



Certificate No:  
**TAP00002KG**

# TYPE APPROVAL CERTIFICATE

## This is to certify:

That the **Butterfly Valves**

with type designation(s)  
**DE372F, D342F**

Issued to

**Zhejiang Boteli Technology Co.,Ltd.**  
**Wenzhou, China**

is found to comply with

**DNV rules for classification – Ships Pt.4 Ch.6 Piping systems**  
**DNV-OS-D101 – Marine and machinery systems and equipment, Edition July 2021**  
**DNV class programme DNV-CP-0186 – Type approval – Valves**

## Application :

**Product(s) approved by this certificate is/are accepted for installation on vessels classed by DNV.**

| Type:         | Temperature range:    | Max. working press.:                          | Sizes:                         |
|---------------|-----------------------|-----------------------------------------------|--------------------------------|
| <b>DE372F</b> | <b>-29°C to 200°C</b> | <b>#150 and #300 according to ASME B16.34</b> | <b>2" to 24" (see page 2)</b>  |
| <b>D342F</b>  | <b>-29°C to 200°C</b> | <b>#150 according to ASME B16.34</b>          | <b>26" to 36" (see page 2)</b> |

Issued at **Høvik** on **2022-11-04**

This Certificate is valid until **2027-11-03**.

for **DNV**

DNV local station: **Ningbo FIS**

Approval Engineer: **Maheshraja Venkatesan**

.....  
**Sinisa Sedlan**  
**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.



Form code: TA 251

Revision: 2021-03

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## Product description

Butterfly valves with two type designations according to API 609 Category B:

| Type designation | Pressure rating | Sizes covered                                                     |
|------------------|-----------------|-------------------------------------------------------------------|
| <b>DE372F</b>    | Class 150       | 2", 3", 4", 5", 6", 8", 10", 12", 14", 16", 18", 20", 22" and 24" |
|                  | Class 300       | 3", 4", 5", 6", 8", 10", 12", 14" and 16"                         |
| <b>D342F</b>     | Class 150       | 26", 28", 30", 32" and 36"                                        |

### Material of construction:

| Part                | For both types DE372F and D342F                               |
|---------------------|---------------------------------------------------------------|
| Body                | ASTM A216 WCB, ASTM A351 CF8M, ASTM A995 4A, ASTM B148 C95800 |
| Stem                | ASTM A182 F51, UNS N05500                                     |
| Disc                | ASTM A351 CF8M, ASTM A995-4A, ASTM B148-C95800                |
| Bottom cover        | ASTM A105, ASTM A182 F316 or F51, ASTM B148 C95800            |
| Bottom cover gasket | SS316 + F.G., S31803+F.G., S32750+F.G.                        |
| Sealing ring        | RPTFE                                                         |
| Bolting             | ASTM A193 B7 or ASTM A193 B8M                                 |

## Application/Limitation

The approval is valid for ship piping systems, machinery piping systems and cargo piping systems onboard ships and offshore mobile units.

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

Materials and material protection chosen for the specific system shall be suitable for the intended medium and environmental conditions. Valves of austenitic stainless steel shall not be used in direct contact with seawater.

The approval does not include any operating gear for remote control of the valves.

This certificate does not cover valves installed in LNG/LPG applications.

## Type Approval documentation

### Production testing and certification

Production testing and certification for the actual intended application shall follow the design standard API 609 and latest applicable edition of the Rules (as mentioned on the front page of this certificate).

## Marking of product

Minimum marking requirements shall be as outlined in the valve design standard.

## 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 approval are complied with. Reference is made to DNV-CP-0338.