



Marine & Offshore

Certificate number: 25557/B0 BV

File number: ACM 145/2554/02

Product code: 2205I

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

www.veristar.com

TYPE APPROVAL CERTIFICATE

This certificate is issued to
GHIBSON ITALIA SRL
 VALSAMOGGIA (BO) - ITALY

for the type of product
BUTTERFLY VALVES
 Soft Seat KI, KA, KX and PD series
 PTFE Seat TT series

Requirements:

- BUREAU VERITAS Rules for the Classification of Steel Ships
- BUREAU VERITAS Rules for the Classification of Offshore Units
- BUREAU VERITAS Rules for the Classification of Naval 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: 14 Jun 2022

For Bureau Veritas Marine & Offshore,

At BV VENEZIA, on 14 Jun 2017,

Sandro BRUSEGAN



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

The electronic version is available at: <http://www.veristarnb.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=jcfwu2g3gz>

BV Mod. Ad.E 530 June 2017

This certificate consists of 4 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

Butterfly Valves Soft Seat KI, KA, KX and PD series

•BVKI – BLKI – BFKI – BVKA – BLKA – BVKX – BLKX – BVPD and BLPD

Butterfly Valves PTFE Seat TT series

•BVTT and BLTT

1.1 Technical data

Series	Type	Body Seat	Stem (# piece)	Size (mm)	Pressure rating (bar)	Class rating (ANSI)	Design pressure (bar)
BVKI	Wafer	Soft	2	DN 40 to DN 500	6 - 10 - 16	# 150	16
			1	DN 600 to DN 800	6 - 10 - 16	# 150	10
BLKI	Lug	Soft	2	DN 40 to DN 500	6 - 10 - 16	# 150	16
			1	DN 600 to DN 800	6 - 10 - 16	# 150	10
BFKI	Flanged	Soft	2	DN 80 to DN 500	6 - 10 - 16	# 150	16
			1	DN 600	6 - 10 - 16	# 150	16
BVKA	Wafer	Soft	2	DN 40 to DN 150	6 - 10 - 16	# 150	20
			1	DN 200 to DN 800	6 - 10 - 16	# 150	20
BLKA	Lug	Soft	2	DN 40 to DN 150	6 - 10 - 16	# 150	20
			1	DN 200 to DN 800	6 - 10 - 16	# 150	20
BVKX	Wafer	Soft	2	DN 50 to DN 100	16 - 25	# 150	25
			1	DN 125 to DN 250	16 - 25	# 150	25
BLKX	Lug	Soft	2	DN 50 to DN 100	16 - 25	# 150	25
			1	DN 125 to DN 200	16 - 25	# 150	25
BVPD	Wafer	Soft	2	DN 80 to DN 500	6 - 10 - 16	# 150	10
			1	DN 600 to DN 800	6 - 10 - 16	# 150	6
BLPD	Lug	Soft	2	DN 80 to DN 500	6 - 10 - 16	# 150	10
			1	DN 600 to DN 800	6 - 10 - 16	# 150	6
BVTT	Wafer	PTFE	2	DN 32 to DN 400	10 - 16	# 150	10
			2	DN 450 and DN 500	10 - 16	# 150	6
BLTT	Lug	PTFE	2	DN 32 to DN 400	10 - 16	# 150	10
			2	DN 450 to DN 500	10 - 16	# 150	6

1.2 Temperature range depending on seats

Seat material	Temperature range (°C)	Seat material	Temperature range (°C)
NBR (Buna)	- 25/100	NR (Natural rubber)	- 40/80
EPDM	- 35/130	MVQ (Silopren)	- 60/190
EPDM White	- 35/110	CO (carboxide)	- 25/100
EPDM HT	- 30/145	PTFE	- 60/200
FKM (Viton)	- 20/200	CSM (Hypalon)	-25/100
CR (Neoprene)	- 20/100	PU (Polyuerthane)	-20/125

1.3 Material specification depending on series

Body	Nodular cast iron EN-GJS 400-15 [EN 1563] Carbon steel ASTM A216 WCB / ASTM A352 LCB / ASTM A352 LCC Stainless steel ASTM A351 CF8M [AISI 316] [EN 1.4408] Stainless steel 6MO ASTM A351 CK-3MCuN [254 SMO] [UNS J93254] Stainless steel Duplex ASTM A890 / A995 Grade 4A [CD3MN] [UNS S31803] [EN 1.4470] Stainless steel Super Duplex ASTM A890 / A995 Grade 5A [CE3MN] [UNS S23750] [EN 1.4469]
------	---

	Aluminium EN AB 46400 [Al Si9 Cu1 Mg] (P max. 10 bar) Aluminium-bronze ASTM B148 C95800 / C95500 Bronze BS 1400 LG2 [G-Rg5] / ASTM B427 C90700 / ASTM B584 C90500
Disc	Nodular cast iron EN-GJS 400-15 [EN 1563] Carbon steel forged ASTM A105 Stainless steel ASTM A351 CF8M [AISI 316] [EN 1.4408] Stainless steel ASTM A693 Grade 630 [AMS 5604B] Stainless steel Duplex ASTM A890 / A995 Grade 4A [CD3MN] [UNS S31803] [EN 1.4470] Stainless steel Super Duplex ASTM A890 / A995 Grade 5A [CE3MN] [UNS S23750] [EN 1.4469] Monel ASTM B574 99 Hastelloy ASTM A494 CW 12MW Aluminium-bronze ASTM B148 C95800
Stem	Stainless steel AISI 430F / AISI 303 / AISI 316 Stainless steel ASTM A693 Grade 630 [AMS 5604B] Stainless steel Duplex ASTM A182 Grade F51 [UNS S31803] Stainless steel Super Duplex ASTM A182 Grade F55 [UNS S32760] Hastelloy Alloy C-276 [UNS N 10276]
Seat	NBR (Buna), EPDM, EPDM White, EPDM HT, FKM (Viton), CR (Neoprene), NR (Natural rubber), MVQ (Silopren), CO (carboxide), PTFE, CSM (Hypalon), PU (Polyurethane)

