

Aquatics Product Guide



define
design
deliver



HAYWARD® FLOW CONTROL – AS OLD AS THE SEA ITSELF... WELL, ALMOST.

For more than 80 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 life support and aquatic systems.

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

TABLE OF CONTENTS

VALVES AND ACCESSORIES

TB Series True Union Ball Valves	4
TBZ Series "Z-Ball" True Union Ball Valves	5
CV Series Profile2™ Proportional Control Ball Valves	5
TW Series Three-Way True Union Ball Valves	6
LA Series Lateral Three-Way True Union Ball Valves	6
QV Series QIC2™ Compact Ball Valves	7
Valve-Safe Lockouts	7
TBB Series Commercial True Union Ball Valves	8
QTA Series Commercial True Union Compact Ball Valves	8
QVC Series Commercial Compact Ball Valves	8
SW Series Swing Check Valves	9
WCV Series Full Pattern Wafer Check Valves	9
WC Series Wafer Check Valves	9
TC Series True Union Ball Check Valves	10
YC Series Y-Check Valves	10
SLC Series Spring-Loaded Y-Check Valves	10
BYV Series Butterfly Valves	11
BYB Series Large Diameter Butterfly Valves	11
BYCN/BYCS Series Butterfly Valves	11

PRESSURE & FLOW CONTROL VALVES

DAB Series True Union Diaphragm Valves	12
DAB Series Flanged Diaphragm Valves	12
RV Series Pressure Relief Valves	13
PR Series Pressure Regulator Valves	13
AV Series Angle Globe Valves	13
PBV Series Diaphragm Back Pressure Valves	14
RPV Series Diaphragm Pressure Relief Valves	14
CCS Series Calibration Cylinders	14
NVA Series Needle Valves	15
LC Series Universal Stopcock™	15

ACTUATION AND CONTROLS

EA Series Automated True Union Ball Valves	16
EAU Series Automated True Union Ball Valves	16
ECP Series Automated True Union Ball Valves	16
PM Series Automated True Union Ball Valves	17
PMD/PMS Series Pneumatic Actuators	17
GFPP PMD4/PMS4 Series Pneumatic Actuators	18
PCD/PCS Series Pneumatic Actuators	18
EAU Series Electric Actuators	19
ECP Series Glass Filled Polypropylene Electric Actuators	19
EPZ Series On/Off Electric Actuators	20
EPM Series On/Off and Proportional Control Actuators	20
EBU Series Battery Backup	21
LCS Series Local Control Station	21
SV Series True Union Solenoid Valves	22
LHB Series Manual Limit Switch	22

CORROSION RESISTANT PUMPS

A Series LifeStar®VS Aquatic Pump	23
A Series LifeStar® Aquatic Pump	23
HCP Series Single Speed Centrifugal Pumps	24
R Series Magnetic Drive Pumps	24
C Series Centrifugal Pumps	24
Z Series Solenoid Diaphragm Metering Pumps	25

STRAINERS AND FILTERS

LS Series Aquatic Sand Filter	26
FLV Series PVC and CPVC Simplex Bag Filters	26
FLV/CFLV Series Simplex Bag and Cartridge Filters	27
FLV/CFLV Series Duplex Bag and Cartridge Filters	27
Heavy-Duty Filter Bags	28
Cartridge Filter Adapter Kits Option	28
Pleated Filter Cartridges	28
YS Series Y-Strainers	29
SB Series Simplex Basket Strainers	29
DB Series Duplex Basket Strainers	30

INSTRUMENTATION

TF Series	31
TFT Series	31
TLV Series	32
TLM Series	32
TLC Series	32
TLU Series	33
TLF Series	33
VSA Series	33
GG Series Gauge Guards	34
GA Series Pressure Gauge & Isolator	34
GDS Series	34
GD Series Digital LED Pressure Alarm	35
GLD Series LED + LCD Pressure Gauge & Isolators	35

BULKHEAD FITTINGS AND TANK ACCESSORIES

BFAS Series Bulkhead Fittings	36
BFA Series Bulkhead Fittings	36
Tank Adapter Fittings	37
CCP Series Tank-Tite™	37
SF Series Self-Aligning Bulkhead Fittings	37
AR Series Air Release Valves	38
VB Series Vacuum Breakers	38
BVX Series Ready Flanges	38

TECHNICAL INFORMATION

Operating Temperature/Pressure	39
Pressure Loss Calculation Using Cv Factor	39
Basket Sizes for Hayward Simplex/Duplex Thermoplastic Strainers	40
Operating Temperature/Pressure for Bag & Cartridge Filter Housings	40
Z Series Specifications	40

TB Series True Union Ball Valves

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

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.



