



Condensed Product Guide

FLOW CONTROL

define
design
deliver



Hayward® Flow Control, a division of Hayward Holdings, Inc., and based in Clemmons, NC, USA, has been a leading manufacturer of industrial thermoplastic valves and process control products for more than 60 years. In fact, Hayward was one of the originators of the first thermoplastic ball valves. Since then, we have remained committed to producing the highest quality products while providing outstanding service that exceeds customer expectations. Hayward has earned an unsurpassed reputation for product design, manufacturing precision, quality assurance, experience and know-how, and a total commitment to customer satisfaction and support. We serve a multitude of markets and industries worldwide with our products.

Founded in 1923 by Irving M. Hayward, Hayward Industries was a small company located in Brooklyn, NY, making specialty metal valves and industrial flow control products. When Mr. Hayward retired in 1964, new management acquired the company and a new period of growth and diversification began, one that continues to this day. Management realized an opportunity existed for thermoplastic, rather than metal, swimming pool filters and accessories, and diversified into the swimming pool market. Rapid growth in the pool business resulted in the creation of Hayward Pool Products, Inc. At the same time, through a combination of acquisitions, modernization of the manufacturing facilities and product innovations, the industrial thermoplastic flow control business grew as well—and became Hayward Flow Control.

RELIABLE BY DESIGN

Reliable by design, Hayward valves are designed using the latest state-of-the-art equipment. Our Computer Aided Design (CAD) system, linked to finite element software, provides accurate and essential stress analysis. Hayward valves are designed to be strong, with material where it counts allowing years of service. Hayward Flow Control products are backed up by our industry leading Three-Year Warranty.

WORLD CLASS QUALITY

As an ISO 9001:2015 certified company, Hayward Flow Control adheres to the strictest guidelines relative to component manufacture, assembly and testing. We employ the latest manufacturing technologies and continue to invest in new equipment and tooling. Our reputation for quality and reliability is unmatched. In addition to a tradition of quality and expertise, Hayward's highly qualified field sales organization also provides customer assistance, training and field support. We strive to provide our customers with products specific to their application criteria.

COMMITMENT TO THE FUTURE

Hayward remains dedicated to new product development and innovative process technology that produces high quality, reliable products and ultimately, total customer satisfaction. We will continue to advance fluid process technology as the leading American manufacturer of industrial thermoplastic flow control products.



BACKED BY HAYWARD FLOW
CONTROL'S EXCLUSIVE
THREE YEAR WARRANTY



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Disclaimer: Products and Dimensional data are subject to change without notice. Consult factory for possible updates.

TBH SERIES

True Union Ball Valves

1/4" to 6" / DN8-150 PVC, CPVC



Certified to
NSF/ANSI 61 & 372

KEY FEATURES

- Full Port Design
- System2™ Sealing Technology provides longer cycle life, 1/4" - 2"
- Lockout/Tagout mechanism that secures directly to valve body for enhanced safety
- Ergonomic handle for improved grip and comfort
- ISO 5211 top flange simplifies actuation
- Permanent markings, eliminates labels
- Integral footpad for skid or panel mount
- FPM or EPDM seals
- Double O-Ring stem seals
- Reversible PTFE seats – Standard

OPTIONS

- NEW HDPE End Connectors available in SDR 9, 11 through 1", SDR 9, 11, 17 from 1-1/4" - 4"
- Pneumatic or Electric Actuators
- Stem Extensions
- Manual Limit Switch

TECHNICAL INFORMATION

SIZE	MATERIAL	SEALS	END CONNECTION	PRESSURE RATING
1/4" – 3/8" (DN8 – DN10)	PVC or CPVC	FPM or EPDM	Socket or Threaded	250 PSI @ 70°F 16 Bar @ 21°C Non-Shock
1/2" – 2" (DN15 – DN50)			Socket, Threaded, Flanged** or HDPE†	250 PSI @ 70°F 16 Bar @ 21°C Non-Shock
2-1/2" – 4" (DN65 – DN100)			Socket, Threaded, Flanged** or HDPE†	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, 10 Bar @ 21°C

†PVC & CPVC socket ends available to ISO 727-1 / JIS K 6734, threaded ends to BS21 / JIS B 0203 and flanged ends to DIN / EN PN10.

‡All Hayward valves, strainers or filters with HDPE end connectors are rated to 150 PSI @ 70°F, 10 Bar @ 21°C

TBH-Z SERIES

True Union Ball Valves

1/2" to 6" / DN15-150 PVC, CPVC



Certified to
NSF/ANSI 61 & 372

KEY FEATURES

- Drilled Ball for Sodium Hypochlorite applications
- Lockout/Tagout mechanism that secures directly to valve body for enhanced safety
- Ergonomic handle for improved grip and comfort
- ISO 5211 top flange simplifies actuation
- Permanent markings, eliminates labels
- Integral footpad for skid or panel mount
- FPM or EPDM seals
- Double O-Ring stem seals
- Reversible PTFE seats – Standard

OPTIONS

- NEW HDPE End Connectors available in SDR 9, 11 through 1", SDR 9, 11, 17 from 1-1/4" - 4"
- Pneumatic or Electric Actuators
- Stem Extensions
- Manual Limit Switch

TECHNICAL INFORMATION

SIZE	MATERIAL	SEALS	END CONNECTION	PRESSURE RATING
1/2" – 2" (DN15 – DN50)	PVC or CPVC	FPM	Socket, Threaded or Flanged**	250 PSI @ 70°F 16 Bar @ 21°C Non-Shock
2-1/2" – 4" (DN65 – 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, 10 Bar @ 21°C

†PVC & CPVC socket ends available to ISO 727-1 / JIS K 6734, threaded ends to BS21 / JIS B 0203 and flanged ends to DIN / EN PN10.

Patented Pat No. 11,131,404 and Other Patents Pending

CVH SERIES

Proportional Control True Union Ball Valves

1/2" to 6" / DN15-150 PVC, CPVC



Certified to
NSF/ANSI 61 & 372

KEY FEATURES

- Profile2™ Characterized Ball for proportional control
- System2™ Sealing Technology provides longer cycle life, 1/2" - 2"
- Lockout/Tagout mechanism that secures directly to valve body for enhanced safety
- Ergonomic handle for improved grip and comfort
- ISO 5211 top flange simplifies actuation
- Permanent markings, eliminates labels
- Integral footpad for skid or panel mount
- FPM or EPDM seals
- Double O-Ring stem seals
- Reversible PTFE seats – Standard

OPTIONS

- NEW HDPE End Connectors available in SDR 9, 11 through 1", SDR 9, 11, 17 from 1-1/4" - 4"
- Pneumatic or Electric Actuators
- Stem Extensions
- Manual Limit Switch

TECHNICAL INFORMATION

SIZE	MATERIAL	SEALS	END CONNECTION	PRESSURE RATING
1/2" – 2" (DN15 – DN50)	PVC or CPVC	FPM or EPDM	Socket, Threaded or Flanged**	250 PSI @ 70°F 16 Bar @ 21°C Non-Shock
2-1/2" – 4" (DN65 – 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, 10 Bar @ 21°C

† PVC & CPVC socket ends available to ISO 727-1 / JIS K 6734, threaded ends to BS21 / JIS B 0203 and flanged ends to DIN / EN PN10.

TB SERIES

True Union Ball Valves

1/4" to 2" / DN8-25 Natural PVDF, Platinum GFPP

1/2" to 2" / DN15-25 Black GFPP



KEY FEATURES

- Threaded, Socket Fusion (IPS) or Flanged Ends
- Full Port Design
- FPM or EPDM O-Ring Seals
- Reversible PTFE Seats
- Double O-Ring Stem Seals

OPTIONS

- Pneumatic or Electric Actuators
- HDPE Transition Fittings, sold separately
- PVC Socket Ends, sold separately



Optional HDPE Transition
Fittings sold separately.

TECHNICAL INFORMATION

SIZE	MATERIAL	SEALS	END CONNECTION	PRESSURE RATING
1/4" – 2" (DN8 – DN50)	PVDF or Platinum GFPP	FPM or EPDM	Threaded or Socket Fusion (IPS)	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
1/2" – 3/4" (DN15 – DN20)	Black GFPP		Threaded	
1" – 2" (DN25 – DN50)	Black GFPP		Threaded or Flanged	
	PVDF or Platinum GFPP		Flanged	

All flanged valves are rated to 150 PSI @ 70°F, 10 Bar @ 21°C
Threaded ends to BS21 / JIS B 0203 and flanged ends to DIN / EN PN10.

TW SERIES

Three-Way True Union Ball Valves

1/2" to 6" / DN15-150 PVC, CPVC



KEY FEATURES

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

OPTIONS

- NEW HDPE End Connectors available in SDR 9, 11 through 1", SDR 9, 11, 17 from 2" - 4"
- Lockouts Available
- Pneumatic and Electric Actuators
- TN Ball
- TP Ball

TECHNICAL INFORMATION

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

* 4" valve venturied to 6".

** All flanged valves are rated to 150 PSI @ 70°F, 10 Bar @ 21°C

† PVC & CPVC socket ends available to ISO 727-1 / JIS K 6734, threaded ends to BS21 / JIS B 0203 and flanged ends to DIN / EN PN10.

LA SERIES

Lateral Three-Way True Union Ball Valves

1/2" to 6" / DN15-150 PVC, CPVC



KEY FEATURES

- Available in 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

- NEW HDPE End Connectors available in SDR 9, 11 through 1", SDR 9, 11, 17 from 2" - 4"
- Lockouts Available
- Pneumatic and Electric Actuators
- 90° Ball

TECHNICAL INFORMATION

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

* 4" valve venturied to 6".

** All flanged valves are rated to 150 PSI @ 70°F, 10 Bar @ 21°C

† PVC & CPVC socket ends available to ISO 727-1 / JIS K 6734, threaded ends to BS21 / JIS B 0203 and flanged ends to DIN / EN PN10.

TBB SERIES

Commercial True Union Ball Valves

1/2" to 4" PVC, CPVC



KEY FEATURES

- PVC and CPVC Materials
- Full Port Design
- Socket or Threaded Ends
- PTFE Seats
- FPM or EPDM O-Ring Seals
- Low Torque, Easy 1/4-Turn Operation
- Double O-Ring Stem Seals
- Adjustable Seat Retainer
- Rated to 225 PSI / 15 Bar, non-shock at 70°F / 23°C

KEY FEATURES

- Gray PVC
- Rugged, Compact and Lightweight Design
- Full Port Design
- Socket or Threaded Ends
- PTFE Seats
- EPDM O-Ring Seals
- Low Torque, Easy 1/4-Turn Operation
- No Integral Parts to Replace
- Perfect for OEM Requirements
- Rated to 150 PSI / 10 Bar, non-shock at 70°F / 23°C

QV SERIES QIC2™

Compact Ball Valves

1/2" to 2" PVC



KEY FEATURES

- Gray and White PVC
- True Union End Connections
- Rated at a Full 150 PSI
- Socket or Threaded Ends
- Santoprene® (TPV) Seats
- EPDM O-Ring Seals
- Low Torque, Easy 1/4-Turn Operation
- No Integral Parts to Replace
- Perfect for OEM Requirements
- Rated to 150 PSI / 10 Bar, non-shock at 70°F / 23°C

QTA SERIES

True Union Compact Ball Valves

1/2" to 2" PVC



KEY FEATURES

- Gray and White PVC
- Compact and Lightweight Design
- Santoprene® (TPV) Seats
- EPDM O-Ring Seals
- Low Torque, Easy 1/4-Turn Operation
- No Integral Parts to Replace
- Rated to 150 PSI / 10 Bar, non-shock at 70°F / 23°C

