



Marine & Offshore

Certificate number: 21955/C0 BV

File number: ACM 188/2522/1

Product code: 21011

*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*

**CODINOR - COMPENSADORES Y DILATADORES DEL NORTE, S.L**  
ZAMUDIO (Vizcaya) - SPAIN

*for the type of product*

**METALLIC EXPANSION JOINTS / BELLOWS**

Axial, Lateral, & Universal 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 is a renewal of certificate N° 21955/B0 BV expiring on 08/05/2020*

**This certificate will expire on: 08 May 2025**

**For Bureau Veritas Marine & Offshore,**

At BV BILBAO, on 16 Apr 2020,

Juan Jose GUTIERREZ GARCIA



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](http://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=wtgzluy31>

BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION

**Expansion joints Axial Type, Lateral Type, Universal Type**

#### **1.1 Technical Data**

<b>Size Range</b>	DN 80 up to DN 1600
<b>Design Pressure</b>	3 bar
<b>Design Temperature</b>	-55°C up to 500°C
<b>End Connections</b>	Welded flange or butt welded

The maximum working pressure is not to exceed one quarter of the burst pressure at the service temperature.

#### **1.2 Material Specification**

<b>Bellows</b>	Stainless steel AISI 304 / 304L / 310S / 316 / 316L / 316Ti / 321
<b>End Connections</b>	Carbon steel & Stainless steel AISI 304 / 304L / 310S / 316 / 316L / 316Ti / 321

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

### 2. DOCUMENTS AND DRAWINGS

- Manufacturer Catalogue, last issue
- Installation and Handling Instructions for Metal Expansion Joints
- Drawings TA.S - DN 80 to DN 1600 dated 18/02/2010
- Drawings TA.U - DN 80 to DN 1600 dated 18/02/2010
- Drawings TA.S 01 - DN 80 to DN 1600 dated 18/02/2010
- Drawings TA.U 01 - DN 80 to DN 1600 dated 18/02/2010
- Drawings TA.S 02 - DN 80 to DN 1600 dated 18/02/2010
- Drawings TA.U 02 - DN 80 to DN 1600 dated 18/02/2010

*No departure from the above documentation 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 Tests carried out: hydraulic test, burst test, elastic deformation test, cyclic life by a theoretical calculation according to EJMA Code

3.2 WPS CODINOR P2-1 PQR CODINOR P-1-1 P2-1-2, WPS CODINOR P3-2 PQR CODINOR P-3-2-1, WPS CODINOR P4-4 PQR CODINOR P-4-4-1

3.3 Vibration test not performed.

### 4. APPLICATION / LIMITATION

4.1 May be used for the following services on board: Bilge and ballast / Steam and condensate / Compressed air / Fresh water and sea water / Fuel oil and lubricating oil and hydraulic oil / Thermal oil / Exhaust gas lines / Inert Gas.

4.2 Expansion joint is not accepted in high pressure fuel oil injection systems.

4.3 Reduction factors are to be taken in consideration for maximum working pressure and tolerable movement caused by temperature influence according to manufacturer's instructions.

4.4 The calculated maximum values of axial and lateral movements at design full cycles are not to be exceeded.

4.5 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.

4.6 Piping system drawings and calculation notes are to be submitted for review whenever expansion bellows are fitted on board BV-classed ships.

- 4.7 The joints are to be installed according to manufacturer's instructions and Bureau Veritas Rules requirements.
- 4.8 The use of stainless steel is to be restricted as per the BUREAU VERITAS Rules.
- 4.9 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 expansion joints are to be supplied by **CODINOR - COMPENSADORES Y DILATADORES DEL NORTE, S.L** in compliance with the types 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, **CODINOR - COMPENSADORES Y DILATADORES DEL NORTE, S.L** has declared to Bureau Veritas the following production site:

**Pol. Ind. Torrelarragoiti, 5-C  
48170 ZAMUDIO (Vizcaya)  
SPAIN**

#### **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 **CODINOR - COMPENSADORES Y DILATADORES DEL NORTE, S.L**'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 previous Type Approval Certificate No. 21955/B0 BV issued by the Society.*

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