



HAYWARD®

Hayward® Flow Control Condensed Product Guide

FLOW CONTROL PRODUCTS



Hayward Thermoplastic Valves and Flow Control Products

Hayward manufactures products from compounds of PVC, CPVC, PVDF, natural PP, glass fiber reinforced PP and Eastar® Polyester. 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.

Hayward Pipeline Strainers

Hayward Basket and Y-Strainers are designed to protect pipeline system components from dirt and debris while allowing process media to flow freely. Simplex and Duplex Strainers are manufactured in PVC, Corzan® CPVC, PP, and clear Eastar® Polyester, and are available with plastic, stainless steel perf, and mesh stainless steel baskets in a wide range of sizes. Y-Strainers are offered in PVC, clear PVC, or Corzan CPVC, are compact and lightweight, and have an FPM o-ring seal and perforated plastic screen.

Hayward Corrosion Resistant Plastic Pumps

Hayward's Webster 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.



Backed by Hayward Flow Control's Exclusive Two Year Warranty

Our North Carolina Manufacturing Facility



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Technical Information

Valves and Accessories

TB Series True Union Ball Valves, 1/4" to 6"



Sizes 1/4" - 4"

Features

- PVC, Corzan® CPVC
- Full port design
- Reversible PTFE seats
- Double o-ring stem seals
- Easy to service
- Easily automated

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 or CPVC	Socket or Threaded	FPM or EPDM	235 PSI @ 70°F non-shock
1/2" - 4" (DN15 - DN100)	PVC or CPVC	Socket, Threaded or Flanged		
6"* (DN150)	PVC or CPVC	Flanged		150 PSI @ 70°F non-shock

* 4" valve venturied to 6"

TBZ Series "Z-Ball" True Union Ball Valves, 1/4" to 6"



Features

- PVC, Corzan® CPVC
- For sodium hypochlorite applications
- Full port design
- Reversible PTFE seats
- Double o-ring stem seals
- 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
1/4" - 3/8" (DN8 - DN10)	PVC or CPVC	Socket or Threaded	FPM	235 PSI @ 70°F non-shock
1/2" - 4" (DN15 - DN100)	PVC or CPVC	Socket, Threaded or Flanged		
6"* (DN150)	PVC or CPVC	Flanged		150 PSI @ 70°F non-shock

* 4" valve venturied to 6"

CV Series ProFile2™ Proportional Control Ball Valves, 1/2" to 6"



Features

- PVC and Corzan® CPVC
- Precise flow control
- True Union design
- Manual or actuated
- Reversible Seats

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", 2", 3", 4" (DN15 - DN100)	PVC or CPVC	Socket, Threaded or Flanged	FPM or EPDM	235 PSI @ 70°F non-shock
6" (DN150)		Flanged		150 PSI @ 70°F non-shock

* 4" valve venturied to 6"

Valves and Accessories

TW Series Three-Way True Union Ball Valves, 1/2" to 6"



Features

- PVC and Corzan® CPVC
- Position indicator
- Integrally molded bottom port
- 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 non-shock
6"* (DN150)	PVC or CPVC	Flanged		

* 4" valve venturied to 6"

LA Series Lateral Three-Way True Union Ball Valves, 1/2" to 6"



Features

- PVC and Corzan® CPVC
- Simplifies lateral connections
- Replaces valve/tee connection combinations
- Quick, easy to install
- Double o-ring stem seal
- PTFE seats
- FPM or EPDM o-rings
- 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, Threaded or Flanged	FPM or EPDM	150 PSI @ 70°F non-shock
6"* (DN150)	PVC or CPVC	Flanged		

* 4" valve venturied to 6"

Valves and Accessories

Valve-Safe Lockouts



Features

- PP housing material
- For ball valves up to 6"
- Latches and lockable in open/close position
- Simple trigger mechanical design
- Can use with Lockout/Tagout clasp



Features

- For all ball valves up to 6" size
- PP housing material
- Use with up to 3 padlocks

QV Series QIC2™ Compact Ball Valves, 1/2" to 2"



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 (Gray)	Socket or Threaded	EPDM	150 PSI @ 70°F non-shock

Valves and Accessories

TBB Series True Union Commercial Ball Valves, 1/2" to 4"



Features

- PVC, CPVC, PP, and PVDF
- Full port design
- Easy maintenance
- FPM or EPDM seals
- Easily automated
- Double o-ring stem seals
- Adjustable seat retainer

Selection Chart

Size	Material	End Connection	Seals	Pressure Rating
1/2" - 4" (DN15 - DN100)	PVC or CPVC	Socket, Threaded or Flanged	FPM or EPDM	225 PSI @ 70°F non-shock
1/2" - 4" (DN15 - DN100)	PP*	Threaded or Flanged		
1/2" - 4" (DN15 - DN100)	PVDF	Threaded or Flanged	FPM	

* PP rated at 150 PSI

QTA Series True Union Compact Ball Valves, 1/2" to 2"



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 or threaded pipe connections

Selection Chart

Size	Material	End Connection	Seals	Pressure Rating
1/2" - 2" (DN15 - DN100)	PVC (Gray or White)	Socket or Threaded	EPDM	150 PSI @ 70°F non-shock

