LOWFLOW
a division of Jordan Valve

JRPH/JRPL Series

Pressure Reducing Valves

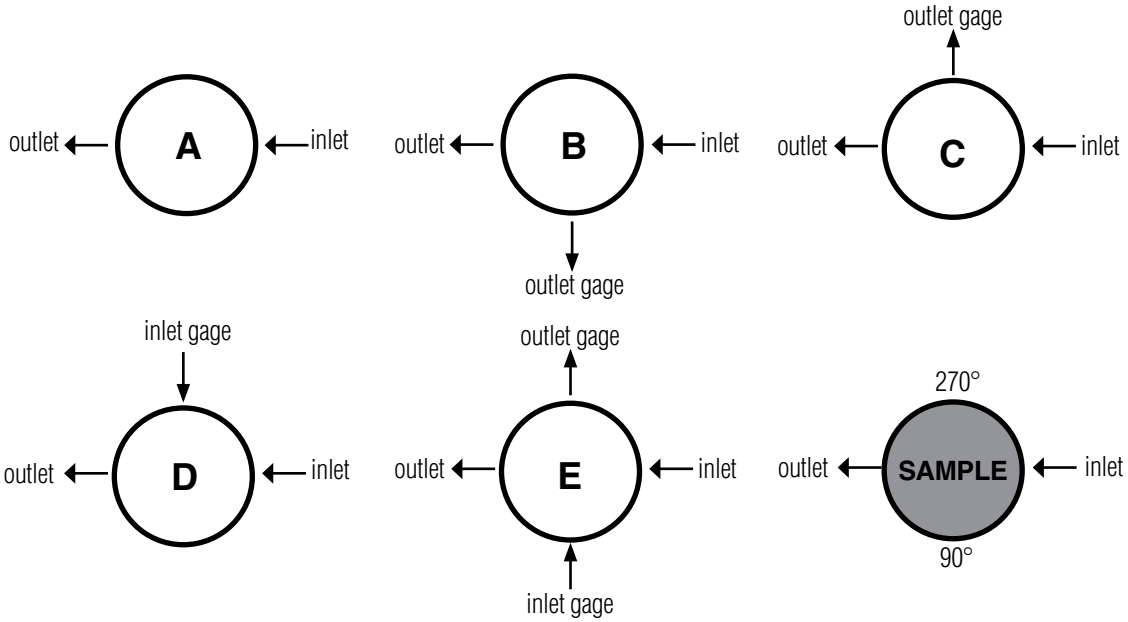
PRESSURE REDUCING VALVE

The LowFlow JRPH Series and JRPL Series are piston operated, balanced trim pressure regulators with high Cv's and KEL-F soft seat for ANSI Class VI shutoff. There are three set ranges for each model. Elastomer seals are used throughout with Buna-N, EPDM, and VIton being standard options, along with matching back up seals. These valves are designed to regulate a variety of gases, water, acids and oils.

Features:

- All wetted materials are 316L Stainless Steel. Other materials available on application
- Soft Kel-F seat provides ANSI Class VI shutoff
- Piston sensing for better regulation at higher pressures
- Balanced trim design allows for higher flows

JRPH & JRPL SERIES FLOW CONFIGURATIONS



Top View

Gage ports are 1/4" FNPT; Consult factory for other porting options

LOWFLOW
A Division of
Jordan Valve
3170 Wasson Road
Cincinnati, OH 45209

toll free. 800.543.7311
local. 513.533.5600
fax. 513.871.0105

www.lowflowvalve.com

JRPH SERIES SPECIFICATIONS

Line Size: 1/2", 3/4" & 1" (DN15, DN20 & DN25)

Materials

- Body & Trim: SS 316L
- Spring Housing: SS 316L
- Seat Insert: KEL-F
- Body Seals: Elastomer o-rings (Buna-N, EPDM, Viton) with back up rings

Inlet Pressure: 5800 psi (400 bar)

Spring Ranges:

- Black: 0 – 2150 psi (0 – 148 bar)
- Orange: 0 - 4060 psi (0 - 280 bar)
- Green: 0 - 5800 psi (0 - 400 bar)

Seat Diameter: 0.40" (10mm)

Maximum Operating Pressure: 5,800 psi max inlet @ 100°F / 3,000 psi max ΔP (400 bar max inlet @ 38°C / 207 bar max ΔP)

