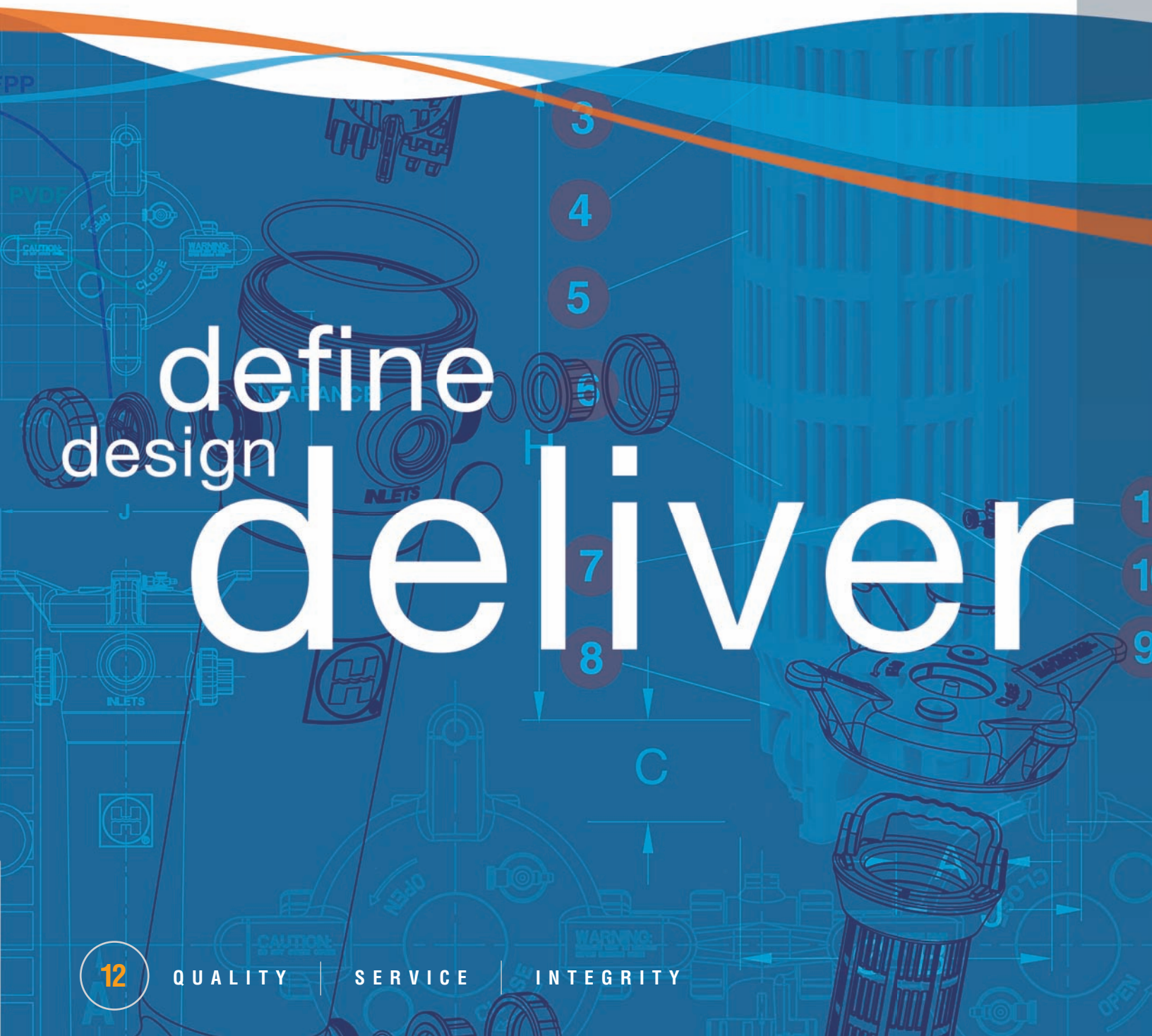
HAYWARD®

FLOW CONTROL

FLV Series Bag Filter Product Guide



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Hayward® Flow Control Revolutionizing the Flow...

For over 50 years, we at Hayward Flow Control are proud of the confidence instilled in us from our customers in the markets and applications we serve. By using, recommending, and specifying our products, you stand parallel to our ideals and our commitment to quality and dedication in producing the best thermoplastic flow control products available today. With countless installations worldwide, from water treatment facilities to chemical processing plants, fish hatcheries to life support systems at aquariums and zoos, our products provide process control assurance, and the peace of mind of having the right support when you need it.

Hayward Flow Control now introduces the patent-pending FLV Series Filter, the most advanced all thermoplastic bag filter built today. Built in our North Carolina facility and 100% made in the USA, the FLV Series Filter features a one piece injection molded Platinum GFPP body to accommodate bag sizes 1 and 2. Unlike traditional metal and plastic filters, the FLV Series Filter's true union design allows for multiple end connections to be used in sizes 1-1/4" to 4". You pick the end connection that best meets the needs of your piping system. Even more revolutionary is our new hinged basket design to allow for quick and easy removal of extremely heavy bags in the most demanding applications. The FLV Series Filter can be ordered as a simplex, duplex, triplex or quadplex unit.

And don't forget Hayward's industry leading thermoplastic Basket and Y-Strainers to protect pipeline system components and maintenance facilities from dirt and debris while allowing process media to flow freely. Simplex and duplex strainers are manufactured in PVC, CPVC, GFPP, and clear Eastar™, and are available with thermoplastic, stainless steel or alloy, perf and mesh lined baskets in a wide range of sizes. Our Y-Strainers are offered in PVC, clear PVC or CPVC, with FPM or EPDM seals.

All Hayward Flow Control products carry an industry-leading, full two-year warranty. When we build our products, we strive for the highest quality possible for use in a wide range of demanding applications. Hayward Flow Control is an ISO 9001:2008 certified manufacturer.

FLV Series Filter Vessels

ALL THERMOPLASTIC, GLASS FILLED POLYPROPYLENE INJECTION MOLDED CONSTRUCTION, FOR SUPERIOR CORROSION RESISTANCE PERFORMANCE

TECHNICAL INFORMATION

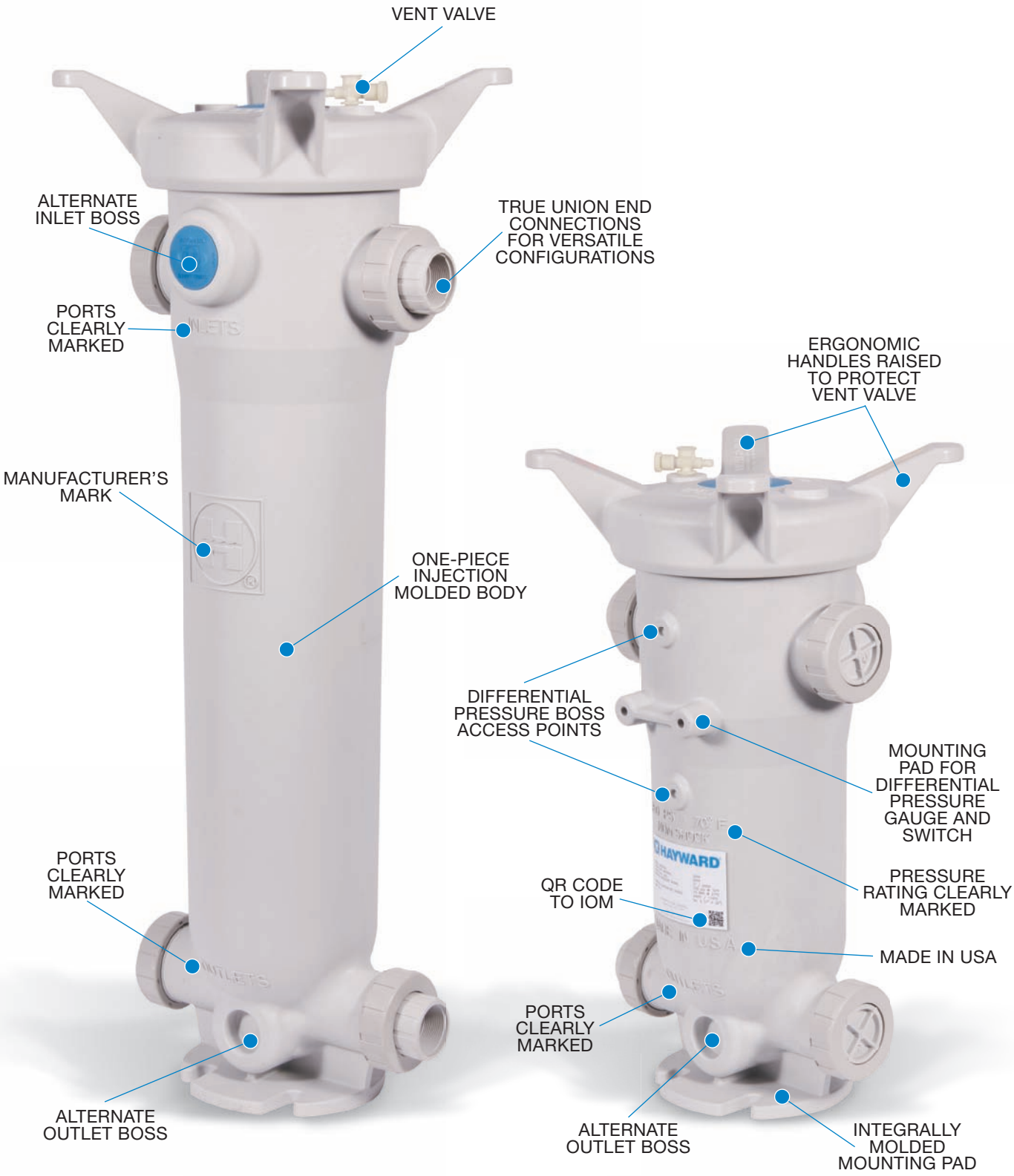
HOW TO SELECT A PART NUMBER

SERIES	PREFIX	MATERIAL		COLOR		VESSEL SIZE		STYLE		PIPE CONNECTION SIZE		TRUE UNION CONNECTION TYPE		END CONNECTOR MATERIAL		O-RINGS	
Vessel with Basket – No Bag	FLV	GFPP	4	Platinum Gray	P	16"	1	Simplex	S	1-1/4"	12	Threaded	T	PVC	1	FPM	V
Vessel – Cartridge Ready	FLVC					32"	2	Duplex	D	1-1/2"	15	Socket	S	CPVC	2		
								Triplex	T	2"	20	Flanged	F	PP	3		
								Quadplex	Q	2-1/2"*	25	Female Thread	D	GFPP	4		
										3"*	30	BSPT	B				
										4"*	40						
										32mm	3M						
										40mm	4M						
										50mm	5M						
										63mm*	6M						
										80mm*	8M						
										100mm*	1M						
To find your part number, please select your Series, Material, Color, etc., and place the corresponding identifier (FLV, 4, P, etc.) in the boxes below.																	
			4		P												V
EXAMPLE	FLV		4		P		1		S		20		T		4		V

