



**Marine & Offshore
Division**

Certificate number: 22722/B0 BV

File number: ACM 145/2539/01

Product code: 22051

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
INTERVALVE POONAWALLA LIMITED
PUNE - INDIA

for the type of product
BUTTERFLY VALVES
Rubber Lined Wafer&Wafer lugged(IVGK/IVTL)
High Performance Double offset Wafer&Wafer lugged(IVEX-T)
Double Flanged Centric Disc Rubber Lined(IVDF)

Requirements:

- BUREAU VERITAS Rules for the Classification of Steel Ships
- BUREAU VERITAS Rules for the Classification of Offshore Units

This certificate is issued to attest that BUREAU VERITAS 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: 03 Nov 2021

For BUREAU VERITAS,
At BV MUMBAI (BOMBAY), on 03 Nov 2016,
Shailendra NATH

Shailendra Nath



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. 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 Division 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 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.

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BV Mod. Ad.E 530 October 2014

This certificate consists of 4 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

- IVTL Butterfly Valve with worm gear : DN 50-600mm (Pressure rating up to PN20)
- IVGK Butterfly Valve with worm gear : DN 50-600mm (Pressure rating up to PN20)
- IVEX-T Butterfly Valve with worm gear : DN 50-600mm (Pressure rating up to ASME Class 300)
- IVDF Butterfly Valve Double Flanged bonded BFV/PN16 with Electrical actuator : DN 50-600mm (Pressure rating up to PN20)

1.1 Size & Pressure rating:

Valve type	Size	Pressure Max	Temperature Max
IVTL	50-600 mm	20 bar	120°C
IVGK	50-600 mm	20 bar	180°C
IVEX-T	50-600 mm	52 bar	200°C
IVDF	50-600 mm	20 bar	120°C

1.2 Maximum temperature according to manufacturer's recommendations:

- NITRILE seat : 120 °C
- PTFE seat : 200°C
- EPDM seat : 150 °C

1.3 Materials and/or components :

- Body : ASTM B148 AL.Bronze C95800 / CS ASTM 216 Gr WCB+Epoxy 200cc / CI IS210 FG260+Epoxy / Super Duplex / CF8 / CF8M
- Disc : ASTM B148 AL.Bronze C95800 / ASTM 351 GR CF8M / CF8 / Super Duplex
- Seat : PTFE, NITRILE, EPDM

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

2. DOCUMENTS AND DRAWINGS

2.1 Drawings for IVTL:

- N° PD46602/MDS028 Rev.0 dated 31/12/2014 for DN 50 to DN 200
- N° PD46603/MDS028 Rev.0 dated 31/12/2014 for DN 250 to DN 350
- N° PD46604/MDS028 Rev.0 dated 31/12/2014 for DN 400 to DN 500
- N° PD46605/MDS028 Rev.0 dated 31/12/2014 for DN 600
- N° PD46598/MDS028 Rev.0 dated 31/12/2014 for DN 50 to DN 200
- N° PD46599/MDS028 Rev.0 dated 31/12/2014 for DN 250 to DN 350
- N° PD46600/MDS028 Rev.0 dated 31/12/2014 for DN 400 to DN 500
- N° PD46601/MDS028 Rev.0 dated 31/12/2014 for DN 600

2.2 Drawings for IVGK:

- N° PD46594/MDS008 Rev.0 dated 31/12/2014 for DN 50 to DN 200
- N° PD46595/MDS008 Rev.0 dated 31/12/2014 for DN 250 to DN 350
- N° PD46596/MDS008 Rev.0 dated 31/12/2014 for DN 400 to DN 500
- N° PD46597/MDS008 Rev.0 dated 31/12/2014 for DN 600
- N° PD46590/MDS008 Rev.0 dated 31/12/2014 for DN 50 to DN 200
- N° PD46591/MDS008 Rev.0 dated 31/12/2014 for DN 250 to DN 350
- N° PD46592/MDS008 Rev.0 dated 31/12/2014 for DN 400 to DN 500
- N° PD46593/MDS008 Rev.0 dated 31/12/2014 for DN 600

