

# Bag Filters/Strainers



Schroeder PURE offers a complete line of bag filters and housings to fit a wide variety of applications. From single bag housings to high flow multiple bag housings, Schroeder has an economical filtration solution to fit nearly any application.

The disposable bag elements offered by Schroeder PURE come in a wide variety of materials, sizes and styles. Our standard bags include a steel ring collar that acts as both a gasket to securely seal the bag to the housing as well as to support the bag while in operation. The ring is also available in stainless steel, with a draw sting or with a plastic sure seal ring that has integrated handles. Polyester and polypropylene felt can be used for filtration as low as 1 micron while monofilament and multifilament bags can be used for more coarse filtration. Felt bags are either singed or glazed to prevent fiber migration on the clean side of the filter/strainer.

Our bags are made in standard industry sizes from 1 through 12. We also have commercial size bags available with a snap band support ring. The seams on the bags are either sewn or welded depending upon the systems requirements. Welded bags offer:

- No needle holes
- No thread migration
- Strong, even sealing of the material

Schroeder PURE's bag housing can handle flows as low as 20 gpm and as high as several thousand gpm. Single bag housings are rated for either 100 psi service or 150 psi. All of our multiple bag housings are rated at 150 psi. Multiple bag housings are manufactured to hold 2 bags to 10 bags and more. Housings are made from either carbon steel or electro-polished stainless steel. ASME section VII U-stamped housings are available upon request.

Schroeder Industries has long been known for innovation to meet customer needs. Contact the factory if you have an application that requires special consideration and designs. Multiple housings can be skid mounted with integrated valves, sensors and controls to meet your specific needs.

Our bag systems provide efficient and economical filtration. Some advantages to bag filtration are:

- Positive seal to assure zero fluid bypass
- Quick and easy installation
- Handles provide easy removal from housings
- High dirt holding capacity
- Sturdy construction to prevent bags from failing in operation
- 100% incinerable

## Typical Products Filtered

- |                    |                        |                           |
|--------------------|------------------------|---------------------------|
| • Abrasives        | • Industrial Coatings  | • Plastics                |
| • Adhesives        | • Juices               | • Printing Inks           |
| • Aerosol Products | • Lacquers             | • Process Water           |
| • Chemicals        | • Latices              | • Polymer Solutions       |
| • Cleaning Fluids  | • Liquids of all types | • Roller Coatings         |
| • Coolants         | • Paints               | • Textile Chemicals       |
| • Cutting Fluids   | • Paper Coatings       | • Vegetable Oils          |
| • Detergents       | • Petroleum Products   | • Vinegar                 |
| • Dyestuffs        | • Pigments             | • Waxes                   |
| • Fabric Coatings  | • Pharmaceuticals      | • And Many Other Products |
| • Food Products    | • Plasticizers         |                           |



Standard Filter Bag



Plastic Collar Filter Bag



Welded Bags

## Industries Served



CHEMICAL PROCESSING



INDUSTRIAL



MACHINE TOOL



MINING TECHNOLOGY



POWER GENERATION



PAPER INDUSTRY



STEEL MAKING



SEWAGE AND WASTE WATER TREATMENT

**Recommended change-out:**

It is recommended that a liquid filter bag be changed out when the differential pressure ( $\Delta P$ ) between the upstream and downstream sides reaches 20 - 25 psi. Although this is a rule of thumb, some applications may require change-out at a  $\Delta P$  well below 20 psi. Under no circumstances should  $\Delta P$  be allowed to exceed 25 psi.

**What is the product that needs to be filtered?**

Obtain all the details of the liquid/solid composition. You need to confirm the chemical compatibility to ensure the proper material is used for the bag, retainer type, and the housing for the filter bags.

**What is the viscosity of the product to be filtered?**

Use a flow rate chart to find out the optimum operating parameters.

**What is the pH level in order to choose the proper material for the filtration system?**

Is the product an acid with a pH of 1-7 or is it Alkaline 7-14?

**What type of solids does the product contain?**

Are the solids crystalline or gelatinous? Crystalline solids can form a permeable layer on the filter media and gelatinous solids can form an impermeable layer that will cause blinding off of the filter media.

**What is the density of the solids?**

What is the PPM (parts per million) of the solids?

**What is the range of particle size? What size does the customer want to remove and at what efficiency?**

The range of particulate size is important in determining which micron rating your filter media should be? Filter bags can be made with nominally rated material or with high efficiency material.

