

# JSB Series

CRN Registration Number Available

## Back Pressure Regulating Valves for Bio-Pharma Gas Applications

J-Pure is the first fully drainable high purity gas back pressure regulator designed and built specifically for hygienic, ASME BPE gas applications.

Traditionally, regulator manufacturers adapted their industrial gas regulators for use in biopharm by simply changing the construction materials and surface finish. Not so with the J-Pure Series Model JSB.

- It's been designed specifically to eliminate all threaded connections and contaminant traps below the diaphragm.
- It is completely drainable out the inlet and outlet (an industry first in compact hygienic regulator design), and compatible with CIP and SIP practices.
- The simple trim design facilitates quick trim change out and cleaning without valve removal or complete disassembly.

The durable valve body and metal trim components are machined from ASTM A479 316L SST barstock and finished to ASME BPE SF5 (20Ra micro-inch (0,5 Ra  $\mu\text{m}$ ), electropolished) standard. The valve is outfitted with the rugged Jorlon diaphragm and Teflon or PEEK seats, all FDA approved, USP Class VI compliant materials. These materials of construction enable the JSB to withstand the rigors of continuous SIP and CIP processes if required.

### Features

- Fully drainable with no threaded connections, or contaminant traps below the diaphragm
- In-line removable seat and trim significantly reduce maintenance time
- Barstock construction guarantees material integrity and surface finish
- High flow rate coupled with high rangeability reduces need for reduced trim sizes
- Minimized internal volume
- Proprietary Jorlon diaphragm material provides exceptionally long life and CIP/SIP capability, and FDA and USP Class VI compliance
- Soft seat material for ANSI Class VI shutoff

### Documentation

The following documentation is shipped with each order:

- Steriflow Unicert
  - Traceable Material Heat Number for body and ferrules
  - Certificate of Compliance to FDA and USP Class VI
  - Certificate of Surface Finish
- Final Test Reports and Certificate of Origin, O<sub>2</sub> cleaning, etc., available upon request at time of quote, or order



### Surface finish

- ASME BPE 2009 SF5 (20 Ra  $\mu\text{in}$ , electropolished) – standard for all external and wetted metal parts
- Other finishes optional
- O<sub>2</sub> cleaning - optional

### Applications

Typically used in Biopharm or parenteral installations for modulating pressure relief during filling, or other back pressure applications. Ideal for clean gases typically found in bio-pharmaceutical, pharmaceutical and food & beverage processes including:

- Clean hygienic air
- Nitrogen
- Carbon Dioxide
- Argon
- Oxygen Sparge
- Custom purge or blanket gas
- Post SIP drying

## Specifications

**Sizes:** 1/2" (DN15) & 3/4" (DN20)

**Ends:** Clamp, Weld-stub or NPT ends

**Soft Seat Materials for ANSI Class VI Shut-Off:**

- PTFE to +225°F (107°C), FDA, USP Class VI
- PEEK to +350°F (176,7°C) FDA, USP Class VI

**Body Material:** 316L SST

**Diaphragm Material:** PTFE-based Jorlon; FDA, USP Class VI

**Maximum Inlet Pressure:** 150 psig (10,5 bar)

**Spring Ranges:** 4–40 psi (0,06–2,8 bar); 35–60 psi (2,4–4,1 bar); 50–125 psi (3,4–8,6 bar)

**Flow Characteristics:**

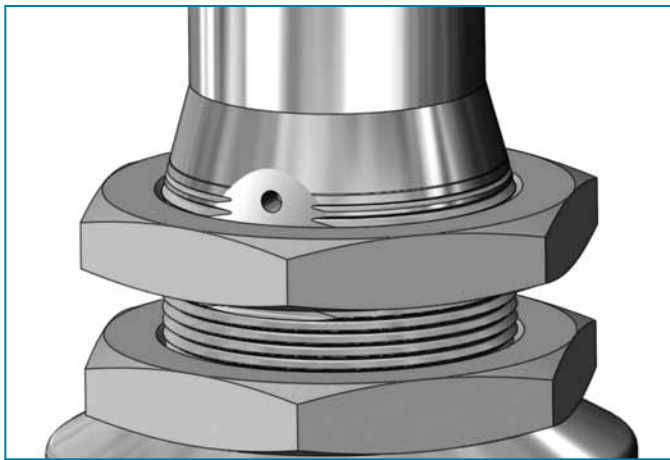
- High Flow: Trim Cv 0.8; Cv for relief valve sizing is 1.9
- Low Flow: Trim Cv 0.5; Cv for relief valve sizing is 0.6

