



**posi-flate<sup>®</sup>**  
butterfly valves

# INFLATABLE VALVES

VALVES, ACTUATORS, & LIMIT SWITCHES

**AIRMATIC**

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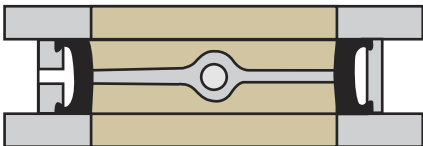
airmatic.com

Unlike other valves that seal with friction, POSI-FLATE's unique butterfly valve uses an inflatable seat to seal with air pressure, thus requiring less torque and a smaller actuator, resulting in lower overall valve cost. Plus, the seat automatically compensates for wear, providing longer valve life!

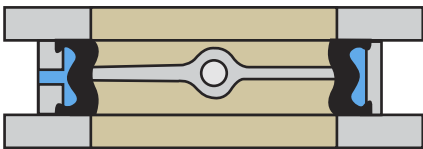


## OTHER VALVES FIGHT FRICTION ...WE DESIGNED IT OUT!

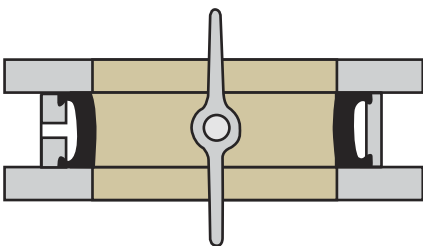
### HOW IT WORKS



**CLOSED, UNSEALED**  
As the valve rotates into the closed position, the disc makes only casual contact with the seat, reducing friction, wear, and torque requirements.



**CLOSED, SEALED**  
After the valve is closed, the seat inflates against the disc, providing more sealing surface and an even pressure distribution against the disc.



**OPEN, UNSEALED**  
Before the valve opens, the seat is first deflated. The disc is then free to rotate to the open position.

### PERFORMANCE FEATURES

- Inflatable Seat Compensates for Disc and Seat Wear
- Longer Valve Life
- Minimal Seat Wear
- No Disc Impingement
- Ultra-Low Torque Requirements
- Lower Actuator Costs
- More Seal Contact Area
- Excellent for Abrasive and Dry Solids
- Disc Designed to Prevent Material Buildup
- Double Shaft Seals Multiple Bearings
- Fail-Safe Monitoring

## STAINLESS STEEL SERIES 486

The Stainless Steel Series 486 Inflatable Seated Butterfly Valve from POSI-FLATE features a fully machined 316L stainless steel housing. The single piece disc and shaft is available in a number of materials including 316L stainless steel and hastelloy. The disc may be polished to a mirror finish or coated with PTFE, nylon, or other high performance coating.

The Stainless Steel Valve is ideal for powders, granules, slurries, and liquids, and is available in sizes 2" to 20". Typical applications include loading and unloading of process material, sterile air control, and outlet valves for storage containers or hoppers.

### DESIGN FEATURES FOR RELIABLE PERFORMANCE

#### A. ACTUATOR MOUNTING FLANGE

Designed for direct actuator mounting.

#### B. BEARINGS

Multiple bearings substantially reduce operating friction and torque requirements, eliminating any metal-to-metal contact, thus preventing shaft galling and freezing.

#### C. SHAFT SEALS

O-ring shaft seals ensure positive sealing under the most adverse conditions.

#### D. SEAT O-RING SEAL

O-ring provides long lasting positive seal of seat inflation pressures.

#### E. MATERIAL SEAL

Land seal prevents material contamination of seat o-ring seal.

#### F. AIR INLET PORT

Oversized inlet port allows quick valve pressurization / depressurization.

#### G. DISC / SHAFT

Integral disc and shaft with smooth, contoured surface provides minimum resistance to flow and reduces material build-up.

#### H. SPLIT HOUSING\*

Rugged two-piece body fits standard 125 / 150 class ANSI flat-faced flanges and PN 10 metric flanges. Minimizes assembly time and allows for integral shaft and disc.

#### I. HOUSING GASKET\*

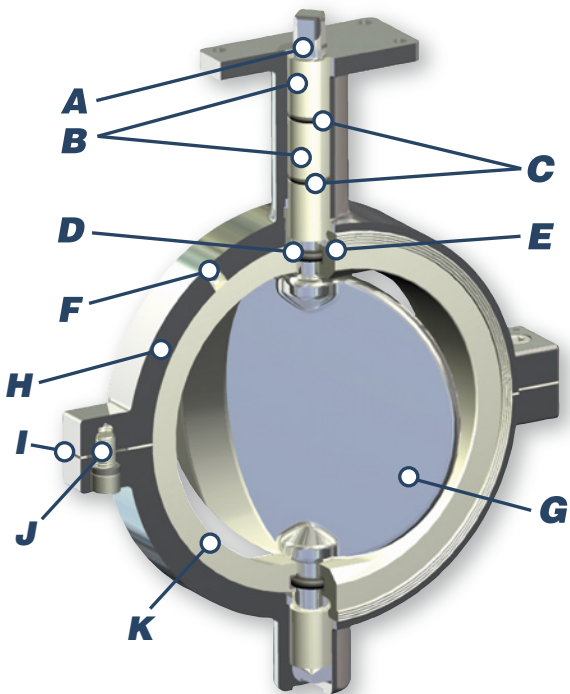
Die cut elastomeric gasket assures leak-proof housing.

