

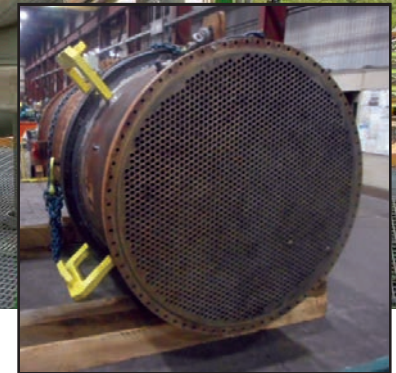


EXPANSION JOINTS

EXPERIENCE. EXPERTISE. EXCELLENCE.

ASME Code Expansion Joints for Heat Exchangers

Application Brief



Heat exchangers offer an optimal cooling solution for many applications used in refining, marine, and industrial equipment. These pressure vessels use thermally conductive materials to allow heat to exchange between the hot fluids flowing outside the tubes and the coolant flowing through the tubes. Among the most efficient types of heat exchangers, shell and tube types are constructed with a cylindrical shell containing a bundle of tubes.

Expansion joints are installed in heat exchangers to accommodate thermal contraction and expansion. These high-pressure expansion joints, manufactured in accordance with ASME Section VIII, Division 1, requires a special code analysis and a third-party source inspection to ensure they meet the code standard.

BADGER manufactures ASME Code expansion joints from full vacuum to 2,500 PSIG for operating temperatures up to 1,650°F. The bellows, welded by

ASME qualified welders, are typically made with SA and SB material. The convolutions may be U-shaped or toroidal depending on design conditions and size of the bellows.



***BADGER** has a long history of manufacturing new ASME Code expansion joints for many heat exchanger OEMs and refurbishing existing expansion joints for end users*

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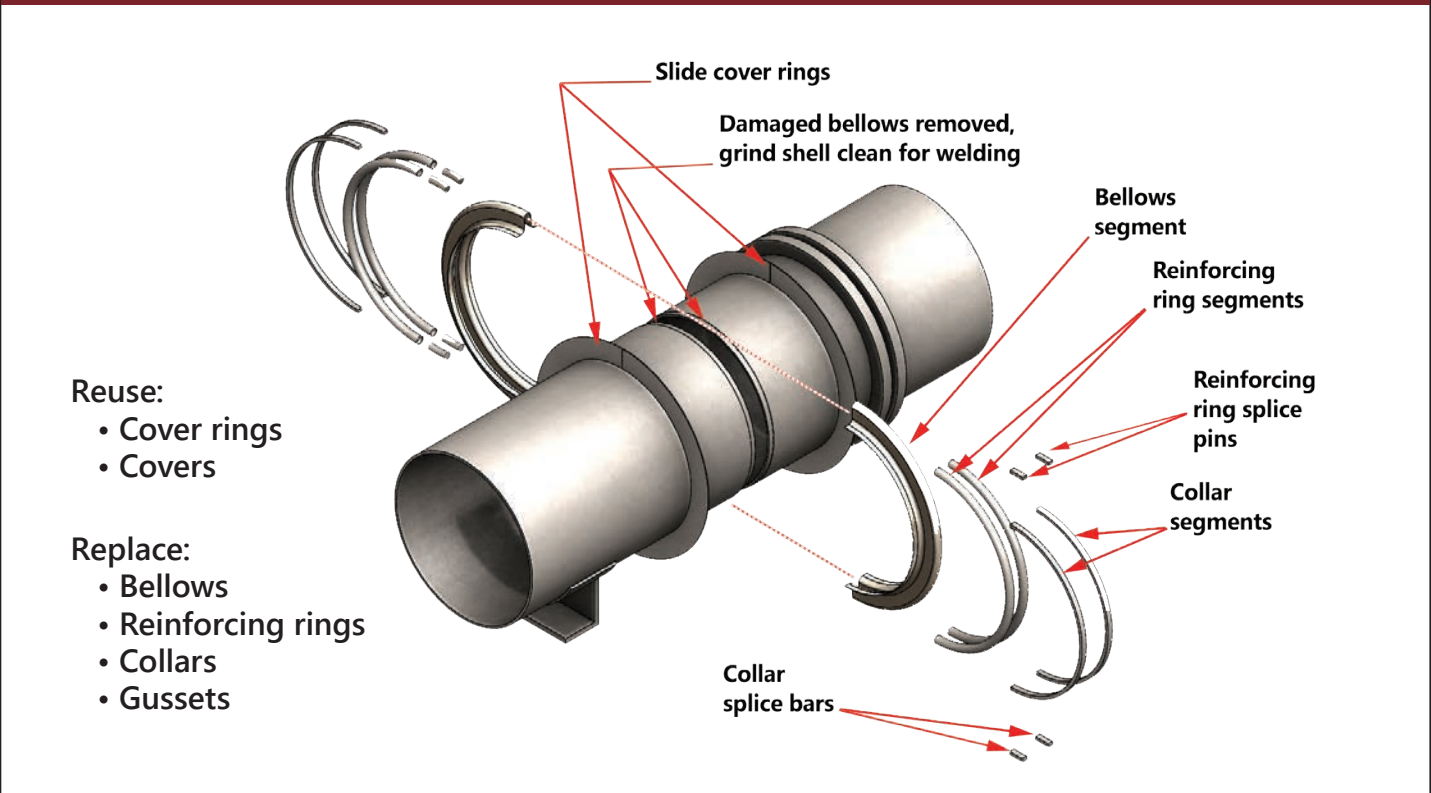
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On-Site Services

BADGER performs On-Site Service for inspection, installation supervision and repair of fabric and metal expansion joints. Our On-Site Service experience includes: refineries, chemical, power generation, turbine-driven pipeline stations, and heat exchanger companies. Specific expansion joint applications include: FCCU, SCR, Styrene, MTBE, Boiler Penetration Seals, Turbine Cross-Over, Extraction Steam, HRSG, Gas Turbine, and the **BADGER** specialty niche of "Clamshell" Bellows Replacement for Heat Exchangers.

Typical On-Site Replacement of Leaking Heat Exchanger Bellows by the "Clamshell" Method



BADGER... a leader in Expansion Joint Technology for 100+ Years

Metal and Fabric Expansion Joints Round 2" to +240" Rectangular - Any Practical Size

Call us about our FREE Inspections



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