PVC and CPVC

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 (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.



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



A



B



TBB Series Commercial True Union Ball Valves

1/2" TO 4" PVC AND CPVC

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 FPM	225 PSI @ 70°F 15 Bar @ 21°C Non-Shock

* 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)	PVC, PP or PVDF			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

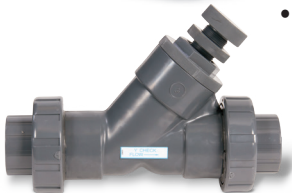


KEY FEATURES

- 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

NSF

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

- 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

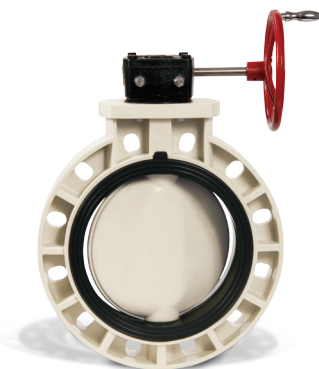
- Over-Molded 316 Stainless Steel Lugs
- Gear Operators
- Complete Range of Pneumatic or Electric Actuators
- Stem Extensions
- 2" Square Operating Nut
- Chain Operator for Gear Box

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)				86 PSI @ 70°F 6 Bar @ 21°C Non-Shock
18" (DN450)	PVC, CPVC, PP or PVDF	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

3" TO 8" PVC



NSF

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 or Electric Actuators

SELECTION CHART

SERIES	SIZE	BODY MATERIAL	DISC MATERIAL	STEM MATERIAL	LINERS	PRESSURE RATING
BYCN	3" – 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

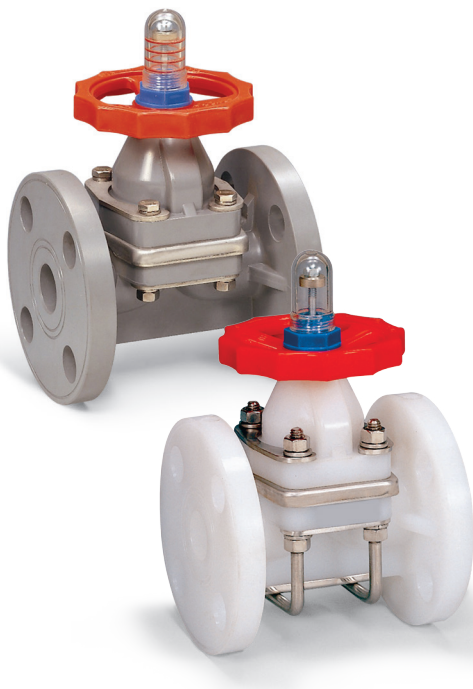
SELECTION CHART

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			Flanged	PTFE*	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
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

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.

PBV Series Back Pressure Valves

1/2" TO 2"



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"	PVC, CPVC, PP, PVDF	FNPT, Socket, Flange, TU Socket	PTFE/EPDM	10-150 psi, 0-50, 10-250

RPV Series Pressure Relief Valves

1/2" TO 2"



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"-2"	PVC, CPVC, PP, PVDF	FNPT, Socket, Flange, TU Socket	PTFE/EPDM, PTFE/FPM	10-150 psi, 0-50, 10-250

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

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
- Patent Pending

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



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

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
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
THERMAL OVERLOAD PROTECTION	

