

## Condensed Product Guide



define  
design  
**deliver**

## HAYWARD® FLOW CONTROL – DEFINE, DESIGN, DELIVER...

For more than 50 years, Hayward Flow Control's thermoplastic fluid handling products and solutions have proven to excel in the harshest environments. 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 9001:2008 certified company, we strive for the highest quality product possible for use in a wide range of demanding applications.

### HAYWARD THERMOPLASTIC VALVES, ACTUATION AND CONTROLS

Hayward manufactures flow control products in thermoplastic materials including PVC, CPVC, PP and GFPP. 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, local control station technology and battery backups, Hayward continues to provide customers with an industry-leading choice of valve actuation packages to satisfy the most demanding application requirements.

### HAYWARD'S FAMOUS STRAINERS AND FILTERS

Hayward's industry leading Basket and Y-Strainers are designed to protect pipeline system components and life maintenance facilities from dirt and debris while allowing process media to flow freely. Simplex and duplex strainers are manufactured in PVC, CPVC, GFPP and clear Eastar, and are available with thermoplastic, stainless steel or alloy, perf and mesh lined baskets in a wide range of sizes. Y-Strainers are offered in PVC, clear PVC or CPVC, are compact and lightweight and have FPM or EPDM o-ring seals and perforated thermoplastic screens.

Unlike traditional metal and plastic filters, Hayward's new patent pending 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.

### HAYWARD 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, immersible and magnetic drive pumps with motors rated from 1/15 to 5 HP, and flow rates from 5 to over 140 GPM and TDHs of up to 141 feet.

### NEW PRODUCTS FROM HAYWARD

Hayward Flow Control now offers a full range of innovative and corrosion resistant Instrumentation and Metering pump solutions for your process and dosing system's needs. This new category of product solutions from Hayward includes solenoid diaphragm pumps, flow meters, level sensors and pressure gauges to measure and regulate your system's performance in the harsh environments that our products serve. When packaged with our industry leading thermoplastic valves, actuations, filters, strainers and pumps, Hayward provides you with a complete package of flow control solutions to make your piping systems perform to your needs.



BACKED BY HAYWARD FLOW  
CONTROL'S EXCLUSIVE  
TWO YEAR WARRANTY

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# TB Series True Union Ball Valves

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



PVC and CPVC

## KEY FEATURES

- PVC, CPVC and GFPP
- Full Port Design
- Reversible PTFE Seats
- Double O-Ring Stem Seals
- Easily Actuated
- NSF/ANSI 61 Listed (PVC and CPVC)

## OPTIONS

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

## SELECTION CHART

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

\* 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.

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

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 Listed (2-1/2"-4")
- Actuator-Ready Design

## OPTIONS

- Pneumatic and Electric Actuators
- 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" (DN63 – 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. (10 Bar @ 21°C)  
Flanged ends available in DIN/EN PN10.



2-1/2" - 4"



## 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 Actuators
- 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.

## 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

### APPLICATIONS

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

### 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 Actuators
- 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 Actuators



### 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.



## QV Series QIC2™ Compact Ball Valves

1/2" TO 2" PVC

### KEY FEATURES

- Gray PVC
- Rugged, Compact and Lightweight Design
- Full Port Design
- PTFE Seats
- EPDM O-Ring Seals
- Low Torque, Easy 1/4-Turn Operation
- No Integral Parts to Replace
- Perfect for OEM Requirements

### SELECTION CHART

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

## Valve-Safe Lockouts

FOR BALL VALVES UP TO 6"

### KEY FEATURES (A)

- For Ball Valves up to 6"
- Latches and Lockable in Open/Close Position
- Simple Trigger Mechanical Design
- Can Use with Lockout/Tagout Hasp

### KEY FEATURES (B)

- PP Housing Material
- For All Ball Valves up to 6"
- Use with up to 3 Padlocks



B



## TBB Series Commercial True Union Ball Valves

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

### KEY FEATURES

- PVC, CPVC, PP and PVDF
- Full Port Design
- FPM or EPDM Seals
- PTFE Seats
- Double O-Ring Stem Seals
- Adjustable Seat Retainer

### SELECTION CHART

SIZE	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
1/2" – 4" (DN15 – DN100)	PVC or CPVC	Socket, Threaded or Flanged*	FPM or EPDM	225 PSI @ 70°F 15 Bar @ 21°C Non-Shock
	PP	Threaded or Flanged	FPM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
	PVDF			

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

## QTA Series Commercial True Union Compact Ball Valves

1/2" TO 2" PVC

### KEY FEATURES

- Gray and White PVC
- True Union End Connections
- Rated at a Full 150 PSI
- Santoprene® (TPV) Seats
- EPDM O-Ring Seals
- No Internal Parts to Replace
- Low Torque Easy 1/4-Turn Operation
- Perfect for OEM Applications
- Socket and Threaded Connections



### SELECTION CHART

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

## QVC Series Commercial Compact Ball Valves

1/2" TO 4" PVC

### KEY FEATURES

- Gray and White PVC
- Compact and Lightweight Design
- Low Torque Easy 1/4-Turn Operation
- Santoprene® (TPV) Seats
- EPDM O-Ring Seals
- No Internal Parts to Replace

### SELECTION CHART

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





## 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

2" TO 8" PVDF AND 10" TO 20" PVC, PP AND PVDF

### KEY FEATURES

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

### OPTIONS

- Spacers
- Stainless Steel or Hastelloy® Disc Springs\*



\* Valve shown with spring option

### SELECTION CHART

SIZE	MATERIAL	END CONNECTION	O-RING	SPRING	PRESSURE RATING
2" – 6" (DN50 – DN150)	PVDF	Wafer	FPM, EPDM or PTFE*	316 SS, Hastelloy®	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
8" (DN200)					100 PSI @ 70°F 7 Bar @ 21°C Non-Shock
10" – 12" (DN250 – DN300)	90 PSI @ 70°F 6 Bar @ 21°C Non-Shock				
14" – 16" (DN350 – DN400)	Consult with Factory				
20" (DN500)	NA				

\* PTFE encapsulated FPM

# TC Series True Union Ball Check Valves

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



## KEY FEATURES

- PVC, CPVC and PP
- 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



1/4" - 4"  
PVC and CPVC

## 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 or EPDM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
6" (DN150)		Flanged		

\* 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



## KEY FEATURES

- PVC and CPVC
- 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

\* 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.

