Certificate No: LR25139333TA
Issue Date: 04/07/2025
Expiry Date: 03/07/2030

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	**Yulwon Co.,Ltd**
Address	43-21, Bangchon-ro 538beon-gil, Tanhyeon-myeon, Paju-si, Gyeonggi, 10858, South Korea
Type	Metal Expansion Joint
Description	Materials Bellows : SUS321,304,316L Flanges : SS400, SUS304, SUS316L End pipes/sleeves/ inter pipes : SS400, SUS304, SPA-H
Trade Name	YWEB-TAG/ YWEB-TAA/ YWEB-TAW
Application	Marine Piping Systems:- Exhaust gas piping system (YWEB-TAG) Air system (YWEB-TAA) Water system (YWEB-TAW)
Specified Standard	Lloyd's Register's Rules and Regulations for the Classification of Ships, July 2024, Part 5, Chapter 12 Standards of the Expansion Joint Manufacturers Association, Inc. (10th Edition)
Ratings	YWEB-TAG-010 Medium : Exhaust Gas ID 40 ~ 2000 mm Design Pressure : 1.5 ~ 7.5 kg/cm2

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Engineering Piping - Senior Specialist to
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A member of the Lloyd's Register group

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Design Temperature : 500 ~ 650 degree C,
Bellows : 1 ~ 5 plies

YWEB-TAA-005
Medium : Air
ID 100 ~ 800
Design Pressure : 6.1 kg/cm2
Design Temperature : 350 degree C
Bellows : 3 ~ 5 plies

YWEB-TAW-004
Medium : Water
ID 35 ~ 450 mm
Design Pressure : 7.5 kg/cm2
Design Temperature : 100 degree C
Bellows : 1 ~ 4 plies

Additional Tests

-. Hydraulic pressure test
-. Burst test
-. Cycle test (6,000 cycle)

Other Conditions

Where the expansion joints are intended to be installed CONDITIONS on board ships, classed or intended to be with Lloyd's Register, the following conditions are applicable:-

1) The bellows are to be constructed, tested and installed onboard to the satisfaction of the attending surveyors.
2) Welding and non-destructive testing are to be to the attending Surveyor's satisfaction.
3) The dimensions and materials of flanges, gaskets and bolting, and the pressure-temperature rating of the bolted flanges in pressure pipelines, in accordance with national or other established standards.
4) Expansion joints are to be protected against over extension and

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compression. The adjoining pipes are to be suitably aligned, supported, guided and anchored. Where necessary, expansion bellows are to be protected against mechanical damage.
5) Expansion joints are to be installed according to manufacture's instructions and to the attending surveyor's satisfaction.

The valid reports of the audit assessment of the Production Quality Assurance System (PQA) are to be retained.

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 BTS/ENG/M251090 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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