QVC SERIES

Compact Ball Valves

1/2" to 4" PVC



BYV SERIES

Butterfly Valves

2" to 12" / DN50-300 PVC, CPVC, GFPP



Certified to NSF/ANSI 61 & 372,
PVC/EPDM 2" - 12", CPVC/EPDM 4" - 12"

KEY FEATURES

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

OPTIONS

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

TECHNICAL INFORMATION

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

"Patented" & Other Patents Pending" Pat. No.: 9,695,947; 9,989,154;
10,683,937; 10,683,938; 10,690,252; 11,092,242

BYB SERIES

Large Diameter Butterfly Valves

14" to 24" / DN350-600 PVC, CPVC, PP



KEY FEATURES

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

OPTIONS

- Complete Range of Pneumatic or Electric Actuators
- Stem Extensions

TECHNICAL INFORMATION

SIZE	BODY MATERIAL	DISC MATERIAL	LINER MATERIAL	PRESSURE RATING
14" - 16" (DN350 - DN400)	PVC, CPVC or PP	PVC, CPVC or PP	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" / DN50-200 PVC



Certified to
NSF/ANSI 61 & 372
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
- One-Piece Stainless Steel Stem 316 Grade for BYCN
- One-Piece Stainless Steel Stem 410 Grade for BYCS
- NSF / ANSI-61 and NSF / ANSI 372 Listed (BYCN Series)

OPTIONS

- Gear Operators

TECHNICAL INFORMATION

SERIES	SIZE	BODY/DISC MATERIAL	STEM MATERIAL	LINER MATERIAL	PRESSURE RATING
BYCN	2" - 8" (DN50 - DN200)	PVC	316 Grade Stainless Steel	EPDM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
BYCS			410 Grade Stainless Steel		

TC SERIES

True Union Ball Check Valves

1/4" to 3/8" DN8-10 PVC

1/2" to 2" DN15-50 PVC, CPVC, PP

2-1/2" to 6" DN65-150 PVC, CPVC

1/4" to 1" DN8-25 Natural PVDF



Certified to
NSF/ANSI 61 & 372
PVC and CPVC 1/4" - 4"

KEY FEATURES

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



Ball check valve with foot valve screen installed

OPTIONS

- NEW HDPE End Connectors available in SDR 9, 11 through 1", SDR 9, 11, 17 from 1-1/4" - 4"
- Foot Valve Screens

TECHNICAL INFORMATION

SIZE	MATERIAL	SEALS	END CONNECTION	PRESSURE RATING
1/4" - 3/8"* (DN8 - DN10)	PVC	FPM	Socket or Threaded	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
1/4" - 1" (DN8 - DN25)	PVDF		Threaded or Socket Fusion	
1/2" - 2" (DN15 - DN25)	PVC or CPVC	FPM or EPDM	Socket, Threaded or Flanged****	235 PSI @ 70°F 16 Bar @ 21°C Non-Shock
	PP**		Threaded or Socket Fusion	
2-1/2" - 4" (DN65 - DN100)	PVC or CPVC		Socket, Threaded or Flanged****	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
6"*** (DN150)			Flanged****	

* Trim Checks
 ** 2" PP is rated to 100 PSI @ 70°F
 *** 4" valve venturied to 6".
 **** All flanged valves are rated to 150 PSI @ 70°F, 10 Bar @ 21°C
 † PVC & CPVC socket ends available to ISO 727-1 / JIS K 6734, threaded ends to BS21 / JIS B 0203 and flanged ends to DIN / EN PN10.
 ‡ PP socket fusion ends per ASTM F2389 and threaded ends per BS21.

YC SERIES

Y-Check Valves

1/2" to 4" / DN15-100 PVC, CPVC

1/2" to 1" / DN15-25 Natural PVDF



KEY FEATURES

- Available in PVC, CPVC, and Natural PVDF
- Pressure Rated at 150PSI/10 Bar in All Sizes @ 70°F Non-Shock
- Horizontal or Vertical Installation
- Molded-In or True Union Socket or Threaded Connections
- Full Flow Design
- Minimal Back Pressure Required to Seat Piston
- PVC, CPVC or PVDF Coil to Guide Piston to a Positive Seat

OPTIONS

- NEW HDPE End Connectors available in SDR 9, 11 through 1", SDR 9, 11, 17 from 2" - 3"

TECHNICAL INFORMATION

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

† PVC & CPVC socket ends available to ISO 727-1, threaded ends to BS21, and flanged ends to DIN / EN PN10.

SLC SERIES

Spring-Loaded Y-Check Valves

1/2" to 4" / DN15-100 PVC



KEY FEATURES

- Available in PVC
- Pressure Rated at 150PSI/10 Bar in All Sizes @ 70°F Non-Shock
- Horizontal or Vertical Installation
- Molded-In or True Union Socket or Threaded Connections
- Full Flow Design
- Closes with No Back Pressure
- Adjustable - Opens From 2 to 15 PSI
- Easy Maintenance

OPTIONS

- NEW HDPE End Connectors available in SDR 9, 11 through 1", SDR 9, 11, 17 from 2" - 3"

TECHNICAL INFORMATION

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

† PVC socket ends available to ISO 727-1, threaded ends to BS21.

WCV SERIES

Full Pattern Wafer Check Valves

2" to 8" / DN50-200 PVC & CPVC

10" to 12" / DN250 PVC & CPVC



KEY FEATURES

- Robust Full Pattern Body
- Available in PVC and CPVC
- Pressure Rated at 150 PSI/10 Bar in All Sizes @ 70°F Non-Shock
- No Special Spacers or Flanges Required
- High Cv Rating, Saves on Energy and Pump Wear
- FPM or EPDM Gasket and Face Seal
- One-Piece Disc and Shaft Design

NEW LARGE DIAMETER

- Robust Full Pattern Body
- Integral Bolt Eyes and Hand Grip for Ease of Installation

OPTIONS

- 316 Stainless Steel or Hastelloy® Disc Spring



Large Diameter WCV Series
Wafer Check with Hand Grip.

TECHNICAL INFORMATION

SIZE	MATERIAL	O-RING	END CONNECTION	PRESSURE RATING
2" – 10" (DN50 – DN250)*	PVC or CPVC	FPM or EPDM	Wafer	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
12"				

*DN100 not available.

SW SERIES

Swing Check Valves

3" to 6" / DN80-150 PVC, CPVC, GFPP

8" / DN200 PVC, GFPP



KEY FEATURES

- Available in PVC, CPVC and GFPP
- High Temperature/Pressure Ratings
- Horizontal or Vertical Installation
- Two-in-one Seat Design
- Built-in Flange Seals
- Two Drain Ports
- Self-Aligning Clapper Seals
- High Cv Rating and Full Flow Design

OPTIONS

- Counterweight for Closing Assistance

TECHNICAL INFORMATION

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

†PVC & CPVC flanged ends available to DIN / EN PN10.

"Patented" Pat. No.: 8,887,757 and other patents pending.

DAB SERIES

True Union Diaphragm Valves

1/2" to 2" / DN15-50 PVC, CPVC



KEY FEATURES

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

OPTIONS

- Pneumatic Actuation
- PVDF Vapor Barrier**

* All PTFE diaphragms are EPDM backed

** PVDF Vapor Barrier available with PTFE diaphragm only

TECHNICAL INFORMATION

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

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

DAB SERIES

Flanged Diaphragm Valves

1/2" to 6" / DN15-150 PVC

1/2" to 4" / DN15-100 CPVC



KEY FEATURES

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

OPTIONS

- Pneumatic Actuation
- PVDF Vapor Barrier**

* All PTFE diaphragms are EPDM backed

** PVDF Vapor Barrier available with PTFE diaphragm only

TECHNICAL INFORMATION

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

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

LHB SERIES

Manual Limit Switch

For Ball Valves up to 6" and
Butterfly Valves up to 8"



KEY FEATURES

- 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

OPTIONS

- Additional Two Switches
- Optional Handles – Lever or T-Handle

TECHNICAL INFORMATION

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

SV SERIES

True Union Solenoid Valves

1/4" to 1" / DN8-25 PVC, CPVC

1/2" to 1" / DN15-25 Natural PVDF



KEY FEATURES

- Available in PVC, CPVC and Natural PVDF
- Corrosion-Resistant Polyester Coil
- No Pressure Differential Required for Operation
- Both 1/2" Conduit or SJ-Type Cord Electrical Connection
- 120 VAC Standard
- Normally Closed Design

OPTIONS

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

OPERATING PARAMETERS

- For optimum valve performance, differential pressure must not exceed 90 psi.
- Flow velocity must not exceed 5 ft/sec
- Units are not to be operated 'on' continuously
- Maximum back pressure 25 psi.

TECHNICAL INFORMATION

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

†PVC & CPVC socket ends available to ISO 727-1, threaded ends to BS21.

Pat. No's.: 9,010,721; and 9,0101, 722; 9, 702,480

EA1 SERIES

Automated TBH Series True Union Ball Valves

1/2" to 2" / DN15-50 PVC, CPVC



Valve Certified to
NSF/ANSI 61 & 372

KEY FEATURES - VALVE

- System2™ Sealing Technology for longer life cycle
- 250 PSI / 16 Bar, non-shock at 70°F / 23°C full pressure rating
- Consistent Operating Torque with Adjustment-free Design
- ISO5211 Compliant Mounting Flange
- Permanent Markings, Eliminates Labels
- Integral Footpad for Skid or Panel Mount
- EPDM seals
- Double O-Ring stem seals
- Easy replacement for existing Hayward TB Series
- Valve NSF / ANSI 61 and NSF / ANSI 372 listed

KEY FEATURES - ACTUATOR

- ISO5211 Compliant Fo5 Base
- UL/CSA Listed Motor
- Thermoplastic NEMA 4 / 4X enclosure
- Compact Assembly
- 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

TECHNICAL INFORMATION

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

*Not for use with "Z" Ball

†PVC & CPVC socket ends available to ISO 727-1, threaded ends to BS21.

EAU1 SERIES

Automated TBH Series True Union Ball Valves

1/2" to 2" / DN15-50 PVC, CPVC



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- Consistent Operating Torque with Adjustment-free Design
- ISO5211 Compliant Mounting Flange
- Permanent Markings, Eliminates Labels
- Integral Footpad for Skid or Panel Mount
- EPDM seals
- Double O-Ring stem seals
- Easy replacement for existing Hayward TB Series
- Valve NSF / ANSI 61 and NSF / ANSI 372 listed

KEY FEATURES - ACTUATOR

- UL/CSA Listed Motor
- GFPP 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

TECHNICAL INFORMATION

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

*Not for use with "Z" Ball

†PVC & CPVC socket ends available to ISO 727-1, threaded ends to BS21.

