



## Condensed Product Guide

FLOW CONTROL

define  
design

deliver

## ABOUT HAYWARD® FLOW CONTROL

Hayward Flow Control, a division of Hayward Industries, Inc., and based in Clemmons, NC, USA, has been a leading manufacturer of industrial thermoplastic valves and process control products for more than 60 years. Thousands of customers worldwide have installed our products into aggressive and corrosive systems, as well as delicate life support systems where the strictest chemical balance is required. We understand the specific demands of industrial piping and are committed to offering advantageous products for your application that will keep your systems working.

Hayward Flow Control products carry an industry-leading, full two-year warranty. As an ISO 9001:2015 certified company, we strive for the highest quality product possible for use in a wide range of demanding applications.

## THERMOPLASTIC VALVES, ACTUATION AND CONTROLS

Hayward manufactures flow control products in thermoplastic materials including PVC, CPVC, PP, GFPP and PVDF. These materials are non-conductors and are immune to electrolytic and galvanic corrosion. Equally important, they contain nothing to leach out and contaminate sensitive fluids or delicate ecosystems. In addition, Hayward offers one of the industry's largest range of pneumatic and electric actuators and accessories, allowing you the ability to control your systems with one partner. Starting with simple actuated ball valves up to 24" butterfly valves with proportional control, Hayward continues to provide customers with an industry-leading choice of valve actuation packages to satisfy the most demanding application requirements.

## HAYWARD'S STRAINERS AND FILTERS

Hayward's industry leading Basket and Y-Strainers are designed to protect pipeline system components from dirt and debris while allowing process media to flow freely. Simplex and duplex Basket Strainers are manufactured in PVC, CPVC, GFPP and clear Eastar, and are available with thermoplastic, stainless steel or specialty alloy baskets in a variety of perfs and meshes. Y-Strainers are offered in PVC, clear PVC or CPVC materials with FPM or EPDM o-ring seals and a range of perforated thermoplastic or metal screens.

Unlike traditional metal and plastic filters, Hayward's patent pending GFPP FLV Series Bag Filter features a one-piece injection molded thermoplastic glass filled polypropylene body with true union end connections, ergonomic cover design with liquid displacing dome, vent valve and drain plug. Available in simplex through quadplex assembly, the FLV Series can also accommodate a single 7" cartridge or up to five 2-1/2" cartridges.

## CORROSION RESISTANT THERMOPLASTIC PUMPS

To complete our product range of thermoplastic solutions, Hayward's pumps perform reliably in systems pumping water, corrosive liquids and ultra-pure fluids. Choose from centrifugal, vertical, horizontal end suction, and immersible pumps or horizontal magnetic drive pumps. Recently added to the Hayward Pump line are our A-Series Aquatic Pumps dedicated for the Aquariums and Aquaculture and the Z Series Solenoid Diaphragm Valve line.

## NEW INNOVATIONS FROM HAYWARD

Hayward Flow Control continues to expand with innovative and corrosion resistant Instrumentation, Chemical Feed and Metering solutions for your process and dosing system's needs. These new categories of product solutions from Hayward include controllers, solenoid diaphragm pumps, flow meters, level sensors and thermoplastic pressure gauges, calibration columns and injection quills, all to measure and regulate your system's performance. When packaged with our industry leading thermoplastic valves, actuators, filters, strainers and pumps, Hayward provides you with a complete package of flow control solutions to make your piping systems perform to your needs.



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# TBH Series

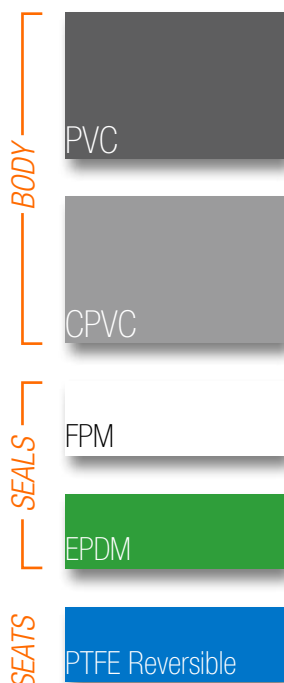
## True Union Ball Valves

1/2" to 2" DN8 TO DN50 PVC, CPVC



"Patent Pending"

### MATERIALS



### KEY FEATURES & BENEFITS

- System2™ Sealing Technology provides longer cycle life
- 250 PSI / 16 Bar, non-shock at 70°F / 23°C full pressure rating
- Consistent operating torque with adjustment-free design
- Lockout/Tagout mechanism that secures directly to valve body for enhanced safety
- Ergonomic handle for improved grip and comfort
- ISO mounting flange simplifies actuation
- Permanent markings, eliminates labels
- Integral footpad for skid or panel mount
- FPM or EPDM seals
- Double O-Ring stem seals
- Reversible PTFE seats – Standard
- Easy replacement for existing Hayward TB Series
- NSF / ANSI 61 and NSF / ANSI 372 Listed

### OPTIONS

- Z-Ball - Drilled Ball for Sodium Hypochlorite applications with identifiable black handle.
- Pneumatic or Electric Actuators
- Stem Extensions
- Manual Limit Switch



Certified to  
NSF/ANSI 61 & 372

**Quik-Ship**  
Ready in 24HRS

Select Actuated TBH Series valves shipped within (1) business day of your order. Need actuation on the fly? Hayward has you covered. Please visit website for details.



"Patented: U.S. Patent Numbers 9,695,947 and 9,989,154 & Other Patents Pending"

# BYV Series

## Butterfly Valves

2" to 12" DN50-DN300 PVC, CPVC, GFPP

### KEY FEATURES & BENEFITS

- One Piece Injection Molded PVC, CPVC or GFPP Body
- PVC, CPVC or GFPP Disc Materials
- Hand Lever with 19 Lockable Stop Positions & 360° Interlocking Splines
- External Disc Position and Flow Indication
- Hydro-dynamic Centric Disc for Increased Flow Performance
- Over-Sized Liner Face Maximizes Surface Contact with Flanges
- 1-Piece 316 Stainless Steel Stem with Threaded Retaining Gland
- Stem Bearing and Seal Retainer for Absolute Stem Position and Seal
- ISO 5211 Top Flange and Stem Drive
- All Sizes Meet ANSI B16.10 / ISO 5752 Narrow Face-to-Face Dimensions
- Pressure Rated at 150 PSI/10 Bar in All Sizes @ 70°F Non-Shock
- NSF / ANSI 61 and NSF / ANSI 372 Listed

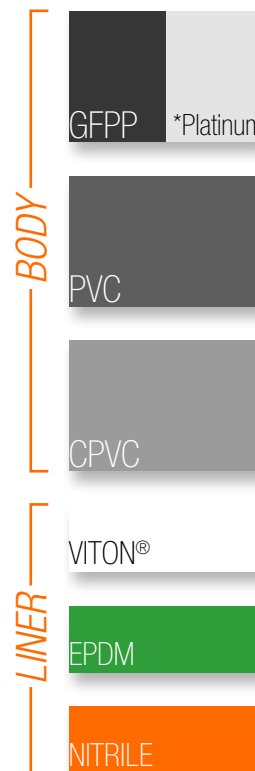
### OPTIONS

- Over-Molded 316 Stainless Steel Lugs
- Titanium or Hastelloy™ Stem Materials
- Gear Operators
- Complete Range of Pneumatic or Electric Actuators
- Lock Out Caps
- Stem Extensions
- 2" Square Operating Nut
- Chain Operator for Gear Box

**Quik-Ship**  
Ready in 24HRS

Select Actuated BYV Series valves shipped within (1) business day of your order. Need actuation on the fly? Hayward has you covered. Please visit website for details.

### MATERIALS



\*Disc only



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PVC/EPDM 2" - 12"  
CPVC/EPDM 4" - 12"

# HR Series

## Electric Actuators

266 - 177,000 Torque in-lbs



### KEY FEATURES & BENEFITS

- Units are equipped with two (2) volt-free Form A Auxiliary switches
- ISO5211 compliant mounting with a double square female drive socket
- Raised visual position indicator
- NEMA 4X/IP67 compliant
- EMT entry ports with sealed cable glands

### OPTIONS

- Power Supply Flexibility
- On/Off and Proportional Control
- Manual Override Handwheel
- Local Control Stations
- IP68 Submersion
- Battery Backup
- Supercapacitor Backup
- Interchangeable ISO5211 Flange & Drives



**Quik-Ship**  
Ready in 24HRS

Select HRS + TBH/BYV Series valves shipped within (1) business day of your order. Need actuation on the fly? Hayward has you covered. Please visit website for details.



# Quik-Ship

Ready in 24HRS

Automation on the fly.

Select TBH Ball Valve or BYV Butterfly Valve

Select Electric or Pneumatic Actuation

**TBH**  
SERIES



**BYV**  
SERIES



**HR**  
SERIES



**ECP**  
SERIES



**PM**  
SERIES



**PC**  
SERIES



Hayward Flow Control's industry leading actuation offering and service is now quicker than ever before.

By maximizing our LEAN production model and full scale US manufacturing base, Hayward can get your system up and running when it has to.

Get any one of the selected automated ball and butterfly valve packages shipped out to you within one business day of ordering.

That simple. That easy.

## OPTIONS

- HR Series 120VAC Electric On/Off Actuator
- ECP Series 24-265VAC/VDC Electronic Actuator
- PMD/PMS Double Acting or Spring Return Pneumatic Actuator
- PCD/PCS Industrial Grade Double Acting or Spring Return Pneumatic Actuator
- TBH Series True Union Ball Valve in PVC and CPCV, 1/2" TO 2"
- BYV Series Butterfly Valve in PVC with PVC disc, 2" TO 8"
- Direct Mounted Assembly
- One Part Number



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PVC and CPVC

\*\*PVC and CPVC socket ends available to ISO 727-1 and threaded ends to BS21.  
PP socket fusion ends per ASTM F2389 and threaded ends per BS21.  
Flanged ends available in DIN/EN PN10.

## TB Series True Union Ball Valves

1/4" TO 2" PVC AND CPVC / 1/2" TO 2" GFPP AND 1/4" - 1" PVDF

### KEY FEATURES

- Available in PVC, CPVC, GFPP and PVDF
- Full Port Design
- Reversible PTFE Seats
- Double O-Ring Stem Seals
- Easily Actuated
- NSF/ANSI 61 & 372 Listed

### OPTIONS

- Lockouts Available
- 2" Square Operating Nut
- Stem Extensions
- Pneumatic and Electric Actuation
- Spring Return Handle

### SELECTION CHART

SIZE**	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
1/4" – 3/8" (DN8 – DN10)	PVC	Socket and Threaded	FPM or EPDM	250 PSI @ 70°F 17 Bar @ 21°C Non-Shock
1/2" – 2" (DN15 – DN50)	PVC or CPVC	Socket and Threaded or Flanged*		150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
1/4" – 1" (DN8 – DN25)	GFPP	Threaded, Socket Fusion or Flanged		
1/2" – 1" (DN15 – DN25)	PVDF	Threaded		150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
		Socket		

\*All flanged valves are rated to 150 PSI @ 70°F Non-Shock (10 Bar @ 21°C)

## TB Series True Union Ball Valves

2-1/2" TO 6" PVC AND CPVC

### KEY FEATURES

- PVC and CPVC
- Full Port Design Through 4"
- Reversible PTFE Seats
- Double O-Ring Stem Seals
- Easily Actuated
- NSF/ANSI 61 & 372 Listed (2-1/2"-4")
- Actuator-Ready Design

### OPTIONS

- Pneumatic and Electric Actuation
- Lockouts Available
- Gear Operator
- 2" Square Operating Nut
- Stem Extensions
- Spring Return Handle

### SELECTION CHART

SIZE***	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
2-1/2" – 4" (DN65 – DN100)	PVC or CPVC	Socket, Threaded or Flanged**	FPM or EPDM	235 PSI @ 70°F 16 Bar @ 21°C Non-Shock
6"* (DN150)		Flanged		150 PSI @ 70°F 10 Bar @ 21°C Non-Shock

\* 4" valve venturied to 6"  
\*\* All flanged valves are rated to 150 PSI @ 70°F Non-Shock  
\*\*\* PVC and CPVC socket ends available to ISO 727-1 and threaded ends to BS21.  
Flanged ends available in DIN/EN PN10. (10 Bar @ 21°C)



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2-1/2" – 4"



## TBH Series with “Z-Ball” True Union Ball Valves

1/2" TO 2" / DN15 TO DN50 PVC AND CPVC

### KEY FEATURES

- Drilled Ball for Sodium Hypochlorite applications
- Ergonomic black identifiable handle for improved grip and comfort
- Lockout/Tagout mechanism that secures directly to valve body for enhanced safety
- Reversible PTFE Seats
- Double O-Ring Stem Seals

### OPTIONS

- Pneumatic and Electric Actuation
- Stem Extensions
- Manual Limit Switch
- Coupling for Actuator



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### SELECTION CHART

SIZE***	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
1/2" – 2" (DN15 – DN50)	PVC or CPVC	Socket or Threaded	FPM	250 PSI @ 70°F 16 Bar @ 21°C Non-Shock
		Flanged		150 PSI @ 70°F 10 Bar @ 21°C Non-Shock

\*\* PVC and CPVC socket ends available to ISO 727-1 and threaded ends to BS21.  
PP socket fusion ends per ASTM F2389 and threaded ends per BS21.  
Flanged ends available in DIN / EN PN10.