#### J. HOUSING BOLTS\*

High strength steel bolts maintain structural integrity of housing under the most adverse conditions.

#### K. RESILIENT SEAT

Easily replaceable, the inflatable molded seat has a smooth contour locking design to minimize stress and hold the seat in place, eliminating any need for flange gaskets.



\* Design features apply to Split Housing Models only

### SERIES 485, 486, 487, 488

The POSI-FLATE unique design uses air pressure to expand the seat against the disc, providing even pressure distribution for a bubble-tight seal . . . EVERY TIME. Because the seat makes only casual contact with the disc during valve opening and closing, there is minimal disc impingement. This is in contrast to conventional butterfly valves, where disc impingement leads to shaving of the seat, decreasing the overall performance, and valve life.

Substantially less torque is required to open and close the POSI-FLATE butterfly valve, thus a smaller actuator can be used resulting in lower overall valve cost. In actual comparison tests and documented field applications, the POSI-FLATE butterfly valve outperformed all other valves. In fact, a POSI-FLATE valve life of one to three million cycles, even in extremely abrasive applications, is not uncommon. For dry solids, gases, and slurry applications, the POSI-FLATE inflatable seated butterfly valve is unsurpassed.

Standard valve sizes range from 2" to 30" and fit both ANSI and metric flanges. A full line of actuators, limit switches, and controls are also available to suit individual applications.

**Temperature Limits:** -40° to 300° F, varies with application and materials of construction.

**Air Supply:** 115 PSIG (7.9 bar) maximum to seat, varies with application.

**Working Pressure:** Full vacuum to 100 PSIG (6.9 bar), varies with materials of construction

**Operating Torque:** Varies with application.

#### AVAILABLE MATERIALS OF CONSTRUCTION

**Housing:** Cast Iron, Stainless Steel, Aluminum, Nickel-Plated Cast Iron, Epoxy Coated Cast Iron, Nylon Coated Cast Iron

**Resilient Seat:** EPDM, Buna-N, Polyurethane, Fluroelastomer, FDA Silicone, FDA White Buna-N, FDA White EPDM, FDA White Fluroelastomer

**Disc:** Cast Iron, 316 Stainless Steel (satin or polished), molded nylon. PTFE, nickel, and nylon coating available.

**Bearings:** Polymer, Bronze

**Disc Screws:** Carbon Steel, Stainless Steel

**Shaft:** Zinc-Plated Carbon Steel, 316 Stainless Steel

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**Shaft Seal:** Buna-N, Fluroelastomer

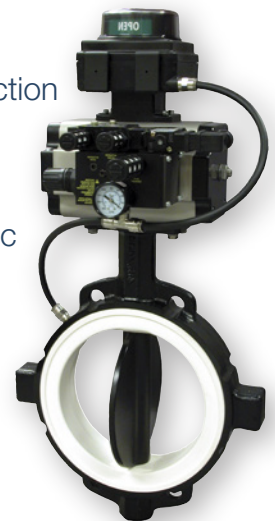
**Housing Gasket:** Buna-N (Series 486,487,488)

**Retaining Ring:** Carbon Steel, Stainless Steel

**Housing Bolts:** Carbon Steel, Stainless Steel



Series 486  
Butterfly Valve



#### SERIES 485

Single piece housing with disc and shaft. Sizes 5" to 30".

#### SERIES 486

Split housing with integral stainless steel disc and shaft or integral molded nylon disc and stainless steel shaft. Sizes 2" to 30".

#### SERIES 487

Split housing with disc and shaft. Size 4".

#### SERIES 488

Split housing with integral cast iron disc and shaft. Sizes 2" and 3".

Heavy-Duty  
Series 586



## HEAVY DUTY SERIES 585, 586

The POSI-FLATE Series 585 and 586 Inflatable Seated Butterfly Valves are designed for the most severe conditions. The seat is designed for heavy-duty applications and higher operating pressures. Standard valve sizes range from 2" to 24" and fit both ANSI and metric flanges. A full line of actuators, limit switches, and controls are available to suit individual applications.



