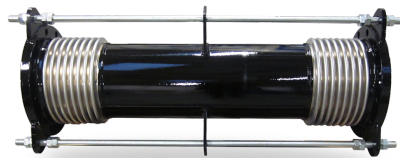


RELY ON EXCELLENCE

LA Type expansion joints

Expansion joints | Metal expansion joints



Advantages

- Universally applicable
- LA Types do not require anchor points being designed for obtaining pressure thrust, due to the installed hardware.
- Highly customizable design: Bellows geometry, material options and combinations.
- Multiply bellows with low spring rate and high cycle life.

Operating range

Diameter: DN 40 ... DN 2,500 (1.5" ... 100")

Temperature: ... 700 °C (1,292 °F)

Pressure: max. 50 barg (1,160 PSIG)

Features

- Tied custom metal expansion joints for general pressure applications.
- Designed for, and cover the mid temperature and pressure range for general process equipment.
- Mainly for lateral movements.
- Tied metal expansion joints retain pressure thrust developed by internal pressure, through the use of hardware.

Materials

- Bellows: 1.4541 (AISI 321); 1.4301 (AISI 304); 1.4306 (AISI 304L); 1.4401 (AISI 316); 1.4404 (AISI 316L); 1.4571 (AISI 316Ti); 1.4828 (AISI 309); 1.4547 (254 SMO); 2.4816 (Inconel® 600); 2.4856 (Inconel® 625/LCF); 1.4876 (Incoloy® 800/H)
- Connections: 1.0038 - (S235JRG2); 1.0460 - (P250GH); 1.0315 - ; 1.0254 (P235TR1); 1.0425 - (P265GH); 1.5415 - (16Mo3); 1.7335 - (13CrMo4-5); 1.4401 (AISI 316); 1.4404 (AISI 316L); 1.4541 (AISI 321)
- Flanges: 1.0038 - S235JRG2; 1.0425 - P265GH; 1.0315 - P235G2TH; 1.0254 (P235TR1); 1.0425 - P265GH; 1.5415 - 16Mo3; 1.7335 - 13CrMo4-5; 1.4404 (AISI 316L); 1.4436 (AISI 316)

Other materials are available on request.

Standards and approvals

Design code:

EJMA 9, PED 97/23/EC according to: EN 13480, EN 13445, EN 14917, AD2000 and ASME B31.3

NDT and documentation:

According to PED 97/23 EC rules and regulations (declaration of conformity).

Documentation can be provided per customer request e.g.:

- Test, measurement or calculation reports
- Material test or inspection certificates
- Design, type or 3rd party approval

Notes

Tied metal expansion joints might require alignment guides to ensure the expansion joint only see the intended movements.

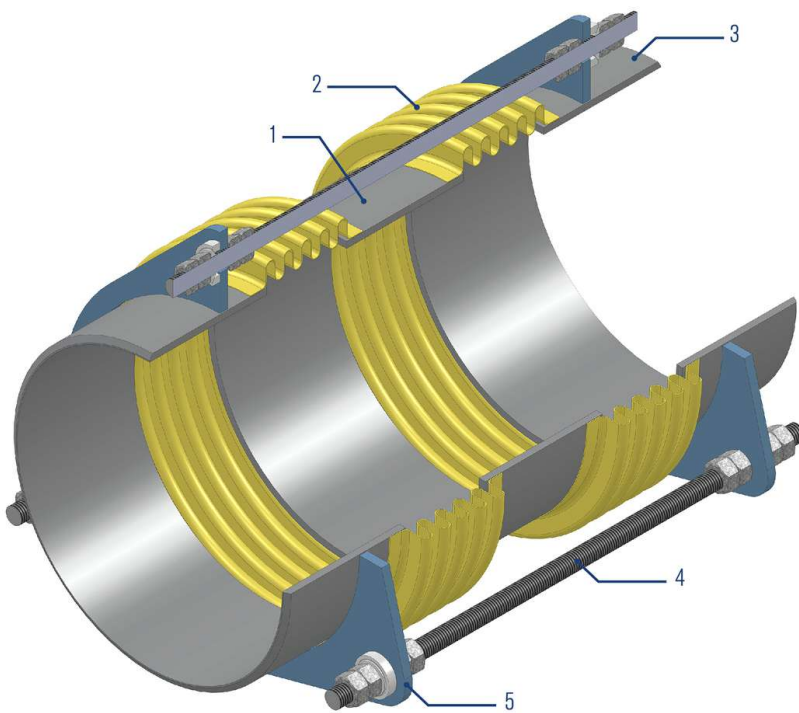
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Recommended applications

- Refining technology
- Oil and gas industry
- Power plant technology
- Pulp and paper industry
- Shipbuilding
- Water and waste water technology
- Gas and steam turbines
- Conventional boilers
- Coal feed transport systems
- Ash transport systems
- Water cooling systems
- Air and steam transport lines

Item Description

- | | |
|---|--------------|
| 1 | Center spool |
| 2 | Bellows |
| 3 | Weld end |
| 4 | Tie rod |
| 5 | Carrier ring |



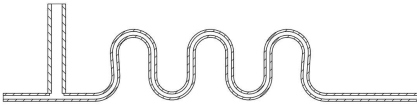
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Installation, details, options

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2-ply testable bellows

2-ply (redundant ply) bellows, enables monitoring of the bellows inner/ outer ply integrity. Both plies are designed for full pressure.