## BYV Series Butterfly Valves

2" TO 12" PVC, CPVC AND GFPP



### KEY FEATURES

- One-Piece Body and Disc in PVC, CPVC and GFPP Materials
- Revolutionary Hand Lever with 19 Lockable Stop Positions and 360° Interlock
- External Disc Position and Flow Indication
- Hydro-dynamic Centric Disc Design for Increased Flow Performance
- Over-Sized Liner Face Maximizes Surface Contact with Flanges
- EPDM, Viton® or Nitrile Liners
- One-Piece 316 Stainless Steel Stem with Threaded Retaining Gland
- Stem Bearing and Seal Retainer for Absolute Stem Positioning and Sealing
- ISO 5211 Top Flange and Stem Drive
- All Sizes Meet ANSI B16.10 / ISO 5752 Narrow Face-to-Face Dimensions
- Fits ANSI 150 or PN10 Flange Patterns

### OPTIONS

- Over-Molded or Field Mountable 316 Stainless Steel Lugs
- Gear Operators
- Complete Range of Pneumatic or Electric Actuators
- Stem Extensions
- 2" Square Operating Nut
- Chain Operator for Gear Box

### SELECTION CHART

SIZE	BODY MATERIAL	DISC MATERIAL	LINERS	PRESSURE RATING
2" – 12" (DN50 – DN300)	PVC, CPVC or GFPP	PVC, CPVC or GFPP	Viton®, EPDM or Nitrile	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock

## BYB Series Large Diameter Butterfly Valves

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



### KEY FEATURES

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

### OPTIONS

- Pneumatic or Electric Actuators
- Stem Extensions

### SELECTION CHART

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



BYCN 2" – 8"

### KEY FEATURES

- Distinctive Ergonomic Handle with Lockout Feature
- Wafer Body Design
- Fits ANSI 150 or PN10 Flange Patterns
- PVC Body with PVC Disc

### OPTIONS

- One-Piece Stainless Steel Stem 316 Grade for BYCN/410 Grade for BYCS
- ISO 5211 Mounting Pad
- NSF/ANSI-61 Listed (BYCN 3" – 8")
- Gear Operators
- Pneumatic or Electric Actuators

### SELECTION CHART

SERIES	SIZE	BODY MATERIAL	DISC MATERIAL	STEM MATERIAL	LINERS	PRESSURE RATING
BYCN	2" – 8" (DN50 – 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, CPVC, PP AND PVDF



## KEY FEATURES

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

## OPTIONS

- Electric or 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
	PP or PVDF	Threaded			

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

# DAB Series Flanged Diaphragm Valves

1/2" - 6" PVC / 1/2" - 4" CPVC / 1/2" - 8" PP / 1/2" - 8" PVDF

## KEY FEATURES

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

## OPTIONS

- Pneumatic or Electric 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
1/2" – 4" (DN15 – DN100)	PP			150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
6" – 10" (DN150 – DN250)				75 PSI @ 70°F 5 Bar @ 21°C Non-Shock
1/2" – 4" (DN15 – DN100)	PVDF			PTFE*
6" – 8" (DN150 – DN200)		75 PSI @ 70°F 5 Bar @ 21°C Non-Shock		

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



## 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 17 Bar @ 21°C Non-Shock

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

## EAU 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
- Namur-Style Solenoid Mounting
- 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 Voltage
- 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

- Double Acting Air-to-Open and Close
- 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
- 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

# EAU 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

## 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
<b>THERMAL OVERLOAD PROTECTION MECHANICAL</b>	
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
<b>THERMAL OVERLOAD PROTECTION</b>	



# EPZ Series On/Off Electric Actuators

FOR BALL VALVES UP TO 2"

## KEY FEATURES

- Ideal for Limited Space Applications
- Available in Two Sizes EPZ6 and EPZ15
- Superior Gear Design
- Lightweight Design
- On/Off Jog Control Capabilities
- ISO 5211 F03/F05 Mounting Pattern
- 8 point 14 mm Female Drive Socket
- Non-Spring Return
- Thermal Class F Motor Protection
- NEMA 4X/IP67 Rating
- Manual Override Including Lock-Out Functionality
- Override Tool Included
- Pilot Signal for Open and Closed Positions

## OPTIONS

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



## SPECIFICATIONS

<b>OPERATION:</b> .....	Reversing
<b>CONDUIT SIZE:</b> .....	1/4" Sealed PF Conduit Gland Pre-Wired with 1 Meter Cable
<b>DUTY CYCLE:</b> .....	(EPZ6 and 15) 30% – 24V, 120V and 230V On/Off
<b>CYCLE TIMES:</b> .....	17 Seconds @ 60 Hz to 20 Seconds @ 50 Hz, Depending on Model
<b>ENCLOSURE:</b> .....	NEMA 4/4X/IP67
<b>VOLTAGES:</b> .....	24VAC, 120VAC and 230VAC
<b>THERMAL OVERLOAD PROTECTION MECHANICAL BRAKE OVERRIDE:</b> .....	
	Manual Override with Lockout Selector Switch
<b>HOUSING:</b> .....	Aluminum Alloy Electrostatic Coated

# EPM Series On/Off and Proportional Control Actuators

FOR BALL AND BUTTERFLY VALVES UP TO 24"



\* Manual Override Option (EPM6 and above) – Handwheel Shown

## KEY FEATURES

- Modular Design
- Superior Gear Design
- Data Logging and Diagnostics (Proportional Control Only)
- 4 Limit Switches (2 Auxiliary)
- Internal Low Power Heater
- NEMA 4/4X Enclosure
- Position Indicator
- Clutchless Manual Override
- Self-Locking Drive
- Permanently Lubricated
- Thermal Overload
- CE Listed and CSA Certified
- ISO 5211 Mounting Base

## OPTIONS\*

- Positioners
- Power Supply Flexibility – 3 Phase 2/230 VAC, 380 VAC or 460 VAC
- Extended Duty Motors
- Feedback Potentiometer
- Local Control Station
- \* Not available on all models

## SPECIFICATIONS

<b>OPERATION:</b> .....	Reversing
<b>CONDUIT SIZE:</b> .....	(EPM2, 3 and 4) Two Conduit Fittings 1/2" NPT Each (EPM6, 8, 11, 13, 22, 35 and 130) Two Conduit Fittings 3/4" NPT Each
<b>DUTY CYCLE:</b> .....	(EPM2) AC Versions 25%–50% On/Off; DC Versions 75% On/Off (EPM3 and 4) AC Versions 25%–50% On/Off, 75% with Extended Duty Motors and 75% Proportional Control; DC Versions 75% On/Off and Proportional Control (EPM6, 8, 11, 13, 22, 35 and 130) AC Versions 25%–50% On/Off, 75% with Extended Duty Motors and 100% Managed Proportional Control; DC Versions 25%–50% On/Off and 75% Proportional Control
<b>CYCLE TIMES:</b> .....	8–46 Seconds, Depending on Model
<b>ENCLOSURE:</b> .....	NEMA 4/4X
<b>VOLTAGES:</b> .....	(EPM2) 12 VDC, 24 VDC, 120 VAC and 230 VAC (EPM3, 4, 6, 8, 11, 13, 22 and 35) 12 VAC/DC, 24 VAC/DC, 120 VAC and 230 VAC (EPM130) 24 VAC/DC, 120 VAC and 230 VAC
<b>THERMAL OVERLOAD PROTECTION MECHANICAL BRAKE OVERRIDE:</b> .....	
	Clutchless Manual
<b>HOUSING:</b> .....	Aluminum Alloy Dry Powder Coated

# EPS Series Spring Return Control Actuators

FOR BALL AND BUTTERFLY VALVES UP TO 8"



## KEY FEATURES

- Clockwise or Counter-Clockwise Spring Return
- 4 Limit Switches (2 Auxiliary)
- Internal Low Power Heater
- NEMA 4/4X Enclosure
- Position Indicator
- Rack and Pinion Drive
- Permanently Lubricated
- Thermal Overload
- CSA Certified

## OPTIONS\*

- Positioners
- Two Additional Auxiliary Switches
- Manual Override (Shown)
- Local Control Station