**What is the flow rate of the product?**

The flow rate is critical information required when determining the size and number of bags required.

**Is it a continuous or batch process?**

This is important in order to determine the filter bag consumption.

**What is the operating pressure of the system?**

At what minimum and maximum potential pressure is the system designed to run? What is the acceptable pressure required? Filter bag differential pressure capacity is 20-25 psi.

**What is the temperature of the product being filtered?**

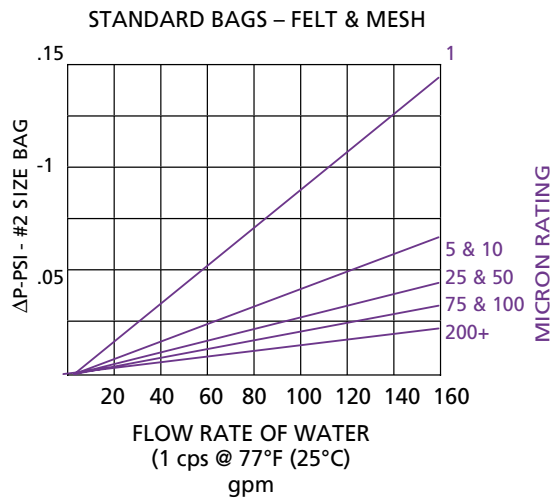
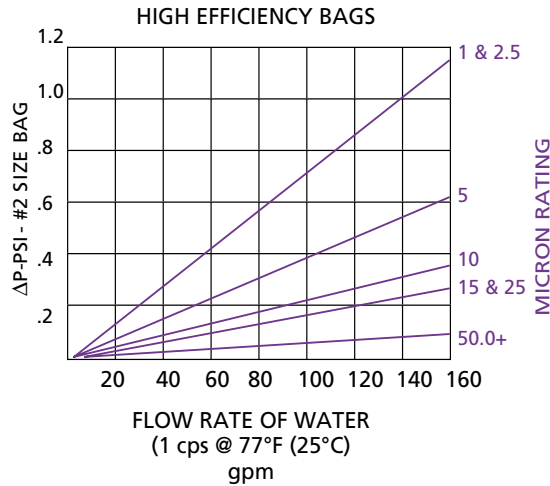
Temperature has an impact on the viscosity, the filter media and the O-rings. The temperature can even affect the corrosion rate of the housing.

**Sizes Available**

Size	Sq. Ft.	Diameter (in.)	Length (in.)	Bag/Collar/Style					Manufacturers					
				S	SS	DS	P	C	FSI	AFF	GAF	Strainrite	Rosedale	Commercial
1	2.5	7.06	16.5	•	•	•	•		•	•	•	•	•	
2	5.0	7.06	32.0	•	•	•	•		•	•	•	•	•	
3	0.8	4.12	8.0	•	•	•	•		•				•	
4	1.3	4.12	14.0	•	•	•	•		•				•	
7	1.3	5.5	15.0	•	•	•							•	
8	2.0	5.5	20.0	•	•	•							•	
9	3.3	5.5	31.0	•	•	•							•	
C1	2.5	7.31	16.5			•								•
C2	5.0	7.31	32.0			•								•

# Bag Elements

## Filter Bag Pressure Drop $\Delta PB$



**Step 1** The graphs show the  $\Delta PB$  produced by a #2 size bag for water, 1 cps @ 77°F (25°C). The pressure drop is determined from the type of bag, the micron rating and flow rate.

**Step 2** Correct for bag size from the table below if the size is different than #2 size.

Bag Size	Dia. X Length	Multiply By
2	7.06 x 32	1.00
9	5.5 x 32	1.50
1	7.06 x 16	2.25
8	5.5 x 21	2.25
7	5.5 x 15	3.00
4	4.15 x 14	4.50
3	4.15 x 8	9.00

**Step 3** If the viscosity of the liquid is greater than 1 cps (water @ 77°F (25°C)). Multiply the result from step 2 by the proper correction factor from the chart below.

Viscosity (cps)	Correction Factor
50	4.5
100	8.3
200	16.6
400	27.7
800	50.0
1000	56.2
1500	77.2
2000	113.6
4000	161.0
6000	250.0
8000	325.0
10000	430.0

The value obtained in step 3,  $\Delta PB$  is the clean pressure drop caused by the filter bag.

