3/8" Face Seal ** Standard only when configured as FS6FS6*
TS6 = 3/8" Tube Stub *Standard only when configured as TS6TS6*
FS8 = 1/2" Face Seal *Standard only when configured as FS8FS8*
TS8 = 1/2" Tube Stub *Standard only when configured as TS8TS8*

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

*** Combinations of Port Style options may have an extended lead time.*

10 Port Configuration

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

** 1/4" FS-M Gauge Ports are Standard
Any other gauge port configuration may have an extended lead time.*

11 Optional Features

This section can have multiple options

Blank = None
PM = Panel Mount
TH = Ni-Cr-Mo alloy seat retainer (Hastelloy® or equivalent)
3.7 = 3.7" length for 1/4" male
4.88 = 4.88" length for 1/4" female

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Specifications

Wetted Materials of Construction	
Body	316L SS (std), 316L SS Double melt
Diaphragm	Ni-Cr-Mo alloy(Hastelloy® or equivalent)
Poppet	Ni-Cr-Mo alloy(Hastelloy® or equivalent)
Poppet Spring	Inconel®
Seat Retainer	316L SS (std), Ni-Cr-Mo alloy(Hastelloy® or equivalent)
Seat	PCTFE (std), Polyimide
Finish	Passivated & Electropolished

For additional information on materials of construction, functional performance and operating conditions, please refer to Veriflo report RI.EN.RP016.

All specifications subject to change without notice.

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 ³ (3.3 cm ³) ¹
1/2" Face Seal	1.07 in ³ (17.5 cm ³) ¹
Proof Pressure	4,500 psig
Burst Pressure	9,000 psig
Operating Conditions	
Maximum Inlet Pressure	300 or 3000 psig ²
Temperature	-40°F to 150°F (-40°C to 65°C)
Mounting	Surface (std.)
	Panel (1.56 in. [39.6mm] hole required)

1. Internal volume includes end connections.
2. Pressure rating based on nominal temperature conditions. Refer to Veriflo report RI.EN.RP016 for specific information regarding regulator performance at temperature.

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