

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Globe Valve**with type designation(s)
Cast Steel, Forged Steel

Issued to

Jiangsu YDF Valve Co.,Ltd
Yancheng, China

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
DNV GL class programme DNVGL-CP-0186 – Type approval – Valves**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**

Type:	Temperature range:	Max. working press.:	Sizes:
Cast Steel	See Page 2	Class 150/300/600/900/1500/2500	2" to 48" (according to approved drawings)
Forged Steel	See Page 2	Class 150/300/600/800/1500	1/2" to 2"

This Certificate is valid until **2022-10-16**.Issued at **Høvik** on **2017-10-17**DNV GL local station: **Nantong CMC**for **DNV GL**Approval Engineer: **Adel Samiei**

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

1) Globe valves made of cast steel:

Sizes 2" to 24"

Wall thickness: API623

Flanged ends: ASME B16.5

Butt welding ends: ASME B16.25

Face to face dimension: ASME B16.10

Material:

Body & Bonnet :	ASTM A216 Gr. WCB/WCC ASTM A995 Gr. 4A/5A/6A ASTM A352 Gr. LCB/LCC ASTM A351 Gr. CF8/CF8M/CF3/CF3M/CF8C/CG8M/4A/5A/6A
Stem:	ASTM A182 GR F6a/F51/F53/F55/ F304/ F304L/F316L/,F321/ F347 Monel/Inconel
Disc:	ASTM A105 ASTM A350 LF2 ASTM A182 F316/F304/F316L/F304L/F51/F53/F55/F347/F321 Monel/Inconel
Gasket	304L / 304+Graphite / 316+Graphite / 316L+Graphite / 304 / 304L / 316 / 316L / MONEL

2) Globe valves made of forged steel:

Sizes ½" to 2"

Wall thickness: API602

Flanged ends: ASME B16.5/B16.11

Face to face dimension: according to manufacturer's drawings

Material:

Body & Bonnet :	ASTM A105N ASTM A350 GR: LF2 ASTM A182 GR: F304/F316/F304L/F316L/F51/F53/F55/F347/F321 ASTM A562 N04400/N06625 Monel/Inconel
Stem:	ASTM A182 GR F6a/F51/F53/F55/ F304/ F304L/F316L/,F321/ F347 Monel/Inconel
Disc:	ASTM A105 ASTM A350 LF2 ASTM A182 F316/F304/F316L/F304L/F51/F53/F55/F347/F321 Monel/Inconel
Gasket	304L / 304+Graphite / 316+Graphite / 316L+Graphite / 304 / 304L / 316 / 316L / MONEL

Application/Limitation

Valves covered by this certificate are approved to be use in ship piping, machinery piping and cargo piping systems.

Pressure temperature rating is according to ASME B16.34.

Temperature range shall be based on used material for body/bonnet and sealing (PTFE) as follows:

ASTM A216 Gr. WCB/WCC	-29°C ~ 375°C
ASTM A182	-29°C ~ 550°C
ASTM A105N	-29°C ~ 375°C
ASTM A562 N04400/N06625	-29°C ~ 375°C
ASTM A352 Gr. LCB/LCC	-46°C ~ 375°C
ASTM A351 Gr. CF8/CF8M/CF3/CF3M/CF8C/CG8M	-46°C ~ 450°C

Austenitic stainless steels (e.g. 304, 316 & 316L) are not seawater resistant and shall be used in direct contact with seawater.

Job Id: **262.1-022165-1**
Certificate No: **TAP00000JC**

Valves covered by this certificate are not fire safe and shall not be installed in systems where fire safe application is required.

Valves covered by this certificate shall not be used in LNG/LPG systems.

Type Approval documentation

Pressure-Temperature ratings for the non-metallic materials number YDF-MTP-001 revision 0 dated 2016-06-20

Production Tests

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 need not be more than 70 bar in excess of the nominal pressure.

All valves assembly shall be subjected to seat leakage test at 1.1 times maximum working pressure at closed position.

Production Testing and acceptance criteria shall be in accordance with API 598.ø

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.

Certification

Valve bodies shall be delivered with material certificates in accordance with DNV GL Ship Pt.4 Ch.6 Sec.2 Table 3. Materials with VL and W certificates shall be manufactured by an approved manufacturer of the society.

DNV GL product certificates are required for valves with DN > 100 mm and design pressure $\geq$ 16 bar, and for ship side valves where DN > 100 mm regardless of pressure. For other valves a manufacturer's product certificate may be accepted.

Tests carried out

N/A

Marking of product

For traceability to this type approval, the final products are to be marked with:

- Manufacturer's name
- Type designation
- Design Pressure

Periodical assessment

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