



TYPE APPROVAL CERTIFICATE
No. MAC197915XG

This is to certify that the product identified below is in compliance with the regulations herewith specified.

| | |
|-----------------------------|--|
| <i>Description</i> | Rubber expansion joints |
| <i>Type</i> | ERV ERV-R ERV-BR ERV-G ERV-GS ERV-GS HNBR ERV-CR ERV-ROTEX ERV-OR ERV-GR ERV-VITEX |
| <i>Applicant</i> | ELAFLEX - GUMMI EHLERS GMBH SCHNACKENBURGALLE 121 22525 HAMBURG GERMANY |
| <i>Manufacturer</i> | ELAFLEX - GUMMI EHLERS GMBH |
| <i>Place of manufacture</i> | SCHNACKENBURGALLE 121 22525 HAMBURG GERMANY |
| <i>Reference standards</i> | RINA Rules for the classification of Ships; RINA Rules for the classification of Naval Ships; RINA Rules for the Classification of Floating Offshore Units at Fixed Locations and Mobile Offshore Drilling Unit |

Issued in **HAMBURG** on **December 4, 2015**. This Certificate is valid until **December 3, 2020**


RINA Services S.p.A.
Giuseppe Russo

This certificate consists of this page and 1 enclosure



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ERV

Reference documents

- Elaflex Catalog 2009 rev.,2 (2015) filed with HMMC 6285 dated 4-Jan-2016
- Contitech Burst and Impulse Tests no. 1634/ and I1WI0021/1
- WTD71 (Wehrtechnische Dienststelle für Schiffe und Marinewaffen) Fire Test Report no. 51514 .
- Dr.-Ing T.Bäumer Flame ResistanceTest no: IBB472 dated 27-08-2009

Technical characteristics

Moulded single sphere type rubber bellows with swiveling metal flanges.
Dimensions and materials; DN 25 - 1000 mm, in various lengths as per Elaflex catalogue
Flange Type : ERV ; Material : Stainless steel, carbon steel zinc plated or hot galvanized

Fields of application

As per Elaflex Catalog

| TYPE | APPLICATIONS | FLAME RESISTANT |
|-------------|---|-----------------|
| ERV-R, | <i>Fresh Water and Waste Water</i> | NO (*) |
| ERV-BR | <i>Water and Waste Water</i> | NO (*) |
| ERV-G, | <i>Petroleum Based Products</i> | NO (*) |
| ERV-GS | <i>Petroleum Based Products</i> | YES |
| ERV-GS HNBR | <i>Petroleum Based Products</i> | YES |
| ERV-CR, | <i>Water and Waste Water</i> | NO (*) |
| ERV-ROTEX, | <i>Water and Waste Water</i> | NO (*) |
| ERV-OR, | <i>LPG and other gases up to 25 bar</i> | NO (*) |
| ERV-GR, | <i>Chemistry</i> | NO (*) |
| ERV-VITEX | <i>Chemistry</i> | NO (*) |

(*) Flame protection cover type ELAFLEX "FSH" can be added.

Acceptance conditions

The installation is to be made in accordance with the manufacturer's instructions.

Use of expansion joints is to be in accordance with Part C, Chapter 1 Section 10, Paragraph 2.6, of RINA Rules.

The acceptance of the above mentioned product on board a ship, or other units classed by RINA, is subject to the satisfactory outcome of testing as per RINA Rules.

HAMBURG December 4, 2015

