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Toronto, Ontario M9W 6N9  
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[www.tssa.org](http://www.tssa.org)

October 27, 2020

JAMES LESKY  
GENERANT COMPANY INC  
18254 TECHNOLOGY DR  
MEADVILLE PA 16335  
US

Service Request Type: BPV-Fitting Registration  
Service Request No.: 2940878  
Your Reference No.: RENEW CRN 0C7024.5  
Registered to: GENERANT COMPANY INC

Dear JAMES LESKY,

Technical Standards and Safety Authority (TSSA) is pleased to inform you that your submission has been reviewed and registered as follows:

**CRN No.: 0C7024.5R3**  
**Main Design No.: CRV Series and CV-XX3X-T-X Series Valves per Scope of Registration**  
**Expiry Date: 27-Oct-2030**

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

Please be advised that a valid quality control system must be maintained for the fitting registration to remain valid until the expiry date.

A stamped copy of the approved registration and invoice for engineering services will be sent to you shortly. Should you have any questions or require further assistance, however, please contact a Customer Service Advisor at 1.877.682.TSSA (8772) or e-mail [customerservices@tssa.org](mailto:customerservices@tssa.org). We will be happy to assist you. When contacting TSSA regarding this file, please refer to the Service Request number provided above.

Yours truly,

A handwritten signature in blue ink that reads "Zivko Gacevic".

Zivko Gacevic P. Eng.  
Mechanical Engineer, BPV  
Tel.: 416-734-3429  
Fax: 416-231-6183  
Email: [zgacevic@tssa.org](mailto:zgacevic@tssa.org)



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.)

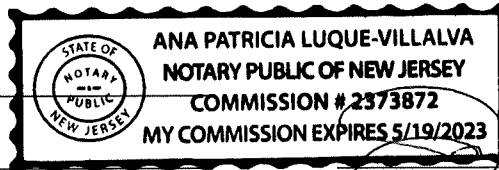
Declared before me at Generant Company, Inc. in the County of Morris

the 23rd day of October AD 2020.

Commissioner for Oaths:

Ana P. Luque-Villalva  
(Printed name)

Ana P. Luque-Villalva  
(Signature)



[Signature]  
(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 'C'.

CRN: \_\_\_\_\_

Registered by: \_\_\_\_\_

Dated: \_\_\_\_\_



This Document has been digitally signed and approved.  
The stamp size has been optimized for 11 x 17 documents.

NOTE: This registration expires on: **Oct. 27, 2030**

Technical Standards and Safety Authority  
Boilers and Pressure Vessels Safety Program

**REGISTERED**

C.R.N.: 0C7024.5R3

Signed: [Signature]

Date: **October 27, 2020.**

\*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) **Note: CRV valves shall be used only and exclusively as thermal relief vales on piping where primary safety relief valve is already provided. See attached documents for Scope of Registration.**



**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

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**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)

**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**

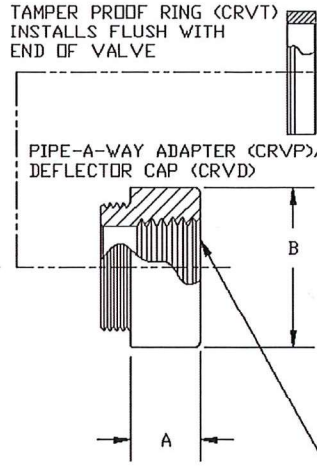
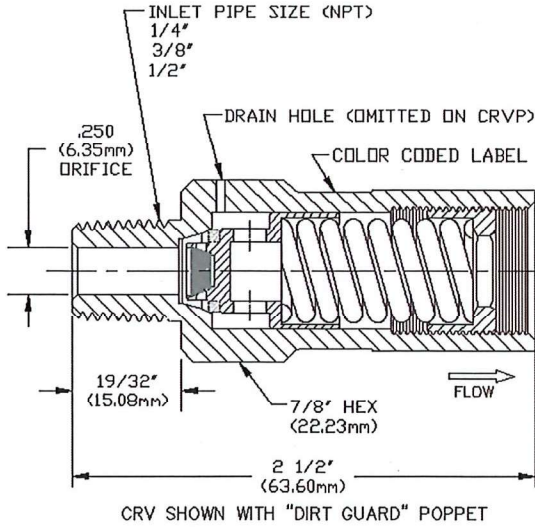
Component	Material
Body, Poppet, Adjusting Spring Retainer, Pipe-Away Adapters, Deflector Cap, Tamper Proof Ring	Brass, ASTM B16
Spring	302 (ASTM A313) or 17-4PH (ASTM A564)
Seal	PCTFE (ASTM D1430), or Fluorosilicone
Color Coded Identification Label	Mylar



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## CRYOGENIC RELIEF VALVE (BRASS)

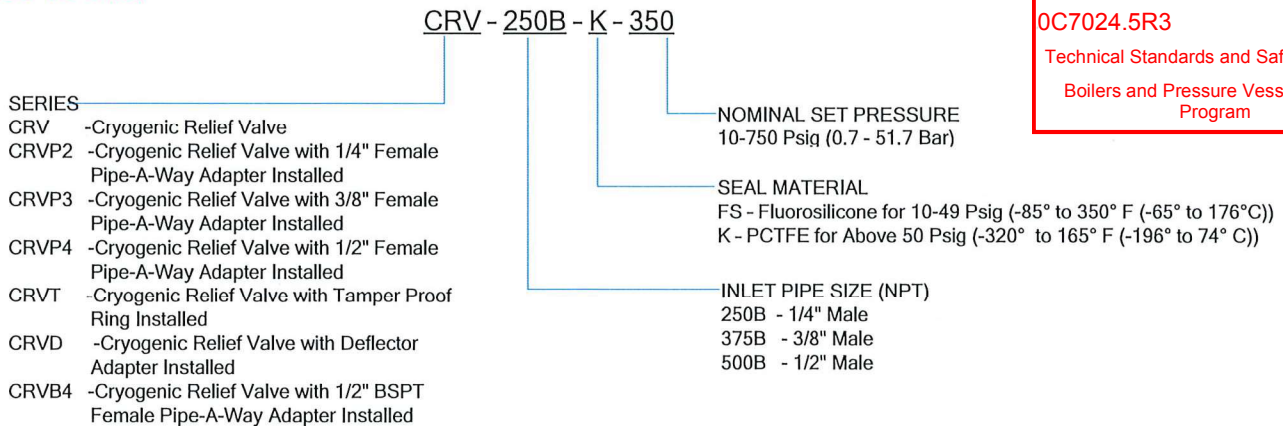


PIPE SIZE	A	B
1/4" NPT	11/32" (8.73mm)	7/8" (22.23mm)
3/8" NPT	11/16" (17.46mm)	7/8" (22.23mm)
1/2" NPT	3/4" (19.05mm)	1" (25.40mm)
1/2" BSPT	3/4" (19.05mm)	1" (25.40mm)
DEFLECTOR CAP *	3/4" (19.05mm)	7/8" HEX (22.23mm)

### 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 <b>Generant's Online Flow Calculator</b> at <a href="http://www.generant.com">www.generant.com</a> 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



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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.



1865 Route 23 South PO Box 768 Butler, New Jersey 07405 973.838.6500 Fax 973.838.4888



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

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

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Ben Buren  
President and Chief Engineer

Date 10/6/20