Connection option:

Weld ends

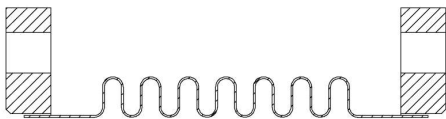
Each connection end can be defined individually.



Connection option:

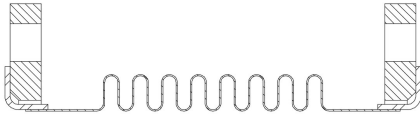
Fixed flange

Each connection end can be defined individually.



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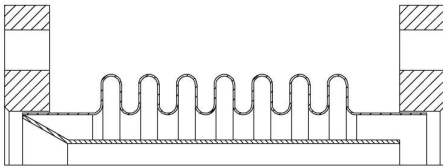
Welding collar and loose / swivel flange



Internal liner option:

Fixed liner

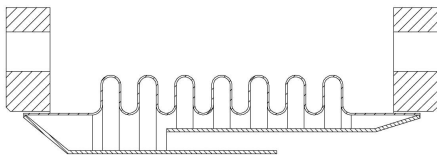
Liners protect the bellows from particles in the medium and provide a smoother flow at high velocities.



Internal liner option:

Fixed telescopic liner

Liners protect the bellows from particles in the medium and provide a smoother flow at high velocities.

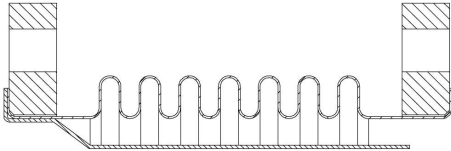


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Internal liner option:

Loose liner

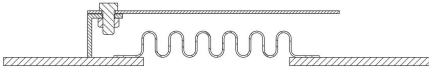
Liners protect the bellows from particles in the medium and provide a smoother flow at high velocities.



External cover option:

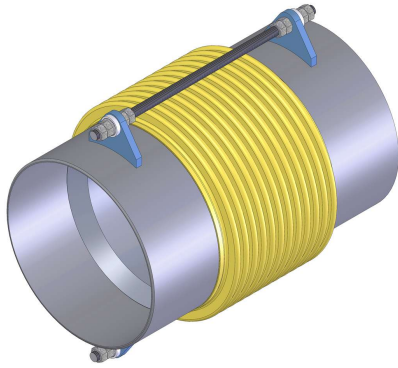
Protective cover, installed on the expansion joint.

Metal covers are installed on the expansion joint to protect the thin metal bellows.



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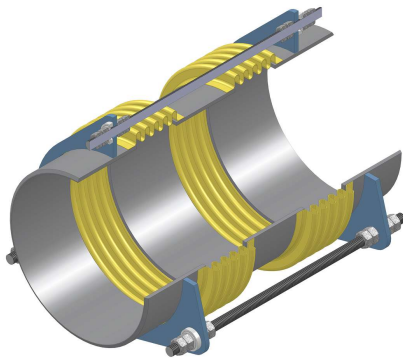
Product variants



LA1: Tied single expansion joints

Equipped with tie rods or bars, connected to lugs or flanges.

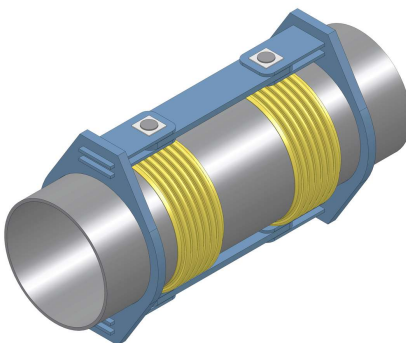
Designed for single plane lateral movement.
Shown with weld ends, lugs with tie rods.



LA2: Tied universal expansion joints

Equipped with tie rods or bars, connected to lugs or flanges.

Designed for single plane lateral movement.
Shown with weld ends, carrier rings with tie rods.

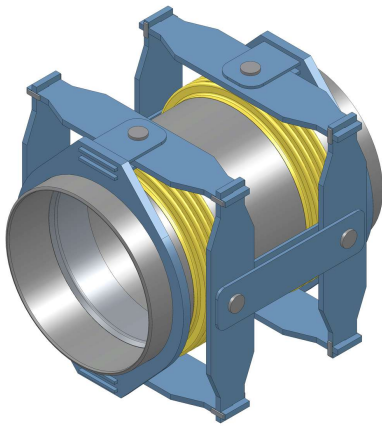


LA3: Tied universal hinged expansion joints

Equipped with hinges at both bellows. Designed for single plane lateral movement.

Can be designed for angular movement.
Shown with weld ends, carrier rings with hinges.

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LA4: Tied universal gimbal expansion joints

Equipped with gimbal boxes at both bellows.
Designed for multi plane lateral movement.
Can be designed for angular movement.
Shown with weld ends, carrier rings with gimbals.