GENERANT

CRYOGENIC RELIEF VALVE (BRASS)
1/4", 3/8" and 1/2" NPT
10 - 750 Psig (0.7 - 51.7 Bar)

SERIES **CRV** **BRASS**

Description

The Generant Series Brass CRV, Cryogenic Relief Valve is a spring reference over pressure protection device. Incorporating the exclusive "Dirt Guard" to protect from system debris, the CRV is ideally suited as a "Blocked Line Safety" in cryogenic systems. Every CRV Series valve is supplied cleaned and packaged for O2 service standard. This valve can be ordered factory preset from 10 to 750 Psig (0.7 to 51.7 Bar) and are permanently locked. Seat and poppet geometry combined with optimized spring ranges provide high flow with minimum pressure accumulation. Relief pressure can be discharged to atmosphere or to a downstream connection. CRV's can also be ordered with an Integral Bleed valve for safely venting valve inlet pressure. The bleed valve option comes with a Monel 400 fully retained venting screw which is operated using a 5/64" allen wrench. The CRV is supplied with Fluorosilicone seals for set pressures from 10 – 49 Psig (0.7 – 3.4 Bar) and PCTFE seals for set pressures 50 – 750 Psig (3.5 – 51.7 Bar).



Features

- **AVAILABLE CE MARKED: "**CE Marked" to the requirements of the Pressure Equipment Directive (PED).
- **EXCLUSIVE "DIRT GUARD" POPPET:** Incorporates a poppet screen to extend valve life and ensure reliability.
- **OPTIMIZED FOR HIGH FLOW:** High Flow Capacity and Excellent Reseat Performance.
- **LOCKED SETPOINT:** Supplied Factory Preset and Permanently Locked.
- **CONFIGURABLE:** Discharge to Atmosphere or a Wide Variety of Outlet piping configurations. Optional Deflector Cap available for diverting exhausted gas.
- **INTEGRAL BLEED VALVE OPTION:** CRB Integral Bleed Valve Option allows Safe and Easy Venting of Inlet Pressure for System Service.
- **100% FACTORY TESTED**: Tested for Leakage, Crack and Reseat performance.
- **OXYGEN SERVICE COMPATIBLE:** Cleaned and Packaged for Oxygen Service standard.



Technical Data

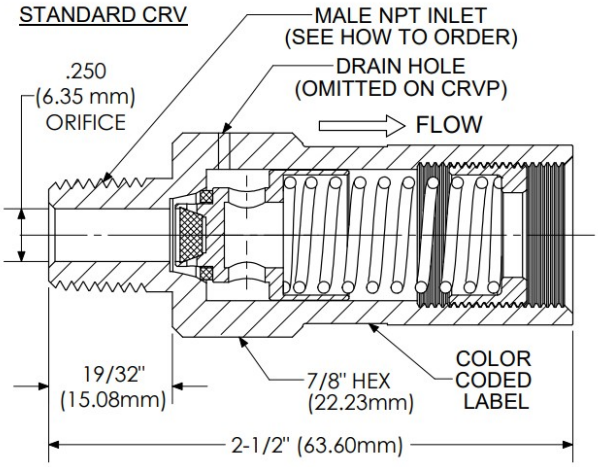
Nominal Set Pressure Range: 10 – 750 PSIG (0.7 to 51.7 Bar)
Factory Set Tolerance: Set Pressure ≤ 28.90 PSI, ± 5%
Set Pressure 29.00 – 48.30 PSI, ± 1.45 PSI
Set Pressure ≥ 48.40 PSI, ± 3%
NOTE: Tolerance specifications per *EN ISO 4126-1*.
Zero Leakage to 95% of Set Pressure
Full Rated Flow @ 110% of Set Pressure
Unaffected by up to 10% Back Pressure
Reseat: 90% of set pressure
85% for PCTFE seals set below 100 Psig (6.9 Bar)
Temperature Rating: -320º to 350º F (-196º C to 176º C)
based on seal material (see How To Order)
Lubricant: Krytox®