QVC Series Compact Ball Valves, 1/2" to 4"



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
- Perfect for OEM applications

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 non-shock

Valves and Accessories

SW Series Swing Check Valves, 3" to 8"



Features

- PVC, Corzan® CPVC, and GFPP
- High temperature/pressure ratings
- Two-in-One seal design
- Built-in flange seals
- Two drain ports
- Self-aligning clapper seals

Option

- Counterweight for closing assistance

Selection Chart				
Size	Material	End Connection	Seals	Pressure Rating
3" and 4" (DN80 & DN100)	PVC, CPVC*, or GFPP**	Flanged	FPM or EPDM	225 PSI @ 70°F non-shock
6" and 8" (DN150 & DN200)				150 PSI @ 70°F non-shock

* 8" not available in CPVC

** Glass fiber reinforced

TC Series True Union Ball Check Valves, 1/4" to 6"



Ball check valve with foot valve screen installed.



Sizes 1/4" - 4", PVC & CPVC

Features

- PVC, Corzan® 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" to 4" are full port
- 1/4" & 3/8" are Trim Check design

Option

- Foot valve screens

Selection Chart				
Size	Material	End Connection	Seals	Pressure Rating
1/4" - 3/8"* (DN8 - DN10)	PVC	Socket or Threaded	FPM	150 PSI @ 70°F non-shock
1/2" - 4" (DN15 - DN100)	PVC or CPVC	Socket, Threaded or Flanged	FPM or EPDM	235 PSI @ 70°F non-shock
1/2" - 2" (DN15 - DN50)	PP**	Threaded	FPM	150 PSI @ 70°F non-shock
6"*** (DN150)	PVC or CPVC	Flanged	FPM or EPDM	

* Trim Checks ** Natural PP *** 4" valve venturied to 6"

WC Series Wafer Check Valves, 2" to 20"



Features

- PVC, PP, and PVDF
- FPM, EPDM, and PTFE o-ring seats
- Compact and lightweight
- Easy installation
- Vertical or horizontal operation

Options

- Spacers*
- Stainless steel or Hastelloy® disc springs

Selection Chart				
Size	Material	End Conn.	O-Ring	Spring
2"-20"*** (DN50 - DN500)	PVC, PP, or PVDF	Flanged	FPM EPDM PTFE***	316 SS, Hastelloy®

* Standard for PVC, PP up to 8"

** Up to 40" special order

*** Teflon encapsulated FPM

Valves and Accessories

YC Series Y-Check Valves, 1/2" to 4"



Features

- PVC and Corzan® 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 connections available

Selection Chart

Size	Material	End Connection	Seals	Pressure Rating
1/2" - 4" (DN15 - 100)	PVC or CPVC	Socket, Threaded, Flanged, or True Union	FPM or EPDM	150 PSI @ 70°F non-shock

SLC Series Spring-Loaded Y-Check Valves, 1/2" to 4"



Features

- PVC
- Full flow design
- Closes with no back pressure
- Adjustable – opens from 2 to 15 PSI
- Easy maintenance
- Opens in any position

Option

- True Union connection available

Selection Chart

Size	Material	End Connection	Seals	Pressure Rating
1/2" - 4" (DN15 - DN100)	PVC	Socket, Threaded, Flanged, or True Union	FPM or EPDM	150 PSI @ 70°F non-shock

Valves and Accessories

BY Series Butterfly Valves, 1-1/2" to 12"



Features

- PVC, Corzan® CPVC & GFPP bodies
- PVC, Corzan® CPVC, or GFPP discs
- Fully supported flange bolt holes
- V-notch seal of liner to body
- Seven-position, all-plastic lever handle or gear box operator**
- 316 Grade Stainless Steel shaft
- Meets ANSI B16.10 face-to-face dimensions*

Options

- Stem extensions
- Gear operators
- Pneumatic or electric actuators
- Stainless steel lugs
- 2" square operating nut
- Titanium shaft
- Chain operator

Selection Chart

Size	Body Material	Disc Material	Liner & Seals	Pressure Rating
1-1/2" – 8" (DN40 – DN200)	PVC, CPVC or GFPP	PVC, GFPP CPVC or PVDF	FPM, EPDM or Nitrile	150 PSI @ 70°F non-shock
10" & 12" (DN250 – DN300)		PVC or GFPP		

* Except 10" **Typical operation: Lever up to 6"; Lever or gear at 8"; Gear only 10" and up

BYB Series Large Diameter Butterfly Valves, 10" to 24"



Features

- PVC, CPVC, PP & PVDF bodies
- CPVC, PP, & PVDF discs
- Heavy duty gear operator
- 410 Grade Stainless Steel stem
- Choice of FPM, EPDM, or Nitrile liners

Options

- Pneumatic or electric actuators

Selection Chart

Size	Body Material	Disc Material	Liner & Seals	Pressure Rating
10" (DN250)	PVC, CPVC, PP & PVDF	CPVC, PP or PVDF	FPM, EPDM or Nitrile	150 PSI @ 70°F non-shock
12" (DN300)				100 PSI @ 70°F non-shock
14"–16" (DN350 – DN400)				86 PSI @ 70°F non-shock
18" (DN450)				72 PSI @ 70°F non-shock
20"–24" (DN500 – DN600)				51 PSI @ 70°F non-shock

