

TYPE APPROVAL CERTIFICATE

This is to certify:

That the **Ball Valve**

with type designation(s)
DBC, DBD, DBK

Issued to

PONHAN VALVE(SUZHOU)CO.,LTD
Suzhou, China

is found to comply with

DNV rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV class programme DNV-CP-0186 – Type approval – Valves

Application :

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

Temperature range: see certificate
Max. working press.: Class 150, Class 300, Class 600, Class 900
Sizes: DN 40 - DN 500

Issued at **Hamburg** on **2022-05-20**

This Certificate is valid until **2027-05-19**.

DNV local station: **Shanghai**

for **DNV**

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

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.

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

Ball valve type:

- Floating Ball Valve (DBC),
- Mounted Ball Valve (DBD) and
- Metal-seated Trunnion Mounted Ball Valve (DBK) for installations in piping systems.

Valve design:

- Double block & Bleed ball valve, ASME B16.34/ API 6D + IOGP S-562 (Supplementary requirements to API 6D – Ball valves

Flange connections according to:

- ASME B16.5 RF

Face to Face: MEG'S

Top Flange: ISO 5211

Testing Standard: API 6D

Ball valve nominal sizes: DN 40 to DN 500

Pressure ratings: Class 150, Class 300, Class 600, Class 900

Working Temperature Range: -46°C up to 250°C

Design temperature: Depending on seat materials

Seat design type	Temperature range [°C]
RPTFE	-110° to 200°
PEEK	-100° to 260°
F51	-51° to 315°

Ball valves may be equipped with manual, pneumatic or electric actuator hydraulic¹.

Note 1:

Actuators, remote operating control devices and additional mountings are not included in this type approval.

Materials:

Shell material	Floating Ball Valve (DBC)	Material type	ASTM Standard
	Body	Duplex stainless steel Carbon Steel	ASTM A182 F51 ASTM A105N
	Bonnet	Duplex stainless steel Carbon Steel	ASTM A182 F51 ASTM A105N
Trim Material	Floating Ball Valve (DBC)	Material type	ASTM Standard
	Ball	Duplex stainless steel Austenitic stainless steel	ASTM A182 F51 ASTM A182 F316
	Seat	RPTFE/PEEK	-
	Stem	Duplex stainless steel Austenitic stainless steel	ASTM A182 F51 ASTM A182 F316

Shell material	Trunnion Mounted ball valve (DBD)	Material type	ASTM Standard
	Body	Duplex stainless steel Carbon Steel	ASTM A182 F51 ASTM A105N
	Bonnet	Duplex stainless steel Carbon Steel	ASTM A182 F51 ASTM A105N

Trim Material	Trunnion Mounted ball valve (DBD)	Material type	ASTM Standard
	Ball	Duplex stainless steel Austenitic stainless steel	ASTM A182 F51 ASTM A182 F316
	Seat	PEEK/ RPTFE	-
	Stem	Duplex stainless steel Austenitic stainless steel	ASTM A182 F51 ASTM A182 F316

Shell material	Trunnion Mounted ball valve (DBK)	Material type	ASTM Standard
	Body	Duplex stainless steel	ASTM A182 F51
	Bonnet	Duplex stainless steel	ASTM A182 F51
Trim Material	Trunnion Mounted ball valve (DBK)	Material type	ASTM Standard
	Ball	Duplex stainless steel	ASTM A182 F51 + TCC
	Seat	Duplex stainless steel	ASTM A182 F51 + TCC
	Stem	Duplex stainless steel	ASTM A182 F51

Application

The double block & bleed ball valve are type approved for the following operating media:
Non-flammable gases, sea water, fresh water, waste water, air, nitrogen, oil.²

Note 2:

Fuel oil, lubrication oil, hydraulic oil and thermal oil are in this context regarded as "Flammable liquids".
See DNV Rules, Pt. 4 Ch. 1, Section 3 – Design principles

Limitation

Double block & bleed ball valves may not be used for flammable gases and applications with flowing media specified as dangerous and toxic fluids.

Floating ball valves is not approved for installation in ships gas fuel system subjected to IGF Code and DNV Rules Pt. 6 Ch. 2 Sec. 5.

Materials to be used in piping systems shall be suitable for the medium and service for which the system intended acc, to DNV Rules Pt. 4, Ch. 6 Sec. 2.

Tests carried out

The ball valves have been tested in accordance with the following standards:

Test standard: API 6D DNV Pt.4 Ch.6 DNV - CP 0186		Purpose
Title	Test reference	
Hydrostatic Pressure Test	Valve Body	To confirm the pressure containing capability of the shell against internal pressure Test pressure = 1,5 times the design pressure No leakage is permitted.
Hydrostatic/Pneumatic Seat tightness	Valve seat	To confirm the capability of the seats to comply with the specified leakage rate Test pressure = 1,5 times the design pressure and 6 bar At the manufacture In the direction(s) for which the valve is designed No visible leakage.
Functional test	Valve assembly	Function test of completed assembled valve.

Type Approval documentation

Certification

Application in machinery and piping systems

Valves intended to be installed in piping system listed in DNV Rules Pt.4, Ch.6 – Section 1

shall be certified according to DNV Rules Pt.4 Ch.6 – Piping systems, Section 9

Valve nominal size / Pressure rating

DN > 100 mm / PN > 16 bar

DN ≤ 100 mm / PN ≤ 16 bar

Ship side valves DN > 100 mm
regardless of pressure rating

Type of Product Certificate (PC) / Issued by

VL Certificate / DNV GL

W Works Certificate / Manufacturer

VL Certificate / DNV GL

Material certificates (valve bodies)

In accordance with DNV Rules Pt.4 Ch.6 – Piping systems, Section 2 – Table 3

Marking of product

For traceability to this type approval the products are to be marked in particular with:

- Manufacturer's name or trademark
- Valve type designation
- Size
- Maximum design pressure and temperature

Production Place

PONHAN VALVE (SUZHOU) CO., Ltd.

No.458 XinFeng Road, Xukou Town, Wuzhoumg District, Suzhou, P.R. China Post Code: 215164

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 Type Approval are complied with. Refer to DNV-CP-0338, Sec.4.

- The certificate is only valid if required periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>



END OF CERTIFICATE

Job Id: **262.1-036584-1**
Certificate No: **TAP00002JD**