



Certificate no.:
TAP0000312

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Ball Valve

with type designation(s)

30015 HDMV81-CMD, 30050 HDMV81-CMD

issued to

Shanghai Hudong Marine Valve Manufacture Co., Ltd.
Shanghai, China

is found to comply with

DNV rules for classification – Ships Pt.4 Ch.6 Piping systems

DNV rules for classification – Ships Pt.6 Ch.2 Sec.5 Gas fuelled ship installations – Gas fuelled LNG

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.

Type:	Temperature range:	Max. working press.:	Sizes:
30015 HDMV81-CMD	-29°C ~ +120°C	3.0 MPa (30 bar)	DN 15
30050 HDMV81-CMD	-29°C ~ +120°C	3.0 MPa (30 bar)	DN 50

Issued at **Hamburg** on **2025-05-27**

This Certificate is valid until **2030-05-26**.

for **DNV**

DNV local unit: **Shanghai**

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

Ball Valve type: 30015 HDMV81-CMD, 30050 HDMV81-CMD for installations in piping systems.

Design conditions:

ASME B16.34 – Valve – Flanged, Threaded and Welding end
ISO 7121-2016 – Steel ball valves for general-purpose industrial applications

Ball Valve type: 30015 HDMV81-CMD, 30050 HDMV81-CMD

Valve type	Pressure (PN) [MPa]	Temperature [°C]	Nominal Diameter (DN) [mm]
30015 HDMV81-CMD	15	-29°C ~ +120°C	15
30050 HDMV81-CMD	50		50

Materials type: 30015 HDMV81-CMD:

Valve part	Material	Standard
Body	CF3M	ASTM A351/A351M
Ball	316L	ASTM A276/A276M
Stem	316L	ASTM A276/A276M
Left Body	CF3M	ASTM A351/A351M
Seat	PTFE	-

Materials type: 30050 HDMV81-CMD:

Valve part	Material	Standard
Body	CF3M	ASTM A351/A351M
Ball	316L	ASTM A276/A276M
Stem	2205	ASTM A276/A276M
Left and Right Body	CF3M	ASTM A351/A351M
Seat	PTFE	-

Design temperature: Depending on seat materials

Seat design type	Temperature range [°C]
PTFE	-29°C ~ +120°C

Application/Limitation

The ball valves of type 30015 HDMV81-CMD, 30050 HDMV81-CMD are type approved for the following operating media:

Ball valve applicable to fluid including, water, gas, lube-oil, fuel- oil.²

Note ²:

See DNV Rules, Pt. 4 Ch. 1, Section 3 – Design principles

Type Approval documentation

Tests carried out

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

Test standard: ISO 7121-2016 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 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.

I. Application in machinery piping systems

Valves intended to be installed in piping systems listed in DNV Rules Pt.4 Ch.6 – Section 1 shall be certified according to
DNV Rules Pt.4 Ch.6 – Piping systems, Section 1, Table 3 Compliance documents – piping components

Valve nominal size / Pressure rating
 DN > 100 mm / PN > 16 bar
 DN ≤ 100 mm / PN ≤ 16 bar

Type of certificate / Issued by
 Product Certificate (PC) / DNV
 Product Declaration (PD) / Manufacturer

Material certificates (valve bodies)

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

II. Application in Gas as fuel systems

For each valve intended to be installed in ship's gas fuel supply systems a Product Certificate (PC) shall be issued based on the following scope of tests and according to DNV Rules Part 6, Chapter 2, Section 5 – Gas fuelled ship installations

1.	<u>Type of test</u>	<u>Test pressure</u>
	Shell strength	1,5 times the design pressure
	Tightness test of pressure bearing housing	1,1 times the design pressure
	Seat tightness test	1,1 times the design pressure
	Functional test	Design / work pressure
2.	<u>Valves in LNG / Gas fuel system – Table 3 Certification required</u>	
	<u>Valve design conditions - Test and certification</u>	<u>Type of certificate / Issued by</u>
	Design temperature < 0°C / DNV Pt.5 Ch.7 irrespective of size	Product Certificate (PC) / DNV
	Design pressure > 10 bar/ DNV Pt.5 Ch.7 irrespective of size	Product Certificate (PC) / DNV
	Design pressure ≤ 10 bar Design temperature ≥ 0°C	Product Declaration (PD) / Manufacturer
3.	<u>Material certificates</u> DNV Pt. 6 Ch.2 Section 5 – Gas fuelled ship installations Table 4 Certification of material quality and testing	
	<u>Design temperature</u>	<u>Type of certificate / Issued by</u>
	< 0°C	Material Certificate (MC) / DNV
	≥ 0°C	Material Declaration (MD) / Manufacturer

Production Place

Shanghai Hudong Marine Valve Manufacture Co., Ltd.
No.2177, Changxingjiangnan Avenue, Chongming
District, Shanghai, P.R.China

Marking of product

Each valve shall be clearly marked for identification. The identification marking may be performed on the body or on a plate of non-corrosive material. When a metallic plate is used, the plate shall be permanently fixed to the body. Identification marking on the body shall be located to non-stressed areas and shall be clearly legible. The identification marking shall as a minimum include the following:

- Manufacturer's name or trademark
- Valve type designation
- Size
- Maximum design pressure and temperature
- Arrow to indicate direction of flow on one-way flow valves

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