BYC Series Butterfly Valves, 2" to 8"



Features

- Wafer body design
- PVC body with PVC disc
- Pressure rated at 150 PSI
- 316 Grade Stainless Steel stem
- ISO 5211 mounting pad

Options

- Gear operators
- Pneumatic or electric actuators

Selection Chart

Size	Body Material	Disc Material	Liner & Seals	Pressure Rating
2" – 8" (DN50 – DN200)	PVC	PVC	EPDM	150 PSI @ 70°F non-shock

Valves and Accessories

DAB Series Diaphragm Valves - True Union, 1/2" to 2"



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*

Selection Chart

Size	Material	End Connection	Diaphragm	Seals	Pressure Rating
1/2" - 2" (DN15 - DN50)	PVC, CPVC PP, or PVDF**	True Union Socket or Threaded	FPM, EPDM or PTFE*** PVDF Vapor Barrier	FPM or EPDM	150 PSI @ 70°F non-shock

*PVDF Vapor Barrier available with EPDM and PTFE diaphragm only

**PP and PVDF Threaded only

***All PTFE diaphragms are EPDM backed

DAB Series Diaphragm Valves - Flanged



Features

- 1/2" to 6" - PVC, 1/2" to 4" CPVC, 1/2" to 10" PP, 1/2" to 8" 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*

Selection Chart

Size	Material	End Connection	Diaphragm	Pressure Rating
1/2" - 6" (DN15 - DN150)	PVC	Flanged	FPM, EPDM or PTFE***	1/2" - 4" 150 PSI @ 70°F non-shock 6" 75 PSI @ 70°F non-shock
1/2" - 4" (DN15 - DN100)	CPVC		PVDF Vapor Barrier	1/2" - 4" 150 PSI @ 70°F non-shock
1/2" - 10" (DN15 - DN250)	PP			1/2" - 4" 150 PSI @ 70°F non-shock 6" - 10" 75 PSI @ 70°F non-shock
1/2" - 8" (DN15 - DN200)	PVDF		PTFE	1/2" - 4" 150 PSI @ 70°F non-shock 6" - 10" 75 PSI @ 70°F non-shock

*PVDF Vapor Barrier available with EPDM and PTFE diaphragm only

**All PTFE diaphragms are EPDM backed

SV Series True Union Solenoid Valves, 1/4" to 1"



Features

- PVC and Corzan® CPVC
- Continuous or 100% duty applications
- Corrosion-resistant polyester coil
- No Pressure Differential required for operation
- Both 1/2" conduit or SJ-type cord electrical connection
- 110 VAC standard

Optional Voltages

- 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 should 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 or Threaded	FPM or EPDM	150 PSI @ 70°F non-shock

* 1/4" not available in PVC

Automated Valves and Actuators

EA Series Automated True Union Ball Valves, 1/2" to 2" Low Cost, Full Featured Valve and Actuator Combination



Valve Features

- PVC and Corzan® CPVC
- EPDM seals
- PTFE seats
- Full port design
- Fully serviceable
- Double o-ring stem seals

Actuator Features

- Thermoplastic NEMA 4/4X enclosure
- 2.5 second, 90 degree cycle time
- Thermal overload protection
- Permanently lubricated gear train
- Actuator brake
- No need for manual adjustments

Selection Chart

Size	Material	End Connection	Seals	Pressure Rating
1/2" - 2" (DN15 - DN50)	PVC	Socket or Threaded	EPDM	235 PSI @ 70°F non-shock

EAU Series Automated True Union Ball Valves, 1/2" to 2" Low Cost, Fully Featured Valve and Actuator Combination



Valve Features

- PVC and Corzan® CPVC
- FPM or EPDM seals
- PTFE seats
- Full port design
- Fully serviceable
- Double o-ring stem seals
- Undirectional, not reversing

Actuator Features

- UL/CSA Listed Motor
- Thermoplastic NEMA 4/4X enclosure
- 2.5 second, 90 degree cycle time
- 90 or 180 degree operation
- Permanently lubricated gear train
- Actuator brake

Selection Chart

Size	Material	End Connection	Seals	Pressure Rating
1/2" - 2" (DN15 - DN50)	PVC or CPVC	Socket and Threaded	FPM or EPDM	235 PSI @ 70°F non-shock

PM Series Automated True Union Ball Valves, 1/2" to 2" Low Cost, Full Featured Valve and Actuator Combination



Valve Features

- PVC and Corzan® CPVC
- FPM seals
- PTFE seats
- Full port design
- Fully serviceable
- Double o-ring stem seals

Actuator Features

- Corrosion-resistant thermoplastic housing
- Manual override
- Two-piston rack & pinion design
- Permanently lubricated gear train
- Namur-style mounting
- Position indicator
- Air-to-air or spring return

Selection Chart

Size	Material	End Connection	Seals	Pressure Rating
1/2" - 2" (DN15 - DN50)	PVC or CPVC	Socket and Threaded	FPM or EPDM	235 PSI @ 70°F non-shock

Automated Valves and Actuators

PCD/PCS Series Pneumatic Actuators



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
- Adjustable travel stops
- ISO 5211 mounting base