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

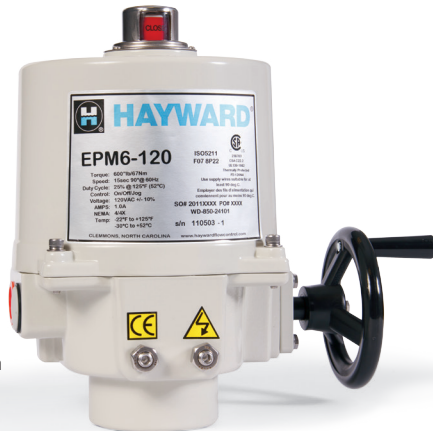


SPECIFICATIONS

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

OPERATION:	Reversing
CONDUIT SIZE:	(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
DUTY CYCLE:	(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
CYCLE TIMES:	8–46 Seconds, Depending on Model
ENCLOSURE:	NEMA 4/4X
VOLTAGES:	(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
THERMAL OVERLOAD PROTECTION MECHANICAL BRAKE OVERRIDE:	
MANUAL OVERRIDE:	Clutchless Manual
HOUSING:	Aluminum Alloy Dry Powder Coated

EBU Series Battery Backup

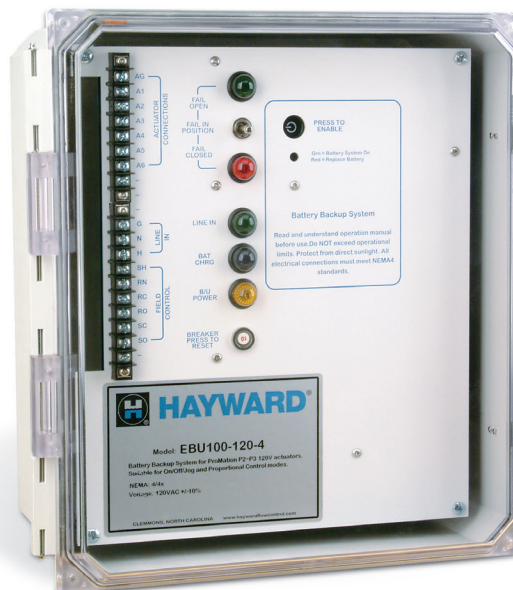
FOR USE WITH EP SERIES ELECTRIC ACTUATORS

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
- 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

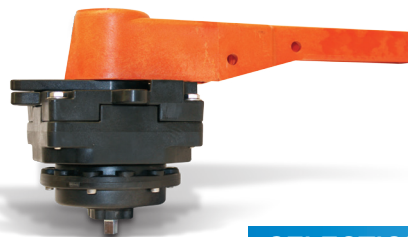
- Now Available with "Dead-Man" Spring Return Handle or Handlever (LHB-SR)
- Remote Monitoring of Critical Services
- Retrofits to Existing Valves
- Robust GFPP Body, Cover and Plate
- 304 Stainless Steel Stem and FPM Seals
- Fits All Hayward® Ball Valves up to 6" and Butterfly Valves up to 8"
- Two 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"/BYV (DN150 – DN200)

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:	Gas 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

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:	Gas 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

HCP-M Series Single Speed Centrifugal Pumps

10" AND 12-1/2" HP*



KEY FEATURES

- Self Priming Pump
- Corrosion Resistant Construction
- High Capacity Integrated Strainer
- Suitable for High Volume Pumping
- Clear Polycarbonate Basket Strainer Lid for Visual Inspection
- Elevated Base Ensures Better Ventilation and Protection from Flooding
- NSF/ANSI 50 Listed
- Maximum Water Temperature 122°F
- Working Pressure of 40 PSI
- Closed Impeller Design
- Glass-Reinforced Noryl® Impeller and Pump Head
- Polypropylene Basket
- 4" True Union Socket Union Suction and Discharge Post
- EPDM Seals and O-Rings

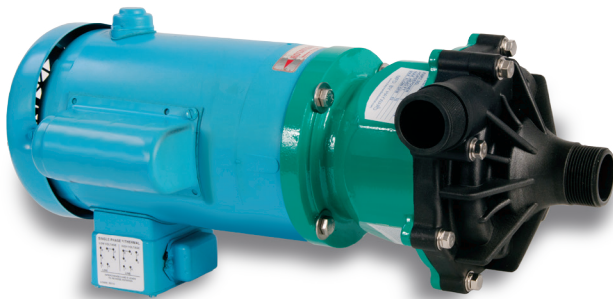
SPECIFICATIONS

PUMP:	.....Noryl® and PP Construction
PIPE CONNECTIONS:	.....4" True Union Sch40/80 PVC Socket
SHAFT:	.....416 Stainless Steel
SEAL:	.....Silicon Carbide/Silicon Carbide
PERFORMANCE:	.....Flow Rates from 25 to 650 GPM with TDH's up to 95 Feet
MOTORS:	.....230/460 Three-Phase
MODELS WITH HP RATINGS:	.....HCP100-10.0, HCP125-12.5

*Note: 5-1/2 and 7-1/2 HP available upon request - consult factory.