## TBZ Series “Z-Ball” True Union Ball Valves

1/2" TO 6" PVC AND CPVC

### KEY FEATURES

- PVC and CPVC
- Full Port Design
- Reversible PTFE Seats
- Double O-Ring Stem Seals
- For Sodium Hypochlorite Applications
- Adjustable Seat Retainer

### OPTIONS

- Lockouts Available
- Stem Extensions
- Spring Return Handle
- Pneumatic and Electric Actuation
- 2" Square Operating Nut

### SELECTION CHART

SIZE***	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
1/2" – 2" (DN15 – DN50)	PVC or CPVC	Socket and Threaded or Flanged**	FPM	250 PSI @ 70°F 17 Bar @ 21°C Non-Shock
2-1/2" – 4" (DN63 – DN100)		Socket, Threaded or Flanged**		235 PSI @ 70°F 16 Bar @ 21°C Non-Shock
6" (DN150)		Flanged		150 PSI @ 70°F 10 Bar @ 21°C Non-Shock

\* 4" valve venturied to 6" \*\* All flanged valves are rated to 150 PSI @ 70°F Non-Shock (10 Bar @ 21°C)  
\*\*\* PVC and CPVC socket ends available to ISO 727-1 and threaded ends to BS21.  
Flanged ends available in DIN/EN PN10.



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## CVH Series Profile2™ Proportional Control Ball Valves

1/2" TO 2" / DN15 TO DN50 PVC AND CPVC

### KEY FEATURES

- Profile2™ Characterized Ball
- System2™ Sealing Technology provided longer cycle life
- Lockout/Tagout mechanism that secures directly to valve body for enhanced safety
- Reversible PTFE Seats
- Double O-Ring Stem Seals
- NSF/ANSI 61 & 372 Listed
- Actuator-Ready Design

### OPTIONS

- Pneumatic and Electric Actuation
- Stem Extensions
- Manual Limit Switch
- Coupling for Actuator

### SELECTION CHART

SIZE***	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
1/2" – 2" (DN15 – DN50)	PVC or CPVC	Socket or Threaded	FPM	250 PSI @ 70°F 16 Bar @ 21°C Non-Shock
		Flanged		150 PSI @ 70°F 10 Bar @ 21°C Non-Shock

\*Does not include sizes 1-1/2" and 1-1/2".

## CV Series Profile2™ Proportional Control Ball Valves

1/2" TO 6" PVC AND CPVC

### KEY FEATURES

- PVC and CPVC
- Reversible Seats
- True Union Design
- Manual or Actuated
- Precise Flow Control

### OPTIONS

- Fill Station Lines
- Lateral Take-Off Line Flow Control
- Flow Reduction in Systems with Oversized Pumps
- Control Flow from Tanks
- Pneumatic and Electric Actuation

### SELECTION CHART

SIZE***	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
1/2", 3/4", 1" and 2" (DN15, DN20, DN25 and DN50)	PVC or CPVC	Socket and Threaded or Flanged**	FPM or EPDM	250 PSI @ 70°F 17 Bar @ 21°C Non-Shock
2-1/2" – 4" (DN63 – DN100)		Socket, Threaded or Flanged**		235 PSI @ 70°F 16 Bar @ 21°C Non-Shock
6"* (DN150)		Flanged		150 PSI @ 70°F 10 Bar @ 21°C Non-Shock

\* 4" valve venturied to 6" \*\* All flanged valves are rated to 150 PSI @ 70°F Non-Shock (10 Bar @ 21°C)

\*\*\* PVC and CPVC socket ends available to ISO 727-1 and threaded ends to BS21.

Flanged ends available in DIN/EN PN10.





## TW Series Three-Way True Union Ball Valves

1/2" TO 6" PVC AND CPVC

### KEY FEATURES

- PVC and CPVC
- Position Indicator
- Easily Actuated
- PTFE Seats
- FPM or EPDM O-Rings
- Double O-Ring Stem Seal

### OPTIONS

- Lockouts Available
- Pneumatic and Electric Actuation
- Cross-Flow Ball
- NT Ball
- TP Ball

### SELECTION CHART

SIZE**	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
1/2" – 4" (DN15 – DN100)	PVC or CPVC	Socket, Threaded or Flanged	FPM or EPDM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
6" (DN150)		Flanged		

\* 4" valve venturied to 6"

\*\* PVC and CPVC socket ends available to ISO 727-1 and threaded ends to BS21. Flanged ends available in DIN/EN PN10.

## LA Series Lateral Three-Way True Union Ball Valves

1/2" TO 6" PVC AND CPVC

### KEY FEATURES

- PVC and CPVC
- PTFE Seats
- FPM or EPDM O-Rings
- Double O-Ring Stem Seal
- Simplifies Lateral Connections
- Replaces Valve/Tee Connection Combinations
- Quick, Easy to Install
- Replacement for Zero Dead-Leg Valves

### OPTIONS

- Lockouts Available
- Pneumatic and Electric Actuation



### SELECTION CHART

SIZE**	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
1/2" – 4" (DN15 – DN100)	PVC or CPVC	Socket and Threaded or Flanged	FPM or EPDM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
6" (DN150)		Flanged		

\* 4" valve venturied to 6"

\*\* PVC and CPVC socket ends available to ISO 727-1 and threaded ends to BS21. Flanged ends available in DIN/EN PN10.



## TC Series True Union Ball Check Valves

1/4" TO 3/8" PVC, 1/2" TO 2" PVC, CPVC, PP,  
2-1/2" TO 6" PVC AND CPVC AND 1/4" TO 1" PVDF



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1/4" – 4"

### KEY FEATURES

- PVC, CPVC, PP and PVDF
- For Horizontal or Vertical Installation
- 1/2" to 6" are Sure Block Design
- Square Cut Seat for Positive Sealing
- Seats with Minimum Back Pressure
- 1/4" and 3/8" are Trim Check Design

### OPTIONS

- Foot Valve Screens

### SELECTION CHART

SIZE*****	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
1/4" – 3/8"* (DN8 – DN10)	PVC	Socket or Threaded	FPM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
1/2" – 2" (DN15 – DN50)	PVC or CPVC	Socket and Threaded or Flanged****	FPM or EPDM	235 PSI @ 70°F 16 Bar @ 21°C Non-Shock
PP**		Threaded or Socket Fusion		
2-1/2" – 4" (DN63 – DN100)	PVC or CPVC	Socket, Threaded or Flanged	FPM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
6"**** (DN150)		Flanged		
1/4" – 1" (DN8 – DN28)	PVDF	Threaded or Socket Fusion	FPM	

\* Trim Checks

\*\* 2" PP is rated to 100 PSI @ 70°F Non-Shock

\*\*\* 4" valve venturied to 6"

\*\*\*\* All flanged valves are rated to 150 PSI @ 70°F Non-Shock

\*\*\*\*\* PVC and CPVC socket ends available to ISO 727-1 and threaded ends to BS21. PP socket fusion ends per ASTM F2389 and threaded ends per BS21. Flanged ends available in DIN/EN PN10.

## YC Series Y-Check Valves

1/2" TO 4" PVC AND CPVC AND 1/2" TO 1" PVDF



### KEY FEATURES

- PVC, CPVC and PVDF
- Full Flow Design
- Minimum Pressure Drop
- PVC Coil to Guide Piston to a Positive Seat
- Minimal Back Pressure Required to Seat Piston

### OPTIONS

- Drilled Cap for Easy Drainage
- True Union End Connections

### SELECTION CHART

SIZE*	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
1/2" – 4" (DN15 – DN100)	PVC or CPVC	Socket, Threaded, Flanged or True Union	FPM or EPDM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
1/2" – 1" (DN15 – DN28)	PVDF	Socket, Threaded	FPM	

\* PVC and CPVC socket ends available to ISO 727-1 and threaded ends to BS21.

## SLC Series Spring-Loaded Y-Check Valves

1/2" TO 4" PVC



### KEY FEATURES

- PVC
- Full Flow Design
- Closes with No Back Pressure
- Adjustable – Opens From 2 to 15 PSI
- Easy Maintenance
- Opens in Any Position

### OPTIONS

- True Union End Connections

### SELECTION CHART

SIZE*	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
1/2" – 4" (DN15 – DN100)	PVC	Socket, Threaded or True Union	FPM or EPDM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock

\* PVC and CPVC socket ends available to ISO 727-1 and threaded ends to BS21.

## SW Series Swing Check Valves

3" TO 6" PVC, CPVC AND GFPP AND 8" PVC AND GFPP



### KEY FEATURES

- PVC, CPVC and GFPP
- High Temperature/Pressure Ratings
- Two-In-One Seal Design
- Built-In Flange Seals
- Two Drain Ports
- Self-Aligning Clapper Seals
- High Cv Rating and Full Flow Design

### SELECTION CHART

SIZE*	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
3" – 6" (DN80 – DN150)	PVC, CPVC or GFPP	Flanged	FPM or EPDM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
8" (DN200)	PVC or GFPP			

\* Flanged ends available in DIN/EN PN10.

## WCV Series Full Pattern Wafer Check Valves

2" TO 8" PVC AND CPVC

### KEY FEATURES

- Robust Full Pattern Body
- PVC and CPVC
- No Special Spacers or Flanges Required
- High Cv Rating Equal to Metal Check Valves, Saves on Energy and Pump Wear
- FPM or EPDM Gasket and Face Seal
- One-Piece Disc and Shaft Design

- Designed for ANSI150 and PN10 Flanges
- Patent No. 8,887,757

### OPTIONS

- 316 Stainless Steel or Hastelloy® Disc Spring



### SELECTION CHART

SIZE*	MATERIAL	END CONNECTION	O-RING	SPRING	PRESSURE RATING
2" – 8" (DN50 – DN200)	PVC and CPVC	Wafer	FPM or EPDM	316 SS, Hastelloy®	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock

\* Consult factory on DN100 Size

## WC Series Wafer Check Valves

10" TO 14" PVC AND PP

### KEY FEATURES

- PVC and PP Body and Disc
- FPM, EPDM or PTFE O-Ring Seats
- Compact and Lightweight
- Easy Installation
- Vertical or Horizontal Operation

### OPTIONS

- Stainless Steel or Hastelloy® Disc Springs\*



\* Valve shown with spring option

### SELECTION CHART

SIZE	MATERIAL	END CONNECTION	O-RING	SPRING	PRESSURE RATING
10" – 12" (DN250 – DN300)	PVC, PP	Wafer	FPM, EPDM or PTFE*	316 SS, Hastelloy®	90 PSI @ 70°F 6 Bar @ 21°C Non-Shock
14" (DN350)					Consult with Factory

\* All sizes require a spacer

## BYB Series Large Diameter Butterfly Valves

14" TO 24" PVC, CPVC, PP AND PVDF



### KEY FEATURES

- PVC, CPVC, PP and PVDF Bodies
- PVC, CPVC, PP and PVDF Discs
- Heavy Duty Gear Operator
- 410 Grade Stainless Steel Stem
- Choice of FPM, EPDM or Nitrile Liners

### OPTIONS

- Pneumatic and Electric Actuation
- Stem Extensions

### SELECTION CHART

SIZE	BODY MATERIAL	DISC MATERIAL	LINERS	PRESSURE RATING
14" – 16" (DN350 – DN400)				86 PSI @ 70°F 6 Bar @ 21°C Non-Shock
18" (DN450)	PVC, CPVC, PP or PVDF	PVC, CPVC, PP or PVDF	FPM, EPDM or Nitrile	72 PSI @ 70°F 5 Bar @ 21°C Non-Shock
20" – 24" (DN500 – DN600)				51 PSI @ 70°F 3 Bar @ 21°C Non-Shock

## BYCN/BYCS Series Butterfly Valves

2" TO 8" PVC



Certified to  
NSF/ANSI 61 & 372  
BYCN 3" – 8"

### KEY FEATURES

- Distinctive Ergonomic Handle with Lockout Feature
- Wafer Body Design
- Fits ANSI 150 or PN10 Flange Patterns
- PVC Body with PVC Disc
- One-Piece Stainless Steel Stem 316 Grade for BYCN/410 Grade for BYCS
- ISO 5211 Mounting Pad
- NSF/ANSI-61 Listed (BYCN 3" – 8")

### OPTIONS

- Gear Operators
- Pneumatic and Electric Actuation

### SELECTION CHART

SERIES	SIZE	BODY MATERIAL	DISC MATERIAL	STEM MATERIAL	LINERS	PRESSURE RATING
BYCN	2" – 8" (DN80 – DN200)	PVC	PVC	316 Grade Stainless Steel	EPDM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
BYCS				410 Grade Stainless Steel		



## DAB Series True Union Diaphragm Valves

1/2" TO 2" PVC AND CPVC



### KEY FEATURES

- PVC and CPVC
- Position Indicator
- Sure-Grip Handwheel
- Choice of FPM, EPDM or PTFE Diaphragms\*

### OPTIONS

- Pneumatic Actuation
- PVDF Vapor Barrier\*\*

\* All PTFE diaphragms are EPDM backed  
\*\* PVDF Vapor Barrier available with EPDM and PTFE diaphragm only

### SELECTION CHART

SIZE	MATERIAL	END CONNECTION	DIAPHRAGM	SEALS	PRESSURE RATING
1/2" – 2" (DN15 – DN50)	PVC or CPVC	Socket and Threaded	FPM, EPDM or PTFE*	FPM or EPDM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock

\* EPDM and PTFE diaphragms are available with a PVDF Vapor Barrier

## DAB Series Flanged Diaphragm Valves

1/2" - 6" PVC AND 1/2" - 4" CPVC



### KEY FEATURES

- PVC and CPVC
- Position Indicator
- Sure-Grip Handwheel
- Choice of FPM, EPDM or PTFE Diaphragms\*

### OPTIONS

- Pneumatic Actuation to 4"
- Over 4" Actuation, Consult Factory
- PVDF Vapor Barrier\*\*