Maximum Operating Temperature: 4,800 psi max inlet @ 250°F (331 bar max inlet @ 121°C)

End Connections

- Threaded Ends – FNPT or BSPP
- Socketweld
- Buttweld

Gauge Port: 1/4" NPT

Temperature Range: -29°F to +250°F (-20°C to +120°C) - actual range depends on choice of seal materials

Shutoff: Class VI

Flow Capacity: Cv 2.1 (1,81 Kv)

Optional Cleaning: For oxygen service, oil free service

Options

- Panel Mounting
- Captured Vent
- Locking Wire
- Tamper Proof
- Lockout Device

JRPL SERIES SPECIFICATIONS

Line Size: 1/2", 3/4" & 1" (DN15, DN20 & DN25)

Materials

- Body & Trim: SS 316L
- Spring Housing: SS 316L
- Seat Insert: KEL-F
- Body Seals: Elastomer o-rings (Buna-N, EPDM, Viton) with back up rings

Inlet Pressure: 5800 psi (400 bar)

Spring Ranges:

- Silver: 0 – 275 psi (0 – 19 bar)
- Beige: 0 – 400 psi (0 – 28 bar)
- Purple: 0 - 580 psi (0 - 40 bar)
- Black: 0 - 1160 psi (0 - 80 bar

Seat Diameter: 0.40" (10mm)

Maximum Operating Pressure: 5,800 psi max inlet @ 100°F / 3,000 psi max ΔP (400 bar max inlet @ 38°C / 207 bar max ΔP)

Maximum Operating Temperature: 4,800 psi max inlet @ 250°F (331 bar max inlet @ 121°C)

End Connections

- Threaded Ends – FNPT or BSPP
- Socketweld
- Buttweld

Gauge Port: 1/4" NPT

Temperature Range: -29°F to +250°F (-20°C to +120°C) - actual range depends on choice of seal materials

Shutoff: Class VI

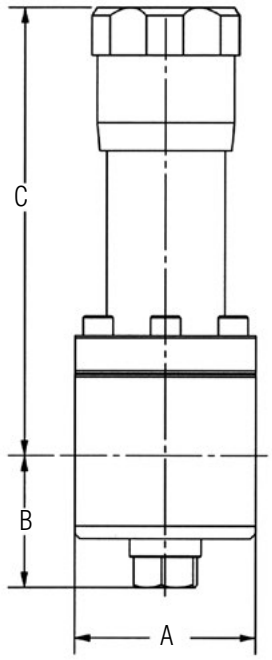
Flow Capacity: Cv 2.1 (1,81 Kv)

Optional Cleaning: For oxygen service, oil free service

Options

- Panel Mounting
- Captured Vent
- Locking Wire
- Tamper Proof
- Lockout Device

JRPH & JRPL DIMENSIONS



VALVE SIZE	DIMENSIONS, INCHES			WEIGHT, LBS
	A	B	C	
1/2"	2.8	2.1	7.5	7.7
3/4"	3.2	1.8	7.5	9.9
1	3.2	1.8	7.5	9.9

VALVE SIZE	DIMENSIONS, MM			WEIGHT, KGS
	A	B	C	
DN15	71	53	191	3,5
DN20	81	46	191	4,5
DN25	81	46	191	4,5

OPTION & DEFINITION

Panel Mount The panel mount feature utilizes a threaded spring housing and a panel mount ring to secure the regulator to an instrument panel. This option requires a 1-1/2" panel cut out.

Captured Vent The captured vent design provides 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.

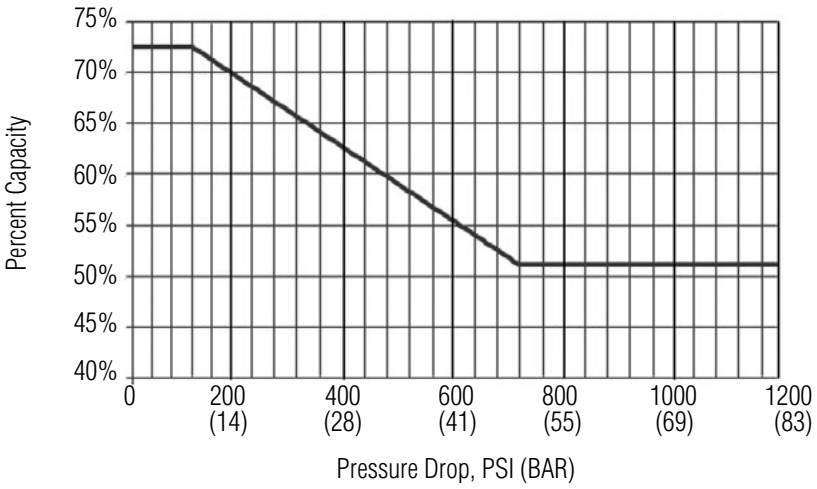
Self Relieving The self relieving option is used for internal venting of downstream pressure. From a practical standpoint, it allows for immediate reduction in pressure setpoints and automatically alleviates regulator lock up.