**Surface Finish:** SF5, 20 Ra µin (0,5 Ra µm) electropolish as standard.

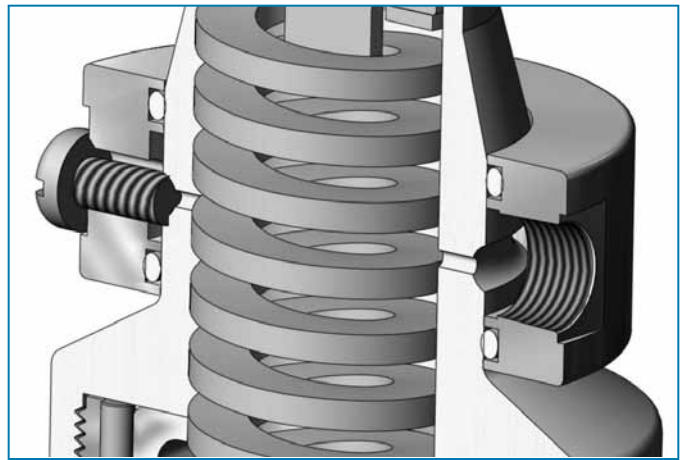
**Options:**

- Panel Mounting
- Captured Vent
- Inlet-Outlet Gauge

## Options



Panel Mount Option



Captured Vent Option (1/8" NPT)