**Temperature Limits:** -40° to 350° F, varies with application and materials of construction.

**Air Supply:** 135 PSIG (9.3 bar) maximum to seat, varies with materials of construction and application.

**Working Pressure:** Full vacuum to 150 PSIG (10.3 bar), varies with materials of construction and application.

**Operating Torque:** Varies with application.

### AVAILABLE MATERIALS OF CONSTRUCTION

**Housing:** Cast Iron, Stainless Steel, Aluminum, Nickel-Plated Cast Iron, Epoxy Coated Cast Iron, Nylon Coated Cast Iron

**Resilient Seat:** EPDM, Buna-N, Polyurethane, Fluoroelastomer, FDA Silicone, FDA White Buna-N, FDA White EPDM, FDA White Fluoroelastomer

**585 Disc:** Cast Iron, Stainless Steel

**586 Disc/Shaft:** 316 Stainless Steel (satin or polished), Molded Nylon over Stainless Steel Shaft, Superalloy, Cast Iron. PTFE and other custom coatings available

**Bearings:** Polymer, Bronze

**585 Disc Screws:** Carbon Steel, Stainless Steel

**585 Shaft:** Zinc-Plated Carbon Steel, 316 Stainless Steel

**Shaft Seal:** Buna-N, Silicone, Fluoroelastomer, EPDM

**Housing Gasket:** Buna-N (Series 586), Silicone, EPDM

**Retaining Ring:** Carbon Steel, Stainless Steel

**Housing Bolts:** Carbon Steel, Stainless Steel



### SERIES 585

Single piece housing with two piece disc and shaft. Sizes 4"\* to 24"

### SERIES 586

Split housing with one piece disc and shaft. Sizes 2" to 24"

\*Series 585 4" valve features a split housing for ease of assembly

### TORK-MATE® 890 PNEUMATIC ACTUATORS

The TORK-MATE 890 Series Extended Life Actuators are ideal for the operation of 90 turn devices such as butterfly valves, ball valves, plug valves, damper valves, and other devices. TORK-MATE Pneumatic Actuators have features that are unique, providing many benefits to the user looking for worry-free service.

#### A. PISTON

Aluminum alloy, designed for the most demanding applications.

#### B. PISTON BEARING

Low friction wear band centers the piston for extended life.

#### C. PISTON SEAL

A double acting, PTFE, O-Ring energized seal minimizes friction and requires an extremely low breakaway force. Provides a much longer life than conventional O-Rings.

#### D. PINION

High strength steel, plated for corrosion resistance. Precisely machined gear minimizes wear and backlash.

#### E. PISTON RACK

Precision engineered tooth profile and wide engagement with pinion minimizes wear and maximizes strength. An integral safety bar\* prevents any possible pinion blowout.

#### F. PINION BEARINGS

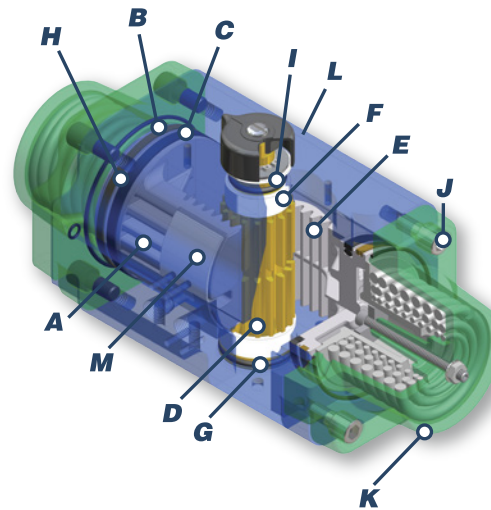
A proprietary high wear, low friction acetal compound extends life.

#### G. PINION SEALS

Nitrile, specially lubricated for life.

#### H. LUBRICATION GROOVE

Unique lubrication groove between the piston seal and piston bearing holds the proper amount of grease where it is needed for maximum life.



#### I. THRUST BEARING

Designed for maximum life.

#### J. FASTENERS

304 Stainless Steel are high strength and corrosion resistant.

#### K. END CAPS

Special aluminum alloy for durability. Powder coated for corrosion resistance and durability. Optional spring return end caps have restrained springs for easy installation.

#### L. HOUSING

Extruded aluminum alloy, precision machined with a proprietary hard coat finish internally and externally to guard against wear and corrosion.

#### M. PISTON HEEL BEARING

Large acetal bearing controls gear backlash and eliminates rack fatigue.

### ADVANTAGES

#### TMHC 2324:

A proprietary two-step hardcoat process that offers superior protection on interior and exterior housing surfaces.

#### NAMUR Mounting:

TORK-MATE 890 Series Actuators meet the latest NAMUR Standard, allowing direct or close coupling of NAMUR designed accessories.

