



EXPANSION JOINTS

EXPERIENCE. EXPERTISE. EXCELLENCE.

Metal Expansion Joints

Application Brief



From hundreds of penetration boiler seals to an engineered, refractory lined metal expansion joint for catalytic cracking in a refinery; Badger Industries has experience with diverse installations and severe service applications. Designed to the latest EJMA standards, our metal expansion joints range from 2" to 240" diameter for round designs and any practical size for rectangular designs; single-ply, multi-ply, root rings, equalizer rings, and toroid bellows designs are also available. In addition, Badger maintains an extensive stock of bellows material, including the most commonly used, austenitic stainless steels and nickel alloys.

To ensure maximum life cycle, Badger uses different bellows forming methods, hydroforming, roll-forming, and expanding mandrel forming. Advanced production, welding, and quality processes guarantee that Badger delivers the highest quality expansion joints to their customers in most industries, including power generation, oil & gas refining, gas transmission, chemical/petrochemical, and many OEMs, including HRSGs, gas turbines, and heat exchangers.

Badger offers custom metal expansion joints for most applications:

- 2" - 240" diameter round bellows
- Any practical size for rectangular joints
- All types - single, double, gimbal, hinged, pressure balanced, and universal designs
- Single and multi-ply bellows
- ASME Section VIII & toroid bellows
- Extensive stock of materials including austenitic stainless steels and nickel alloys. Others are available upon request
- Use of different bellows forming techniques for maximum life cycle
- 100+ years manufacturing experience
- Made in the USA



BADGER INDUSTRIES

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Metal Expansion Joints - Simple to Complex Designs



From complex expansion joints for the most severe service such as this assembly for a refinery FCC unit to simple single bellows seals for HRSG boilers, Badger supports almost any application



147" diameter Alloy 625 Gr. 2 bellows with covers and liners installed on this large frame turbine exhaust joint

Choose **BADGER** for your Metal Expansion Joints

Badger's engineering, manufacturing & service teams can support most applications & industries

- Combined Cycle Power & Power Generation
- Chemical & Petrochemical
- Gas Transmission & Compressor Stations
- Gas Turbines & HRSGs
- Heat Exchangers
- Oil & Gas Refining
- Steel Mills
- Pulp & Paper

Our experienced onsite service team and project managers provide inspections to help your team implement best practices for expansion joint installation and/or repair. Developing a comprehensive maintenance plan in advance reduces outage budgets and helps avoid costly forced shutdowns.



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