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
- Washdown Motors

SPECIFICATIONS

PUMP:	.....GFPP or ETFE Construction
PIPE CONNECTIONS:	.....Threaded NPT or Flanged ANSI 150#
SHAFT:	.....Large Diameter, Ceramic with PTFE, Impeller Bushing
PERFORMANCE:	.....Flow Rates from 5 to 140 GPM with TDHs of up to 141 Feet
MOTORS:	.....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
MODELS WITH HP RATINGS:	.....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
- Impeller Trim Variations
- PTFE/Ceramic Seals
- PTFE/Carpenter 20 Seals
- EPDM Elastomers
- Waterflushed Seals
- 575V Motors
- Washdown Motors

SPECIFICATIONS

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



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

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

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 O-Ring Seals
- Duplex Configurations



SELECTION CHART

SIZE	MATERIAL	END CONNECTIONS	PIPING SIZES	SEALS	FLOW RATE	PRESSURE RATING
Single Length 7"x16"	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"x32"			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.

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
- Triplex and Other Multiple Assemblies Available upon Request



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.

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		
7" x 16" at 90 GPM or 7" x 32" at 180 GPM	Polyester Needle Felt	Sewn	PP RING	1, 5, 10, 25, 50, 100, 200	300°F
		Welded	PP FLANGE		
7" x 16" at 90 GPM or 7" x 32" at 180 GPM	PP Mesh	Sewn	PP RING	150, 400, 600, 800	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 CFLV's (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



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			
2-1/2" (DN63)	PVC	Socket, Threaded, Flanged or True Union	FPM and EPDM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
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®



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



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

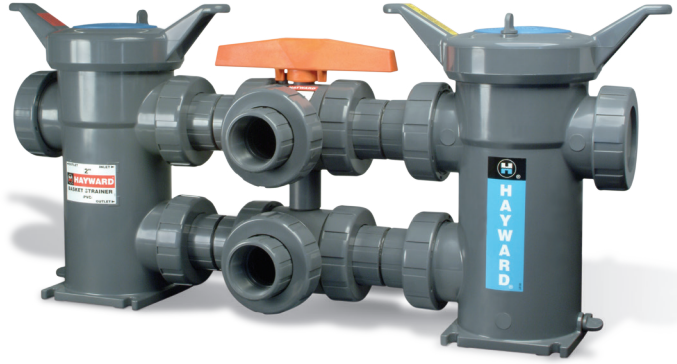
1/2" TO 4" PVC, CPVC AND EASTAR®

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.

TF Series

MULTI-FUNCTION TRUE UNION PADDLEWHEEL FLOW METER



KEY FEATURES

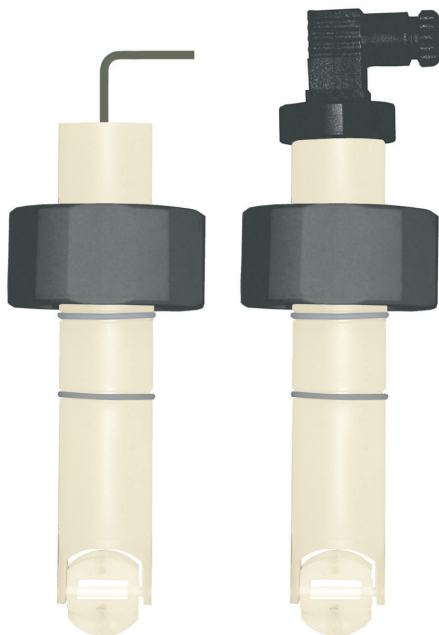
- Perfect for Pump and Filter Protection
- True Union Design 1/2" - 2" (Flanged 3" & 4", PVC Only)
- High Accuracy— Less than $\pm 1.0\%$ of Full Scale
- Unit of Flow Measurement is Selectable (Liter/Gallon)
- Corrosion Resistant Materials—PVC and Polypropylene
- Economical Visual Indication
- Easy Installation – No Insertion Fittings Required
- 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

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 ₂)
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*

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



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)

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:	2.1 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



