



# EU-TYPE EXAMINATION CERTIFICATE

Application of the

*Directive 2014/68/EU of the European Parliament and of the Council of 15 May 2014 of Pressure Equipment, as amended, and as transposed into law of the Kingdom of Sweden*

CERTIFICATE NO.: **16-1008709-102, Rev. 5**

This Certificate consists of four (4) pages

THIS IS TO CERTIFY THAT THE EQUIPMENT

## **Safety Accessory**

WITH THE TYPE DESIGNATION/EQUIPMENT DESCRIPTION

## **Safety Accessories of Series CRV, VRV and VRVH**

MANUFACTURED BY

**Generant Company Inc., 1865 Route 23 South,  
P.O. Box 768, BUTLER, N.J. 07405 - U.S.A**

is found to comply with the requirements in Annex I, Essential Safety Requirements and EN 13648-1 and EN ISO 4126 (for full list refer Generant CRV/VRV/VRVH Type Approval Files).

The equipment has been examined with respect to the procedure of conformity assessment as described for Module B Production Type - Annex III, point 3.1

### APPLICATIONS

Equipment Category: IV

Design Pressure min/max: See page 2 and 3 bar(g)

Design Temp. range: See page 2 and 3 °C

Fluid: Fluid group 1

Further details of the product and conditions for the certification are given overleaf.

This Certificate is valid until: 2026-08-30

MALMÖ 2019-08-28  
SIGNED FOR AND BEHALF OF

**Kiwa Inspecta AB**

Notified Body No.: 0409

A handwritten signature in black ink, appearing to read "Thierry Tielemans", written over a horizontal line.

Thierry Tielemans  
Senior Design Review Engineer



Notice: The statement is subject to terms and conditions, if any, overleaf. Any significant changes in design or construction of the product, the quality system or amendments to the Directive 2014/68/EU or Standards referenced above may render this statement invalid. The product liability rests with the manufacturer or his representative in accordance with the Directive, as amended.



## EU-TYPE EXAMINATION CERTIFICATE

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### TYPE APPROVAL VALIDITY

#### - Cryogenic relief valves – Serie CRV:

Design pressure: 0.7-51.7 bar

Design temperature: Seal material dependent (FS: -65°C to 176°C, K-PCTFE: -196°C to 74°C)

	<b>CRV - 250B - K - 350</b>	
<b>SERIES</b>	<div style="text-align: center; margin-bottom: 10px;"><b>NOMINAL SET PRESSURE</b></div> <div style="text-align: center; margin-bottom: 10px;"><small>Specify 10 – 750 PSI</small></div> <div style="text-align: center; margin-bottom: 10px;"><b>SEAL MATERIAL</b></div> <div style="text-align: center; margin-bottom: 10px;"><small>FS - Fluorosilicone (10 – 49 PSI)</small></div> <div style="text-align: center; margin-bottom: 10px;"><small>K - Kel-F (above 50 PSI)</small></div> <div style="text-align: center;"><b>INLET PIPE SIZE (NPT)</b></div>	<div style="text-align: center; margin-bottom: 10px;"><small>250B - 1/4" Male, Brass</small></div> <div style="text-align: center; margin-bottom: 10px;"><small>375B - 3/8" Male, Brass</small></div> <div style="text-align: center;"><small>500B - 1/2" Male, Brass</small></div>
<p>CRV -Cryogenic Relief Valve</p> <p>CRVP -Cryogenic Relief Valve without Drain Hole</p> <p>CRVP2 -Cryogenic Relief Valve with 1/4" Female Pipe-A-Way Adapter Installed</p> <p>CRVP3 -Cryogenic Relief Valve with 3/8" Female Pipe-A-Way Adapter Installed</p> <p>CRVP4 -Cryogenic Relief Valve with 1/2" Female Pipe-A-Way Adapter Installed</p> <p>CRVT -Cryogenic Relief Valve with Tamper Proof Ring Installed</p> <p>CRVD -Cryogenic Relief Valve with Deflector Adaptor Installed</p> <p>CRVB4 -Cryogenic Relief Valve with 1/2" BSPT Female Pipe-A-Way Adapter Installed</p>		



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- Vent relief valves – Serie VRV:

Design pressure: 1.45-3.79-27.58 bar

Design temperature: Seal material dependent (T: -23°C to 190°C, B & N: -40°C to 121°C, EP: -54°C to 148°C, FS: -62°C to 176°C, S: -54°C to 205°C, T: -220°C to 205°C)

