



Marine & Offshore

Certificate number: 74438/A0 BV

File number: .

Product code: 2101H

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

TEDDINGTON ENGINEERED SOLUTIONS LIMITED

Llaneli - UNITED KINGDOM

for the type of product

METALLIC EXPANSION JOINTS / BELLOWS

Metallic expansion bellows (Single & Universal)

DN50 to DN2000

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: 26 Oct 2028

For Bureau Veritas Marine & Offshore,

At BV LONDON, on 26 Oct 2023,

Spencer Yule

This certificate was created electronically and is valid without signature



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.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

Metallic expansion bellows (Single & Universal)

1.1. Ratings

Model	Type Single Bellow	Type Universal Bellow
Size range	DN50 to DN2000	DN100 to DN1000
Design Standard	EJMA 10	EJMA 10
Design Pressure (barg)	1	1
Design Temperature (°C)	550	550
End connections	Flanged / Pipe End	Flanged / Pipe End

1.2. Materials

Part	Material
Bellow	SA240 - 316 / 316L / 316Ti / 321 / SMO 254 / Duplex / Super Duplex / Inconel 600,625 / Incoloy 800, 825
Sleeve	SA240 - 316 / 316L / 316Ti / 321 / SMO 254 / Duplex / Super Duplex / Inconel 600,625 / Incoloy 800, 825
End pipe	SA240 - 316 / 316L / 316Ti / 321 / SMO 254 / Duplex / Super Duplex
Flanges	SA240 - 316 / 316L / 321 / 304 / S235 JR / S275 JR / ASTM A105N

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

2. DOCUMENTS AND DRAWINGS

- Drawing N°50-2000NB Rev. 2 dated 10/05/2023 : Type Single Bellow
- Drawing N°100-1000NB Rev. 2 dated 10/05/2023 : Type Universal Bellow
- Technical Report M62257 Rev. 1 dated 02/12/2022
- Document named "50NB to 2000NB Exhaust Bellow Range" Rev. 5 dated 11/07/2018
- Manual of installation, use and maintenance N°Tif-0002 Rev. 1 dated 12/11/2021
- Calculation Sheets listed in "50NB to 2000NB Exhaust Bellow Range" Rev. 5 dated 11/07/2018

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

3.1 Type tests witnessed by a BV Surveyor including hydrostatic test at twice the design pressure:

- Certificate of conformity N° 026664 dated 11/09/2020
- Certificate of conformity N° 028940 dated 05/07/2022
- Certificate of conformity N° 027484 dated 12/09/2020

4. APPLICATION / LIMITATION

- 4.1 May be used for exhaust gas piping systems.
- 4.2 Reduction factors are to be taken in consideration for maximum working pressure and tolerable movement caused by temperature influence according to manufacturer's instructions.
- 4.3 The calculated maximum values of axial and lateral movements at design full cycles are not to be exceeded.
- 4.4 In all cases, the associated pipelines are to be suitably aligned, supported and anchored. The joints are to be at any time accessible, well visible and protected against over extension and compression and against mechanical damage.
- 4.5 The joints are to be installed according to manufacturer's instructions and Bureau Veritas Rules requirements.
- 4.6 The expansion joint are not to be used in piping systems where high levels of vibration are expected to occur in service.

5. PRODUCTION SURVEY REQUIREMENTS

- 5.1 The products are to be supplied by **TEDDINGTON ENGINEERED SOLUTIONS 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 BV Rule Note NR320.
- 5.3 BV product certificate is required.

5.4 Each metallic expansion joint with end fittings is to be hydraulically pressure tested to 1.5 times the maximum working pressure and provided with the manufacturer's pressure test report and conformity of production.

5.5 For information, **TEDDINGTON ENGINEERED SOLUTIONS LIMITED** has declared to Bureau Veritas the following production site:

TEDDINGTON ENGINEERED SOLUTIONS LIMITED

Unit 1, Heol Cropin

Dafen Park Llaneli

SA14 8QW

Llaneli

UNITED KINGDOM

6. MARKING OF PRODUCT

Each expansion joint shall be permanently marked with at least:

- Manufacturer's name or trademark
- Date of manufacture (month/year)
- Designation type reference
- Nominal diameter
- Pressure rating
- Temperature rating
- Society's brand as relevant

7. OTHERS

It is **TEDDINGTON ENGINEERED SOLUTIONS 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 *****