

# CORROSION RESISTANT THERMOPLASTIC VALVES



INDUSTRIAL SYSTEMS

IPEX thermoplastic valves are part of the following PVF systems:

**Xirtec® PVC**

**Xirtec® CPVC**

**enpure™**  
HIGH PURITY PP SYSTEM

**Duraplus®**  
ABS INDUSTRIAL SYSTEM

**Duraplus™**  
**air-line**

  
**IPEX**  
by aliaxis



# Quality, Performance, Reliability

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 both time and money. Our high-tech automated manufacturing and testing facility ensures unparalleled reliability for each and every valve.

IPEX quality engineered products include many unique characteristics ranging from important safety features, to simple ergonomic and aesthetic benefits. 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.



IPEX thermoplastic valves are part of our complete systems of pipe, valves, and fittings, engineered and manufactured to our strict quality, performance, and dimensional standards. Our network of manufacturing and customer service facilities across North America ensures fast, reliable service, and expert technical support.

## APPLICATIONS

- Industrial Processes
- Chemical Production
- Water and Waste Water Treatment
- Irrigation
- Aquatic Life
- Pool and Spa
- General Plumbing



## What type of valve should be used?

|                            | 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                  | ✓           | ✓                | ✓                |                     |                  |

\*VKR only



# BALL VALVES

Ball valves are generally used for on/off service, but can range from simple molded-in-place construction to high-end industrial designs with many features and benefits. Multi-port ball valves allow for mixing, diverting, and bypassing flow. Extensive material options provide for complete chemical compatibility in highly corrosive processes. Many ball valves feature full port flow, blocking true union ends, and compact ergonomic designs allowing for simple installation and maintenance.

## VKD Series Ball Valves

The next generation industrial valve features the patented Dual Block® system which allows locking of the union nuts in a preset position, assuring seal integrity under severe service conditions. A patented seat stop carrier, high quality stem and ball support system, integral mounting flange and bracketing, and a multifunctional locking handle (standard on sizes 2-1/2" to 4") set this valve apart from the rest. The VKD is available in PVC, CPVC, PP, PVDF, and ABS with PTFE seats and either EPDM or FPM seals.

Pressure: up to 232 psi at 73°F  
depending on the material  
Sizes: 3/8" – 4"



## TKD Series 3-Way Ball Valves

The TKD offers a host of advanced features that set it apart from other multi-port valves. The patented seat stop carrier allows for in-line micro-adjustment of the ball seating, and features o-ring cushioning to minimize wear and prevent seizing. Integral mounting flange and bracketing allows for direct actuation and simple support, while a locking handle can prevent improper positioning. The TKD is available in PVC, CPVC and PP with PTFE seats and either EPDM or FPM seals. Other materials are available upon request.

Pressure: 232 psi at 73°F  
Sizes: 1/2" – 2"



## EasyFit VXE Series Ball Valves

These cutting edge valves feature an ultra-compact double block design, and full port bi-directional operation. The true union design allows the valve to be easily removed from the piping system and fully serviced. A threaded seat stop carrier provides improved seal integrity under tough service conditions while the EasyFit multifunction handle doubles as a tool for ball seat adjustment, and for tightening union nuts precisely. The VXE is available in PVC, CPVC and ABS with PTFE seats and either EPDM or FPM seals.

Pressure: 232 psi at 73°F  
Sizes: 1/2" – 6"



\* 4" with venturied ends

## VKR Series Regulating Ball Valves

The new VKR Series Regulating Ball Valves combine the reliability and safety features of IPEX VKD ball valves with a newly designed profiled ball. The patented ball design provides linear flow regulation throughout its full range of operation even when the valve is open just a few degrees. The VKR is available in PVC with PTFE seats and either EPDM or FPM seals.

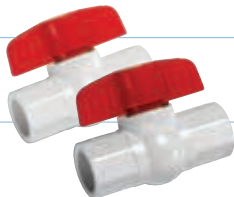
Pressure: 232 psi at 73°F  
Sizes: 1/2" – 2"



## MP Series Compact Ball Valves

Available in both Schedule 80 grey PVC and Schedule 40 white PVC, with either socket or threaded connections. EPDM seals and PTFE seats make this valve ideally suited to all kinds of plumbing and industrial applications where a compact, inexpensive on/off valve is required.

