

JSR Series

CRN Registration Number Available

High Purity Bio-Pharma Gas Pressure Reducing Valves

JSR is the first high purity gas pressure regulator designed and built specifically for hygienic, ASME BPE gas applications.

Traditionally, manufacturers adapted their industrial gas regulators for use in biopharm by simply changing the construction materials and surface finish. Not so with the JSR. It's been designed specifically to eliminate the exposed threaded connections and permanent contaminant traps below the diaphragm. And, it features an in-line removable trim set to facilitate quick trim change out and cleaning without valve removal or 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, electropolished) standard. The valve is outfitted with the rugged Jorlon diaphragm and Teflon, PEEK, or EPDM seats and seals that are all FDA approved, USP Class VI compliant materials. These materials of construction enable JSR to withstand the rigors of SIP and CIP processes if required. And, the new EPDM seat reduces lockup to less than 2.5 psig.

FEATURES

- No exposed threaded connections below diaphragm
- In-line removable seat and trim facilitate cleaning and maintenance
- 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
- Soft seat material for ANSI Class VI shutoff
- Can be used on continuous clean steam, and on non-cavitating fluids.

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 available upon request at time of order



SURFACE FINISH

- ASME BPE SF5 (20Ra μ in (0,5 μ m), electropolished) – standard for all external and wetted metal parts
- Other finishes optional
- O₂ cleaning - optional

APPLICATIONS

Ideal for clean gases typically found in biopharmaceutical, pharmaceutical and food & beverage processes including:

- Clean Filter Air
- Nitrogen
- Carbon Dioxide
- Argon
- Oxygen
- Custom purge or blanket gas

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 +252°F (122°C) continuous or 275°F (135°C) intermittent [not to exceed 15 min. in a one hour period] FDA, USP Class VI
- PEEK to +350°F (176,7°C) FDA, USP Class VI
- EPDM to +300°F (150°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: 5–70 psi (0,3–4,8 bar); 50–125 psi (3,4–8,6 bar)

Flow Characteristics:

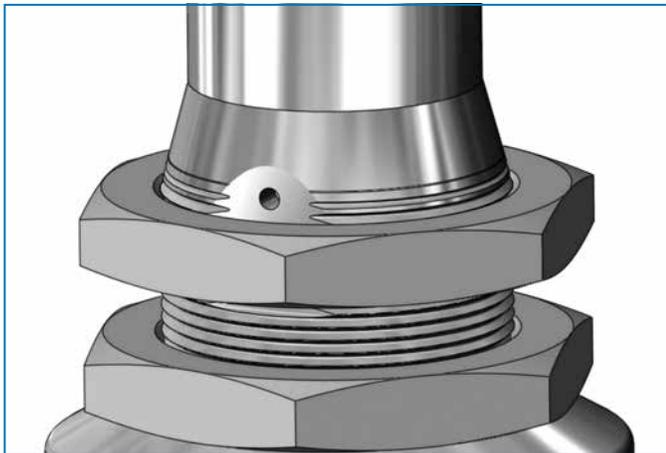
- High Flow: Trim Cv 0.8; Cv for relief valve sizing is 1.9
- Low Flow: Trim Cv 0.5; Cv for relief valve sizing is 0.6

Surface Finish: Mechanically polished to 20 Ra μ in (0.5 μ m), and electropolished as standard. Other finishes available upon request

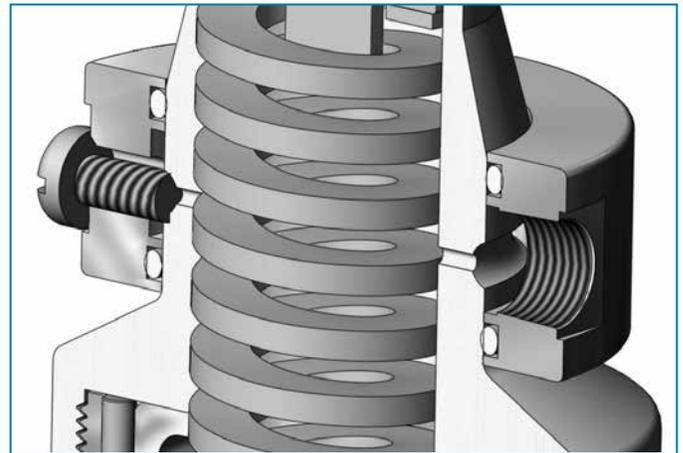
Options:

- Panel Mounting
- Captured Vent
- Self Relieving

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. This option can be incorporated into a self-relieving regulator that provides an additional port to permit the safe expulsion of hazardous media.