Locking Wire The locking wire option utilizes a lead sealed metal wire to physically hold the adjusting screw in place to prevent any unwanted set point changes.

Tamper Proof The tamper proof option replaces the standard adjusting knob with a stainless steel acorn nut.

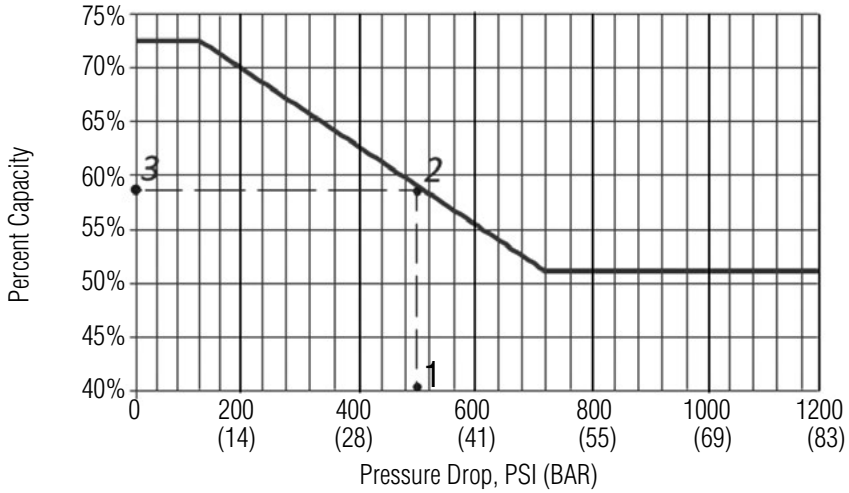
Lockout Device The lockout device is a 2 piece polypropylene enclosure which encapsulates the adjustment knob and prevents unwanted set point changes. The part number required for this valve is 26971. (Lock not included)

JRPH & JRPL SERIES SIZING



SIZING

1. Find the pressure drop on the X-axis
2. Draw a line, parallel with the Y-axis to the point where it intersects the curve on the graph
3. Draw a line, parallel with the X-axis to the Y-axis. This will determine the percent capacity that will work with the pressure drop.
4. Check JVCV (Jordan Valve Control Sizing Program) to verify percent capacity is not exceeded
5. Note: From 720 psi (50 bar) pressure drop to maximum pressure drop (3000 psi / 207 bar) use 51% capacity



EXAMPLE

Methane gas, ambient temperature, PI - 1400 psi, P2=900 psi, 3/4" schedule 40 pipe, flow rate 50,000 SCFH

1. Pressure drop of 500 psi.
2. Draw a line, parallel with the Y-axis to the point where it intersects the curve on the graph
3. Draw a line, parallel with the X-axis to the Y-axis. This will determine the percent capacity that will work with the pressure drop. The percent capacity you can use is 58% of the rated Cv.
4. Input the process conditions into the JVCV sizing program. Using the conditions in this example, a 3/4" JRPL with 0 - 1160 range spring will be 43% open, lower than the 58% capacity based on the pressure drop.