Options

- PCD double acting air-to-open & close
- PCS spring return fail-safe operation
- Solenoid valves
- Positioners
- Auxiliary limit switches
- Cycle speed controls

Technical 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

PMD/PMS Series Pneumatic Actuators, For 1/4" to 2" Ball Valves



Features

- Corrosion-resistant thermoplastic housing
- Two-piston rack and pinion design
- Manual override
- Position indicator
- Permanent lubrication
- Lightweight
- Namur-style mounting

Options

- PMD double acting air-to-open & close
- PMS air to spring fail-safe operation
- Solenoid valves with optional voltages
- Auxiliary limit switch
- Cycle speed controls

Technical Specifications

Housing:Polyamide plastic
Output Shaft:Stainless steel
Minimum Air Pressure:80 PSI
Maximum Air Pressure:120 PSI
Seals:Nitrile
Cycle Time:1/2 second, typical
Air Port Connections:1/4" NPT

EAU Series Electric Actuators, For 1/4" to 2" Ball Valves



Features

- Thermoplastic NEMA 4/4X enclosure
- 90 or 180 degree operation
- Lightweight, compact & inexpensive
- On/Off service applications, unidirectional
- UL/CSA listed motor permanently lubricated

Options

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

Technical Specifications

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

Automated Valves and Actuators

EPM Series On/Off and Proportional Control Actuators, For Ball and Butterfly Valves up to 24"



Features

- Modular design
- Superior gear design
- Thermal management (proportional control only)
- Data logging and diagnostics (proportional control only)
- Manual Override Option (EPM8 & up)– *handwheel shown*
- 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 and CSA approved
- 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 all models

Technical Specifications

Operation:Reversing

Conduit Size:1/2"

Duty Cycle:(EPM2) 25-50% on/off only
 (EPM3) 25-50% on/off,
 75% proportional control
 (EPM8, 13, 35, and 130) 25-50% on/off,
 100% managed proportional control

Cycle Times:8-46 seconds, depending on model

Enclosure:NEMA 4/4X

Voltages:(EPM2) 12 VDC, 24 VDC, 120 VAC, 230 VAC
 (EPM3, 8, and 13) 12 VAC/DC, 24 VAC/DC,
 120 VAC, 230 VAC
 (EPM35) 12 VAC, 24 VAC, 120 VAC, 230 VAC
 (EPM130) 12 VAC, 230 VAC

Thermal Overload Protection

Mechanical Brake

Override:Clutchless manual

Housing:Aluminum alloy dry powder coated

EPS Series On/Off and Proportional Control Actuators, For Ball and Butterfly Valves up to 8"



Features

- Clockwise or counter-clockwise spring return
- 4 limit switches (2 auxiliary)
- Internal low power heater
- NEMA 4/4X enclosure
- Position indicator
- Rack and pinion drive
- Permanently lubricated
- Thermal overload

- CE and CSA listed
- ISO 5211 mounting base

Options*

- Positioners
- Two additional auxiliary switches
- Clutchless manual override
- Local control station

*Not available all models

Technical Specifications

Operation:Reversing

Conduit Size:3/4"

Duty Cycle:(EPS5, 12, and 18)
 75% - 24V on/off
 (EPS5, 12, and 18)
 50% - 120V and 230V on/off
 (EPS5, 12, and 18)
 75% proportional control

Cycle Times:7-11 seconds, 24V/120-230V
 3 second, spring 24V/120-230V

Enclosure:NEMA 4/4X

Voltages:(EPS5, 12 and 18)
 24VAC/DC,
 120VAC, 230VAC

Thermal Overload Protection

Mechanical Brake

Override:Clutchless manual
 (optional)

Housing:Aluminum alloy
 dry powder coated

Automated Valves and Actuators

EPL Series Linear Drive, Non-Spring Return Actuators, For Most Rising Stem Diaphragm Valves Up to 10"



Features

- Modular design
- 4 different output forces
- Internal low power heater
- NEMA 4/4X enclosure
- Position indicator
- Manual override
- Self-locking drive
- Permanently lubricated
- Thermal overload
- CE and CSA listed
- Universal bonnet mounting
- Choice of voltages: 24 VAC/DC, 120 VAC, and 230 VAC

Technical Specifications

Operation:Down and Up

Stroke Length:0.79 – 3.94", depending upon model

Full Travel Time:78-416 seconds, 24 VAC/DC, depending upon model
85-430 seconds, 120/1/60 VAC, depending upon model
87-424 seconds, 230/1/60 VAC, depending upon model

Enclosure:NEMA 4/4X

Voltage:24 VAC/DC, 120 VAC, 230 VAC (EPL550-20 and 38,
EPL550-1100-38 and 50, EPL2200-38, 50, 75, and
100, EPL 4400-50, 75, and 100)

Thermal Overload Protection

Override:Manual

Housing:Aluminum alloy dry powder coated

Automated Valves and Actuators

EPD Series Spring Return On/Off and Proportional Control Actuators, For Ball and Butterfly Valves up to 6"



