

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Ball Valve**

with type designation(s)
LOCBV

Issued to

Tianjin Lucky Ocean Marine Equipment 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.

Temperature range: see certificate

Max. working press.: **PN 160**

Sizes: **DN 20, DN 25, DN 32, DN 40, DN 50, DN 65, DN 80, DN 100, DN 125, DN 150**

Issued at **Hamburg** on **2020-07-21**

This Certificate is valid until **2025-07-20**.

for **DNV GL**

DNV GL local station: **Dalian NB & CMC**

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 GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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 series designed for installation in piping systems for different services conditions. The ball valves may be used for double flow directions.

Design standard: ASME B 16.34

Nominal Sizes: DN 20, DN 25, DN 32, DN 40, DN 50, DN 65, DN 80, DN 100, DN 125, DN 150

Design pressure: PN 160

Valve connection: Flanged connection

Design temperature: Depending on material for valve seal ring and O-Ring Seal ¹

Materials:

Valve	Material type	Standard
Body	Carbon Steel	ASTM A 105
Flange	Carbon Steel	ASTM A 105
Ball	Stainless steel	AISI 316
Spindle	40Cr; Cr17 Ni2	GB/T 3077; HB 5024
O-Ring Seal	NBR 70	
Sealing ring	Nylon	

Note 1:

Material type	Design Temperature range [°C]
NBR 70	-30° to +100 °C
Nylon	-30° to + 80 °C

Application

LOCBV ball valve type series may be used for applications in piping systems of DNV GL pipe class I, II and III. Operating media may include non-flammable gases, water, air, oil².

Note 2:

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

Limitation

Ball valves may not be used for ship's LNG and gas (methane) systems, sea water systems and flowing media specified as dangerous and toxic fluids.

Type Approval documentation

Production testing and certification

Application in machinery and piping systems

Valves intended to be installed in piping system listed in DNVGL Rules Pt.4, Ch.6 – Section 1
shall be certified according to DNV GL 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 GL Rules Pt.4 Ch.6 – Piping systems, Section 2 – Table 3

Tests carried out

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

Test standard:

DNVGL Pt.4 Ch.6
DNV GL 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

Job Id: **262.1-033993-1**
Certificate No: **TAP0000255**

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

Periodical assessment

For retention of the Type Approval, a DNV GL 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 DNVGL-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.dnvgl.com>

END OF CERTIFICATE