ECP SERIES

Glass Filled Polypropylene Electric Actuators

Ball Valves 1/2" to 6"

Butterfly Valves 2" to 6"



KEY FEATURES

- Ideal for Corrosive Atmosphere and Environments
- NEMA 4/4X Corrosion-Resistant GFPP Housing
- LED Status Light
- Anti-Condensation Heater
- Manual Override
- Position Indicator
- 4 SPDT Micro Limit Switches
- Lightweight - Easy for Installation
- ISO 5211 Mounting Base
- Stainless Steel Fasteners 303 SS
- 100% Factory Tested
- CE Mark
- Thermal Overload Protection
- 24-265 VAC/DC Auto Switching Power Supply

OPTIONS

- Digital Positioner 4-20mA or 2-10V
- Battery Fail Safe Kit

TECHNICAL INFORMATION

OPERATION	1/4 Turn
DUTY RATING	75%
ENCLOSURE	NEMA 4 / 4X
PROTECTION	IP67
VOLTAGE	Single Phase 24~265VAC/VDC
HOUSING	GFPP (Glass Filled Polypropylene) per ASTM D4101 Cell Class 85580
OUTPUT SHAFT	303 Stainless Steel per ASTM A314

HZSN1 SERIES

On/Off Proportional Electric Actuators

Ball Valves up to 2"



KEY FEATURES

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

OPTIONS

- Power Supply Flexibility –24 VAC/VDC, 120 VAC and 230 VAC
- On / Off or Proportional Control

TECHNICAL INFORMATION

OPERATION	1/4 Turn
DUTY RATING	On/Off 25% / Mod 75%
ENCLOSURE	NEMA 4 / 4X
PROTECTION	IP67
VOLTAGE	Single Phase 24~230VAC/VDC
HOUSING	Aluminum Alloy Dry Powder Coated
OUTPUT SHAFT	303 Stainless Steel per ASTM A314

HRSN2 SERIES

On/Off Proportional Electric Actuators

Ball Valves up to 6"

Butterfly Valves up to 4"



KEY FEATURES

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

OPTIONS

- Manual Override Handwheel
- Local Control Stations
- IP68 Submersion
- Battery Backup
- Hazardous Location

TECHNICAL INFORMATION

OPERATION	Reversing
DUTY RATING	12~24VAC/VDC On/Off 75% / Mod 75% 120~230VAC On/Off 25% / Mod 75%
ENCLOSURE	NEMA 4 / 4X
PROTECTION	IP67
VOLTAGE	24~230VAC/VDC
HOUSING	Aluminum Alloy Dry Powder Coated
OUTPUT SHAFT	303 Stainless Steel per ASTM A314

HRSN3-7 SERIES

On/Off Proportional Electric Actuators

Ball and Butterfly Valves up to 24"



KEY FEATURES

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

OPTIONS

- Local Control Stations
- IP68 Submersion
- Battery Backup
- Hazardous Location

TECHNICAL INFORMATION

OPERATION	Reversing
DUTY RATING	HRSN3A~4D AC Versions On/Off = 25%, Ext Dty = 75%, Proportional = 75%, DC Versions On/Off & Proportional = 75% 3 Phase On/Off = 25%, Proportional = 75% HRSN4E~6A AC Versions On/Off = 25%, Ext Dty = 50%, Proportional = 50%, 3 Phase On/Off = 25%, Proportional = 50% HRSN7A~7C 3 Phase On/Off = 25%, Proportional = 50%
ENCLOSURE	NEMA 4 / 4X
PROTECTION	IP67
VOLTAGE	HRSN3A~4D 24VAC/VDC, 120/230VAC HRSN4E~6A 120/230VAC HRSN3A~7C 220/3, 380/3, 440/3, 480/3
MECHANICAL OVERRIDE	Clutchless Manual Hand Wheel
HOUSING	Aluminum Alloy Dry Powder Coated

PC SERIES

Double Acting or Spring Return Pneumatic Actuators

Double Acting - Ball & Butterfly Valves up to 18"
Spring Return - Ball & Butterfly Valves up to 8"



KEY FEATURES

- For All Sizes of Ball and Butterfly Valves
- Four-Piston Rack and Pinion Design
- Manual Override
- Compact, Lightweight
- Position Indicator
- Namur-Style Solenoid Mounting (Inlet/Outlet)
- Adjustable Travel Stops
- ISO5211 Mounting Base

OPTIONS

- Double Acting Air-to-Open and Close
- Spring Return Fail-Safe Operation
- Solenoid Valves with Optional Voltages
- Declutchable Manual Override
- Positioners
- Auxiliary Limit Switch
- Cycle Speed Control

TECHNICAL INFORMATION

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

PS SERIES

Double Acting or Spring Return Scotch Yoke Pneumatic Actuators

Double Acting - Ball Valves up to 6", Butterfly Valves up to 4"
Spring Return - Ball Valves up to 6", Butterfly Valves up to 4"



KEY FEATURES

- Scotch Yoke Quarter-Turn Design - Less Friction than Rack & Pinion
- Ideal for Corrosive Atmosphere and Environments
- Stainless Steel Drive Shaft/Indicator Shaft and Stainless Steel Hardware Standard
- Available in Double Acting and Spring Return Models
- Adjustable Rotation Angle
- Linear Motion - No Teeth or Gears
- Permanent Lubrication
- Lower Air Consumption than Rack & Pinion
- Smaller Size Compared to Equivalent Rack & Pinion
- Torque Rating
- Position Indicator
- Namur-Style Top-Works Mounting
- Namur-Style Solenoid Mounting
- ISO 5211 Mounting Base

OPTIONS

- Fail Open for Spring Return
- Solenoid Valves with Optional Voltages

TECHNICAL INFORMATION

HOUSING	Three-layer Epoxy/Urethane Coated Aluminum
OUTPUT SHAFT	303 Stainless per ASTM A314
MINIMUM AIR PRESSURE	80 PSI
MAXIMUM AIR PRESSURE	120 PSI
CYCLE TIME	Less Than One Second, Typical
AIR PORT CONNECTIONS	1/4" NPT

RV SERIES

Pressure Relief Valves

1/2" to 2" / DN15-50 PVC, CPVC



KEY FEATURES

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

TECHNICAL INFORMATION

SIZE	MATERIAL	SEALS	END CONNECTION	PRESSURE SETTING	PRESSURE RATING
1/2" – 2" (DN15 – DN50)	PVC or CPVC	EPDM or FPM	Socket or Threaded	5 to 75 PSI	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock

† PVC & CPVC socket ends available to ISO 727-1, threaded ends to BS21.

PR SERIES

Pressure Regulator Valves

1/4" to 1-1/2" / DN8-40 PVC, CPVC



KEY FEATURES

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

OPTIONS

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

TECHNICAL INFORMATION

SIZE	MATERIAL	SEALS	END CONNECTION	PRESSURE SETTING	PRESSURE RATING
1/4" – 1-1/2" (DN15 – DN50)	PVC or CPVC	FPM	Threaded or Flanged	5 to 75 PSI	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock

† PVC & CPVC threaded ends available to BS21, flanged ends to DIN / EN PN10.

PBV SERIES

Back Pressure Valves

1/4" to 4" / DN8-100 PVC, CPVC, PP and Natural PVDF



KEY FEATURES

- Available in PVC, CPVC, PP or PVDF Body with Noryl™ Molded Dome
- PTFE/EPDM Diaphragm
- Spring: 10 – 150 psi (Spring pre-set: 50 psi)
- 304 Stainless Steel Bolting
- FNPT or Socket 1/4"-2", Flange 3"-4"
- 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

RPV SERIES

Pressure Relief Valves

1/4" to 4" / DN8-100 PVC, CPVC, PP and Natural PVDF



KEY FEATURES

- Available in PVC, CPVC, PP or PVDF Body with 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

TECHNICAL INFORMATION

SIZE	MATERIAL	END CONNECTION	DIAPHRAGM	PRESSURE ADJUSTMENT	PRESSURE RATING
1/4"-3/8" DN8-DN10	PVC, CPVC, PVDF	FNPT	PTFE/EPDM, PTFE/FPM	10-150 psi Optional: 0-50, 10-250	250 PSI @ 70°F 16 Bar @ 21°C Non-Shock
	PP	FNPT			150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
1/2"-2" DN15-DN50	PVC, CPVC, PVDF	FNPT, Socket, Flange*			250 PSI @ 70°F 16 Bar @ 21°C Non-Shock
	PP	FNPT, Socket, Flange*			150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
	PVC, CPVC	TU Socket			250 PSI @ 70°F 16 Bar @ 21°C Non-Shock
3"-4" DN80-DN100	PVC, CPVC	Flange*			150 PSI @ 70°F 10 Bar @ 21°C Non-Shock

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

AV SERIES

Angle Valves

1/4" to 2" / DN8-50 PVC

1/4" to 1" / DN8-25 CPVC



KEY FEATURES

- Available in PVC and CPVC
- Space Saving Angle Design
- Fine Pitch Stem Threads for Precision Adjustment
- Perfect for Throttling and Changing Flow Direction

TECHNICAL INFORMATION

SIZE	MATERIAL	SEALS	END CONNECTION	PRESSURE RATING
1/4" - 2" (DN8 - DN50)	PVC	FPM	Threaded or Flanged	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
1/2" - 1" (DN15 - DN25)	CPVC			

† PVC & CPVC threaded ends available to BS21.

CCS SERIES

Calibration Cylinders / Columns

100 - 2000ml



KEY FEATURES

- NPT connections - 1/2" through 1"
- 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
- Borosilicate Glass Column Available

TECHNICAL INFORMATION

SIZE	MATERIAL	PRESSURE RATING
100 - 2000ml	PVC, Borosilicate Glass	15 psig

HDP SERIES

Pulsation Dampeners

1/2" to 1" / DN15-25 PVC, CPVC or PVDF



KEY FEATURES

- Corrosion Resistant Construction
- Available in PVC, CPVC, and PVDF Materials
- 316 SS Charging Tee and Gauge
- Multiple Bladder Materials
- Reduces Damaging Shock from Pumps to Critical Components
- Delivers an Even, Laminar Flow, and Continuous Chemical Dosage
- Pressure Rated at 150 PSI/10 Bar in All Sizes @ 70°F/23°C Non-Shock
- Made in USA

TECHNICAL INFORMATION

SIZE	CONN SIZE	HOUSING MATERIAL	END CONN	BLADDER / SEALS	PRESSURE RATING
006-6 in³	1/2" (DN15)	PVC, CPVC or PVDF	NPT, BSPT, Flanged or True Union Socket	EPDM, Viton®, Hypalon or PTFE	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
010-10 in³					
015-15 in³					
029-29 in³	3/4" (DN20)				
042-42 in³					
036-36 in³	1" (DN25)				
080-80 in³					
125-125 in³					

† PVC & CPVC housings have a non-wetted Noryl® top. PVDF housings have a non-wetted PVDF top.

CS SERIES

Corporation Stops

1/2" to 1" / DN15-25 PVC, CPVC



KEY FEATURES

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

OPTIONS

- Flat Tip
- Socket True Union, Metric Socket or BSPT Threaded End Connections
- EPDM O-Ring Seals

TECHNICAL INFORMATION

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

IV SERIES / IQ SERIES

Injection Valves and Quills

1/2" to 1" / DN15-25 PVC, CPVC, Natural PVDF



KEY FEATURES

- Built-in ball check valve with Hastelloy C™ spring, with the IV check being rebuildable
- Threaded MNPT End Connections
- FPM O-Ring Seals (IV Series)
- 45° Bevel on Quill Tip
- Pressure rated to 150 psi @ 70°F

OPTIONS

- Flat Bevel
- Socket End Connections
- EPDM O-Ring Seals (IV Series)

TECHNICAL INFORMATION

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

NVA SERIES

Needle Valves

1/4" to 1/2" / DN8-15 PVC, CPVC, GFPP, Natural 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

TECHNICAL INFORMATION

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

Patented Pat No 9,506,569

LC SERIES

Universal Stopcock™

1/4" / DN8 PVC



KEY FEATURES

- Available in Industrial Grade PVC
- Six End Connections in One Package
- Ideal for Laboratory Service
- Fine Control of Flow
- Superior Sealing Design
- EPDM Seat and Seals Standard
- Hex Wrench Included for End Connection Installation
- NSF / ANSI 61 and NSF / ANSI 372 Listed

TECHNICAL INFORMATION

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

FPT = female pipe thread, MPT = male pipe thread

HLS SERIES

Advanced Submersible Pressure Level Transmitter



KEY FEATURES

- Unaffected by Surface Foaming, Waves or Headspace Vapors
- All CPVC Housing
- Al₂O₃ (Alumina) Diaphragm
- Triple Sealed Cable Entry into Body
- Available with FPM or EPDM Seals
- Available with 0-15 Ft or 0-33 Ft of Level Range
- 6, 30 and 50 ft FEP Coated Cable Standard (Lengths to 1000 Feet Available)
- 10-35 VDC Powered
- Direct Analog 4-20mA Output Signal
- 0.25% Accuracy Full Scale
- Laser Printed Sensor Details on Body
- Full Range of Accessories Available
- HLSMP11 Moisture Protection Dessicant Pack Standard