Chart may not represent all available combinations. Please consult factory for questions on choices not shown here

* Sizes available in double length only

FLV Series Filter Vessel



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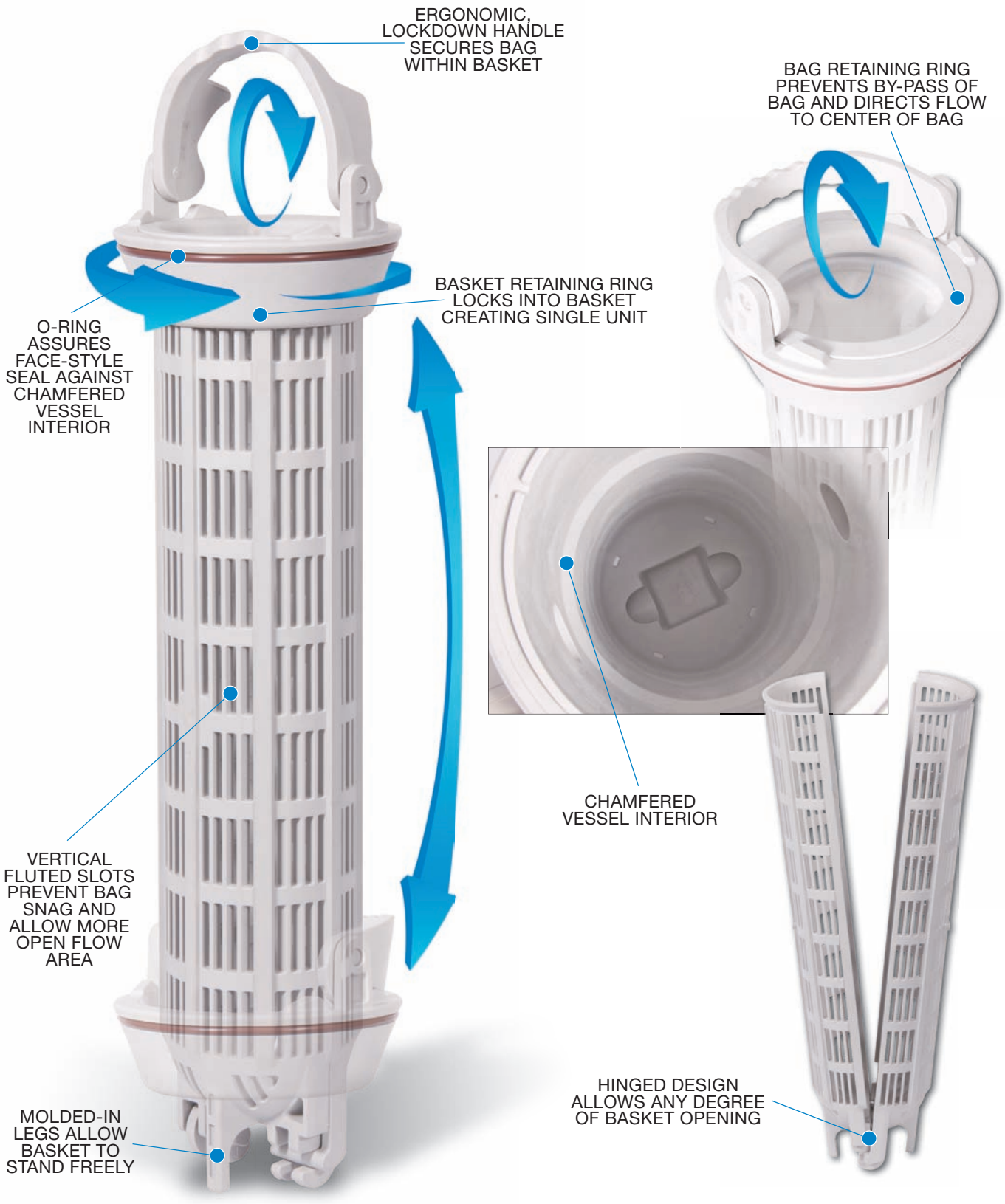
FLV Series Filter Basket



FLV Series Filter Vessel, *FEATURES*

COVER

- Ergonomic Handles Raised to Protect the Vent Valve
- Integral Pressure Relief Valve Threads in Cover
- Vent Valve Provided with Every Vessel
- Solid, Buttress Threads
- Liquid Displacing Dome Inside Cover
- Cover Retains Pressure with Hand-Tight Seal (No Additional Tools Necessary)

BODY

- Self-Draining O-Ring Groove Directs Overflow Back Inside Vessel
- Pressure Energized Face-Style Seal Prevents Basket Sticking
- No Internal Threads
- Chamfered Interior Shoulder Surface Ensures Basket Sealing
- Molded-In Legs Assure Proper Basket Placement Within Vessel
- Drill and Tap Locations and Mounting Pads for Differential Pressure Gauges
- Optional Drill and Tap NPT (Offset) Ports Available (Must be Ordered) for Alternate Configurations
- Integrally Molded True Union End Connections
- QR Code on Vessel Label Leads Directly to Online IOM

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FLV Series Filter Vessel, *FEATURES – CONTINUED*

BASKET

- Hinged Basket can be Fully Opened Without Coming Apart
- Basket Design Allows for Quicker and Cleaner Bag Removal
- Ergonomically Molded Basket Lockdown Handle
- Basket Lockdown Handle and Ring Secures Bag Within Filter Vessel
- Basket Retaining Ring has Turn-N-Lock Feature Which Secures Basket and Ring Together as Single Entity Until Necessary to Take Apart (Bags can be Replaced Without Disassembling the Components)
- Vertical Flute Slots Prevent Bag Catching and Allow More Open Flow Area

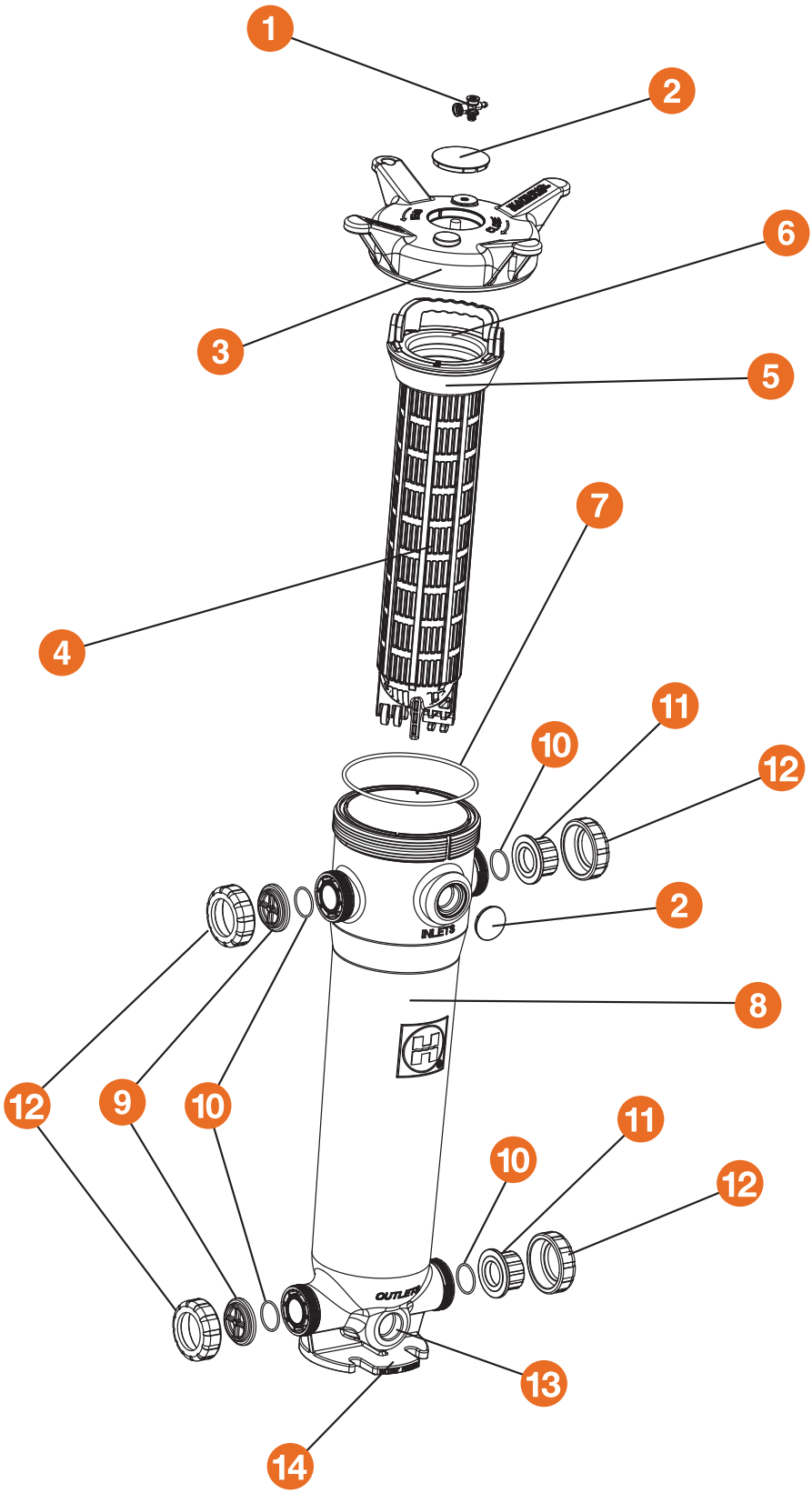
TRUE UNION END CONNECTIONS

- Allows for Various Sizes and Options Which Includes Socket, Threaded and Flanged
- Makes Disconnect of Filter Vessel from the Line Easier for Replacement or Maintenance
- Versatile Flow Path for In-line or Loop Configurations (Easily Changed by User)
- Size range of 1-1/4" – 4"
- No Direct Threading into the Vessel Required