\* All PTFE diaphragms are EPDM backed  
\*\* PVDF Vapor Barrier available with EPDM and PTFE diaphragm only

### SELECTION CHART

SIZE	MATERIAL	END CONNECTION	DIAPHRAGM	PRESSURE RATING
1/2" – 4" (DN15 – DN100)	PVC	Flanged	FPM, EPDM or PTFE*	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
6" (DN150)				75 PSI @ 70°F 5 Bar @ 21°C Non-Shock
1/2" – 4" (DN15 – DN100)	CPVC			150 PSI @ 70°F 10 Bar @ 21°C Non-Shock

\* EPDM and PTFE diaphragms are available with a PVDF Vapor Barrier

## LHB Series Manual Limit Switch

FOR BALL VALVES UP TO 6" AND  
BUTTERFLY VALVES UP TO 8"

### KEY FEATURES

- Now Available with "Dead-Man" Spring Return Handle or Handlever (LHB-SR)
- Remote Monitoring of Critical Services
- Retrofits to Existing Valves
- Robust GFPP Body, Cover and Plate
- 304 Stainless Steel Stem and FPM Seals
- Fits All Hayward® Ball Valves up to 6" and Butterfly Valves up to 8"
- Two Adjustable SPDT 10 Amp at 120 VAC Switches (Open/Close Position)
- 1/2" Conduit Port
- Terminal Blocks for Ease of Wiring
- Meets ISO5211, F05, F07 and F10 Patterns
- NEMA 4X
- Switches CSA Listed
- Patented: U.S. Patent Nos. 9,010,721, 9,010,722 and 9,702,480

### OPTIONS

- Additional Two Switches
- Potentiometer Available
- Optional Handles – Lever or T-Handle
- LED for Open/Close Indication



### SELECTION CHART

MANUAL LIMIT SWITCH MODEL	VALVE SIZE/SERIES
LHB-1/LHB-1-SR	1/2" – 2"/TB (DN15 – DN50) • 1-1/2" – 4"/BW (DN40 – DN100)
LHB-2/LHB-2-SR	2-1/2" – 6"/TB (DN65 – DN150) • 6" – 8"/BY (DN150 – DN200)

## SV Series True Union Solenoid Valves

1/4" TO 1" PVC AND CPVC



### KEY FEATURES

- PVC and CPVC
- Corrosion-Resistant Polyester Coil
- No Pressure Differential Required for Operation
- Both 1/2" Conduit or SJ-Type Cord Electrical Connection
- 110 VAC Standard

### OPTIONS

- 12 VAC, 24 VAC, 220 VAC, 12 VDC, 24 VDC

### OPERATING PARAMETERS

For optimum valve performance, inlet pressure must not exceed 120 PSI. Flow velocity must not exceed 5 ft. per second.

### SELECTION CHART

SIZE*	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
1/4", 1/2", 3/4", 1" (DN6 – DN25)	PVC or CPVC	Socket and Threaded	FPM or EPDM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock

\* PVC and CPVC socket ends available to ISO 727-1 and threaded ends to BS21.

## EA Series Automated True Union Ball Valves

1/2" TO 2" PVC AND CPVC



### VALVE FEATURES

- PVC and CPVC
- EPDM Seals
- PTFE Seats
- Full Port Design
- Fully Serviceable
- Double O-Ring Stem Seals

### ACTUATOR FEATURES

- UL/CSA Listed Motor
- Thermoplastic NEMA 4/4X Enclosure
- 2.5 Second, 90° Cycle Time
- Thermal Overload Protection
- Permanently Lubricated Gear Train
- Actuator Brake
- No Need for Manual Adjustments
- Blind Leads Connection
- Standard 120 VAC
- Unidirectional, Not Reversing

### SELECTION CHART

SIZE*	MATERIAL	END CONNECTION	SEALS	VALVE PRESSURE RATING
1/2" – 2" (DN15 – DN50)	PVC or CPVC	Socket and Threaded	EPDM	250 PSI @ 70°F 16 Bar @ 21°C Non-Shock

\* PVC and CPVC socket ends to ISO 727-1 and threaded ends to BS21.

## EAU1 Series Automated True Union Ball Valves

1/2" TO 2" PVC AND CPVC



### VALVE FEATURES

- PVC and CPVC
- FPM or EPDM Seals
- PTFE Seats
- Full Port Design
- Fully Serviceable
- Double O-Ring Stem Seals

### ACTUATOR FEATURES

- UL/CSA Listed Motor
- Thermoplastic NEMA 4/4X Enclosure
- 2.5 Second, 90° Cycle Time
- Permanently Lubricated Gear Train
- Actuator Brake
- 90 or 180° Operation
- Unidirectional, Not Reversing
- Terminal Block Connections
- Standard 120 VAC
- End of Travel Dry Contact Limit Switch
- Thermal Overload Protection
- Lightweight, Compact and Inexpensive

### SELECTION CHART

SIZE*	MATERIAL	END CONNECTION	SEALS	VALVE PRESSURE RATING
1/2" – 2" (DN15 – DN50)	PVC or CPVC	Socket and Threaded	FPM or EPDM	250 PSI @ 70°F 17 Bar @ 21°C Non-Shock

\* PVC and CPVC socket ends available to ISO 727-1 and threaded ends to BS21.



# ECP Series Automated True Union Ball Valves

1/2" TO 6" PVC AND CPVC



## VALVE FEATURES

- PVC and CPVC
- FPM or EPDM Seals
- PTFE Seats
- Full Port Design
- Fully Serviceable
- Double O-Ring Stem Seals

## ACTUATOR FEATURES

- Ideal for Corrosive Atmosphere and Environments
- Corrosion-Resistant GFPP Housing
- LED Status Light
- Anti-Condensation Heater
- Manual Override
- Position Indicator
- 4 SPDT Micro Limit Switches
- Stainless Steel Fasteners 303 SS
- 100% Factory Tested
- CE Mark

## SELECTION CHART

SIZE*	MATERIAL	END CONNECTION	SEALS	VALVE PRESSURE RATING
1/2" – 6" (DN15 – DN50)	PVC or CPVC	Socket and Threaded	FPM or EPDM	250 PSI @ 70°F 17 Bar @ 21°C Non-Shock

\* PVC and CPVC socket ends available to ISO 727-1 and threaded ends to BS21.

# PM Series Automated True Union Ball Valves

1/2" TO 2" PVC AND CPVC



## VALVE FEATURES

- PVC and CPVC
- FPM or EPDM Seals
- PTFE Seats
- Full Port Design
- Fully Serviceable
- Double O-Ring Stem Seals

## ACTUATOR FEATURES

- Corrosion-Resistant Thermoplastic Housing
- Permanently Lubricated Gear Train
- Two-Piston Rack and Pinion Design
- Namur-Style Mounting
- Position Indicator
- Lightweight
- Air-to-Air (Double Acting) or Spring Return

## SELECTION CHART

SIZE*	MATERIAL	END CONNECTION	SEALS	VALVE PRESSURE RATING
1/2" – 2" (DN15 – DN50)	PVC or CPVC	Socket and Threaded	FPM or EPDM	250 PSI @ 70°F 17 Bar @ 21°C Non-Shock

\* PVC and CPVC socket ends available to ISO 727-1 and threaded ends to BS21.

## PMD/PMS Series Pneumatic Actuators

FOR BALL VALVES UP TO 4"



### KEY FEATURES

- Corrosion-Resistant Thermoplastic Housing
- Permanently Lubricated Gear Train
- Two-Piston Rack and Pinion Design
- Namur-Style Mounting
- Position Indicator
- Lightweight
- ISO 5211 Mounting Base

### OPTIONS

- PMD Double Acting Air-to-Open and Close
- PMS Air-to-Spring Fail-Safe Operation
- Solenoid Valves with Optional Voltages
- Auxiliary Limit Switch
- Cycle Speed Controls

### SPECIFICATIONS

HOUSING:	Polyamide
OUTPUT SHAFT:	Stainless Steel
MINIMUM AIR PRESSURE:	80 PSI
MAXIMUM AIR PRESSURE:	120 PSI
SEALS:	Nitrile
CYCLE TIME:	Half Second, Typical
AIR PORT CONNECTIONS:	1/4" NPT

## GFPP PMD4/PMS4 Series Pneumatic Actuators

FOR BALL AND BUTTERFLY VALVES UP TO 4"

### KEY FEATURES

- Ideal for Corrosive Atmosphere and Environments
- Available in Double Acting and Spring Return Designs (Butterfly Valves up to 3")
- Corrosion-Resistant GFPP Housing
- Anodized Aluminum Two-Piston Rack and Stainless Steel Pinion
- Position Indicator
- Permanent Lubrication
- Lightweight – Easy for Installation
- Namur-Style Solenoid Mounting
- ISO 5211 Mounting Base
- Stainless Steel Fasteners
- Alternative Operating Media for 40 PSI to 120 PSI
- All Units are Marked for Traceability
- 100% Factory Tested

### OPTIONS

- PMD4 Double Acting Air-to-Open and Close
- PMS4 Air-to-Spring Fail-Safe Operation
- Solenoid Valves with Optional Voltages
- Auxiliary Limit Switch
- Cycle Speed Controls



### SPECIFICATIONS

HOUSING:	GFPP per ASTM D4101 Cell Class 85580
OUTPUT SHAFT:	303 Stainless Steel per ASTM A314
SEALS:	Nitrile
MINIMUM AIR PRESSURE:	80 PSI
MAXIMUM AIR PRESSURE:	120 PSI
CYCLE TIME:	Half Second, Typical
AIR PORT CONNECTIONS:	1/4" NPT
NAMUR MOUNTING:	VDI/VDE 3845
OPERATING TEMPERATURE RANGE:	-4°F to 176°F

## PCD/PCS Series Pneumatic Actuators

FOR BALL AND BUTTERFLY VALVES UP TO 24"



### KEY FEATURES

- For All Sizes of Ball and Butterfly Valves
- Four-Piston Rack and Pinion Design
- Compact, Lightweight
- Position Indicator
- Namur-Style Solenoid Mounting
- Adjustable Travel Stops
- ISO 5211 Mounting Base

### OPTIONS

- PCD Double Acting Air-to-Open and Close
- PCS Spring Return Fail-Safe Operation
- Solenoid Valves with Optional Voltages
- Positioners
- Auxiliary Limit Switches
- Cycle Speed Controls

### SPECIFICATIONS

HOUSING:	Epoxy-Coated Aluminum
OUTPUT SHAFT:	Plated Steel
MINIMUM AIR PRESSURE:	80 PSI
MAXIMUM AIR PRESSURE:	120 PSI
CYCLE TIME:	Less Than One Second, Typical
AIR PORT CONNECTIONS:	1/4" NPT

## EAU1 Series Electric Actuators

FOR BALL VALVES UP TO 2"

### KEY FEATURES

- UL/CSA Listed Motor
- Thermoplastic NEMA 4/4X Enclosure
- 2.5 Second, 90° Cycle Time
- Permanently Lubricated Gear Train
- Actuator Brake
- 90 or 180° Operation
- Unidirectional, Not Reversing
- Terminal Block Connections
- Standard 120 VAC
- End of Travel Dry Contact Limit Switch
- Thermal Overload Protection
- Lightweight, Compact and Inexpensive
- ISO 5211 Mounting Base

### OPTIONS

- Voltage Options of 12, 24 or 220 VAC and 12 or 24 VDC

### SPECIFICATIONS

HOUSING:	GFPP
OPERATION:	Unidirectional
CONDUIT SIZE:	1/2"
DUTY CYCLE:	25%
CYCLE TIMES:	2-1/2 Seconds, 90° Rotation; 5 Seconds, 180° Rotation
ENCLOSURE:	NEMA 4/4X
VOLTAGE:	120 VAC
THERMAL OVERLOAD PROTECTION MECHANICAL BRAKE MOTOR:	UL Listed
AUXILIARY LIMIT SWITCHES:	One





## ECP Series Glass Filled Polypropylene Electric Actuators

FOR BALL VALVES 1/2" - 6"  
AND BUTTERFLY VALVES 2" - 6"

### KEY FEATURES

- Ideal for Corrosive Atmosphere and Environments
- Corrosion-Resistant GFPP Housing
- LED Status Light
- Anti-Condensation Heater
- Manual Override
- Position Indicator
- 4 SPDT Micro Limit Switches
- Lightweight - Easy for Installation
- Namur-Style Solenoid Mounting
- ISO 5211 Mounting Base
- Stainless Steel Fasteners 303 SS
- 100% Factory Tested
- CE Mark

### OPTIONS

- Digital Positioner 0-20mA, 4-20mA or 0-10V

### SPECIFICATIONS

HOUSING:	GFPP (Glass Filled Polypropylene) per ASTM D4101 Cell Class 85580
OPERATION:	1/4 Turn
DUTY RATING:	75%
ENCLOSURE:	NEMA 4/4X
PROTECTION:	IP-67
VOLTAGE:	Single Phase 120/230V and 12/24V
OUTPUT SHAFT:	303 Stainless Steel per ASTM A314

## HZSN1 Series On/Off/Proportional Electric Actuators

FOR BALL VALVES UP TO 6"

### KEY FEATURES

- Equipped with Two (2) Volt-Free Form A Auxiliary Switches Rated at up to 1A 250VAC (on/off models only)
- Proportional Models have 4-20mA or 2-10vdc Feedback Output Standard
- ISO5211 Compliant with an 11mm Double Square Female Drive
- Furnished with a 39" (1m) Cable to Facilitate Field Connections Outside the Compact Enclosure
- Low Profile Visual Position Indicator and Three Flush Mounted LEDs Allow At-A-Glance Position Indication
- Manual Override Lever and 8mm Access Shaft at the Bottom of the Actuator Housing
- NEMA 4X/IP67 Compliant
- PG6 EMT Entry Port with Sealed Cable Gland

### OPTIONS

- Power Supply Flexibility – 24 VAC / VDC, 120 VAC and 230 VAC

### SPECIFICATIONS

OPERATION:	Reversing
FIELD CONNECTION:	1M flying lead pre-wired though PG6 Polyamide gland
DUTY CYCLE:	75% on/off & proportional models, all voltages
CYCLE TIME:	11~13 seconds 90° @ rated torque
ENCLOSURE:	NEMA 4X / IP67 Aluminum Alloy, w/ Electrostatic coating
VOLTAGES:	24vac/vdc, 120vac, 230vac
CONTROL:	On/off & 4-20mA / 2-10vdc in/out
THERMAL OVERLOAD PROTECTION:	Current limited, BDC motor
MECHANICAL OVERRIDE:	Declutchable lockout lever with socket drive
VISUAL INDICATORS:	Low profile visual position, power and end of travel status LED's



## RV Series Pressure Relief Valves

1/2" TO 2" PVC AND CPVC



### KEY FEATURES

- PVC and CPVC
- Hand Adjustable, No Tools Needed
- Integrally Molded Threaded Gauge Port
- Pressure Relief from 5 PSI to 75 PSI

### OPTIONS

- 0 to 30 PSI Gauge
- 0 to 60 PSI Gauge
- 0 to 160 PSI Gauge
- Gauge Guards
- 2 to 20 PSI for 1-1/2" to 2" with Low Pressure Spring
- Flanged Ends

### SELECTION CHART

SIZE*	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
1/2" – 2" (DN15 – DN50)	PVC or CPVC	Threaded or Flanged	FPM or EPDM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock

\* Available with threaded ends to BS21.