OPTIONS

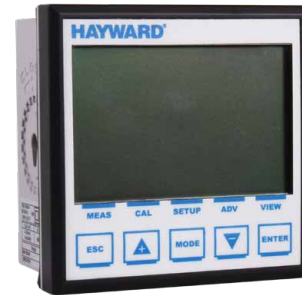
- Desiccant Tube in Housing
- Moisture Protection Volume
- Ceramic Sink Weight

TECHNICAL INFORMATION

DIMENSIONS LxDIA.	5.8 in long x 1.25 in dia. (14.7 cm long x 3.1 cm dia.)
RANGE	0-15 ft (6.5 psi) and 0-33 ft (14.3 psi) of water column
STANDARD CABLE LENGTH	6 or 30 ft with the 0-15 ft level sensor; 50 ft with the 0-33 ft level sensor
CABLE	Vented, 4 conductor, FEP cover
TEMPERATURE	30°F (non-freezing) to 140°F
TEMPERATURE EFFECTS	+/- 1.5% TEB (Total Error Band = linearity+hysteresis+ repeatability+zero and span settings+temperature effects)
POWER EQUIPMENT	10-35 VDC
OUTPUT SIGNAL	4-20 mA, scaled for full sensor range
BODY	CPVC per ASTM D1784, cell classification 23447

HLST200 SERIES

Indicating Level Transmitter Display



KEY FEATURES

- Indicate liquid level in inches, feet or meters
- Temperature indication and transmission included
- Highly accurate, +/- 0.2%
- Rugged industrial design
- Dual channel: 4-20 mA and PT100/PT1000 RTD inputs
- Configurable LCD graphical display, changes colors to indicate alarm conditions
- 1/4 DIN size
- NEMA 4X IP65 protection front panel
- AC and DC power options
- Removable terminal strips
- Powered 4-20mA input loop
- Dual 4-20 mA outputs
- Dual 5A, 250 V programmable relays
- Dual programmable open collector outputs
- RS485 MODBUS option
- Simple, intuitive set-up
- Mounting hardware included
- Hayward 3-year warranty
- Combine with HLS Series Level Sensor for complete system

OPTIONS

- NEMA 4X/IP65 pre-wired Enclosure

HMC200 SERIES

Multi-Parameter Controller



KEY FEATURES

- pH, ORP, conductivity & flow parameters available
- Highly visible large backlit LCD display
- Flexible and easy calibration, including multi-point conductivity calibration for acids and bases
- 4-20mA process output with range scaling and PID Control
- Universal mounting hardware for surface and panel mounting
- Compatible with Hayward HMC differential pH/ORP sensors, 500-series combination style pH/ORP sensors, HMC200 Series conductivity sensors, and most pulsed flow sensors
- Two 4-20 mA output, with range scaling and temperature or flow totalizer option
- Three control/alarm relays with temperature or flow totalizer output option

HMC300 SERIES

Web Enabled Multi-Input Controller



KEY FEATURES

- Inputs for four 4-20 mA sensors of any kind in any combination: pH, ORP, conductivity, dissolved O₂, Chlorine, level and more
- Inputs for three frequency or pulse counters, including Hayward HEX flow sensors
- Outputs of four relays programmable for any of the inputs
- Alarm notifications by e-mail, text, and/or display for each input
- 100% web enabled from set-up to data collection to remote viewing with password protection
- Perform differential measurement from two analog inputs
- Data logging, logs are downloadable from web
- 1/4 DIN panel mounted enclosure with adapter for wall mounting
- Three levels of security to allow the appropriate access to personnel

HP/HR SERIES

Electrodes



KEY FEATURES

- Differential-style provides added reading stability in challenging process applications
- Rebuildable design provides extended service life and lower cost of ownership
- NPT Threaded connections on both sides of the electrode
- Integral temperature element for compensated readings
- 15 ft cable standard - extended cable optional
- 0 - 14 pH measurement range (consult for 2 < and > 12)
- HP65 / HR65 provide blind 4-20 mA output
- Built-in preamp allows extended transmission range
- -2000 to + 2000 mV ORP Range
- -5 to + 95°C (23 to 203°F) Temperature Limits
- HP60 / HR60 Series feature 5-wire designs = mV output
- HP65 / HR65 Series feature two wire designs = 4-20 mA output

CONTROLLER COMPATIBILITY

PROBE	HMC200	HMC300
HP60	X	
HR60	X	
HP65		X
HR65		X

HEX800 SERIES

Insertion Electromagnetic Flow Sensor



KEY FEATURES

- Insertion Electromagnetic Flow Sensor, 1" to 12"
- No moving parts, provides high reliability
- PVC Wetted Body, PVDF end cap, Hastelloy C Electrodes, EPDM o-ring, Cast AL Housing
- 0.28 to 20 FPS Velocity Range equals <1 GPM to 7000 gpm based on line diameter
- 150 psi @ 75F max, 32 to 130F
- +/- 1% Accuracy of Full Scale
- Blind 4-20mA output or integral (Built-in) Indicating Transmitter (HFT440)
- Full range of required insertion fittings available

OPTIONS

- Low Power Model - Can be powered with external battery/solar panel (sold separately)

TECHNICAL INFORMATION

Pipe Size	1" to 12"	
Power	Full Power: 12 - 24 Vdc, 250mA	Low Power: 12 - 24 Vdc, 40mA Average with 250mA peaks
Materials	Housing: Powder-Coated Cast Aluminum Sensor Body: 316 Stainless Steel, Brass, or PVC O-Ring: EPDM (FPM Optional) Electrodes: Hastelloy® C Electrode Cap: PVDF (Kynar®)	
Maximum Pressure	Brass/Stainless Steel: 200 psi (14 bar)	PVC: 150 psi (10 bar) @ 75° F (24° C)
Temperature	Ambient: 0° to 160 F (-17° to 72° C) Fluid: 32° to 200 F (0° to 93° C)	
Minimum Conductivity	20 microSiemens/cm	
Flow Velocity	0.28 to 20 ft/sec (0.08 - 6.09 m/sec)	
Accuracy	± 1% of full scale	
Output	Square wave pulse, opto-isolated, 500 Hz @ 20 ft/sec	
Empty Pipe Detection	Software, defaults to zero flow	
Cable	Standard 18' (6m), #22 shielded twisted pair, 4-conn. Max. cable run at 24 Vdc = 1000' (300m); at 12 Vdc = 500' (150m).	
Regulatory	CE Mark	

GG SERIES

Gauge Guards

1/4" X 1/4" PVC, CPVC AND PP

1/4" X 1/2" PVC, CPVC AND Natural PVDF



KEY FEATURES

- Available in 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
- Dual Face Scale

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

TECHNICAL INFORMATION

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

YS SERIES

Y-Strainers

1/2" to 2" DN15-50 PVC, CPVC, Clear PVC
2-1/2" to 4" DN65-100 PVC, CPVC
1/2" to 1" DN15-25 Natural PVDF



KEY FEATURES

- True Union Design for Ease of Installation Available in PVC, CPVC and Clear PVC
- Molded-in Socket or Threaded Ends Available in PVC, CPVC, Clear PVC and PVDF
- Molded-in Socket Fusion Ends for IPS Schedule 40 / 80, or for SDR21 / 33 Piping Available in PVDF
- Horizontal or Vertical Installation
- FPM or EPDM O-Ring Seals
- 2:1 Open Area Ratio
- Hex Cap for Easy Access to Screen
- Standard Screen has 1/32" Perforation

OPTIONS

- NEW HDPE End Connectors available in SDR 9, 11 through 1", SDR 9, 11, 17 from 2" - 3"
- Stainless Steel Perforated or Mesh Strainer Screens Available in Various Sizes and Alloy Materials

TECHNICAL INFORMATION

SIZE	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
1/2" – 1" (DN15 – DN25)	PVC, CPVC or Clear PVC	Socket, Threaded or Flanged	FPM and EPDM	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
1/2" – 1" (DN15 – DN25)	PVDF	Socket Fusion or Threaded		
1–1/4" (DN32)	PVC and Clear PVC	Socket, Threaded or Flanged		
1–1/2" (DN40)	PVC, CPVC or Clear PVC			
2" (DN50)				
2–1/2" (DN65)				
3–4" (DN80–DN100)	PVC and CPVC			

† PVC & CPVC socket ends available to ISO 727-1 / JIS K 6734, threaded ends to BS21 / JIS B 0203 and flanged ends to DIN / EN PN10.

‡ PVDF socket fusion ends per ASTM F2389 and threaded ends available per BS21.

SB SERIES

Simplex Basket Strainers

1/2" to 4" DN15-100 PVC, CPVC, GFPP, Eastar®
1/2" to 2" DN15-50 Natural PVDF



Certified to
NSF/ANSI 61 & 372
PVC and CPVC 1/2" - 8"

KEY FEATURES

- Available in PVC, CPVC, GFPP, Eastar® and PVDF
- True Union Design
- Ergonomic Hand-Removable Cover
- In-Line or Loop Connections
- External Cover Threads
- Integral Flat Mounting Bases
- ABS Approval for CPVC SB Series

OPTIONS

- NEW HDPE End Connectors available in SDR 9, 11 in 1", SDR 9, 11, 17 from 2" - 3"
- Drain Kit with Lockout Ball Valve
- Baskets Available with Perforated or Mesh Liners
- Stainless Steel, Monel®, Hastelloy® and Titanium Strainer Baskets

TECHNICAL INFORMATION

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
1/2" - 2" (DN15 - DN50)	PVDF	Socket Fusion or Threaded		
1" - 2" (DN25 - DN50)		Flanged		

* End connections and assembly nuts are PVC.

† PVC & CPVC socket ends available to ISO 727-1 / JIS K 6734, threaded ends to BS21 / JIS B 0203 and flanged ends to DIN / EN PN10.

‡ PP socket fusion ends per ASTM F2389 IPS or SDR and threaded ends available per BS21.

§ Socket Fusion ends available only with Platinum units.

†† PVDF socket fusion ends per ASTM F2389 and threaded ends available per BS21.

SB SERIES

Simplex Basket Strainers

6" to 8" DN150-200 PVC, CPVC



Certified to
NSF/ANSI 61 & 372
PVC and CPVC 1/2" - 8"

KEY FEATURES

- Available in PVC and CPVC
- Ergonomic Hand-Removable Cover
- In-Line or Loop Connections
- External Cover Threads
- Integral Flat Mounting Bases
- PVC or CPVC Baskets Standard
- 18-8SS Bolting Standard

OPTIONS

- Two Port Design for Restrictive Center Height Requirements
- Baskets Available with Perforated or Mesh Liners
- Stainless Steel, Monel®, Hastelloy® and Titanium Strainer Baskets
- Pressure Differential Gauge and Switch
- 316SS Bolting

TECHNICAL INFORMATION

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
†PVC & CPVC flanged ends available to DIN / EN PN10.				

DB SERIES

Duplex Basket Strainers

1/2" to 4" DN15-100 PVC, CPVC, Eastar®



KEY FEATURES

- Available in 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
- ABS Approval for CPVC SB Series

OPTIONS

- Drain Kit with Lockout Ball Valve
- Baskets Available with Perforated or Mesh Liners
- Stainless Steel, Monel®, Hastelloy® and Titanium Strainer Baskets
- Pressure Differential Gauge and Switch
- Electric Valve Automation

TECHNICAL INFORMATION

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 & CPVC socket ends available to ISO 727-1 / JIS K 6734, threaded ends to BS21 / JIS B 0203 and flanged ends to DIN / EN PN10 / JIS10K.