MOUNTING PAD

- Features Same Footprint as Previous Generation
- Stand-Alone Mounting Capabilities
- Slotted for Easy Installation

FLV Series Filter Vessel, *EXPLODED VIEW*



PARTS LIST

1. Vent Valve (Included)
2. Hayward Bezel
3. Cover
4. Basket
5. Basket Ring with Lock Down Handle
6. Bag Retaining Ring
7. Cover O-Ring
8. Filter Vessel Body
9. End Cap
10. End Connector O-Ring
11. End Connector
12. Assembly Nut
13. Alternate 2" NPT Ports (Optional)
14. Integrally Molded Mounting Pad

FLV Series
Simplex Bag Filters

DOUBLE LENGTH – 32" GFPP
1-1/4" TO 2" PIPE SIZES

KEY FEATURES

- Platinum Glass Filled Polypropylene
- One-Piece Injection Molded Construction
- Hand Removable, Ergonomic Cover with Liquid Displacing Dome
- Vent Valve Included on Cover
- Rated up to 100 GPM
- True Union Socket, Threaded or Flanged End Connections
- In-Line or Loop Flow Configurations
- Hinged Basket for Easy Bag Removal
- Drain Port at Bottom
- Integral Mounting Base

BENEFITS

- Easier Installations Due to True Union Connectivity
- Simplified Bag Removal from Hinged Basket
- Vertical Flow Flutes in Basket, No Bag Snag and More Flow Area

TYPICAL APPLICATIONS

- Water and Wastewater Treatment
- Chemical Processing
- Food and Beverage
- Metal Plating
- Aquatic and Animal Life Support Systems
- Water/Theme Parks
- Aquaculture

OPTIONS

- Gauge with Gauge Guard
- Pressure Differential Gauge and Switch
- EPDM O-Ring Seals
- Cartridge Adapters

MATERIALS

- GFPP Cell Class 85580 per ASTM D4101
- FPM Standard O-Ring Seals

TECHNICAL INFORMATION

SELECTION CHART

SIZE / BODY MATERIAL	END CONNECTIONS	PIPING SIZES	O-RING SEALS	PRESSURE RATING (BAR)
Double Length 7" x 32" GFPP	GFPP (Threaded and Flanged)	1-1/4" – 2" rated @ 100 GPM*	FPM or EPDM	150 PSI @ 70°F Non-Shock (10 Bar / 1 MPa @ 21°C)
	PVC (Socket and Flanged)			
	CPVC (Socket and Flanged)			

* May be Limited by Pipe Size or Bag Choice

FLV Series Simplex Bag Filters

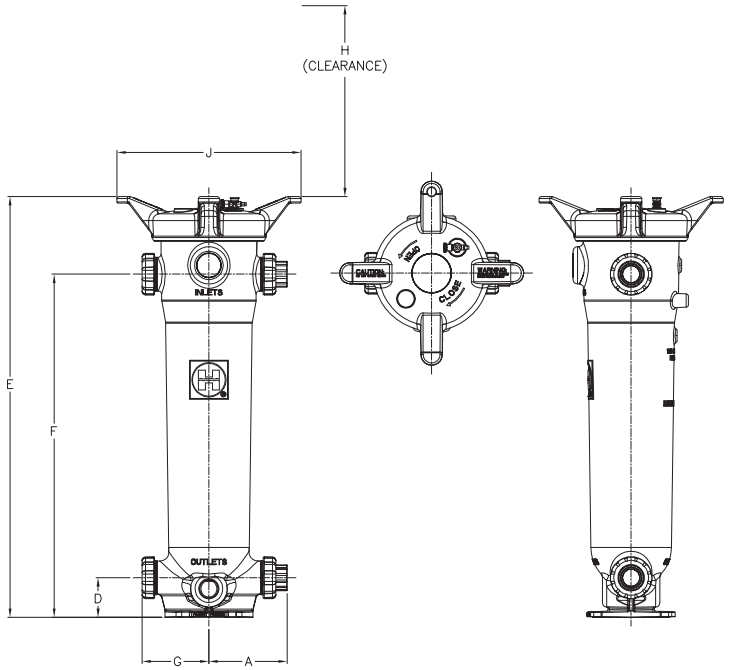
DOUBLE LENGTH – 32" GFPP
1-1/4" TO 2" PIPE SIZES

TECHNICAL INFORMATION, *CONTINUED*

PARTS LIST*

1. Vent Valve (Included)
2. Cover
3. Filter Vessel Body
4. End Connector
5. Assembly Nut
6. Alternate 2" NPT Ports
7. Integrally Molded Mounting Pad

* See page 8 for a complete Parts List



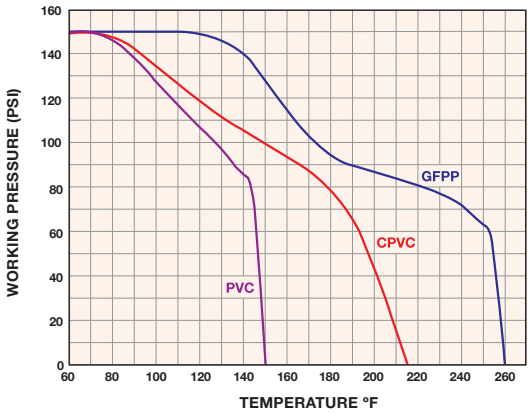
DIMENSIONS – INCHES / MILLIMETERS

VESSEL SIZE in / DN	A in / mm	D in / mm	E in / mm	F in / mm	G in / mm	H* in / mm	J in / mm
1-1/4" / 32	8.86 / 225	4.50 / 114	47.83 / 1215	39.00 / 991	7.60 / 193	31.25 / 794	20.93 / 532
1-1/2" / 40	8.86 / 225	4.50 / 114	47.83 / 1215	39.00 / 991	7.60 / 193	31.25 / 794	20.93 / 532
2" / 50	8.91 / 226	4.50 / 114	47.83 / 1215	39.00 / 991	7.60 / 193	31.25 / 794	20.93 / 532

Dimensions are subject to change without notice – consult factory for installation information

* Clearance from top for basket removal

OPERATING TEMPERATURE / PRESSURE



SPECIFICATIONS

Material of Construction:	GFPP
Inlet Connections:	GFPP (Threaded and Flanged) PVC (Socket and Flanged) CPVC (Socket and Flanged)
Outlet Connections:	GFPP (Threaded and Flanged) PVC (Socket and Flanged) CPVC (Socket and Flanged)
Bag Size:	Bag Size #2: 7" x 32"
Pressure Rating:	150 PSI @ 70°F Non-Shock
O-Ring Seals:	FPM or EPDM
Bag Ratings:	1, 5, 10, 25, 50, 100, 150, 200, 400, 600 and 800 Microns
Flow Rate:	100 GPM *(May be Limited by Pipe Size or Bag Choice)*
Basket Open Area Ratio:	54:1
Weight:	64.1 lbs.

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FLV Series
Simplex Bag Filters

DOUBLE LENGTH – 32" GFPP
2-1/2" TO 4" PIPE SIZES

KEY FEATURES

- Platinum Glass Filled Polypropylene
- One-Piece Injection Molded Construction
- Hand Removable, Ergonomic Cover with Liquid Displacing Dome
- Vent Valve Included on Cover
- Rated up to 150 GPM
- True Union Socket, Threaded or Flanged End Connections
- In-Line or Loop Flow Configurations
- Hinged Basket for Easy Bag Removal
- Drain Port at Bottom
- Integral Mounting Base

BENEFITS

- Easier Installations Due to True Union Connectivity
- Simplified Bag Removal from Hinged Basket
- Vertical Flow Flutes in Basket, No Bag Snag and More Flow Area

TYPICAL APPLICATIONS

- Water and Wastewater Treatment
- Chemical Processing
- Food and Beverage
- Metal Plating
- Aquatic and Animal Life Support Systems
- Water/Theme Parks
- Aquaculture

OPTIONS

- Gauge with Gauge Guard
- Pressure Differential Gauge and Switch
- EPDM O-Ring Seals
- Cartridge Adapters

MATERIALS

- GFPP Cell Class 85580 per ASTM D4101
- FPM Standard O-Ring Seals

TECHNICAL INFORMATION

SELECTION CHART

SIZE / BODY MATERIAL	END CONNECTIONS	PIPING SIZES	O-RING SEALS	PRESSURE RATING (BAR)
Double Length 7" x 32" GFPP	GFPP (Threaded and Flanged)	2-1/2" – 4" rated @ 150 GPM*	FPM or EPDM	150 PSI @ 70°F Non-Shock (10 Bar / 1 MPa @ 21°C)
	PVC (Socket and Flanged)			
	CPVC (Socket and Flanged)			

