

Dampers & Expansion Joints for FGD Systems

The background of the entire page is a photograph of several tall, cylindrical industrial smokestacks. Thick, white plumes of steam or smoke are rising from the tops of the stacks, drifting towards the left. The sky is a clear, deep blue. The stacks are made of a light-colored material, possibly concrete or metal, and have various structural details like ladders and platforms. The overall scene is industrial and powerful.

EFFOX INC.

Quality Flue Duct Components for Power Generation

Dampers & Expansion Joints for FGD Systems

A World of Expertise

Our industry-leading size and FGD experience enables us to quickly and efficiently address all your Damper and Expansion Joint needs. We incorporate a comprehensive engineering and manufacturing approach to provide the most reliable solutions for your FGD requirements. EFFOX is the one source for all your Damper and Expansion Joint needs.

- EFFOX is the industry leader in FGD Damper and Expansion Joint applications.
- EFFOX offers over 20 years experience with Flue Gas Desulfurization applications, specializing in coal fired units up to 1300 MW output.
- EFFOX offers complete design, engineering, and manufacturing services with a staff of over 120 professionals worldwide.
- EFFOX provides cost-effective solutions by packaging both damper and expansion joint products within a single, one source contract.
- EFFOX offers oversized shipping capability for fully assembled components and cost savings.

A World of Safety

- 300% safety factor on drive sizing
- 200% safety factor on seal air volume at a minimum of +3 inches w.g. above system pressure
- Maximum 60% of yield stress on all components

Slide Gates

The slide gate (or guillotine) is an isolation device for FGD flue duct applications which can be supplied in low leak and zero leak designs. The low leak design is primarily used when a small amount of flue gas leakage past the closed slide gate can be tolerated. Typical leakage can vary from a few percent to less than one percent of flow depending on the type of seal system provided. The zero leak design is used when zero flue gas leakage past the closed slide gate is required. Zero leakage is achieved by pressurizing the seal chamber located around the periphery of the closed blade with seal air.



