DNV·GL

Certificate No:
TAP000012E

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Check Valve

with type designation(s)
Series 716 and 716H

Issued to
Victaulic Company
Easton PA, USA

is found to comply with
DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV GL class programme DNVGL-CP-0186 – Type approval – Valves
DNVGL-OS-D101 – Marine and machinery systems and equipment, Edition July 2015

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Temperature range:	**0°C – 120°C (see page 2)**
Max. working press.:	**232 psi (16 bar)**
Sizes:	**2" to 12" (see page 2)**

Issued at **Høvik** on **2017-12-13**
This Certificate is valid until **2022-06-30**.
DNV GL local station: **New York**

Approval Engineer: **Sinisa Sedlan**

for **DNV GL**

Marianne Spæren Marveng
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

© DNV GL 2014. DNV GL and the Horizon Graphic are trademarks of DNV GL AS.

Product description

Spring loaded single disc check valves with grooved ends for connecting to either Victaulic couplings or Style 741 VIC-Flange adapters to suit ANSI class 150 flanges.

Sizes:

716H:	2" (DN50), 2½" (DN65), 76.1 mm, 3" (DN80)
716:	4" (DN100), 139.7 mm, 5" (DN125), 6" (DN150), 165.1 mm, 8" (DN200), 10" (DN250), 12" (DN300)

Materials:

Body	ASTM A536 65-45-12 (ferritic/pearlitic nodular cast iron)
Disc	Stainless steel (Series 716H); elastomer encapsulated nodular cast iron (Series 716)
Shaft	ASTM A276 UNS S31600
Seal	EPDM, Nitrile, Fluorelastomer

Manufacturing locations:

Victaulic Easton Facility
4901 Kesslersville Road
Easton, PA 18040 – USA

Application/Limitation

The approval is valid for ship, machinery & cargo piping systems onboard DNV GL classed ships and mobile offshore units.

Design temperatures depending on seat materials:
EPDM/Fluoroelastomer: 0°C to +120°C
Nitrile: 0°C to +82°C

Valves covered by this certificate shall not be used in:

- Class I and II piping systems, except in in hydraulic piping systems where failure would not render the system inoperative or introduce a fire risk
- Piping subject to pressure shock, excessive strains and vibration
- Ship's side or bottom and on sea chest
- Collision bulkheads
- Under static head fitted on external wall of tanks for fuel and flammable oils
- Ballast lines to forward tanks through cargo oil tanks
- Bilge and ballast piping in tunnels in double bottom
- Seawater applications
- Media having temperature below 0°C and above 120 °C
- As shut off or quick closing valves

Valves covered by this certificate with non-metallic seals are not to be considered fire safe and shall not be installed in systems where fire safe applications are required.

This certificate does not cover valves installed in LNG/LPG applications.

The certificate does not cover approval of couplings or flanges.

Type Approval documentation

Production Testing

Each valve body shall be subjected to a hydrostatic pressure test at 1.5 times the maximum allowable working pressure at room temperature.

In addition each valve shall be subjected to seat leakage testing at 1.1 times maximum allowable working pressure at closed position.

Testing shall follow procedures and acceptance criteria in EN12266-1 (leakage rate A).

Production testing for valves that require DNV GL product certificate shall be witnessed by DNV GL surveyor.

Certification

DNV GL product certificate is required for valves with DN>100 mm and design pressure ≥ 16 bar. Otherwise manufacturer's product certificate may be accepted.

Material certificates for valve bodies shall be according to DNV GL Pt.4 Ch.6 Sec.2 Table 3.

Marking of product

For traceability to this type approval the valves are to be marked as a minimum with:

- Manufacturers name or trade mark
- Valve type designation
- Size
- Maximum design pressure and temperature
- Arrow to indicate direction of flow

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform periodical assessment every second year and before the expiry date of this certificate, to verify that the conditions for the type approval are complied with.
When possible, this assessment may be harmonised with normal surveys for product certification and / or other surveys and audits carried out.

The main elements of the certificate retention survey are:

- Verification of the TA applicant’s production and quality system w.r.t. ensuring continued
- consistent production of the type approved products at the TA applicant’s own premises
- Review of Type Approval documentation and assurance that it is still used as basis for production
- Review of possible changes in design, materials and performance
- Assurance of traceability between manufacturer’s product type marking and Type Approval Certificate.

Renewal should be applied for in writing before the certificate expires.