



TYPE APPROVAL CERTIFICATE

Certificate No:
TAP000012E
Revision No:
1

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 rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV-OS-D101 – Marine and machinery systems and equipment, Edition July 2021
DNV class programme DNV-CP-0186 – Type approval – Valves

Application :

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

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

Issued at **Hamburg** on **2022-07-13**

for **DNV**

This Certificate is valid until **2027-07-12**.

DNV local station: **New York**

Approval Engineer: **Ana Cristina Do Carmo Insfran**

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Olaf Drews
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



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

Application/Limitation

The approval is valid for ship, machinery & cargo piping systems onboard DNV 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 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

Type Approval Application dated on 2020-03-23

Type Approval Assessment Report dated on 2022-07-03

Calculation sheet EN12516 Tables for S761 S716

Drawings Nr.:

C-H-030-716-002 Rev. D; V-000-716-001 Rev. E; P-761-716-205 Rev. D; P-030-716-205 Rev. D;
P-020-716-205 Rev. D; P-024-716-205 Rev. C; P-761-716-204 Rev. D; P-030-716-204 Rev. C; P-020-716-204 Rev. C;
P-024-716-204 Rev. C; V-020-716-200 Rev. I; H-100-716-153 Rev. C; D-H-100-716-100 Rev. J; H-080-716-153 Rev. C;
H-060-716-153 Rev. B; H-050-716-153 Rev. D; H-040-716-153 Rev. B; H-165-716-153 Rev. B; H-139-716-153 Rev. D;
H-120-716-153 Rev. B; H-761-716-203 Rev. H; H-030-716-203 Rev. J; H-024-716-203 Rev. H; H-020-716-203 Rev. I;
D-H-080-716-100 Rev. N; D-H-060-716-100 Rev. Q; D-H-050-716-100 Rev. Q; D-H-040-716-100 Rev. L;
D-H-165-716-100 Rev. K; H-139-716-100 Rev. L; D-H-120-716-100 Rev. M; D-H-030-716-001 Rev. H;
H-761-716-213 Rev. D; D-H-761-716-101 Rev. G; H-030-716-213 Rev. C; D-H-024-716-001 Rev. D;
H-020-716-213 Rev. E; H-024-716-213 Rev. D; D-H-140-716-001 Rev. H; C-H-024-716-005 Rev. A

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 product certificate shall be witnessed by DNV surveyor.

Certification

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

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

Manufacturing locations

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

Marking of product

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

- Manufacturer's 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 Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the Type Approval are complied with Refer to DNV-CP-0338, Sec.4.

The certificate is only valid if required periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>

Ende of Certificate