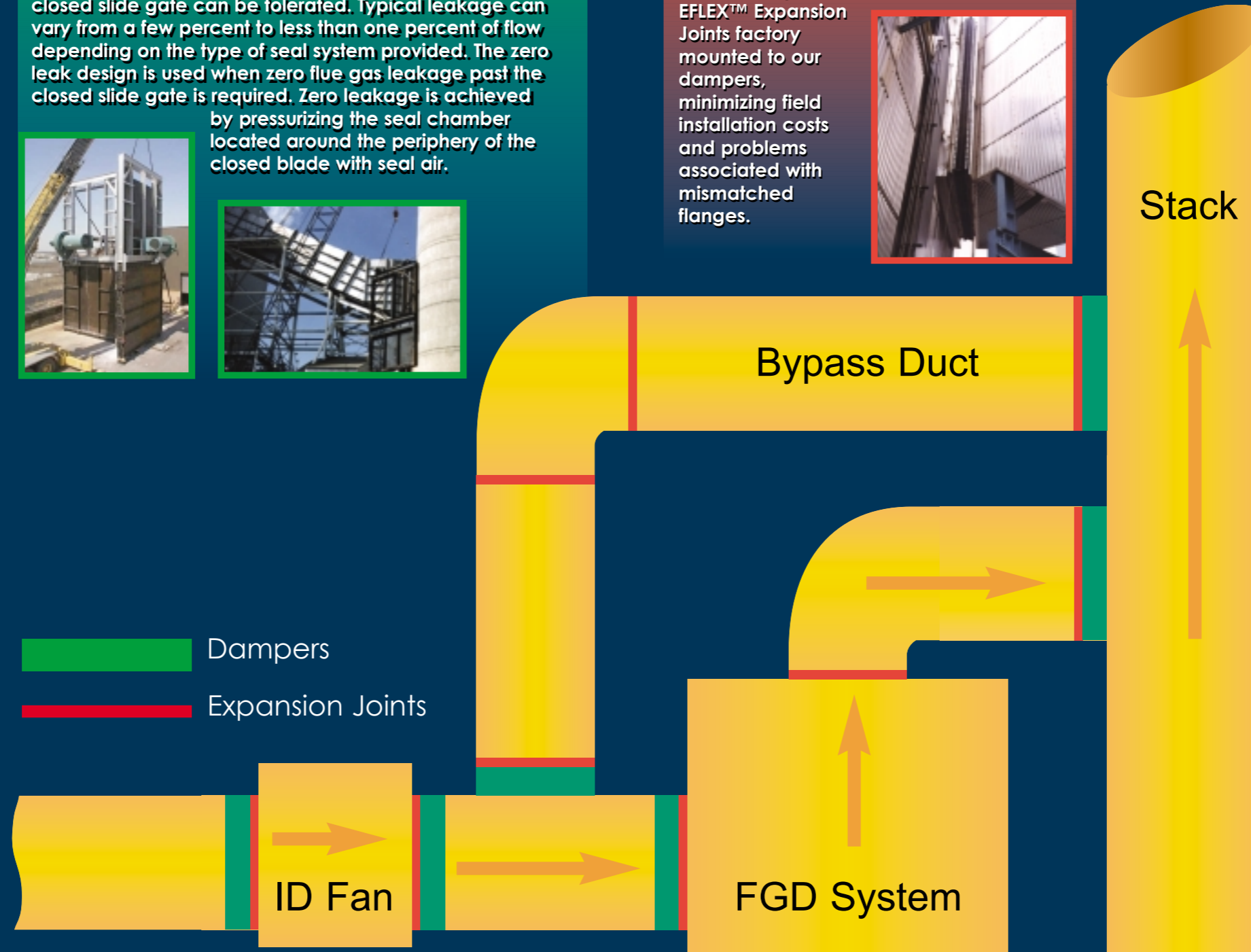
Expansion Joints

EFLEX™ expansion joints incorporate the latest advancements in fabric composition and materials technology. EFFOX can provide EFLEX™ Expansion Joints factory mounted to our dampers, minimizing field installation costs and problems associated with mismatched flanges.



Louvers

The louver can be used for control or isolation capability in FGD flue duct applications. The single, parallel louver is used primarily for low leak isolation. The use of blade edge and jamb seals achieves minimal flue gas leakage past the closed parallel louver. Typical leakage can be less than one percent depending on the damper size and system conditions. The single, opposed louver is used for control. The double louver design utilizes two banks of louver blades. Zero flue gas leakage is achieved by pressurizing the area between the two closed banks of blades with seal air. Zero leakage can also be achieved with a single louver design known as the tandem louver.



█ Dampers
█ Expansion Joints

A World of Solutions



A World of Benefits

- Worldwide operating experience
- Financial stability
- Leading edge design and engineering
- Fully equipped manufacturing facility in the U.S.
- Worldwide manufacturing capability
- Domestic and International field service capability

A World of Service

- **Quality Assurance Program**
Quality assurance is in accordance with ISO 9001 guidelines. All welding processes are qualified per AWS D1.1 and ASME Section IX.
- **Product Testing**
We have the ability to test our products at temperatures up to 1500°F (815°C) and at system operating pressure.
- **Retrofit/Repair Capability**
Field service is available worldwide from our global field service network for repairs, alterations or replacement regardless of the original manufacturer.

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Slide Gate Dampers

Isolation capability with minimum pressure drop across the dampers. Available in low leak and zero leak designs.



Louver Dampers

Parallel blade design offers tight shut-off. Opposed blade design offers flow control capability. Double and tandem louver designs offer zero leak isolation.



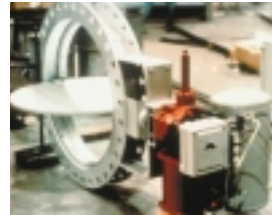
Diverters

Provides extremely high-sealing efficiency in systems that require a through flow with bypass capabilities. Commonly used in HRSG applications.



Wafers

Cost-effective tight shut-off capability for round ducts.



Radial Vane Dampers

Fan inlet control capability.



Stack Isolation Dampers

Cost-effective shut-off and weather protection capability. Commonly used in HRSG and industrial boiler applications.



Flue Duct Expansion Joints

EFLEX™ expansion joints incorporate the latest advancements in engineering and materials technology. Available for design applications up to 2000°F.

