



TYPE APPROVAL CERTIFICATE
No. MAC343621CS/002

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

<i>Description</i>	Non metallic expansion joints
<i>Type</i>	AG JOINT PRO 1A-N / AG JOINT PRO 1A-R AG JOINT PRO 2A-N / AG JOINT PRO 2A-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* **September 29, 2025**

RINA Services S.p.A.
Rosario Pitruzzo

This certificate consists of this page and 1 enclosure

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AG JOINT PRO 1A-N / AG JOINT PRO 1A-R
AG JOINT PRO 2A-N / AG JOINT PRO 2A-R

Reference documentation:

● *Constructional drawings and specification:*

PPVT-34930	Specifica cuffia O-A-A-Q-01 rev.02
PPVT-34931	Risk analysis 5B-U-Q-Pr-16
PPVT-34934	Spec I54 CuSN6
PPVT-34935	Spec I55 CuNi
PPVT-34936	Spec I56 Fe510
PPVT-34937	Spec I57 AISI 316
PPVT-36660	AG JOINT PRO drawings

● *Test Report:*

Fire tests ISO 15540:2016 and ISO 15541:2016, dated 04/09/2020
reports no. 2020CS012115/001-002-003-004-005-006-007-008
RINA Laboratory - Calata Gadda Genova

Burst tests dated 22/07/2020
CERT No. 20200722-001 (RINA 2020/MI/01/413) - No. 20200715-01
Via dell'Industria 12 Bellusco (MB)

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

Technical characteristic

Diameters:

AG JOINT PRO 1A-N / R DN32 - DN40 - DN50 - DN65 - DN80 - DN100 - DN125 - DN150 - DN200 - DN250;
AG JOINT PRO 2A-N / R DN40 - DN50 - DN65 - DN80 - DN100 - DN125 - DN150 - DN200 - DN250;

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: CuSN6, CuNi, Fe510 and AISI316

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.

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AG JOINT PRO 1A-N / AG JOINT PRO 1A-R
AG JOINT PRO 2A-N / AG JOINT PRO 2A-R

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".

GENOVA February 22, 2023