

# Dampers & Expansion Joints for SCR Systems

**EFFOX INC.**

Quality Flue Duct Components for NO<sub>x</sub> Reduction

# Dampers & Expansion Joints for SCR Systems

## A World of Expertise

Our industry-leading size and SCR experience enables us to instantly address all your Damper and Expansion Joint needs. It has been demonstrated in our unsurpassed ability to offer you the most reliable solutions for your NO<sub>x</sub> reduction needs.

- EFFOX is the industry leader in SCR Damper and Expansion Joint applications.
- EFFOX offers over 20 years experience with elevated flue duct temperatures of over 800° F and damper blade span applications in excess of 30 feet.
- 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

## 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.



## Diverter

The diverter is an isolation device that can be used for SCR flue duct applications. EFFOX manufactures a low leak and a zero leak style diverter. The low leak design is used when a small amount of flue gas leakage can be tolerated across the closed diverter blade. This amount of leakage is usually less than one percent of flow. The zero leak design is used when flue gas leakage past the closed diverter blade is not allowed. Zero leakage is achieved by seating the diverter blade against a seal air chamber pressurized with ambient air.



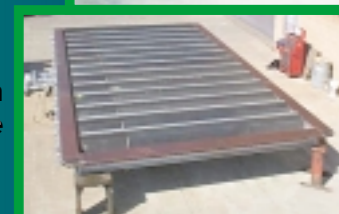
## Slide Gates

The slide gate (or guillotine) is an isolation device for SCR 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 ambient seal air.



## Louvers

The louver can be used for control or isolation capability in SCR 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 ambient seal air. Zero leakage can be also achieved with a single louver design known as the tandem louver.



# 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.

# EFFOX INC.



### Worldwide Headquarters

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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.

