

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Butterfly Valves

with type designation(s)
DESPONIA

Issued to

INTERAPP VALCOM, S.A.
MADRID, Spain

is found to comply with

DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems
DNVGL-OS-D101 – Marine and machinery systems and equipment, Edition July 2015
Det Norske Veritas' Standards for Certification 2.9 No. 5-794.40

Application :

Butterfly valves approved for use in ship piping and machinery piping systems according to DNV GL Ship Rules Pt.4 Ch.6.

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

Temperature range: Dep. on seat matr., see cert.
Max. working press.: 2,5 - 6 - 10 - 16 bar (see cert.)
Sizes: DN 25 to 1600 mm (see cert.)

This Certificate is valid until **2020-11-12**.

Issued at **Høvik** on **2015-11-13**

DNV GL local station: **Madrid**

for **DNV GL**

Approval Engineer: **Simon Ratcliffe**

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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.

Product description

Wafer, lug and flange type, elastomer lined, butterfly valves with soft seats according to EN 12516-1.

Type designations, flange type and sizes:

Type	Sizes
D1 Wafer	DN25/32, 40, 50, 65, 80, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800, 900
D3 Lug	DN25/32, 40, 50, 65, 80, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600
D4 Flanged	DN150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 750, 800, 900, 1000, 1100, 1200, 1400, 1600

Material:

Body:

Cast iron GG-25, DIN 1691,

Nodular cast iron GGG-40/40.3 acc. DIN 1693

Disc:

Nodular cast iron GGG-40/40.3 acc. DIN 1693

Stainless steel WNo. 1.4408 acc. DIN 14408, or CF-8M acc. ASTM A351M

Carbon Steel WNo. 1.0619 acc. DIN 1.0619, or WCA / WCB acc. ASTM A216M

AlBronze WNo. 1.714 acc. ASTM B148 - 958

Special steel "URANUS B6", acc. DIN 14539

Special steel "HASTELLOY C", acc. DIN 24686

Lining / Seat:

EPDM (ord, White and KP), Nitrile (ord. and White), Silicone, Hypalon, Viton

Application/Limitation

Maximum allowable pressure for the valve bodies is 16 bar, or limited by the connecting flange rating where lower.

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

Maximum working temperatures dependent on material in lining and seat:

- EPDM 95 °C
- EPDM White 95 °C
- EPDM HT 130 °C
- NBR 100 °C
- Silicone 200 °C
- Hypalon 125 °C
- Viton 210 °C

Valves having EPDM lining are not to be used for hydrocarbon service.

Restrictions on grey cast iron

The valves shall not to be used in 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.
- pump and filter housings in fuel and lubrication oil systems where the design temperature does not exceed 120°C.

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

- 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, lube oil tanks and tanks for other flammable oils
- valves for fluids with temperatures in excess of 120°C.
- for media having a temperature below 0°C

Type Approval documentation

Tests carried out

N/A

Production testing

The valve housing of each valve shall be subjected to a hydrostatic pressure test at minimum 1.5 times the design pressure. The test pressure need not be more than 70 bar in excess of the design pressure.

Holding time and acceptance criteria: according to EN 12266-1.

The valve assembly shall be subjected to a hydrostatic seat leakage test. The test pressure shall at least be equal to the design pressure. The test shall be performed with closed valve with the other end open to atmosphere. The pressure shall be applied independently on each side of the closed disc.

Holding time and acceptance criteria: according to EN 12266-1.

Certification

Valves shall be delivered with material certificates in accordance with DNV GL Ship Pt.4 Ch.6 Sec.2 Table 3.

DNV GL product certificates are required for valves with DN > 100 mm having a design pressure, $p > 16$ bar and for ship side valves with DN > 100 mm regardless of pressure rating. For other valves manufacturers certificate may be accepted.

Marking of product

For traceability to this type approval, each valve is to be marked with:

- Manufacturer's name:
- Type designation
- Size
- Max. design pressure(s) or pressure class
- Direction of flow
- Serial numbers on each valve, as relevant

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform a survey - every second year and before the expiry date of this certificate - to verify that the conditions for the type approval are complied with.