



Confirmation of Product Type Approval

Please refer to the "Service Restrictions" shown below to determine if Unit Certification is required for this product.

This certificate reflects the information on the product in the ABS Records as of the date and time the certificate is printed.

Pursuant to the Rules of the American Bureau of Shipping (ABS), the manufacturer of the below listed product held a valid Manufacturing Assessment (MA) with expiration date of 14/MAY/2020. The continued validity of the Manufacturing Assessment is dependent on completion of satisfactory audits as required by the ABS Rules.

And; a Product Design Assessment (PDA) valid until 03/FEB/2020 subject to continued compliance with the Rules or standards used in the evaluation of the product.

The above entitle the product to be called Product Type Approved.

The Product Design Assessment is valid for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Product Name: Valve, High Velocity Pressure-Vacuum Relief
Model Name(s): Type 4100 - PV-ECO/PV-VOC Pressure/Vacuum Valve

Presented to:
PRES-VAC ENGINEERING APS
SVANEVANG 3-5
Denmark

Intended Service: This P/V valve is a device to prevent the passage of flames which is approved for apparatus group IIB and is intended for venting of inerted and non-inerted cargo tanks in tankers during cargo loading, ballasting and discharging operations.

Description: PV-ECO/PV-VOC valve comprises a pressure unit and a vacuum unit. This valve can be delivered with or without integrated gas-freeing cover and/or resilient seal. The pressure and vacuum units can also be delivered as separate devices.

Tier: 3

Ratings: Pressure Valve: Size, Max. Pipe length, Min. pipe size, Outlet diameter, Min. setting, Apparatus group, Max. Ice cap thickness: PV-ECO-53, 13 m, DN 50, 53 mm, 10 kPa, IIB/(MESH \geq 0.65 mm), 20 mm PV-ECO-53, 50 m, DN 80, 53 mm, 10 kPa, IIB/(MESH \geq 0.65 mm), 20 mm PV-ECO-66, 16 m, DN 80, 66 mm, 10 kPa, IIB/(MESH \geq 0.65 mm), 15 mm PV-ECO-66, 50 m, DN 100, 66 mm, 10 kPa, IIB/(MESH \geq 0.65 mm), 15 mm PV-ECO-80, 19 m, DN 100, 80 mm, 10 kPa, IIB/(MESH \geq 0.65 mm), 25 mm PV-ECO-80, 38 m, DN 125, 80 mm, 10 kPa, IIB/(MESH \geq 0.65 mm), 25 mm PV-ECO-98, 17 m, DN 125, 98 mm, 10 kPa, IIB/(MESH \geq 0.65 mm), 25 mm PV-ECO-98, 32 m, DN 150, 98 mm, 10 kPa, IIB/(MESH \geq 0.65 mm), 25 mm PV-VOC-106, 5 m, DN 125, 106 mm, 10 kPa, IIB/(MESH \geq 0.65 mm), 21 mm PV-VOC-122, 4 m, DN 150, 122 mm, 10 kPa, IIB/(MESH \geq 0.65 mm), 15 mm PV-VOC-150, 4 m, DN 200, 150 mm, 10 kPa, IIB/(MESH \geq 0.65 mm), 35 mm PV-VOC-174, 4 m, DN 250, 174 mm, 10 kPa, IIB/(MESH \geq 0.65 mm), 23.5 mm PV-VOC-204, 4 m, DN 300, 204 mm, 10 kPa,

IIB/(MESG >= 0.65 mm), 50 mm Vacuum valve: Size, Nominal setting, Inlet diameter, Apparatus group, Max. Ice cap thickness: PV-ECO-VAC-95, -3,5 kPa, 95 mm, IIB/(MESG >= 0.65 mm), 0 mm PV-ECO-VAC-116, -3,5 kPa, 116 mm, IIB/(MESG >= 0.65 mm), 0 mm PV-ECO-VAC-150, -3,5 kPa, 150 mm, IIB/(MESG >= 0.65 mm), 0 mm PV-VOC-VAC-180, -3,5 kPa, 180 mm, IIB/(MESG >= 0.65 mm), 0 mm PV-VOC-VAC-215, -3,5 kPa, 215 mm, IIB/(MESG >= 0.65 mm), 0 mm PV-VOC-VAC-248, -3,5 kPa, 248 mm, IIB/(MESG >= 0.65 mm), 0 mm PV-VOC-VAC-315, -3,5 kPa, 315 mm, IIB/(MESG >= 0.65 mm), 0 mm

Service Restrictions:

1. Maintenance and application suitability to be in accordance with the Product Review Document (PRD) and the Instruction Manual, and is the responsibility of the user. 2. Unit Certification is not required for this product. If the manufacturer or purchaser requests an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

Comments:

1) The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product. 2) Pressure/vacuum settings, capacity calculations and details of the cargo venting arrangements are to be submitted for each application. 3) Instruction manual as per 4.3 of MSC/Circ.677 is to be provided by the manufacturer and be kept onboard.

Notes / Documentation:

Test Report No. 4100 for High Velocity Valve Type PV-ECO dated May 2014 VOL 1
 Test Report No. 4100 for Vacuum Valve Type PV-ECO dated May 2014 VOL 2
 Test Report No. 4100 for High Velocity Valve Type PV-VOC dated Nov 2014 VOL 3
 Test Report No. 4100 for Vacuum Valve Type PV-VOC dated Nov 2014 VOL 4
 Drawing No. 4100 rev.2, 4100-5 rev.1, 1413-402 rev.1, 1413-409 rev.0 Overview Table of Pressure/Vacuum valve type PV-ECO & PV-VOC

Term of Validity:

This Product Design Assessment (PDA) Certificate 15-LD1311590-PDA, dated 04/Feb/2015 remains valid until 03/Feb/2020 or until the Rules or specifications used in the assessment are revised (whichever occurs first). This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product. Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA. Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

ABS Rules:

Steel Vessels Rules (2015) 1-1-4/7.7, 1-1-Appendix 3 & 4, 5C-1-7/11, 5C-9-8/2
 Mobile Offshore Drilling Units (2015) 1-1-4/9.7, 1-1-Appendix 2 & 3, 6-1-6/5.5

National Standards:

International Standards:

IMO MSC/Circ. 677 as amended by IMO MSC/Circ.1009 and MSC.1/ Circ.1324
 ISO 15364:2007, EN ISO 16852:2010, EN 12874:2001 and API 2000 1974/78
 SOLAS Convention (2014 Consolidated Edition) Regulation II-2/4.5.3 & II-2/11.6

Government Authority:

EUMED:

Others:

Model Certificate

Model Certificate No

Issue Date

Expiry Date

PDA

15-LD1311590-PDA

04/FEB/2015

03/FEB/2020



ABS Programs

ABS has used due diligence in the preparation of this certificate and it represents the information on the product in the ABS Records as of the date and time the certificate was printed. Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. Limited circumstances may allow only Prototype Testing to satisfy Type Approval. The approvals of Drawings and Products remain valid as long as the ABS Rule, to which they were assessed, remains valid. ABS cautions manufacturers to review and maintain compliance with all other specifications to which the product may have been assessed. Further, unless it is specifically indicated in the description of the product; Type Approval does not necessarily waive witnessed inspection or survey procedures (where otherwise required) for products to be used in a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS. Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.