## Option Definition

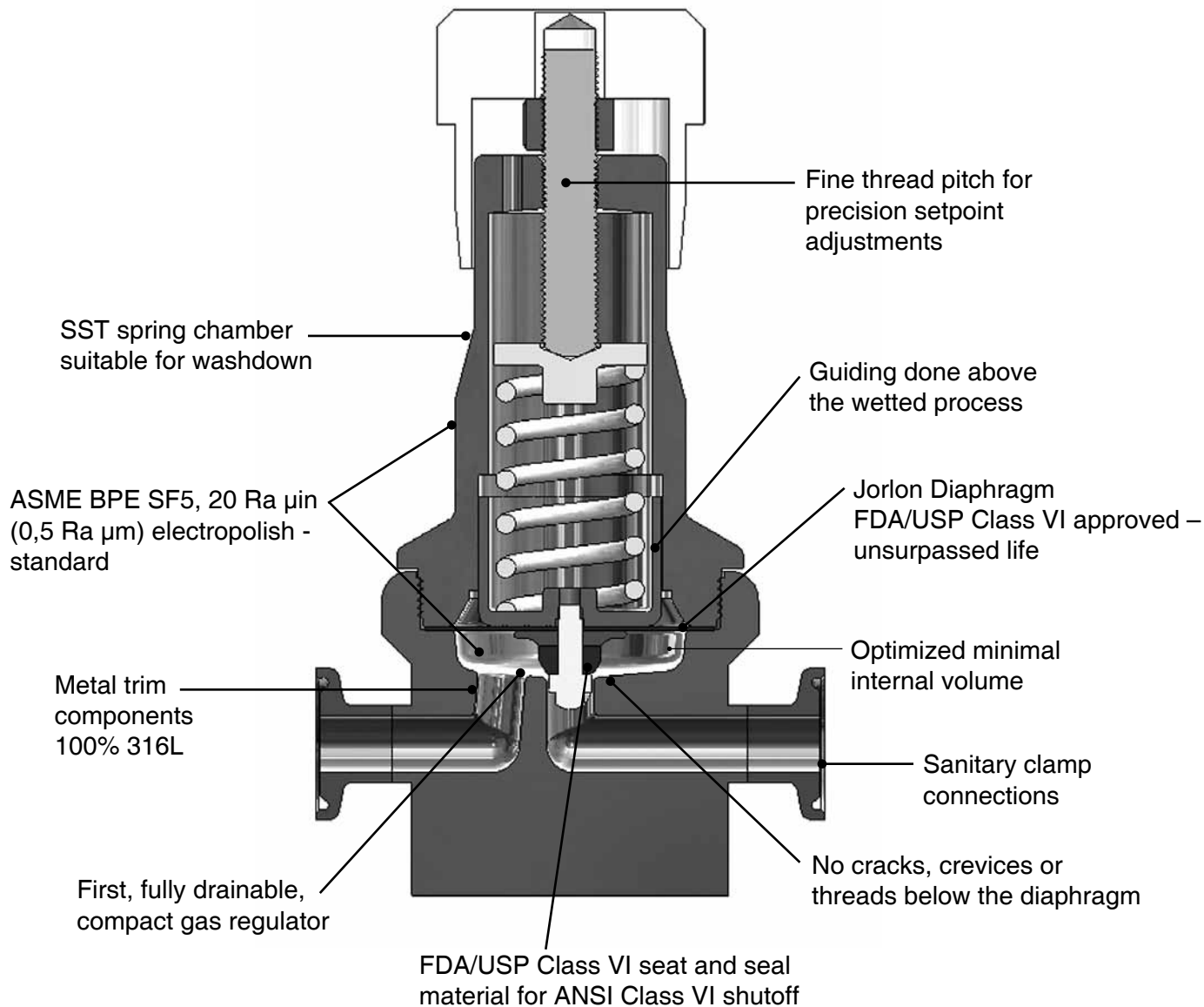
### Captured Vent

The captured vent design is for maximum safety for the user when handling toxic or hazardous media. It features a 1/8" FNPT port located on the spring housing. The user can easily tube this vent to a safe location.

### Panel Mount

The panel mount feature requires a panel cut out of 1-1/2" allowing insertion of the threaded spring housing, and a panel mount ring to secure the regulator against the panel.

## Features & Benefits

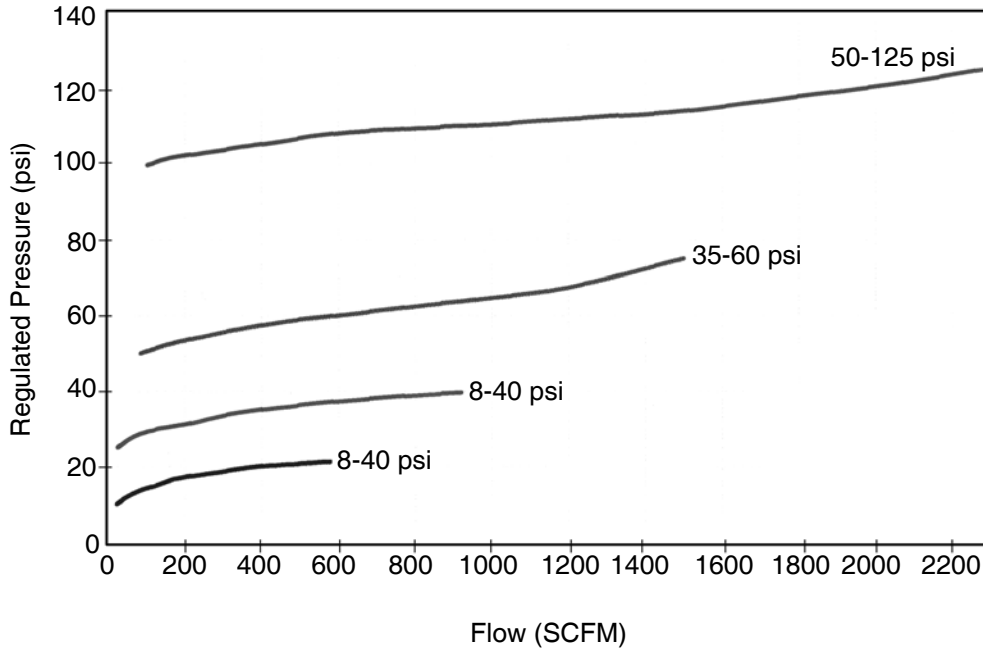


To select a valve with the proper Cv:

