



Lloyd's
Register

Type Approval Certificate Extension

This is to certify that Certificate No. 12/ 00088(E1) for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

PRODUCER	Belman A/ S
PLACE OF PRODUCTION	Oddesundvej 18 6715 Esbjerg N Denmark
DESCRIPTION	Belman steel expansion bellows for absorption of axial, angular, lateral and universal movements.
TYPE	Axial - AX1S, AX2S, AX1F, AX2F Angular - AN1S, AN2S, AN1F, AN2F Lateral - LA1S, LA2S, LA1F, LA2F Universal - UN1S, UN2S, UN1F, UN2F
APPLICATION	For use in metallic cargo piping system of LPG/ LNG carriers.
SPECIFIED STANDARDS	LR Rules and Regulations for the Construction and Classification of Ships for the Carriage of Liquefied Gases in Bulk, 2013 LR Rules and Regulations for the Classification of Ships, 2018 EJMA 9 th Edition
RATINGS	Design temperature -165°C to +125°C Pressure rating PN 5 (open-ended systems only) and PN 10 Design cycle Min. 8000 Nominal Diameter DN40 to DN400 Inner sleeve With or without inner sleeve Materials 1.4301/ 304, 1.4306/ 304L, 1.4401/ 316, 1.4404/ 316L, 1.4541/ 321, 1.4550/ 347

Certificate No.	12/ 00088(E2)
Issue Date	25 March 2019
Expiry Date	20 December 2022
Sheet	1 of 2



Abhijit Aul
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OTHER CONDITIONS

1. The approved Belman steel expansion bellow is not suitable for use when ship deformation is experienced. When required additional cyclic fatigue test representing ship deformation is to be carried out on the complete expansion joint.
2. Pipe supports, their attachment and the structures to which they are attached must be designed to withstand the forces acting on them.
3. Installation on ship is to be in accordance with the manufacturer's instruction and recommendations.

"This Certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid certificate."

The attached Design Appraisal Document No. 12/ 00088(E2) and its supplementary Type Approval Terms and Conditions form part of this Certificate

All other details remain as the previous Certificate No. 12/ 00088(E1) to which this extension should be attached.

Certificate No. 12/ 00088(E2)
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