GENERANT

HIGH PRESSURE RELIEF VALVE
1/8" - 3/4" NPT
10-2400 Psig

HPRV SERIES

Description

The HPRV Series High Pressure Relief Valve provides accurate crack pressure with zero leakage up to 98% of set pressure. When properly specified, this factory preset, tamper proof design is ideally suited for most liquid and gas applications. Encapsulating the o-ring seal within the poppet prevents seal extrusion and cold flow. A precise line of contact seal is maintained by guiding the poppet in the body. At high crack pressure settings, the o-ring is protected by a metal-to-metal stop between the poppet and the body. The valve's high flow design, combined with narrow band interchangeable springs, minimizes system pressure rise as flow demand increases. Series HPRV valves are available in brass or stainless steel and inline or discharge to atmosphere configurations. They can also be supplied with a manual pull ring override and cleaned for oxygen service.

Features

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

Technical Data

- Set Pressure Range: 10 to 2400 Psig (0.7 to 166 Bar)
- Set Pressure: Factory Preset +/-5% on increasing pressure
- Reseat: 90%-95% of Actual Crack Pressure

Leakage Allowance Specifications for Valves with PTFE Seal Option:

Pressure Range	Leak Rate up to 90% Crack	Reseal Pressure	Max Leak @ Reseal Pressure
50-100 PSI	< 15 SCCM	50% of Crack	15 SCCM Max
100.1+ PSI	< 5 SCCM	80% of Crack	5 SCCM Max

* all allowable leakage rates specified in N2 gas.

- 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 204° C)
  Based on seal selection, see ordering information

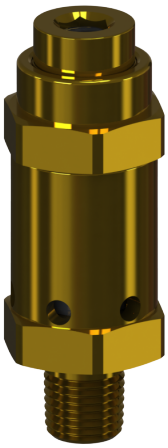
Materials of Construction

Component	Valve Body Material		
	Brass	303 Stainless Steel	316 Stainless Steel
Inlet Body, Outlet Cap, Spring Chamber, Spring Retainer,O'Ring Spreader	Brass, ASTM B16	303 SS, ASTM A582*	316 SS, ASTM A479*
Poppet	303 SS, ASTM A582		
Spring	302 SS / 17-7 PH ASTM A313		
Locking Screw	18-8 SS		
Seals*	As Specified, See Ordering Information		
Pull Stud	Brass, ASTM B16	303 SS, ASTM A582	316 SS, ASTM A479
Pull Ring	Plated Steel		

*Lubricated with Krytox ™



HPRV
Inline

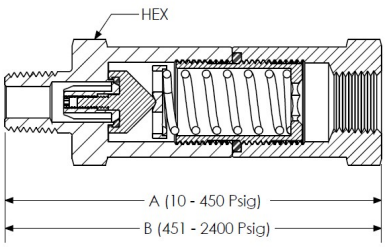


HPRVA
Vent to Atmosphere

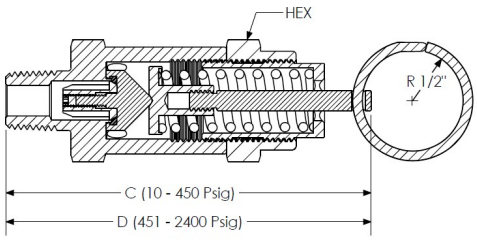


HPRVM
Vent to Atmosphere
(Manual Override)

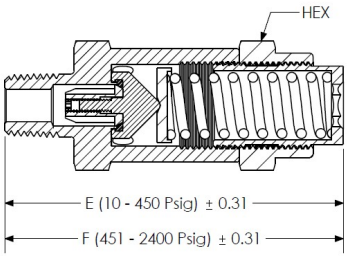
HIGH PRESSURE RELIEF VALVE



HPRV
Inline



HPRVM
Discharge to Atmosphere
(Manual Override)



HPRVA
Discharge to Atmosphere

Dimensional Data

Inlet (NPT)	HPRV		HPRM		HPRVA		Hex
	A	B	C	D	E	F	
1/8"	3.34	4.24	3.30	4.20	2.87	3.77	1"
1/4"							
3/8"							
1/2"	4.16	5.06	4.27	5.18	3.56	4.46	1-1/4"
3/4"	5.90	7.14	5.44	6.70	4.82	6.13	1-3/4"

Dimensional data is stated in inches.

Flow Data

Set Pressure Range	HPRV				HPRVA and HPRVM			
	10-1250		1251-2400		10-1250		1251-2400	
Inlet (NPT)	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"	See "HPRV-750 Flow Datasheet" (Not offered below 70 PSI)							

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 - 250 SS - V - 450

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

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 to 148°C)
EP - Ethylene Propylene, -65°F to 300°F (-54°C to 148°C)
S - Silicone, -70°F to 400°F (-56°C to 204°C)
T - Teflon™, -320°F to 400°F (-220°C to 204°C)

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	

* Available in Brass only.

OPTIONAL PORTING CONNECTION
Consult factory

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

MATERIAL CODE
B - Brass
S - 303 Stainless Steel
SS - 316 Stainless Steel

OPTIONS
Oxygen cleaning, tamper proof lock wire, alternative seals and Other thread configurations, consult factory

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NOTE: Teflon Seal Option "T" only available for set pressures 50 PSI and above.

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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