



# DOUBLE-FLAPGATE AIRLOCK VALVES



t r a d i t i o n  
e x p e r t i s e  
r e s p o n s i v e n e s s  
l e a d e r s h i p

# MEYER ENGINEERS AND PRODUCES DOUBLE-FLAPGATE AIRLOCK VALVES TO WITHSTAND YOUR TOUGHEST APPLICATIONS

Wm. W. Meyer & Sons is the world's leader for the design, engineering, manufacturing and support of airlock feeder technologies for the bulk processing industry. With over 70 years of experience to draw on, we can provide the system solutions your company needs to help maximize production and minimize downtime.

**Our products are used in a wide variety of industries, including:**

- Food
- Steel
- Plastics
- Pharmaceutical
- Power
- Paper
- Mining
- Agriculture
- Cement
- Reclamation
- Petrochem
- Wastewater
- Foundries
- Asphalt
- Textiles
- Dairy



**Model MPSA**  
Pneumatic Actuated Valves for  
Medium-Pressure Dust Collection  
or Conveying Applications



**Model LPTF-A**  
Pneumatic Actuated Valves  
for Low-Pressure Dust  
Collection Applications



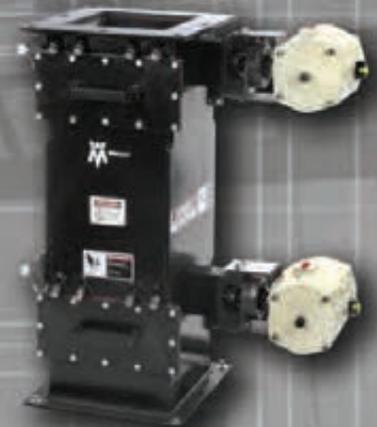
**Model MPFTA**  
Pneumatic Actuated Valves for Medium  
Pressure/Temperature Applications



**Model LPTF-G**  
Counterweight Actuated Valves  
for Low-Pressure Dust  
Collection Applications



**Model HPSC**  
Rotary Actuated Valves for High  
Pressure/Temperature Applications



**Model HPTC**  
Rotary Actuated Valves for High Pressure/  
Temperature Applications

# MEYER DOUBLE-FLAPGATE RELIABLE MATERIAL TRANSFER

## PRINCIPLE OF OPERATION

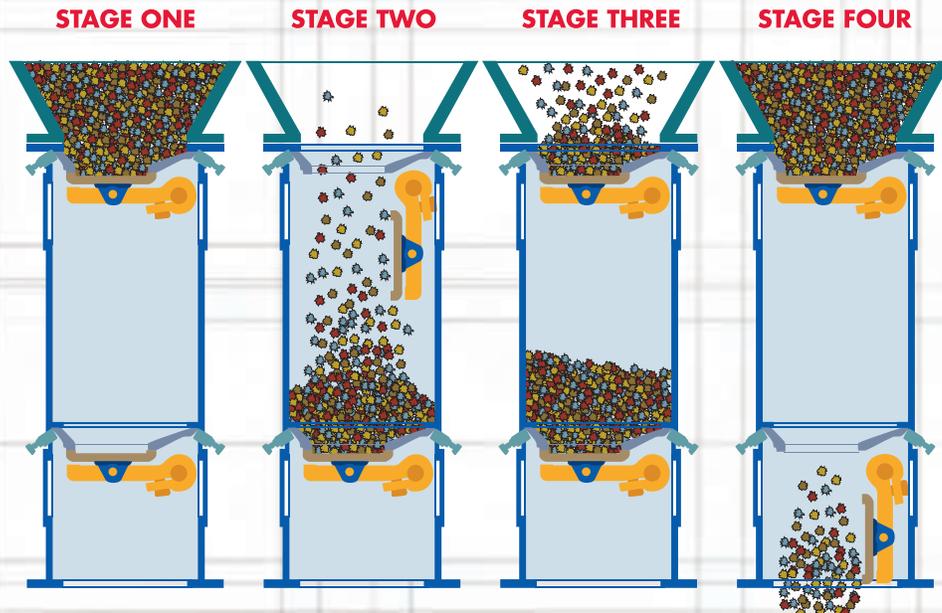
The Double-Flapgate Airlock Valve is specifically designed to control the rate of material flow through a system, while at the same time preventing air leakage by isolating the processing system's pressures.