KEY FEATURES

- 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



PP VERSION

SPECIFICATIONS

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



KEY FEATURES

- 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



PP VERSION

SPECIFICATIONS

DIAL DIAMETER:.....Large 2-1/2" (Big Numbers-Clear Markers)	MOVEMENT:.....316 SS (Non Wetted)
MOUNTING:.....Direct Mount, Bottom Connection FNPT 1/2"	GAUGE:.....3 Adjustable Plastic Markers-Pressure Range Pointers fitted on the Bezel (Green, Yellow, Red)
HOUSING:.....PVDF or Polypropylene with PTFE or FPM Diaphragm - One-piece Molded Design (No Assembly or Filling Required)	FILLING:.....Glycerin Filled
LENS:.....Safety Glass	ACCURACY:.....±1.5% F.S.
DIAL:.....Red/Black Scale White Background, dial arc 270°	OPERATING TEMPERATURE:.....Max. Working Temp. PVDF-195°F / 90°C, TEMPERATURE:.....PP 170°F, PVDF 195°F
MEASURING PRINCIPLE:.....Bourdon Tube-316 SS (Non Wetted) Diaphragm (Wetted Part) – FPM (Standard)	PRESSURE RANGE:.....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 $\pm 0.25\%$ 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
- Adjustable Range
- Lockable Software Security



SPECIFICATIONS

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

GLD Series LED Pressure Gauge & Isolators



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
- Replaceable Lithium Battery - LCD Model
- Simple Installation
- Self-flushing Gauge Guard Design



LED VERSION

SPECIFICATIONS

DIAL DIAMETER:.....2-1/2"	OPERATING TEMPERATURE: .....Max. Working Temp. PVDF-195°F / 90°C, PP-170°F / 76°C
MOUNTING: .....Direct Mount, Bottom Connection 1/2" FNPT	PRESSURE RANGE: .....0-290 psi (Ambient Temp)
HOUSING: .....PVDF or Polypropylene with PTFE Diaphragm	OUTPUT:..... LED Version only: 4-20mA + Two Open Collectors (NPN or PNP)
PROTECTION CLASS: .....NEMA 4X	POWER REQUIREMENT: .....10-30 VDC for LED, Battery for LCD
LENS:.....Polycarbonate	
DIAL: .....LED	
ACCURACY:..... $\pm 1.0\%$	

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



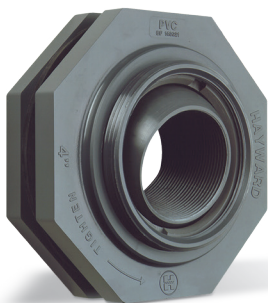
The Tank-Tite is a revolutionary patented compression ring that eliminates the need to retighten gasketed bulkhead fittings! The Tank-Tite provides a constant load on the gasket of the bulkhead fitting to overcome, and compensate for, tank wall expansion/contraction in thickness due to changes in temperature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

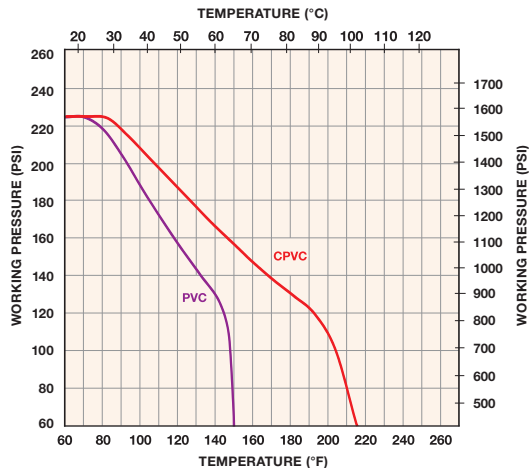
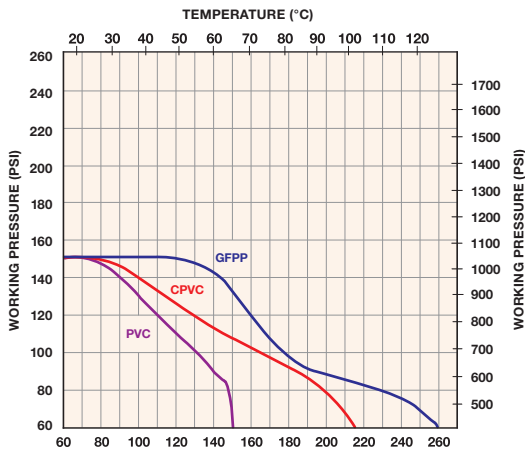
- Threaded to Flanged

