Marine & Offshore

Certificate number: 69900/A1 BV
File number: .
Product code: 2205I

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

Meson (Changzhou) Flow Control System Co., Ltd.

Changzhou - CHINA

for the type of product

BUTTERFLY VALVES

Concentric & Double Offset / Eccentric Butterfly Valve with Double Flange Type, Lug Type and Wafer Type

Requirements:
Bureau Veritas Rules for the Classification of Steel Ships

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 22 Jan 2027

For Bureau Veritas Marine & Offshore,
At BV SHANGHAI, on 11 Feb 2024,
Hong Zhang

This certificate was created electronically and is valid without signature

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

Butterfly Valve double flange type, double flange U-type, lug type and wafer type.

Regulating valve with rubber lining i.e, open, close, throttling, in marine application.

1.1 Design specification

Product design	Type	Size (mm)	Pressure Rating	Design pressure	Temperature range
Double flange type	703 704	DN 40 ~ DN 1000	PN6/10/16/25 /ANSI150/JIS5K/10K	6/10/16/25 bar /ANSI150/JIS5K/10K	NBR: -35°C to 95°C EPDM: -40°C to 110°C FKM/FPM: -30°C to 180°C
Lug type	701	DN 40 ~ DN 1000	PN6/10/16/25 /ANSI150/JIS5K/10K	6/10/16/25 bar /ANSI150/JIS5K/10K	NBR: -35°C to 95°C EPDM: -40°C to 110°C FKM/FPM: -30°C to 180°C
Wafer type	700	DN 40 ~ DN 1000	PN6/10/16/25 /ANSI150/JIS5K/10K	6/10/16/25 bar /ANSI150/JIS5K/10K	NBR: -35°C to 95°C EPDM: -40°C to 110°C FKM/FPM: -30°C to 180°C
Double flange U-Type	705	DN 50 ~ DN 900	PN6/10/16/25 /ANSI150/JIS5K/10K	6/10/16/25 bar /ANSI150/JIS5K/10K	NBR: -35°C to 95°C EPDM: -40°C to 110°C FKM: -30°C to 180°C

Options: actuators, gear, lever

* According to Configuration chart quoted in §2

Product design	Design standard
Double flange type	Flange : ISO 7005-2 / JIS B2239 / ASME B16.42 Face to Face : EN 558, series 13
Lug type	Flange : ISO 7005-2 / JIS B2239 / ASME B16.42 Face to Face : EN 558, series 20
Wafer type	Flange : ISO 7005-2 / JIS B2239 / ASME B16.42 Face to Face : EN 558, series 20
Double flange U-Type	Flange : ISO 7005-2 / JIS B2239 / ASME B16.42 Face to Face : JIS B2002

Double-offset Butterfly valve Design Specifications with Fire Resistance

Product design	Type	Size (mm)	Pressure Rating	Temperature range
Double-offset Butterfly valve Wafer type	DOV3W	DN50-900	PN6/10/16/JIS5K/10K/ 16K/20K/ANSI150/ANSI300	NBR: -35°C to 95°C EPDM: -40°C to 110°C FKM/FPM: -30°C to 180°C PTFE/SS+PTFE/SS+RPTFE: -45°C to +180°C
Double-offset Butterfly valve Lug type	DOV3L	DN50-900	PN6/10/16/JIS5K/10K/16K/20K/ ANSI150/ANSI300	NBR: -35°C to 95°C EPDM: -40°C to 110°C FKM/FPM: -30°C to 180°C PTFE/SS+PTFE/SS+RPTFE: -45°C to+180°C

Double-offset Butterfly valve Double Flange type	DOV3F	DN50-900	PN6/10/16/JIS5K/10K/16K/20K/ ANSI150/ANSI300	NBR: -35°C to 95°C EPDM: -40°C to 110°C FKM/FPM: -30°C to 180°C PTFE/SS+PTFE/SS+RPTFE: -45°C to +180°C

1.2 Materials

Part	Material
Body	GGG40, GGG40.3, WCB ,WCC, CF8 ,CF8M, CF3, CF3M, 1.4469, C954, C958 ,RG5, RG10
Disc	Option: CF8/CF8M/1.4469/C954/AB2/DI core with Halar or Rilsan coating
Rubber lining	Option: NBR/EPDM/FKM/WEPDM
Bearing	LG2
Bushing	PTFE
End plug	Steel
Stem	Option: AISI316/AISI431/1.4469/Monel K500
Pin	Duplex stainless steel 1.4462

When other choices of materials are used per manufacturer's recommendations, the BV agreement is to be obtained.