2.3 Drawings for IVEX-T:

- N° PD51135 Rev.0 dated 10/10/2016 for DN 50
- N° PD51170 Rev.0 dated 10/10/2016 for DN 50
- N° PD51138 Rev.0 dated 10/10/2016 for DN 65
- N° PD51170 Rev.0 dated 10/10/2016 for DN 65
- N° PD46666/MDS168 Rev.0 dated 19/01/2015 for DN 80 to DN 150
- N° PD46667/MDS168 Rev.0 dated 19/01/2015 for DN 200 to DN 450
- N° PD46668/MDS168 Rev.0 dated 19/01/2015 for DN 500 to DN 600
- N° PD46669/MDS168 Rev.0 dated 19/01/2015 for DN 80 to DN 150
- N° PD46670/MDS168 Rev.0 dated 19/01/2015 for DN 200 to DN 450
- N° PD46671/MDS168 Rev.0 dated 19/01/2015 for DN 500 to DN 600

- N° PD46615 Rev.0 dated 17/01/2015 for DN 80 to DN 300
- N° PD46618 Rev.0 dated 17/01/2015 for DN 125 to DN 600
- N° PD46655 Rev.0 dated 20/01/2015 for DN 80 to DN 200
- N° PD46656 Rev.0 dated 20/01/2015 for DN 250 to DN 300
- N° PD46657 Rev.0 dated 20/01/2015 for DN 350 to DN 600

2.4 Drawings for IVDF:

- N° PD51133 Rev.0 dated 20/01/2015 for DN 50 to DN 65
- N° PD46650 Rev.0 dated 20/01/2015 for IVDF DN 80 to DN 200
- N° PD46651 Rev.0 dated 20/01/2015 for IVDF DN 250 to DN 500
- N° PD46652 Rev.0 dated 20/01/2015 for IVDF DN 600

2.5 Other documents:

- Material inspection test reports
- Temperature limits for seat Materials : IVES 010 rev 0 dated 15/07/2002
- Temperature limits for seat Materials : IVES 027 rev 0 dated 21/08/2009
- Temperature limits for seat Materials : IVES 029 rev 1 dated 15/01/2010

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

Not Required.

4. APPLICATION / LIMITATION

4.1 May be used for the following services on board:

- | | | |
|---|-----------------------------|------------------------------|
| - Shipline valves | - Sea water and fresh water | - Bilge and ballast transfer |
| - Tank cleaning systems | - Cargo oil for tankers | - Inert gas systems |
| - Fuel-oil and lubricating oil transfer | - Non essential systems | |

4.2 The butterfly valves belong to 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 belong to Class II.

4.3 The use of ordinary cast iron and stainless steel is to be restricted as per the Rules.

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

4.5 The approval does not include any remote control of the valves.

4.6 When the butterfly valves are not fitted with flanges their use may be accepted as shipline 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 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 **INTERVALVE POONAWALLA LIMITED** 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 Certificates are required for materials of valve housings of Class II (DN \geq 100). Materials of valve housings of Class II (DN $<$ 100) and for other parts of Class II are to be with Work's certificates.

5.4 Each valve housing for Class II is to be hydraulically pressure tested to 1.5 times the design pressure.

5.5 BV product certificate is required.

INTERVALVE POONAWALLA LIMITED has declared to Bureau Veritas the following production site:

INTERVALVE POONAWALLA LIMITED: 94/1 Manjri, Off Soli Poonawalla Road, 412 307 PUNE, INDIA

6. MARKING OF PRODUCT

The valve shall be permanently marked with at least:

- Manufacturer's name or trademark
- Type designation
- Size
- Society's brand as relevant

7. OTHERS

It is **INTERVALVE POONAWALLA LIMITED**'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 No. 22722/A0 BV issued by the Society.

