



TYPE APPROVAL CERTIFICATE

Certificate no.:
TAP000004V
Revision No:
3

This is to certify:
that the Butterfly Valves

with type designation(s)
EGO, centric butterfly valves: Wafer and lug type

issued to
Tianjin Galaxy Valve Co., Ltd
Tianjin, China

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 .

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

Temperature range: EPDM: -20°C to +110°C, NBR: -10°C to +80°C, Viton: -10°C to +150°C
Max. working press.: PN 10, 16 and 25, (dep. on type, see cert.)
Sizes: DN40 to DN700 (dep. on type, see cert.)

Issued at **Hamburg** on **2025-10-28**

This Certificate is valid until **2030-10-27**.

for **DNV**

DNV local unit: **Tianjin NB & CMC**

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

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 USD 300 000.

Product description

Centric soft seated butterfly valves of wafer and lug type

Materials:

Part	Material	Standard
Body	Nodular cast iron ferritic/pearlitic type ASTM A536-84 65-45-12 Nodular cast iron ferritic type GGG40 Nodular cast iron ferritic type JS1030/1040	ASTM A536-2024 DIN 1693-73 EN1563-2018
Disc	Stainless Steel CF8M Stainless Steel Monel.K-400/K-500 Stainless Steel Duplex 4A/5A Aluminium Bronze C95400/C95800 Aluminium Bronze AB2 Aluminium Bronze CC333G	ASTM A351-2024 ASTM B8665-2004 ASTM A890-2018 BTM B148-2003 BS1400-1985 BS EN 1982-2008
Shaft	Stainless steel 316, 410 or 431 Stainless Steel Monel.K-400/K-500 Duplex F51/F53/F55	ASTM A276-2025 ASTM B8665-2004 ASTM A182-2025
Seat	Rubber EPDM, NBR or VITON	ASTM D2000-2018

Limitation

The valves may not be used where "fire safe" application is required.

Each valve is to be surveyed and certified by DNV when required by the Rules. DNV product certificate is required for valves with DN >100 mm and PN >16 bar and for ship side/bottom valves regardless of pressure rating. For other valves manufacturer's certificate is accepted.

Each product/delivery is to be accompanied by the following documents:

- Work's Certificate for materials used in valve body indicating mechanical and chemical properties. Valve bodies with nominal diameter 100 mm or less will be accepted with test report.
- Instruction manual/specification sheet.

Maximum working pressure:

Sizes	Type of valve	Rating, PN
DN40 – DN700	Wafer	10
DN40 – DN700	Wafer	16
DN40 – DN700	Lug	10
DN40 – DN700	Lug	16
DN50 – DN200	Lug	25

These valves with body of grey cast iron ASTM A126 Grade B or nodular cast iron A536 65-45-12 (ferritic-pearlitic type) shall not be used for class I and II piping systems. See table 1 in the DNV Ship Rules Pt.4 Ch.6 Sec.2.

These valves with body of grey cast iron ASTM A126 Grade B or nodular cast iron A536 65-45-12 (ferritic-pearlitic type) shall not be used for piping subject to pressure shock, excessive strains and vibration.

These valves with body of grey cast iron ASTM A126 Grade B or nodular cast iron A536 65-45-12 (ferritic-pearlitic type) can 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.

These valves with body of grey cast iron ASTM A126 Grade B or nodular cast iron A536 65-45-12 (ferritic-pearlitic) shall not be used for media outside a temperature range of 0°C to +200°C.

Valves with EPDM seat is not to be used for hydrocarbon services

Butterfly valves are not to be used as stop valves on fuel oil tanks.

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

The maximum output torque from actuators must not exceed the limit at which the spindle or disc can be damaged if the disc is restrained in any position.

These valves can be used for bilge suction when fitted in connection with a non-return valve.

All valve bodies shall be subjected by the manufacturer to a hydrostatic test at a pressure equal to 1.5 times the nominal pressure (The nominal pressure is the maximum allowable working pressure at room temperature). The test pressure needs not be more than 70 bar in excess of the nominal pressure. For valves fitted on ship's side and bottom the test pressure shall not be less than 5 bar.

Butterfly valves fitted on ship's side and bottom are also to be hydrostatically tested at a pressure equal to 5 bar applied independently on each side of the closed disc.

The Society's 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 certificates will be accepted.

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

Type Approval documentation

Tests carried out

Burst test of valve body

Production Place

Tianjin Galaxy Valve Co., Ltd

No.49, Guanghui Road, Beizhakou Town, Jinnan District, Tianjin 300350, P.R.China

Marking of product

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

- Manufacturer's name or trademark
- Type designation
- Size
- Maximum design pressure(s) or pressure class
- Materials (body, disc and seat)
- Production date (year/month)

Periodical assessment

For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment as per DNV-CP-0338, Sec.4 to verify that the conditions for the Type Approval are complied with.

To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>.

End of Certificate