\* Not available on all models

## SPECIFICATIONS

OPERATION:	Reversing
CONDUIT SIZE:	Two Conduit Fittings 3/4" NPT Each
DUTY CYCLE:	(EPS5, 12 and 18) 50% On/Off and 25% Proportional Control
CYCLE TIMES:	Motor 7–13 Seconds, Spring 3–12 Seconds, Depending on Voltage
ENCLOSURE:	NEMA 4/4X
VOLTAGES:	(EPS5, 12 and 18) 24 VAC/DC, 120 VAC and 230 VAC
THERMAL OVERLOAD PROTECTION MECHANICAL BRAKE OVERRIDE:	Manual (Optional)
HOUSING:	Aluminum Alloy Dry Powder Coated

# EPD Series Spring Return Actuators

FOR BALL VALVES 1/2" TO 6" / BUTTERFLY VALVES UP TO 4"



## KEY FEATURES

- Maintenance Free
- Field Adjustable Speed Control
- Field Adjustable Spring Return Control\*
- Auto-Switching Power Supplies
- Hex Key Override & Mounting Screws
- Internal Low Power Heater
- Thermal Overload
- ATEX Rated NEMA 4/IP66

## OPTIONS\*

- Two Internal End-of-Travel Non-Adjustable Switches
- Externally Mounted Switch Pack with 2 Additional Adjustable Switches
- EMT Enclosure
- Manual Override Handwheel

\* Not available on all models

## SPECIFICATIONS

OPERATION:	Drive Open or Closed/Spring Opposite Drive Open/Closed: Spring Engaged Upon Loss of Electric Supply: Proportional Control
DUTY CYCLE:	100% – 14 Sec. Mode, 10% – 3 Sec. Mode; One Power/Spring Cycle Per Minute Max. (EPD 2/3) 100% – All Models (EPD 4/5)
RUN TIME (POWER):	3/15/30/60/120 @ 90°; Field Selectable (EPD 2/3) 40/60/90/120/150 @ 90°; Field Selectable (EPD 4/5)
RUN TIME (SPRING):	3 or 10 Seconds @ 90°; Field Selectable (EPD 2/3) 20 Seconds @ 90°; Fixed (EPD 4/5)
3 SECONDS MODE (SPRING):	3–4 Seconds @ 90°; Load Dependant (EPD 2/3) N/A (EPD 4/5)
ENCLOSURE:	NEMA 4/IP66
THERMAL OVERLOAD PROTECTION OVERRIDE:	Manual
HOUSING:	Aluminum Die Casting

# EPL Series Linear Drive, Non-Spring Return Actuators

FOR MOST RISING STEM DIAPHRAGM VALVES UP TO 10"



## KEY FEATURES

- Modular Design
- 4 Different Output Forces
- Internal Low Power Heater
- NEMA 4/4X Enclosure
- Position Indicator
- Manual Override
- Self-Locking Drive
- Permanently Lubricated
- Thermal Overload
- CSA Certified
- Universal Bonnet Mounting
- Choice of Voltages: 24 VAC/DC, 120 VAC and 230 VAC

## SPECIFICATIONS

OPERATION:	Down and Up
STROKE LENGTH:	0.79" – 3.94"; Depending Upon Model
FULL TRAVEL TIME:	(EPL5 and 11) 0.6 MM/Seconds (0.023"/Second), Regardless of Voltage (EPL22 and 44) 0.5 MM/Seconds (0.019"/Second), Regardless of Voltage
ENCLOSURE:	NEMA 4/4X
VOLTAGE:	(EPL550, 1100, 2200 and 4400) 24 VAC/DC, 120 VAC and 230 VAC
THERMAL OVERLOAD PROTECTION OVERRIDE:	Manual
HOUSING:	Aluminum Alloy Dry Powder Coated

## EBU Series Battery Backup

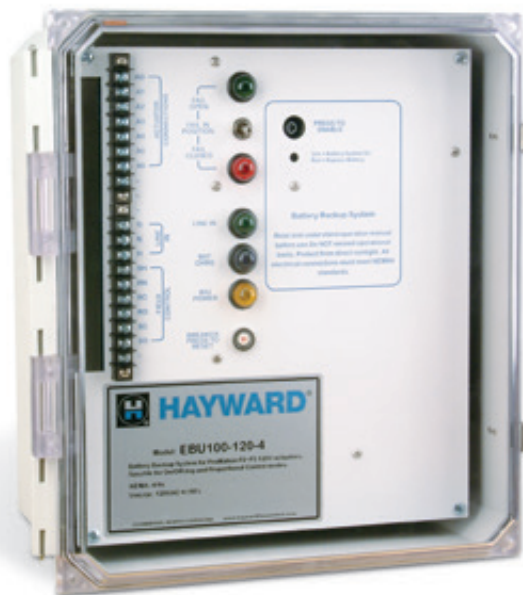
### FOR USE WITH EP SERIES ELECTRIC ACTUATORS

EBU Battery Backup Systems provide fail-safe operation for Series EPM, EPS and EPL Actuators using 2, 3 or 4 wire connections,\* and support both on/off and proportional control.

\* Additional field wiring may be required between the EBU and the actuator (consult factory).

#### KEY FEATURES

- Designed for the harshest of chemical and industrial environments
- NEMA 4X fiberglass enclosure with locking hinged clear polycarbonate access door
- Easy integration to virtually all electrical supply systems
- Supports OPEN/CLOSE or PROPORTIONAL/MODULATING control
- Indicator lights for position, selection, manual override, system status and alarm
- Unit provides isolated power interface for total control system protection
- Manual override control switch
- Multiple actuator battery backup solutions (consult factory)



## LCS Series Local Control Station

Local Control Stations can be used with Series EPM, EPS and EPL Actuators, connect through the EMT entry, and are available in four different models to meet specific application requirements. Custom configurations available (consult factory).

#### KEY FEATURES

- Provide emergency operation of electric actuators
- NEMA 4X rated epoxy coated steel enclosure standard
- Optional fiberglass and stainless steel enclosures available
- Various indicator light configurations available
- Actuator position contacts available for remote monitoring
- Provide dry contact status for control status monitoring
- Allowing for direct mounting on actuator or remote wall/panel mount – specify when ordered
- Support 120VAC, 24VAC, 12VAC, 24VDC or 12VDC systems

#### OPTIONS\*

##### For Open/Close Applications Only

- LA – Basic control, remote/off/local switch, open/stop/close switch, no lights, no additional terminals EPM3 thru EPM130
- LB – Remote/off/local switch, open/stop/close switch, open/close lights, HOT EOT outputs EPM3 thru EPM130
- LC – Remote/off/local switch, open/stop/close switch, open/close lights, HOT EOT outputs. Dry contact output for mode switch position EPM3 thru EPM130

##### For Proportional/Modulating Applications Only

- LF – Remote/off/local switch, open/close switch, open/close/ power lights, has feedback terminals. Generates 4 or 20mA signal to actuator (WILL ALLOW OPEN or CLOSED OPERATION ONLY), specify 4–20mA or 2–10vdc control and feedback. Dry contact output for mode switch position, HOT EOT outputs (EPM proportional only).
- LG – Remote/off/local switch, open/close switch, open/close/power lights, has feedback terminals. Generates 4 or 20mA signal to actuator (WILL ALLOW OPEN or CLOSED OPERATION ONLY), CUSTOMER TO SPECIFY 4–20mA or 2–10vdc control. Dry contact output for mode switch position. HOT EOT outputs (PA/O). End switch form C contacts (requires option – S5), EPM6 and larger proportional only.

