Certificate No: LR21234950TA
Issue Date: 27/04/2021
Expiry Date: 26/04/2026

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 **KURBO Co.,Ltd**

Address 130 Noksansaneopjung-ro Gangseo-gu, Gangseo-gu, Busan, 46752, Republic of Korea

Type Metal Expansion Joint

Description Metallic Bellows Type Expansion Joints

Trade Name SEJ-S (Single ply bellows),SEJ-M (Multi ply bellows)

Application Marine Piping Systems:-
Exhaust gas, Steam system (SEJ-S type)
Fresh water, fuel oil & lubricating oil, steam (SEJ-M type)

Specified Standard Lloyd's Register (LR) Rules and regulations for the Classification of Ships
Standards of the Expansion Joint Manufactures Association Inc.

Ratings

SEJ-S Type

Construction details	: 1 ply, unreinforced
Nominal pipe diameters	: 50A to 1,300A
Design pressure	: 2 bar
Max. allowable temperature	: 550°C (for exhaust gas) 220°C (for steam, for 50A to 1200A)

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Convolution pitch/height (mm) : 12/12~44/44

SEJ-M Type

Construction details	: 2 plies, unreinforced
Nominal pipe diameters	: 200A to 450A
Design pressure	: 5 bar
Max. allowable temperature	: 150°C (for fuel oil & lub. oil) 200 °C (for fresh water) 220°C (for stream)
Convolution pitch/height (mm)	: 22/22~31/31

Other Conditions

1) Where expansion joints are used in Class I and II piping system tested by hydraulic pressure and installed on board, to the attending Surveyor's satisfaction.
2) The manufacture's material certificates for expansion joints in Class I and II piping systems are acceptable in lieu of LR's material certificates where conditions are less than shown in table 12.1.2 as per Part 5, Chapter12, Section 1.6.2 of the Ship Rules.
3) The manufacture's material certificates for the materials & hydraulic tests of expansion joints in Class III piping systems are acceptable in lieu of LR's test certificate.
4) Welding and non-destructive testing are to be in accordance with Part 5, Chapter 17 of the Rules, to the attending surveyor's satisfaction.
5) Expansion joints are to be protected against overextension and compression. The adjoining pipes are to be suitably aligned, supported, guided and anchored. Where necessary, expansion bellows are to be protected against mechanical damage.

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 Asia of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document LR21234950TA and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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