ABSA
the pressure equipment safety authority

9410 - 20 Ave N.W.
Edmonton, Alberta, Canada T6N 0A4
Tel: (780) 437-9100 / Fax: (780) 437-7787

November 22, 2020

Attention: Tanya Francis
TECHNICAL STANDARDS & SAFETY AUTHORITY
345 CARLINGVIEW DRIVE
TORONTO, ON M9W 6N9

The design submission, tracking number 2020-05399, originally received on November 09, 2020 was surveyed and accepted for registration as follows:

CRN : 0C07024.52 **Accepted on:** November 22, 2020

Reg Type: ADDITION TO ACC. FITTING **Expiry Date:** October 27, 2030

Drawing No. : SA.SL.CRV002.F.3315 & SCOPE OF REGISTRATION

Fitting type: CRV SERIES & CV-XX3X-T-X SERIES VALVES

Design registered in the name of : GENERANT COMPANY INC

The registration is conditional on your compliance with the following notes:

*** CRV valves shall be used only and exclusively as the thermal relief valves on piping where the primary safety relief valve is already provided*

As indicated on AB-41 Statutory Declaration form and submitted documentation, the code of construction is ASME B31.3.

- It is our understanding that the fitting(s), included as the scope of this submission, that is(are) subject to the Safety Codes Act shall comply with the requirements of the indicated Standard or Code of Construction on the AB-41 Statutory Declaration as supported by the attached data which identifies the dimensions, materials of construction, press./temp. ratings and the basis for such ratings, and the identification marking of the fittings.
- This registration is valid only for fittings fabricated at the location(s) covered by the QC certificate attached to the accepted AB-41 Statutory Declaration form.
- This registration is valid only until the indicated expiry date and only if the Manufacturer maintains a valid quality management system approved by an acceptable third-party agency until that date.
- Should the approval of the quality management system lapse before the expiry date indicated above, this registration shall become void.

An invoice covering survey and registration fees will be forwarded from our Revenue Accounts.

If you have any question don't hesitate to contact me by phone at (780) 433-0281 ext 3337 or fax (780) 437-7787 or e-mail Dick@absa.ca.

Sincerely,

DICK, ASHLING, P. Eng.
DOP Cert. No. D00007936

Technical Standards and Safety Authority
345 Carlingview Drive
Toronto, Ontario M9W 6N9
www.tssa.org

Show facsimile of manufacturer's logo or trademark, as it will appear on the fitting, in the space below

GENERANT
BUTLER, NJ

STATUTORY DECLARATION
Registration of Fittings

I, James Lesky, Director of Quality Assurance
(Name and Position, e.g. President, Plant Manager, Chief Engineer)

of Generant Company, Inc.
(Name of Manufacturer)

Located at 1865 Rt. 23 South, P.O. Box 768, Butler, NJ, USA, 07405 973-838-6500 x149 973-838-4888
(Plant Address) *(Telephone No.)* *(Fax No.)*

☑ do solemnly declare that the fittings listed hereunder, which are subject to the ***Technical Standards and Safety Act***, Boilers and Pressure Vessels Regulation, comply with all of the requirements of
ASME B31.3 Process Piping Code
(Title of recognized North American Standard)
which specifies the dimensions, materials of construction, pressure/temperature ratings, identification marking the fittings and service;

☐ or are not covered by the provisions of a recognized North American standard and are therefore manufactured to comply with _____ as supported by the attached data which identifies the dimensions, material of construction, pressure/temperature ratings and the basis for such ratings, the marking of the fitting for identification and service.

I further declare that the manufacture of these fittings is controlled by a quality system meeting the requirements of ISO 9001:2015 which has been verified by the following authority, Kiwa Belgium.
The items covered by this declaration, for which I seek registration, are category "C" type fittings. In support of this application, the following information and/or test data are attached as follows:
ISO9001:2015 Certificate from Kiwa Belgium, tests, drawings, BOMs, design calculations. **
(drawings, calculations, test reports, etc.)

Declared before me at Generant Company, Inc. **in the** County **of** Morris

the 23rd **day of** October **AD 20**20.

