

HIGH PRESSURE RELIEF VALVE

1/8" - 3/4" NPT

10 - 2400 Psig

SERIES HPRV

Description

The HPRV Series Relief Valve provides accurate crack pressure with zero leakage up to 98% of nominal set pressure. When properly specified, this factory preset, tamper proof design, is ideally suited for most any liquid or gas application. Encapsulating the O'ring seal within the poppet eliminates seal extrusion and cold flow characteristics. By guiding the poppet into the body, a line of contact seal is ensured and at high crack pressure settings, the O'ring is protected by a metal-to-metal stop between the poppet and the body. High flow design, combined with narrow band interchangeable springs, minimizes system pressure rise as flow demand increases. Available in brass, carbon or stainless steel, inline or discharge to atmosphere. Valves can be supplied with a manual pull ring override.



HPRV
Inline

Features and Benefits

- 100% Factory Preset and Tested
- Zero Leakage to 95 - 98% of Set Pressure
- Tamper Proof Adjustment
- Excellent Reseal Performance

Technical Data

- Set Pressure Range: 10 to 2400 Psig (0.7 to 166 bar)
- Set Pressure Tolerance: Factory Preset +/- 5% on increasing pressure
- Reseal: Elastomer Seals 90% - 95% of Actual Crack Pressure
Teflon™ may be slightly lower
- Inline Valves (*Series HPRV*):
Proof Pressure: 3700 Psig (225 bar)
Burst Pressure: >5000 Psig (345 bar)
- Temperature Range: -320°F to 400°F (-220°C to 205°C)

Based on seal selection, see ordering information



HPRVA
Vent to Atmosphere

Materials of Construction

Component	Valve Body Material			
	Brass	Carbon	303 Stainless Steel	316 Stainless Steel
Inlet Body, Outlet Cap, Spring Chamber, Spring Retainer, O'ring Spreader	Brass, ASTM B16	Brass, ASTM B16	303 SS, ASTM A582 ¹	316 SS, ASTM A479 ¹
Poppet	303 SS, ASTM A582			
Spring	302 SS/ 17-7 PH ASTM A313			
Locking Screw	18 - 8 SS			
Seals ²	As Specified, see ordering information			
Pull Stud	Brass, ASTM B16	303 SS, ASTM A582		316 SS, ASTM A479
Pull Ring	Plated Steel			

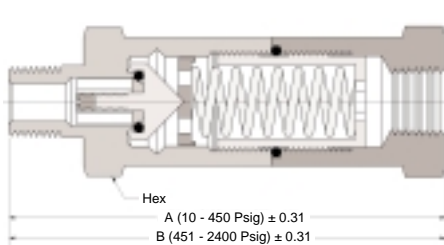
¹ PTFE dry lubricant applied to threads

² Lubricated with Krytox™ GPL 202

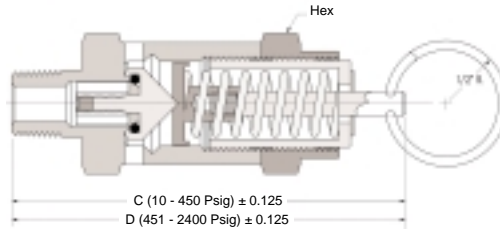


HPRVM
Vent to Atmosphere
(Manual Override)

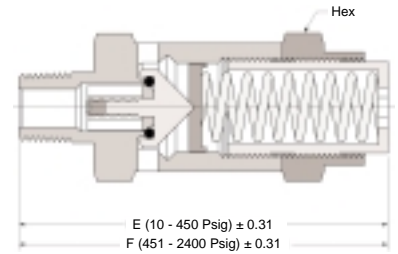
SERIES HPRV HIGH PRESSURE RELIEF VALVE



HPRV
Inline



HPRVM
Discharge to Atmosphere
(Manual Override)



HPRVA
Discharge to Atmosphere

Dimensional Data

Inlet (NPT)	HPRV		HPRVA		HPRM		Hex
	A	B	C	D	E	F	
1/8"	3.34	4.24	2.87	3.77	3.30	4.20	1"
1/4"							
3/8"							
1/2"	4.15	5.05	3.59	4.49	4.27	5.18	1-1/4"
3/4"	5.60	7.04	5.00	6.41	5.55	7.00	1-1/2"

Dimensional data is stated in inches

Flow Data

Set Pressure Range Inlet (NPT)	HPRV				HPRVA and HPRVM			
	10 - 1250		1251 - 2400		10 - 1250		1251 - 2400	
	Orifice	Kd	Orifice	Kd	Orifice	Kd	Orifice	Kd
1/8"	.215	0.14	.215	0.16	.215	0.57	.215	0.65
1/4"	.275	0.27			.275	0.65		
3/8"								
1/2"	.515	0.20	.275	0.27	.515	0.35	.275	0.65
3/4"	.735	0.45	.515	0.20	.735	0.42	.515	0.70

Kd is stated at 110% of Nominal Set Pressure

Orifice sizes are stated in inches

Consult factory for proper sizing or flow requirements, flow curves available on request

Ordering Information

HPRV - 250SS - V - 450

SERIES

HPRV - Male x Female, Inline
HPRVA - Male Inlet, Discharge to Atmosphere
HPRVM - Male Inlet, Vent to Atmosphere with Manual Override

STANDARD PORTING CONNECTION

125 - 1/8" NPT	ANSI/ASME B1.20.1 (Inlet & Outlet)
250 - 1/4" NPT	
375 - 3/8" NPT	
500 - 1/2" NPT	
750 - 3/4" NPT	

OPTIONAL PORTING CONNECTION

Consult factory

-6SAE	Inlet - MS33656 with Cone Point Removed (adapts to SAE J1926)
-8SAE	
-10SAE	
-12SAE	Outlet - SAE J1926
-16SAE	
-6JIC	
-8JIC	Inlet - SAE J514, 37 Degree Flare
-10JIC	
-12JIC	
-16JIC	Outlet - Corresponding SAE J1926 Size Female

NOMINAL SET PRESSURE

Specify 10 - 2400 Psig

SEAL MATERIAL

V - Viton™, -20°F to 400°F (-29°C to 204°C)
B - Buna-N, -40°F to 250°F (-40°C to 121°C)
N - Neoprene, -40°F to 300°F (-40°C - 148°C)
EP - Ethylene Propylene, -65°F to 300°F (-54°C to 148°C)
S - Silicone, -70°F to 450°F (-56°C to 232°C)
T - Teflon™ -320°F to 400°F (-220°C to 204°C)

MATERIAL CODE

B - Brass
C - Carbon Steel
S - 303 SS
SS - 316 SS

OPTIONS

Oxygen cleaning, tamper proof lockwire, alternative seals and other thread configurations, consult factory

Viton, Krytox & Teflon -™ DuPont

PROPER COMPONENT SELECTION - When specifying a component, the total system design must be considered to ensure safe and trouble-free performance. Intended component function, materials compatibility, pressure ratings, installation, environment and maintenance are the responsibility of the system designer.

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version 12.05.01

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