\* Contact factory for custom applications



# SV Series True Union Solenoid Valves

1/4" TO 1" PVC AND CPVC



## KEY FEATURES

- PVC and CPVC
- Continuous or 100% Duty Applications
- 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" (DN8 - 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.

# 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
- Patent No. 9,010,721 and 9,010,722

## OPTIONS

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



LHB



LHB-SR

## SELECTION CHART

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

## 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.

## AV Series Angle Globe Valves

1/4" TO 2" PVC



### KEY FEATURES

- PVC
- 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

### OPTIONS

- Flanged Ends

### 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

\* Available with threaded ends to BS21.

# NVA Series Needle Valves

1/4" TO 1/2" PVC AND GFPP



## KEY FEATURES

- Available in PVC and GFPP
- 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
- Patent Pending

## SELECTION CHART

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

# LC Series Universal Stopcock™

1/4" PVC



## 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

## BFAS Series Bulkhead Fittings – Standard Flange

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



1/2" – 3"  
PVC/EPDM

### KEY FEATURES

- PVC, CPVC and PP
- 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		

## BFA Series Bulkhead Fittings – Standard Flange

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



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		

# Tank Adapter Fittings

1/2" TO 4" GFPP - THREAD X THREAD



## KEY FEATURES

- Short Pattern/Barrel Design
- All Glass Filled Polypropylene Construction
- EPDM Gasket Seal
- Rated to 150 PSI @ 70°F Non-Shock
- Excellent Temperature and Abrasive Properties
- Left Handed Threads
- Heavy Duty Buttress Threads to Help Prevent Leaks Under Pressure
- Hex Body for Easy Installation

## MATERIALS

- PP per ASTM D4101
- Heavy-Duty EPDM Gasket Seal

## SELECTION CHART

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

# CCP Series Tank-Tite™

1/2" TO 3" PVC



## KEY FEATURES

- Robust PVC Upper and Lower Body Construction
- 17.4 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

## MATERIALS

- PVC Cell Class 12454 per ASTM D1784
- 17.4 PH Stainless Steel



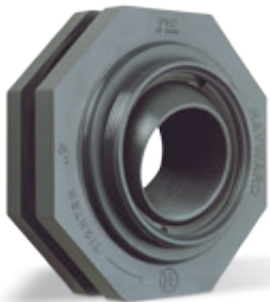
The Tank-Tite is a revolutionary patented compression ring that eliminates the need to retighten gasketed bulkhead fittings! The Tank-Tite provides a constant load on the gasket of the bulkhead fitting to overcome, and compensate for, tank wall expansion/contraction in thickness due to changes in temperature 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.

## SELECTION CHART

SIZE	MATERIAL	SPRING	PRESSURE RATING
1/2" – 3" (DN15 – DN80)	PVC	17.4 PH SSSL	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" <sup>**</sup> (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	

## YS Series Y-Strainers

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



### KEY FEATURES

- PVC, CPVC and Clear PVC
- 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	Socket, Threaded, Flanged or True Union	FPM and EPDM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
2-1/2" (DN63)	PVC			
3" – 4" (DN80 – DN100)	PVC and CPVC			

\* 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

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



NSF

PVC and CPVC

### KEY FEATURES

- PVC, CPVC, GFPP and Eastar®
- True Union
- Ergonomic Hand Removable Cover
- In-Line or Loop Connections
- External Cover Threads
- Integral Flat Mounting Bases
- PVC or CPVC Baskets Standard
- NSF/ANSI 61 Listed

### 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

\* End Connections and assembly nuts are PVC

\*\* 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.

## SB Series Simplex Basket Strainers

6" TO 8" PVC AND CPVC



NSF

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 or Electric Valve Automation



## 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 or Electric Valve Automation



## 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

## OPTIONS

- Vent Gauge with Gauge Guard
- Pressure Differential Gauge and Switch
- EPDM O-Rings
- 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" – 4" (DN50 – 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

## OPTIONS

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



## 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" – 4" (DN50 – 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.

# FLT Series Simplex Bag Filters

PVC AND CPVC

### KEY FEATURES

- Single and Double Length
- Hand Removable Cover
- In-Line or Loop Flow
- Integral Mounting Base
- Vent Valve on Cover

### OPTIONS

- Vent Gauge with Gauge Guard
- Pressure Differential Gauge and Switch
- Flanged Connections



SELECTION CHART						
SIZE	MATERIAL	END CONNECTIONS	PIPING SIZES	SEALS	FLOW RATE	PRESSURE RATING
Single Length 7"x16"	PVC or CPVC	Socket, Threaded or Flanged	2" (DN50)	FPM or EPDM	50 GPM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
Double Length 7"x32"					100 GPM	

# FLT Series Duplex Bag Filters

PVC AND CPVC

### KEY FEATURES

- Single and Double Length
- Hand Removable Cover
- In-Line or Loop Flow
- Integral Mounting Base
- Vent Valve on Cover

### OPTIONS

- Vent Gauge with Gauge Guard
- Pressure Differential Gauge and Switch
- Flanged Connections



SELECTION CHART						
SIZE	MATERIAL	END CONNECTIONS	PIPING SIZES	SEALS	FLOW RATE	PRESSURE RATING
Single Length 7"x16"	PVC or CPVC	Socket, Threaded or Flanged	2" (DN50)	FPM or EPDM	50 GPM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
Double Length 7"x32"					100 GPM	

# 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	200°F	
	Nylon Mesh	Sewn	PP RING		325°F



# 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



## TF Series

MULTI-FUNCTION TRUE UNION PADDLEWHEEL FLOW METER



### KEY FEATURES

- Perfect for Pump and Filter Protection
- True Union Design 1/2" - 2" (Flanged 3" & 4", PVC Only)
- High Accuracy— Less than  $\pm 1.0\%$  of Full Scale
- Unit of Flow Measurement is Selectable (Liter/Gallon)
- Corrosion Resistant Materials—PVC and Polypropylene
- Economical Visual Indication
- Easy Installation – No Insertion Fittings
- High Flow Range 0.33 ft/s – 32.8 ft / 0.3 m/s – 10 m/s
- Pulse on All Models, Totalizer and 4-20mA Available
- Easy to Configure, 'K' Factor Pre-set
- Large Bright LED Digital Display
- Horizontal or Vertical Installation
- NEMA 4X/IP65 Enclosure
- Low Pressure Drop

### SPECIFICATIONS

FLUID:	Water or Chemicals Liquid – Viscosity Range: 5-20 centistokes
ACCURACY:	( $\pm 1.0\%$ of F.S. @ 20°C (68°F) – Repeatability $\pm 0.5\%$ of Full Scale
FLOW VELOCITY:	Flow Range - 0.33 to 32.8 FPS (8 FPS Max recommended)
PRESSURE RATING:	150 psi / 10 Bar at 70°F / 23°C Non-Shock
MATERIAL OF CONSTRUCTION:	Paddle: Tefzel / Body: PVC or PP Shaft: Zirconium Ceramic Seals: EPDM/FPM
OPERATING TEMPERATURE:	PVC: 32 to 140°F (60°C), PP 20 to 176°F (80°C)
PROTECTION CLASS:	IP65 NEMA 4X
MIN FLOW:	1/2" = 0.2 GPM, 3/4" = 0.5 GPM, 1" = 1 GPM, 1-1/2" = 1.5 GPM, 2" = 5.5 GPM