Commissioner for Oaths:
Ana P. Luque-Villalva
(Printed name)
(Signature)

STATE OF NEW JERSEY NOTARY PUBLIC
ANA PATRICIA LUQUE-VILLALVA
NOTARY PUBLIC OF NEW JERSEY
COMMISSION # 2373872
MY COMMISSION EXPIRES 5/19/2023

(Signature of Declarer)

FOR OFFICE USE ONLY

To the best of my knowledge and belief, the application meets the requirements of the ***Technical Standards and Safety Act***, Boilers and Pressure Vessels Regulation, and CSA Standard B51 and is accepted for registration in Category _____.

CRN: _____

Registered by: _____

Dated: _____

2020-05399
ABSA
SAFETY CODES ACT - PROVINCE OF ALBERTA
ACCEPTED: 0C07024.52
See acceptance letter for conditions of registration.
Date: 2020-11-22 By: ASHLING DICK, P. Eng.

This stamp and signature have been affixed electronically to this registered design as required by Section 20(1) of the Pressure Equipment Safety Regulation, in accordance with the Electronic Transactions Act.

NOTE: This registration expires on: 2030-10-27

**Information provided in this application is releasable under the Freedom of Information and Privacy Protection Act and may be disclosed upon request.*

PV 09553 (04/17) ** CRV Series & CV-XX3X-T-X Series Valves.
** See SA.SL.CRV002.F.3315 & Scope of Registration

GENERANT
Valves & Bi-Lok Fittings

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

BRASS CRV 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 Flourosilicone 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

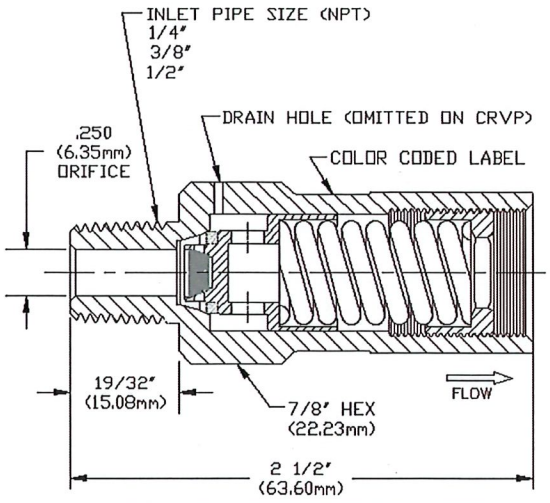
Technical Data

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®

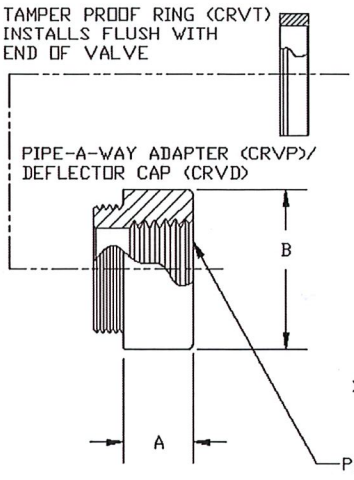
Materials of Construction

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	Mylar

CRYOGENIC RELIEF VALVE (BRASS)



CRV SHOWN WITH "DIRT GUARD" POPPET



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)

OPTIONAL CONFIGURATIONS (SEE HOW TO ORDER)

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	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

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.

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

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

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))

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

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
www.generant.com
1865 Route 23 South PO Box 768 Butler, New Jersey 07405 973.838.6500 Fax 973.838.4888

GENERANT
Valves & BI-LOK Fittings

INTENED USE OF BRASS CRYOGENIC RELIEF VALVES (CRV's)

BRASS CRYROGENIC RELIEF VALVES (CRV)
are intended to be used as thermal relief valves
on piping where a primary safety relief valve
is already being used.

Ben Buren
President and Chief Engineer

Date 10/6/20

1865 Rt. 23 South P.O. Box 768, Butler, NJ 07405 Ph: (973) 838-6500 Fax: (973) 838-4888

GENERANT
Valves & BI-LOK Fittings

SCOPE OF REGISTRATION
Product Description & Catalog/Brochure/Data-Sheet No.

