



NIPPON KAIJI KYOKAI

TYPE APPROVAL CERTIFICATE

Certificate No. TA15436M

This is to certify that the undernoted product(s) has/have been approved in accordance with the relevant requirements of “Rules for the Survey and Construction of Steel Ships” and “Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use”.

This certificate is issued to

Manufacturer:	ALFA GOMMA S.p.A., Italy
Product description:	HYDRAULIC HOSE ASSEMBLY
Type designation(s):	Alfagomma / Dunlop-Hiflex Flexor 1SN / 1ST / 122 Series (122T & 122G), Flexor 2SN / 2ST / 222 Series (222T&222G), Flexor 4SH / 790 Series (790L & 790G), Flexor 12 / 712 Series, Flexor 13 / 713 Series (713L & 713G), Flexor 4SP / 730 Series, SP33 Series (3SPT & 3SPG), 241 Series (241T & 241G)
Approval No.:	00FV402B
Valid until:	20 July 2020

This certificate is subject to the conditions specified in the attached sheet(s).

Issued at Tokyo on 21 July 2015.


Y. Shibata
General Manager
Machinery Department



Particulars and conditions :

Type	DN		Max. Working Pressure [bar]	Design Temperature (°C)	Material of Hose
	[inch]	[mm]			
Flexor 1SN/1ST or 122T/122G	1/4	6	225	-40~+100	Tube & Cover; Oil resistant Synthetic rubber Reinforcement; 1 wire braid
	5/16	8	215		
	3/8	10	180		
	1/2	12	160		
	5/8	16	130		
	3/4	19	105		
	1	25	88		
	1 ¼	32	63		
	1 ½	38	50		
	2	51	40		
Flexor 2SN/2ST or 222T/222G	1/4	6	400	-40~+100	Tube & Cover; Oil resistant Synthetic rubber Reinforcement; 2 wire braid
	5/16	8	350		
	3/8	10	330		
	1/2	12	275		
	5/8	16	250		
	3/4	19	215		
	1	25	165		
	1 ¼	32	125		
	1 ½	38	90		
	2	51	80		
Flexor 4SH or 790L/790G	3/4	19	420	-40~+100	Tube & Cover; Oil resistant Synthetic rubber Reinforcement; 4 spiral layers
	1	25	380		
	1 ¼	32	350		
	1 ½	38	290		
	2	51	250		

Type	DN		Max. Working Pressure [bar]	Design Temperature (°C)	Material of Hose
	[inch]	[mm]			
Flexor 12 or 712	3/8	10	276	-40~+121	Tube & Cover; Oil resistant Synthetic rubber Reinforcement; 4 spiral layers
	1/2	12	276		
	3/4	19	276		
	1	25	276		
	1 1/4	31	207		
	1 1/2	38	172		
	2	51	172		
Flexor 13 or 713L/713G	3/4	19	345	-40~+121	Tube & Cover; Oil resistant Synthetic rubber Reinforcement; 4 spiral layers or 6 spiral layers
	1	25	345		
	1 1/4	32	345		
	1 1/2	38	345		
	2	51	345		
Flexor 4SP or 730	1/4	6	450	-40~+100	Tube & Cover; Oil resistant Synthetic rubber Reinforcement; 4 spiral layers
	3/8	10	445		
	1/2	12	415		
	5/8	16	350		
	3/4	19	350		
	1	25	280		
	1 1/4	31	210		
	1 1/2	38	185		
	2	51	172		
3SPT/3SPG	3/8	10	500	-40~+100	Tube & Cover; Oil resistant Synthetic rubber Reinforcement; 3 wire braid
	1/2	12	470		
	5/8	16	410		
	3/4	19	375		
	1	25	327		
	1 1/4	32	240		

Type	DN		Max. Working Pressure [bar]	Design Temperature (°C)	Material of Hose
	[inch]	[mm]			
241T/241G	1/4	6	420	-40~+100	Tube & Cover; Oil resistant Synthetic rubber Reinforcement; 2 wire braid
	5/16	8	375		
	3/8	10	350		
	1/2	12	310		
	5/8	16	280		
	3/4	19	240		
	1	25	210		
	1 ¼	32	145		
	1 ½	38	125		
	2	51	100		

Kind of Fluid: **Fuel Oil, Lubricating Oil, Hydraulic Oil, Fresh Water, Sea Water, Compressed Air, CO2**

• **Type approval tests carried out :**

Proof Pressure Test, Burst Pressure Test, Hydraulic Impulse Test, Fire Resistance Test

• **Connections :**

1. Threaded pipe joints are to be in accordance with 12.4.2-2, Chap.12, Part D of the Rules.
2. Pipe flanges are to be in accordance with 12.4.3-1, Chap.12, Part D of the Rules.
3. Mechanical joints are to be in accordance with a standard deemed approved by the Society or to be of NK approved type.

• **Production Test :**

The hoses used for piping belonging to Group I & II defined by the requirements 12.1.3, Chap.12, Part D of the Rules are to be subjected to hydraulic test in the presence of the Society's surveyor in accordance with the requirements 12.6.1, Chapt.12, Part D of the Rules.

• **Approved manufacturers and address :**

Alfagomma Hydraulic S.p.A
(Castelnuovo V.-ITALY)
Via E. Mattei, 6
64020 Castelnuovo V. (TE)

Alfagomma Hydraulic S.p.A
(Figline V. ITALY)
Area Industriale Piano Lago
87050 Figline Vegliaturo (CS)

Alfagomma Mardec Sdn. Bhd.
PLO 344, Jalan Perak 4, Pasir
Gudang Ind. Estate
81707 Johor, Malaysia

Dunlop Hiflex
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Leyland PR25 3 WL
United Kingdom

Dunlop Hiflex AS
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Denmark

Dunlop Hiflex AS
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33840
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Dunlop Hiflex Turku
Orikedonkatu 11
20380
Turku
Finland

• **Notice :**

Any significant changes in design or construction of the above items may render this certificate invalid.

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