DNV·GL

Certificate No:
TAP00000TY

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Butterfly Valves

with type designation(s)
BFLT-01, BFA-01, BFA-02, BFD-01

Issued to
Tianjin Qichang Valve Manufacturing Co., Ltd
Tianjin, China

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

Application :

Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.

Type:	Temperature range:	Max. working press.:	Sizes:
BFLT-01	0°C to 82°C	PN 10	DN 40 to DN 700
BFA-01	0°C to 82°C	PN 10	DN 40 to DN 600
BFA-02	0°C to 82°C	PN 10	DN 700
BFD-01	0°C to 82°C	PN 10	DN 50 to DN 800

Issued at **Hamburg** on **2017-03-01**
This Certificate is valid until **2022-02-28**.
DNV GL local station: **Tianjin**

Approval Engineer: **Guido Friederich**

for **DNV GL**

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.

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Product description

Butterfly valve types designed acc. to EN 593-2009 +A1 – Industrial valves

Type BFLT-01
Butterfly valve type designed with lugs providing internally threaded holes
DN 40, DN 50, DN 65, DN 80, DN 100, DN 125, DN 150, DN 200, DN 250, DN 300, DN 350, DN 400, DN 450, DN 500, DN 600, DN 700

Type BFA-01
Butterfly valve type designed with central lugs
DN 40, DN 50, DN 65, DN 80, DN 100, DN 125, DN 150, DN 200, DN 250, DN 300, DN 350, DN 400, DN 450, DN 500, DN 600

Type BFA-02
Butterfly valve type designed as single flange butterfly valve
DN 700

Type BFD-01
Butterfly valve type designed as double flanged butterfly valve
DN 50, DN 65, DN 80, DN 100, DN 125, DN 150, DN 200, DN 250, DN 300, DN 350, DN 400, DN 450, DN 500, DN 600, DN 700, DN 750, DN 800

Materials

Item	Material type	Standard
Valve body	Spherodical graphit cast iron – EN-GJS-400-18-LT	BS EN-1563
Valve shaft	Stainless steel	ASTM A 276 / A276M-16a
Valve disk	Aluminium-Bronze Sand Castings	ASTM B148

Application/Limitation

Butterfly valves for control and shut-off applications to be used for operating media:
Sea water, water, air, oil.

Limitation

Butterfly valves may not be used for flammable gases and applications with flowing media specified as dangerous and toxic fluids.

Type Approval documentation

Tests carried out / Fabrication testing

The butterfly valves have been tested in accordance with the following standards
DNV GL Pt. 4 Ch. 6 – Piping systems
DNV GL CP 0186 – Valves;
DIN EN 12266-1 – "Industrial valves – Testing of metallic valves", Part 1
"Pressure tests, test procedures and acceptance criteria – Mandatory requirements

The butterfly valves have been subjected to the following scope of tests

Test standard: EN 12266-1 / DNVGL Pt.4 Ch.6	Purpose

Title	DNV GL CP 0186 Test reference	
Shell strength	P10	To confirm the pressure containing capability of the shell against internal pressure Test pressure = 1,5 times the design pressure
Shell tightness	P11	To confirm the leak tightness of the shell including the operating mechanism sealing against internal pressure Test pressure = 1,5 times the design pressure
Seat tightness	P12	To confirm the capability of the seat(s) to comply with the specified leakage rate - at the time of manufacture - In the direction(s) for which the valve is designed Test pressure = 1,1 times the design pressure

Nominal size	Minimum test duration
All butterfly valve types	Type test -liquid or gas
From DN 50 up to DN 350 and above	10 Min

Valve certification

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

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

Marking of product

For traceability to this type approval the products are to be marked with:
- Manufacturers name or trade mark
- Valve type designation
- Size
- Maximum design pressure and temperature
- Arrow to indicate direction of flow on one way flow valves

Periodical assessment

A condition for retention of the Type Approval Certificate in its validity period is that periodical assessments are successfully carried out.

The objective of the periodical assessment is to verify that the conditions for the type approval have not been altered.

The main scope of the periodical assessment will normally include:
- 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 and at other companies that are given the responsibility for manufacturing of the products.
- Review of the TA documentation and that this is still used as a basis for the production
- Review of possible changes to the design, the material and the performance of the product
- Verification of the product marking

END OF CERTIFICATE