SELECTION CHART

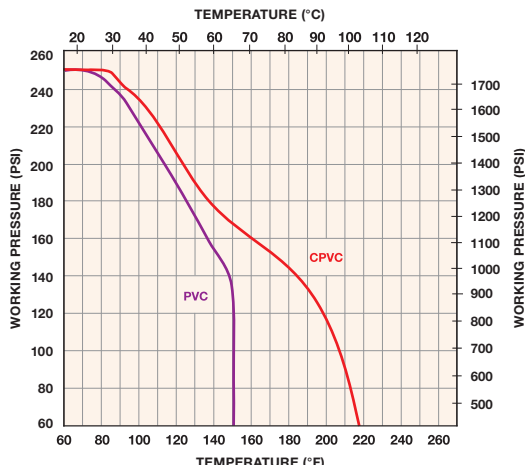
SIZE	MATERIAL	END CONNECTION	PRESSURE RATING
1" – 4" (DN25 – DN100)	PVC or CPVC	Spigot x Flanged	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
	GFPP	Threaded x Flanged	

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

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

ΔP = 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

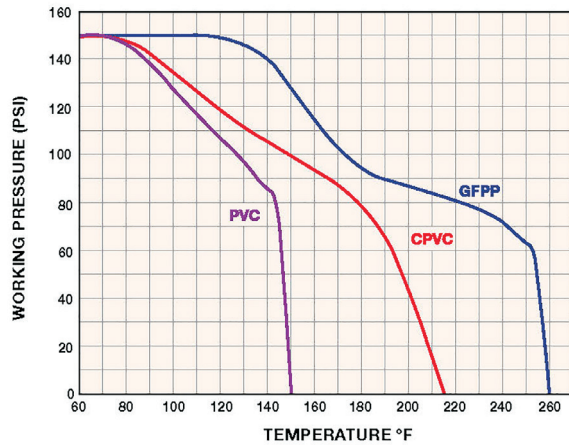
PLASTIC		STAINLESS STEEL		STAINLESS STEEL	
PERFORATION	CORRECTION FACTOR	PERFORATION	CORRECTION FACTOR	MESH	CORRECTION FACTOR
1/32"	1.05	1/32"	0.82	20	0.79
1/16"	1.00	3/64"	0.63	40	1.01
1/8"	0.58	1/16"	0.74	60	1.20
3/16"	0.46	5/64"	0.50	80	1.16
		7/64"	0.51	100	1.20
		1/8"	0.58	200	1.09
		5/32"	0.37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

