

# Mader Dampers

Division of Mader Machine Co. Inc.

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Mader Dampers

## Butterfly and Louver Dampers

### Butterflies

Mader Dampers offers a wide variety of butterfly dampers. Mader designs, engineers and fabricates dampers to meet each customers specific service requirements to assure dependable, trouble-free operation. Butterfly dampers are available in sizes ranging from 3 inches in diameter up to 20 feet in diameter. Square and rectangular butterfly dampers are also available in large sizes as well.

Butterfly Dampers can be constructed from any weldable alloy and provide service for almost any temperature range. Materials for construction of damper bodies, blades, shafts and shaft bearings will vary depending on the design requirements or preferences of the customer. Controlled shut-off seat configurations that range from a swing thru (moderate leakage) to a bubble tight (zero leakage) rubber seated design are also offered.

Mader Dampers manufactures refractory lined, air, and/or water cooled, 3 way diverter and heat traced dampers to meet all customer design requirements.



*Zero Leakage with  
Purge Blower*



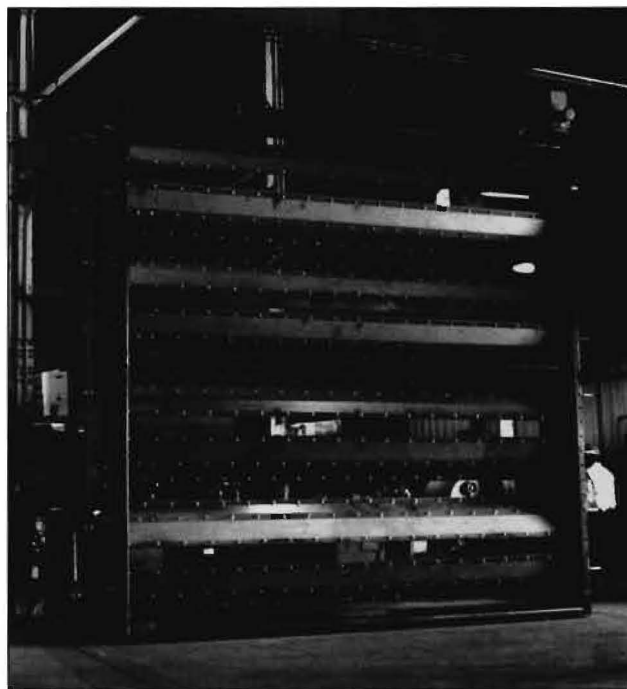
*Refractory Lined  
High Temperature  
Butterfly Damper*

**Butterfly** Damper  
Zero Leakage Rubber Seat



## Louvers

- Mader Dampers designs and builds a variety of louver dampers customized to meet specific requirements.
- Louvers are available in both parallel and opposed blade configurations. Full welded or bolted airfoil blade construction is our standard, supported by cold finished or stainless steel shafts. Shafts are fastened and pinned to the blade to allow ease of in line replacement.
- Utilization of ship and car channel, structural channel or formed channel allows us to meet customer specified flange to flange requirements.
- Sleeve and roller bearings are standard for our louvers. However, materials are available to handle temperatures of 1400°F and above.
- Louver leakage rates range from low leakage to zero leakage depending on customer requirements.



**Louver** Dampers



## Poppet and Guillotine Dampers

### Poppets

- Mader Dampers manufactures a complete line of poppet dampers. The poppet is used on inlets, outlets and bypasses of certain baghouse designs. We can provide our poppet dampers in sections or completely assembled. Some baghouse manufacturers do not require the complete poppet assembly. Mader can supply the poppet discs, seat and air cylinders for mounting into the manufacturers duct work.
- Our poppet has several design features that make it superior to the design of many of our competitors'. We provide a seat ring with either a blanchard ground or a machined sealing surface. Our poppet disc has the ability to accept misalignments before final seating. These features provide for a better sealing poppet.
- Our standard shafts are made of 316 stainless steel, providing corrosion resistance.
- Mader also manufactures a couple poppet designs which can be used for bypass applications. The poppet consists of two discs fixed to the same shaft. A purge or a vacuum can be supplied to ensure a zero leak condition.
- We also offer proprietary designed poppet dampers for thermo oxidizers used in the destruction of volatile organic compounds (v.o.c.).
- If our customers prefer to use their own poppet design, Mader Dampers would be able to provide a price for manufacturing.



**Poppet** Damper

## Guillotines

- Mader guillotine dampers are designed to meet each customer's specific requirements to ensure reliable operation.
- Guillotine dampers provide the best sealing capability for hot gases compared to the butterfly or louver dampers.
- Mader employs the duo-chain drive mechanism as standard. Jack screws and other types of drives are available.
- If necessary, the standard guillotine design permits the replacement of parts without removing the damper from the duct work.
- Standard construction employs the use of ship and car channel frames, A-242 blades and 1018 cold rolled steel shafts. Ball bearings or roller bearings are considered standard.