### SUMMARY

$$\text{System Pressure Drop} = \Delta PS = \Delta PH + \Delta PB$$

For new applications the  $\Delta PS$  should be 2.0 psi (0.14 bar) or less. For high contaminant loading applications, this value should be as low as possible. The lower this value is, the more contaminant a bag will hold. For applications with nominal contaminants, this value can go to 3.0 (0.21 bar) psi or more. Consult factory for specific recommendations when the clean  $\Delta PS$  exceeds 2.0 psi (0.14 bar) .

## How to Build a Valid Model Number for a Schroeder Filter Bag:

BOX 1 BOX 2 BOX 3 BOX 4 BOX 5 BOX 6  
 -  -  -  -  -

**Example:** NOTE: One option per box

BOX 1 BOX 2 BOX 3 BOX 4 BOX 5 BOX 6  
**PEF** - **100** - **P** - **2** - **S** - **0** = **PEF100P2S0**

BOX 1	BOX 2	BOX 3	BOX 4																																				
<b>Bag Material</b> PEF = Polyester felt PPF = Polypropylene felt NYF = Nylon felt NOF = Nomex felt PPM = Polypropylene monofilament mesh NMO = Nylon monofilament mesh PEM = Polyester multifilament mesh NMU = Nylon multifilament mesh	<b>Micron Rating</b> See chart below for available micron ratings	<b>Cover Material</b> P = Plain, no cover PEM = Polyester multifilament mesh MM = Muslin mesh SBN = Spun bonded nylon NMU = Nylon multifilament mesh	<b>Bag Size</b> <table border="1"> <thead> <tr> <th></th> <th>Diameter</th> <th>Length</th> </tr> </thead> <tbody> <tr><td>1</td><td>7.06</td><td>16.5</td></tr> <tr><td>2</td><td>7.06</td><td>32.0</td></tr> <tr><td>3</td><td>4.12</td><td>8.0</td></tr> <tr><td>4</td><td>4.12</td><td>14.0</td></tr> <tr><td>7</td><td>5.50</td><td>15.0</td></tr> <tr><td>8</td><td>5.50</td><td>20.0</td></tr> <tr><td>9</td><td>5.50</td><td>31.0</td></tr> <tr><td>11</td><td>8.38</td><td>18.0</td></tr> <tr><td>12</td><td>8.38</td><td>36.0</td></tr> <tr><td>C1</td><td>7.31</td><td>16.5</td></tr> <tr><td>C2</td><td>7.31</td><td>32.5</td></tr> </tbody> </table>		Diameter	Length	1	7.06	16.5	2	7.06	32.0	3	4.12	8.0	4	4.12	14.0	7	5.50	15.0	8	5.50	20.0	9	5.50	31.0	11	8.38	18.0	12	8.38	36.0	C1	7.31	16.5	C2	7.31	32.5
	Diameter	Length																																					
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8	5.50	20.0																																					
9	5.50	31.0																																					
11	8.38	18.0																																					
12	8.38	36.0																																					
C1	7.31	16.5																																					
C2	7.31	32.5																																					

BOX 5	BOX 6
<b>Collar Type</b> S = Standard steel ring SS = Stainless steel ring DS = Draw string P = Plastic flange C = Commercial snap band	<b>Options</b> 0 = No options H = Handles W = Welded seams

Construction	Fibers		1	3	5	10	15	25	50	75	100	125	150	175	200	250	300	400	600	800	1000	
FELT	Polyester	PEF	•	•	•	•	•	•	•	•	•		•		•							
	Polypropylene	PPF	•	•	•	•		•	•		•											
	Nylon	NYF	•		•	•		•	•		•					•						
	Nomex	NOF	•		•	•		•	•		•					•						
MONOFILAMENT MESH	Polypropylene	PPM														•		•				
	Nylon	NMO			•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
MULTIFILAMENT MESH	Polyester	PEM									•		•		•	•	•	•	•	•	•	•
	Nylon	NMU									•		•		•	•	•	•	•	•	•	•

## Compatibility & Temperature

Medias	Mineral Acids	Organic Acids	Alkalies	Oxidizing Acids	Animal Vegetable Petro-Oils	Organic Solvents	Micro Organisms	Temp. Limits (°F)
Polyester	Good	Good	Good	Good	Excellent	Excellent	Excellent	275°
Polypropylene	Good	Excellent	Good	Fair	Excellent	Good	Excellent	200°
Nomex	Fair	Fair	Good	Poor	Excellent	Excellent	Excellent	425°
Nylon	Poor	Fair	Good	Poor	Excellent	Excellent	Excellent	300°