## TFD Series

PADDLEWHEEL FLOW METER AND TOTALIZER WITH ALERT ALARM



### KEY FEATURES

- Large LED Display changes from Green to RED to Indicate Alarm Condition
- Corrosion Resistant Wetted Parts - PVDF Body - Zirconium Dioxide Ceramic Shaft - PFA Paddle
- Accuracy  $\pm 0.75\%$  of Full Scale
- For Pipe Sizes 1/2 - 24 Inches
- Displays Flow Rate and Flow Total (Resettable)
- Flow Velocity Range 0.33 to 32.8 ft/s (0.1 to 8 m/s)\*
- Eprom Memory - Totalizer Value will not be lost
- NEMA 4X (IP66) Protection
- Bright LED Display Flow Units—Liter, USGPM
- Dual Programmable 3A Relays, Plus One NPN Open Collector (for Pulse Output)
- 4-20 mA Output Standard
- Fits into Industry-standard Insertion Fittings
- Insertion Fittings and Clamp-on Saddles Available



### SPECIFICATIONS

SUPPLY VOLTAGE:	DC 14 to 28V
REPEATABILITY:	$\pm 0.5\%$ Full Scale
PIPE SIZE:	1/2" to 4"/DN15 to DN100 (-0), 6" to 24"/DN150 to DN600 (-1)
READOUT RANGE:	0-99999 (Flow Rate), 0-99999999 (Totalizer)
RELAY CONTACT OUTPUT:	DC 3-V-3 Amp
ANALOG OUTPUT:	4-20 mA
PROTECTION CLASS:	IP65/NEMA 4X
TURNDOWN:	100:1
OUTPUT FREQUENCY:	60.5Hz m/s Nominal, (18.45Hz ft/s nominal), (Max. 10Hz (totalizer last digit)
PULSE OUTPUT TYPE:	Transistor NPN Open-Collector, (Max. DC60V/100mA)
LED DISPLAY:	Bright Red or Green LED (0.4" High)
VISCOSITY RANGE:	0.5 to 20 centistokes (cst)
MAXIMUM OPERATING PRESSURE/TEMPERATURE:	PVDF BODY 200 PSI @ 22°F (-30°C) TO 86°F (30°C) / 36 psi @ 194°F (90°C)

\* Max. recommended velocity for plastic pipe is 8 ft/s

## TFT Series

INSERTION PADDLEWHEEL FLOW METER WITH TRANSMITTER



### KEY FEATURES

- Chemical-resistant Materials PP or PVDF Body, PFA Paddle and Ceramic Shaft and Bearing
- Pipe Size Range 1/2" - 24" / DN15 - DN600
- Measuring Flow Range (0.33 to 32.8 ft/s)\*
- Easy to Install
- Excellent for Low or High Temperatures, -4°F to 194°F (-25°C to 90°C)
- NEMA 4X / IP65 or NEMA 6 / IP68 Ratings
- Extra Long Lasting PFA Paddle (Zirconium Dioxide Ceramic Shaft & Bearings)
- Double O-ring Seal
- High Pressure Rating (up to 200 psi / 14 Bar)
- 26 Foot Cable or DIN Connector
- Fits into Industry-standard Insertion Tees
- Insertion Tees and Clamp-on Saddles Available

\* Max. recommended velocity for plastic pipe is 8 ft/s

### SPECIFICATIONS

MEASURING ACCURACY:	$\pm 0.75\%$ of full scale
REPEATABILITY:	$\pm 0.5\%$ of full scale
PIPE SIZE:	1/2" to 4" / DN15 to DN100 (-0) 6" to 24" / DN150 to DN600 (-1)
OUTPUT FREQUENCY:	60.5 Hz per m/s nominal, 18.45 Hz per ft/s nominal
OUTPUT SIGNAL:	Proportional Pulse (STD), 0-5 VDC (OPT)
SENSOR BODY MATERIAL:	Polypropylene or PVDF
ROTOR MATERIAL:	PFA
SHAFT & BEARINGS MATERIAL:	Zirconium Dioxide Ceramic (ZrO <sub>2</sub> )
O-RING MATERIAL:	FKM
ELECTRICAL CONNECTION:	DIN Mini-Connector 43650-A (IP65) Electrical Cable (IP68)
CABLE TYPE:	3 conductor + shield 0.26A WG.PVC

# TLV Series

FLOW DISPLAY, TOTALIZER, BATCHER AND TRANSMITTER



## KEY FEATURES

- Pulse or 4-20mA Input, Depending on Model
- 2 Relay, 4-20mA + 1 Relay Output Models Available
- 120 VAC Powered, Provides 24 VDC Output
- Display of Instantaneous Flow Rate and the Total Flow Values
- Batching and Counting of Doses
- Simple Installation

## ACCESSORIES

- IR Remote Controller IRC-20

## SPECIFICATIONS

POWER SUPPLY/  
POWER CONSUMPTION:.....85 - 260 VAC  
DISPLAY:.....LED, 6 x 13 mm high, 8 levels of adjustable brightness  
INPUT:.....Pulse or Current: 0-20 mA or 4-20 mA  
ACCURACY:.....0.1% @ 70°C + One Digit, (for 0 - 20 mA range)  
OUTPUT (OPTION): .....2 Relays or 1 Relay + 4-20mA  
POWER SUPPLY OUTPUT:.....24 VDC +5%, -10% / max. 100 mA, stabilized  
OPERATING TEMPERATURE: .....-4°F - 158°F (-20°C - 70°C)  
PROTECTION CLASS: .....NEMA 4X



# TLM Series

INDUSTRIAL PANEL MOUNT LEVEL TRANSMITTER



## KEY FEATURES

- Large Bright LED Display
- NEMA 4X Face
- Adjustable Display Brightness
- 4-20mA Output with Either 2 or 4 Relays Depending on Model
- Acoustic Signal (Beep)
- Input Signal 4-20 mA
- 4-digit LED Display
- 120 VAC Powered, Provides 24 VDC Output to Power Level Sensors
- Communication Interface RS-485 (Modbus RTU Optional)
- Configurable Relays (1 amp)
- Standard Dimensions for Retrofit Applications
- Optional NEMA 4X Enclosure Available



# TLC Series

LEVEL PROCESS DISPLAY



## KEY FEATURES

- 4-20mA Input Indicating Transmitter in NEMA 4X Enclosure
- Input: 4-20 mA
- 2 Relay (1A or, 4-20mA + 1 Relay Models Available, 4 or 6 Digit Displays Available)
- 120 VAC Powered, Provides 24 VDC Power to Level Sensors
- RS-485/Modbus RTU Standard
- Signal Peak Value Detection
- 3 Wire Cord Grips Included

## ACCESSORIES

- IR Remote Controller\*

## SPECIFICATIONS

POWER SUPPLY/  
POWER CONSUMPTION:.....85-260 VAC/VDC  
DISPLAY:.....LED, 3/4" 4-Digit, Red, Adjustable Brightness  
INPUT:.....0-20 mA or 4-20 mA  
ACCURACY:.....0.1% @ 25°C + One Digit  
OUTPUT:.....2 Relays or 1 Relay + 4-20mA  
POWER SUPPLY OUTPUT:.....24 VDC  
COMMUNICATION INTERFACE: .....RS-485  
OPERATING TEMP: .....-4°F - 158°F (-20°C - 70°C)  
PROTECTION CLASS: .....NEMA 4X (IP65)



\* Remote controller is not part of the device and is available as an option.