Pressure: 150 psi at 73°F  
Sizes: 1/2" – 2"

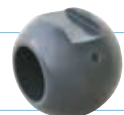


## VXE & VKD Vented Ball Valves

IPEX's vented ball valves are designed to protect the ball and body from a failure due to potential off-gassing. When a ball valve is cycled to the closed position, liquid may be trapped in the ball cavity. Chemicals such as sodium hypochlorite (NaOCl), hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>), and aqua ammonia (NH<sub>3</sub>) may off-gas and cause a potentially dangerous pressure build up. Without proper pressure relief, this may cause the valve to prematurely fail. IPEX vented ball valves feature a small vent hole on the upstream side of the ball that will relieve the pressure from the ball cavity while maintaining a positive seal on the downstream side.

Pressure: 232 PSI  
Sizes: 3/8" – 6"

\* 4" with venturied ends



# BUTTERFLY VALVES



These highly versatile valves can be used for simple on/off service but also for processes requiring precise throttling. End-of-line installation of a lugged version allows for downstream piping disassembly with the upstream system still under pressure. The extensive size range and material availability make them suitable for a wide range of applications. With simple, direct mounting for actuation, automated process control can be easily achieved.

## FK Series Butterfly Valves

The FK offers superior strength as well as excellent chemical resistance needed to operate in the corrosive environments often found near flanged connections. The special trapezoid shape of the liner and a serrated body cavity guarantee a bubble tight seal while keeping break-away torque at an absolute minimum. Double self-lubricating seals (available in either EPDM or FPM), direct actuator mount capability, and choice of a lever handle or mounted gear box are just a few more features of this technologically advanced valve. The body is made of standard glass-filled PP while discs are available in CPVC, PP, PVC, PVDF, and ABS.

Pressure: up to 150 psi at 73°F  
depending on the size  
Sizes: 1-1/2" – 16"



## FK Series Lugged Butterfly Valves

This FK version features the world's first integral lug design. Unlike other plastic butterfly valves, these valves feature stainless steel lugs permanently anchored in the body of the valve. This unique design provides for full bi-directional operation, and allows disassembly and assembly of the downstream flange connection without weakening the integrity of the upstream connection to the pressurized line. The same body, disc, and seal material options as the normal FK are available for the lugged version.

Pressure: up to 150 psi at 73°F depending on the size  
Sizes: 2-1/2" – 12"



## FE Series Butterfly Valves

The FE incorporates many of the features and benefits of our industrial FK valve yet is one of the most competitively priced thermoplastic butterfly valves available today. The all PVC construction with EPDM liner makes this valve the perfect choice for applications ranging from swimming pools to chemical processes. The FE can be operated by either a lever handle or mounted gear box.

Pressure: up to 150 psi at 73°F depending on the size  
Sizes: 1-1/2" – 12"



# QUARTER TURN AUTOMATION

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".







# DIAPHRAGM VALVES

Diaphragm valves are the perfect solution when precise flow throttling is required. The weir style design – no dead space in the valve – is extremely good for abrasive slurries. These valves are widely used in high purity applications because their design prevents friction and subsequent particle creation when cycling. Many body and diaphragm material options are available as well as simple pneumatic actuation.

## DK Series Dialock® Diaphragm Valves

The new DK series diaphragm valves are available in PVC, CPVC, PP, or PVDF, four body styles, and three choices of diaphragms (EPDM, FPM, or PTFE). Able to be mounted in any position, the DK is ideal solution for modulating flow in either very clean or abrasive slurry applications. The new innovative and patented Dialock locking mechanism allows the manual handwheel to be adjusted and locked in over 300 positions. The re-designed weir-style body has significantly improved the DK's flow rate compared to the old design and it facilitates precise linear flow regulation through the valve's full range of operation. The new DK is available in manual and pneumatic control styles.

Pressure: up to 150 psi at 73°F  
Size: 1/2" – 2-1/2"



## VM Series Diaphragm Valves

The VM series weir-style diaphragm valves are available in PVC, CPVC, PP, or PVDF, four body styles, and three choices of diaphragms (EPDM, FPM, or PTFE). Able to be mounted in any position, the VM is ideal for either very clean or abrasive slurry applications. A unique and proprietary PTFE diaphragm design, available automation, and multiple accessories make this one of the most advanced and versatile lines in the industry.