### **Mader manufactures three basic styles of guillotine dampers.**

#### **MGV-ST**

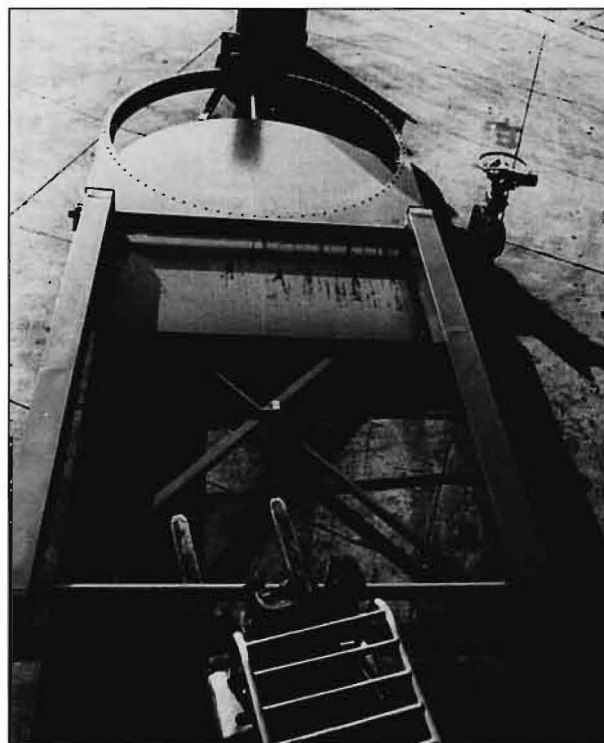
Offers moderately tight shut-off with a sealing efficiency between 97 and 98.5% full flow.

#### **MGV-SS**

Offers a sealing efficiency of 99.5% or better, employing the use of spring steel seals.

#### **MGV-SA**

Offers a seal air system that ensures 100% shut-off of toxic or common flue gas wherever it is required.



**Guillotine Dampers**



*Zero Leakage  
Guillotine Damper*

## Mader Dampers

# Inlet Vane and Slide Gate Dampers

### Inlet Vanes

Mader Dampers manufactures inlet vanes designed with or without a center hub. Without a center hub, the design requires the use of two shaft bearings per shaft, allowing all bearings and linkage to be located external of the flow stream. This design provides less pressure drop than the center hub design.

Available sizes for inlet vanes range from 8" in diameter to a diameter of 120" or larger.

*Inlet Vane  
With Center Hub*

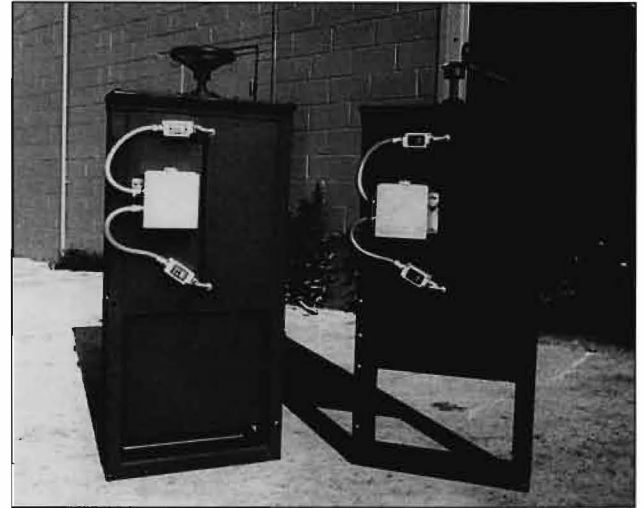


**Inlet Vane Damper**  
*Center-levered*

## Slide Gates

Mader Dampers manufactures a complete line of slide gates in round, square or rectangular design to be used on material handling equipment, such as hopper bottom valves.

- Sizes range from 4" square to 20" square. The gates are also manufactured in round openings to accommodate any bolt pattern required.
- Carbon steel construction is standard, but any weldable alloy can be supplied.
- Manual operation is standard, but the design lends itself to the use of air cylinders as well as acme screw drives.
- Rack and pinion drives are also available.
- Mader slide gates have adjustable guides which allows for the tightening or loosening of the gate to the sealing surface.
- The gates have removable end plates allowing accessibility to the internals of the gate for maintenance or service.
- The standard seal is metal to metal, but the design can incorporate the use of rubber or inconel tadpole materials as well.



**Side Gate** Dampers



## Mader Dampers Operators and Accessories

### Operators:

All dampers can be operated either manually, pneumatically, electrically or by hydraulic actuation. The torque requirement for operators, based on service conditions, will be provided. Mader Dampers offers the option of using either a Mader supplied actuator or mounting a customer supplied actuator. Whichever operator the customer selects, Mader will mount and test the operator at no charge.

### Accessories:

Limit switches  
Solenoid valves  
Positioners  
Speed controls  
Lock-up valves  
Blowers  
Heaters  
Torque switches

- All accessories will be prewired, prepiped and calibrated for a turn key installation.

### General Information:

Mader Dampers has been owned and operated by the Zeager family since September, 1976.

In March, 1999, Mader Dampers relocated to a new state of the art manufacturing facility in LaGrange, Ohio. The new 30,000 square foot facility offers a lift capability of 23 feet (under hook) and a 46,000 lbs. lift capacity. The in-house 30 foot by 40 foot paint booth, complete with airless paint spraying equipment, enables Mader the ability to provide customer specified paint requirements.

The new facility, 24 years of experience, a commitment to customer service and a staff of very capable skilled employees make a winning combination for Mader Dampers.

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