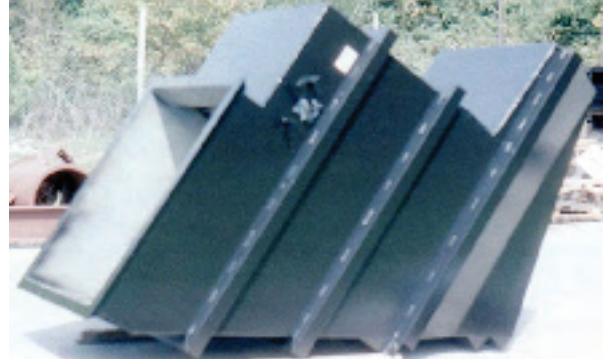


Mass flow gates are used to modulate the flow from mass flow hoppers or bins without disturbing the mass flow characteristics of the bin or hopper. In order to accomplish this it is necessary that throughout the range of motion of the mass flow gate, mass flow conditions are maintained at all times.



Mass flow gates can be single flat blade design, single curved blade design, or double blade, flat or curved design. Since mass flow requires relative steep slopes, mass flow gates are bulky devices requiring considerable headroom for installation.

The adjustability of mass flow gates is generally about 10 to 1. If a gate is designed to pass 6,000 TPH it should be able to regulate flow to 600TPH. Horizontal slide gates usually precede mass flow gates for positive shut off and to allow maintenance to the mass flow gates.

## Applications

*Some typical applications include:*

- Mass flow gates are installed on the discharge of mass flow silos, bins and hoppers to regulate the discharge without disturbing the mass flow characteristics.
- Some bulk material storage stockpiles are equipped with mass flow reclaim hoppers to prevent arching and rat holing and to increase the amount of material that can be reclaimed by gravity. These reclaim hoppers can be discharged by mass flow gates.

## Actuators

*The actuators available for use on mass flow gates are:*

- Hydraulic
- Pneumatic
- Electric over Hydraulic
- Electric

## Construction Materials

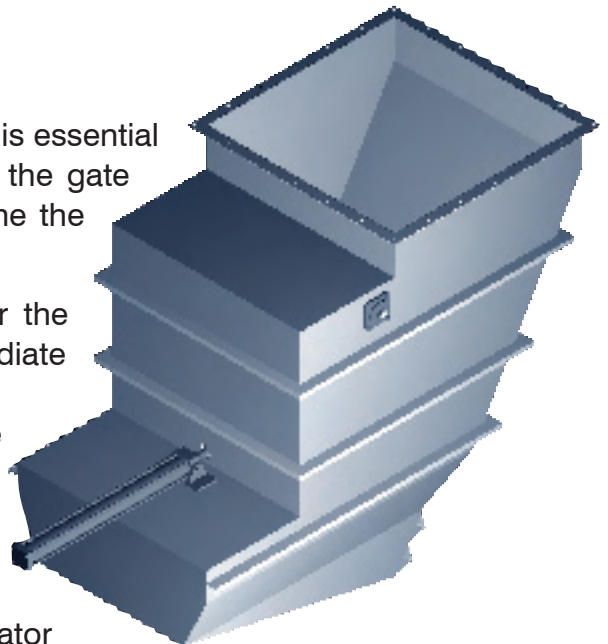
Mass flow gates can be fabricated from or equipped with a wide range of construction materials depending on the characteristics of the bulk material being handled. Some examples of construction materials for different applications are:

- Carbon Steel with polished stainless steel or low friction plastic liners to promote flow can be used for most applications.
- Stainless steel can be used in all areas in contact with acidic material to prevent corrosion. In some instances it may be necessary to fabricate the entire gate from stainless steel.

## Position Indication

Since mass flow gates are used to regulate flow, it is essential to have a method of determining the position of the gate blade. Some of the devices available to determine the gate blade position are:

- A limit switch can be used to detect whether the gate is closed, open or any pre-set intermediate position.
- A proximity switch can be used to detect the closed, open or any pre set intermediate position.
- A sensor can be used to continually detect the gate blade position.
- Integral position indication is available from actuator manufacturers to indicate the gate blade position.



## Seals

Seals are available to prevent or reduce escaping dust.