## TLU Series

INDUSTRIAL LEVEL PRESSURE SENSOR



### KEY FEATURES

- Measurement Not Affected by Foam, Waves or Vapors
- PVC, PP and PVDF Body Options allow for an Ideal Fit to the Application
- Excellent Chemical Resistance
- Fast Installation, No Stilling Well Required
- Flush Sensing Diaphragm Prevents Clogging and Provides Fast Response to Changing Levels
- Couple with TLF J-Box and TLC Indicating Transmitter

### SPECIFICATIONS

RANGE:	0-34 feet of water
CABLE LENGTH:	49 feet of PTFE-coated standard
ACCURACY:	+/- 0.5% accuracy FS
DIAPHRAGM / SEAL:	Ceramic sensing diaphragm, FKM
POWER SOURCE:	8-30 VDC Powered
OUTPUTS:	4-20mA Signal
PROTECTION CLASS:	IP68 Protection

## TLF Series

PRESSURE LEVEL JUNCTION BOX



### KEY FEATURES

- Suitable for All TL Series Sensors
- Glass Reinforced Polypropylene Housing for High Impact Resistance
- NEMA 4X Enclosure
- Threaded Polyethylene 2" NPT Connection
- Two Cord Grips: Sensor In, Signal Out
- Built-in Breather with Nomex Membrane
- Weather Resistant
- Easy Installation with Hayward Bulkhead Fittings



## VSA Series

INDUSTRIAL VISUAL/AUDIBLE SENTRY ALARM SYSTEM



### KEY FEATURES

- High Intensity Red Alarm Light
- 90 dB Audible Alarm with External Test-Silence-Normal Positions
- Rugged NEMA 4X Industrial Design Enclosure
- Latching Lockable Cover (No Screws Required) Lockable
- External Mounting Feet Installs in Minutes
- High Impact All Thermoplastic Polycarbonate Shell
- Small Foot Print – Compact Design
- Excellent Chemical Resistance
- Includes 6 ft Power Cord + Seal-tight Cord Connector

### SPECIFICATIONS

DIMENSIONS:	7" x 5" x 4.5"
ENCLOSURE:	NEMA 4X
WEIGHT:	.21 lbs.
VOLTAGE/FREQ/AMPS:	120v/60 Hz/1 Amp
INPUT POWER:	100v – 240v



# 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			

# GA Series Pressure Gauge & Isolator

IDEAL FOR FILTER AND STRAINER CHANGE-OUT ALERT



PP VERSION

## KEY FEATURES

- Industry's First All Thermoplastic Combo Gauge & Isolator
- 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

## SPECIFICATIONS

**DIAL DIAMETER:**.....Large 2-1/2" (Big Numbers-Clear Markers)  
**MOUNTING:** .....Direct Mount, Bottom Connection FNPT 1/2"  
**HOUSING:** .....PVDF or Polypropylene with PTFE or FPM Diaphragm  
**LENS:**.....Safety Glass  
**DIAL:** .....Red/Black Scale White Background, dial arc 270°  
**MEASURING PRINCIPLE:**.....Bourdon Tube-316 SS (Non Wetted) Diaphragm (Wetted Part) – FPM (Standard)

**MOVEMENT:**.....316 SS (Non Wetted)  
**GAUGE:** .....Red, Yellow, Green Moveable Plastic Markers Pressure Range Pointers Fitted on the Bezel  
**CONNECTION:**.....1/2" FNPT  
**FILLING:**.....Options: Glycerin or Silicone Filled  
**ACCURACY:**.....±1.5% F.S.  
**OPERATING TEMPERATURE:** .....Max. Working Temp. PVDF-195°F, PP-170°F  
**PRESSURE RANGE:** .....Standard Range 0-60 / 0-100 / 0-160 psi

## GDS Series

DOUBLE SIDED ALL THERMOPLASTIC LIQUID FILLED PRESSURE GAUGE AND ISOLATOR



PP VERSION

### KEY FEATURES

- Industry's First All Thermoplastic Double Sided Gauge
- Heavy Duty Rugged Design; Simple to Install
- Corrosion Resistant PP or PVDF Bodies
- For use as a 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

### SPECIFICATIONS

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

## GD Series Digital LED Pressure Alarm

IDEAL FOR BASKET STRAINERS & BAG FILTER MONITORING



### KEY FEATURES

- LED Display Changes from Green to Red to Indicate Alarm Condition
- Highly Accurate ±0.25% of Full Scale
- Ceramic Diaphragm, T316SS 1/2" MNPT Process Connection
- Display Pressure Units psi, Bar, Kg/Cm2, KPA, MPA, In Hg
- Two 3 Amp Relays
- 4-20 mA Analog Output
- Digital RS-485 Interface Function (optional)
- NEMA 4X Design, IP65
- Thermoplastic, Self-flushing Gauge Isolator for Corrosive Services, Slurries, Heavy Sediment (optional)
- Adjustable Range
- Lockable Software Security

### SPECIFICATIONS

<b>SUPPLY VOLTAGE:</b> .....DC 14 to 30 V	<b>DIAPHRAGM MATERIALS:</b> .....Ceramic Al <sub>2</sub> O <sub>3</sub>
<b>MEASURING ACCURACY:</b> .....0.25% Full Scale	<b>PRESSURE PORT MATERIALS:</b> .....316 SS
<b>ANALOG OUTPUT:</b> .....4-20 mA	<b>DISPLAY MATERIALS:</b> .....Polyamide 66+ 15% Glass Filled
<b>DISPLAY:</b> .....Bright Red/Green LED High (0.4")	<b>OPERATING TEMPERATURE RANGE:</b> .....-4°F to 176°F (-20°C to 80°C)
<b>PARAMETER SETTING:</b> .....Push Button	<b>PRESSURE RANGE:</b> .....0 to 400 psi

# GLD Series LED + LCD Pressure Gauge & Isolators

ALL THERMOPLASTIC PRESSURE INDICATOR WITH INTEGRAL ISOLATOR



LCD VERSION

LED 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 or LCD Display
ACCURACY:	±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:	<b>LED Version only:</b> 4-20mA + Two Open Collectors (NPN or PNP)
POWER REQUIREMENT:	10-30 VDC for LED, Battery for LCD

## 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 ±1.0%
- Suitable for Corrosive Media & Slurries
- 15 ft of Cable for LED Model
- Replaceable Lithium Battery - LCD Model
- Simple Installation
- Self-flushing Gauge Guard Design

# GP Series Pressure Gauge & Isolator

PULSE AND SURGE SUPPRESSOR



## KEY FEATURES

- All Thermoplastic Construction (Gauge + Isolator)
- Heavy Duty One-piece Molded Design (No Assembly Required)
- Simple to Install
- Completely Corrosion Resistant
- Red Markers Designed to Indicate Optimum Operating Range
- Extra Large Colored Display
- Reduces Pressure Surges caused by Water Hammer or Metering Pump Pulsations
- High Accuracy ±1.5%
- Factory Prefilled – Glycerin or Silicone / Vacuum Filled
- Suitable for Corrosive Media + Slurries