Product Model or Series	ASME/ANSI Design Standard	Size or Size Range	Std. Pressure Class or MAWP @ Max. Temperature	Actual Wall thickness vs. Min. required (if no proof test report)	Ref. Calculation No. or Proof Test Report	ASME/ASTM Material Specification
CV-253B-T-X	ASME B31.3	1/4"-18 NPT	1000 PSIG @ 350°F	0.0425 vs. 0.0284	CV-1-250 & wall calc.	ASTM B16
CV-373B-T-X	ASME B31.3	3/8"-18 NPT	1000 PSIG @ 350°F	0.0400 vs. 0.0675	CV-1-375 & wall calc.	ASTM B16
CV-503B-T-X	ASME B31.3	1 /2"-14 NPT	1000 PSIG @ 350°F	0.0775 vs. 0.0537	CV-1-500 & wall calc.	ASTM B16
CV-753B-T-X	ASME B31.3	3/4"-14 NPT	1000 PSIG @ 350°F	0.1000 vs. 0.0623	CV-1-750 & wall calc.	ASTM B16
CV-1003B-T-X	ASME B31.3	1"-11-1/2 NPT	1000 PSIG @ 350°F	0.0875 vs. 0.0712	CV-1-1000 & wall calc.	ASTM B16
CV-1253B-T-X	ASME B31.3	1-1/4"-11-1/2 NPT	1000 PSIG @ 350°F	0.1675 vs. 0.1303	CV-1-1250 & wall calc.	ASTM B16
CV-1503B-T-X	ASME B31.3	1-1/2"-11-1/2 NPT	1000 PSIG @ 350°F	0.1500 vs. 0.1300	CV-1-1500 & wall calc.	ASTM B16
CV-2003B-T-X	ASME B31.3	2"-11-1/2 NPT	850 PSIG @ 350°F	0.1450 vs. 0.1414	CV-1-2000 & wall calc.	ASTM B16
CV-253SS-T-X	ASME B31.3	1/4"-18 NPT	1000 PSIG @ 350°F	0.0425 vs. 0.0238	CV-1-250SS & wall calc.	ASTM A479
CV-373SS-T-X	ASME B31.3	3/8"-18 NPT	1000 PSIG @ 350°F	0.0675 vs. 0.0270	CV-1-375SS & wall calc.	ASTM A479
CV-503SS-T-X	ASME B31.3	1 /2"-14 NPT	1000 PSIG @ 350°F	0.0745 vs. 0.0360	CV-1-500SS & wall calc.	ASTM A479
CV-753SS-T-X	ASME B31.3	3/4"-14 NPT	1000 PSIG @ 350°F	0.1000 vs. 0.0419	CV-1-750SS & wall calc.	ASTM A479
CV-1003SS-T-X	ASME B31.3	1"-11-1/2 NPT	1000 PSIG @ 350°F	0.0875 vs. 0.0479	CV-1-1000SS & wall calc.	ASTM A479
CV-1253SS-T-X	ASME B31.3	1-1/4"-11-1/2 NPT	1000 PSIG @ 350°F	0.1675 vs. 0.0664	CV-1-1250SS & wall calc.	ASTM A479
CV-1503SS-T-X	ASME B31.3	1-1/2"-11-1/2 NPT	1000 PSIG @ 350°F	0.1500 vs. 0.0663	CV-1-1500SS & wall calc.	ASTM A479
CV-2003SS-T-X	ASME B31.3	2"-11-1/2 NPT	1000 PSIG @ 350°F	0.1450 vs. 0.0843	CV-1-2000SS & wall calc.	ASTM A479

X – denotes nominal set pressure

2020-05399

ABSA

SAFETY CODES ACT - PROVINCE OF ALBERTA

ACCEPTED: 0C07024.52

See acceptance letter for conditions of registration.

Date: 2020-11-22 By:

ASHLING DICK, P. Eng.

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