### TYPICAL APPLICATIONS INCLUDE:

- Batch Feeding
- Mixing
- Drying
- Pneumatic Conveying
- Material Recovery
- Dust Collection

Unlike a rotary valve that inevitably has some air leakage because of the clearance required between the blades and the housing, the Double-Flapgate Airlock Valve is designed to seal completely and isn't subject to the kind of wear that rotary valves would endure under extreme application conditions.

As shown in the diagram below, the Double-Flapgate Airlock Valve uses two pivoting gates that open and close in sequence to fill and empty the chamber between the gates. Because one of the gates is always closed, the air seal is maintained throughout the fill and dump sequence.



By opening and closing the gates in sequence, the Double-Flapgate Airlock Valve is able to move material through the valve while maintaining a constant pressure drop from inlet to outlet.

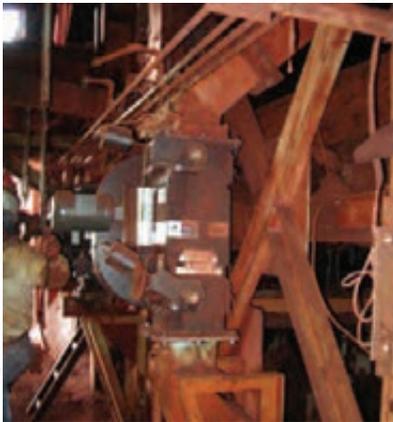
# AIRLOCK VALVES PROVIDE RELIABILITY UNDER SEVERE CONDITIONS

## PROVEN HISTORY OF SUCCESS

**MEYER HIGH-QUALITY DOUBLE-FLAPGATE AIRLOCK VALVES ARE BUILT FOR HEAVY-DUTY SERVICE IN APPLICATIONS INVOLVING:**

- Elevated Temperatures
- Highly Abrasive Products
- Wide Pressure Differentials
- Irregularly Shaped Products
- Oversized Materials

It is no coincidence that customers the world over have placed their confidence in products from Wm. W. Meyer & Sons. Since 1933, we have been supplying customers with the service, technology and quality workmanship that have provided thousands of successful process solutions.



**IRON ORE/TACONITE WINDBOXES  
(ANNULAR COOLER)**



**MINERAL WOOL BAGGING**



**PNEUMATIC CONVEYING LIME DUST**



**CEMENT CLINKER COOLER**



**DIRECT REDUCED IRON AT 1,650°F**



**FLY ASH BAGHOUSE**

# DOUBLE-FLAPGATE HIGH-PRESSURE AND HIGH

## C-SERIES

The C-Series Double-Flapgate Airlock Valves are designed for high-pressure applications up to 20 psi and temperature extremes up to 1,650°F or higher depending upon the application. Meyer is the only manufacturer to offer a double-flapgate product that can operate reliably in pneumatic conveying systems at these pressures. The C-Series is available in both the "short", low-profile HPSC model and the "tall", high-profile HPTC model. Both models are offered with a choice of pneumatic, electro-mechanical or gravity/counterweight actuation. A triple flapgate configuration is also available if better suited to your particular application.

### TYPICAL APPLICATIONS:

- Pneumatic Conveying
- Extreme Temperature Environments

### RELEVANT INDUSTRIES:

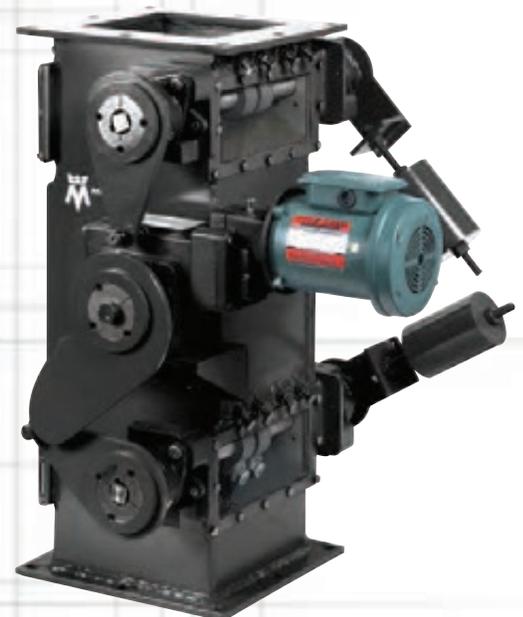
- Cement
- Chemical
- Pulp and Paper
- Bulk Powders
- Recycling
- Iron Ore
- Steel Mills
- Fly Ash
- Mining and Minerals
- Power Generation and Incineration