Pressure: up to 150 psi at 73°F  
Size: 3" – 4"



## DV Series Diaphragm Valves

The DV is a rugged industrial product ideal for throttling or use in abrasive slurry lines. The raising position indicator also functions as an adjustable travel stop. This feature can be used to avoid over-compression of the EPDM or PTFE diaphragm, or as a travel limiter allowing different settings for the "closed" position. The molded flanged body eliminates potentially leaky joints while featuring end-to-end dimensions identical to most plastic lined metal diaphragm valves, allowing for direct replacement.

Pressure: up to 150 psi at 73°F  
depending on the size  
Size: 1/2" – 6"



## CM Series Compact Diaphragm Valves

The CM is a compact design with true union ends, available in PVC, CPVC, PP, or PVDF. With three diaphragm options (EPDM, FPM, or PTFE), these manually operated or pneumatically actuated valves are ideal for OEMs. A standard position indicator and integrated mounting bushings complete the long list of features.

Pressure: up to 90 psi at 73°F  
Size: 1/2" in PVC and CPVC  
16 mm – 20 mm in PP and PVDF



## Automation & Accessories

IPEX diaphragm valves can be pneumatically actuated providing precise control of critical applications. The normally closed (fail close), normally open (fail open), and double acting DK and VM valves make up of one of the most extensive ranges in the industry. The actuated CM provides a compact solution to automated needs while the DM employs an efficient direct acting design. All pneumatic diaphragm valves can be outfitted with many options and accessories such as: stroke limiters, optical and electric position indicators, electro-pneumatic positioners, pilot valves, and various combinations thereof.



# CHECK AND VENT VALVES



Check valves should be used whenever there is a need to prevent back-flow of process media. This may be when two incompatible fluids cannot be allowed to mix, or when reverse flow would cause undesirable drainage of a system line or tank. Many styles exist including: simple ball checks, heavy duty swing checks, and highly efficient piston checks. These valves are typically gravity operated and require very little back pressure to seal. Air release valves safely allow any entrapped air or gas to escape, avoiding damage to the piping system.

## EasyFit SXE Series Ball Check Valves

The SXE is a complement to the VXE and VEE ball valve product lines, with many of the same features providing trouble free service for industrial, OEM and water service applications. A true union design allows for simple maintenance, while the EasyFit multifunction handle can be used as a tool for ball seal carrier adjustment, and for tightening union nuts precisely. The internal design is optimized for maximum flow and minimum turbulence, preventing ball sticking and chatter. Just a few psi of back pressure for positive shutoff in both vertical and horizontal installations. The SXE is available in PVC and CPVC with either EPDM or FPM seals.

Pressure: 232 psi at 73°F  
Sizes: 1/2" – 4"



## SSE Series Spring Assisted Check Valves

The all new SSE complements our SXE ball check valves, which introduce an advanced method of installation, providing trouble free service for industrial, OEM and water service applications. The internal profile of the SSE, combined with the spring assisted contoured ball, gives the advantage of trouble-free vertical and horizontal installations, even if only very low backpressure is available. The innovative SSE EasyFit design features a custom labelling system, and the optional EasyFit multifunctional handle allows for union nut rotational control and safe blocked carrier tightening. The SSE is available in PVC with a standard 316SS spring and either EPDM or FPM seals. The spring is also available in PTFE encapsulated 316SS and Hastelloy, depending on the size.

Pressure: 232 psi at 73°F  
Sizes: 1/2" – 4"



## VR Series Piston Check Valves

The VR features an all PVC construction of high performance components. This Y-pattern valve will perform equally as well in both vertical and horizontal orientations. With an increased flow rate yet low-return pressure positive seal, and top-entry maintenance, our VR piston check valve far exceeds the limited performance of other popular check valves. Both EPDM and FPM seals are available.

Pressure: up to 232 psi depending on the size  
Sizes: 1/2" – 4"



## SC Series Swing Check Valves

The SC combines superior flow rate with maximum versatility. With stainless wetted parts and hardware, top entry design, and extremely low back pressure requirements, these flanged valves are the perfect choice for back-flow prevention in large diameter lines, both vertical and horizontal. The SC is available in PVC with either EPDM or Viton® seals.