Features

- Maintenance free
- Field adjustable speed control
- Field adjustable spring return control*
- Auto-switching power supplies
- Hex key override and mounting screws
- Internal low power heater
- NEMA 4 enclosure
- Mechanical 12 mm double-square drive shaft connection
- Manual override
- Thermal overload
- CE and CSA listed (NEMA 4/IP66 certified)
- Choice of voltages: Units can operate on any voltage from 24 VAC/VDC to 230 VAC/VDC

*Some Models

Options

- Two internal end-of-travel nonadjustable switches
- Externally mounted switch pack w/2 additional adjustable switches
- EMT enclosure
- Manual override handwheel
- Mounting kit

Technical Specifications

Operation: Drive open or closed/spring opposite (EPD 2/3 and EPD 4/5 on/off control)
Drive open/closed: spring engaged upon loss of electric supply (EPD 2/3 and EPD 4/5 on/off control)
Proportional control (EPD 2/3 and EPD 4/5)

Electrical

Connections: NEMA 4/IP66

Duty Cycle: 100% - 14 sec. mode, 10% - 3 sec. mode;
one power/spring cycle per minute max. (EPD 2/3)
100% - all models (EPD 4/5)

Run Time (Power): 3/15/30/60/120 @ 90°; field selectable (EPD 2/3)
40/60/90/120/150 @ 90°; field selectable (EPD 4/5)

Run Time (Spring): 3 or 10 seconds @ 90°; field selectable (EPD 2/3)
20 seconds @ 90°; fixed (EPD 4/5)

3 Sec. Mode (Spring): 3-4 seconds @ 90°; load dependant (EPD 2/3)
N/A (EPD 4/5)

Enclosure: NEMA 4

Thermal Overload Protection

Override: Manual

Housing: Aluminum die casting

Automated Valves and Actuators

Electric Actuator 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).

Features

- Full access backplate
- Door with ¼ turn latch
- NEMA 4 enclosure
- Multiple mounting capabilities
- Remote status outputs
- Grade switches and indicator lamps (rated NEMA 4X/IP66)
- Interfaces with 12 VAC/DC, 24 VAC/DC, 24 VAC single phase and three phase applications

Options

- LA-Basic Version: No indicator lamps, no remote status outputs, no auxiliary switch pass-through
- LB-Mid-Level Version: 2 status indicator lamps, 2 status hot outputs, no auxiliary switch pass-through
- LC-Full Version: 3 status indicator lamps, remote status monitoring, auxiliary switch termination block
- LD-3 Phase with Motor Control Option: Full "LC" type controls, interfaces to existing MCC-auxiliary switch termination block

EBU Battery Backup



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).

Features

- Clear polycarbonate front window
- NEMA 4/4X enclosure
- Field selectable fail direction
- Provides 500% of power requirements for a full load cycle
- Interfaces with 2, 3 or 4 wire control systems
- Automatic battery charging and charge status indicator
- Readily available sealed battery packs
- Remote alarm outputs
- UV stabilized for outdoor applications

Flow Control Valves

RV Series Pressure Relief Valves, 1/2" to 2"



Features

- PVC or Corzan® CPVC
- Hand adjustable, no tools needed
- Integrally molded threaded gauge port
- Pressure relief from 5 PSI to 75 PSI
- Relieves liquid pressure in pipelines

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	FPM or EPDM	150 PSI @ 70°F non-shock

PR Series Pressure Regulator Valves, 1/4" to 1-1/2"



Features

- PVC or Corzan® 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

Selection Chart

Size	Material	End Connection	Seals	Pressure Setting	Pressure Rating
1/4" - 1-1/2" (DN8 - DN40)	PVC or CPVC	Threaded	FPM	5 to 75 PSI	150 PSI @ 70°F non-shock

AV Series Angle Globe Valves, 1/4" to 2"



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

Selection Chart

Size	Material	End Connection	Seals	Pressure Rating
1/4" to 2" (DN8 - DN50)	PVC	Threaded	FPM	150 PSI @ 70°F non-shock

Flow Control Valves

NVA Series Needle Valves, 1/4" to 1/2"



Features

- PVC and GFPP
- Lugs for panel mounting
- Accurate flow control
- Fine pitch stem threads for precise adjustment
- Unique PTFE seat
- Adjust flow rates down to drops per minute
- Ideal for metering flow

Selection Chart

Size	Material	End Connection	Seals	Pressure Rating
1/4", 3/8", 1/2" (DN8, DN10 & DN15)	PVC or GFPP	Threaded	FPM	150 PSI @ 70°F non-shock

LC Series Universal Stopcock™, 1/4"



Features

- PVC
- Six end connections in one package
- EPDM seat and seals
- Hex wrench included for end connection installation

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	EPDM	150 PSI @ 70°F non-shock

FPT = female pipe thread, MPT = male pipe thread

Bulkhead Fittings and Accessories

BF Series Bulkhead Fittings, 1/2" to 4"



Features

- PVC, Corzan® CPVC and PP
- Buttress threads protect against blowout
- Hex body for one-person installation
- Rated at 150 PSI

**New BFAS
Line Available
February 2011**

Selection Chart

Size	Material	End Connection	Gaskets	Pressure Rating
1/2" - 4" (DN15 - DN100)	PVC	Socket x Thread, Thread x Thread	FPM or EPDM	150 PSI @ 70°F non-shock
	CPVC	Socket x Thread		
	PP*	Thread x Thread		