## PR Series Pressure Regulator Valves

1/4" TO 1-1/2" PVC AND CPVC



### KEY FEATURES

- PVC and CPVC
- Hand Adjustable, No Tools Needed
- Integrally Molded Threaded Gauge Port
- Regulates from 5 to 75 PSI
- Prevents Downstream Pressure from Exceeding the Set Pressure

### OPTIONS

- 0 to 30 PSI Gauge
- 0 to 60 PSI Gauge
- 0 to 160 PSI Gauge
- Gauge Guards
- Flanged Ends

### SELECTION CHART

SIZE*	MATERIAL	END CONNECTION	SEALS	PRESSURE SETTING	PRESSURE RATING
1/4" – 1-1/2" (DN8 – DN40)	PVC or CPVC	Threaded or Flanged	FPM	5 to 75 PSI	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock

\* Available with threaded ends to BS21.

## PBV Series Back Pressure Valves

1/2" TO 4"



### KEY FEATURES

- PVC, CPVC, PP or PVDF Body, and Noryl™ Molded Dome
- PTFE/EPDM Diaphragm
- Spring: 10 – 150 psi (Spring pre-set: 50 psi)
- 304 Stainless Steel Bolting
- FNPT Threads
- Anti-Siphon Function
- Adjustment Screw with Slot
- PVC, CPVC and PVDF rated to 250 psi @ 70°F/17.2. Bar at 21°C, PP rated to 150 psi @ 70°F/10 Bar at 21°C

### OPTIONS

- ANSI or DIN/EN Threaded, Socket, True Union Socket or Flanged End Connections
- 0 - 50 psi and 10 - 250 psi Springs
- PTFE/FPM Diaphragm

### SELECTION CHART

SIZE	MATERIAL	END CONNECTION	DIAPHRAGM	PRESSURE RATING
1/2" - 2" (DN15 - DN50)	PVC, CPVC, PP, PVDF	FNPT, Socket, Flange*, TU Socket	PTFE/EPDM	10-150 psi, 0-50, 10-250
3" - 4" (DN80 - DN100)		Flange		

## RPV Series Pressure Relief Valves

1/2" TO 4"



### KEY FEATURES

- PVC, CPVC, PP or PVDF Body, and Noryl™ Molded Dome
- PTFE/EPDM Diaphragm
- Spring: 10 – 150 psi (Spring pre-set: 50 psi)
- 304 Stainless Steel Bolting
- FNPT Threads
- Adjustment Screw with Slot
- PVC, CPVC and PVDF rated to 250 psi @ 70°F/17.2. Bar at 21°C, PP rated to 150 psi @ 70°F/10 Bar at 21°C

### OPTIONS

- 2-port/90°
- ANSI or DIN/EN Threaded, Socket, True Union Socket or Flanged End Connections
- 0 - 50 psi and 10 - 250 psi Springs
- PTFE/FPM Diaphragm

### SELECTION CHART

SIZE	MATERIAL	END CONNECTION	DIAPHRAGM	PRESSURE RATING
1/2" - 4" (DN15 - DN50)	PVC, CPVC, PP, PVDF	FNPT, Socket, Flange, TU Socket	PTFE/EPDM, PTFE/FPM	10-150 psi, 0-50, 10-250
3" - 4" (DN80 - DN100)		Flange		

## CCS Series Calibration Cylinders/Columns

100 - 20000ML



### KEY FEATURES

- NPT connections
- High Contrast Graduation Markings
- Direct GPH and mL readout
- Clear Easy-View Tube
- Sealed Top with Overflow Connection (Vent)
- Pressure rated to 15 psi @ 70°F/1.03 Bar at 21°C

### OPTIONS

- Dust Cover or EZ Clean (glass cylinder only)
- BSPT, Socket, Flange, Flange with Ball Valve or True Union End Connections

### SELECTION CHART

SIZE	MATERIAL	END CONNECTION	PRESSURE RATING
100 - 20000ml	PVC, Borosilicate glass	1/2-1" FNPT	15 psig

## IV Series Injection Valves/IQ Series Injection Quills

VALVE AND QUILL SIZES 1/2" TO 1"



### KEY FEATURES

- Built-In Ball Check Valve with Hastelloy C Spring, with the IV Check being Rebuildable
- Threaded MNPT End Connections
- FPM O-Ring Seals
- 45° Bevel on Quill Tip
- Pressure Rated to 150 psi @ 70°F

### OPTIONS

- Flat Tip
- BSPT or Socket End Connections
- EPDM O-Ring Seals

### SELECTION CHART

SIZE	MATERIAL	END CONNECTION	DIAPHRAGM	PRESSURE RATING
1/2" - 1" (DN15 - DN20)	PVC, CPVC, PVDF	BSPT or Socket	FPM or EPDM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock

## CS Series Corporation Stops

SIZES 1/2" TO 1"



### KEY FEATURES

- True Union Thermoplastic Ball Valve with PTFE Seats
- All Thermoplastic Injection Quill with Beveled Tip
- 316SS Locking Chain and Hardware
- Variable and Customer Injector Lengths
- Standard MNPT and Threaded True Union End Connections
- Pressure Rated to 150 psi @ 70°F/10 Bar at 21°C

### OPTIONS

- Flat Tip
- Socket True Union, Metric Socket or BSPT Threaded End Connections
- EPDM O-Ring Seals
- Optional Ball Check Valve with FPM O-rings

### SELECTION CHART

SIZE	MATERIAL	END CONNECTION	DIAPHRAGM	PRESSURE RATING
1/2" - 1" (DN15 - DN20)	PVC or CPVC	Socket True Union, Metric Socket or BSPT Threaded	FPM or EPDM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock



## AV Series Angle Globe Valves

1/4" TO 2" PVC, 1/4" TO 1" CPVC



### KEY FEATURES

- PVC & CPVC
- Space Saving 90° Body
- Panel Mount Lugs on 1/4" Size
- Fine Pitch Stem Threads for Precision Adjustment
- Reliable Globe Valve Design
- Perfect for Throttling and Changing Flow Direction

### SELECTION CHART

SIZE*	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
1/4" – 2" (DN8 – DN50)	PVC	Threaded or Flanged	FPM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
1/4" – 1" (DN8 – DN25)	CPVC			

\* Available with threaded ends to BS21.

## NVA Series Needle Valves

1/4" TO 1/2" PVC, CPVC, GFPP AND PVDF



### KEY FEATURES

- Available in PVC, CPVC, GFPP and PVDF
- Integrated Stem/PTFE Seat Design
- Flanges for Panel Mounting
- NPT Threaded Ends
- Accurate Flow Control
- Fine Pitch Stem Threads for Precise Adjustment
- Adjust Flow Rates Down to Drops per Minute
- Ideal for Metering Flow
- Patented: U.S. Patent No. 9,506,569

### SELECTION CHART

SIZE	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
1/4" – 1/2" (DN8 – DN15)	PVC, CPVC, GFPP or PVDF	Threaded	FPM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock

## LC Series Universal Stopcock™

1/4" PVC



Certified to  
NSF/ANSI 61 & 372

### KEY FEATURES

- PVC
- Six End Connections in One Package
- EPDM Seat and Seals
- Hex Wrench Included for End Connection Installation
- NSF/ANSI 61 Listed

### SELECTION CHART

SIZE	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
1/4" (DN8)	PVC	FPT x FPT FPT x MPT FPT x Hose MPT x MPT MPT x Hose Hose x Hose	EPDM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock

FPT = female pipe thread, MPT = male pipe thread

## YS Series Y-Strainers

1/2" – 2" PVC, CPVC\* AND CLEAR PVC,  
2-1/2" – 4" PVC AND CPVC,  
1/2", 3/4" AND 1" PVDF



### KEY FEATURES

- PVC, CPVC, Clear PVC and PVDF
- PVDF 1-pc Construction
- Threaded, Socket or True Union Connection
- Horizontal or Vertical Installation
- FPM O-Ring Seals
- 2:1 Open Area Ratio
- Hex Cap for Easy Access to Screen
- Standard Screen Has 1/32" Perforation\*\*

### OPTIONS

- Stainless Steel Perf or Mesh Strainer Screens Available in Various Sizes

### SELECTION CHART

SIZE*	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
1/2" – 1" (DN15 – DN25)	PVC, CPVC or Clear PVC	Socket, Threaded or True Union	FPM and EPDM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
1-1/4" (DN32)	PVC and Clear PVC			
1-1/2" (DN40)	PVC, CPVC or Clear PVC			
2" (DN50)	PVC, CPVC or Clear PVC	Socket, Threaded, Flanged or True Union	FPM and EPDM	
2-1/2" – 4" (DN65 – DN100)	PVC and CPVC			
1/2" – 1" (DN15 – DN25)	PVDF	Socket Fusion or Threaded	FPM	

\* PVC and CPVC socket ends available to ISO 727-1 and threaded ends to BS21.  
Flanged ends available in DIN/EN PN10.  
\*\* Standard Screen PVDF has 3/32" Perforation

## SB Series Simplex Basket Strainers

1/2" TO 4" PVC, CPVC, GFPP BLACK,  
GFPP PLATINUM AND EASTAR®



NSF

Certified to  
NSF/ANSI 61 & 372  
PVC and CPVC

### KEY FEATURES

- PVC, CPVC, GFPP and Eastar®
- Ergonomic Hand Removable Cover
- In-Line or Loop Connections
- External Cover Threads
- Integral Flat Mounting Bases
- PVC or CPVC Baskets Standard

### OPTIONS

- Stainless Steel, Monel®, Hastelloy® and Titanium Strainer Baskets
- Pressure Differential Gauge and Switch
- Baskets Available with Perforated or Mesh Liners

### SELECTION CHART

SIZE*	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
1/2" – 4" (DN15 – DN100)	PVC or CPVC	Socket, Threaded or Flanged	FPM or EPDM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
	Eastar®*			100 PSI @ 70°F 7 Bar @ 21°C Non-Shock
	GFPP	Socket Fusion, Threaded or Flanged		150 PSI @ 70°F 10 Bar @ 21°C Non-Shock

PVC and CPVC socket ends available to ISO 727-1 and threaded ends to BS21.  
Flanged ends available in DIN/EN PN10.

## SB Series Simplex Basket Strainers

6" TO 8" PVC AND CPVC



NSF

Certified to  
NSF/ANSI 61 & 372  
PVC and CPVC

### KEY FEATURES

- PVC and CPVC
- Ergonomic Hand Removable Cover
- In-Line or Loop Connections
- External Cover Threads
- Integral Flat Mounting Bases
- PVC or CPVC Baskets Standard

### OPTIONS

- Stainless Steel, Monel®, Hastelloy® and Titanium Strainer Baskets
- Pressure Differential Gauge and Switch
- Baskets Available with Perforated or Mesh Liners

### SELECTION CHART

SIZE*	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
6" – 8" (DN150 – DN200)	PVC or CPVC	Flanged	FPM or EPDM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock

Flanged ends available in DIN/EN PN10.

## DB Series Duplex Basket Strainers

1/2" TO 4" PVC, CPVC AND EASTAR®

### KEY FEATURES

- PVC, CPVC and Eastar®
- Ergonomic Hand Removable Cover
- Uninterrupted Flow
- No System Shutdown for Basket Cleaning
- In-Line or Loop Piping
- Integral Flat Mounting Bases
- External Cover Threads
- Hand Removable Vents on Covers
- Hand Removable Drains on Bodies
- Liquid Displacing Covers

### OPTIONS

- Stainless Steel, Monel®, Hastelloy® and Titanium Strainer Baskets
- Pressure Differential Gauge and Switch
- Pneumatic and Electric Valve Actuation



### SELECTION CHART

SIZE**	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
1/2" – 4" (DN15 – DN100)	PVC or CPVC	Socket, Threaded or Flanged	FPM or EPDM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
	Eastar®*			100 PSI @ 70°F 7 Bar @ 21°C Non-Shock

\* End Connections and assembly nuts are PVC

\*\* PVC and CPVC socket ends available to ISO 727-1 and threaded ends to BS21.  
Flanged ends available in DIN/EN PN10.

