



Expansion Joint Solutions

For Coal-Fired Power Generation



ENGINEERING YOUR SUCCESS.

Expansion Joint Solutions

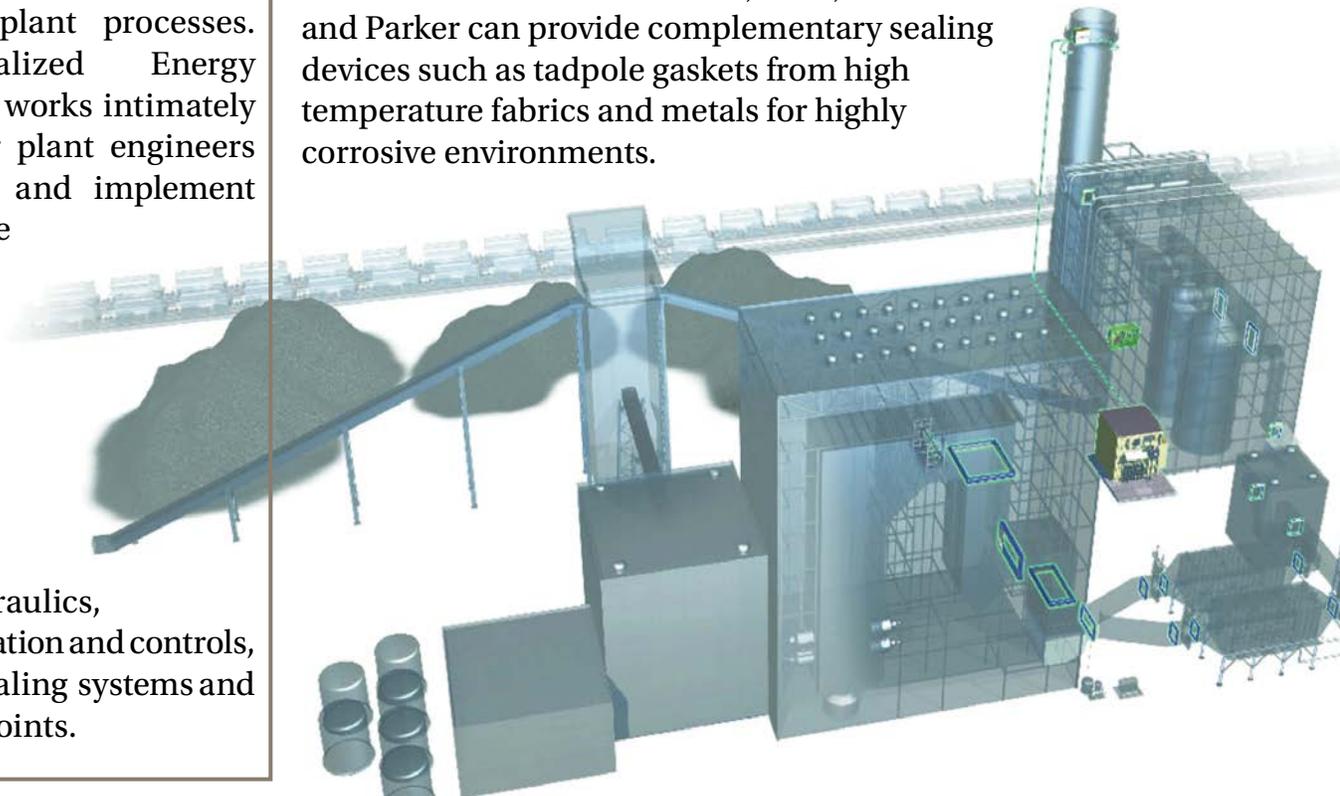
This is Parker.

Parker has been a leader in supplying non-metallic expansion joints to the Power Generation industry for over 50 years. We are the only source for the trusted RM[®] Dynex, and JM Clipper[®] expansion joint products. Our design engineers have the expertise to tackle the most challenging and unique customer problems and Parker's wide range of engineered materials and construction choices ensures our ability to find solutions for the most difficult projects.

Doing business with Parker gives our customers the advantage of cutting-edge technology for a multitude of power plant processes. Our specialized Energy Sales Team works intimately with power plant engineers to develop and implement system-wide solutions from a variety of Parker products including filtration, hose and piping, hydraulics, instrumentation and controls, as well as sealing systems and expansion joints.



Broad Product Offering. Parker offers an extensive array of expansion joint products — affording our customers the latitude to choose the optimum solution for their application. Materials of construction include EPDM, FKM, CR and PTFE and Parker can provide complementary sealing devices such as tadpole gaskets from high temperature fabrics and metals for highly corrosive environments.