* Natural PP

BFA Series Extended Length Bulkhead Fittings, 1/2" to 6"



Features

- PVC, Corzan® CPVC and PP - Standard Flange
- 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

Selection Chart

Size	Material	End Connection	Gaskets	Pressure Rating
1/2" - 6" (DN15 - DN150)	PVC	Socket x Socket	FPM or EPDM	150 PSI @ 70°F non-shock
	CPVC	Socket x Thread		
	PP*	Thread x Thread		

* Natural PP

BFA Series Extended Length Bulkhead Fittings, 1/2" to 1"



Features

- PVC, Corzan® CPVC and PP - Large Flange
- 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

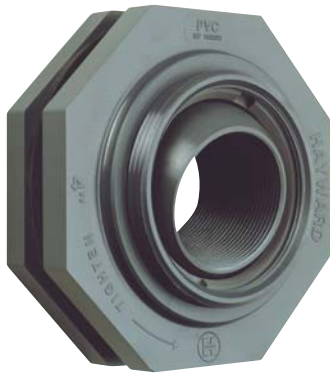
Selection Chart

Size	Material	End Connection	Gaskets	Pressure Rating
1/2" - 1" (DN15 - DN25)	PVC	Socket x Socket	FPM or EPDM	150 PSI @ 70°F non-shock
	CPVC	Socket x Thread		
	PP*	Thread x Thread		

* Natural PP

Bulkhead Fittings and Accessories

SF Series Self-Aligning Bulkhead Fittings, 1", 2" and 3"



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

Selection Chart

Size	Material	End Connection	Gaskets	Pressure Rating
1", 2" and 3" (DN25, DN50 & DN80)	PVC	Thread x Thread	FPM or EPDM	75 PSI @ 70°F non-shock

AR Series Air Release Valves, 3/4"



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 or Threaded	FPM	150 PSI @ 70°F non-Shock

VB Series Vacuum Breakers, 3/4"



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
- Can mount to 1-1/2" BF or BFA Series bulkhead fitting only

Just solvent weld the vacuum breaker into the socket connection of a BF and BFA Hayward 1-1/2" bulkhead fitting. Then install the bulkhead fitting onto the tank. No extra piping is required. Or thread directly onto a 3/4" pipe.



Fittings and Accessories

BVX Series Ready Flanges, 1" to 4"



Features

- PVC, Corzan® CPVC and PP
- 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

GG Series Gauge Guards, 1/4" x 1/4" and 1/4" x 1/2"



Features

- PVC, Corzan® CPVC, PP and PVDF
- Threaded NPT connections
- FPM membrane
- All plastic, no rust or corrosion
- No metal fasteners
- Rugged, low profile, compact design
- Work in any position

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, PP	Threaded	FPM	150 PSI @ 70°F non-shock
1/4" x 1/2" (DN8 – DN15)	PVC, CPVC, PVDF			

Thermoplastic Strainers and Filters

SB Series Simplex Plastic Basket Strainers, 1/2" to 8"



NSF

PVC & CPVC
Only

Features

- PVC, Corzan® CPVC and Eastar®
- Ergonomic hand-removable cover
- In-line or loop connections
- External cover threads
- Integral flat mounting bases
- PVC or Corzan CPVC baskets standard

Options

- Stainless steel, Monel® & Hastelloy® strainer baskets
- Pressure differential gauge and switch
- Baskets available with mesh liner

Selection Chart

Size	Material	End Connection	Seals	Pressure Rating
1/2" - 4" (DN15 - DN100)	PVC, CPVC Eastar® (clear)	Socket, Threaded, or Flanged	FPM or EPDM	150 PSI @ 70° non-shock
6" to 8" (DN150 - DN200)	PVC, CPVC	Flanged		

DB Series Duplex Plastic Basket Strainers, 1/2" to 4"



Features

- PVC, Corzan® CPVC and Eastar®
- Ergonomic hand-removable cover
- No system shutdown for basket cleaning
- In-line or loop connections
- External cover threads
- Integral flat mounting bases

Options

- Stainless steel, Monel & Hastelloy 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, CPVC Eastar® (clear)	Socket, Threaded or Flanged	FPM or EPDM	150 PSI @ 70°F non-shock

DB Series Duplex Plastic Basket Strainers, 6" and 8"



Features

- PVC and Corzan® 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 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 non-shock

Thermoplastic Strainers and Filters

YS Series Plastic Y-Strainers, 1/2" to 4"



Features

- PVC, Clear PVC and Corzan® CPVC
- Horizontal or vertical installation
- 2:1 open area ratio
- Hex cap for easy access to screen
- Plastic screen has 1/32" perforation

Options

- Stainless steel strainer screens
- True union connection

Selection Chart

Size	Material	End Connection	Seals	Pressure Rating
1/2" - 4" (DN15 - DN100)	PVC or CPVC	Socket, Threaded Flanged, or True Union	FPM	150 PSI @ 70°F non-shock
1/2" - 2" (DN15 - DN50)	Clear PVC	Socket or Threaded		