Pressure: up to 100 psi at 73°F  
depending on the size  
Sizes: 3" – 8"



## VA Series Air Release Valves

The VA is one of only two such plastic valves in the industry, and the only one controlled by media and not pressure. Designed for tanks, slurries, or start-ups, the VA valve will economically and efficiently eliminate air or gas pockets as well as break potentially dangerous vacuums. This no-spill valve is offered in PVC with EPDM seals. FPM sealing kits are also available.

Pressure: 232 psi  
Sizes: 3/4", 1-1/4" and 2"





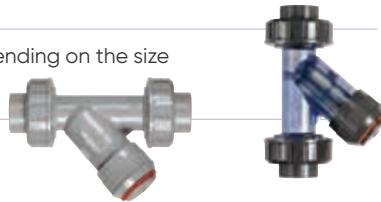
# SPECIALTY VALVES

IPEX offers several specialized valves for some unique process requirements. Sediment strainers trap suspended particles flowing in the process line, ensuring that downstream components are protected. Solenoids are ideal for high-cycle applications where remote operation and precise control are important. Lab valves are an economical solution for small scale on/off requirements.

## RV Series Sediment Strainers

The RV Y-pattern strainer protects critical pipeline components by removing solids and suspended impurities. Clear PVC construction allows for inspection of the screen while in service, whereas the bottom-entry design permits maintenance on the valve while in-line. The RV is available with either EPDM or FPM seals, as well as in CPVC.

Pressure: up to 150 psi depending on the size  
 Sizes: 1/2" – 4"



## VV Angle Seat Valve

The VV is designed for economical throttling of flow, and is particularly suitable for on-off service of clean fluids. The angle seat (Y-pattern) design allows for the valve to be installed in both vertical and horizontal orientations, and for simple top-entry maintenance while the valve is installed in line. The VV is available in a True Union body design, in PVC with EPDM seals and PTFE gland packing.

Pressure: up to 150 psi at 73°F depending on size  
 Sizes: 1/2" – 2"



## LV Series Laboratory Valves

The LV is an ingenious PVC quarter turn product supplied with an assortment of connections that match up with many kinds of pipe or hose.

Pressure: 150 psi at 73°F  
 Sizes: 1/4"



## S12/22 Series Solenoid Valves

The S12/22 Series replaces the well-received SF Series with a number of new features and is designed for industrial, OEM and water service applications. The S12/22 is direct acting, 2 way-2 position flow control valve, ideal for precise control and high-cycle service. The new high performance electric solenoid actuator has been redesigned to exceed 5 million cycles without having to perform maintenance and a 100% duty cycle means no issues with overheating or "burnout". With their lever type shutter design, standard manual override, and LED position indicator, these valves will outlast and outperform more conventional diaphragm-style solenoid valves. The S12/22 is available in PVC and either EPDM or FPM seals.

Pressure: up to 90 psi at 73°F  
 Sizes: 1/4" – 1/2"



## Thermoplastic Valve Multimedia CD & Manual



IPEX recently launched an interactive CD which details the extensive features and benefits of all our thermoplastic valves. The comprehensive information contained within is useful for engineers, designers, installers, end users, and any others involved in specifying or operating these types of products.

IPEX has added Thermoplastic Valves to our series of Industrial Technical Manuals. The manual features detailed technical data and specifications for all IPEX valves.

For detailed information on quarter turn automation, please refer to Volume IX in our Industrial Technical Manual Series.



## SALES AND CUSTOMER SERVICE

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### About IPEX by Aliaxis

As leading suppliers of thermoplastic piping systems, IPEX by Aliaxis provides our customers with some of the world's largest and most comprehensive product lines. All IPEX by Aliaxis products are backed by more than 50 years of experience. With state-of-the-art manufacturing facilities and distribution centers across North America, we have established a reputation for product innovation, quality, end-user focus and performance.

Markets served by IPEX by Aliaxis products are:

- Municipal pressure and gravity piping systems
- Plumbing and mechanical piping systems
- PE Electrofusion systems for gas and water
- Industrial process piping systems
- Electrical systems
- Telecommunications and utility piping systems
- Irrigation systems
- Industrial, plumbing and electrical cements
- PVC, CPVC, PP, PVCO, ABS, PEX, FR-PVDF, NFRPP, FRPP, HDPE, PVDF and PE pipe and fittings (1/2" to 60")

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