<u>Reference</u>	<u>Gas</u>	<u>Max working pressure</u>	<u>Applicable standards</u>
VRV-47A-30	INERT GAS, O2, GAS MIXTURE WITH OXIDIZING POTENTIAL HIGHER THAN 21%	2.07 BAR +/- 0.1 BAR	EN 13648-1 EN ISO 4126-1
VRV 049-22	INERT GAS, O2, GAS MIXTURE WITH OXIDIZING POTENTIAL HIGHER THAN 21%	1.52 BAR +/- 5%	EN 13648-1 EN ISO 4126-1
VRV 049-30	INERT GAS, O2, GAS MIXTURE WITH OXIDIZING POTENTIAL HIGHER THAN 21%	2.07 BAR +/- 0.1 BAR	EN 13648-1 EN ISO 4126-1
VRV 085-22	INERT GAS, O2, GAS MIXTURE WITH OXIDIZING POTENTIAL HIGHER THAN 21%	1.52 BAR +/- 5%	EN 13648-1 EN ISO 4126-1
VRV 085-30	INERT GAS, O2, GAS MIXTURE WITH OXIDIZING POTENTIAL HIGHER THAN 21%	2.07 BAR +/- 0.1 BAR	EN 13648-1 EN ISO 4126-1
VRV-292-22	INERT GAS, O2, GAS MIXTURE WITH OXIDIZING POTENTIAL HIGHER THAN 21%	1.52 BAR +/- 5%	EN 13648-1 EN ISO 4126-1
VRV-292-30	INERT GAS, O2, GAS MIXTURE WITH OXIDIZING POTENTIAL HIGHER THAN 21%	2.07 BAR +/- 0.1 BAR	EN 13648-1 EN ISO 4126-1
VRV 427	INERT GAS, O2, GAS MIXTURE WITH OXIDIZING POTENTIAL HIGHER THAN 21%	1.45 BAR +/- 5%	EN 13648-1 EN ISO 4126-1
VRV 428	INERT GAS, O2, GAS MIXTURE WITH OXIDIZING POTENTIAL HIGHER THAN 21%	2.07 BAR +/- 0.1 BAR	EN 13648-1 EN ISO 4126-1
VRV 429	INERT GASES, OXYGEN AND POTENTIAL OXIDIZER GASES GREATER THAN 21%	1.58 BAR +/- 5%	EN 13648-1 EN ISO 4126-1
VRV 1034	AIR, INERT GASES, AND LIQUIDS COMPATIBLE WITH MATERIALS OF CONSTRUCTION	2.07 BAR +/- 0.1 BAR	EN 13648-1 EN ISO 4126-1
VRV 1035	INERT GASES, OXYGEN AND POTENTIAL OXIDIZER GASES GREATER THAN 21%	3.79 BAR +/- 3%	EN 13648-1 EN ISO 4126-1
VRV 1036	INERT GASES, OXYGEN AND POTENTIAL OXIDIZER GASES GREATER THAN 21%	2.07 BAR +/- 0.1 BAR	EN 13648-1 EN ISO 4126-1
VRVD 1035	INERT GASES, OXYGEN AND POTENTIAL OXIDIZER GASES GREATER THAN 21%	3.79 BAR +/- 3%	EN 13648-1 EN ISO 4126-1
VRVH-251B	INERT GASES, OXYGEN AND POTENTIAL OXIDIZER GASES GREATER THAN 21%	27.58 BAR +/-3%	EN 13648-1 EN ISO 4126-1

EXAMINED TECHNICAL DOCUMENTATION

- Series CRV BRASS DG PED TECHNICAL FILES
- Series VRV/VRVH PED TECHNICAL FILES

SUPPORTING EVIDENCE

Technical Files containing:

- Type Approval Files (Series CRV and VRV/VRVH),
- Technical Drawings,
- Marking,



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- Spring Design,
- Design Calculation/Testing,
- Test Reports,
- Materials,
- Installation/User Instructions.

### LIMITATIONS

The Manufacturer is allowed to affix the "CE" mark to the approved pressure equipment in the conditions described in the Pressure Equipment Directive, only if the requirements stated in the Module D are fully complied with.

### SCOPE OF EXAMINATION

Technical design data and calculations	Yes	<input checked="" type="checkbox"/>	
Materials assessment	Yes	<input checked="" type="checkbox"/>	
Manufacturing drawings	Yes	<input checked="" type="checkbox"/>	
Welding – specifications WPS (procedures)	Yes	<input type="checkbox"/>	N/A
Welding – personnel approval	Yes	<input type="checkbox"/>	No <input checked="" type="checkbox"/> N/A
NDT – personnel verification	Yes	<input type="checkbox"/>	No <input checked="" type="checkbox"/>
NDT – scope, methods and procedures	Yes	<input type="checkbox"/>	No <input checked="" type="checkbox"/>
Operating instructions	Yes	<input checked="" type="checkbox"/>	No <input type="checkbox"/>
Hazard or risk analysis	Yes	<input checked="" type="checkbox"/>	No <input type="checkbox"/>
External loads	Yes	<input type="checkbox"/>	No <input checked="" type="checkbox"/>
Fatigue	Yes	<input type="checkbox"/>	No <input checked="" type="checkbox"/>
Creep design	Yes	<input type="checkbox"/>	No <input checked="" type="checkbox"/>
Other tests or procedures	Yes	<input checked="" type="checkbox"/>	No <input type="checkbox"/> Refer Technical Files

### TESTS CARRIED OUT

Production Type - Prototype safety accessories representative of type approval examined: refer Technical Files (Test Reports). Current testing revalidated in 2016-08-30 – Ref. Thierry Tielemans.

MALMÖ 2019-08-28

**Kiwa Inspecta AB**

DESIGN EXAMINATION CARRIED OUT BY

Thierry Tielemans

Senior Design Review Engineer