* May be Limited by Pipe Size or Bag Choice

FLV Series Simplex Bag Filters

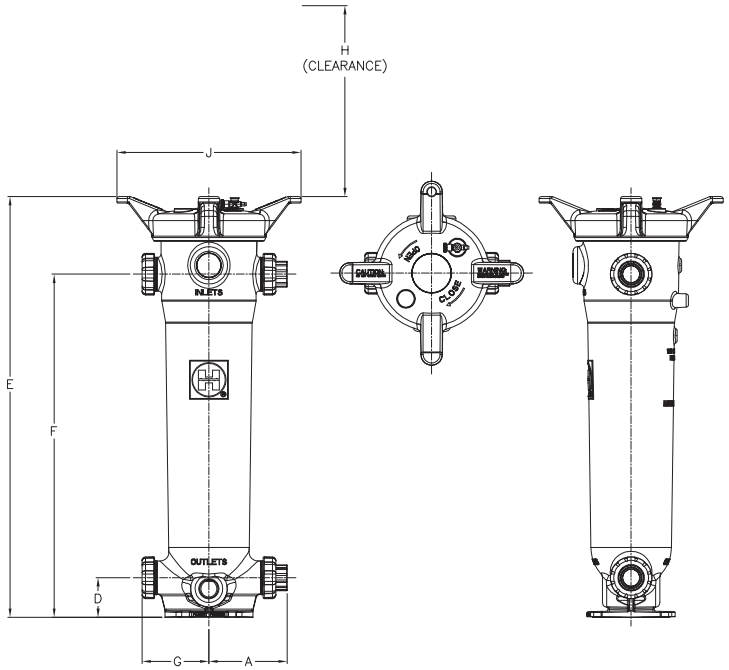
DOUBLE LENGTH – 32" GFPP
2-1/2" TO 4" PIPE SIZES

TECHNICAL INFORMATION, *CONTINUED*

PARTS LIST*

1. Vent Valve (Included)
2. Cover
3. Filter Vessel Body
4. End Connector
5. Assembly Nut
6. Alternate 2" NPT Ports
7. Integrally Molded Mounting Pad

* See page 8 for a complete Parts List



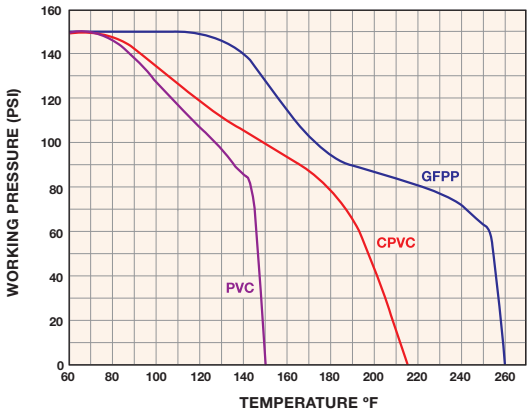
DIMENSIONS – INCHES / MILLIMETERS

VESSEL SIZE in / DN	A in / mm	D in / mm	E in / mm	F in / mm	G in / mm	H* in / mm	J in / mm
2-1/2" / 63	9.79 / 249	4.50 / 114	47.83 / 1215	39.00 / 991	8.38 / 213	31.25 / 794	20.93 / 532
3" / 80	9.73 / 247	4.50 / 114	47.83 / 1215	39.00 / 991	8.38 / 213	31.25 / 794	20.93 / 532
4" / 100	10.17 / 258	4.50 / 114	47.83 / 1215	39.00 / 991	8.38 / 213	31.25 / 794	20.93 / 532

Dimensions are subject to change without notice – consult factory for installation information

* Clearance from top for basket removal

OPERATING TEMPERATURE / PRESSURE



SPECIFICATIONS

Material of Construction:	GFPP
Inlet Connections:	GFPP (Threaded and Flanged) PVC (Socket and Flanged) CPVC (Socket and Flanged)
Outlet Connections:	GFPP (Threaded and Flanged) PVC (Socket and Flanged) CPVC (Socket and Flanged)
Bag Size:	Bag Size #2: 7" x 32"
Pressure Rating:	150 PSI @ 70°F Non-Shock
O-Ring Seals:	FPM or EPDM
Bag Ratings:	1, 5, 10, 25, 50, 100, 150, 200, 400, 600 and 800 Microns
Flow Rate:	150 GPM *(May be Limited by Pipe Size or Bag Choice)*
Basket Open Area Ratio:	14:1
Weight:	69.1 lbs.

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FLV Series
Simplex Bag Filters

SINGLE LENGTH – 16" GFPP
1-1/4" TO 2" PIPE SIZES

KEY FEATURES

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

BENEFITS

- Easier Installations Due to True Union Connectivity
- Simplified Bag Removal From Hinged Basket
- Vertical Flow Flutes in Basket, No Bag Snag and More Flow Area

TYPICAL APPLICATIONS

- Water and Wastewater Treatment
- Chemical Processing
- Food and Beverage
- Metal Plating
- Aquatic and Animal Life Support Systems
- Water/Theme Parks
- Aquaculture

OPTIONS

- Gauge with Gauge Guard
- Pressure Differential Gauge and Switch
- EPDM O-Ring Seals
- Cartridge Adapters

MATERIALS

- GFPP Cell Class 85580 per ASTM D4101
- FPM Standard O-Ring Seals

TECHNICAL INFORMATION

SELECTION CHART

SIZE / BODY MATERIAL	END CONNECTIONS	PIPING SIZES	O-RING SEALS	PRESSURE RATING (BAR)
Single Length 7" x 16" GFPP	GFPP (Threaded and Flanged) PVC (Socket and Flanged) CPVC (Socket and Flanged)	1-1/4" – 2" rated @ 100 GPM*	FPM or EPDM	150 PSI @ 70°F Non-Shock (10 Bar / 1 MPa @ 21°C)

* May be Limited by Pipe Size or Bag Choice

FLV Series Simplex Bag Filters

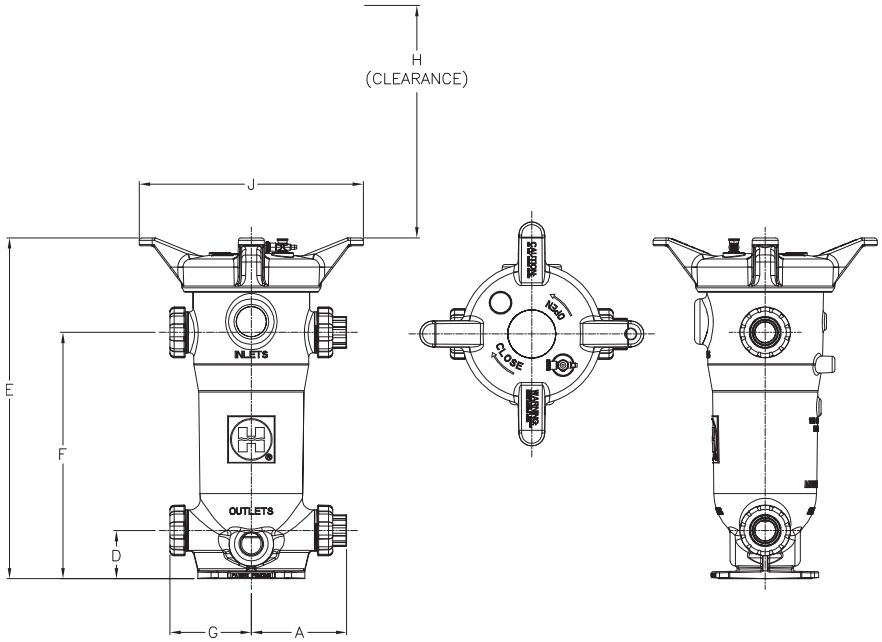
SINGLE LENGTH – 16" GFPP
1-1/4" TO 2" PIPE SIZES

TECHNICAL INFORMATION, *CONTINUED*

PARTS LIST*

1. Vent Valve (Included)
2. Cover
3. Filter Vessel Body
4. End Connector
5. Assembly Nut
6. Alternate 2" NPT Ports
7. Integrally Molded Mounting Pad

* See page 8 for a complete Parts List



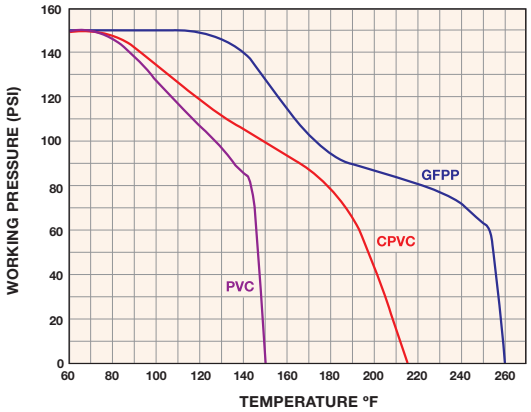
DIMENSIONS – INCHES / MILLIMETERS

VESSEL SIZE in / DN	A in / mm	D in / mm	E in / mm	F in / mm	G in / mm	H* in / mm	J in / mm
1-1/4" / 32	8.86 / 225	4.50 / 114	31.83 / 808	23.00 / 584	7.60 / 193	15.25 / 387	20.93 / 532
1-1/2" / 40	8.86 / 225	4.50 / 114	31.83 / 808	23.00 / 584	7.60 / 193	15.25 / 387	20.93 / 532
2" / 50	8.91 / 226	4.50 / 114	31.83 / 808	23.00 / 584	7.60 / 193	15.25 / 387	20.93 / 532

Dimensions are subject to change without notice – consult factory for installation information

* Clearance from top for basket removal

OPERATING TEMPERATURE / PRESSURE



SPECIFICATIONS

Material of Construction:	GFPP
Inlet Connections:	GFPP (Threaded and Flanged) PVC (Socket and Flanged) CPVC (Socket and Flanged)
Outlet Connections:	GFPP (Threaded and Flanged) PVC (Socket and Flanged) CPVC (Socket and Flanged)
Bag Size:	Bag Size #1: 7" x 16"
Pressure Rating:	150 PSI @ 70°F Non-Shock
O-Ring Seals:	FPM or EPDM
Bag Ratings:	1, 5, 10, 25, 50, 100, 150, 200, 400, 600 and 800 Microns
Flow Rate:	100 GPM *(May be Limited by Pipe Size or Bag Choice)*
Basket Open Area Ratio:	19:1
Weight:	47.8 lbs.