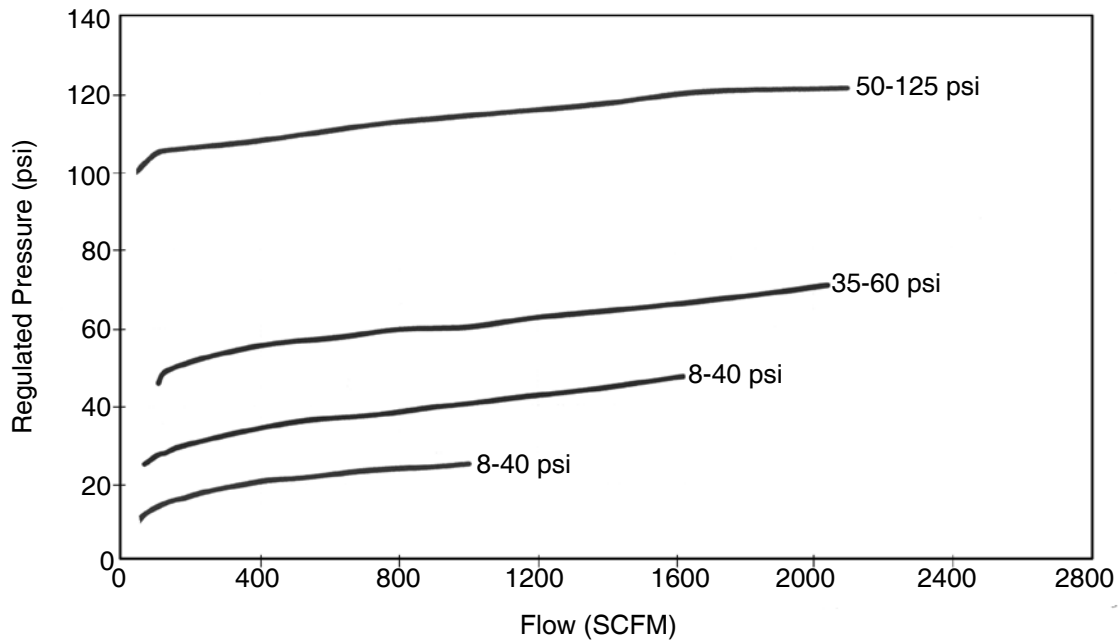
1. Convert pressure and flow units to those shown on graph.
2. Select the graph below with a flow range (x axis) that encompasses the minimum and maximum flows of your installation, and with an appropriate outlet regulated pressure range (y axis). Note: Your max flow cannot exceed either of the graphs, nor can your desired set point be below 4 psi, or above 125 psi. Note also that the maximum inlet pressure allowed is 150 psig.
3. Plot your desired set point on the graph you chose above, at the flow rate you expect that set point.
4. Pick an outlet pressure spring range flow curve that contains your set point. Eg. 50 - 125 psi, 35-60 psi, etc.
5. Draw a curve with the same slope as #4 above parallel to the spring range flow curve you have chosen through your plotted set point. That curve approximates the flow of your valve under operating conditions.
6. Note that you may also use the SFCV sizing program for Globe style valves to calculate approximate flow or Cv.

