

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

CRV
BRASS

SERIES

Description

The Generant Series Brass CRV, Cryogenic Relief Valve is a spring reference over pressure protection device. The CRV incorporates Generant's exclusive "Dirt Guard" feature which increases the valves ability to tolerate particulate contamination. This device is ideally suited for use as a "Blocked Line Safety" in cryogenic systems. The CRV is supplied cleaned and packaged for oxygen service. The valve can be ordered with set pressures ranging from 10 to 750 Psig (0.7 to 51.7 Bar) and come factory preset and permanently locked. Relief pressure can not be altered or adjusted in the field. Seat and poppet geometry combined with optimized spring ranges provide high flow rates with minimum pressure accumulation. Compact design and availability of a variety of inlet and outlet configurations reduces size and piping requirements. Relief pressure can be discharged to atmosphere or to a downstream connection. 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 in accordance to the requirements of the PED
- Exclusive "Dirt Guard" poppet incorporates screen to extend valve life and ensure reliability
- High Flow Capacity and Excellent Reseal Performance
- Supplied Factory Preset and Permanently Locked for Tamper Proof Service
- Discharge to Atmosphere or a Wide Variety of Inline Piping Configurations
- Optional Deflector Cap available for diverting exhausted gas
- 100% Factory Tested for Leakage, Crack and Reseal
- Cleaned and Packaged for Oxygen Service

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%
*tolerance specifications per EN ISO 4126-1.

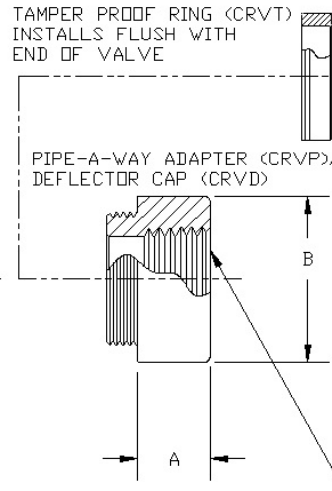
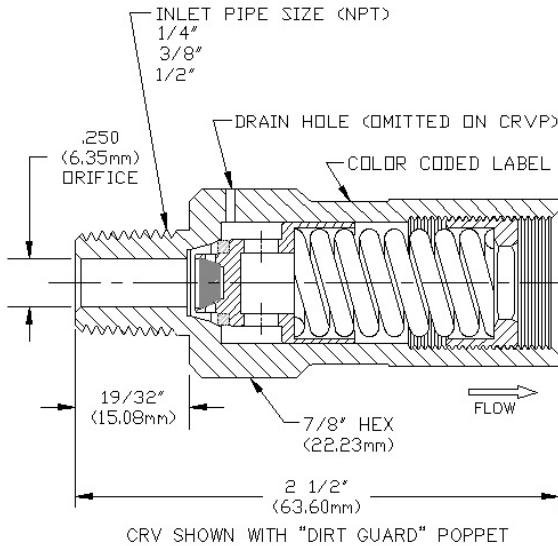
Zero Leakage to 95% of Set Pressure
 Full Rated Flow @ 110% of Set Pressure
 Unaffected by up to 10% Back Pressure
 Reseat: 90% of set pressure
 85% for PCTFE seals set below 100 Psig (6.9 Bar)
 Temperature Rating: -320° to 350° F (-196° C to 176° C)
based on seal material (see How To Order)
 Lubricant: Krytox®

Materials of Construction

| Component | Material |
|---|---------------------------------------|
| Body, Poppet, Adjusting Spring Retainer, Pipe-Away 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 |



CRYOGENIC RELIEF VALVE (BRASS)



| PIPE SIZE | A | B |
|-----------------|------------------|--------------------|
| 1/4" NPT | 11/32" (8.73mm) | 7/8" (22.23mm) |
| 3/8" NPT | 11/16" (17.46mm) | 7/8" (22.23mm) |
| 1/2" NPT | 3/4" (19.05mm) | 1" (25.40mm) |
| 1/2" BSPT | 3/4" (19.05mm) | 1" (25.40mm) |
| DEFLECTOR CAP * | 3/4" (19.05mm) | 7/8" HEX (22.23mm) |

* DEFLECTOR CAP DIVERTS FLOW TO SIDES THROUGH SIX (6) 1/4" (6.35mm) HOLES. (NOT SHOWN)

Flow Data

| Set Pressure Range (Psig) | | Discharge Coefficient Kd* | Valve Orifice .250" (6.35mm) Diameter (same for 1/4", 3/8" and 1/2" NPT) *Flow Coefficient Kd is stated at 110% accumulation Relief Valve Flow Capacity can be calculated using Generant's Online Flow Calculator at www.generant.com or contact Customer Service at 973-838-6500. |
|---------------------------|-------|------------------------------|---|
| From | To | | |
| 10.0 | 17.0 | 0.62 | |
| 17.1 | 29.0 | 0.62 | |
| 29.1 | 40.0 | 0.53 | |
| 40.1 | 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 | 375.0 | 0.61 | |
| 375.1 | 600.0 | 0.48 | |
| 600.1 | 750.0 | 0.40 | |

How To Order

CRV - 250B - K - 350

SERIES

- CRV -Cryogenic Relief Valve
- CRVP2 -Cryogenic Relief Valve with 1/4" Female Pipe-A-Way Adapter Installed
- CRVP3 -Cryogenic Relief Valve with 3/8" Female Pipe-A-Way Adapter Installed
- CRVP4 -Cryogenic Relief Valve with 1/2" Female Pipe-A-Way Adapter Installed
- CRVT -Cryogenic Relief Valve with Tamper Proof Ring Installed
- CRVD -Cryogenic Relief Valve with Deflector Adapter Installed
- CRVB4 -Cryogenic Relief Valve 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
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.



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