JRPL SERIES ORDERING SCHEMATIC

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

Model	
JRPL	Low Range

Size	
050	1/2" (DN15)
075	3/4" (DN20)
100	1" (DN25)

Material	
6L	Stainless Steel 316L

1 & 2	Body Feature		
End Connection		Port Configuration	
C	FNPT 1/2"	A	Port "A"
D	FNPT 3/4"	B	Port "B"
E	FNPT 1"	C	Port "C"
F	BSPP 1/2"	D	Port "D"
G	BSPP 3/4"	E	Port "E"
H	BSPP 1"		
ZZ	Non-Standard		

3 & 4	Trim
BB	Buna-N
EE	EPDM
VV	Viton
ZZ	Non-Standard

5 & 6	Seat
K5	KEL-F Cv 2.1 (1,81 Kv)
ZZ	Non-Standard

7 & 8	Range Spring/Outlet Pressure
EC	0 - 275 psi (0-19 bar) (silver)
E1	0 - 400 psi (0 – 28 bar) (beige)
E2	0 - 580 psi (0 - 40 bar) (purple)
E3	0 - 1160 psi (0 - 80 bar) (black)
ZZ	Non-Standard

9 & 10	Diaphragm
00	None

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

13 & 14	Inlet Gauge
FF	0 - 300 PSIG/BAR (Dual)
GG	0 - 400 PSIG/BAR (DUAL)
HH	0 - 600 PSIG/BAR (Dual)
JJ	0 - 1000 PSIG /BAR (Dual)
KK	0 - 2000 PSIG/BAR (Dual)
LL	0 - 3000 PSIG/BAR (Dual)
MM	0 - 5000 PSIG/BAR (Dual)
NN	None
ZZ	Non-Standard

15	Outlet Gauge
E	0 - 200 PSIG/BAR (Dual)
F	0 - 300 PSIG/BAR (DUAL)
G	0 - 400 PSIG/BAR (Dual)
H	0 - 600 PSIG /BAR (Dual)
J	0 - 1000 PSIG/BAR (Dual)
K	0 - 2000 PSIG/BAR (Dual)
N	None
Z	Non-Standard

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

17	Accessories
A	Captured Vent Preset with Anti-Tamper*
B	Standard Preset with Anti-Tamper*
C	Panel Mount Preset with Anti-Tamper*
S	Clean for Oil Free
X	Clean for Oxygen
0	None
Z	Non-Standard

* Specify pressure at order entry

LOWFLOW
a division of Jordan Valve

ORDERING SCHEMATIC

JRPH SERIES ORDERING SCHEMATIC

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

Model	
JRPH	High Range

Size	
050	1/2" (DN15)
075	3/4" (DN20)
100	1" (DN25)

Material	
6L	Stainless Steel 316L

1 & 2	Body Feature		
End Connection		Port Configuration	
C	FNPT 1/2"	A	Port "A"
D	FNPT 3/4"	B	Port "B"
E	FNPT 1"	C	Port "C"
F	BSPP 1/2"	D	Port "D"
G	BSPP 3/4"	E	Port "E"
H	BSPP 1"		
ZZ	Non-Standard		

3 & 4	Trim
BB	Buna-N
EE	EPDM
VV	Viton
ZZ	Non-Standard

5 & 6	Seat
K5	KEL-F Cv 2.1 (1,81 Kv)
ZZ	Non-Standard

7 & 8	Range Spring/Outlet Pressure
H3	0 - 2500 psi (0 - 175 bar) (black)
H4	0 - 2150 psi (0 - 148 bar) (black)
H5	0 - 4060 psi (0 - 280 bar) (orange)
H6	0 - 5800 psi (0 - 400 bar) (green)
ZZ	Non-Standard

9 & 10	Diaphragm
00	None

11 & 12	Actuator
SK	Standard
CF	Captured Dome
CV	Captured Vent
PM	Panel Mount
ZZ	Non-Standard

13 & 14	Inlet Gauge
LL	0 - 3000 PSIG/BAR (Dual)
MM	0 - 5000 PSIG/BAR (DUAL)
PP	0 - 10000 PSIG/BAR (Dual)
NN	None
ZZ	Non-Standard

15	Outlet Gauge
K	0 - 2000 PSIG/BAR (Dual)
L	0 - 3000 PSIG/BAR (DUAL)
M	0 - 5000 PSIG/BAR (Dual)
P	0 - 10000 PSIG /BAR (Dual)
N	None
Z	Non-Standard

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

17	Accessories
A	Captured Vent Preset with Anti-Tamper*
B	Standard Preset with Anti-Tamper*
C	Panel Mount Preset with Anti-Tamper*
F	Captured Dome Preset with Anti Tamper*
S	Clean for Oil Free
X	Clean for Oxygen
0	None
Z	Non-Standard

* Specify pressure at order entry

LOWFLOW
a division of Jordan Valve