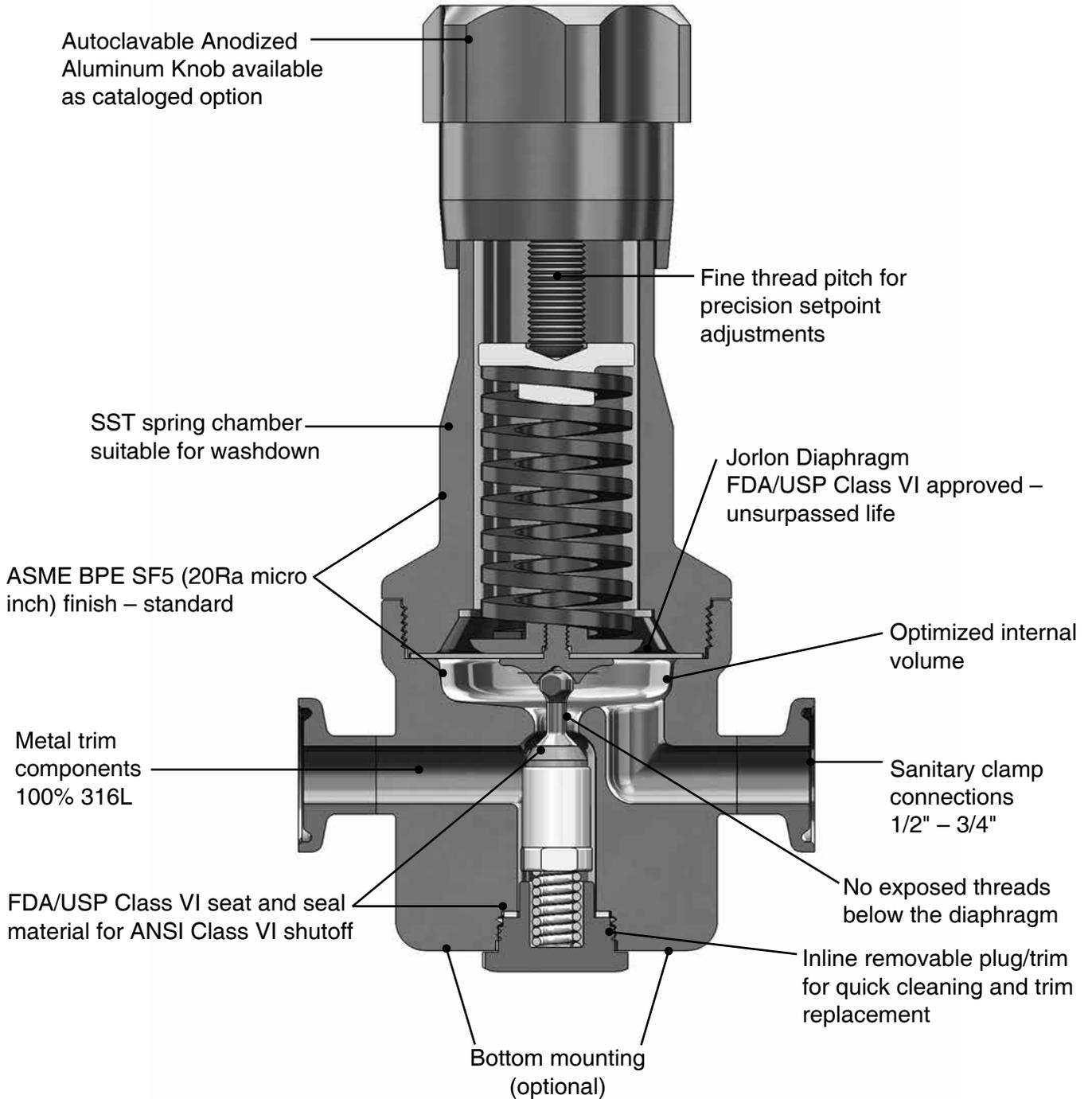
Panel Mount

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

*Self Relieving

The self relieving option is used for internal venting of downstream pressure. From a practical standpoint, it allows for immediate reduction in pressure setpoints and automatically alleviates regulator lock up. (Recommended with outlet gauges)

FEATURES & BENEFITS



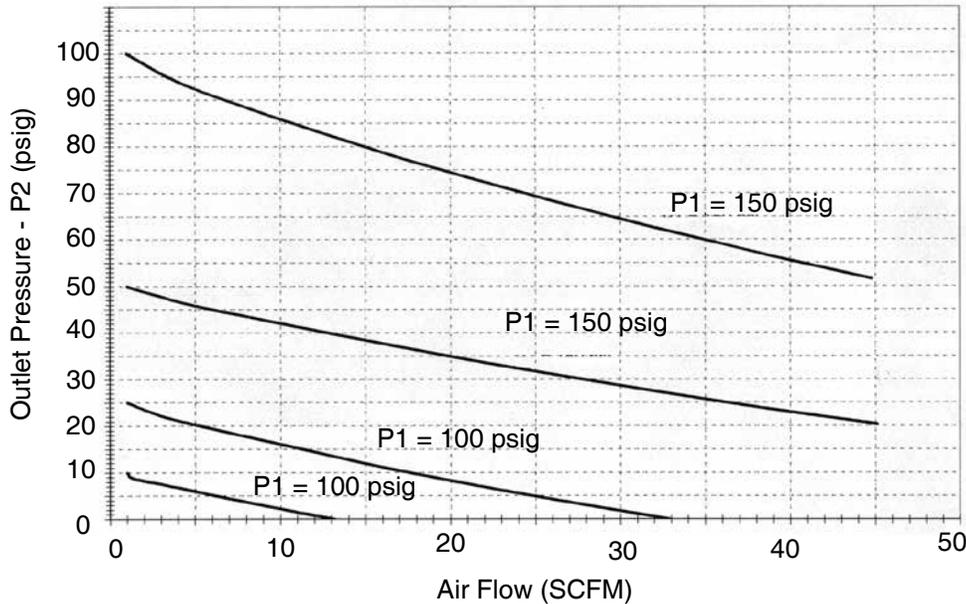
TRIM FLOW (Cv) SELECTION GRAPHS

To select a valve with the proper Cv:

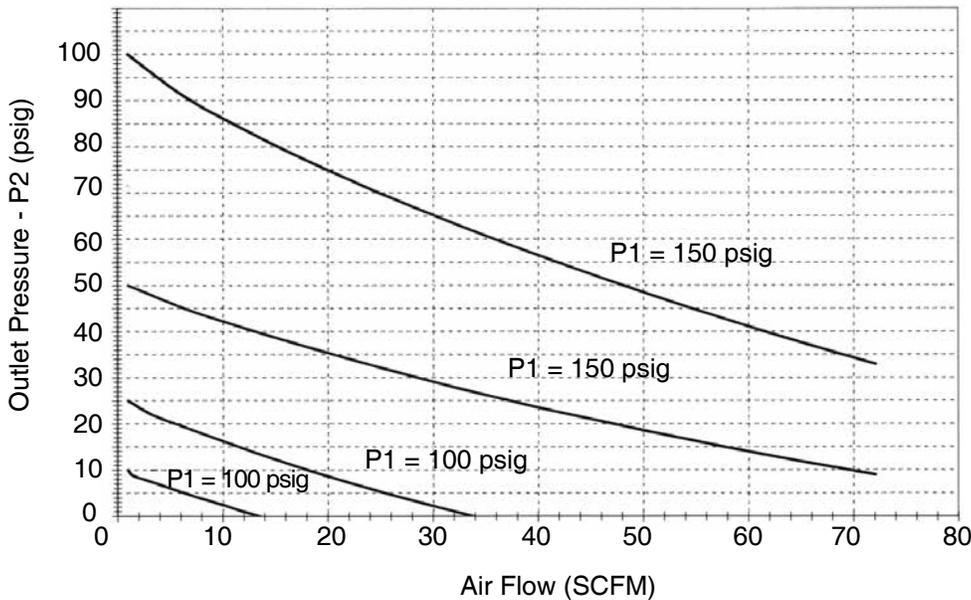
1. Please note maximum inlet pressure, and seat temperature limitations on page 2. Select a seat material appropriate for that temperature and the gas flowing through the valve.
2. Convert pressure and flow units to those shown in the graphs below.
3. The sloped lines are the flow curves associated with either a 150 psi or 100 psi inlet pressure (P1). Make sure the application inlet pressure is between 100 and 150 psi. **If not, contact the factory.**
4. Select the graph that encompasses the minimum and maximum flows of your installation (horizontal axis), and with an appropriate outlet regulated pressure (vertical axis).
5. Plot your desired set point on the graph you chose, at the flow rate you expect at that set point.
6. Pick the P1 inlet pressure curve in your graph that is closest to your valve installation inlet pressure.
7. Draw a curve with the same slope parallel to that curve through your plotted set point. That curve approximates the flow of your valve under operating conditions.

Note: if your operating conditions and media are outside the bounds of either graph, consult factory.