## Micron-Rated Filter Bags

### Bag Elements

BH1  
100 psi

BH1  
150 psi

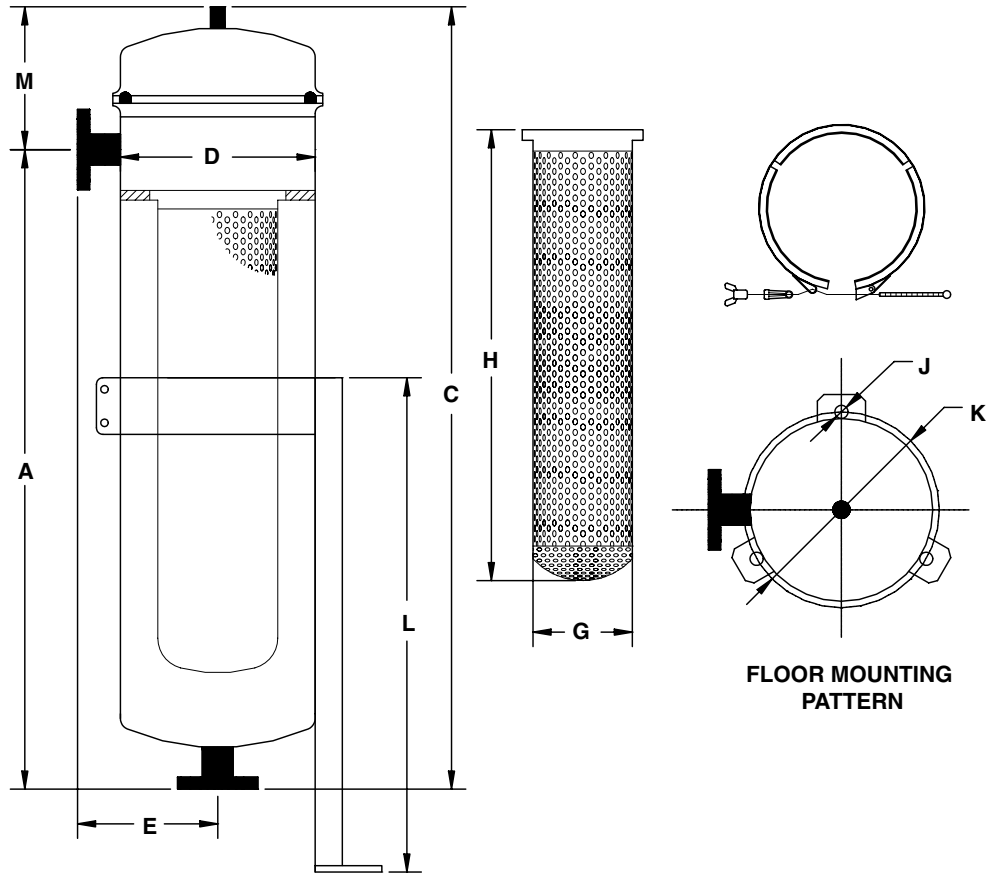
BH2-  
BH10

## Technical Information for Liquid Filter Bags

# Single Bag housings - 100 psi

## BH1

Single Bag Housing  
100 psi  
7 bar



NOTE:  
Drawings may change without notice. Contact Factory for certified drawings.

### Dimensions BH1 100 psi

Model	A inches (mm)	C inches (mm)	D inches (mm)	E inches (mm)	G inches (mm)	H inches (mm)	J inches (mm)	K inches (mm)	L inches (mm)	M inches (mm)
BH11	21.65 (550)	28.74 (730)	8.50 (216)	6.22 (158)	6.69 (170)	13.78 (350)	0.43 (11)	13.39 (340)	19.68 (500)	0.59 (15)
BH12	37.40 (950)	44.49 (1130)	8.50 (216)	6.22 (158)	6.69 (170)	28.74 (730)	0.43 (11)	13.39 (340)	27.56 (700)	0.59 (15)
BH13	14.76 (375)	21.46 (545)	5.51 (140)	4.72 (120)	3.82 (97)	7.87 (200)	0.33 (8)	8.46 (215)	13.78 (350)	0.59 (15)
BH14	18.70 (475)	25.39 (645)	5.51 (140)	4.72 (120)	3.82 (97)	11.42 (290)	0.33 (8)	8.46 (215)	13.78 (350)	0.59 (15)

