DNV·GL

Certificate No:
TAP00001BM

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Metallic Expansion Joints

with type designation(s)
GB/T12522-96 A, GB/T12522-96 AS, GB/T12522-96 BS, CB1153-93 A, CB1153-93 AS, CB1153-93 B, CB1153-93 BS

Issued to
Wuxi CSI Bellows Co., Ltd.
Wuxi, China

is found to comply with
DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Type:	Temperature range:	Max. working press.:	Sizes:
GB/T12522-96 A	up to 550°C	1 bar	DN65-DN500
GB/T12522-96 AS	up to 550°C	1 bar	DN65-DN2600
GB/T12522-96 BS	up to 550°C	1 bar	DN1000-DN2600
CB1153-93 A	up to 200°C	6, 10 and 16 bar	DN65-DN500
CB1153-93 AS	up to 200°C	6, 10 and 16 bar	DN65-DN500
CB1153-93 B	up to 200°C	6, 10 and 16 bar	DN65-DN500
CB1153-93 BS	up to 200°C	6, 10 and 16 bar	DN65-DN500

Issued at **Hamburg** on **2018-04-25**
This Certificate is valid until **2023-04-24**.
DNV GL local station: **Jiangyin**

for **DNV GL**

Approval Engineer: **Andrii Pishchanskyi**

Olaf Drews
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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Product description

The main components and their material are as follows:

Component \ Type	GB/T12522-96 A	GB/T12522-96 AS	GB/T12522-96 BS
Flange	Q235B	Q235B	Q235B
Bellow	SUS321	SUS321	SUS321
Locating stud	Q235B	Q235B	Q235B
Liner	SUS321	SUS321	SUS321
Support plate	Q235B	Q235B	Q235B
Collar	N/A	N/A	SUS321

Component \ Type	CB1153-93 A	CB1153-93 AS	CB1153-93 B	CB1153-93 BS
Steel ring	SUS316L	SUS316L	N/A	N/A
Flange	Q235B	Q235B	Q235B	Q235B
Bellows	SUS316L	SUS316L	SUS321	SUS321
Locating stud	Q235B	Q235B	Q235B	Q235B
Support plate	Q235B	Q235B	Q235B	Q235B
Collar	SUS316L	SUS316L	SUS321	SUS321

Application/Limitation

The expansion joints are designed for the absorption of axial movement. Refer to manufacturer's instruction for exact values.

GB/T12522-96 A, GB/T12522-96 AS and GB/T12522-96 BS are type approved for application in exhaust gas piping systems installed after turbocharger as per DNVGL-RU-SHIP Pt.4 Ch.6 Sec.9 5.3.

CB1153-93 A, CB1153-93 AS, CB1153-93 B and CB1153-93 BS are type approved for application in fuel oil, lubricating oil, fresh water and steam as per DNVGL-RU-SHIP Pt.4 Ch.6 Sec.9 5.3.

Production testing

Each batch of expansion joints of type CB1153-93 A, CB1153-93 AS, CB1153-93 B and CB1153-93 BS shall be pressure tested with 1.5 times M.A.W.P.
The materials used in piping systems of class II shall be certified and documented according DNVGL-RU-SHIP Pt.4 Ch.6 Sec.2 1.8.1.

Type Approval documentation

Tests carried out

Marking of product

For traceability to this type approval each expansion joint shall be marked with:

1. Type;
2. Nominal diameter DN;
3. Nominal pressure PN;
4. Flow direction.

Periodical assessment

A condition for retention of the TA certificate in its validity period is that periodical assessments are successfully carried out. The objective of the periodical assessment is to verify that the conditions for the TA have not been altered. Periodical assessments for type approval is required after two years (+/- 90 days) and after 3.5 years (+/- 90 days). Refer to DNVGL Class Programme CP-0338 for the scope of the periodical assessment.