### COMMON SERVICE CONDITIONS:

- High Pressure With Up To 20 psi Differentials
- Extreme Temperatures To 1,650°F or Higher
- Exceptionally Abrasive Materials
- Highly Corrosive Materials

### UNMATCHED COMPETITIVE ADVANTAGES:

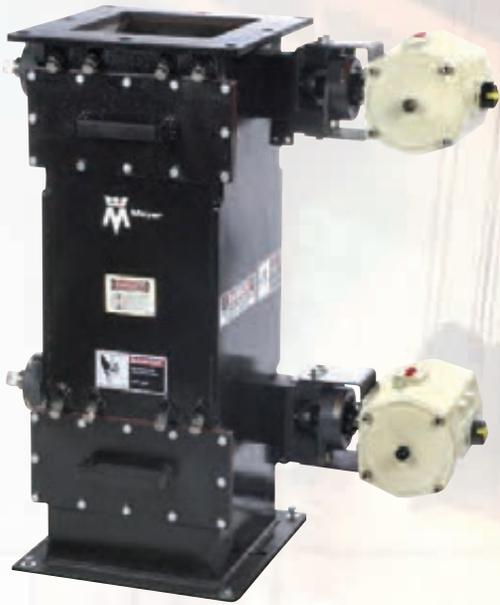
- Increased Safety - robust, hybrid construction with no external pinch points
- Up to 60% Larger Diameter Shafts and Support Bearings - means less downtime due to premature shaft failure
- Larger Adjustable Packing Gland Shaft Seals - minimizes system leakage to exterior and allows for air purging
- Seats and Gates Can Be Re-ground - extends working life for years
- Front and Rear Access Panels - simplifies interior inspection and maintenance
- Dual Lever Arms - assures more uniform gate-to-seat contact and enhances the gate's ability to close against higher-pressure differentials



Electro-mechanical Double-Flapgate  
Airlock Valve



# AIRLOCK VALVES FOR -TEMPERATURE APPLICATIONS



## HPTC (STANDARD SIZES)

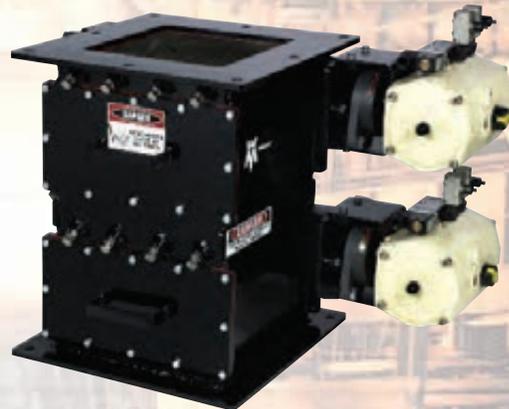
SIZE	CF/HR*	HEIGHT
8	210	32"
10	306	36"
12	558	44"
18+	936	66"

\*Values based on 6 cycles/min.  
@ 100% fill (80-100 psi air)  
+ Values based on 3 cycles/min.

## HPSC (STANDARD SIZES)

SIZE	CF/HR*	HEIGHT
8	33	16"
10	70	20"
12	102	

\* Values based on 6 cycles/min.  
@ 100% fill (80-100 psi air)



## C-SERIES

### Double-Flapgate Airlock Valves

#### FEATURES (Standard Construction)

- Pneumatic Rotary Actuators
- High-Chrome White Iron Seats and Gates
- Dual Lever Arms
- Heavy-Duty Outboard Bearings
- Shaft Seal Packing Area
- Front and Rear Access Panels
- One-Piece Housing Construction
- Hybrid Designs

#### BENEFITS

- Grit and dust free for longer service life
- Higher percentage chrome for greater wear resistance
- Assures uniform gate-to-seat contact
- Means less contamination for extended bearing life
- Better seal arrangement to minimize leakage
- Permits easy interior inspection and maintenance
- Allows for larger custom capacities
- Ensures greater flexibility in the materials of construction offered

# DOUBLE-FLAPGATE FOR MEDIUM-PRESSURE

## A-SERIES

The A-Series-Cast Double Flapgate Airlock Valves are designed for medium-pressure applications and standard temperatures to 650°F. These units are an excellent, economical alternative to rotary valves. All models match the standard industry flange pattern and height. The low-profile design of the MPSA model enables it to fit in restricted space without costly structural changes.