DB SERIES

Duplex Basket Strainers

6" to 8" DN150-200 PVC, CPVC



KEY FEATURES

- Available in PVC and CPVC Materials
- 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

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

TECHNICAL INFORMATION

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

†PVC & CPVC flanged ends available to DIN / EN PN10.

FLV SERIES

Simplex Bag Filters

SINGLE LENGTH – 16" GFPP

1-1/4" to 2" DN32-50 PIPE SIZES

DOUBLE LENGTH – 32" GFPP

1-1/4" to 4" DN32-100 PIPE SIZES



KEY FEATURES

- Platinum Glass Filled Polypropylene
- One-Piece Injection Molded Construction
- Hand Removable, Ergonomic Cover with Liquid Displacing Dome
- 1-1/4" – 2" Rated up to 100 GPM
- 2-1/2" – 4" Rated up to 150 GPM
- True Union Socket, Threaded or Flanged End Connections
- In-Line or Loop Flow Configurations
- Solid Basket
- Vent Valve Included On Cover
- Drain Port at Bottom
- Integral Mounting Base

OPTIONS

- NEW HDPE End Connectors available in SDR 9, 11, 17 for 2" & 3"
- Gauge with Gauge Guard
- Pressure Differential Gauge and Switch
- EPDM Seals
- 316 Stainless Steel Basket

TECHNICAL INFORMATION

SIZE	END CONNECTION	PIPE SIZES	SEALS	FLOW RATE	PRESSURE RATING
GFPP Single Length 7" x 16"	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
GFPP Double Length 7" x 32"		2-1/2" – 4" (DN65 – DN100)		150 GPM	

†PVC & CPVC socket ends available to ISO 727-1 / JIS K 6734, threaded ends to BS21 / JIS B 0203 and flanged ends to DIN / EN PN10.

‡PP socket fusion ends per ASTM F2389 IPS or SDR and threaded ends available per BS21.

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FLV SERIES

Duplex Bag Filters

SINGLE LENGTH – 16" GFPP

2" DN50 PIPE SIZE

DOUBLE LENGTH – 32" GFPP

2" to 4" DN50-100 PIPE SIZE



KEY FEATURES

- Platinum Glass Filled Polypropylene
- One-Piece Injection Molded Construction
- Hand Removable, Ergonomic Cover with Liquid Displacing Dome
- Rated up to 100 GPM – 2"
- Rated up to 150 GPM – 3" to 4"
- True Union Socket, Threaded or Flanged End Connections
- In-Line or Loop Flow Configurations
- Solid Basket
- Vent Valve Included On Cover
- Drain Port at Bottom
- Integral Mounting Base

OPTIONS

- Gauge with Gauge Guard
- Pressure Differential Gauge and Switch
- EPDM Seals
- Hinged Basket
- 316 Stainless Steel Basket

TECHNICAL INFORMATION

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

†PVC & CPVC socket ends available to ISO 727-1 / JIS K 6734, threaded ends to BS21 / JIS B 0203 and flanged ends to DIN / EN PN10.

‡PP socket fusion ends per ASTM F2389 IPS or SDR and threaded ends available per BS21.

"Patented" Pat. No.: 9,630,127

CFLV SERIES

Cartridge Filters

SINGLE LENGTH & DOUBLE LENGTH



KEY FEATURES

- Platinum Glass Filled Polypropylene
- One-Piece Injection Molded Construction
- Allows for Single 7" or Multiple (5) 2-1/2" Cartridges
- Ideal for Pleated, Meltblown or Spin Wounded Cartridges
- True Union Socket, Threaded or Flanged End Connections
- 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

- NEW HDPE End Connectors available in SDR 9, 11, 17 for 2" & 3"
- Duplex or Other Manifold Systems
- Vent Gauge with Gauge Guard
- Pressure Differential Gauge and Switch
- EPDM Seals
- Multiple Cartridge Adapters Options

TECHNICAL INFORMATION

SIZE	END CONNECTION	PIPE SIZES	SEALS	FLOW RATE	PRESSURE RATING
GFPP Single Length 7" x 16"	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
GFPP Double Length 7" x 32"		2-1/2" – 4" (DN65 – DN100)		150 GPM	

†PVC & CPVC socket ends available to ISO 727-1 / JIS K 6734, threaded ends to BS21 / JIS B 0203 and flanged ends to DIN / EN PN10.

‡PP socket fusion ends per ASTM F2389 IPS or SDR and threaded ends available per BS21.

FLV SERIES

Simplex Bag Filters

SINGLE LENGTH – 16" PVC, CPVC

1-1/4" to 2" DN32-50 PIPE SIZES

DOUBLE LENGTH – 32" PVC, CPVC

1-1/4" to 4" DN32-100 PIPE SIZES



KEY FEATURES

- Available in PVC or CPVC Materials
- 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 Flow Rates
- In-Line or Loop Flow Configurations
- Solid 1-Piece Basket
- Drain Port at Bottom
- Integral Mounting Base

OPTIONS

- NEW HDPE End Connectors available in SDR 9, 11, 17 for 2"
- Gauge with Gauge Guard
- Pressure Differential Gauge and Switch
- EPDM Seals
- Duplex Configurations

TECHNICAL INFORMATION

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

†PVC & CPVC socket ends available to ISO 727-1 / JIS K 6734, threaded ends to BS21 / JIS B 0203 and flanged ends to DIN / EN PN10.

FLV SERIES

Duplex Bag Filters

SINGLE LENGTH – 16" PVC, CPVC

2" DN50 PIPE SIZE

DOUBLE LENGTH – 32" PVC, CPVC

2" to 4" DN50-100 PIPE SIZES



KEY FEATURES

- Available in PVC or CPVC Materials
- 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 Flow Rates
- Loop Flow Configurations
- Solid 1-Piece Basket
- Drain Port at Bottom
- Mounted on FPR Skid

OPTIONS

- In-Line Flow Configuration
- Pressure Gauge with Gauge Guard
- Pressure Differential Gauge and Switch
- EPDM Seals
- DIN / EN Connections

TECHNICAL INFORMATION

SIZE	MATERIAL	END CONNECTION	PIPE SIZES	SEALS	FLOW RATE	PRESSURE RATING
Single Length 7" x 16"	PVC or 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)			

†PVC & CPVC socket ends available to ISO 727-1 / JIS K 6734, threaded ends to BS21 / JIS B 0203 and flanged ends to DIN / EN PN10.

Heavy-Duty Filter Bags

Heavy-Duty Polypropylene, Polyester and Nylon Filter Bags

SIZE 1 - SINGLE LENGTH 7" x 16"

SIZE 2 - DOUBLE LENGTH 7" x 32"



KEY FEATURES

- All Bag Materials Silicone-Free
- Sewn or Welded Construction
- Size 1 – Maximum Flow Rate 90 GPM
- Size 2 – Maximum Flow Rate 180 GPM
- Sewn Bags Have Sewn-In Cloth Handles
- Flanged Bags Have Molded-In Handles
- Easy Change-Out Reduces Down Time
- Versatile Micron Ratings Will Accommodate Most Applications

MATERIALS

- Glazed Polypropylene Needled Felt - Rated up to 200°F
- Singed Polyester Needled Felt - Rated up to 300°F
- Polypropylene Monofilament Mesh - Rated up to 200°F
- Nylon Monofilament Mesh - Rated up to 325°F

TECHNICAL INFORMATION

TYPE	MATERIAL	AVAILABLE MICRON RATINGS										
		1	5	10	25	50	100	150	200	400	600	800
Needled Felts	Polypropylene	●	●	●	●	●	●		●			
	Polyester	●	●	●	●	●	●		●			
Monofilament Meshes	Polypropylene							●		●	●	●
	Nylon							●		●	●	●

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
- Available in PP or Cellulose Materials

OPERATING CHARACTERISTICS

- Max. ΔP: 60 PSI at maximum recommended temperature of 140°F
- Change-out recommended at 30 PSID

TECHNICAL INFORMATION

SIZE	SINGLE CARTRIDGE	MULTIPLE CARTRIDGE	MICRON	MATERIAL
SINGLE SIZE 1	7 X 16	2-1/2 X 10	5	CELLULOSE
		2-1/2 X 20	1, 5, 10 or 30	PP
DOUBLE SIZE 2	7 X 30	2-1/2 X 30		

HCF SERIES

Commercial Sand Filters



KEY FEATURES

- Available in 30", 34" and 36" Sizes
- 50PSI Max Working Pressure
- EPDM O-ring and Seals
- UV-protectant gel coat protects the filter from the elements
- Transparent manway design simplifies operation and improves durability
- Multi-diffuser Distribution Heads and Oversized Laterals Improve Filtration and Lengthen Filter Cycle Time
- Robust PVC and ABS injection-molded internals with slotted laterals provide high performance and resistance in corrosive applications
- Valve and pressure gauge configuration offer durability and increased accuracy
- NSF/ANSI 50 Listed

OPTIONS

- Hayward GG Series Gauges & Gauge Guards for Saltwater Applications
- Multiport Valve

TECHNICAL INFORMATION

SIZE	MATERIAL	END CONNECTION	PIPE SIZES	SEALS	FLOW RATE	PRESSURE RATING
30"	UV-Protectant Gel-Coated Fiberglass	NPT	2"	EPDM	98 GPM	50 PSI @ 70°F 3 Bar @ 21°C Non-Shock
34"			(DN50)		126 GPM	
36"			2.5"		141 GPM	
36"		Flanged	3"			
			(DN80)			

LS SERIES

Aquatic Sand Filters



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

TECHNICAL INFORMATION

SIZE	MATERIAL	END CONNECTION	PIPE SIZES	SEALS	FLOW RATE	PRESSURE RATING
31"	HDPE	NPT	2"	EPDM	99 GPM	50 PSI @ 70°F 3 Bar @ 21°C Non-Shock
36"					130 GPM	

FLT SERIES

Single Cartridge Filters

10", 20", 30" PVC, CPVC



KEY FEATURES

- Available in PVC or CPVC Materials
- FPM O-Ring Cover Seals
- Hand Removable, Ergonomic Cover with Liquid Displacing Dome
- Integral, Plugged Tap on Cover for Easy Bleeding of Filter Vessel
- Compact Design
- Rated up to 100 GPM Flow Rates
- Fits One DOE 2-1/2" Cartridge

OPTIONS

- Accepts Pleated, Carbon or Wound Filter DOE Cartridges
- BSPT Inlet/Outlet Connection
- PVC or CPVC Support Tube

TECHNICAL INFORMATION

SIZE	MATERIAL	END CONNECTION	SEALS	FLOW RATE	PRESSURE RATING
10"	PVC or CPVC	3/4" NPT**	FPM or EPDM*	10 GPM	150 PSI @ 70°F
20"					10 Bar @ 21°C
30"					Non-Shock

*Standard seals are FPM. Add "E" to end of part number for EPDM.
**Optional Threaded Ends per BS21.

HDPE TRANSITION FITTINGS BY

HAYWARD® FLOW CONTROL

NEW from Hayward Flow Control, HDPE end connectors for Hayward Valves and Strainers. Offered in SDR 9, 11 and 17 sizes in True Union Connectors.



TBH SERIES

True Union Ball Valves

1/2" to 1" Available in SDR 9, 11
1-1/4" to 4" Available in SDR 9, 11, 17



TC SERIES

True Union Ball Check Valves

1/2" to 1" Available in SDR 9, 11
1-1/4" to 4" Available in SDR 9, 11, 17



YC SERIES

True Union Y-Check Valves

1/2" to 1" Available in SDR 9, 11
2" to 3" Available in SDR 9, 11, 17



YS SERIES

True Union Y-Strainers

1/2" to 1" Available in SDR 9, 11
2" to 3" Available in SDR 9, 11, 17



SB SERIES

True Union Simplex Basket Strainers

1" Available in SDR 9, 11
2" to 3" Available in SDR 9, 11, 17



FLV/CFLV SERIES

Bag & Cartridge Filter Vessels

2" & 3" Available in SDR 9, 11, 17



† HDPE end connectors may be provided as a kit. Contact factory for metric availability.