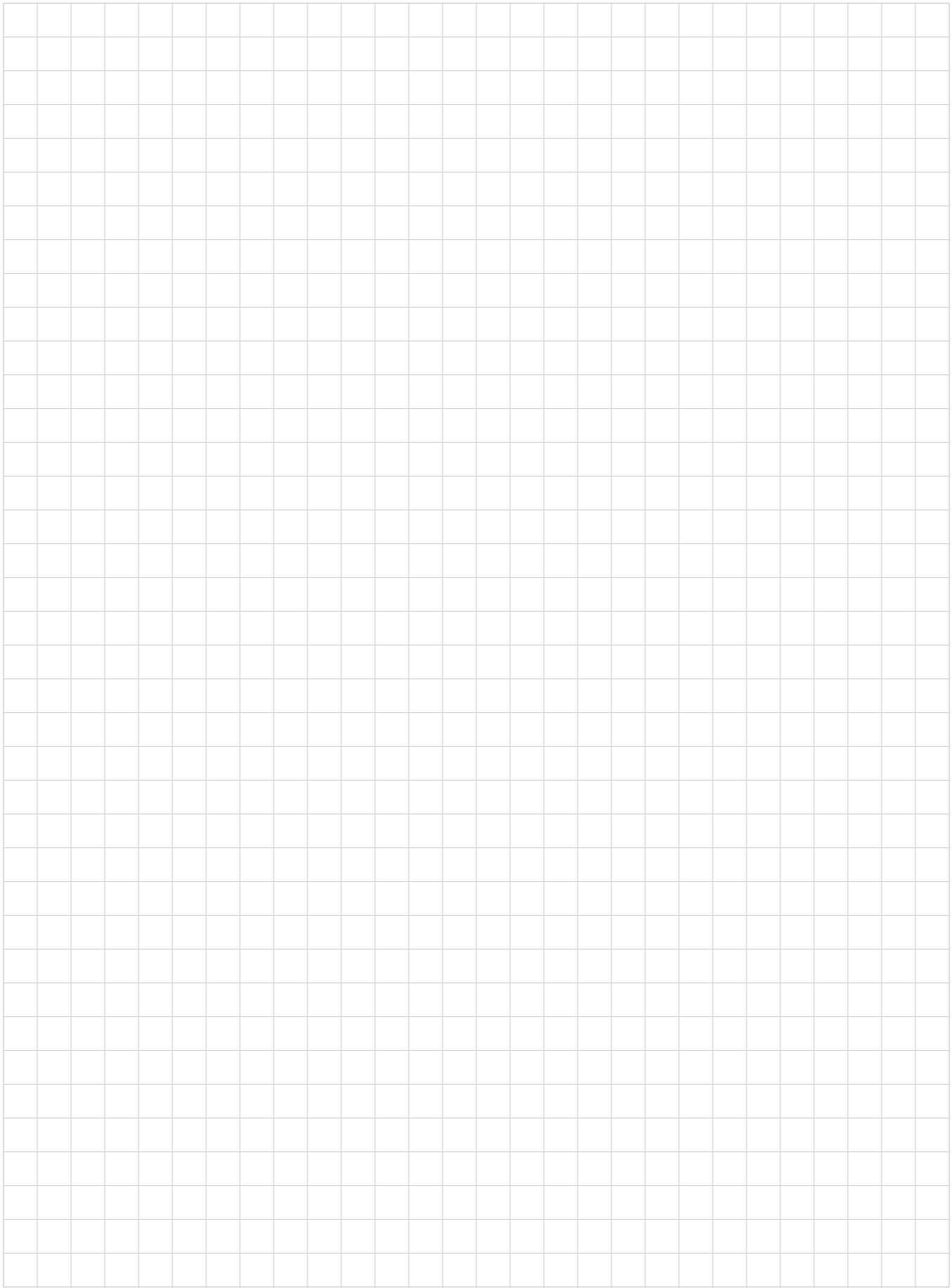
CARTRIDGE TYPE	AVAILABLE YES/NO	
	CFLV SINGLE LENGTH	CFLV DOUBLE LENGTH
2-1/2" - 2-3/4" DOE/222XCAP	Yes	Yes
4-1/2" DOE/222XCAP	Yes	Yes
Hayward 7"x16" DOE	Yes	No
Hayward 7"x16" DOE (Double Stacked)	No	Yes
Hayward 7"x30"	No	Yes
7-3/4" DOE	Yes	Yes

