



**TYPE APPROVAL CERTIFICATE**  
No. **MAC002723CS**

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

<i>Description</i>	<b>Metallic flexible hoses</b>
<i>Type</i>	<b>STF100, STF200</b>
<i>Applicant</i>	<b>ALFAGOMMA HYDRAULIC SPA VIA ENRICO MATTEI 6 64020 Castelnuovo Vomano (TE) ITALY</b>
<i>Manufacturer</i>	<b>SITEF SERVICE S.R.L.</b>
<i>Place of manufacture</i>	<b>VIA ATTILIO DI SANTE SNC FRAZIONE: SANT'ATTO NUCLEO INDUSTRIALE 64100 Teramo (TE) ITALY</b>
<i>Reference standards</i>	<b>Part C, Ch 1, Section 10 of RINA Rules for the Classification of Ships and RINA Rules for the Type Approval of Flexible Hoses and Expansion Joints; IMO IGC Code 2006 as amended</b>

*Issued in* **GENOVA** on **February 2, 2023**. *This Certificate is valid until* **April 12, 2027**

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**RINA Services S.p.A.**  
**Rosario Pitruzzo**

This certificate consists of this page and 1 enclosure

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STF100, STF200

### Reference documentation:

Documentation approved / filed :

- *Constructional drawings approved with dwg PPVT-38125 and dispatched with letter PPVT/2022/00273/CRLVA*
- *Test Report: Filed with dwg PPVT- 38152 and dispatched with letter PPVT/2022/00274/CRLVA*
- *Test Report: Filed with dwg PPVT- 40334 and dispatched with letter PPVT/2023/00075/CRLVA*

### Technical characteristics

Materials:

Flexible Hose: Stainless steel AISI321 (1.4541 EN 10028-7), AISI316L (1.4404 EN 10028-7), AISI316Ti ((1.4571 EN 10028-7), AISI304 ((1.4301 EN 10028-7), AISI304L ((1.4304 EN 10028-7),

Braid: AISI304 ((1.4301 EN 10028-7), AISI321 (1.4541 EN 10028-7), AISI316L (1.4404 EN 10028-7), AISI316Ti ((1.4571 EN 10028-7),

Temperature range: from -200°C to +550°C (600°C with AISI321 and AISI316L braid)

Design pressure at ambient temperature as per the following table; temperature

	Nominal Diameter	Max working pressure [bar]	
		1 Braid STF100	2 Braids STF200
	DN		
	8	110	
	10	100	
	12	70	120
	15	65	95
	20	43	85
	25	49	75
	32	35	60
	40	38	45
	50	26	42
	65	21	27
	80	16	22
	100	10	20

Derating Factor according to ISO 10380:2012 is to be adopted for temperatures higher than 50°C

### Applications

- sprinkler/hi-fog system
- fuel oil system (excluding high pressure oil injection system)
- lubricating oil systems
- fresh and sea water cooling systems
- sanitary water systems
- compressed air systems
- inert gas systems
- class II steam and condensed systems
- heating and conditioning systems
- cryogenic fluids

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**STF100, STF200**

***Acceptance Conditions***

The present Type Approval Certificate is referred to approved flexible hose (identified by Sitef Service code as STF100, STF200), as well as to hose assemblies, manufactured with approved hoses (identified by sitef service code STF100, STF200)

The welded connection between hose and fittings is to be according to Manufactured Technical specification

The approval covers hoses assemblies with flanged and threaded connections designed according recognized standards in force, suitable for the foreseen design condition and service. The acceptance of flanged and threaded connection type will be subject to conditions stated in RINA rules (see, in particular, Tables 14 and 15 of Pt C, Ch 1, Sec10), depending on class/service/design conditions of piping

The installation on board is to be made in accordance with Manufacturer's instructions and applicable RINA rules.

The acceptance of the a.m. products on board ship and other units classed with RINA is subject to the satisfactory outcome of testing as per the RINA rules.

Hoses are to be marked with manufacturer's name or trademark, designation type reference, nominal diameter and maximum design pressure

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".

Approval has been carried out according to IMO IGC Code 2006 as amended (2021/12)

**GENOVA February 2, 2023**