

# BFR5K Series

UHP Bulk Gas Regulator  
High Flow, Welded, Stainless Steel

aerospace  
climate control  
electromechanical  
filtration  
fluid & gas handling  
hydraulics  
pneumatics  
process control  
sealing & shielding

## Value Proposition:

The BFR5K Series regulator is a compact, high flow, high performance Bulk Gas regulator designed for semiconductor processing.

The BFR5K provides a stable outlet pressure over a wide variety of conditions with flow rates as high as 5000 slpm.

The unique balanced poppet design allows the regulator to maintain the outlet pressure setting regardless of changes in the upstream pressure.



## Contact Information:

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## Product Features:

- 316L Stainless Steel Poppet and 321 Stainless Steel Bellows.
- High flow capacity.
- Tied diaphragm to poppet for added safety.
- Balanced poppet design reduces supply pressure effect.
- Capable of operating at a wide range of flows from 100 up to 5,000 slpm.
- Compatibility with semiconductor bulk gases.
- No spring in wetted area.
- Standard full internal electropolish.

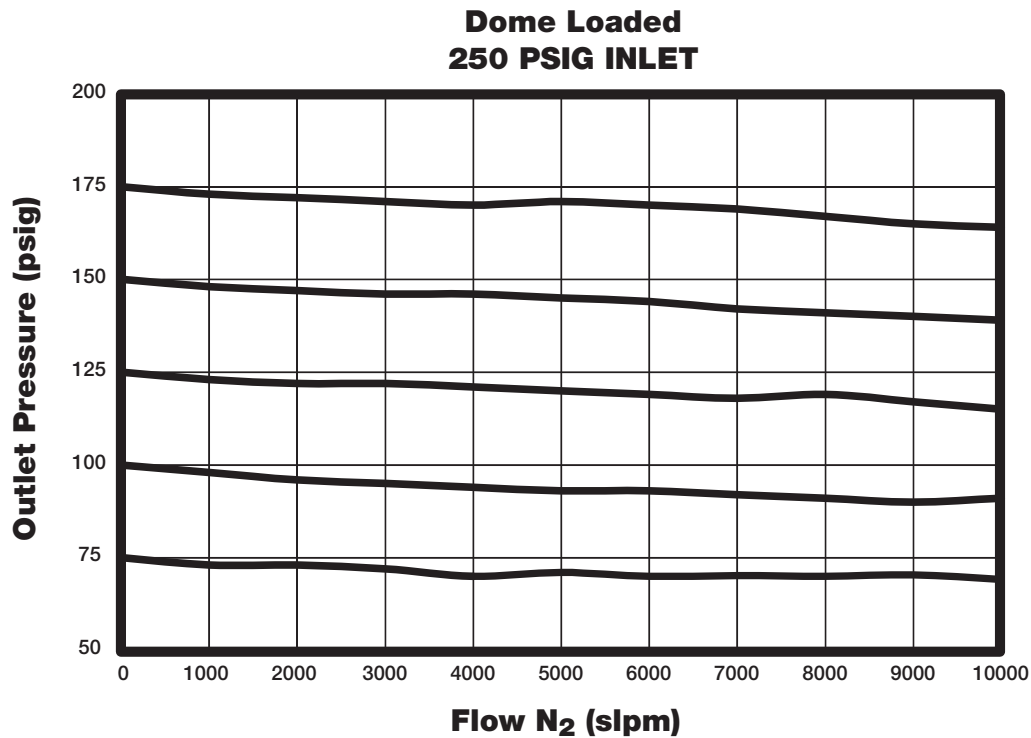


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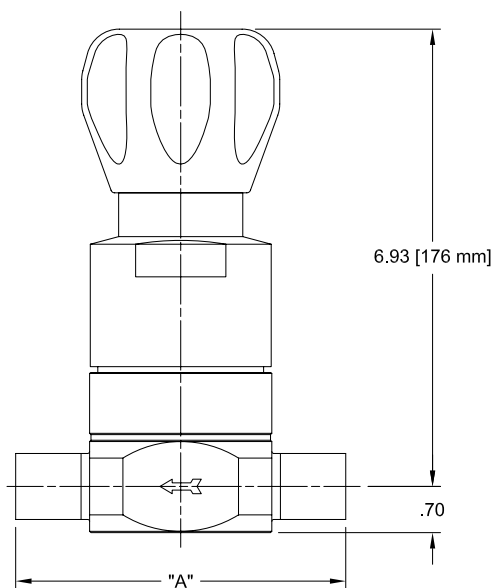
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## Flow Curve