LIFESTAR® A-SERIES

Single or VS Variable Speed Aquatic Pumps

1/2 HP Single Phase, Single Speed ODP

1/2, 3/4, 1, 1-1/2, 2, 3 HP 3-Phase, Single Speed TEFC

2 HP Single Phase, Variable Speed TEFC



KEY FEATURES

- Ideal for Sensitive Aquatic Environments or Salt Water Systems
- All Wetted Hardware Manufactured from 316 Stainless Steel
- 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
- Multi-Position or Detachable / Wall Mount Digital Control Interface with Password Protection - VS model only

TECHNICAL INFORMATION

PUMP HOUSING	Glass Filled Polypropylene
PIPE CONNECTION	2" True Union Socket (PVC)
MOTOR SHAFT	303 SS (Non-Wetted)
SHAFT SEAL	Silicon Carbide
WETTED HARDWARE	316 SS (Impeller Insert, Impeller Screw and 2 Diffuser Screws)
STRAINER BASKET	HDPE, 1/8" Perf
MOTORS	Single or Three Phase, Open Drip Proof (ODP) or Totally Enclosed Fan Cooled (TEFC)
MODEL - HP RATING	A-Series Single Speed: 1/2 HP - 3 HP Variable Speed: 2 HP
VOLTAGES	A-Series Single Speed: 115/208-230, 208-230, 208-230/460, 230/460 Variable Speed: 230

LIFESTAR® XE

High Efficiency Aquatic Pump

6 Speed 1225 - 3450 rpm 1.85 & 2.25 HP

Single Phase 115V/230V, ODP



KEY FEATURES

- Ideal for Sensitive Aquatic Environments or Salt Water Systems
- Programmable over 6 Selectable Speeds
- All Wetted Hardware Manufactured from 316 Stainless Steel
- Silicon Carbide/Silicon Carbide Shaft Seal Suitable for Fresh and Salt Water Use
- Corrosion Resistant GFPP Pump Housing
- Self-Priming Pump
- Clear Basket Strainer Lid for Visual Inspection
- Elevated Base Ensures Better Ventilation and Protection from Flooding
- Perforated 1/8" HDPE Strainer Basket
- Dual Voltage 230V/115V for Greater Install Versatility
- Drop-in Replacement for any existing Lifestar® Installation
- 2" Socket x 2-1/2" Spigot PVC True Union Connections Included

TECHNICAL INFORMATION

PUMP HOUSING	Glass Filled Polypropylene
PIPE CONNECTION	2" True Union Socket (PVC)
MOTOR SHAFT	303 SS (Non-Wetted)
SHAFT SEAL	Silicon Carbide
WETTED HARDWARE	316 SS (Impeller Insert, Impeller Screw and Diffuser Screws)
STRAINER BASKET	HDPE, 1/8" Perf
MOTORS	Single Phase - Open Drip Proof (ODP)
HP RATING	1.85 (1A3SES16XE) & 2.25 (1A3SES17XE)
VOLTAGES	115V/230V 60 Hz

LIFESTAR® MV

Single or VS Variable Speed Medium Head Aquatic Pumps

5, 7 HP Single Phase and 2, 3, 5, 7 HP 3-Phase Single Speed TEFC
3 HP Variable Speed TEFC



KEY FEATURES

- Ideal for Sensitive Aquatic Environments, Fresh or Salt Water Systems
- Corrosion Resistant GFPP Housing for Long Term Performance
- True Union 2-1/2" x 3" Socket End Connections
- Modular Strainer Basket Design – Can Be Mounted Remotely
- Fully Programable Multi-Position or Remote Mount VS Interface
- Oversized Strainer Basket with HDPE 1/8th Perf Basket
- 3" ANSI Class 150 Flange Connection from Pump to Basket
- Silicon Carbide/Silicon Carbide Shaft Seal
- All Wetted Hardware Manufactured from 316 Stainless Steel
- FPM Seals Standard
- Available In 1-phase and 3-phase Models
- Industrial Grade TEFC Motors Standard with 220-240, 190/380-415, 190/380-415, 50Hz and 208-230, 208-230/460, 575, 60Hz Voltage
- High Efficiency Enclosed Impeller
- Self-Priming Pump – Up to 10 feet
- For Indoor and Outdoor Use
- UL778 Listing

TECHNICAL INFORMATION

PUMP HOUSING	Glass Filled Polypropylene
PIPE CONNECTION	2-1/2" x 3" True Union Socket (CPVC)
MOTOR SHAFT	303 SS (Non-Wetted)
SHAFT SEAL	Silicon Carbide
WETTED HARDWARE	316 SS (Impeller Insert, Impeller Screw and 2 Diffuser Screws)
STRAINER BASKET	HDPE, 1/8" Perf, Modular
MOTORS	Single or Three Phase, Totally Enclosed Fan Cooled (TEFC)
MODEL - HP RATING	MV Single Speed: 2 HP - 7 HP Variable Speed: 3 HP
VOLTAGES	A-Series Single Speed: 208-230 @ 60Hz, 220-240 @ 50Hz, 208-230/460 @ 60Hz, 190/380-415 @ 50Hz Variable Speed: 230 @ 60Hz

Z SERIES

Solenoid Diaphragm Metering Pumps

ANALOG OPERATION or DIGITAL OPERATION



KEY FEATURES

- Three Pump Sizes Cover 1 To 29 GPH, with Discharge Pressures up to 232 psi
- Standard One Piece Molded PVDF Pump Head
- PTFE Diaphragm Provides Superior Chemical Handling
- Degassing Valve Included on 100 and 200 Size Models
- Glass Reinforced Polypropylene Housing
- FPM Body O-Ring Seal
- Removable Bracket Allows For Panel Mounting
- Inputs: 4-20mA, Pulse, etc. (varies by model)
- Manual Priming Valve on 500 Size
- NEMA 4X/IP65 Rated
- Electrical Connections Are Configured With "Quick-Connectors", Capped When Not In Use
- Automatic Power Supply - 100-240 VAC 50-60 Hz
- CE Mark
- Complete Standard Installation Kit Includes:
 - PVDF Foot Filter & Injection Valve
 - PVC Suction Tube
 - PE Delivery Tube

OPTIONS

- Multifunction Valve Optional
- EPDM Seals Optional
- Level Switch
- Flow Switch

TECHNICAL INFORMATION

PUMP SIZE	Ø CONNECTIONS IN / OUT (INCHES)	FREQUENCY MAX (STROKE/MIN)	FLOW RATE (GPH)
100	0.17" x 1/4"	160	2.11
200	0.17" x 1/4"	300	4.75
500	5/16" x 7/16"	300	29

R SERIES

Magnetic Drive Pumps

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



KEY FEATURES

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

OPTIONS

- Carbon Bushings
- Ceramic Bushings
- EPDM Elastomers
- 575V Motors
- Explosion Proof Motors
- Washdown Motors

TECHNICAL INFORMATION

PUMP HEAD	GFPP, ETFE
PIPE CONNECTION	Threaded NPT
SHAFT	Ceramic with PTFE Bushing
SEAL	FPM
PERFORMANCE	Flow Rates from 5 – 140 GPM with TDH up to 141ft
MOTORS	Single or Three Phase
MODEL - HP RATING	RC03-1/3HP, RX05-1/2HP, RX07-3/4HP, RX10-1HP, RX15 1-1/2HP, RX20-2HP, RX30-3HP, RX50-5HP.

D SERIES

Vertical Seal-Less Immersible Pumps

1/8 HP



KEY FEATURES

- Heavy Duty Design for Continuous Duty Service
- Available in CPVC, Natural PP and Natural PVDF
- PTFE Fume Barrier
- FPM Elastomers
- Seal-Less Design

OPTIONS

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

TECHNICAL INFORMATION

PUMP HEAD	CPVC, PP or PVDF Construction
PIPE CONNECTION	Threaded NPT
SHAFT	Stainless Steel Shaft with Non-Metallic Sleeve
SEAL	PTFE Fume Barrier Protects Motor and Bearings, FPM O-Rings
PERFORMANCE	Flow Rates from 2 – 17 GPM with TDH up to 18ft
MOTOR	Single Phase
MODEL - HP RATING	1/8HP

S SERIES

Vertical Seal-Less Immersible Pumps

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



KEY FEATURES

- Heavy Duty Design for Continuous Duty Service
- Available in CPVC, GFPP and Natural PVDF
- PTFE Fume Barrier
- FPM Elastomers
- 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 Elastomers
- S-J Type Electrical Cord

TECHNICAL INFORMATION

PUMP HEAD	CPVC, GFPP or PVDF Construction
PIPE CONNECTION	Threaded NPT
FUME BARRIER	PTFE, Protects Motor & Bearings from Corrosion
O-RINGS	FPM
PERFORMANCE	Flow Rates from 5 – 130 GPM with TDH up to 115ft.
MOTORS	Single or Three Phase
MODEL - HP RATING	S1-1/15HP, S2-1/3HP, S4-1/2HP, S5-3/4HP, S7-1HP, S8-1-1/2HP, S12-3HP, S16-5HP

T SERIES

Seal-Less Immersible Pumps

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



KEY FEATURES

- Available in CPVC, GFPP and Natural 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

TECHNICAL INFORMATION

PUMP HEAD	CPVC, GFPP or PVDF Construction
PIPE CONNECTION	Threaded NPT
MOTOR SHAFT	303 SS
SHAFT SEAL	Patented PTFE Shaft Seal
PERFORMANCE	Flow Rates from 5 – 80 GPM with TDH up to 45ft
MOTORS	Single or Three Phase
MODEL - HP RATING	T2-1/3HP, T4-1/2HP, T5-3/4HP, T6-1HP, T7-1HP, T8-1-1/2HP

"Patented" Pat No: 9,745,993 & 11,022,133

BFA/BFAS SERIES

Bulkhead Fittings - Standard Flange

1/2" - 4" PVC, CPVC, PP and GFPP



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

KEY FEATURES

- Available in PVC, CPVC, PP and GFPP
- FPM or EPDM Gasket Seal
- Left-Hand Threads
- Buttress Threads Protect Against Blowout
- Hex Body for One-Person Installation
- Rated at 150 PSI
- NSF / ANSI 61 and NSF / ANSI 372 Listed

OPTIONS

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

TECHNICAL INFORMATION

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

BFA SERIES

Bulkhead Fittings - Oversized Flange

1/2" - 1" PVC, CPVC AND PP - Long Pattern



KEY FEATURES

- Available in 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™ Compression Fitting

TECHNICAL INFORMATION

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

SF SERIES

Self-Aligning Bulkhead Fittings

1", 2" AND 3" PVC



KEY FEATURES

- Available in 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 Seat
- FPM or EPDM Gasket

TECHNICAL INFORMATION

SIZE	MATERIAL	END CONNECTION	SEALS	PRESSURE RATING
1", 2", 4" (DN25, DN50, DN80)	PVC	Thread x Thread	FPM or EPDM	75 PSI @ 70°F 5 Bar @ 21°C Non-Shock

BVX SERIES

Ready Flanges

1" - 4" / DN25 - DN100 PVC, CPVC, GFPP AND Natural PVDF



KEY FEATURES

- Ideal for conversion from socket to flange end
- Available in PVC, CPVC, GFPP and PVDF
- Solid One-Piece Construction
- Integral Molded Spigot End - Easy for Field Assembly
- Eliminates the Need for an Extra Fabricated Joint – Preventing a Possible Leak Path
- Easily Converts Socket Valves to Flanged
- Available in ANSI/ASME Class 150, DIN/ EN PN10 and JIS10K

