Certificate No: LR2004175TA
Issue Date: 11/06/2020
Expiry Date: 28/12/2024

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

Manufacturer	**FLOERINER (CHINA) CO.,LTD**
Address	No. 9 Hua Yuan Road, Wuxi Economic Development Zone, Jiangsu Province, 214131, China
Place of Production	FLOERINER (CHINA) CO.,LTD No. 19 Liaohe Street, Yinhe Economic & Technological Development Zone, Ningjin County, Dezhou City, Shandong Province, 253400, China
Type	Expansion Bellows
Description	Rubber Expansion Joint
Trade Name	STYLE SF (Single-sphere with flanges) STYLE TF (Twin-sphere with flanges) STYLE TU (Twin-sphere with unions)
Application	Marine and offshore ballast system, bilge system, exhaust gas cleaning system, service air system, non-essential piping systems for oil piping system, fresh water, sea water, sanitary water, hot water, cooling system, brine system, lubricating oil system, air conditioning system.
Specified Standard	LR Rules and Regulations for the Classification of Ships, July 2018 GB/T 26121 :2010 ISO 15540 : 2016 ISO 15541 : 2016

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Qing Dong

Specialist to Lloyd's Register Classification Society (China) Co Ltd
A member of the Lloyd's Register Group

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Huangpu District, China

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Ratings

STYLE SF:	Single-sphere with flanges
Body Construction:	EPDM with nylon fabric
reinforcement	
	NBR with nylon fabric
reinforcement	
Nominal Diameter (mm):	DN20~DN1200
Design Pressure Rating (bar):	25 (DN20~DN150)
	16 (DN200~DN300)
	10(DN350~DN1200)
Design Temperature (˚C):	-30~100, temporarily 120 (EPDM)
	-30~90, temporarily 100 (NBR)
STYLE TF:	Twin-sphere with flanges
Body Construction:	EPDM with nylon fabric
reinforcement	
	NBR with nylon fabric
reinforcement	
Nominal Diameter (mm):	DN25~DN600
Design Pressure Rating (bar):	16 (DN25~DN300)
	10 (DN350~DN600)
Design Temperature (˚C):	-30~100, temporarily 120 (EPDM)
	-30~90, temporarily 100 (NBR)
STYLE TU:	Twin-sphere with unions
Body Construction:	EPDM with nylon fabric
reinforcement	
	NBR with nylon fabric
reinforcement	
Nominal Diameter (mm):	DN15~DN80
Design Pressure Rating (bar):	16
Design Temperature (˚C):	-30~100,temporarily 120 (EPDM)
	-30~90,temporarily 100 (NBR)

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Additional Tests

SF-VSR series are to be vacuum tested according to Lloyd's Register Type Approval System Test Specification Number 2, Appendix 1,Section 4.2.3(a). SF-FR series are to be fire tested according to ISO 15540 : 2016 & ISO 15541 : 2016.

Other Conditions

1. The production selection and installation of rubber expansion bellows are to be in accordance the manufacturer's instructions and to the attending Surveyor's satisfaction.
2. The rubber expansion bellows are to be installed in clearly visible and readily accessible locations.
3. The rubber expansion bellows are not to be used to compensate for misalignment between sections of pipes, and are not used on heavy vibration locations.
4. The end connections are to be manufactured in accordance with recognised National or International standards, are to be suitable for the pressure, temperature and service.

In the case of sea water systems, where failure of the rubber expansion bellows could give rise to the danger of flooding, they are to be provided with guards which will effectively enclose, but not interfere with, the action of the rubber expansion bellows and will reduce to the minimum practicable any flow of water into the machinery spaces in the event of failure of the rubber elements.

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register Classification Society (China) Co Ltd of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document No. LR2004175TA and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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