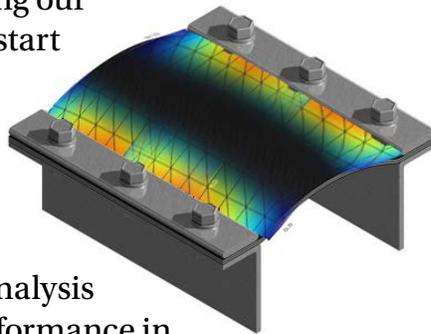
Time Tested Parker Technology

Material Science. Parker's Engineered Polymer Systems Division is a global leader in the development of advanced material technology. Our material scientists have developed leading edge elastomer, thermoplastic and composite materials able to withstand extreme application temperatures (to 2000°F continuous) and aggressive chemical attack. These materials are leveraged by our design engineers to craft



custom sealing solutions for managing movement in power plant exhaust ducts, balancing the need for performance with the need to minimize solution cost.

Design Expertise. Parker's team of design engineers and chemists are dedicated to solving our customers' toughest problems. We start in our laboratory ensuring that our materials can withstand the extreme working environments found in power generation plants over the required service life. We build sophisticated finite element analysis (FEA) models to analyze design performance in a specific application and predict product performance before manufacturing begins. And we follow up with functional testing to validate our design solutions.



Parker expansion joints manage:

- Thermal expansion
- Noise reduction
- Vibration
- Wind and seismic loads
- Movement absorption
- System stress relief

Quality. With a long and successful track record of designing and manufacturing expansion joints for time-sensitive power plant shutdowns, Parker has the technical expertise and manufacturing capacity to deliver a customized, quality joint when your schedule needs it. Our manufacturing facility, located in Texas, is ISO 9001 and AS-9100 certified and makes quality a top priority.

Shutdown Critical

Background

After 26 long years in service, our customer wished to replace a Parker RM® Dynex expansion joint with an exact duplicate during a scheduled plant shutdown.

Problem

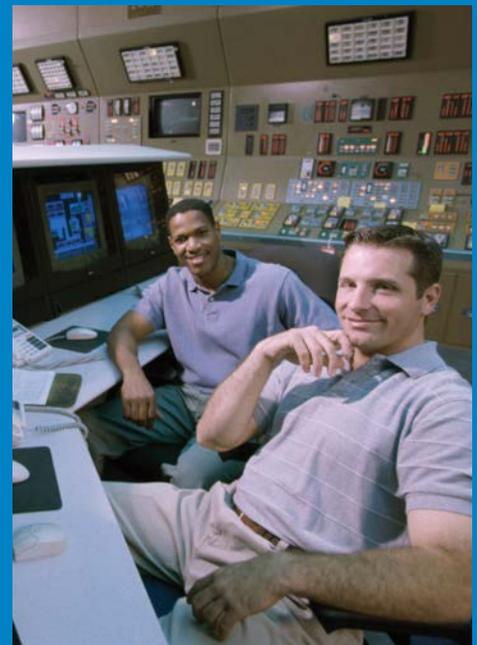
The customer no longer had the documentation for the installation and the expansion joint location prohibited access prior to the shutdown to verify dimensions, hole pattern, materials, and other features.

Solution

Using archived drawings, Parker was able to produce an exact replica of the old joint in the shop and supplied the customer a finished assembly with the same time-tested RM Dynex materials of construction and metal frame with mounting holes to original specification.

Result

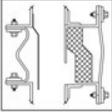
Our customer received the completed assemblies ahead of the shutdown, giving them one less thing to worry about, and simply "bolted" the new joint into place without additional downtime or cost.



Click here to learn more about Parker's Non-Metallic Expansion Joint Solutions.




aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding







Design Expertise

Custom Design
Expansion joints are custom designed and made-to-order to manage the thermal expansion, noise reduction, vibration, misalignment, wind & seismic loads, moisture absorption and system stress relief conditions unique to each customer's site.

Wide Range of Construction Types
Our portfolio of fabric expansion joint styles spans a broad range of configurations and broad range of construction types and sizes ranging from 1/2" to 120" in diameter withstanding temperatures up to 2,200° F (1204° C).
• Square corners, beveled or regular corners, round and 45° chamfered corners
• 1/8" minimum edge radii
• Design variations available in 1/4" increments
• Flanges and end connections available in 1/2" increments (normally on one side only)
• On-site cold and hot fabrication
• Flanges and end connections available in 1/2" increments (normally on one side only)

Customized Construction
Materials of construction for expansion joints are selected based upon performance requirements and the specific operating conditions of the customer's application including:
• Temperature
• Movement
• Moisture (wet and/or dry)
• Chemical compatibility of gas and particulate
• Level of containment response
• Internal volume (if applicable)
• External environmental requirements
• Safety and/or regulatory requirements

Configuration of metal frames, baffles and flow liners is based upon:
• Method of attachment
• Direction of flow
• Bell style

Non-Metallic Expansion Joints

For Power Generation, Industrial and Institutional Applications





ENGINEERING YOUR SUCCESS.

Construction

The photo below illustrates a typical bell geometry expansion joint for flue duct gas. In construction components include:



Back-up flange
Bell
Insulation pillow (with tabs)
Baffle or liner (not shown)

Illustrative cross-sections



Figure 1. Frame with bell and insulation pillow



Figure 2. Multi-layer bell



Figure 3. Multi-layer insulation pillow