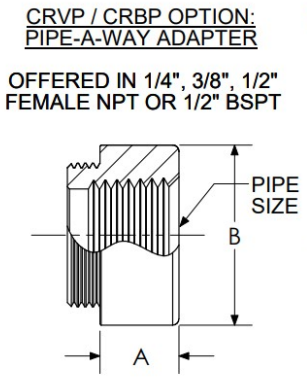
Materials of Construction

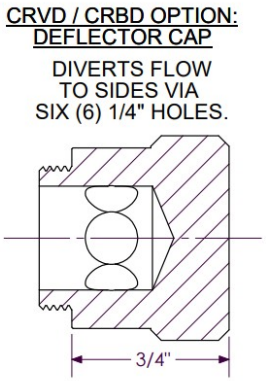
Component	Material
Body, Poppet, Spring Retainer, Pipe-A-Way Adapters, Deflector Cap, Tamper-Proof Ring	Brass, ASTM B16
Spring	302 (ASTM A313) or 17-4PH (ASTM A564)
Seal	PCTFE (ASTM D1430), or Fluorosilicone
Color Coded Identification Label	Film Coated Vinyl
Bleed Valve Adjustment Screw	Monel ® 400 (ASTM B164)

CRYOGENIC RELIEF VALVE (BRASS)

Dimensional Information







CRVT / CRBT:
TAMPER PROOF
RING OPTION

TAMPER PROOF RING (CRVT) INSTALLS FLUSH WITH THE END OF THE VALVE AND DISABLES VALVE OUTLET THREADS. OPTION IS NOT ILLUSTRATED.

PIPE SIZE	DIM. "A"	DIM. "B"
1/4" NPT	11/32" (8.73mm)	7/8" (22.23mm)
3/8" NPT	11/16" (17.46mm)	
1/2" NPT	3/4" (19.05mm)	1" (25.40mm)
1/2" BSPT		

Flow Data

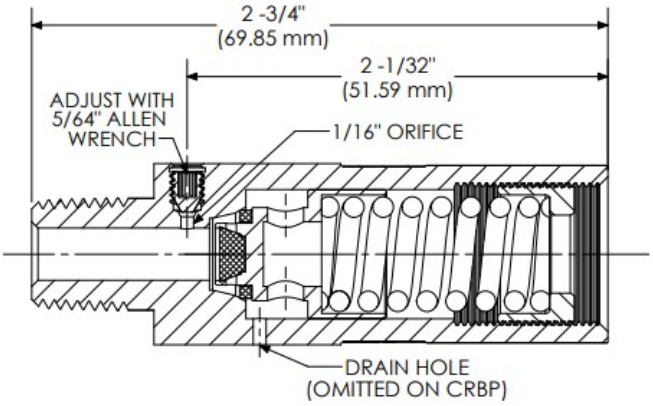
Set Pressure Range (PSIG)		Discharge Coefficient (Kd)
From	To	
10.0	17.0	0.62
17.1	29.0	0.62
29.1	45.0	0.53
45.1	60.0	0.53
60.1	90.0	0.61
90.1	125.0	0.76
125.1	190.0	0.76
190.1	275.0	0.67
275.1	400.0	0.61
400.1	600.0	0.48
600.1	750.0	0.40

Valve Orifice .250" (6.35mm) Diameter (same for 1/4", 3/8" and 1/2" NPT)

NOTE: Discharge Coefficient (Kd) is stated at 110% accumulation with a 90% safety factor applied.

Relief Valve Flow Capacity can be calculated using **Generant's Online Flow Calculator** at www.generant.com.
For Additional Info, contact Customer Service at 973-838-6500.

CRB OPTION:
INTEGRAL BLEED VALVE



How To Order

CRV P3 - 250B - K - 350

SERIES
CRV - Cryogenic Relief Valve
CRB - Cryogenic Relief Valve with Integral Bleed Valve
(CRB only offered in 1/4" and 1/2" NPT inlet)

OUTLET OPTION
OMIT FOR VENT TO ATMOSPHERE
P2 - With 1/4" Female Pipe-A-Way Adapter Installed
P3 - With 3/8" Female Pipe-A-Way Adapter Installed
P4 - With 1/2" Female Pipe-A-Way Adapter Installed
T - With Tamper Proof Ring Installed
D - With Deflector Adapter Installed
B4 - With 1/2" BSPT Female Pipe-A-Way Adapter Installed

NOMINAL SET PRESSURE
10-750 Psig (0.7 - 51.7 Bar)

SEAL MATERIAL
FS - Fluorosilicone for 10-49 Psig (-85° to 350° F (-65° to 176°C))
K - PCTFE for Above 50 Psig (-320° to 165° F (-196° to 74° C))

INLET PIPE SIZE (NPT)
250B - 1/4" Male
375B - 3/8" Male (CRV Only)
500B - 1/2" Male

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.

GENERANT
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