#### Modular:

Easily removable end caps and modular spring packs simplify the conversion from double-acting to spring-return configurations.

#### Travel Adjustment:

Features Pinion Travel Stops that allow a full  $\pm 10^\circ$  of valve travel adjustment.

#### Extended Life Cycle:

Special Piston Seals provide greatly extended life compared to standard O-Ring actuators.

#### Blow-Out Proof Pinion Gear:

In addition to the stainless steel Pinion Retention Ring, the TORK-MATE 890 Series feature a unique internal safety bar.

#### Operating Ranges:

Produce guaranteed minimum torque outputs up to 17,466 inch pounds (1973 Nm).

\*Model 5000 and 11000 feature interlocked tooth geometry to prevent pinion blowout.

## TORK-MATE 890 SERIES ACTUATORS. MOUNTING KITS & ACCESSORIES AVAILABLE.



### SOLENOIDS FOR EVERY APPLICATION

- NEMA 4, 4X, 7, 9, 12
- IP 65, 66, 67
- All hazardous classifications
- UL, CSA, CE marked
- Intrinsically safe



### POSITION INDICATORS

- NEMA 4, 4X, 7, 9, 12
- IP 65, 66, 67
- All hazardous classifications
- UL, CSA, CE marked
- Intrinsically safe
- Sensors - Mechanical, inductive, proximity, intrinsically safe, SPDT and DPDT



### OPEN POSITION ADJUSTMENT STOP

- Easy setting of the open position on double acting and spring return actuators
- Infinite settings from 15° to 90° open
- Easily mounts between valve and actuator



### VALVE POSITIONERS

- 3 - 15 PSI
- 4 - 20 mA
- NEMA 4, 4X, 7, 9, 12
- IP 65, 66, 67
- All hazardous classifications
- UL, CSA, CE marked
- Intrinsically safe



### DECLUTCHABLE GEAR OVERRIDES



### INTEGRATED POSITION SENSOR AND VALVE CONTROLLER FOR BUS APPLICATIONS

- AS-I
- Foundations Fieldbus
- DeviceNet
- Profibus
- Modbus

### TRAK-LOK LIMIT SWITCH & POSITION MONITOR

The TRAK-LOK® 649 Series Limit Switch and Position Monitor provides point-to-point switch signaling combined with continuous on-site visual monitoring in one compact UL listed enclosure. It is ideally suited for use with the TORK-MATE Series 890 Pneumatic Actuator for operation of POSI-FLATE Inflatable Seated Butterfly Valves. TRAK-LOK Limit Switches utilize high grade components throughout for dependable and economical valve monitoring in an industrial process environment, providing improved information flow, safety management and productivity.



TRAK-LOK  
Series 649

- High Visibility Display Indicator
- Instant Access
- Positive End Position Indication
- UL & CUL Approved
- CE Marked
- Meets NEMA Requirements
- Integral Mounting Bracket
- Protective O-Ring Seal
- Polycarbonate Housing w/ No External Metal Parts
- Polycarbonate Housing w/ No External Metal Parts
- Replaceable O-Ring Shaft and Housing Seals
- Integral Fugitive Emissions Monitor Port

# AIRMATIC®

**WE'LL HANDLE IT.**

**AIRMATIC** founded in 1944, is a woman-owned Industrial Distributor, with installation and maintenance capabilities, offering equipment, machinery, and shop supplies to the Industrial, Construction, Utility, Government, and Commercial Markets. Our products and services are sold through three business units:

The **MATERIALS MANAGEMENT GROUP** provides products and services to industries that convey, store, transport, and process powders and bulk solids from aggregates, cement, and chemicals to foods, grains, metals, power generation, and waste water treatment applications;

The **SERVICE GROUP** provides fabrication, installation, and maintenance services to improve bulk materials handling efficiency; mechanical clean-out services for silos and hoppers to eliminate material flow problems; and shop repair/rebuilding and modifications services of products sold by the Company.

The **TOOL GROUP** provides power tools, personal protective equipment, materials-handling equipment, shop equipment and MRO supplies used for production, fabrication, assembly, metal removal, maintenance, and storage in manufacturing, construction, utility, and commercial applications.

**Our Customers tell us that by choosing AIRMATIC to solve their problems, they gain increased productivity, decreased costs, and a safer, cleaner work environment.**

## posi-flate® butterfly valves

The **POSI-FLATE VALVE** manufactures inflatable seat butterfly valves which use air pressure rather than friction to seal, so as to eliminate wear between the valve disc and seat. These valves are used in applications moving dry, liquid, and slurry materials in the cement, pharmaceutical, chemical, foundry, and coal industries. POSI-FLATE valves require less torque and a smaller actuator which results in lower operating costs, and, because the seat automatically compensates for wear, longer life.

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