

THERMOPLASTIC VALVES

Manual & Actuated Thermoplastic Valves

IPEX offers one of the most comprehensive ranges of high quality, high performance thermoplastic valves and actuation products available today. With more than 50 years of design and manufacturing experience, our lightweight, long life, maintenance free valves will save you time and money.

Material options such as PVC, CPVC, PP, PVDF, and ABS make our corrosion resistant valves ideal for use in a wide variety of applications. Quarter turn pneumatic and electric actuation, pneumatically actuated diaphragm valves, and many options and accessories allow for fully automated control. Whether a valve is required for isolation, diversion, control, or throttling, IPEX has a solution to meet your needs.

APPLICATIONS

- Acid products handling for refineries, metal works, etc.
- Alum and ferric chloride handling
- Aquariums and aquatic animal life support systems
- Bleach, dye and acid lines
- Brine and seawater systems
- Chlorine injection, chlorine dioxide and chloralkali plant piping
- Pharmaceutical
- Plant chemical distribution lines
- Plant water supply and distribution
- Swimming pools
- Wash water recovery systems
- Water and wastewater treatment



WHAT TYPE OF VALVE TO USE	Ball Valves	Butterfly Valves	Diaphragm Valves	Check & Vent Valves	Specialty Valves
On/Off Service	✓	✓			
High Capacity	✓	✓			
Throttling	✓	✓	✓		✓
Quick & Frequent Cycling	✓				✓
Slurries/Dirty Fluids		✓	✓		
Filtering					✓
Back Flow Prevention				✓	
Air & Gas Release				✓	
Electro-Mechanical Control					✓
Actuation	✓	✓	✓		



QUARTER TURN AUTOMATION

Quarter Turn Automation – Pneumatic / Electric

Automation is an ideal solution for precise control of many valves in a system, when valves are remotely located, or when the process requires constant monitoring and adjustment. Pneumatic and electric actuators can be easily fitted on our ball, multi-port, and butterfly valves. Some features and functions include normally closed, normally open, or double-acting operation; corrosion resistant aluminum bodies, pre-loaded springs, and adjustable cams. Many accessories such as visual position indicators, limit switches, 3 and 4-way solenoids, and positioners are also available. For further information, please refer to the IPEX *Industrial Technical Manual Volume IX* entitled, "Quarter Turn Automation".

PNEUMATIC ACTUATORS OVERVIEW

Pneumatic actuators are the most common choice for quarter turn plastic valves in process applications. Compressed air systems are readily available in any plant, and the cost of the actuator itself is generally lower than that of an electric unit with a comparable torque output. Typical quarter turn automation seldom requires positioning (something achieved more easily with an electric actuator), therefore the cycle life of a pneumatic unit will be substantially greater, and will be intrinsically safer than an electric actuator in volatile environments. While there are many different kinds of pneumatic actuators, a rack and pinion style is the preferred choice within the plastic piping industry. This type of actuator is quite tough and rugged, and has a high cycle life. They generally have a compact, simple construction, and certain models can be quite light in weight. The design also allows the same basic actuator to be used as a double acting or (with minor additions) a spring return unit.



i DID YOU KNOW?

The three basic control functions available through quarter turn automation are:

- 1. Double Acting** – This requires external power for each stroke. For example, power to open the valve, then power to close the valve.
- 2. Normally Closed** – Also referred to as “fail safe closed”, the default position is closed and the actuator requires power to open the valve.
- 3. Normally Open** – Also referred to as “fail safe open”, the default position is open and the actuator requires power to close the valve.

ELECTRICAL ACTUATORS OVERVIEW

Although slightly more expensive than pneumatics, electric actuators have certain desirable benefits. They are the preferred choice when cycle time is an issue, as a quick closing pneumatically actuated valve could cause a damaging pressure surge condition (water hammer). The use of an electric actuator may also be preferred when the distance from the power source is considerable. The friction losses in long runs of compressed air line may result in reduced efficiency and/or additional compressor stations. In addition, electric actuators are the preferred (if not the only) choice when a quarterturn valve like a multi-port is used. In this case, it is possible that the travel required is not just 0° to 90° but 0° to 90° to 180°. A rack and pinion actuator would need four separate pistons and a multiplicity of related air chambers, whereas this is easily accomplished with an electric unit. Most electric actuators have a cam/limit switch arrangement which allows the unit to be set up for a variety of rotations. The two standard limit switches can be used to provide a remote location with an open or closed signal. A multitude of voltages both for AC and DC current are also typically available.



FE SERIES BUTTERFLY VALVE PNEUMATIC

Size (in)	Body Material	Diaphragm Material	Product Code	Universal Number
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FE PVC Body & Disc, Wafer Style

Pneumatic – DOUBLE ACTING

1-1/2	PVC	EPDM	253680	FEOV107-DA
2	PVC	EPDM	253681	FEOV108-DA
2-1/2	PVC	EPDM	253682	FEOV109-DA
3	PVC	EPDM	253683	FEOV110-DA
4	PVC	EPDM	253684	FEOV111-DA
5	PVC	EPDM	253685	FEOV112-DA
6	PVC	EPDM	253686	FEOV113-DA
8	PVC	EPDM	253687	FEOV114-DA
10	PVC	EPDM	253688	FEOV115-DA
12	PVC	EPDM	253689	FEOV116-DA

Pneumatic – DOUBLE ACTING – NORMALLY CLOSED

1-1/2	PVC	EPDM	253690	FEOV107-NC
2	PVC	EPDM	253691	FEOV108-NC
2-1/2	PVC	EPDM	253692	FEOV109-NC
3	PVC	EPDM	253693	FEOV110-NC
4	PVC	EPDM	253694	FEOV111-NC
5	PVC	EPDM	253695	FEOV112-NC
6	PVC	EPDM	253696	FEOV113-NC
8	PVC	EPDM	253697	FEOV114-NC
10	PVC	EPDM	253698	FEOV115-NC
12	PVC	EPDM	253699	FEOV116-NC

Pneumatic – DOUBLE ACTING – NORMALLY OPEN

1-1/2	PVC	EPDM	253700	FEOV107-NO
2	PVC	EPDM	253701	FEOV108-NO
2-1/2	PVC	EPDM	253702	FEOV109-NO
3	PVC	EPDM	253703	FEOV110-NO
4	PVC	EPDM	253704	FEOV111-NO
5	PVC	EPDM	253705	FEOV112-NO
6	PVC	EPDM	253706	FEOV113-NO
8	PVC	EPDM	253707	FEOV114-NO
10	PVC	EPDM	253708	FEOV115-NO
12	PVC	EPDM	253709	FEOV116-NO

Note: NBR and Viton® lined valves are available on request



FE SERIES BUTTERFLY VALVE, ELECTRIC – 100-240 VAC

Size (in)	Body Material	Diaphragm Material	Product Code	Universal Number
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FE PVC Body & Disc, Wafer Style

Electric – DOUBLE ACTING

1-1/2	PVC	EPDM	253710	FEOV107-EL
2	PVC	EPDM	253711	FEOV108-EL
2-1/2	PVC	EPDM	253712	FEOV109-EL
3	PVC	EPDM	253713	FEOV110-EL
4	PVC	EPDM	253714	FEOV111-EL
5	PVC	EPDM	253715	FEOV112-EL
6	PVC	EPDM	253716	FEOV113-EL
8	PVC	EPDM	253717	FEOV114-EL

10" and 12" electrically actuated butterfly valves are available upon request.