## DB Series Duplex Basket Strainers

6" TO 8" PVC AND CPVC

### KEY FEATURES

- PVC and CPVC
- Ergonomic Hand Removable Cover
- Uninterrupted Flow
- No System Shutdown for Basket Cleaning
- In-Line or Loop Piping
- Integral Flat Mounting Bases
- External Cover Threads
- Hand Removable Vents on Covers
- Hand Removable Drains on Bodies
- Liquid Displacing Covers

### OPTIONS

- Stainless Steel, Monel®, Hastelloy® and Titanium Strainer Baskets
- Pressure Differential Gauge and Switch
- Pneumatic and Electric Valve Actuation



### SELECTION CHART

SIZE*	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
6" – 8" (DN150 – DN200)	PVC or CPVC	Flanged	FPM or EPDM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock

\* Flanged ends available in DIN/EN PN10.

# FLV/CFLV Series Simplex Bag and Cartridge Filters

SINGLE AND DOUBLE LENGTH

## KEY FEATURES

- Platinum GFPP Material
- One-Piece Injection Molded Construction
- Hand Removable Ergonomic Cover with Liquid Displacing Dome
- Vent Valve on Cover
- In-Line or Loop Configuration
- Drain Port at Bottom
- Integral Mounting Base
- Patented: U.S. Patent No. 9,630,127

## OPTIONS

- Vent Gauge with Gauge Guard
- Pressure Differential Gauge and Switch
- EPDM Seals
- Cartridge Adapters - CFLV only

## SELECTION CHART

SIZE*	MATERIAL	END CONNECTIONS	PIPING SIZES	SEALS	FLOW RATE	PRESSURE RATING
Single Length 7" x 16"	GFPP	GFPP (Threaded and Flanged), PVC/CPVC (Socket and PP Socket Fusion)	1-1/4" – 2" (DN32 – DN50)	FPM or EPDM	100 GPM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
Double Length 7" x 32"			2-1/2" – 4" (DN65 – DN100)		150 GPM	

\* PVC and CPVC socket ends available to ISO 727-1 and threaded ends to BS21.  
PP socket fusion ends per ASTM F2389 and threaded ends per BS21.  
Flanged ends available in DIN/EN PN10.



# FLV/CFLV Series Duplex Bag and Cartridge Filters

SINGLE AND DOUBLE LENGTH

## KEY FEATURES

- Platinum GFPP Material
- One-Piece Injection Molded Construction
- Hand Removable, Ergonomic Cover with Liquid Displacing Dome
- Vent Valve Included on Cover
- True Union Socket, Threaded or Flanged End Connections
- In-Line or Loop Flow Configurations
- Drain Port at Bottom
- Integral Mounting Base
- Vent Gauge with Gauge Guard
- Pressure Differential Gauge and Switch
- EPDM Seals
- Cartridge Adapters - CFLV only
- Triplex and Other Multiple Assemblies Available upon Request
- Pneumatic and Electric Valve Actuation

## OPTIONS

## SELECTION CHART

SIZE*	MATERIAL	END CONNECTIONS	PIPING SIZES	SEALS	FLOW RATE	PRESSURE RATING
Single Length 7" x 16"	GFPP	CPVC (Socket, Threaded or Flanged)	2" (DN50)	FPM or EPDM	100 GPM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
Double Length 7" x 32"			2-1/2" – 4" (DN65 – DN100)		150 GPM	

\* PVC and CPVC socket ends available to ISO 727-1 and threaded ends to BS21.  
PP socket fusion ends per ASTM F2389 and threaded ends per BS21.  
Flanged ends available in DIN/EN PN10.





# FLV Series PVC & CPVC Bag Filters

PVC AND CPVC

## KEY FEATURES

- True Union End Connections - Socket, Threaded or Flanged
- Hand Removable, Ergonomic Cover with Liquid Displacing Dome
- Vent Valve Included On Cover
- Rated up to 100 GPM
- In-Line or Loop Flow Configurations
- Solid 1-Piece Basket
- Drain Port at Bottom
- Integral Mounting Base

## OPTIONS

- Pressure Gauge with Gauge Guard
- Pressure Differential Gauge and Switch
- EPDM Seals
- Duplex Configurations

## SELECTION CHART

SIZE	MATERIAL	END CONNECTIONS	PIPING SIZES	SEALS	FLOW RATE	PRESSURE RATING
Single Length 7" x 16"	PVC or CPVC	Socket, Threaded or Flanged	1-1/4" - 2" (DN32 - DN50)	FPM or EPDM	100 GPM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
Double Length 7" x 32"			2-1/2" - 4" (DN65 - DN100)			

\* PVC and CPVC socket ends available to ISO 727-1 and threaded ends to BS21.  
PP socket fusion ends per ASTM F2389 and threaded ends per BS21.



# Heavy-Duty Filter Bags

PP NEEDLE FELT, POLYESTER NEEDLE FELT, PP MESH OR NYLON MESH 1 TO 800 MICRON RATINGS

## KEY FEATURES

- Thermoplastic Ring Seal
- Thermoplastic Flange Seal
- Heavy Duty Sewn or Welded Construction
- Silicone-Free

## OPTIONS

- Custom Filter Bags for Most Applications

## SELECTION CHART

SIZE	MATERIAL	CONSTRUCTION	SEAL MATERIAL/TYPE	MICRON RATINGS	TEMPERATURE RATINGS
7" x 16" at 90 GPM or 7" x 32" at 180 GPM	PP Needle Felt	Sewn	PP RING	1, 5, 10, 25, 50, 100, 200	200°F
		Welded	PP FLANGE		
	Polyester Needle Felt	Sewn	PP RING		300°F
		Welded	PP FLANGE		
	PP Mesh	Sewn	PP RING	150, 400, 600, 800	200°F
	Nylon Mesh	Sewn	PP RING		325°F



# HCF Series Commercial Sand Filter

## KEY FEATURES

- Ideal for Fresh Water Systems
- UV-Protectant Gel Coat Protects Filter From Elements
- Transparent Manway Design Simplifies Operation and Improves Durability
- Commercial-grade PVC and ABS Injection Molded Internals With 360° Slotted Laterals
- Industrial Valve and Pressure Gauge
- Available in 30", 34" and 36" sizes
- Flow Rates up to 143GPM
- NSF/ANSI 50 Listed



Certified to  
NSF/ANSI 50

## SPECIFICATIONS

<b>FILTER TYPE:</b>	High-Rate Sand : No. 2 Silica Sand (0.45 mm - 0.55 mm)
<b>FILTER TANK:</b>	Gel Coated FRP
<b>UNDERDRAIN:</b>	360° Self-Cleaning Slotted Laterals
<b>SUPPORT BASE:</b>	Injection Molded ABS
<b>PERFORMANCE RANGE:</b>	75 to 143 GPM
<b>PORT SIZE:</b>	2" NPT
<b>PRESSURE RATING:</b>	50 PSI @ 70°F Non-Shock
<b>DIMENSIONS:</b>	HCF230 - 31.5" W x 43.5" H (800 mm x 1105 mm)
	HCF234 - 33.85" W x 43.5" H (860 mm x 1105 mm)
	HCF236 - 37.4" W x 43.5" H (950 mm x 1105 mm)

# LS Series Aquatic Sand Filter

## KEY FEATURES

- Ideal for Sensitive Aquatic Environments or Salt Water Systems
- All Wetted Hardware Manufactured from 316 Stainless Steel
- Corrosion Resistant Thermoplastic Housing and Base
- Durable Flanged Inspection Cover
- Integral Top Diffuser
- Efficient, Multilateral Underdrain Assembly
- Integral Molded Drain Plug

## OPTIONS

- LS Aquatic 6-Way Multiport Valve

## SPECIFICATIONS

<b>FILTER TYPE:</b>	High-Rate Sand : No. 2 Silica Sand (0.45 mm - 0.55 mm)
<b>FILTER TANK:</b>	Spherical, Molded High Density Polyethylene
<b>UNDERDRAIN:</b>	360° Self-Cleaning Slotted Laterals, Precision Installed in Ball-Joint Assembly
<b>CONTROL VALVE:</b>	LS Aquatic 6-Way Multiport Valve
<b>SUPPORT BASE:</b>	Injection Molded ABS
<b>PERFORMANCE RANGE:</b>	99 to 130 GPM (375 to 492 LPM)
<b>PORT SIZE:</b>	2" NPT
<b>PRESSURE RATING:</b>	50 PSI @ 70°F Non-Shock
<b>DIMENSIONS:</b>	LS311SX - 31" W x 38 5/8" H (787 mm x 981 mm)
	LS360SX - 36" W x 46" H (914 mm x 1168 mm)



## Cartridge Filter Adapter Kits Option



### KEY FEATURES

- Polypropylene Construction
- For Single or Multiple up to 5 Cartridges
- Accommodates Melt Blown, Spun or Pleated Cartridges
- Adapters for Single Length and Double Length CFLV's
- Adapters are designed to work with DOE and 222 End Connectors (where applicable)
- Simple Install of Adapter and Cartridges
- Access Top Plate Allows for Effortless Removal of Cartridges

## Pleated Filter Cartridges

HIGH CAPACITY/EFFICIENCY

### KEY FEATURES

- Multiple Micron Ratings for High Efficiency Filtration
- For use with Single (7" diameter) and Multiple (2-1/2" diameter) Cartridge CFLVs (Single and Double Length)
- High Surface Area Design Provides Excellent Flow Rates and Comprehensive Service Life
- Thermally Bonded DOE End-Caps, Core and Filter Media
- Low Pressure Drop
- Multiple Layered Media Construction Guarantees Dependable Performance



## A Series LifeStar® Aquatic Pump

1/2, 3/4, 1, 1-1/2, 2, 3, 5 HP



### KEY FEATURES

- Ideal for Sensitive Aquatic Environments or Salt Water Systems
- All Wetted Hardware Manufactured from 316 Stainless Steel
- Silicon Carbide/Silicon Carbide Shaft Seal Suitable for Fresh and Salt Water Use
- Corrosion Resistant Housing
- Self-Priming Pump
- Suitable for High Volume Pumping
- Clear High Capacity Basket Strainer Lid for Visual Inspection
- Elevated Base Ensures Better Ventilation and Protection from Flooding
- Perforated HDPE Basket

### SPECIFICATIONS

PUMP HOUSING:	Glass Filled Polypropylene
CONNECTIONS:	2" True Union Socket
MOTOR SHAFT:	303 SS (Non-Wetted)
SHAFT FACE SEAL:	Silicon Carbide/Silicon Carbide
SHAFT SECONDARY SEAL:	EPDM
ALL WETTED HARDWARE:	316 SS (Impeller Insert, Impeller Screw and 2 Diffuser Screws)
MAIN HOUSING GASKET:	EPDM
MOTOR BOLTS:	316 SS
HOUSING BOLTS:	316 SS
MOTORS:	Single Phase/Three Phase - Open Drip Proof (ODP) Three Phase - Totally Enclosed Fan Cooled (TEFC)
HP RATINGS:	1/2, 3/4, 1, 1-1/2, 2, 3 and 5 (ODP)
STRAINER BASKET:	HDPE , 1/8" Perf

## A Series LifeStar® VS Aquatic Pump

2 HP



### KEY FEATURES

- Ideal for Sensitive Aquatic Environments or Salt Water Systems
- Multi-Position or Detachable / Wall Mount Digital Control Interface with Password Protection
- All Wetted Hardware Manufactured from 316 Stainless Steel
- Silicon Carbide/Silicon Carbide Shaft Seal Suitable for Fresh and Salt Water Use
- Corrosion Resistant Housing
- Self-Priming Pump
- Suitable For High Volume Pumping
- Clear High Capacity Basket Strainer Lid for Visual Inspection
- Elevated Base Ensures Better Ventilation and Protection from Flooding
- Perforated HDPE Basket

### SPECIFICATIONS

PUMP HOUSING:	Glass Filled Polypropylene
CONNECTIONS:	2" True Union Socket
MOTOR SHAFT:	303 SS (Non-Wetted)
SHAFT FACE SEAL:	Silicon Carbide/Silicon Carbide
SHAFT SECONDARY SEAL:	EPDM
ALL WETTED HARDWARE:	316 SS (Impeller Insert, Impeller Screw and 2 Diffuser Screws)
MAIN HOUSING GASKET:	EPDM
MOTOR BOLTS:	316 SS
HOUSING BOLTS:	316 SS
MOTOR:	Single Phase - Totally Enclosed Fan Cooled (TEFC)
HP RATING:	2
STRAINER BASKET:	HDPE , 1/8" Perf
SERVICE FACTOR:	1.35
VOLTAGE SUPPLY:	230V, 60 Hz