Double-offset Butterfly valve Part Name and Material

Part	Material
Body	ASTM A216 WCB/WCC/A217 WC5/WC6/WC9/C5/C12/C12A/CA15/A352 LCB/LCC ASTM A351 CF3/CF3M/CF8/CF8M/CN7M/CG3M/CG8M/CN3MN/CF8C/CF10/CK3McuN/CF10M/CF3MN ASTM A990 4A/5A/6A/ASTM B148 95800
Disc	ASTM A216 WCB/WCC/A217 WC5/WC6/WC9/C5/C12/C12A/CA15/A352 LCB/LCC ASTM A351 CF3/CF3M/CF8/CF8M/CN7M/CG3M/CG8M/CN3MN/CF8C/CF10/CK3McuN/CF10M/CF3MN ASTM A990 4A/5A/6A/ASTM B148 95800
Stem	ASTM A182 F6a/F316/F51/F53/F55/XM-19/A705 630/INCONEL 718/MONEL K500
Fire Safe Seat	SS316 + PTFE / SS316 + RPTFE SS316L + PTFE / SS316L + RPTFE Monel 400 + PTFE / Monel 400 + RPTFE
Seat	NBR / EPDM / FKM / PTFE

When other choices of materials are used per manufacturer's recommendations, the BV agreement is to be obtained.

2. DOCUMENTS AND DRAWINGS :

- Manufacturing drawing N°DDWG-BFV-LUG Rev.A dated 12/11/2021
- Manufacturing drawing N°DDWG-BFV-WAFER Rev.A dated 12/11/2021
- Manufacturing drawing N°DDWG-BFV-DF Rev.A dated 12/11/2021
- Manufacturing drawing N°DDWG-BFV-UT Rev.A dated 12/11/2021
- Manufacturing drawing N°DDWG-DOV3W-ANSI300 Rev.A dated 07/03/2023
- Manufacturing drawing N°DDWG-DOV3L-ANSI300 Rev.A dated 07/03/2023
- Manufacturing drawing N°DDWG-DOV3F-ANSI300 Rev.A dated 07/03/2023
- Configuration chart butterfly document N°34570 dated 10/11/2021
- Installation and operation manual N°74523 Rev3
- General installation and operating manual for valves Rev.0

No departure from the above documents shall be made without the prior consent of the Society. The manufacturer must inform the Society of any modification or changes to these documents and drawings.

3. TEST REPORTS :

- Burst pressure test of valve bodies performed on April 17th 2013 & August 06th 2014, witnessed by an IACS member surveyor in LK Changzhou.
- Fire test according to API607-2022 witnessed by a BV surveyor :
- Test report N°LSV2023FA18017-1, 2 and 3 dated 17/11/2023 including the fire test for the size 8"
- Test report N°LSV2023FA18017-6 dated 17/11/2023 including the fire test for the size 3"
- Test report N°LSV2023FA18017-7 dated 17/11/2023 including the fire test for the size 2"

4. APPLICATION / LIMITATION :

4.1 - May be used for the following services on board:

Air, seawater and fresh water, boiler feedwater condensate, fuel oil, lubricating oil, flammable hydraulic oil, cargo oil, non-flammable hydraulic oil.

4.2 - The valves belong to Class I, Class II and Class III according to the relevant requirements stated in Part C, Ch 1, Sec 10. Valves fitted on the ship side and collision bulkhead, and valves fitted on fuel oil and lub oil tanks under static pressure belong to Class II.

4.3 - The valve body, disc and seat should be suitable for the intended service. In particular the nature of materials, joints included, is to be selected according to the fluid to be conveyed and the temperature.

4.4 - The use of stainless steel and grey cast iron is to be restricted as per the BUREAU VERITAS Rules.

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

4.6 - When the butterfly valves are not fitted with flanges their use may be accepted as shipside valves provided that arrangement are made to allow a possible disassembling at sea of the pipes immediately inboard without any risk of flooding.

4.7 - The valves are to be installed according to the manufacturer's instructions and Society's Rule requirements.

4.8 - Bilge valves will be fitted in association with a non-return valve.

5. PRODUCTION SURVEY REQUIREMENTS :

5.1 - The products are to be supplied by **Meson (Changzhou) Flow Control System Co., Ltd** in compliance with the type and the requirements described in this certificate.

5.2 - This type of product is within the category IBV of Bureau Veritas Rule Note NR320.

5.3 - Bureau Veritas Certificate is required for materials of valve housings of class I (DN≥50) or class II (DN≥100). Materials of valve housings of class I (DN<50) or class II (DN<100) and for other parts are to be with Work's certificates.

5.4 - Each valve housing for class I and class II is to be hydraulically pressure tested to 1.5 times the design pressure. Valves intended to be fitted on the shipside below the load waterline are to be tested by hydraulic pressure not less than 0,5 MPa

5.5 - BV product certificate is required.

5.6 - For information, **Meson (Changzhou) Flow Control System Co., Ltd** has declared to Bureau Veritas the following production sites:

Meson (Changzhou) Flow Control System Co., Ltd

Renmin Road No 8, YaoGuan, Wujin
Building No 16, Xin Yu Logistics Park
Changzhou
CHINA

Meson AB

Kullsgårdsvägen 27

312 34 Laholm

SWEDEN

6. MARKING OF PRODUCT :

The butterfly valves shall be marked with at least:

- Manufacturer's name or logo
- Type designation
- Maximum working pressure
- Society's brand as relevant

7. OTHERS :

It is **Meson (Changzhou) Flow Control System Co., Ltd's** responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

This certificate supersedes the Type Approval Certificate N° 69900 / A0 BV issued by the Society.

***** END OF CERTIFICATE *****