All models are offered with the following choice of pneumatic, electro-mechanical or gravity/counter-weight actuation.

### TYPICAL APPLICATIONS:

- Dust Collector
- Precipitator
- Cyclones

### RELEVANT INDUSTRIES:

- Cement
- Iron Ore
- Steel Mills
- Pulp and Paper
- Fly Ash
- Chemical
- Mining and Minerals
- Recycling

### UNMATCHED COMPETITIVE ADVANTAGES:

- Seats and Gates Can Be Re-ground - extends working life for years
- Uses Industry Standard Actuators - ensures lower replacement costs
- Heavy-Duty Outboard Bearings - means extended bearing life

### COMMON SERVICE CONDITIONS:

- MPSA/MPFTA up to 7 psi
- MPFTA with Dual Actuators up to 15 psi
- Abrasive Materials



MPFTA with Dual Actuators



# ATE AIRLOCK VALVES PRESSURE APPLICATIONS



## MPFTA (STANDARD SIZES)

SIZE	CF/HR*	HEIGHT
8	90	32"
10	150	36"
12	300	44"

\* Values based on 6 cycles/min.  
@ 100% fill (80-100 psi air)

## MPSA (STANDARD SIZES)

SIZE	CF/HR*	HEIGHT
8	32	16"
10	70	20"
12	102	24"

\* Values based on 6 cycles/min.  
@ 100% fill (80-100 psi air)



## A-SERIES

### Double-Flapgate Airlock Valves

#### FEATURES (Standard Construction)

- Cast-Iron Housings
- High Chrome Seats and Gates or FG-200 Seats and Gates
- Pneumatic Double Acting Cylinder Actuators
- Access Covers with Lift Handles
- Heavy-Duty Outboard Bearings
- Stainless Steel Shafts
- Extended Shafts
- Shaft Seal Packing Area

#### BENEFITS

- Rugged Reliability
- Outstanding abrasion resistance
- Provides long trouble-free service
- Permits easy interior inspection and repair
- Means less contamination for extended bearing life
- Ensures longer service life
- Actuators can be mounted on either side of valve
- Minimizes leakage and allows for quick replacement

# DOUBLE-FLAPGATE FOR LOW-PRES

## F-SERIES

The F-Series Double-Flapgate Airlock Valves are designed for low-pressure applications when keeping costs to a minimum is critical. Operating temperatures are typically in the 250°F range. The F-Series is an excellent choice as a low maintenance and dependable alternative to slide gate valves and rotary airlock valves. Offered in a choice of pneumatic or gravity/counterweight actuation.

### TYPICAL APPLICATIONS:

- Dust Collection

### RELEVANT INDUSTRIES:

- Cement
- Limestone
- Minerals
- Foundry

### COMMON SERVICE CONDITIONS:

- Low-Pressure Applications with 30" H<sub>2</sub>O Pressure Differentials
- Temperatures to 250°F
- Free Flowing Abrasive Materials

### UNMATCHED COMPETITIVE ADVANTAGES:

- Cost Effective Solution - minimizes investment
- Complete Pre-Assembled Air Operated Unit - including timer, solenoid valve, filter regulator and lubricator for fast and easy installation
- Low-Temperature Inspection Door - provides for visual inspection of Dutchman spool piece

### F-SERIES Double-Flapgate Airlock Valves

#### FEATURES (Standard Construction)

- Counterweight Operation (LPTF-G)
- Pneumatic Operation (LPTF-A)
- Abrasion Resistant Steel Gates
- Carbon Steel Housing Construction
- Dutchman Spool Piece
- Single or Double Configuration

#### BENEFITS

- Adjustable weights for easy setup
- Maintains consistent cycling
- Means longer wear resistance
- Provides long life and easy maintenance
- Allows for larger capacities
- Accommodates a variety of applications



6" Stainless Steel Electro mechanical  
Double-Flapgate Airlock Valve



# ATE AIRLOCK VALVES SURE APPLICATIONS



**LPTF-A**  
WITH PNEUMATIC  
ACTUATOR

## LPTF-A (STANDARD SIZES)

SIZE	CFH	SPOOL HT	TOTAL HT
8	100	6.5"	28.75"
10	220	8"	34.25"
12	360	10"	40.25"
14	612	12"	46.25"
16	792	12"	50.25"

\* Values based on 6 cycles/min. max.