## SPECIFICATIONS

DIAL DIAMETER:	Large 2-1/2" (Big Numbers-Clear Markers)	GAUGE:	Two Red Adjustable Plastic Markers Pressure Range Pointers Fitted on the Bezel
MOUNTING:	Direct Mount, Bottom Connection FNPT 1/2"	CONNECTION:	Female Thread 1/2" NPT
HOUSING:	One-piece Molded Design Polypropylene (No Assembly or Filling Required)	FILLING:	Glycerin or Silicone Filled
LENS:	Tough Impact Glass	ACCURACY:	±1.5% F.S.
DIAL:	Red/Black Scale White Background, dial arc 270°	OPERATING TEMPERATURE:	Max. Working Temp. 176°F/80°C
MEASURING PRINCIPLE:	Bourdon Tube-316 SS (Non Wetted) Diaphragm (Wetted Part) – FPM (Standard)	PRESSURE RANGE:	Standard Range 0-30 / 0-60 / 0-160 psi (Second Scale: Bar) Other units available, e.g., MPa, etc.
MOVEMENT:	316 SS (Non Wetted)		

# Z Series Solenoid Diaphragm Metering Pumps

ANALOG INTERFACE



## KEY FEATURES

- PVDF Housing, 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 41 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 Housing, 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 41 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	



CORROSION RESISTANT PUMPS

## 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

<b>PUMP:</b>	.....CPVC, GFPP or PVDF Construction
<b>PIPE CONNECTIONS:</b>	.....Threaded NPT
<b>MOTOR SHAFT:</b>	.....303 SS
<b>SHAFT SEAL:</b>	.....Patent Pending PTFE Shaft Seal
<b>PERFORMANCE:</b>	.....Flow rates from 5 to 80 GPM with TDH's up to 45 feet
<b>MOTORS:</b>	.....Single or Three Phase Motors
<b>MODELS WITH HP RATINGS:</b>	.....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

### OPTIONS

- Optional Inlet Screen and Extended Shaft
- In-Tank Filtration
- CPVC Inlet Screens
- Extended Shafts
- Impeller Trim Variations
- Explosion Proof Motors
- Washdown Motors
- 575V Motors
- EPDM O-Rings
- S-J Type Electrical Cord



### SPECIFICATIONS

<b>PUMP:</b>	.....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)
<b>PIPE CONNECTIONS:</b>	.....Threaded NPT
<b>FUME BARRIER:</b>	.....PTFE, Protects Motor and Bearings from Corrosion Damage
<b>O-RINGS:</b>	.....FPM
<b>PERFORMANCE:</b>	.....Flow Rates from 5 to 130 GPM with TDHs up to 115 Feet
<b>MOTORS:</b>	.....Single or Three Phase Motors; HP Ratings of 1/15, 1/3, 1/2, 3/4, 1, 1-1/2, 3 and 5HP
<b>MODELS WITH HP RATINGS:</b>	.....S1 1/15, S2 1/3, S4 1/2, S5 3/4, SS6 3/4, SS7 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 Elastomer
- Optional Inlet Screens

### OPTIONS

- In-Tank Filtration
- Inlet Screens
- EPDM Elastomer
- Impeller Trim Variations
- Explosion Proof Motors
- Washdown Motors
- 575V Motors
- S-J Type Electrical Cord

### SPECIFICATIONS

<b>PUMP:</b>	.....CPVC, PP or PVDF Construction
<b>PIPE CONNECTIONS:</b>	.....Threaded
<b>O-RINGS:</b>	.....FPM
<b>FLOW RATES:</b>	.....From 2 to 17 GPM with TDHs up to 18 Feet
<b>MOTORS:</b>	.....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 O-Rings
- 575V Motors
- Explosion Proof 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 Elastomers

### OPTIONS

- 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

## In-Tank Filtration Systems

COMPATIBLE WITH D AND S SERIES IMMERSIBLE PUMPS

These highly efficient filtration systems are compatible with D and S Series Immersible Pumps.

### KEY FEATURES

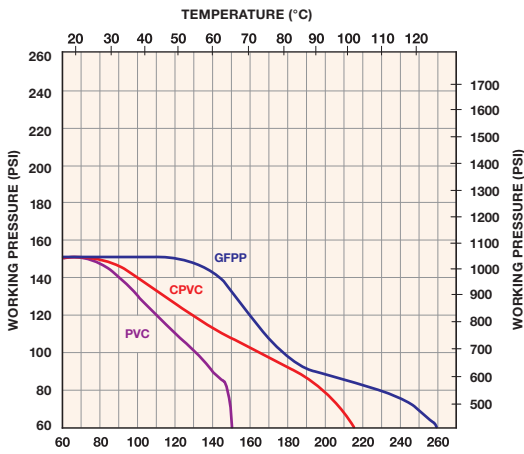
- CPVC Corrosion-Resistant Construction
- Compact and Easy to Install
- Seal-Less, Bearing-Free Pump
- Fast Filter Change
- 1/15 HP Model Features a Built-in Power Cord

### OPTIONS

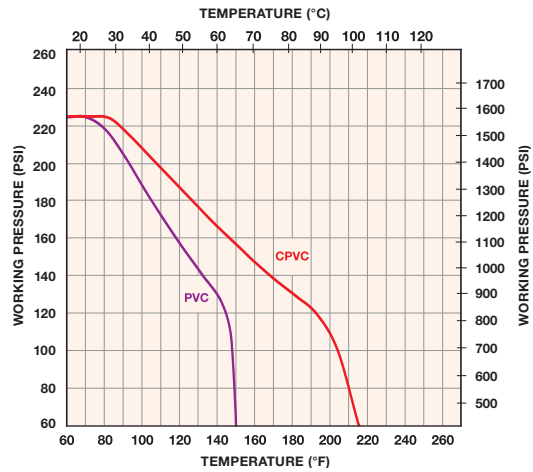
- Double Filter



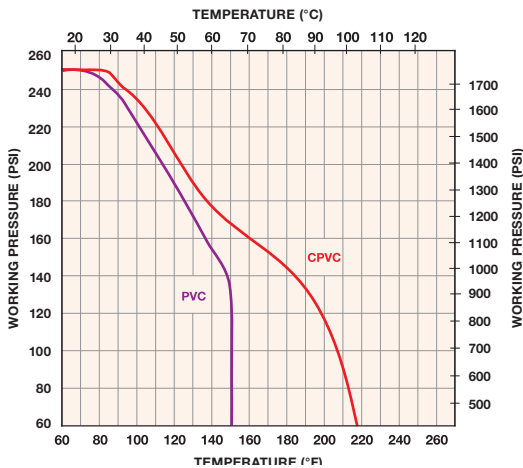
## Operating Temperature/Pressure for 150 PSI/10 Bar Rated Products (EXCEPT FILTER HOUSINGS)



## 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

$C_v$  = Flow Coefficient

The pressure loss across a valve or filter can be calculated using the system's flow rate and the  $C_v$  factor for that valve or filter. For example, a 1" valve with a  $C_v$  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