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FLV Series Duplex Bag Filters

DOUBLE LENGTH – 32" GFPP
1-1/4" TO 4" PIPE SIZES

KEY FEATURES

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

BENEFITS

- Easier Installations Due to True Union Connectivity
- Simplified Bag Removal from Hinged Basket
- Vertical Flow Flutes in Basket, No Bag Snag and More Flow Area

TYPICAL APPLICATIONS

- Water and Wastewater Treatment
- Chemical Processing
- Food and Beverage
- Metal Plating
- Aquatic and Animal Life Support Systems
- Water/Theme Parks
- Aquaculture

OPTIONS

- Gauge with Gauge Guard
- Pressure Differential Gauge and Switch
- EPDM O-Ring Seals
- Cartridge Adapters

MATERIALS

- CPVC Cell Class 23447 per ASTM D1784
- GFPP Cell Class 85580 per ASTM D4101
- FPM Standard O-Ring Seals

TECHNICAL INFORMATION

SELECTION CHART

SIZE / BODY MATERIAL	END CONNECTIONS	PIPING SIZES	O-RING SEALS	PRESSURE RATING (BAR)
Double Length 7" x 32" GFPP	CPVC (Socket, Threaded or Flanged)	1-1/4" – 2" rated @ 100 GPM*	FPM or EPDM	150 PSI @ 70°F Non-Shock (10 Bar / 1 MPa @ 21°C)
	GFPP (Threaded and Flanged)	2-1/2" – 4" rated @ 150 GPM*		

* May be Limited by Pipe Size or Bag Choice

FLV Series Duplex Bag Filters

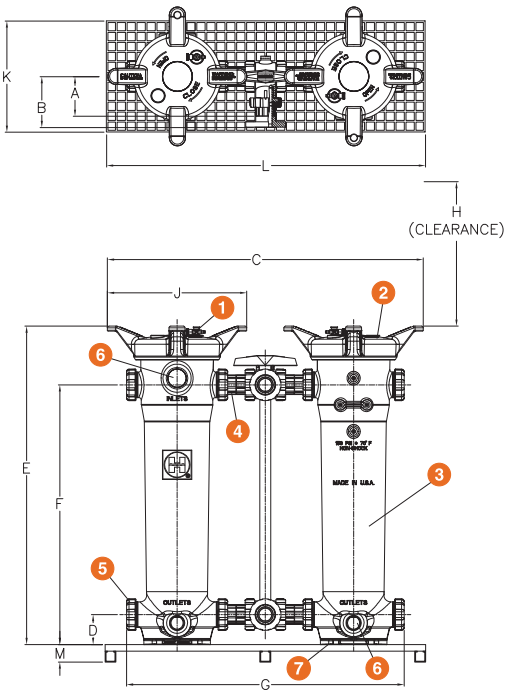
DOUBLE LENGTH – 32" GFPP
1-1/4" TO 4" PIPE SIZES

TECHNICAL INFORMATION, *CONTINUED*

PARTS LIST*

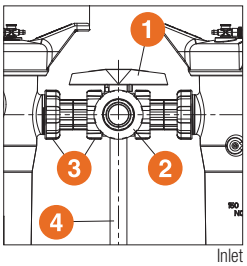
1. Vent Valve (Included)
2. Cover
3. Filter Vessel Body
4. End Connector
5. Assembly Nut
6. Alternate 2" NPT Ports
7. Integrally Molded Mounting Pad

* See page 8 for a complete Parts List

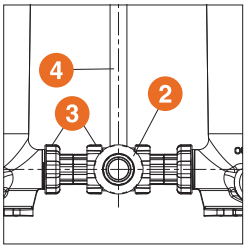


PIPING PARTS LIST

1. Handle
2. Hayward® LA Series Three-Way Lateral Valve
3. Spool Assembly (Each Side)
4. Stem Extension Pipe



Inlet



Outlet

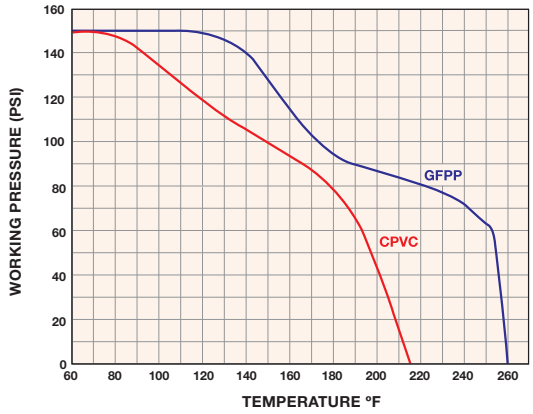
DIMENSIONS – INCHES / MILLIMETERS

VESSEL SIZE in / DN	A in / mm	B in / mm	C in / mm	D in / mm	E in / mm	F in / mm	G in / mm	H* in / mm	J in / mm	K in / mm	L in / mm	M in / mm
1-1/4" / 32	6.00 / 152	7.44 / 189	47.44 / 1205	4.50 / 114	47.83 / 1215	39.00 / 991	41.70 / 1059	31.25 / 794	20.93 / 532	16.75 / 425	48.00 / 1219	2.62 / 67
1-1/2" / 40	6.00 / 152	7.60 / 193	47.44 / 1205	4.50 / 114	47.83 / 1215	39.00 / 991	41.70 / 1059	31.25 / 794	20.93 / 532	16.75 / 425	48.00 / 1219	2.62 / 67
2" / 50	6.00 / 152	7.77 / 197	47.44 / 1205	4.50 / 114	47.83 / 1215	39.00 / 991	41.70 / 1059	31.25 / 794	20.93 / 532	16.75 / 425	48.00 / 1219	2.62 / 67
2-1/2" / 63	7.60 / 193	9.85 / 250	55.17 / 1401	4.50 / 114	47.83 / 1215	39.00 / 991	50.99 / 1295	31.25 / 794	20.93 / 532	16.75 / 425	48.00 / 1219	2.62 / 67
3" / 80	7.60 / 193	9.85 / 205	55.17 / 1401	4.50 / 114	47.83 / 1215	39.00 / 991	50.99 / 1295	31.25 / 794	20.93 / 532	16.75 / 425	48.00 / 1219	2.62 / 67
4" / 100	9.33 / 237	11.76 / 299	55.17 / 1401	4.50 / 114	47.83 / 1215	39.00 / 991	50.99 / 1295	31.25 / 794	20.93 / 532	16.75 / 425	48.00 / 1219	2.62 / 67

Dimensions are subject to change without notice – consult factory for installation information

* Clearance from top for basket removal

OPERATING TEMPERATURE / PRESSURE



SPECIFICATIONS

Material of Construction:	GFPP
Inlet Connections:	GFPP (Threaded and Flanged) CPVC (Socket, Threaded or Flanged)
Outlet Connections:	GFPP (Threaded and Flanged) CPVC (Socket, Threaded or Flanged)
Bag Size:	Bag Size #2: 7" x 32"
Pressure Rating:	150 PSI @ 70°F Non-Shock
O-Ring Seals:	FPM or EPDM
Bag Ratings:	1, 5, 10, 25, 50, 100, 150, 200, 400, 600 and 800 Microns
Maximum Flow Rates:	100 GPM – 1-1/4" to 2" *(May be Limited by Pipe Size or Bag Choice)* 150 GPM – 2-1/2" to 4" *(May be Limited by Pipe Size or Bag Choice)*
Mounting Base:	Fiberglass
Hardware:	Stainless Steel
Basket Open Area Ratios:	up to 2" – 54:1 / 2-1/2" to 4" – 14:1
Weight:	up to 2" – 132.0 lbs. / 2-1/2" to 4" – 145.0 lbs.

FLV Series Duplex Bag Filters

SINGLE LENGTH – 16" GFPP
1-1/4" TO 2" PIPE SIZES

KEY FEATURES

- Platinum Glass Filled Polypropylene
- One-Piece Injection Molded Construction
- Hand Removable, Ergonomic Cover with Liquid Displacing Dome
- Vent Valve Included on Cover
- Rated up to 100 GPM
- True Union Socket, Threaded or Flanged End Connections
- In-Line or Loop Flow Configurations
- Hinged Basket for Easy Bag Removal
- Drain Port at Bottom
- Integral Mounting Base

BENEFITS

- Easier Installations Due to True Union Connectivity
- Simplified Bag Removal from Hinged Basket
- Vertical Flow Flutes in Basket, No Bag Snag and More Flow Area

TYPICAL APPLICATIONS

- Water and Wastewater Treatment
- Chemical Processing
- Food and Beverage
- Metal Plating
- Aquatic and Animal Life Support Systems
- Water/Theme Parks
- Aquaculture

OPTIONS

- Gauge with Gauge Guard
- Pressure Differential Gauge and Switch
- EPDM O-Ring Seals
- Cartridge Adapters

MATERIALS

- CPVC Cell Class 23447 per ASTM D1784
- GFPP Cell Class 85580 per ASTM D4101
- FPM Standard O-Ring Seals

TECHNICAL INFORMATION

SELECTION CHART

SIZE / BODY MATERIAL	END CONNECTIONS	PIPING SIZES	O-RING SEALS	PRESSURE RATING (BAR)
Single Length 7" x 16" GFPP	GFPP (Threaded and Flanged)	1-1/4" – 2" rated @ 100 GPM*	FPM or EPDM	150 PSI @ 70°F Non-Shock (10 Bar / 1 MPa @ 21°C)
	CPVC (Socket, Threaded or Flanged)			