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

2. DOCUMENTS AND DRAWINGS

- Catalogue SM 09/16 - EN - KI, KA, KX and PD Butterfly Valves series
- Catalogue TT 09/16 EN - TT Butterfly Valves series
- Application SSTA - Rev. 1B dated Dec 2016
- Drawings

Series	Overall Drwgs	Sectional Drwgs
BVKI	TAB-TYP01 DN 40 to DN 800 dated 28/07/2010	TAB-TYP02/03/04 dated 15/05/2017 Rev. A
BLKI	TAB-TYP05 DN 40 to DN 800 dated 28/07/2010	TAB-TYP06/07/08 dated 15/05/2017 Rev. A
BFKI	TAB-TYP09 DN 80 to DN 600 dated 29/07/2010	TAB-TYP10/11/12 dated 15/05/2017 Rev. A
BVKA	TAB-TYP13 DN 40 to DN 800 dated 30/07/2010	TAB-TYP14/15/16/17 dated 15/05/2017 Rev. A
BLKA	TAB-TYP18 DN 40 to DN 800 dated 30/07/2010	TAB-TYP19/20/21/22 dated 15/05/2017 Rev. A
BVKX	TAB-TYP23 DN 50 to DN 250 dated 02/08/2010	TAB-TYP24/25 dated 15/05/2017 Rev. A
BLKX	TAB-TYP26 DN 50 to DN 200 dated 02/08/2010	TAB-TYP27/28 dated 15/05/2017 Rev. A
BVPD	TAB-TYP29 DN 80 to DN 800 dated 03/08/2010 Rev. A	TAB-TYP30 dated 15/05/2017 Rev. A TAB-TYP31 dated 15/05/2017 Rev. A TAB-TYP43 dated 15/05/2017
BLPD	TAB-TYP32 DN 80 to DN 800 dated 03/08/2010 Rev. A	TAB-TYP33/34 dated 15/05/2017 Rev. A TAB-TYP44 dated 15/05/2017
BVTT	TAB-TYP35 DN 32 to DN 500 dated 03/08/2010 Rev. A	TAB-TYP36/37 dated 15/05/2017 Rev. A
BLTT	TAB-TYP35 DN 32 to DN 500 dated 03/08/2010 Rev. A	TAB-TYP38 dated 15/05/2017 Rev. A TAB-TYP45 dated 15/05/2017

- Instruction and maintenance manual

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

- Tests carried out: shell hydraulic test pressure, seat hydraulic test pressure, seat pneumatic test pressure, opening/closing test according to test report N° 282279/GEN/10/TAC dated 09/05/2011.

- The valves have not been fire tested

4. APPLICATION / LIMITATION

4.1 May be used for the following services on board :

- | | | |
|---|---------------------------------|----------------------------------|
| - Shiplide valves | - Sea water and fresh water | - Bilge and ballast transfer |
| - Compressed air | - Cargo oil for tankers | - Inert gas systems |
| - Fuel-oil and lubricating oil transfer | - Domestic and sanitary systems | - Washing and fire extinguishing |
| - Hydraulic oil | - Deck foam systems | - Non-essential systems |

4.2 The butterfly valves belong to class I, class II and class III according to the relevant requirements stated in Part C, Chapter 1, Sec 10 of the Bureau Veritas rules. Valves fitted on the ship side and collision bulkhead and valves under static pressure on fuel oil tanks or lub oil tanks belong to class II.

4.3 The butterfly valve body, disc and sealing 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.

4.4 The use of stainless steel and aluminium alloy is to be restricted as per the Society's rules.

4.5 The valve body, disc and seat should be suitable for the intended service.

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

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

4.8 The valve is to be installed according to manufacturer's instructions.

4.9 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 **GIBSON ITALIA SRL** 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 BV product certificate is required.

5.4 Bureau Veritas Certificate is required for materials of valve housings of class I (DN \geq 50) or class II (DN \geq 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

5.5 Each valve housing for class I and class II is to be hydraulically pressure tested to 1.5 times the design pressure.

For information, **GIBSON ITALIA SRL** has declared to Bureau Veritas the following production site:

GIBSON ITALIA SRL
Stab. prod. Via Giuseppe Dozza,
2 - 40069 Zola Predosa (BO),
Italy

6. MARKING OF PRODUCT

The butterfly valve shall be marked with at least:

- Manufacturer's name or logo
- Type designation
- Size and pressure class
- Society's brand as relevant

7. OTHERS

It is **GIBSON ITALIA SRL'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° 25557/A0 BV issued by the Society.

*** END OF CERTIFICATE ***