FLT Series Plastic Simplex Bag Filter, Single and Double Length



Features

- PVC, Corzan® CPVC, PP, or PVDF
- All-plastic construction
- Hand-removable cover
- Integral mounting base
- In-line or loop flow
- Vent valve on cover
- Single and double length

Options

- Vent gauge with gauge guard
- Pressure differential gauge
- Pressure differential switch
- Flanged connections

Selection Chart

Size	Material	Piping Connection	Seals	Flow Rate	Pressure Rating PP rated to 70 F
Single length 7" x 16", 2.5 sq ft	PVC, CPVC, PP or PVDF	2" Threaded, Socket or Flanged	FPM or EPDM	Up to 50 GPM (clean bag)	PVC, CPVC, PP 150 PSI
Double length 7" x 32", 4.4 sq ft				Up to 100 GPM (clean bag)	PVDF 100 PSI at 70°F

FLT Series Plastic Duplex Bag Filter, Single and Double Length Sizes



Features

- PVC, Corzan® CPVC or PP housing with PVC or CPVC valve assembly
- Two simplex bag filters linked with a custom valve assembly
- No line shutdown for bag changeout
- Built-in mounting platform
- In-line or loop flow

Options

- Vent gauge with gauge guards
- Pressure differential gauges
- Pressure differential switches
- Pneumatic or electric automated valve operation

Selection Chart

Material	Hardware	Piping Connection	Seals	Flow Rate (clean Bag)	Pressure Rating
PVC, CPVC, or PP with PVC or CPVC valve assembly	Stainless Steel	2" Threaded, Socket or Flanged	FPM	Up to 50 GPM (single length)	150 PSI @ 70°F
				Up to 100 GPM (double length)	

Thermoplastic Strainers and Filters

CFLT Series 4200 Simplex Cartridge Filter



Features

- PP or PVDF housing
- No rust, corrosion or contamination
- Rated to 150 PSI
- In-line or loop flow
- Hand-removable cover
- Simplex or Duplex designs

Cartridge Types

- Hayward HC 16" cellulose nominally rated 5 and 25 microns
- Hayward PF 20" and 30" PP absolutely rated at 1, 5 or 10 microns

Selection Chart

Housing	Hayward HC Cartridge	Max. Flow Rate	Hayward PF Cartridge	Max. Flow Rate
CFLT4201	One 16"	50 GPM	—	—
CFLT4202	Two 16"	100 GPM	Five 30"	100 GPM
CFLT4203	—	—	Five 20"	50 GPM

Heavy-Duty Filter Bags, PP Felt or Mesh, 1 to 800 Micron Ratings



SENTINEL® PP collar flange with failsafe sealing is standard on all welded filter bags.

Your filtration process is only as effective as your filter bag. Don't compromise it with anything less than a Hayward precision quality filter bag that's guaranteed to fit your Hayward filter vessel.

Features

- All-plastic ring seal
- Heavy duty sewn or welded construction
- Silicone-free

Options

- Custom filter bags for most any application

Selection Chart

Material	Construction	Seal Material/Type	Micron Ratings
PP Needle Felt	Welded	PP SENTINEL®	1, 5, 10, 25, 50, 100, 200
PP Needle Felt	Sewn	PP SNAP RING	1, 5, 10, 25, 50, 100, 200
PP Mesh	Sewn	PP SNAP RING	400, 600, 800

Thermoplastic Corrosion Resistant Pumps

Webster C Series Centrifugal Pumps



Features

- Rugged design for demanding continuous duty service
- No metal in contact with process fluid
- Two-year warranty

Specifications

- **Pump:** GFPP, Corzan® CPVC or PVDF construction
- **Pipe Connection:** 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, 1 1/2, 3 or 5 HP; 115/230 VAC or 208-230/460 VAC
- **Models With HP Ratings:** C5 1/3, C7 1, C8 1-1/2

Webster D Series Vertical Seal-Less Immersible Pumps



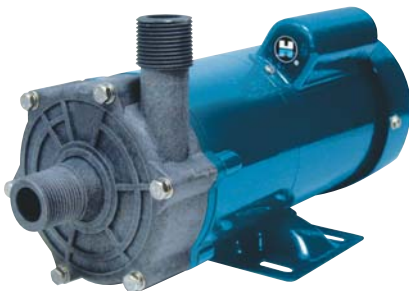
Features

- Small capacity pumps built for years of trouble-free service
- No metal in contact with the process fluid
- Optional inlet screens
- Two-year warranty

Specifications

- **Pump:** Natural PP, Corzan® CPVC or PVDF construction
- **Pipe Connection:** Threaded
- **O-rings:** FPM
- **Flow Rates:** From 2 to 17 GPM with TDHs up to 18 feet
- **Motors:** Single-phase motor; 1/8 HP; 115/230 VAC, 50/60 Hz

Webster R Series Magnetic Drive Pumps



Features

- Leak-proof, seal-less
- Friction-free operation
- Easy maintenance, no special tools
- All plastic pump construction
- Two-year warranty

Specifications

- **Pump:** GFPP or ETFE construction
- **Pipe Connection:** Threaded NPT or flanged ANSI 150#
- **Shaft:** Large diameter, ceramic with PTFE, impeller bushing
- **Performance:** Flow rates from 5 to 140 GPM with TDH's 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, RX50 5