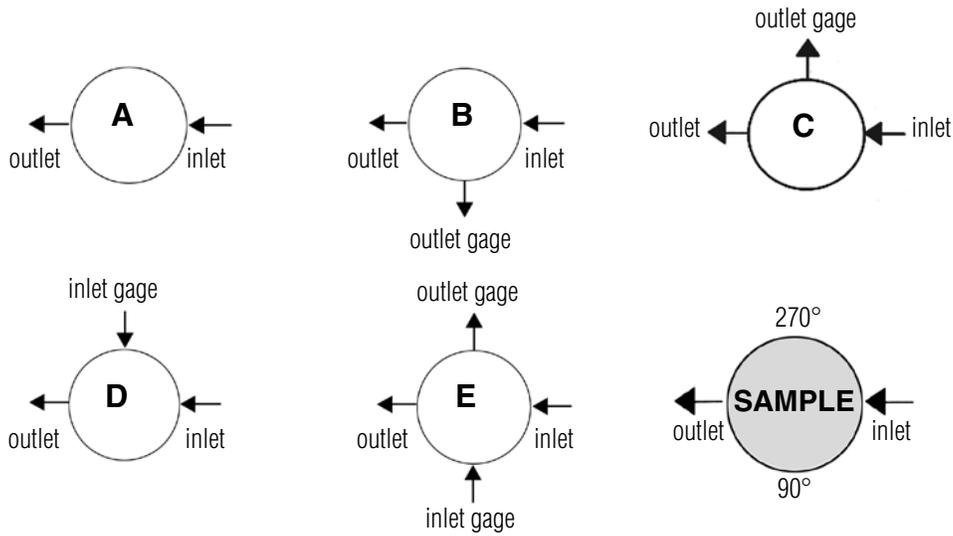
J PERFORMANCE 0.5 Cv



J PERFORMANCE 0.8 Cv

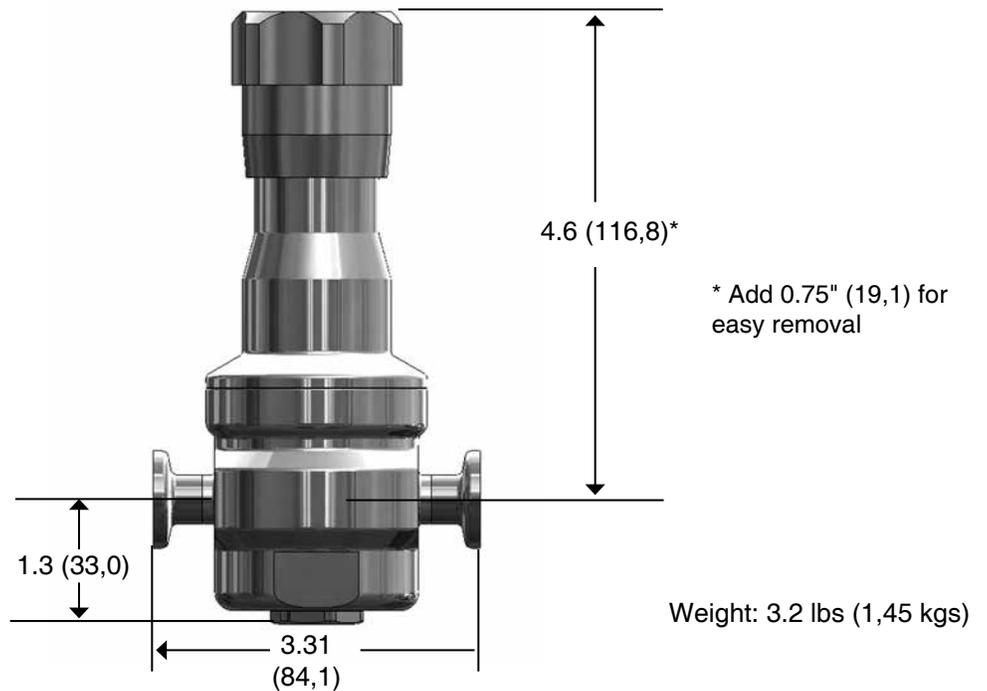


FLOW CONFIGURATIONS



* Gage ports are 1/4" FNPT (consult factory for required alternative)
Consult factory for other porting options

DIMENSIONS, IN. (MM)



SAMPLE SPECIFICATIONS

Stainless Steel pressure regulator shall be made from ASTM A479 barstock material, which includes body and all wetted metal parts. Regulator shall be activated by an un-tied, FDA approved, USP Class VI certified Jorlon diaphragm. Regulator shall be free of exposed threads within wetted process area and valve internal to hold minimal media volume. Regulator shall have trim that can be replaced inline without dome/spring chamber disassembly.

JSR SERIES HIGH PURITY BIO-PHARMA GAS PRESSURE REDUCING VALVE

ORDERING SCHEMATIC

Model	Size	Material	1 & 2	3 & 4	5 & 6	7 & 8	9 & 10	11 & 12	13 & 14	15	16	17
JSR	050	6L	/									

Model	
JSR	High Purity Gas Pressure Reducing Valve