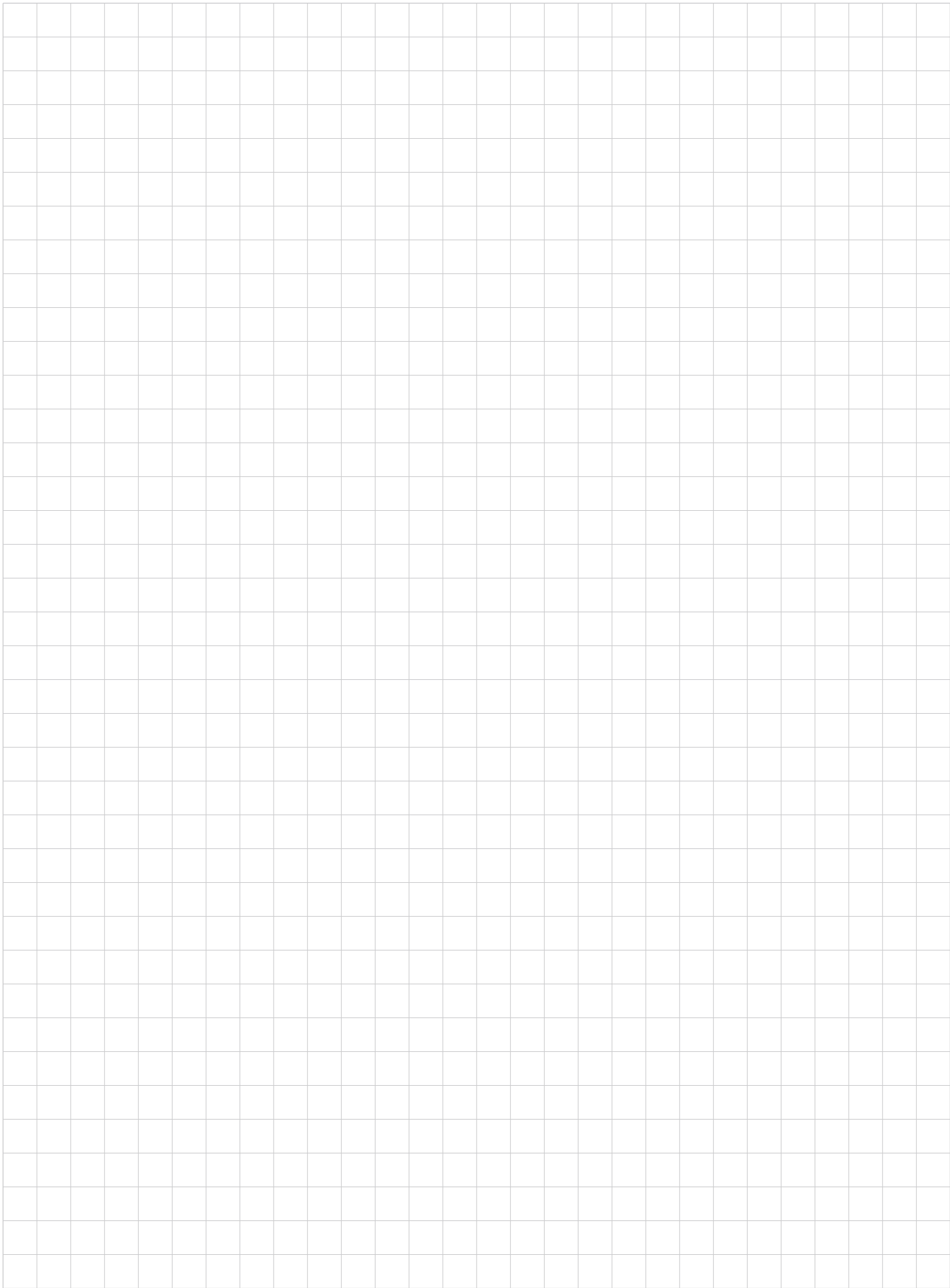
Consult Hayward® for Available Cartridges.

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 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. 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.

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- 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
TB SERIES BALL VALVES			
Hayward True Union Ball Valve (PVC)	1/4" - 4"	CLD23	MLTPL
Hayward True Union Ball Valve (CPVC)	1/4" - 4"	CLD23	MLTPL
TC SERIES CHECK VALVES			
Hayward True Union Ball Check Valve (PVC)	1/4" - 4"	CLD23	MLTPL
Hayward True Union Ball Check Valve (CPVC)	1/4" - 4"	CLD23	MLTPL
BYV SERIES BUTTERFLY VALVES			
Hayward Butterfly Valve (PVC/EPDM)	2" - 12"	CLD23	MLTPL
Hayward Butterfly Valve (CPVC/EPDM)	4" - 12"	D. HOT	MLTPL
BY SERIES BUTTERFLY VALVES			
Hayward Butterfly Valve (PVC/EPDM)	1-1/2" - 12"	CLD23	MLTPL
Hayward Butterfly Valve (CPVC/EPDM)	4" - 12"	D. HOT	MLTPL
BYCN SERIES BUTTERFLY VALVES (PVC/EPDM)*	3" - 8"	CLD23	MLTPL
SIMPLEX SB SERIES STRAINERS**			
Hayward Simplex Basket Strainer (PVC)	1/2" - 8"	CLD23	MLTPL
Hayward Simplex Basket Strainer (CPVC)	1/2" - 8"	D. HOT	MLTPL
BFA SERIES (PVC/EPDM) BULKHEAD	1/2" - 6"	CLD23	MLTPL
BFAS SERIES (PVC/EPDM) BULKHEAD	1/2" - 3"	CLD23	MLTPL
VALVE - OTHER			
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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