* May be Limited by Pipe Size or Bag Choice

FLV Series Duplex Bag Filters

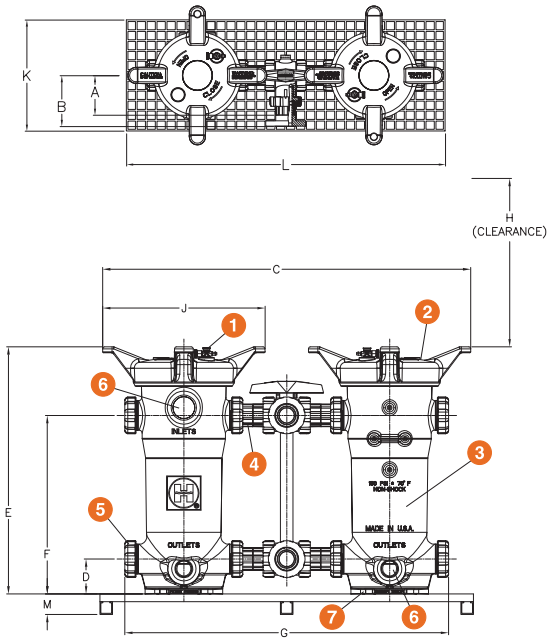
SINGLE LENGTH – 16" GFPP
1-1/4" TO 2" PIPE SIZES

TECHNICAL INFORMATION, *CONTINUED*

PARTS LIST*

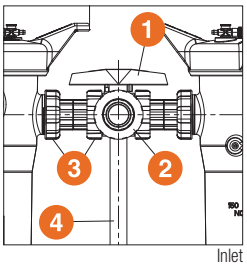
1. Vent Valve (Included)
2. Cover
3. Filter Vessel Body
4. End Connector
5. Assembly Nut
6. Alternate 2" NPT Ports
7. Integrally Molded Mounting Pad

* See page 8 for a complete Parts List

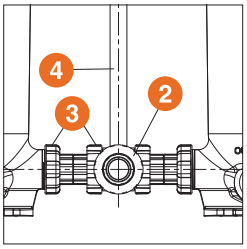


PIPING PARTS LIST

1. Handle
2. Hayward® LA Series Three-Way Lateral Valve
3. Spool Assembly (Each Side)
4. Stem Extension Pipe



Inlet



Outlet

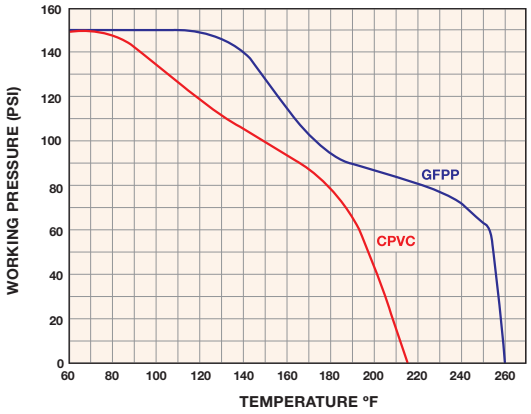
DIMENSIONS – INCHES / MILLIMETERS

VESSEL SIZE in / DN	A in / mm	B in / mm	C in / mm	D in / mm	E in / mm	F in / mm	G in / mm	H* in / mm	J in / mm	K in / mm	L in / mm	M in / mm
1-1/4" / 32	6.00 / 152	7.44 / 189	47.44 / 1205	4.50 / 114	31.83 / 808	23.00 / 584	41.70 / 1059	15.25 / 387	20.93 / 532	16.75 / 425	48.00 / 1219	2.62 / 67
1-1/2" / 40	6.00 / 152	7.60 / 193	47.44 / 1205	4.50 / 114	31.83 / 808	23.00 / 584	41.70 / 1059	15.25 / 387	20.93 / 532	16.75 / 425	48.00 / 1219	2.62 / 67
2" / 50	6.00 / 152	7.77 / 197	47.44 / 1205	4.50 / 114	31.83 / 808	23.00 / 584	41.70 / 1059	15.25 / 387	20.93 / 532	16.75 / 425	48.00 / 1219	2.62 / 67

Dimensions are subject to change without notice – consult factory for installation information

* Clearance from top for basket removal

OPERATING TEMPERATURE / PRESSURE



SPECIFICATIONS

Material of Construction:	GFPP
Inlet Connections:	GFPP (Threaded or Flanged) CPVC (Socket, Threaded and Flanged)
Outlet Connections:	GFPP (Threaded and Flanged) CPVC (Socket, Threaded or Flanged)
Bag Size:	Bag Size #1: 7" x 16"
Pressure Rating:	150 PSI @ 70°F Non-Shock
O-Ring Seals:	FPM or EPDM
Bag Ratings:	1, 5, 10, 25, 50, 100, 150, 200, 400, 600 and 800 Microns
Maximum Flow Rate:	100 GPM *(May be Limited by Pipe Size or Bag Choice)*
Mounting Base:	Fiberglass
Hardware:	Stainless Steel
Basket Open Area Ratios:	19:1
Weight:	100.0 lbs.

Needle Felt and Monofilament Mesh Filter Bags

HEAVY-DUTY POLYPROPYLENE, POLYESTER AND NYLON FILTER BAGS

KEY FEATURES

- All Bag Materials Silicone-Free
- Size 1 – Single Length 7" x 16"
- Size 2 – Double Length 7" x 32"
- 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

BENEFITS

- Easy Change-Out Reduces Down Time
- Compact, for Easy Disposal
- Versatile Micron Ratings Will Accommodate Most Applications

SPECIFIC APPLICATIONS

- Water and Wastewater Treatment
- Chemical Processing
- Food and Beverage
- Metal Plating
- Aquatic and Animal Life Support Systems
- Water/Theme Parks
- Aquaculture

MICRON RATINGS

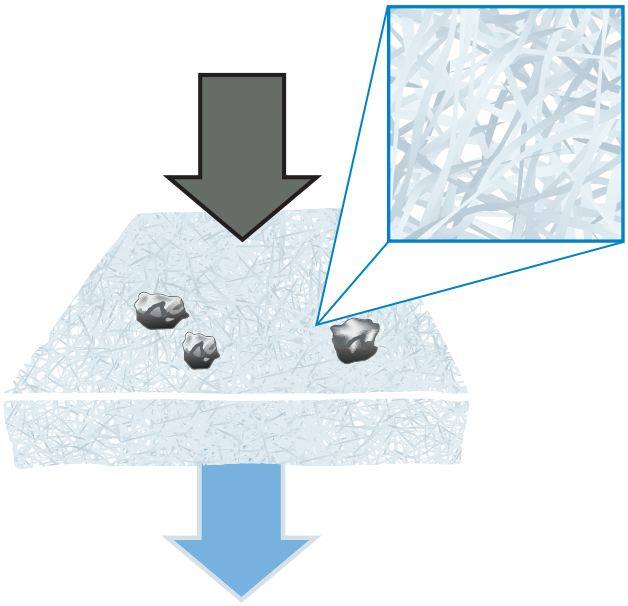
- 1 Micron *(Material – Polypropylene and Polyester Needle Felt)*
- 5 Microns *(Material – Polypropylene and Polyester Needle Felt)*
- 10 Microns *(Material – Polypropylene and Polyester Needle Felt)*
- 25 Microns *(Material – Polypropylene and Polyester Needle Felt)*
- 50 Microns *(Material – Polypropylene and Polyester Needle Felt)*
- 100 Microns *(Material – Polypropylene and Polyester Needle Felt)*
- 150 Microns *(Material – Polypropylene and Nylon Monofilament Mesh)*
- 200 Microns *(Material – Polypropylene and Polyester Needle Felt)*
- 400 Microns *(Material – Polypropylene and Nylon Monofilament Mesh)*
- 600 Microns *(Material – Polypropylene and Nylon Monofilament Mesh)*
- 800 Microns *(Material – Polypropylene and Nylon Monofilament Mesh)*

MATERIALS

- Polypropylene Needle Felt Rated up to 200°F
- Polyester Needle Felt Rated up to 300°F
- Polypropylene Monofilament Mesh Rated up to 200°F
- Nylon Monofilament Mesh Rated up to 325°F

POLYPROPYLENE AND POLYESTER NEEDLED FELT FILTER BAGS:

Felt material offers particle filtration by a depth process. Particles larger than the felt openings are trapped against the surface as particles that are smaller are forced into the material and trapped by the fibrous web. This three-dimensional media filtration is effective at removing both solid and gelatinous particles and is available in silicone-free polypropylene and polyester materials. Bags are available in 1 to 100 and 200 microns.



KEY FEATURES

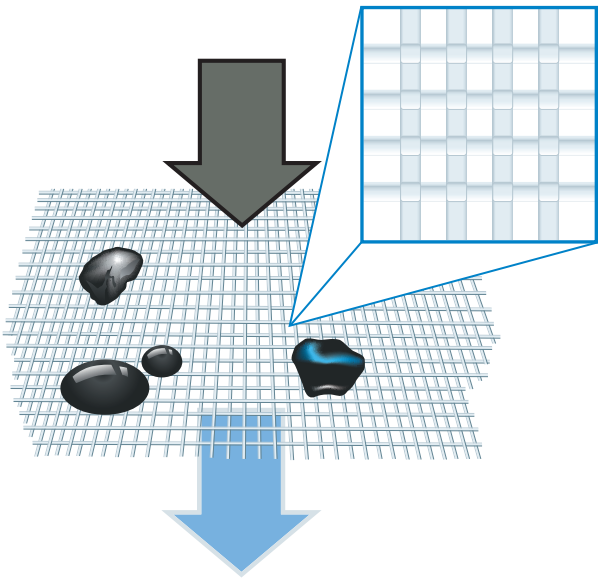
- Needled Felt Structure
- Silicone-Free Material
- Suitable to Lower Viscosity Fluid
- Stable Filtration with High-Flow Velocity
- No Chemical or Fiber Release
- Temperature for Polypropylene: up to 200°F
- Temperature for Polyester: up to 300°F
- Chemical Resistance: Water, Aromatics, Weak Acids, Alkali

SPECIFIC APPLICATIONS

- Prefiltration in Water Treatment
- Amine Filtration in Petroleum Industries
- Electrophoretic Paint Filtration in Automotive Industries
- Syrup Filtration
- Raw Medicine Filtration
- Recycled Water Filtration in Electronics Industries

POLYPROPYLENE AND NYLON MONOFILAMENT MESH FILTER BAGS:

Monofilament mesh offers particle filtration on the surface of a single interwoven fiber. All the holes are uniform providing the same filtration from top to bottom and are fusion welded for strength. Filtration is available at 150 microns and 400 to 800 microns.