# LifeStar® MV Medium Head Aquatic Pump

2, 3, 5 AND 7 HP



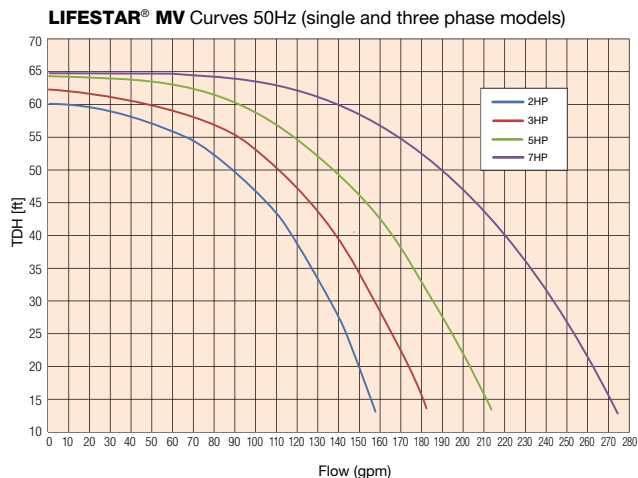
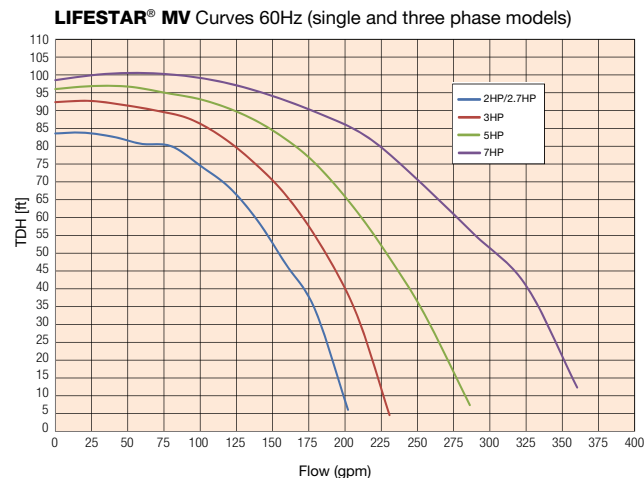
## KEY FEATURES

- Ideal for Sensitive Aquatic Environments or Salt Water Systems
- All Wetted Hardware Manufactured from 316 Stainless Steel
- Silicon Carbide/Silicon Carbide Shaft Seal Suitable for Fresh and Salt Water Use
- Corrosion Resistant Housing
- Modular Strainer Basket Design – Can Be Mounted Remotely
- Suitable for High Volume Pumping
- Clear High Capacity Basket Strainer Lid for Visual Inspection
- Elevated Base Ensures Better Ventilation and Protection from Flooding
- Industrial Grade TEFC Motors Standard with 220-240, 190/380-415, 190/380-415, 50Hz and 208-230, 208-230/460, 575, 60Hz Voltage
- Perforated HDPE Basket

## SPECIFICATIONS

<b>PUMP HOUSING:</b>	.....Glass Filled Polypropylene
<b>CONNECTIONS:</b>	.....2-1/2" x 3" True Union CPVC Socket Schedule 80
<b>MOTOR SHAFT:</b>	.....303 SS (Non-Wetted)
<b>SHAFT FACE SEAL:</b>	.....Silicon Carbide/Silicon Carbide
<b>SHAFT SECONDARY SEAL:</b>	.....FPM
<b>ALL WETTED HARDWARE:</b>	.....316 SS (Impeller Insert, Impeller Screw and 2 Diffuser Screws)
<b>MAIN HOUSING GASKET:</b>	.....FPM
<b>MOTOR BOLTS:</b>	.....316 SS
<b>HOUSING BOLTS:</b>	.....316 SS
<b>MOTORS:</b>	.....Single and Three Phase - Totally Enclosed Fan Cooled (TEFC)
<b>HP RATINGS:</b>	.....2, 3, 5, 7
<b>STRAINER BASKET:</b>	.....HDPE , 1/8" Perf
<b>VOLTAGE SUPPLY:</b>	.....220-240, 190/380-415, 190/380-415, 50Hz 208-230, 208-230/460, 575, 60Hz

## PUMP PERFORMANCE CURVES



## T Series Vertical Seal-Less Immersible Pumps

1/3, 1/2, 3/4, 1 AND 1-1/2 HP



### KEY FEATURES

- CPVC, GFPP and PVDF
- Single, Non-Coupled Motor Shaft 303 SS
- Proprietary, Patent Pending PTFE Shaft Seal
- Extended Shaft Sleeve
- Solid, Stable One-Piece Shaft
- Seal Point Away from Weep Hole
- Less Vibration
- Runs True

### OPTIONS

- Optional Inlet Screen
- In-Tank Filtration
- Impeller Trim Variations
- Explosion-Proof Motors
- Wash-Down Motors
- 575V Motors

### SPECIFICATIONS

**PUMP:**.....CPVC, GFPP or PVDF Construction  
**PIPE CONNECTIONS:**.....Threaded NPT  
**MOTOR SHAFT:**.....303 SS  
**SHAFT SEAL:**.....Patented PTFE Shaft Seal, U.S. Patent No. 9,745,993  
**PERFORMANCE:**.....Flow rates from 5 to 80 GPM with TDH's up to 45 feet  
**MOTORS:**.....Single or Three Phase Motors  
**MODELS WITH HP RATINGS:**.....T2 1/3 HP, T4 1/2 HP, T5 3/4 HP, T6 1 HP, T7 1 HP and T8 1-1/2 HP

## S Series Vertical Seal-Less Immersible Pumps

1/15, 1/3, 1/2, 3/4, 1, 1-1/2, 3 AND 5 HP



### KEY FEATURES

- Heavy Duty Design for Continuous Duty Service
- Seal-Less Design
- No Seals to Leak or Replace
- PTFE Fume Barrier
- FPM Seals
- Optional Inlet Screens

### OPTIONS

- Optional Inlet Screen and Extended Shaft
- CPVC Inlet Screens
- Impeller Trim Variations
- Explosion Proof Motors
- Washdown Motors
- 575V Motors
- EPDM Seals
- S-J Type Electrical Cord

### SPECIFICATIONS

**PUMP:**.....CPVC (1/15 – 5 HP), Natural PP (1/15 HP), GFPP (1/3 – 1-1/2 HP) and PVDF (1/15 – 1-1/2 HP)  
**PIPE CONNECTIONS:**.....Threaded NPT  
**FUME BARRIER:**.....PTFE, Protects Motor and Bearings from Corrosion Damage  
**O-RINGS:**.....FPM  
**PERFORMANCE:**.....Flow Rates from 5 to 130 GPM with TDHs up to 115 Feet  
**MOTORS:**.....Single or Three Phase Motors; HP Ratings of 1/15, 1/3, 1/2, 3/4, 1, 1-1/2, 3 and 5HP  
**MODELS WITH HP RATINGS:**.....S1 1/15, S2 1/3, S4 1/2, S5 3/4, S6 3/4, S7 1, S8 1-1/2, S12 3 and S16 5 HP

## D Series Vertical Seal-Less Immersible Pumps

1/8 HP



### KEY FEATURES

- CPVC, Natural PP and PVDF
- No Seals to Leak or Replace
- PTFE Fume Barrier
- FPM Seals
- Optional Inlet Screens

### OPTIONS

- Inlet Screens
- EPDM O-Ring Seals
- Impeller Trim Variations
- Explosion Proof Motors
- Washdown Motors
- 575V Motors
- S-J Type Electrical Cord

### SPECIFICATIONS

**PUMP:**.....CPVC, PP or PVDF Construction  
**PIPE CONNECTIONS:**.....Threaded  
**O-RINGS:**.....FPM  
**FLOW RATES:**.....From 2 to 17 GPM with TDHs up to 18 Feet  
**MOTORS:**.....Single-Phase Motor; 1/8 HP; 115/230 VAC, 50/60 Hz

## R Series Magnetic Drive Pumps

1/3, 1/2, 3/4, 1, 1-1/2, 2, 3 AND 5 HP



### KEY FEATURES

- GFPP and Carbon Reinforced ETFE
- Low Friction Operation
- Easy Maintenance, No Special Tools
- Seal-Less Design

### OPTIONS

- Carbon Bushings
- Ceramic Bushings
- EPDM Seals
- 575V Motors
- Washdown Motors

### SPECIFICATIONS

<b>PUMP:</b>	GFPP or ETFE Construction
<b>PIPE CONNECTIONS:</b>	Threaded NPT or Flanged ANSI 150#
<b>SHAFT:</b>	Large Diameter, Ceramic with PTFE, Impeller Bushing
<b>PERFORMANCE:</b>	Flow Rates from 5 to 140 GPM with TDHs of up to 141 Feet
<b>MOTORS:</b>	Single or Three Phase Motors; HP Ratings of 1/3, 1/2, 3/4, 1, 1-1/2, 2, 3 or 5 HP; 115/230 VAC or 208-230/460 VAC, 50/60 Hz
<b>MODELS WITH HP RATINGS:</b>	RC03 1/3, RX05 1/2, RX07 3/4, RX10 1, RX15 1-1/2, RX20 2, RX30 3 and RX50 5 HP

## C Series Centrifugal Pumps

1/3, 1 AND 1-1/2 HP



### KEY FEATURES

- Rugged Design for Demanding Continuous Duty Service
- No Metal in Contact with Process Fluid
- Carbon/Ceramic Seals
- FPM Seals
- Impeller Trim Variations
- PTFE/Ceramic Seals
- PTFE/Carpenter 20 Seals
- EPDM Elastomers
- Waterflushed Seals
- 575V Motors
- Washdown Motors

### SPECIFICATIONS

<b>PUMP:</b>	CPVC, GFPP or PVDF Construction
<b>PIPE CONNECTIONS:</b>	Threaded
<b>SHAFT:</b>	Stainless Steel with Non-Metallic Sleeve
<b>SEAL:</b>	John Crane External Type 21 or Equal Carbon/Ceramic Seal Faces with Stainless Steel Hardware and FPM Elastomers
<b>PERFORMANCE:</b>	Flow rates from 5 to 83 GPM with TDH's up to 70 feet
<b>MOTORS:</b>	Single or Three Phase Motors; HP Ratings of 1/3, 1 and 1-1/2; 115/230 VAC or 208-230/460 VAC
<b>MODELS WITH HP RATINGS:</b>	C5 1/3, C7 1 and C8 1-1/2 HP

# Z Series Solenoid Diaphragm Metering Pumps

## ANALOG INTERFACE

### KEY FEATURES

- PVDF Wetted End, PTFE Diaphragm, Ceramic Double Ball Checks
- Multi-Voltage Motor
- Complete Kit Includes PVDF Foot Valve, PVDF Injection Valve and Required Tubing
- NEMA 4X Protection Class (IP 65)
- Three Sizes Available (100, 200 & 500)\*
- Built-In Degassing Valve on 100 and 200 Sizes
- Optional Liquid Level Switch and Flow Switch
- Optional Multi-Function Valve for Over-Pressure and Back Pressure Control

\*Refer to Page 40 for Specifications

### ANALOG MODELS

ZMA	ZPA	ZTA
Constant Dosage	Proportional Dosage	Timed Dosage
Two Frequency Ranges	Analog Input (4-20mA)	Low Level Alarm
Low Level Alarm	Pulse Multiplier/Divider	



# Z Series Solenoid Diaphragm Metering Pumps

## DIGITAL INTERFACE

### KEY FEATURES

- PVDF Wetted End, PTFE Diaphragm, Ceramic Double Ball Checks
- Multi-Voltage Motor
- Complete Kit Includes PVDF Foot Valve, PVDF Injection Valve and Required Tubing
- NEMA 4X Protection Class (IP 65)
- Three Sizes Available (100, 200 & 500)\*
- Built-In Degassing Valve on 100 and 200 Sizes
- Intuitive LCD Display Provides Pump and Set-Up Information
- Optional Liquid Level Switch and Flow Switch
- Optional Multi-Function Valve for Over-Pressure and Back Pressure Control

\*Refer to Page 40 for Specifications

### DIGITAL MODELS

ZPD	ZRD	ZKD
Proportional Dosage	Built-in pH/ORP Controller	Timed Dosage
Analog Input	pH/ORP Electrode Connection	Programmable Timed Relay
Pulse Input	Analog Output of Readings	





## HLS Series

### ADVANCED SUBMERSIBLE PRESSURE LEVEL TRANSMITTER

#### KEY FEATURES

- Unaffected by Surface Foaming, Waves or Headspace Vapors
- All CPVC Housing
- Al<sub>2</sub>O<sub>3</sub> (Alumina) Diaphragm
- Triple Sealed Cable Entry into Body
- Available with FPM or EPDM Seals
- Available with 0-15 ft or 0-33 ft of Level Range
- 30 and 50 ft FEP Coated Cable Standard (Lengths to 1000 Feet Available)
- 10-35 VDC Powered
- Direct Analog 4-20mA Output Signal
- 0.25% Accuracy Full Scale
- Laser Etched Sensor Details on Body
- Full Range of Accessories Available



#### SPECIFICATIONS

<b>DIMENSIONS L x DIA.:</b>	5.8" Long x 1.25" Dia. (14.7 cm Long x 3.1 cm Dia.)
<b>RANGE:</b>	0-15 ft (6.5 psi) and 0-33 ft (14.3 psi) of Water Column
<b>STANDARD CABLE LENGTH:</b>	30 ft with the 0-15 ft Level Sensor; 50 ft with the 0-33 ft Level Sensor
<b>CABLE:</b>	Vented, 4 Conductor, FEP Cover
<b>TEMPERATURE:</b>	30°F (Non-Freezing) to 140°F
<b>TEMPERATURE EFFECTS:</b>	+/- 1.5% TEB (Total Error Band = Linearity+Hysteresis+Repeatability +Zero and Span Settings+Temperature Effects)
<b>POWER REQUIREMENT:</b>	10-35 VDC
<b>OUTPUT SIGNAL:</b>	4-20 mA, Scaled for Full Sensor Range
<b>BODY:</b>	CPVC per ASTM D1784, Cell Classification 23447

## HLST Series

### INDICATING LEVEL TRANSMITTER



#### KEY FEATURES

- Highly Accurate and Remote Level Indication
- Level Reading in Feet, Inches & Meters
- 1/4 DIN cutout, IP65 Protection (front)
- PT100/1000 Temperature input on 2nd Channel
- Dual Analog Outputs
- Dual Programmable 5A Relays
- Dual Programmable Open Collectors
- Configurable, Large LCD Display
- Simple, Intuitive Set-Up
- Removable Terminals for Easy Wiring