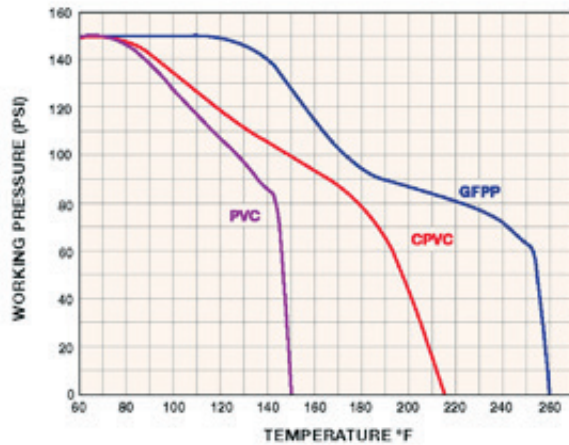
PLASTIC		STAINLESS STEEL		STAINLESS STEEL	
PERFORATION	CORRECTION FACTOR	PERFORATION	CORRECTION FACTOR	MESH	CORRECTION FACTOR
1/32"	1.05	1/32"	0.82	20	0.79
1/16"	1.00	3/64"	0.63	40	1.01
1/8"	0.58	1/16"	0.74	60	1.20
3/16"	0.46	5/64"	0.50	80	1.16
		7/64"	0.51	100	1.20
		1/8"	0.58	200	1.09
		5/32"	0.37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

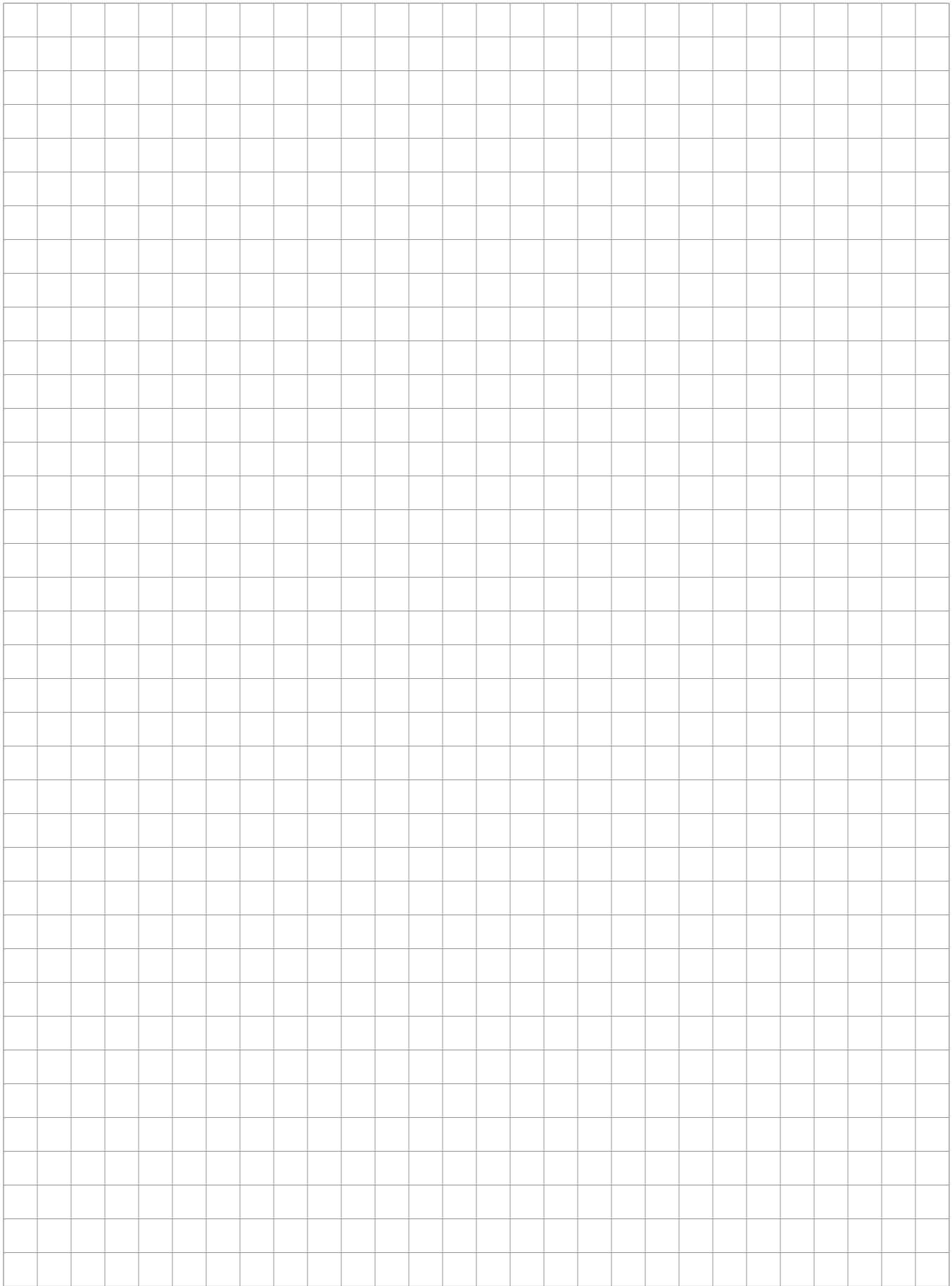
CARTRIDGE TYPE	AVAILABLE YES/NO	
	CFLV SINGLE LENGTH	CFLV DOUBLE LENGTH
2-1/2" – 2-3/4" DOE/222XCAP	Yes	Yes
4-1/2" DOE/222XCAP	Yes	Yes
Hayward 7"x16" DOE	Yes	No
Hayward 7"x16" DOE (Double Stacked)	No	Yes
Hayward 7"x30"	No	Yes
7-3/4" DOE	Yes	Yes

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	5.28	72	1.11	5/16" x 7/16"	300	22.2
	6.60	58	1.39			
	10.03	29	2.22			
	14.27	1.4	3.00			





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. Many of Hayward's standard products underwent testing to this standard in 2007, and are now NSF listed products.

- Eastar is a registered trademark of Eastman.
- Hastelloy is a registered trademark of Haynes International, Inc.
- Monel is a registered trademark of Special Metals Corporation.
- Santoprene is a registered trademark of Advanced Elastomer Systems.

**THE FOLLOWING HAYWARD FLOW CONTROL PRODUCTS COMPLY WITH THIS DIRECTIVE**

PRODUCT	SIZE	WATER CONTACT TEMP	WATER CONTACT MATERIAL
<b>TB SERIES BALL VALVES</b>			
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>BY SERIES BUTTERFLY VALVES</b>			
Hayward Butterfly Valve (PVC/EPDM)	1-1/2" - 12"	CLD23	MLTPL
Hayward Butterfly Valve (CPVC/EPDM)	4" - 12"	D. HOT	MLTPL
<b>BYCN SERIES BUTTERFLY VALVES (PVC/EPDM)*</b>			
	2" - 8"	CLD23	MLTPL
<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>			
	1/2" - 6"	CLD23	MLTPL
<b>BFAS SERIES (PVC/EPDM) BULKHEAD</b>			
	1/2" - 3"	CLD23	MLTPL
<b>VALVE - OTHER</b>			
Universal Stopcock™	1/4"	CLD23	MLTPL

\* 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.  
 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.



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**Canada:** 1.888.238.7665 • Fax: 1.905.829.3636 • 2880 Plymouth Drive • Oakville, ON L6H 5R4 Canada • Email: hflowcanada@haywardnet.com  
Visit us at: www.haywardflowcontrol.com • Email: hflow@haywardnet.com