



TYPE APPROVAL CERTIFICATE
No. MAC193821CS/002

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

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|-----------------------------|--|
| <i>Description</i> | Non metallic expansion joints |
| <i>Type</i> | AG JOINT AUTO 1B-N / AG JOINT AUTO 1B-R |
| <i>Applicant</i> | ALFAGOMMA HYDRAULIC SPA VIA ENRICO MATTEI 6 64020 Castelnuovo Vomano (TE) ITALY |
| <i>Manufacturer</i> | ALFAGOMMA INDUSTRIAL SPA |
| <i>Place of manufacture</i> | Via Attilio Di Sante, snc - NUCLEO INDUSTRIALE 64100 S. Atto (TE) ITALY |
| <i>Reference standards</i> | Parte C, Cap. 1, Sez. 10 dei Regolamenti RINA |

Issued in **GENOVA** on **February 22, 2023**. *This Certificate is valid until* **January 30, 2027**

RINA Services S.p.A.
Rosario Pitruzzo

This certificate consists of this page and 1 enclosure

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Enclosure - Page 1 of 1
AG JOINT AUTO 1B-N / AG JOINT AUTO 1B-R

Reference documentation:

Technical drawings approved with drawings PPVT-34930 and PPVT-37013

Risk Analysis filed with drawing PPVT-34931

Test Report filed with drawing PPVT-37606

Compatibility Report dated 01/10/2020 and 15/07/2020

Technical characteristic

Nominal Diameter : DN 32/40/50/65/80/100/125/150/200/250

Design Pressure: PN6, PN 10, PN16

Max. Working pressure: 16 bar;

Working temperature: min -10°C, +90°C with peaks to +110°C;

Expansion joints material: Internal NBR (ACN); External NBR (ACN), CR;

Flange: carbon steel and stainless steel as per approved drawing

Length : 130mm/150mm/160mm/200mm

Application

- Fresh water and sanitary systems.
- Compressed Air
- the installation of expansion joints with flame protection cap (O-A-A-Q-01 Rev. 02) in fuel oil and lubricating oil systems can be accepted, provided that:
 1. for ships flying EC flag, they are also certified in compliance with Marine Equipment Directive (MED) 2014/90/EU as amended;
 2. for ships not flying EC flag, they are also approved by the flag Administration.
- Water fire systems, for expansion joints with flame protection cap (O-A-A-Q-01 Rev. 02).
- Sea water systems, provided that they are arranged in compliance with Para. 2.6.3 of Pt C, Ch 1, Sec 10 of RINA Rules.

Remarks

The installation on board is to be carried out in accordance with Manufacturer's instructions and with requirements of Para 2.6.3 and 5.9.3 of Pt C, Ch 1, Sec 10 of RINA Rules.

Each product to be installed on board ships and other units classed by RINA is subject to the satisfactory outcome of testing according to RINA Rules (para. 20.4.6 of Pt C, Ch 1, Sec 10).

The products are to be permanently marked, for traceability, in compliance with para. 7.2 of RINA "Rules for the type approval of flexible hoses and expansion joints".

Validity of this Type Approval Certificate is subordinate to satisfactory outcome of periodical surveys as per RINA Rules for testing and certification of Marine Materials and Equipment.

GENOVA February 22, 2023