OPTIONS

- Threaded to Flanged

TECHNICAL INFORMATION

SIZE	MATERIAL	END CONNECTION	PRESSURE RATING
1" - 4" (DN25 - DN100) (JIS25 - JIS100)	PVC, CPVC	Spigot x Flanged	150 PSI @ 70°F 10 Bar @ 21°C Non-Shock
	GFPP	Threaded x Flanged	
	PVDF		

AR SERIES

Air Release Valves

3/4" PVC, CPVC BODY WITH PP BALL



KEY FEATURES

- PVC or CPVC 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

TECHNICAL INFORMATION

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



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TB SERIES

Ball Valves



KEY FEATURES

- Available in sizes 1/4" - 2"
- Available with Threaded or Socket Fusion (IPS) Ends
- Full Port Design
- FPM O-Ring Seals Standard
- Reversible PTFE Seats
- Double O-Ring Stem Seals
- Available with Electric or Pneumatic Actuation
- Natural PVDF per ASTM D3222 Type 1

TC SERIES

Ball Check



KEY FEATURES

- Available in sizes 1/4" - 1"
- Available with Threaded or Socket Fusion (IPS) Ends
- Ideal for Vertical Installation
- Square Cut Seat for Positive Sealing
- Seats with Minimum Back Pressure
- Solid PTFE Ball
- FPM O-Ring Seals Standard
- Natural PVDF per ASTM D3222 Type 1

YC SERIES

Y Checks



KEY FEATURES

- Available in sizes 1/2" - 1"
- Available with Threaded or Socket Fusion (IPS)
- Full Flow Design
- Minimum Pressure Drop
- PVDF Coil to Guide Piston to a Positive Seat
- Minimal Back Pressure Required to Seat Piston
- FPM Seals and O-rings
- Natural PVDF per ASTM D3222 Type 1

YS SERIES

Strainers



KEY FEATURES

- Available in sizes 1/2" - 1"
- Available with Threaded or Socket Fusion (IPS)
- Ideal for Horizontal or Vertical Installation
- FPM O-Ring Seals
- PVDF Screen Cage and PTFE Ends
- PTFE Screen with 3/32" Perforation as Standard
- Hex Cap for Easy Access to Screen
- Natural PVDF per ASTM D3222 Type 1

NVA SERIES

Needle Valves



KEY FEATURES

- Available in sizes 1/4", 3/8" and 1/2"
- Ideal for Metering Flow
- Integrated Stem/PTFE Seat Design
- Flanges for Panel Mounting
- NPT Threaded Ends
- Fine Pitch Stem Threads for Precise Adjustment
- Adjust Flow Rates Down to Drops per Minute
- FPM Seal Standard
- Natural PVDF per ASTM D3222 Type 1

PBV/RPV SERIES

Back & Pressure Relief Valves



KEY FEATURES

- Natural PVDF Body with Noryl™ Bonnet
- PTFE/EPDM Diaphragm Standard
- Spring: 10 - 150 psi (Spring pre-set: 50 psi)
- 304 Stainless Steel Bolting
- FNPT Threads
- Anti-Siphon Function
- Adjustment Screw with Slot
- Pressure rated to 250 psi

SB SERIES

Simplex Basket Strainers

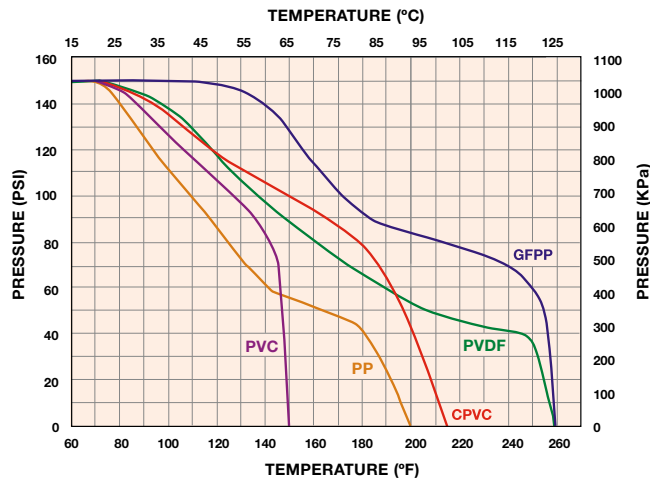


KEY FEATURES

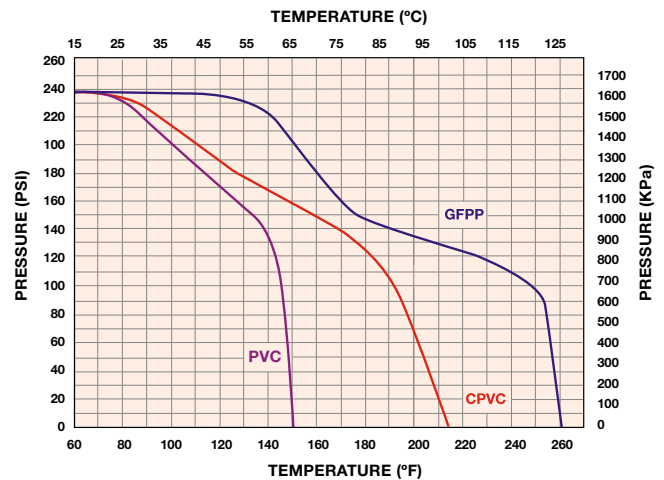
- Available in sizes 1/2" - 2"
- Available with Threaded, Socket Fusion (IPS) or Flanged
- True Union Design
- Ergonomic Hand-Removable Cover
- External Cover Threads
- Integral Flat Mounting Base
- FPM O-Ring Seals
- PVDF Basket Standard
- Natural PVDF per ASTM D3222 Type 1

All valves and strainers carry a pressure rating of 150psi/10 bar Non-Shock at 70°F/ 23°C. Maximum service temperature is 240°F/115°C.

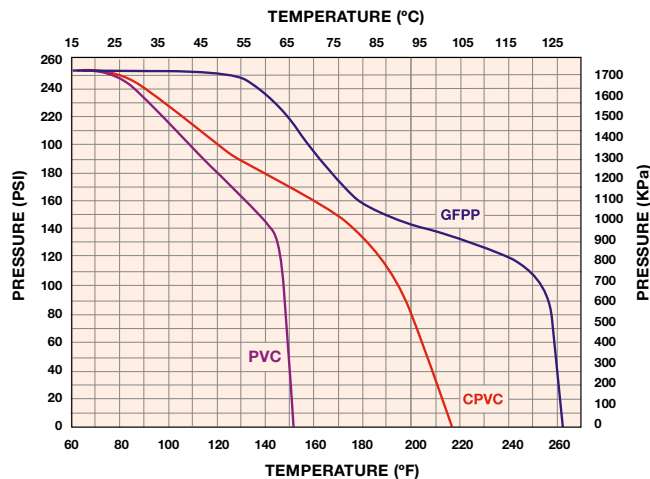
Operating Temperature/Pressure for 150 PSI/10 Bar Rated Products (EXCEPT FILTER HOUSINGS)



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

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**

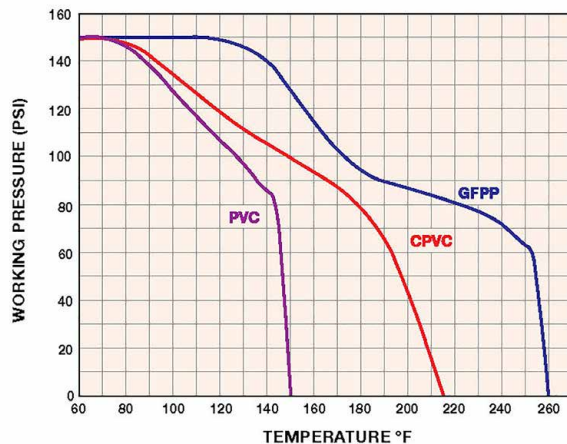
PLASTIC		STAINLESS STEEL		STAINLESS STEEL	
PERFORATION	CORRECTION FACTOR	PERFORATION	CORRECTION FACTOR	MESH	CORRECTION FACTOR
1/32"	1.05	1/32"	0.82	20	0.79
1/16"	1.00	3/64"	0.63	40	1.01
1/8"	0.58	1/16"	0.74	60	1.20
3/16"	0.46	5/64"	0.50	80	1.16
		7/64"	0.51	100	1.20
		1/8"	0.58	200	1.09
		5/32"	0.37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

Flow of Water Through Schedule 80 Plastic Pipe

DISCHARGE		VELOCITY IN SCHEDULE 80 PLASTIC PIPE FOR WATER @ 60°F							
GALLONS / MINUTE	CUBIC FEET/SECOND	FEET/SECOND	FEET/SECOND	FEET/SECOND	FEET/SECOND	FEET/SECOND	FEET/SECOND	FEET/SECOND	FEET/SECOND
			1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"
0.2	0.000446	—	0.824	—	—	—	—	—	—
0.3	0.000668	—	1.237	0.651	0.392	—	—	—	—
0.4	0.000891	—	1.646	0.867	0.529	—	—	—	—
0.5	0.00111	—	2.061	1.083	0.653	0.359	—	—	—
0.6	0.00134	—	2.476	1.303	0.782	0.431	—	—	—
0.8	0.00178	—	3.295	1.728	1.043	0.574	—	—	—
1	0.00223	—	4.122	2.167	1.311	0.718	0.435	—	—
2	0.00446	—	8.245	4.335	2.609	1.432	0.871	0.525	—
3	0.00668	—	12.381	6.502	3.919	2.161	1.306	0.788	0.538
4	0.00891	2"	16.502	8.671	5.218	2.876	1.747	1.051	0.717
5	0.01114	—	—	10.837	6.528	3.592	2.181	1.313	0.896
6	0.01337	0.65	2-1/2"	13.005	7.827	4.308	2.614	1.579	1.076
8	0.01782	0.86	—	—	10.448	5.741	3.482	2.105	1.434
10	0.02228	1.08	0.752	3"	13.057	7.185	4.351	2.632	1.798
15	0.03342	1.61	1.134	—	—	10.778	6.531	3.941	2.697
20	0.04456	2.15	1.505	0.986	—	—	8.712	5.252	3.596
25	0.0557	2.69	1.886	1.238	—	4"	10.881	6.574	4.484
30	0.06684	3.23	2.256	1.476	—	—	13.062	7.884	5.383
35	0.07798	3.78	2.638	1.726	—	0.973	15.232	9.193	6.282
40	0.08912	4.32	3.009	1.976	—	1.114	17.413	10.515	7.171
45	0.1003	4.84	3.391	2.215	—	1.247	—	11.838	8.069
50	0.1114	5.39	3.761	2.465	—	1.391	—	13.147	8.969
60	0.1337	6.47	4.513	2.953	—	1.665	—	15.779	10.778
70	0.156	7.55	5.266	3.453	—	1.942	—	—	12.577
80	0.1782	8.62	6.018	3.942	—	2.228	—	6"	14.36
90	0.2005	9.69	6.771	4.442	—	2.504	—	—	16.162
100	0.2228	10.77	7.523	4.931	—	2.781	—	1.225	17.96
125	0.2785	13.48	9.409	6.168	—	3.475	—	1.534	22.445
150	0.3342	16.18	11.284	7.395	—	4.171	—	1.893	—
175	0.3899	18.87	13.171	8.633	—	4.865	—	2.141	8"
200	0.4456	21.56	15.068	9.861	—	5.561	—	2.451	—
225	0.5013	—	16.943	11.098	—	6.255	—	2.759	1.577
250	0.557	—	—	12.325	—	6.951	—	3.069	1.752
275	0.6127	—	—	13.563	—	7.645	—	3.367	1.927
300	0.6684	—	—	14.768	—	8.341	—	3.675	2.102
325	0.7241	—	—	16.041	—	9.035	—	3.985	2.277
350	0.7798	—	—	—	—	9.731	—	4.294	2.453
375	0.8355	—	—	—	—	10.425	—	4.592	2.628
400	0.8912	—	—	—	—	11.121	—	4.901	2.803
425	0.9469	10"	—	—	—	11.815	—	5.211	2.989
450	1.003	—	—	—	—	12.511	—	5.519	3.164
475	1.059	2.199	—	—	—	13.205	—	5.817	3.329
500	1.114	2.229	—	—	—	13.901	—	6.126	3.515
550	1.225	2.459	—	—	—	15.279	—	6.744	3.865
600	1.337	2.679	12"	—	—	16.681	—	7.352	4.215
650	1.225	2.899	—	—	—	—	—	7.971	4.566
700	1.56	3.129	2.205	—	—	—	—	8.588	4.916
750	1.671	3.349	2.359	—	—	—	—	9.195	5.267
800	1.56	3.569	2.513	—	—	—	—	9.802	5.617
850	1.782	3.799	2.677	—	—	—	—	10.421	5.968
900	2.005	4.019	2.831	—	—	—	—	11.028	6.318
950	2.117	4.239	2.984	—	—	—	—	11.646	6.668
1000	2.228	4.469	3.149	—	—	—	—	12.253	7.019
1100	2.451	4.919	3.458	—	—	—	—	13.489	7.719
1200	2.674	5.359	3.775	—	—	—	—	14.715	8.431
1300	2.896	5.809	4.093	—	—	—	—	15.929	9.121
1400	3.119	6.259	4.401	—	—	—	—	17.165	9.833
1500	3.342	6.698	4.718	—	—	—	—	18.391	10.534
1600	3.565	7.148	5.037	—	—	—	—	19.611	11.235
1800	4.01	8.038	5.662	—	—	—	—	22.067	12.636
2000	4.456	8.938	6.228	—	—	—	—	24.517	14.038
2500	5.57	11.168	7.868	—	—	—	—	—	17.552
3000	6.684	13.396	9.437	—	—	—	—	—	21.068
3500	7.798	15.637	11.006	—	—	—	—	—	24.572
4000	8.912	17.866	12.587	—	—	—	—	—	28.08
4500	10.13	20.106	14.156	—	—	—	—	—	31.613
5000	11.14	—	—	—	—	—	—	—	—
6000	13.37	—	—	—	—	—	—	—	—
7000	15.6	—	—	—	—	—	—	—	—
8000	17.82	—	—	—	—	—	—	—	—
9000	20.05	—	—	—	—	—	—	—	—
10000	22.28	—	—	—	—	—	—	—	—
12000	26.74	—	—	—	—	—	—	—	—

