



TYPE APPROVAL CERTIFICATE

Certificate No:
TAP0000170
Revision No:
1

This is to certify:

That the Check Valve

with type designation(s)
ECV

Issued to

Wouter Witzel EuroValve B.V.
Losser, Overijssel, Netherlands

is found to comply with

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

Application :

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

Temperature range: -29°C - 200°C (see certificate)
Max. working press.: 16 bar
Sizes: DN 50 - DN 600

Issued at **Høvik** on **2023-05-12**

for **DNV**

This Certificate is valid until **2028-02-21**.

DNV local unit: **Netherlands CMC**

Approval Engineer: **Jane Lozanov**

Zeinab Sharifi
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

ECV check valve designed in accordance with EN 12516-2/-4.

Type	Size	Pressure rating
ECV	DN50, 65, 80, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500 and 600	PN 6, PN 10, PN 16

Material:

Body:	Group	Design temperature
60-40-18, ASTM A395	Cast iron, nodular ferritic	0°C – 200°C
EN-GJS-400-15, EN 1563	Cast iron, nodular ferritic	0°C – 200°C
EN-GJS-400-18U-LT, EN 1563	Cast iron, nodular ferritic	0°C – 200°C
WCB, ASTM A216	Cast steel	-20°C – 200°C
EN-GJL-250, EN1561	Grey cast iron	0°C – 120°C
CuAl10Fe5Ni5-C, CC333G, EN 1982	Copper alloy	-29°C – 200°C
UNS C95800, ASTM B 148	Al-Bronze casting	-29°C – 200°C

Disc:

- 1.4057, EN 10088-3, stainless steel
- 1.4462, EN 10088-3, stainless steel
- 1.4469, EN 10213, stainless steel
- CC333G, EN 1982, copper alloy
- UNS C95800, ASTM B 148, Al-bronze casting

Shaft:

- 1.4401, EN 10088-3, stainless steel
- 1.4462, EN 10088-3, stainless steel
- CW307G, EN 12163, copper alloy
- NA 18 (Monel K-500), BS 3076, nickel alloy

Seat:

- EPDM
- NBR
- FPM

Application/Limitation

Pressure-temperature ratings shall be in accordance with the design standard(s) for the selected metallic material of the valve, also limited to the temperature ranges for sealings as following:

- EPDM: -29°C – 120°C
- NBR: 0°C – 80°C
- FPM: 0°C – 200°C

EPDM sealing shall not be used in Hydrocarbon applications.

Valves covered by this certificate may be used in general machinery service.

The approval does not include any operating gear for remote control of the valves.

The valves covered by this certificate are not:

- to be considered fire safe and therefore shall not be installed wherever fire safe application is required, e.g., as shut off or quick closing or ESD valves,
- to be installed in LNG/LPG applications.

Materials and material protection chosen for the specific system shall be suitable for the intended medium and environmental conditions. Valves of austenitic stainless steels (1.4057 and 1.4408) shall not to be used in direct contact with seawater.

Grey cast iron shall not to be used for piping subject to pressure shock, excessive strains and vibration.

Grey cast iron shall not be used for class I and II piping with the following exceptions:

- components in hydraulic piping systems where failure would not render the system inoperative or introduce a fire risk.

Grey cast iron may be used for class III piping, with the following exceptions:

- pipes and valves fitted on ship sides and bottom and on sea chests,
- valves fitted on collision bulkhead,
- valves under static head fitted on the external wall of fuel tanks, lub. oil tanks and tanks for other flammable oils,
- valves for fluids with temperatures in more than 120°C.

Nodular cast iron of the ferritic type, with specified minimum elongation of 12%, may be used in class II and III piping and in pipes and valves located on the ship's side and bottom and valves on the collision bulkhead. The use of nodular cast iron in class I piping shall be subject to consideration for approval in each case.

Type Approval documentation

Drawing No.	Rev.	Title
/	/	Viton selection guide
TB - FK2400	20.02.2018	Design calculation DN600
TB - 1.401595	20.02.2018	Design calculation DN500
TB - 1.401594	20.02.2018	Design calculation DN450
TB - FK1601	20.02.2018	Design calculation DN400
TB - FK1401	20.02.2018	Design calculation DN350
TB - 1.401591	20.02.2018	Design calculation DN300
TB - 1.401590	20.02.2018	Design calculation DN250
TB - 1.401589	20.02.2018	Design calculation DN200
TB - 1.401588	20.02.2018	Design calculation DN150
TB - 1.401587	20.02.2018	Design calculation DN125
TB - 1.401586	20.02.2018	Design calculation DN100
TB - 1.401585	20.02.2018	Design calculation DN80
TB - 1.401584	20.02.2018	Design calculation DN65
TB - 1.401583	20.02.2018	Design calculation DN50
D-AKK175	B	Check valve - EVC - 50-600
PDS02.01.001	2017.01.12	Product data sheet - Wouter Witzel - ECV

Production testing and Certification

Production Testing and Certification for the actual intended application shall follow the latest applicable edition of the Rules (as mentioned on the front page of this certificate).

Marking of product

Minimum marking requirements shall be as outlined in the valve design standard i.e., EN 19.

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 approval are complied with. Reference is made to DNV-CP-0338.