### Specifications

Max. Working Pressure:	100 psi (7 bar)			
Max. Working Temperature:	165°F (75°C)			
Support Legs:	Adjustable			
Lid Closure:	Threaded Clamp			
	BH11	BH12	BH13	BH14
Max Flow:	90 gpm (340 L/min)	200 gpm (755 L/min)	20 gpm (75 L/min)	45 gpm (170 L/min)
Housing Volume:	4.75 gallons (18 L)	9.72 gallons (33 L)	2.67 gallons (6.3 L)	3.00 gallons (7.6 L)
Empty Weight:	44 lbs. (20 kg)	55 lbs. (25 kg)	29 lbs. (13 kg)	33 lbs. (15 kg)

# Single Bag Housings - 100 psi

How to Build a Valid Model Number for a Schroeder Single Bag Housing 100 psi:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7
BH	1					

Example: NOTE: One option per box

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	
BH	1	2	304S	2N	E	0	= BH12304S2NE0

<p><b>BOX 1</b></p> <p>Filter Series</p> <p>BH</p>	<p><b>BOX 2</b></p> <p>Number of Bags</p> <p>1</p>	<p><b>BOX 3</b></p> <p>Bag Size</p> <p>1</p> <p>2</p> <p>3</p> <p>4</p>	<p><b>BOX 4</b></p> <p>Material</p> <p>304S = 304 Stainless Steel</p> <p>316S = 316 Stainless Steel</p> <p>316L = 316L Stainless Steel</p>	<p><b>BOX 5</b></p> <p>Connection Size</p> <p>1N = 1" NPT</p> <p>15 = 1.5" NPT</p> <p>2N = 2" NPT</p> <p>2F = 2" Flange</p> <p>25 = 2.5" NPT</p> <p>3N = 3" NPT</p> <p>3F = 3" Flange</p> <p>4N = 4" NPT</p> <p>4F = 4" Flange</p>	<p><b>BOX 6</b></p> <p>Seal Material</p> <p>E = EPDM</p> <p>V = Viton</p>	<p><b>BOX 7</b></p> <p>Pressure Rating</p> <p>0 = 100 psi</p>
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\*Shaded selections are preferred order codes that designate shorter lead times.