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	C Port "C"
		D Port "D"
		E Port "E"
ZZ	Non-Standard	

3 & 4	Trim
1S	0.8 Cv
2S	0.5 Cv
1R	CV 0.8 Self-Relieving
2R	Cv 0.5 Self-Relieving
ZZ	Non-Standard

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

7 & 8	Range Spring/Outlet Pressure
05	5 - 70 PSI
50	50 - 125 PSI
ZZ	Non-Standard

9 & 10	Diaphragm Material
JL	Jorlon
ZZ	Non-Standard

11 & 12	Actuator
SK	Standard Actuator
AK	Standard Actuator / Autoclavable Anod. Aluminum knob
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

REPAIR KIT ORDERING SCHEMATIC

Model		Size		Material		Kit		1&2	3&4
JSR	—	050	—	6L	—	Kit	/	1P	SJ

Model	
JSR	High Purity Gas Pressure Reducing Valve

Size	
050	1/2"
075	3/4"

Material	
6L	Stainless Steel 316L

Kit	
Kit	Repair Kit

1 & 2	Trim/Seat Material
1P	Cv 0.8/PEEK
1T	Cv 0.8/PTFE
1E	Cv 0.8/EPDM
2P	Cv 0.5/PEEK
2T	Cv 0.5/PTFE
2E	Cv 0.5/EPDM
ZZ	Non-Standard

3 & 4	Diaphragm Assembly
RJ	Self Relieving/Jorlon
SJ	Standard/Jorlon
ZZ	Non-Standard



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