### Trim Flow Graphs

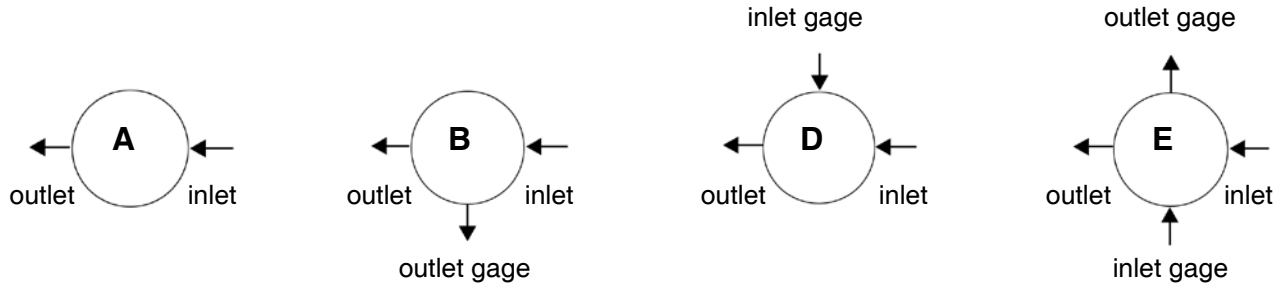
#### JSB Performance 0.5 Cv



#### JSB Performance 0.8 Cv

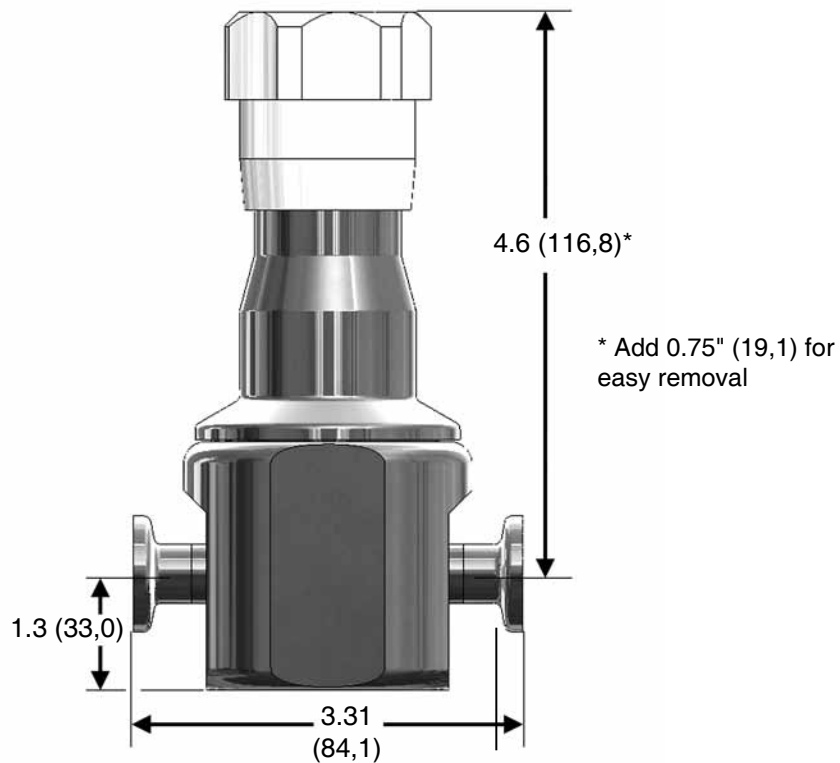


### Flow Configurations



\* Gage ports are 1/4" FNPT (consult factory for required alternative)

### Dimensions, In. (Mm)



### Sample Specifications

Stainless Steel back pressure regulator shall be made from ASTM A479 barstock material, which includes body and all wetted metal parts, and shall have SF5, 20 Ra  $\mu\text{in}$  (0,5 Ra  $\mu\text{m}$ ) electropolish finish as standard. Regulator shall be fully drainable out the inlet and outlet when installed with spring housing 90° to ground. Regulator shall be activated by an FDA approved, USP Class VI certified Jorlon diaphragm, stem shall be completely guided above the wet so as not to generate metal particulate. Regulator shall be free of exposed threads and any cracks or crevices within wetted process area. Regulator shall have trim that can be replaced inline by simply unthreading the bonnet and replacing the one piece, diaphragm and trim set. Trim set must be either FDA and USP Class VI approved Teflon, or PEEK.

## J-Pure Series High Purity Bio-Pharma Gas Back Pressure Regulating Valve

## Ordering Schematic

Model	Size	Material	1 & 2	3 & 4	5 & 6	7 & 8	9 & 10	11 & 12	13 & 14	15	16	17
JSB	50	6L										

Model	
JSB	High Purity Gas Back Pressure Reducing

Size	
050	1/2"
075	3/4"

Material	
6L	Stainless Steel 316L

1 & 2 Body Feature			
End Connection		Port Configuration	
C	Tri-Clamp 20 Ra EP	A	Port "A"
P	FNPT 20 Ra EP	B	Port "B"
T	BWE 20 Ra EP	D	Port "D"
		E	Port "E"
ZZ	Non-Standard		

3 & 4 Trim	
1S	0.8 Cv
2S	0.5 Cv
ZZ	Non-Standard

5 & 6 Seat Material	
TF	PTFE
PK	Peek
ZZ	Non-Standard

7 & 8 Range Spring/Outlet Pressure	
08	8 - 40 PSI
35	35 - 60 PSI
50	50 - 125 PSI
ZZ	Non-Standard

9 & 10 Diaphragm Material	
JL	Jorlon
ZZ	Non-Standard

11 & 12 Actuator	
SK	Standard Actuator
PM	Panel Mount
CV	Captured Vent
TP	Tamper Proof
ZZ	Non-Standard

13 & 14 Inlet Gauge*	
ØB	0 - 30 PSIG/Bar (Dual)
ØC	0 - 60 PSIG/Bar (Dual)
ØD	0 - 100 PSIG/Bar (Dual)
ØE	0 - 160 PSIG/Bar (Dual)
ØF	0 - 200 PSIG/Bar (Dual)
ØN	None
ZZ	Non-Standard

\* Gauges are Oil Free and O2 clean as standard.

15 Outlet Gauge*	
B	0 - 30 PSIG/Bar (Dual)
C	0 - 60 PSIG/Bar (Dual)
D	0 - 100 PSIG/Bar (Dual)
E	0-160 PSIG/Bar (Dual)
N	None
ZZ	Non-Standard

\* Gauges are Oil Free and O2 clean as standard.

16 SEP Compliance	
0	None Required
G	SEP Compliant
Z	Non-Standard

17 Accessories	
0	None Required
S	Clean For Oil Free*
X	Clean for Oxygen*
Z	Non-Standard



## Steriflow, a division of Jordan Valve

3170 Wasson Road • Cincinnati, OH 45209  
 513.533.5600 • 800.543.7311 • 513.871.0105 (f)  
 steriflow@richardsind.com • www.steriflowvalve.com

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