## LPTF-G (STANDARD SIZES)

SIZE	CFH	SPOOL HT	TOTAL HT
8	108	6.5"	28.75"
10	228	8"	34.25"
12	378	10"	40.25"
14	660	12"	46.25"
16	840	12"	50.25"

\* Values based on 6 cycles/min. max.

**LPTF-G**  
WITH GRAVITY  
ACTUATOR



# RESPONSIVE REPAIR QUICK-SHIP RE



Meyer offers a full range of services and repair capabilities when you need them. Not only do we maintain and repair our own Double-Flapgate Airlock Valves, but we also provide expert repair services on other manufacturers' products as well.

### WE OFFER REPAIR SERVICES ON THESE AND OTHER SYSTEM COMPONENTS:

- Double-Flapgates
- Rotary Airlocks
- Diverters
- Compressors
- Slide Gates
- Pumps
- Grinders
- Blowers

Our field service technicians are available for on-site inspection whenever you have a problem or want to talk about setting up a schedule of routine maintenance. When it is impractical to repair a unit on site, it can be shipped to our repair facility for immediate service.

There it will be torn down, carefully inspected and a complete repair estimate provided prior to starting any actual repair work. Our factory-trained technicians will completely rebuild your unit to original equipment specifications.

### COMPREHENSIVE EVALUATION ON EVERY UNIT:

- Complete disassembly
- Inspection of each component
- Comparison to original manufacturers' specs and tolerances
- Repair or replacement of worn or damaged component parts
- Genuine OEM Parts
- Re-assembly
- Final testing
- Service Warranty

If your unit is beyond repair, or it is not economical to repair it, Meyer will give you the option of choosing between a new or re-manufactured unit from available stock.



# SERVICE SUPPORTED BY PLACEMENT PARTS



## Shafts and Levers

Thicker shafts (up to 2" diameter) offer robust strength for high-pressure applications. Heavy-duty levers assure that the gate rests squarely against the seat, eliminating air leakage.



## Rotary Actuators

These modern actuators provide durable torque to operate flawlessly under severe conditions. Because they are totally enclosed, grit and dust can not degrade their performance.



## Air Cylinders

Industry standard air cylinders for use in A-Series Double-Flapgate Airlock Valves only.



## Seat and Gate

Durable Hi-Chrome White Iron seats and gates offer greater wear resistance than other manufacturers' designs.



## Bearings and Seals

Located away from the housing, these extra heavy-duty bearings assure strength and reliability to perform under rigorous conditions. A heat shield can be provided when needed.



## Air Set and Filter Regulator

Air line filter assembly, including filter, lubricator, regulator and pressure gauge.



## Solenoid Valve and Speed Control

One solenoid valve, with speed controls pre-mounted; NEMA 4, 7 and 9; 110/220 volt.



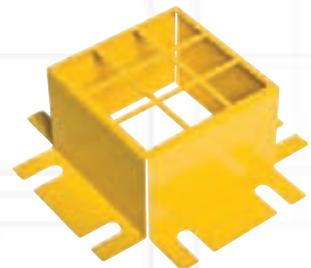
## Timer

NEMA 4 enclosure with red light and switch in cover. Optional proximity switches for fail-safe electrical lock-out.



## Pressure Differential Regulator

Package includes sintered steel port (filter), valve and tubing to control and moderate pressure.



## Adapters

All basic units available, including round, square, inlet discharge and safety guards.

# YOUR SINGLE SOURCE FOR ENGINEERED PROCESS SOLUTIONS

In addition to Double-Flapgate Airlock Valves, Meyer designs, engineers and manufactures a wide variety of other products suitable for your bulk processing needs. All of our products receive the same high attention to detail and are made durable for long service life. The next time you are in the market to repair, replace or upgrade your process system components, give us a call. We manufacture all the key components for pneumatic conveying, process metering and dust control. We provide a properly engineered solution suited to your application.



Rotary Airlock Feeders



Slide Gates



Knife Gates



Gravity Flow Diverter Valves



Line Diverter Valves



Double Clam Shell Gates



Tunnel Diverters



Rotary Plug Valves



Swing Gates



Screwveyor Pumps



Blower Packages

SYSTEM COMPONENTS





**Call Toll-Free 800-963-4458**

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