KEY FEATURES

- Monofilament Mesh Structure
- Silicone-Free Material
- Fixed Aperture
- Good Stretch-Proof Performance
- Suitable to Intercept Rigid Impurity and High Viscosity Fluid
- Easy to Clean
- Temperature for Polypropylene: up to 200°F
- Temperature for Nylon: up to 325°F
- Chemical Resistance: Water, Aromatics, Aliphatic, Alkali

SPECIFIC APPLICATIONS

- Prefiltration in Metallurgy Industries
- Degreasing in Automotive Industries
- Raw Water Filtration in Water Treatment Industries
- Coolant Filtration in Paint Industries
- Cutting Fluid Filtration in Machine Industries
- Coarse Filtration in Chemical Industries
- Recycled Water Filtration in Paper Mills

Contact Hayward Flow Control with questions: 1-888-429-4635 • Fax: 1-888-778-8410 • One Hayward Industrial Drive • Clemmons, NC 27012 • USA
Visit us at: www.haywardflowcontrol.com • E-mail: hflow@haywardnet.com

Felt and Mesh Filter Bags, *CONTINUED*

SINGLE AND DOUBLE LENGTH

All bags are made with silicone-free material. Bags are made in two lengths. Type 1 single length is 7" x 16" and Type 2 double length is 7" x 32". Both industry standard bag sizes fit Hayward's single or double length filter vessel.

SEWN CONSTRUCTION

A sewn bag has the strength of a mechanically secure, sewn seam. These bags have two sewn lines to make sure that certain particles do not pass through the filter bag. These bags are made from media that is silicone free and are sewn with silicone free thread so that the filtrate is not contaminated.

WELDED CONSTRUCTION

Welded construction filter bags have the fabric fused together to form the bag and secure the sealing ring. Modern fabric welding technology provides a strong seal that won't leak or come apart in the flow.

SEWN-IN BAG RING

Another construction consideration is the type of sealing ring. This is a ring at the opening of the bag that helps seal it to the housing. It can be made of plastic or metal. The ring material is important not only for chemical compatibility, but also for disposal purposes. If the bag is going to be disposed of by incineration, it's important that the ring be plastic, and not metal. Hayward bags are made with a sewn-in PP ring.

PP FLANGE RING

Consider the ring material of the bag when looking at chemical compatibility of the application. Hayward flanged bags have a PP flange ring.

PP FLANGE HANDLES

Flanged bags have PP handles at the top to make removal easier. Other bags have a sewn-in cloth handle for removal.

How to Order Filter Bags

HOW TO SELECT A PART NUMBER

MATERIAL		MICRON RATING		FINISH		BAG SIZE		BAG STYLE		OPTIONS	
Polypropylene Needle Felt Glazed	PO	1 Micron	001	Needle Felt Glazed	G	16"	1	PP Ring	PR	Sewn with Handle	SH
Polypropylene Monofilament Mesh	PMO	5 Microns	005	Needle Felt Singed	S	32"	2	PP Flange	PF	Welded with Flange	WF
Polyester Needle Felt Singed	PE	10 Microns	010	Monofilament Mesh	M						
Nylon Monofilament Mesh	NMO	25 Microns	025								
		50 Microns	050								
		100 Microns	100								
		150 Microns	150								
		200 Microns	200								
		400 Microns	400								
		600 Microns	600								
		800 Microns	800								
To find your part number, please select your Material, Micron Rating, FInish, etc., and place the corresponding identifier (PO, 001, G, etc.) in the boxes below.											
EXAMPLE	**PO**		**100**		**G**		**1**		**PR**		**WF**

STANDARD FIBER AND MICRON RATINGS

FIBER CONSTRUCTION	MATERIAL	AVAILABLE MICRON RATINGS										
		1	*5*	*10*	*25*	*50*	*100*	*150*	*200*	*400*	*600*	*800*
Needle Felts	Polypropylene	●	●	●	●	●	●		●			
	Polyester	●	●	●	●	●	●		●			
Monofilament Meshes	Polypropylene							●		●	●	●
	Nylon							●		●	●	●

COMPATIBILITY AND TEMPERATURE LIMITS

FIBER	COMPATIBLE WITH							
	Organic Solvent	*Animal, Vegetable and Petro Oils*	*Microorganisms*	*Alkalies*	*Organic Agents*	*Oxidizing Agents*	*Mineral Acids*	*Temperature Limits (Max °F)*
Polyester	A	A	A	B	B	B	B	300
Polypropylene	A	A	A	A	A	C	C	200
Nylon	A	A	A	B	C	D	D	325

A Excellent B Good C Fair D Poor

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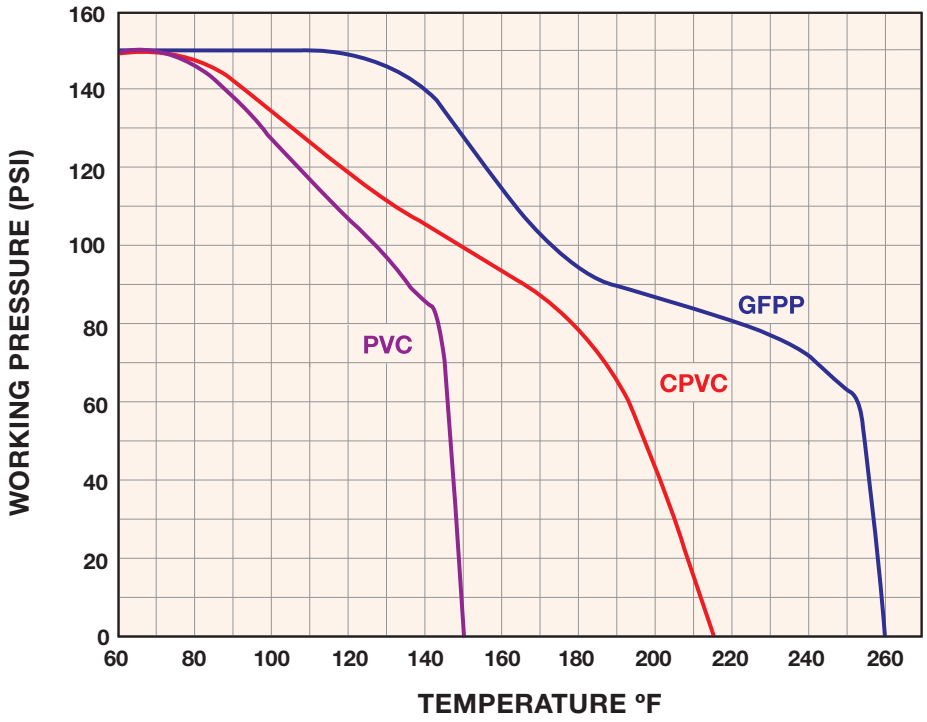
How to Select a Bag Filter



1. CHECK THE TEMPERATURE AND PRESSURE RATING OF A VESSEL

To make sure that the temperature/pressure of the application falls within the OK range, see the chart on each individual catalog page or check the chart above for FLV Series Filter Vessel.

2. DETERMINE THE FLOW RATE

In GPM, of the system into which the bag filter is to be installed. Hayward® single and double length bag filters work with flows of up to 150 GPM. If the system's flow rate is greater, consider using two or more filters manifolded together in parallel. For example, if the system flow rate is 150 GPM or higher, using two manifolded filters would reduce the flow to a manageable 75 GPM through each. Constantly running the flow through the vessels at their maximum rating limit is not recommended.

3. SELECT THE BAG

Hayward bags are available from 1 to 800 microns. The bags are made from several types of materials and are either of a sewn or welded construction. All bags are sold in Carton Quantities. A single length bag has a surface area of 2.0 sq ft and a double length of 4.1 sq ft.

4. CONSIDER STARTUP PRESSURE LOSS

Bag filters are typically sized so that there is a 2 PSI or less pressure loss across them with a clean bag installed. Keep in mind that this is just a guide. The time between bag change outs for a double length filter is more than twice that of a single length filter in the same application.

How to Select a Bag Filter, *CONTINUED*

5. CALCULATE STARTUP PRESSURE LOSS

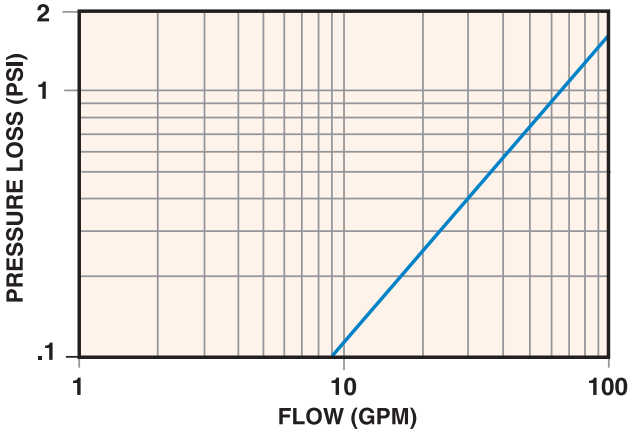
To figure the total pressure loss across the filter with a clean bag requires making two pressure loss calculations and adding them together: The loss across the filter vessel without a bag and the bag loss.

