Certificate No: LR21372360TA
Issue Date: 27/09/2021
Expiry Date: 26/09/2026

# Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

| | |
|---|---|
| **Manufacturer** | **Westad Hudong Valve(Shanghai) Co.,Ltd** |
| **Address** | No.2177,Jiangnan Avenue, Changxing Town , Chongming District, Shanghai, 201913, China |
| **Place of Production** | Westad Hudong Valve(Shanghai) Co.,Ltd<br>No.2177,Jiangnan Avenue, Changxing Town , Chongming District, Shanghai, 201913, China |
| **Type** | Butterfly Valves |
| **Description** | Concentric Butterfly Valve<br>High Performance Double Eccentric Butterfly Valve |
| **Trade Name** | HD531/HD5314/HD5318, HDMV1X0/ HDMV1X2/ HDMV1X4 |
| **Type** | Ball Valves |
| **Description** | Ball Valve |
| **Trade Name** | HDMV81/HDMV82/ HDMV83/ HDMV84/ HDMV92/ HDMV93 |
| **Application** | Marine & offshore applications subject to the valves complying with LR Rules and Regulations for the particular service. |

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**Andy Zhang**

Senior Machinery Specialist to Lloyd's Register Classification Society (China) Co Ltd
A member of the Lloyd's Register group

19th Floor, 550 Yan An dong Road, Shanghai,
Huangpu District, China

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**Specified Standard**

Lloyd's Register (LR) Rules and Regulations for the Classification of Ships, July 2019;
Lloyd's Register Type Approval System Test Specification Number 2 (December 2020);
GB/T600-2008, API 598-2016.

**Ratings**

Concentric Butterfly Valve:

Type: HD531/HD5314/HD5318
Maximum working pressure (MPa): 1.6MPa – DN50~DN250
Maximum working pressure (MPa): 1.0MPa - DN300~DN1000

Working temperature:
NBR: -12℃ ~ 70℃
FPM: -12℃ ~ 170℃
VITON: -12℃ ~ 200℃
EPDM: -35℃ ~ 120℃
PTFE: -20℃ ~ 200℃

High Performance Double Eccentric Butterfly Valve:

Type: HDMV1X0/ HDMV1X2/ HDMV1X4
Maximum working pressure (MPa): 2.0MPa – DN80~DN900

Working temperature:
NBR: -12℃ ~ 70℃
FPM: -12℃ ~ 170℃
VITON: -12℃ ~ 200℃
PTFE: -20℃ ~ 200℃

Ball Valve:

Type: HDMV81, DN15~DN200

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Working pressure (MPa):1.0MPa~4.0MPa
Working temperature: -20℃ ~ 150℃

Type: HDMV82, DN15~DN125
Working pressure (MPa):1.0MPa / 1.6MPa / 4.0MPa
Working temperature: -20℃ ~ 150℃

Type: HDMV83, DN8~DN80
Working pressure (MPa):3.0MPa
Working temperature: -20℃ ~ 150℃

Type: HDMV84, DN8~DN100
Working pressure (MPa): 1.0MPa~4.0MPa
Working temperature: -20℃ ~ 150℃

Type: HDMV92, DN8~DN50
Working pressure (MPa): 1.0MPa~4.0MPa
Working temperature: -20℃ ~ 100℃

Type: HDMV93, DN15~DN200
Working pressure (MPa): 1.6MPa
Working temperature: -20℃ ~ 100℃

**Other Conditions**

For application on a Lloyds Register classed vessel, the following conditions are to be complied with: -

1) The materials used for valves are to be suitable for the medium and the service for which the piping is intended on-board. The application limitation to valves of cast iron is to be in accordance with the requirements of Rules Part 5, Chapter12, Section 4.
2) Valves are to be selected and installed in accordance with the manufacturer's instructions and recommendations and to the attending Surveyor's satisfaction.
3) Materials for castings and forgings of Class I, II piping systems are to be

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produced at a works approved by LR and are in general to be tested in accordance with the Rules for Materials.
4) Where valves intended for installation in pressure piping systems having working pressures exceeding 7 bar, the valves are to be surveyed at the manufacturer's work and to the attending Surveyor's satisfaction.
5) Valves are not to be used in spaces where leakage or failure caused by fire could result in fire spread, flooding or the loss of an essential service.
6) The approval does not include any operating gear for remote control of the valves.

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register Classification Society (China) Co Ltd of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document LR21372360TA and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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