Thermoplastic Corrosion Resistant Pumps

Webster S Series Vertical Seal-Less Immersible Pumps



Features

- Heavy duty design for continuous duty service
- No metal in contact with the process fluid
- Optional inlet screen and extended shaft
- Two-year warranty

Specifications

- **Pump:** GFPP (for 1/3 HP - 1/2 HP pumps only), natural PP, PVDF or Corzan® CPVC
- **Pipe Connection:** Threaded NPT or socket
- **Fume Barrier:** PTFE, protects motor and bearings from corrosion damage
- **O-rings:** FPM
- **Performance:** Flow rates from 5 to 130 GPM with TDH's up to 115 feet
- **Motors:** Single or three phase motors; HP ratings of 1/15, 1/3, 1/2, 3/4, 1, 1 1/2, 3 and 5HP
- **Models With HP Ratings:** S1 1/15, S2 1/3, S4 1/2, S5 3/4, SS6 3/4, SS7 1, S8 1 1/2, S12 3, S16 5 HP

Webster In-Tank Filtration Systems



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

Features

- Corzan® CPVC corrosion-resistant construction
- Compact and easy to install
- Seal-less, bearing-free pump
- Fast filter change
- 1/15 HP Model features a built-in power cord
- Two-year pump warranty

FLT Series Cartridge Filters 3 Sizes - PVC or Corzan® CPVC



Features

- CPVC or PVC construction
- FPM o-ring cover seals
- All thermoplastic construction will never rust or corrode
- Hand-Removable Cover
- No metal in contact with fluid being pumped
- Choice of pleated or wound filter cartridges
- Integral, plugged tap on cover for easy bleeding of the filter

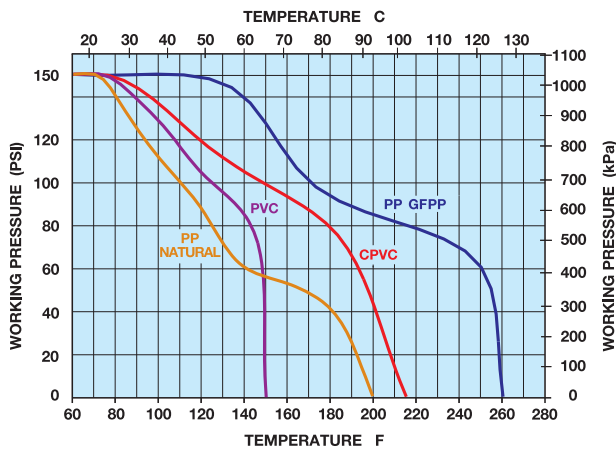
Applications

For 1 to 100 micron filtration in the following industries:

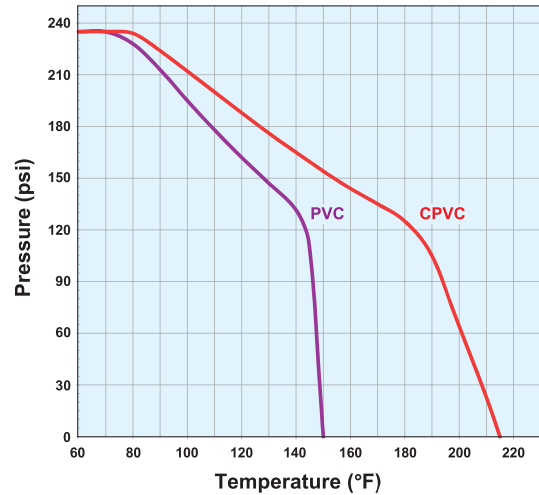
- Water treatment
- Plating
- Electronics
- Photo processing
- Pollution control
- Chemical processing

Technical Information

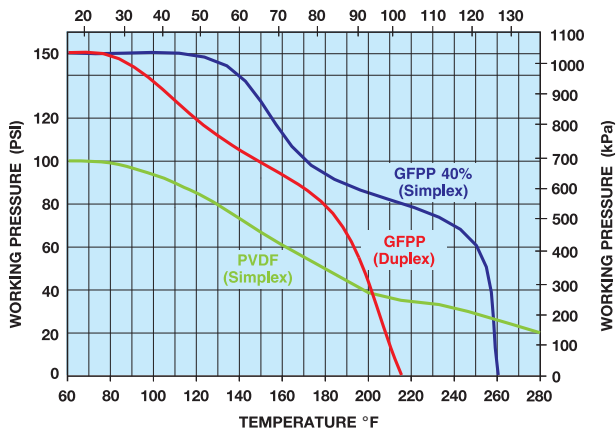
Operating Temperature/Pressure for 150 PSI Rated Products (Except Filter Housings)



Operating Temperature/Pressure for 235 PSI Rated Products



Operating Temperature/Pressure for Bag and Cartridge Filter Housings



Pressure Loss Calculation Using C_v 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.



NSF/ANSI Standard 61

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 elements (i.e., lead, mercury, cadmium, etc.) that may leach into the water that passes through the product. Many of Hayward's standard products underwent testing to this standard in 2007, and are now NSF listed products.

Hayward's products that are NSF 61 listed can easily be found on the NSF website, www.NSF.org.

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