#### SPECIFICATIONS

<b>ACCURACY:</b>	±0.2%
<b>INPUT 1:</b>	-4-20mA, two or three wire, powered
<b>INPUT 2:</b>	PT100/PT1000 RTD
<b>RELAYS:</b>	Two x 5A, 250V, Programmable
<b>OPEN COLLECTORS:</b>	Two, Programmable
<b>DISPLAY:</b>	128 x 128 Pixel LDC
<b>POWER:</b>	100-240 VAC/50-60 Hz...12-32 VDC Available upon Request
<b>DIMENSIONS:</b>	92 x 92 x 57.3 mm
<b>WEIGHT:</b>	0.9 lbs/0.4 kg
<b>OPERATING TEMPERATURE:</b>	4° to 122°F (-10° to 50°C)
<b>PROTECTION:</b>	Face IP65/NEMA 4X

## HMC Series

### INDICATING TRANSMITTER



#### KEY FEATURES

- Highly Accurate and Remote Level Indication
- Level Reading in Feet, Inches & Meters
- 1/4 DIN cutout, IP65 Protection (front)
- PT100/1000 Temperature input on 2nd Channel
- Dual Analog Outputs
- Dual Programmable 5A Relays
- Dual Programmable Open Collectors
- Configurable, Large LCD Display
- Simple, Intuitive Set-Up
- Removable Terminals for Easy Wiring

#### SPECIFICATIONS

<b>ACCURACY:</b>	±0.2%
<b>INPUT 1:</b>	-4-20mA, two or three wire, powered
<b>INPUT 2:</b>	PT100/PT1000 RTD, automatic detection
<b>RELAYS:</b>	Two x 5A, 250V, Programmable
<b>OPEN COLLECTORS:</b>	Two, Programmable
<b>DISPLAY:</b>	128 x 128 Pixel LDC
<b>POWER:</b>	100-240 VAC/50-60 Hz...12-32 VDC Available upon Request
<b>DIMENSIONS:</b>	92 x 92 x 57.3 mm
<b>WEIGHT:</b>	0.9 lbs/0.4 kg
<b>OPERATING TEMPERATURE:</b>	4° to 122°F (-10° to 50°C)
<b>PROTECTION:</b>	Face IP65/NEMA 4X

# GA Series Pressure Gauge & Isolator

## ALL THERMOPLASTIC PRESSURE GAUGE AND ISOLATOR

### KEY FEATURES

- Ideal for corrosive environments and applications
- One-piece Molded Design (No Assembly)
- Heavy Duty Construction
- Completely Corrosion Resistant
- Extra Large Colored Display
- Factory Pre-filled Glycerin / Vacuum Sealed
- No Filling Required
- Suitable for Corrosive Media + Slurries
- Simple Installation
- Calibration Certified
- Self-flushing Gauge Guard Design



PP VERSION

### SPECIFICATIONS

<b>DIAL DIAMETER:</b> .....	Large 2-1/2" (Big Numbers-Clear Markers)	<b>GAUGE:</b> .....	Red, Yellow, Green Moveable Plastic Markers Pressure Range Pointers Fitted on the Bezel
<b>MOUNTING:</b> .....	Direct Mount, Bottom Connection FNPT 1/2"	<b>CONNECTION:</b> .....	1/2" FNPT
<b>HOUSING:</b> .....	PVDF or Polypropylene with PTFE or FPM Diaphragm	<b>FILLING:</b> .....	Options: Glycerin or Silicone Filled
<b>LENS:</b> .....	Safety Glass	<b>ACCURACY:</b> .....	±1.5% F.S.
<b>DIAL:</b> .....	Red/Black Scale White Background, dial arc 270°	<b>OPERATING TEMPERATURE:</b> .....	Max. Working Temp. PVDF-195°F, PP-170°F
<b>MEASURING PRINCIPLE:</b> .....	Bourdon Tube-316 SS (Non Wetted) Diaphragm (Wetted Part) – FPM (Standard)	<b>PRESSURE RANGE:</b> .....	Standard Range 0-60 / 0-100 / 0-160 psi
<b>MOVEMENT:</b> .....	316 SS (Non Wetted)		

# GDS Series

## DOUBLE SIDED PRESSURE GAUGE AND ISOLATOR

### KEY FEATURES

- All Thermoplastic *Double Sided* Gauge
- Heavy Duty Rugged Design
- Corrosion Resistant PP or PVDF Bodies
- Ideal for Visual Pressure Alert for Change-out or Bag Replacement
- Extra Large Colored Display
- High Accuracy of 1.5%
- Factory Pre-filled Glycerin / Vacuum
- No Filling Required
- One-piece Molded Design (No Assembly)
- Suitable for Corrosive Media + Slurries
- Self-flushing Gauge Guard Design



PVDF VERSION

### SPECIFICATIONS

<b>DIAL DIAMETER:</b> .....	Large 2-1/2" (Big Numbers-Clear Markers)	<b>GAUGE:</b> .....	3 Adjustable Plastic Markers-Pressure Range Pointers fitted on the Bezel (Green, Yellow, Red)
<b>MOUNTING:</b> .....	Direct Mount, Bottom Connection FNPT 1/2"	<b>FILLING:</b> .....	Glycerin Filled
<b>HOUSING:</b> .....	PVDF or Polypropylene with PTFE or FPM Diaphragm - One-piece Molded Design (No Assembly or Filling Required)	<b>ACCURACY:</b> .....	±1.5% F.S.
<b>LENS:</b> .....	Safety Glass	<b>OPERATING TEMPERATURE:</b> .....	Max. Working Temp. PVDF-195°F / 90°C,
<b>DIAL:</b> .....	Red/Black Scale White Background, dial arc 270°	<b>TEMPERATURE:</b> .....	PP 170°F, PVDF 195°F
<b>MEASURING PRINCIPLE:</b> .....	Bourdon Tube-316 SS (Non Wetted) Diaphragm (Wetted Part) – FPM (Standard)	<b>PRESSURE RANGE:</b> .....	Standard Range 0-60 / 0-100 / 0-160 psi (Second Scale: Bar) Other units available, e.g., MPa, etc.
<b>MOVEMENT:</b> .....	316 SS (Non Wetted)		

# GG Series Gauge Guards

1/4" x 1/4" PVC, CPVC AND PP AND 1/4" x 1/2" PVC, CPVC AND PVDF



## KEY FEATURES

- PVC, CPVC, PP and PVDF
- Threaded NPT Connections
- FPM Membrane
- All Thermoplastic, No Rust or Corrosion
- No Metal Fasteners
- Rugged, Low Profile, Compact Design
- Work in Any Position
- Large Volume Gauge Guard Available

## OPTIONS

- 0 to 30 PSI Gauge
- 0 to 60 PSI Gauge
- 0 to 160 PSI Gauge
- 0 to 160 PSI SS Liquid Filled Gauge and Liquid Damped

## SELECTION CHART

SIZE	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
1/4" x 1/4" (DN8 – DN8)	PVC, CPVC or PP	Threaded	FPM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
1/4" x 1/2" (DN8 – DN15)	PVC, CPVC or PVDF			

# GLD Series LED Pressure Gauge & Isolator

ALL THERMOPLASTIC PRESSURE INDICATOR WITH INTEGRAL ISOLATOR

## KEY FEATURES

- All Thermoplastic Construction (Gauge + Isolator)
- Heavy Duty One-piece Molded Design (No Assembly Required)
- No Filling Required
- Corrosion Resistant
- Designed to Act as Visual Pressure Alert for Bag/Filter Change-Out
- Extra Large LED Display
- No Programming Required (LCD Version)
- PTFE Diaphragm Standard
- High Accuracy  $\pm 1.0\%$
- Suitable for Corrosive Media & Slurries
- 15 ft of Cable for LED Model
- Simple Installation
- Self-flushing Gauge Guard Design



PP VERSION

## SPECIFICATIONS

DIAL DIAMETER:.....2-1/2"  
MOUNTING:.....Direct Mount, Bottom Connection 1/2" FNPT  
HOUSING:.....PVDF or Polypropylene with PTFE Diaphragm  
PROTECTION CLASS:.....NEMA 4X  
LENS:.....Polycarbonate  
DIAL:.....LED  
ACCURACY:..... $\pm 1.0\%$

OPERATING TEMPERATURE:.....Max. Working Temp. PVDF-195°F / 90°C,  
PP-170°F / 76°C  
PRESSURE RANGE:.....0-290 psi (Ambient Temp)  
OUTPUT:.....4-20mA + Two Open  
Collectors (NPN or PNP)  
POWER REQUIREMENT:.....10-30 VDC for LED

## BFAS Series Bulkhead Fittings – Standard Flange

1/2" TO 4" PVC, CPVC, PP AND GFPP



Certified to  
NSF/ANSI 61 & 372  
1/2" - 3"  
PVC/EPDM

### KEY FEATURES

- PVC, CPVC, PP and GFPP
- FPM or EPDM Gasket Seal
- Left-Hand Threads
- Buttress Threads Protect Against Blowout
- Hex Body for One-Person Installation
- Rated at 150 PSI

### OPTIONS

- Vacuum Breaker
- Ready Flanges (for Making Flanged Connections to Tanks)
- Tank-Tite™

### SELECTION CHART

SIZE	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
1/2" – 4" (DN15 – DN100)	PVC	Socket x Thread Thread x Thread	FPM or EPDM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
	CPVC	Socket x Thread		
	PP	Thread x Thread		
	GFPP			

## BFA Series Bulkhead Fittings – Standard Flange

1/2" TO 6" PVC, CPVC AND PP – LONG PATTERN



Certified to  
NSF/ANSI 61 & 372  
PVC/EPDM

### KEY FEATURES

- PVC, CPVC and PP
- Extra Long Design for Thick Tank Walls
- Left-Hand Threads
- Rated at 150 PSI
- FPM or EPDM Gasket Seal
- Hex Body for One-Person Installation
- Full Buttress Threads

### OPTIONS

- Vacuum Breaker
- Ready Flanges (for Making Flanged Connections to Tanks)
- Tank-Tite™

### SELECTION CHART

SIZE	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
1/2" – 6" (DN15 – DN150)	PVC	Socket x Socket Socket x Thread	FPM or EPDM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
	CPVC	Thread x Thread		
	PP	Thread x Thread		

## BFA Series Bulkhead Fittings – Oversized Flange

1/2" TO 1" PVC, CPVC AND PP – LONG PATTERN



### KEY FEATURES

- PVC, CPVC and PP
- Oversized Flange Base
- Extra Long Design for Thick Tank Walls
- Left-Hand Threads
- Rated at 150 PSI
- FPM or EPDM Gasket Seal
- Hex Body for One-Person Installation
- Full Buttress Threads

### OPTIONS

- Ready Flanges (for Making Flanged Connections to Tanks)
- Tank-Tite™

### SELECTION CHART

SIZE	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
1/2" – 1" (DN15 – DN25)	PVC	Socket x Socket Socket x Thread	FPM or EPDM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
	CPVC	Thread x Thread		
	PP	Thread x Thread		



## CCP Series Tank-Tite™

1/2" TO 3" PVC



### KEY FEATURES

- Robust PVC Upper and Lower Body Construction
- 17-7 PH Stainless Steel Wave Spring
- Rated to 150 PSI
- Fits with Hayward® BFAS/BFA Series Bulkhead Fittings
- Can be Used with All Bulkhead Fitting Materials
- Patented. U.S. Patent Number 8,328,240

### TANK-TITE™

The Tank-Tite is a revolutionary patented compression ring that eliminates the need to retighten gasketed bulkhead fittings! The Tank-Tite provides a constant load on the gasket of the bulkhead fitting to overcome, and compensate for, tank wall expansion/contraction in thickness due to changes in temperature and/or pressure within the tank. The Tank-Tite also imparts at the same time a constant load on the bulkhead fitting nut that reduces the possibility of loosening of the nut due to vibration within the system.