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



**Marine & Offshore
Division**

Certificate number: 47183/A0 BV

File number: ACM 145/2539/02

Product code: 22051

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

INTERVALVE POONAWALLA LIMITED
PUNE - INDIA

for the type of product

BUTTERFLY VALVES

High Performance Double Offset Wafer & Wafer lugged, Fire Resistant Butterfly Valve
Type: IVEX-F, Size: DN 50- 600mm (Pressure rating up to ASME Class 300)

Requirements:

- BUREAU VERITAS Rules for the Classification of Steel Ships
- BUREAU VERITAS Rules for the Classification of Offshore Units

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Shalendra NATH

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BV Mod. Ad.E 530 October 2014

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

- **IVEX-F Butterfly Valve with worm gear : DN 50-600mm (Pressure rating up to ASME Class 300)**

1.1 Size & Pressure rating:

Valve type	Size	Pressure Max	Temperature Max
IVEX-F	50-600 mm	52 bar	220°C

1.2 Maximum temperature according to manufacturer's recommendations:

- PTFE seat : 200°C - R-PTFE seat : 220 °C

1.3 Materials and/or components :

- Body : ASTM B148 AL.Bronze C95800 / CS ASTM 216 Gr WCB+Epoxy 200cc / Super Duplex / CF8 / CF8M

- Disc : ASTM B148 AL.Bronze C95800 / ASTM 351 GR CF8M / CF8 / Super Duplex

- Seat : PTFE & R-PTFE

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

2. DOCUMENTS AND DRAWINGS

2.1 Drawings for IVEX-F:

- N° PD51136 REV.0 DATED 10/10/2016 FOR DN 50

- N° PD51174 REV.0 DATED 10/10/2016 FOR DN 65

- N° PD51139 REV.0 DATED 10/10/2016 FOR DN 65

- N° PD51171 REV.0 DATED 10/10/2016 FOR DN 50

- N° PD46678/MDS128 REV.0 DATED 19/01/2015 FOR DN 80 TO DN150

- N° PD46679/MDS128 REV.0 DATED 19/01/2015 FOR DN 200 TO DN 450

- N° PD46680/MDS128 REV.0 DATED 19/01/2015 FOR DN 500 TO DN 600

- N° PD46681/MDS168 REV.0 DATED 19/01/2015 FOR DN 80 TO DN 150

- N° PD46682/MDS128 REV.0 DATED 19/01/2015 FOR DN 200 TO DN 450

- N° PD46683/MDS128 REV.0 DATED 19/01/2015 FOR DN 500 TO DN 600

- N° PD46611 REV.0 DATED 17/01/2015 FOR DN 80 TO DN 300

- N° PD46612 REV.0 DATED 17/01/2015 FOR DN 350 TO DN 600

- N° PD46660 REV.0 DATED 20/01/2015 FOR DN 80 TO DN 200

- N° PD46659 REV.0 DATED 20/01/2015 FOR DN 250 TO DN 300

- N° PD46658 REV.0 DATED 20/01/2015 FOR DN 350 TO DN 600

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

Fire Safe Test report performed on sizes: DN 50, DN 80 & DN 200 according to ISO 10497:2010/API 607:2010 in the presence of a BV Surveyor

- FSTR-IVPL-BVM-IVEX-F-G-50-CF8M-2016 dated 27/02/2016

- FSTR-IVPL-BVM-IVEX-F-G-50-WCB-2016 dated 27/02/2016

- FSTR-IVPL-BVM-IVEX-F-G-80-CF8M-2016 dated 09/06/2016

- FSTR-IVPL-BVM-IVEX-F-G-80-WCB-2016 dated 09/06/2016

- FSTR-IVPL-BVM-IVEX-F-G-200-CF8M-2016 dated 10/02/2016

- FSTR-IVPL-BVM-IVEX-F-G-200-WCB-2016 dated 10/02/2016

4. APPLICATION / LIMITATION

4.1 May be used for the following services on board:

- Shipside valves	- Sea water and fresh water	- Bilge and ballast transfer
- Tank cleaning systems	- Cargo oil for tankers	- Inert gas systems
- Fuel-oil and lubricating oil transfer	- Non essential systems	

4.2 The butterfly valves belong to 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 belong to Class II.

4.3 The use of ordinary cast iron and stainless steel is to be restricted as per the Rules.

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6. MARKING OF PRODUCT

The valve is to be permanently marked with at least:

- Manufacturer's name or trademark
- Type designation
- Size
- Society's brand as relevant

7. OTHERS

It is **INTERVALVE POONAWALLA LIMITED'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.

*** END OF CERTIFICATE ***