First: Use the system flow rate and Chart 1 to determine the loss across the filter without a bag (single and double length filter vessels have virtually the same pressure loss without a bag). Example: A flow rate of 30 GPM results in a 0.4 PSI pressure loss. If the process media is water or has a viscosity less than 200 CPS, that's it. If the viscosity is greater, select the correction factor that matches the process media viscosity in CPS units from Table Number One. Multiply the pressure drop by this factor.

Table 1 – Vessel Viscosity Correction

VISCOSITY IN CPS	200	400	600	800
CORRECTION FACTOR	1.10	1.20	1.40	1.50

Chart 1 – Vessel Pressure Loss



Second: Single and double length filter bags have different pressure losses. Use Chart 2A and 2B to determine the pressure loss per square foot of bag surface. Example: with a system flow rate of 30 GPM, a 5 or 10 micron bag would have a 0.2 PSI loss per square foot. This loss is divided by 2.0 for a single length bag or 4.1 for a double length bag. These factors are the respective surface areas of the bags in square feet. The loss for a single bag would be 0.1 PSI (0.2 ÷ 2.0) and 0.05 for a double length bag (0.2 ÷ 4.1). For fluids with viscosities other than water, select the correction factor from Table 2 and multiply the pressure drop by it. Example: If the fluid viscosity were 800 CPS, the pressure loss for a single length bag would be 5.0 (0.1 x 50.0).

Last: Add the pressure loss of the vessel and the bag together to get the pressure loss across the filter with the bag installed.

Table 2 – Bag Viscosity Correction

VISCOSITY IN CPS	Water 1	50	100	200	400	600	800
CORRECTION FACTOR	1.00	4.50	8.50	16.60	27.70	38.90	50.00

Chart 2A – Bag Pressure Loss

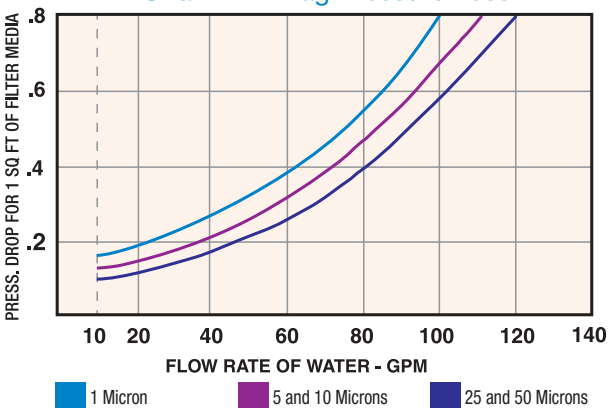
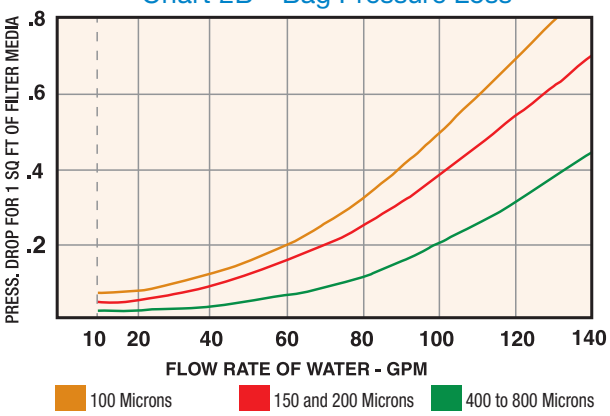


Chart 2B – Bag Pressure Loss



Flow of Water Through Schedule 80 Plastic Pipe

DISCHARGE		VELOCITY IN SCHEDULE 80 PLASTIC PIPE FOR WATER @ 60°F VELOCITY							
Gallons / Minute	*Cubic Feet / Second*	*Feet / Second*	*Feet / Second* 1/4"	*Feet / Second* 3/8"	*Feet / Second* 1/2"	*Feet / Second* 3/4"	*Feet / Second* 1"	*Feet / Second* 1-1/4"	*Feet / Second* 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)

Notes

Additional Hayward Products for Protecting the Process Media

SB SERIES SIMPLEX BASKET STRAINERS

KEY FEATURES

- Protect Your Investment
- Remove Damage Causing Particulate Matter From Process Media Before it Reaches Your Pump
- Simplex and Duplex Configurations
- Baskets available in PVC, CPVC, PP, SSTL, Hastelloy® and Monel®

DB SERIES DUPLEX BASKET STRAINER

KEY FEATURES

- PVC, CPVC, GFPP and Eastar™
- No System Shutdown for Basket Cleaning
- Ergonomic Hand-Removable Cover
- In-Line or Loop Connections
- Integral Flat Mounting Bases
- External Cover Threads
- Hand-Removable Vents on Covers
- Hand-Removable Drains on Bodies

YS SERIES Y-STRAINERS

KEY FEATURES

- PVC, Clear PVC and CPVC
- 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

T SERIES THERMOPLASTIC PUMP

KEY FEATURES

- CPVC, GFPP and PVDF
- Single, Non-Coupled Motor Shaft
- Proprietary, Patent-Pending Shaft Seal
- Extended Shaft Sleeve
- PTFE Shaft Seal
- Other Webster Thermoplastic Pumps: S and D Series Vertical, C Series Centrifugal and R Series Mag Drive

PVC / CPVC BAG FILTERS

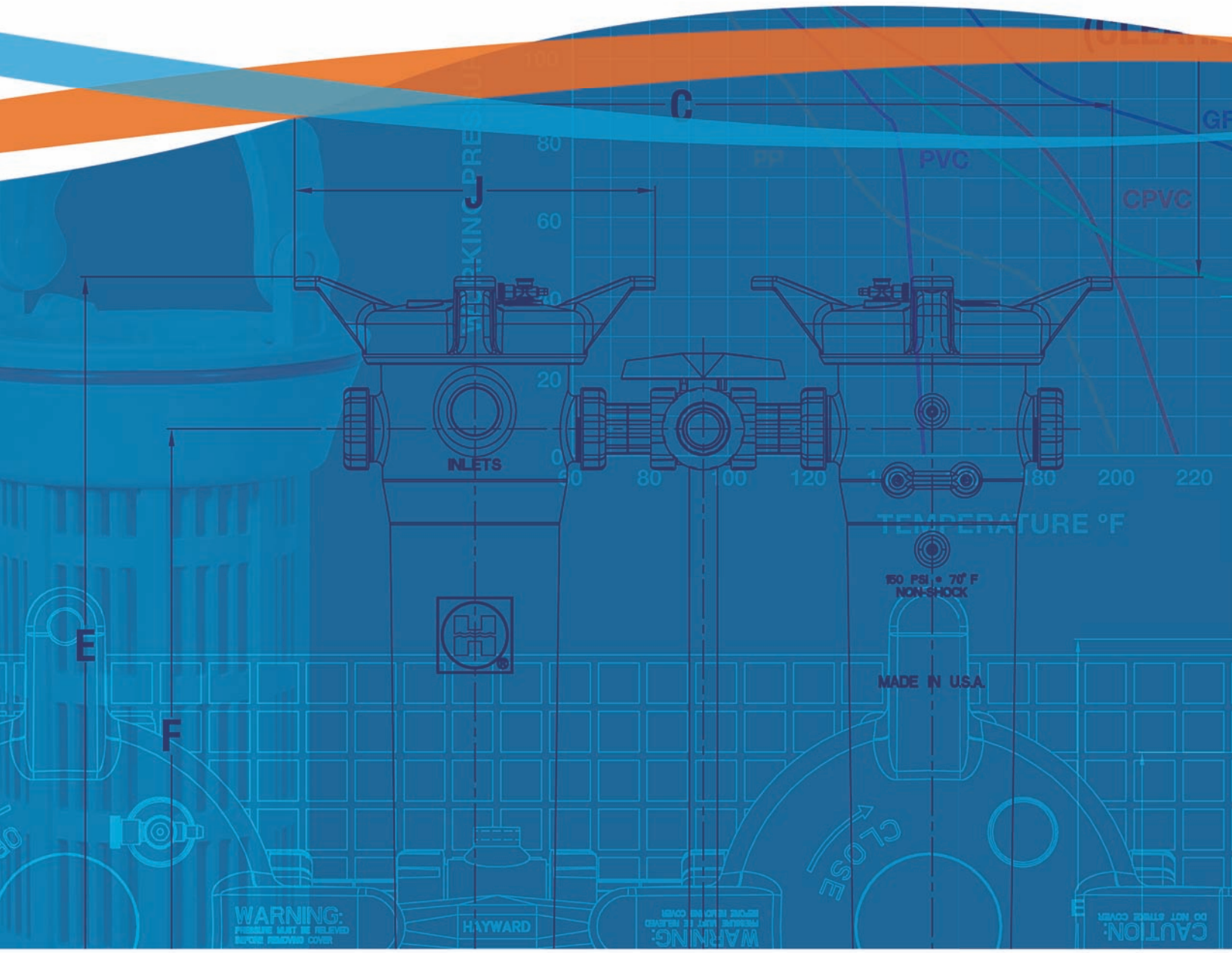
KEY FEATURES

- PVC and CPVC
- Single or Double Length
- Duplex Versions
- Integral Mounting Base
- Vent Valve on Cover
- 2" True Union Socket
- 2" Threaded or Flanged

GG SERIES GAUGE GUARDS

KEY FEATURES

- PVC, CPVC, PP and PVDF
- Threaded NPT Connections
- FPM Membrane
- All Thermoplastic, No Rust or Corrosion
- No Metal Fasteners
- Rugged, Low Profile, Compact Design
- Work in any Position
- Large Volume Gauge Guard Available
- Dual Faced PSI and kg/cm^2



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