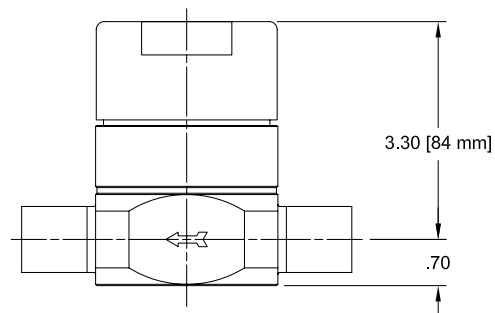
Additional flow curves available upon request



## Dimensional Drawing



| DIMENSION TABLE  |                      |        |
|------------------|----------------------|--------|
| Connection Type  | End to End Dimension |        |
|                  | "A" inches           | "A" mm |
| 3/4" Face Seal   | 6.0                  | 152.4  |
| 1" Face Seal     | 6.5                  | 165.1  |
| 3/4" Tube Stub   | 5.0                  | 127.0  |
| 1" Tube Stub     | 5.0                  | 127.0  |
| 1-1/2" Tube Stub | 10.5                 | 266.7  |



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## Ordering Information

Build a BFR5K Series regulator by replacing the numbered symbols with an option from the corresponding tables below.

**Color Explanations:** Black = Standard Lead Time Configurations  
Blue = Extended Lead Time Configurations

For an explanation of Ordering options please reference literature 25000275 at [www.parker.com/veriflo](http://www.parker.com/veriflo)

Sample: **BFR5K 100 S K 3P 01 FS16 MMM G**  
Finished Order: **BFR5K100SK3P01FS16MMMG**

**1 Pressure Setting**  
Range      Outlet Gauge  
60 = 0 - 60 psig  
100 = 0 - 100 psig  
150 = 0 - 150 psig      2  
200 = 0 - 200 psig      2  
DL = 0 - 200 psig (Dome Loaded)

**2 Body Material**  
S = 316L Stainless Steel

**3 Seat Material**  
K = PCTFE

**4 Porting**  
2P = 2 Ports *No X required for gauges, inlet & outlet ports only*  
3P = 3 Ports *One X for gauge port*

**5 Outlet Gauge**  
OL = 0 - 60 psig  
01 = 0 - 100 psig  
2 = 0 - 200 psig  
4 = 0 - 400 psig  
X = No Gauge  
*Additional ranges available upon request*

**6 Port Style**  
TS12 = 3/4" Tube Stub  
TS16 = 1" Tube Stub  
TS24 = 1.5" Tube Stub  
FS12 = 3/4" Face Seal  
FS16 = 1" Face Seal

**7 Port Configuration**  
M = Male  
F = Female  
*1/4" FS-M Gauge Ports are Standard*

**8 Optional Features**  
G = Tamper Proof  
E = Ethylene Propylene O-ring  
EV = 5 Micro In Surface Finish

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## Specifications

### Materials of Construction

|                   |                                          |
|-------------------|------------------------------------------|
| <b>Wetted</b>     |                                          |
| Body              | VeriClean™ 316L Stainless Steel          |
| Poppet and Trim   | VeriClean™ 316L Stainless Steel          |
| Seat              | PCTFE                                    |
| O-ring Options    | Fluorocarbon (std) or Ethylene Propylene |
| <b>Non-wetted</b> |                                          |
| Cap               | Nickel Plated Brass                      |

### Operating Conditions

|                |                                                     |
|----------------|-----------------------------------------------------|
| Maximum Inlet  | 500 psig                                            |
| Outlet Options |                                                     |
| Manual         | 0-60 psig<br>0-100 psig<br>0-150 psig<br>0-200 psig |
| Dome Loaded    | 0-200 psig                                          |
| Temperature    | -40°F to 150°F (-40°C to 66°C)                      |

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

### Functional Performance

|                        |                                                          |
|------------------------|----------------------------------------------------------|
| <b>Flow Capacity</b>   | C <sub>v</sub> 4.5                                       |
| <b>Leak Rate</b>       |                                                          |
| Internal               | Bubble Tight                                             |
| External               | < 1 x 10 <sup>-9</sup> scc/sec He<br>Inboard Test Method |
| <b>Internal Volume</b> | 71 cc without connections                                |
| <b>Approx. Weight</b>  |                                                          |
| Dome Loaded            | 5.7 lbs. (2.6 kg)                                        |
| Manual                 | 7.7 lbs. (3.5 kg)                                        |

VeriClean™ is a trademark of Parker Hannifin Corporation  
Inconel® is a registered trademark of Special Metals Corporation

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