The following wave surge constants may be used to quickly calculate pressure rise due to water hammer where: "C" = the wave surge constant from the table below multiplied by "V" the line velocity in feet per second. The resultant number is then added to the line pressure to determine the resulting wave surge (Water Hammer Effect).

Pipe Size	1/4"	1/2"	3/4"	1"	1-1/2"	2"	3"	4"	6"	8"	10"	12"
Constant	40	35	32	31	27	25	23	23	21	20	19	19

Maximum recommended fluid velocity is 8 feet per second (solenoid valves 5 feet per second)



Product Listings



NSF/ANSI Standard 61 and NSF/ANSI 372

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

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

The following Hayward Flow Control products comply with this directive:

PRODUCT	SIZE	WATER CONTACT TEMP	WATER CONTACT MATERIAL
TBH SERIES BALL VALVES			
Hayward True Union Ball Valve (PVC)	1/4" - 2"	CLD23	MLTPL
Hayward True Union Ball Valve (CPVC)	1/4" - 2"	CLD23	MLTPL
CVH SERIES BALL VALVES			
CVH Series Ball Valve (CPVC)	1/4" - 2"	CLD 23	MLTPL
CVH Series Ball Valve (PVC)	1/4" - 2"	CLD 23	MLTPL
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
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
FLOW CONTROL VALVES			
Universal Stopcock™	1/4"	CLD23	MLTPL
RPV SERIES PRESSURE RELIEF VALVES	1/2" - 4"***	CLD23	MLTPL
PBV SERIES BACK PRESSURE VALVES	1/2" - 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.

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

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

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

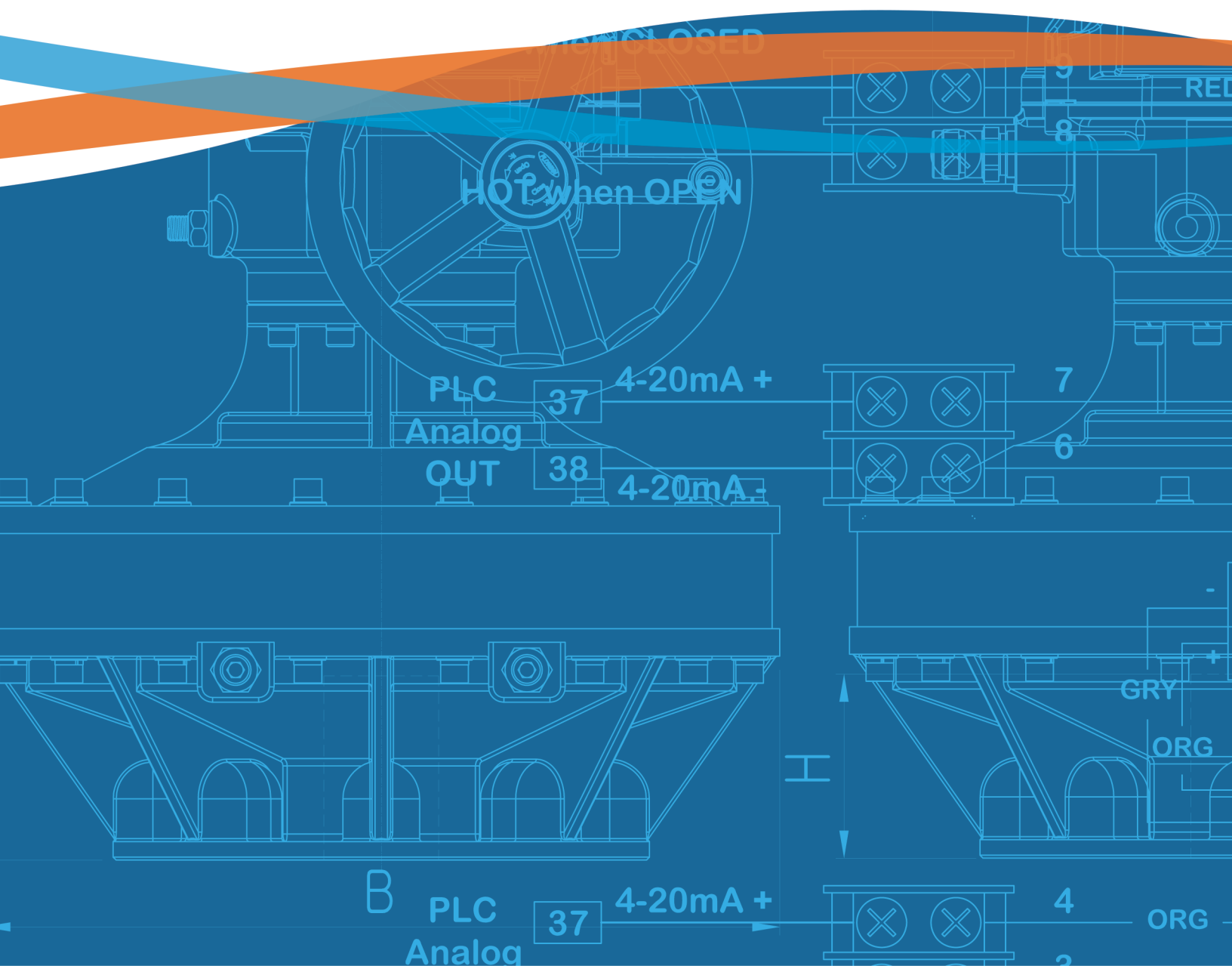


WARRANTY & RGA POLICY

1. **CLAIMS:** All claims must be made in writing and received by Hayward within 10 days after receipt of merchandise. If a shipment is received in a damaged condition, a claim must be filed with the delivering carrier and noted on the freight bill before you accept the merchandise.
2. **THREE YEAR WARRANTY:** All products¹ manufactured by Hayward are warranted against defects in material or workmanship for a period of three years from date of shipment². Our sole obligation under this warranty is to repair or replace, at our option, any product or any part or parts thereof found to be defective. **HAYWARD MAKES NO OTHER REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** The warranty set forth above is the only warranty applicable to Hayward products and in no event shall Hayward be liable for any delay, work stoppage, cartage, shipping, loss of use of equipment, loss of time, inconvenience, loss of profits of any direct or indirect incidental resulting from or attributable to a breach of warranty. **The remedies under this warranty shall be the only remedies available. OUR MAXIMUM LIABILITY SHALL NOT IN ANYEVENT EXCEED THE CONTRACT PRICE FOR THE PRODUCT.**
3. **RETURNS OF GOODS FOR NON-WARRANTY CLAIM:** Hayward Flow Control will authorize the return of products purchased within the last twelve (12) months in original "like new" packaging of current design, and listed in the current Complete Price Book. All returns must be accompanied by a "Return Goods Authorization" number, which must be obtained from Hayward Flow Control prior to shipment. All returns are subject to inspection upon receipt. No credit will be issued until the returned material has been inspected, accepted and processed. Customers will be contacted if quantity differences and/or non-acceptable material are found during inspection. Credit will reflect only quantities actually received and accepted. Disposition of product(s) not accepted by Hayward Flow Control must be provided by Distributor within 10 business days; otherwise, it will be subject to disposal. Minimum restock charge is \$50.00. All material returns must be received within thirty (30) days of the RGA issuance and shipped freight prepaid. No collect shipments will be accepted. Prepaid freight does not apply to returns due to Hayward Flow Control order entry or shipping errors. Hayward Flow Control will authorize the return of product considered a stock item with a minimum restock charge of 25%. Hayward Flow Control will authorize the return of standard Pump or Actuated product with a minimum restock charge of 40%. Specialty products such as Strainer or Filtration assemblies and Engineered Products are non-cancelable/non-re-turnable. Restock charges do not apply to returns due to Hayward Flow Control order entry or shipping errors.
4. **RETURNS OF GOODS FOR WARRANTY CLAIM:** When requesting an RGA for product evaluation, the Customer must first complete and submit an In Service Form obtained from Hayward Flow Control Technical Services. Additionally, a Safety Data Sheet (SDS) must be submitted along with the In Service Form to Technical Services prior to receiving a Return Goods Authorization number. All Warranty Claim returns must be accompanied by the SDS, In Service Form and RGA number. Product must be washed and free of service media prior to returning for evaluation. Failure to do so may result in denial of claim and product returned back freight collect. Customers will be contacted if quantity differences and/or non-acceptable material are found during inspection. The Customer will be notified of the evaluation results. If the Warranty Claim is accepted, credit will be issued or replacement product sent. Freight will be credited upon approval of claim. If the Warranty Claim is declined, disposition of product(s) must be provided to Technical Services within 30 business days; otherwise, it will be subject to disposal. Rejected product returned to the Customer will ship freight collect. All warranty claim returns must be received within thirty (30) days of the RGA issuance and shipped freight prepaid. No collect shipments will be accepted.

¹ Warranty information for products manufactured by Hayward Pool can be found in product manual or visit hayward-pool.com.

² All industrial products manufactured by Hayward Flow Control are warranted against defects in material or workmanship for a period of three years from date of shipment excluding some instrumentation products and pulsation dampeners. Warranty information for instrumentation products and pulsation dampeners can be found in product manual.



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