### MATERIALS

- PVC Cell Class 12454 per ASTM D1784
- 17-7 PH Stainless Steel

### SELECTION CHART

SIZE	MATERIAL	SPRING	PRESSURE RATING
1/2" – 3" (DN15 – DN80)	PVC	17-7 PH SSTL	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock

## SF Series Self-Aligning Bulkhead Fittings

1", 2" AND 3" PVC



### KEY FEATURES

- PVC
- Enables Easy Piping Connections to Domed Tanks
- Swivel Ball Connection Corrects for Curved Tanks
- Enables Straight Pipe Connections up to 27° of Offset Angle
- PTFE Ball Seal
- FPM or EPDM Gasket Seal

### SELECTION CHART

SIZE	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
1", 2" and 3" (DN25, DN50 and DN80)	PVC	Thread x Thread	FPM or EPDM	75 PSI @ 70°F 5 Bar @ 21°C Non-Shock

## AR Series Air Release Valves

3/4" PVC BODY WITH PP BALL



### KEY FEATURES

- PVC Body with PP Ball
- Reliable Tank Air Venting
- Prevents Tank Overflow
- Hollow, Floating Ball Design
- Closes at 0 PSI
- FPM or EPDM Seals
- Standard Screen

### SELECTION CHART

SIZE	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
3/4" (DN20)	PVC Body PP Ball	Socket and Threaded	FPM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock

## VB Series Vacuum Breakers

3/4" PVC



### KEY FEATURES

- PVC Body
- Reliable Venting of Tanks and Piping Systems
- Advanced Design for Fast Draining
- Easy Installation
- Compact
- No Metal Parts to Stick or Jam
- FPM Membrane
- Use with BFAS/BFA Series Bulkhead Fitting to Vent Tanks (Fits 1-1/2" Only)

### SELECTION CHART

SIZE	MATERIAL	SEALS	PRESSURE RATING
3/4" (DN20)	PVC	FPM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock

\* NPT Connection

## BVX Series Ready Flanges

1" TO 4" PVC, CPVC AND GFPP



### KEY FEATURES

- PVC, CPVC and GFPP
- One-Piece Construction
- Integral Molded Nipple
- Eliminates the Need for an Extra Fabricated Joint – Preventing a Possible Leak Path
- Easily Converts Socket Valves to Flanged
- ANSI Class 150 Bolt Pattern

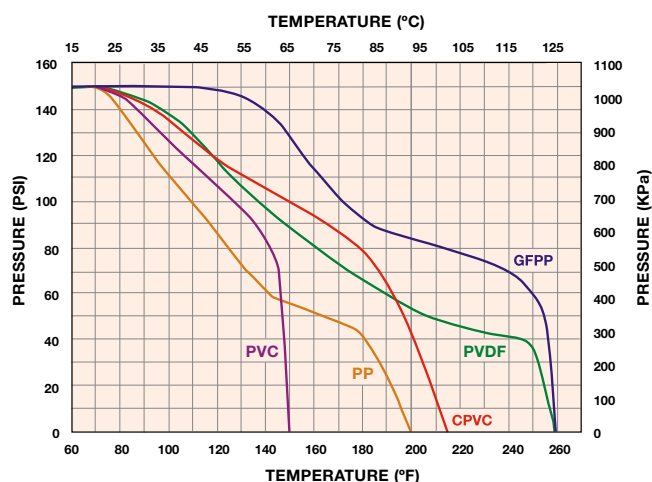
### OPTIONS

- Threaded to Flanged

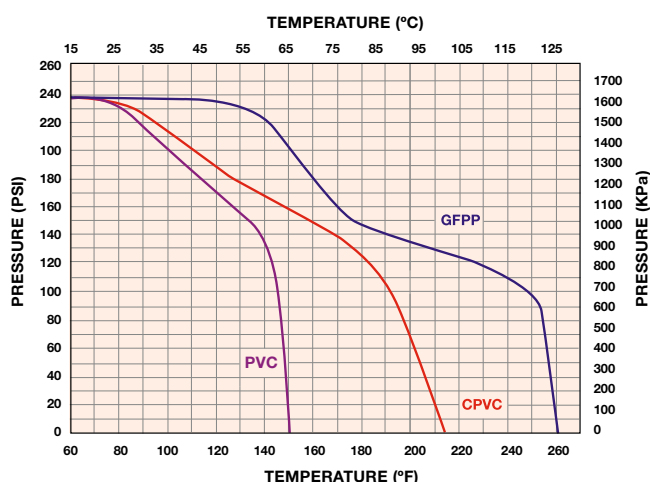
### SELECTION CHART

SIZE	MATERIAL	END CONNECTION	PRESSURE RATING
1" – 4" (DN25 – DN100)	PVC or CPVC	Spigot x Flanged	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
	GFPP	Threaded x Flanged	

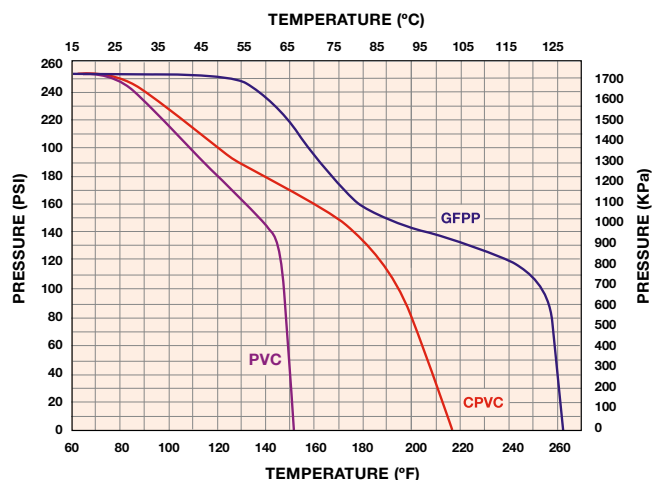
## Operating Temperature/Pressure for 150 PSI/10 Bar Rated Products (EXCEPT FILTER HOUSINGS)



## Operating Temperature/Pressure for 235 PSI/16 Bar Rated Products



## Operating Temperature/Pressure for 250 PSI/17 Bar Rated Products



## Pressure Loss Calculation Using Cv Factor

### PRESSURE LOSS CALCULATION FORMULA

$$\Delta P = \left[ \frac{Q}{C_v} \right]^2$$

$\Delta P$  = Pressure Drop

Q = Flow in GPM

Cv = Flow Coefficient

The pressure loss across a valve or filter can be calculated using the system's flow rate and the Cv factor for that valve or filter. For example, a 1" valve with a Cv factor of 8 will have a 4 PSI pressure loss in a system with a 16 GPM flow rate  $(16 \div 8)^2 = 4$

#### Notes:

1. Working pressure (non-shock) figures are the maximum recommended for the indicated pressure.
2. It is recommended that the minimum process fluid temperature for the Hayward® product not fall below 34°F.

# Basket Sizes for Hayward Simplex / Duplex Thermoplastic Strainers

**PRESSURE DROP CORRECTION FACTORS  
FOR VARIOUS SIZE BASKET SCREENS**

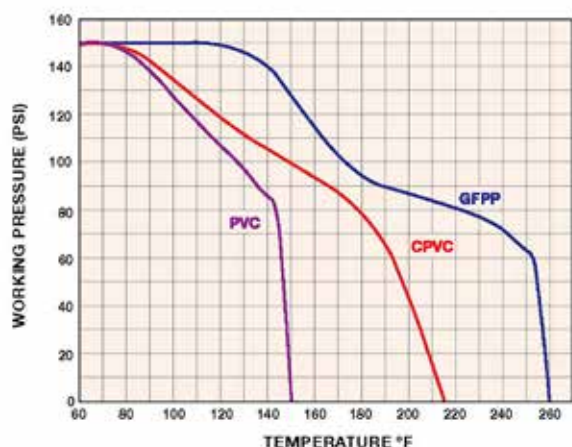
PLASTIC		STAINLESS STEEL		STAINLESS STEEL	
PERFORATION	CORRECTION FACTOR	PERFORATION	CORRECTION FACTOR	MESH	CORRECTION FACTOR
1/32"	1.05	1/32"	0.82	20	0.79
1/16"	1.00	3/64"	0.63	40	1.01
1/8"	0.58	1/16"	0.74	60	1.20
3/16"	0.46	5/64"	0.50	80	1.16
		7/64"	0.51	100	1.20
		1/8"	0.58	200	1.09
		5/32"	0.37	325	1.22
		3/16"	0.46		
		1/4"	0.58		
		3/8"	0.45		
		1/2"	0.48		

Note: To calculate pressure drop through vessels using other than 1/16" perforated baskets, first calculate the pressure drop using the listed Cv, and then multiply the result by the correction factor in the Correction Factors chart above.

**COMPARATIVE PARTICLE SIZE**

MESH	INCHES	MICRONS	MESH	INCHES	MICRONS	MESH	INCHES	MICRONS
3,250	0.0002	6	130	0.0043	110	24	0.028	718
1,600	0.0005	14	120	0.0046	118	20	0.034	872
750	0.0010	25	110	0.0051	131	18	0.039	1,000
325	0.0016	40	100	0.0055	149	16	0.045	1,154
250	0.0024	62	90	0.0061	156	14	0.051	1,308
200	0.0029	74	80	0.0070	179	12	0.060	1,538
180	0.0033	85	70	0.0078	200	10	0.075	1,923
170	0.0035	90	60	0.0092	238	8	0.097	2,488
160	0.0038	97	50	0.0117	300	6	0.132	3,385
150	0.0041	100	40	0.015	385	5	0.159	4,077
140	0.0042	108	30	0.020	513	4	0.203	5,205

## Operating Temperature/ Pressure for Bag & Cartridge Filter Housings



**CARTRIDGE ADAPTER SELECTION CHART**

CARTRIDGE TYPE	AVAILABLE YES/NO	
	CFLV SINGLE LENGTH	CFLV DOUBLE LENGTH
2-1/2" – 2-3/4" DOE/222XCAP	Yes	Yes
4-1/2" DOE/222XCAP	Yes	Yes
Hayward 7"x16" DOE	Yes	No
Hayward 7"x16" DOE (Double Stacked)	No	Yes
Hayward 7"x30"	No	Yes
7-3/4" DOE	Yes	Yes

Consult Hayward® for Available Cartridges.

## Z Series Specifications

**PERFORMANCE SPECIFICATIONS BY PUMP SIZE**

PUMP SIZE	FLOW RATE (GPH)	LINE PRESSURE (PSI)	STROKE CAPACITY (CC/STROKE)	Ø CONNECTIONS IN/OUT (INCHES)	FREQUENCY MAX (STROKE/MIN)	CONSUMPTION (W)
100	1.06	175	0.42	0.17" x 1/4"	160	12.2
	1.32	145	0.52			
	1.58	116	0.63			
	2.11	29	0.83			
200	1.85	232	0.38	0.17" x 1/4"	300	23.9
	2.64	145	0.55			
	3.96	72	0.83			
	4.75	14	1.00			
500	7.90	73	1.11	5/16" x 7/16"	300	22.2
	10.50	58	1.39			
	12.00	29	2.22			
	29.00	0	3.00			



## NSF/ANSI Standard 61 and NSF/ANSI 372

NSF/ANSI Standard 61 is a standard defining the requirements for products that are destined for use in drinking water systems. In summary, the standard requires immersion testing of all products that will come into contact with drinking water for any chemicals, compounds, elements, etc. that may leach into the water that passes through the product.

Hayward products that are NSF 61 certified can easily be found on the NSF website, [www.NSF.org](http://www.NSF.org). Additionally, those products certified to NSF61-G are also certified to NSF/ANSI 372 and conforms with the lead content requirements for "lead free" plumbing as defined by California, Vermont, Maryland and Louisiana state laws and the U.S. Safe Drinking Water Act.

The following Hayward Flow Control products comply with this directive:

PRODUCT	SIZE	WATER CONTACT TEMP	WATER CONTACT MATERIAL
<b>TBH SERIES BALL VALVES</b> <i>(including vented ball)</i>			
Hayward True Union Ball Valve (PVC)	1/4" - 2"	CLD23	MLTPL
Hayward True Union Ball Valve (CPVC)	1/4" - 2"	CLD23	MLTPL
<b>CVH SERIES BALL VALVES</b> <i>(including vented ball)</i>			
CVH Series Ball Valve (CPVC)	1/4" - 2"	CLD 23	MLTPL
CVH Series Ball Valve (PVC)	1/4" - 2"	CLD 23	MLTPL
<b>TB SERIES BALL VALVES</b> <i>(including vented ball)</i>			
Hayward True Union Ball Valve (PVC)	1/4" - 4"	CLD23	MLTPL
Hayward True Union Ball Valve (CPVC)	1/4" - 4"	CLD23	MLTPL
<b>TC SERIES CHECK VALVES</b>			
Hayward True Union Ball Check Valve (PVC)	1/4" - 4"	CLD23	MLTPL
Hayward True Union Ball Check Valve (CPVC)	1/4" - 4"	CLD23	MLTPL
<b>BYV SERIES BUTTERFLY VALVES</b>			
Hayward Butterfly Valve (PVC/EPDM)	2" - 12"	CLD23	MLTPL
Hayward Butterfly Valve (CPVC/EPDM)	4" - 12"	D. HOT	MLTPL
<b>BYCN SERIES BUTTERFLY VALVES (PVC/EPDM)*</b>	<b>2" - 8"</b>	<b>CLD23</b>	<b>MLTPL</b>
<b>SIMPLEX SB SERIES STRAINERS**</b>			
Hayward Simplex Basket Strainer (PVC)	1/2" - 8"	CLD23	MLTPL
Hayward Simplex Basket Strainer (CPVC)	1/2" - 8"	D. HOT	MLTPL
<b>BFA SERIES (PVC/EPDM) BULKHEAD</b>	<b>1/2" - 6"</b>	<b>CLD23</b>	<b>MLTPL</b>
<b>BFAS SERIES (PVC/EPDM) BULKHEAD</b>	<b>1/2" - 3"</b>	<b>CLD23</b>	<b>MLTPL</b>
<b>FLOW CONTROL VALVES</b>			
Universal Stopcock™	1/4"	CLD23	MLTPL
<b>RPV SERIES PRESSURE RELIEF VALVES</b>	<b>1/2" - 4"***</b>	<b>CLD23</b>	<b>MLTPL</b>
<b>PBV SERIES BACK PRESSURE VALVES</b>	<b>1/2" - 4"***</b>	<b>CLD23</b>	<b>MLTPL</b>

\* Certified for use in distribution systems only.

\*\* Certified for use in water treatment plant applications only with a minimum daily flow rate of 3,120 gallons.

\*\*\* See listing for specific size and material combination.

NOTE: Unless otherwise indicated for Materials, Certification is only for the Water Contact Material shown in the Listing.

Always consult NSF Listing online as changes and updates may occur.

### Hayward's Statement of Quality Policy

Through the commitment to continuously improve our quality management system, Hayward Flow Control shall provide our customers, both internal and external, the resources, environment, products and service required to meet and exceed their expectations.





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CPG0918

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Visit us at: [www.haywardflowcontrol.com](http://www.haywardflowcontrol.com) • Email: [hflow@hayward.com](mailto:hflow@hayward.com)