Filter Model Number Selection

Bag Elements

BH1  
100 psi

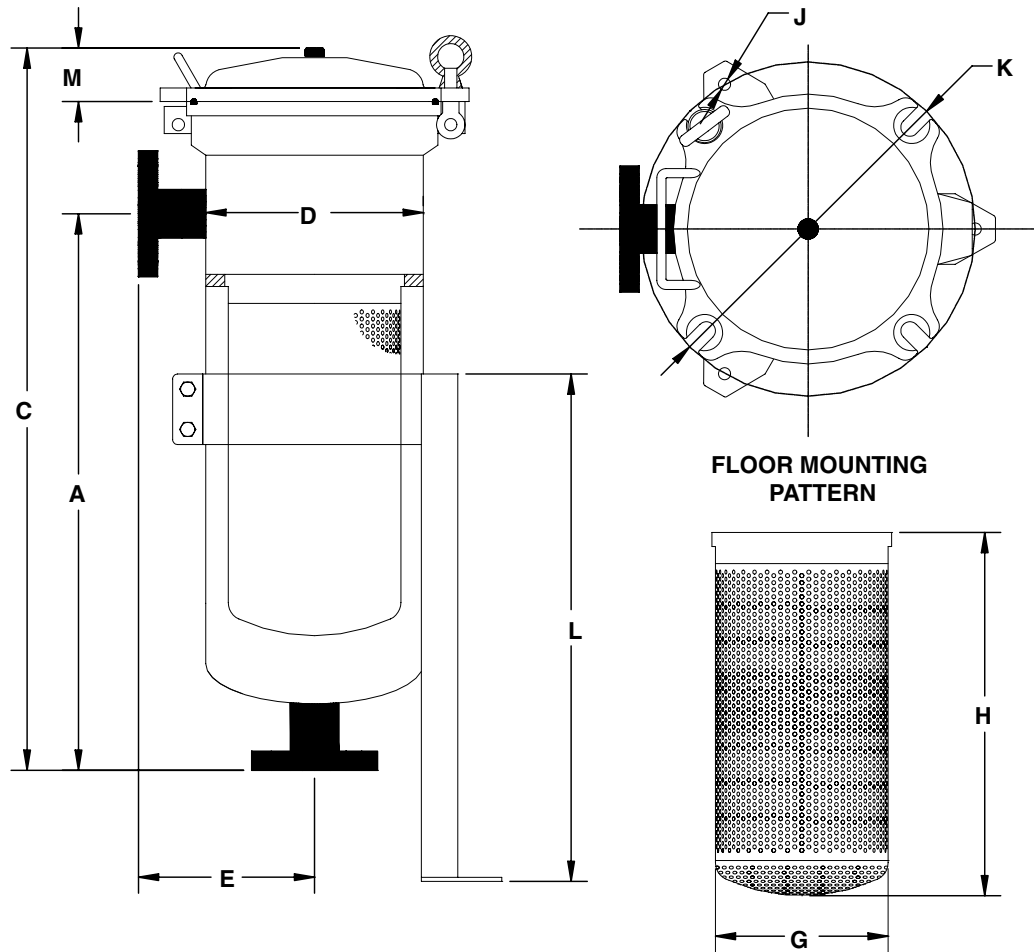
BH1  
150 psi

BH2-  
BH10

# Single Bag Housings - 150 psi

## BH1

Single Bag Housing  
150 psi  
10 bar



NOTE:  
Drawings may change without notice. Contact Factory for certified drawings.

### Dimensions BH1 150 psi

Model	A inches (mm)	C inches (mm)	D inches (mm)	E inches (mm)	G inches (mm)	H inches (mm)	J inches (mm)	K inches (mm)	L inches (mm)	M inches (mm)
BH11	21.65 (550)	29.13 (740)	9.13 (232)	6.93 (176)	6.77 (172)	13.78 (350)	0.39 (10)	9.13 (232)	20.47 (520)	7.48 (190)
BH12	39.57 (1005)	47.05 (1195)	9.13 (232)	6.93 (176)	6.77 (172)	28.74 (730)	0.39 (10)	9.13 (232)	20.47 (520)	7.48 (190)
BH13	14.17 (360)	21.18 (538)	7.09 (180)	5.91 (150)	3.86 (98)	7.87 (200)	0.39 (10)	9.92 (252)	13.78 (350)	7.01 (178)
BH14	19.49 (495)	26.50 (673)	7.09 (180)	5.91 (150)	3.86 (98)	12.20 (310)	0.39 (10)	9.92 (252)	13.78 (350)	7.01 (178)

### Specifications

Max. Working Pressure:	150 psi (10 bar)			
Max. Working Temperature:	165°F (75°C)			
Support Legs:	Adjustable			
Lid Closure:	Swing Bolts			
	BH11	BH12	BH13	BH14
Max Flow:	90 gpm (340 L/min)	200 gpm (755 L/min)	20 gpm (75 L/min)	45 gpm (170 L/min)
Housing Volume:	4.75 gallons (18 L)	9.72 gallons (33 L)	2.67 gallons (6.3 L)	3.00 gallons (7.6 L)
Empty Weight:	75 lbs. (104 kg)	104 lbs. (47 kg)	40 lbs. (18 kg)	46 lbs. (21 kg)

# Single Bag Housings - 150 psi

How to Build a Valid Model Number for a Schroeder Single Bag Housing 150 psi BH:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7
BH	1					

Example: NOTE: One option per box

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	
BH	1	2	304S	2N	E	1	= BH12304S2NE1

<p>BOX 1</p> <p>Filter Series</p> <p>BH</p>	<p>BOX 2</p> <p>Number of Bags</p> <p>1</p>	<p>BOX 3</p> <p>Bag Size</p> <p>1</p> <p>2</p> <p>3</p> <p>4</p>	<p>BOX 4</p> <p>Material</p> <p>304S = 304 Stainless Steel</p> <p>316S = 316 Stainless Steel</p> <p>316L = 316L Stainless Steel</p>	<p>BOX 5</p> <p>Connection Size</p> <p>1N = 1" NPT</p> <p>15 = 1.5" NPT</p> <p>2N = 2" NPT</p> <p>2F = 2" Flange</p> <p>25 = 2.5" NPT</p> <p>3N = 3" NPT</p> <p>3F = 3" Flange</p> <p>4N = 4" NPT</p> <p>4F = 4" Flange</p>	<p>BOX 6</p> <p>Seal Material</p> <p>E = EPDM</p> <p>V = Viton</p>	<p>BOX 7</p> <p>Pressure Rating</p> <p>1 = 150 psi</p>
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\*Shaded selections are preferred order codes that designate shorter lead times.

Filter and Media are sold separately.

Filter Model Number Selection

Bag Elements

BH1  
100 psi

BH1  
150 psi

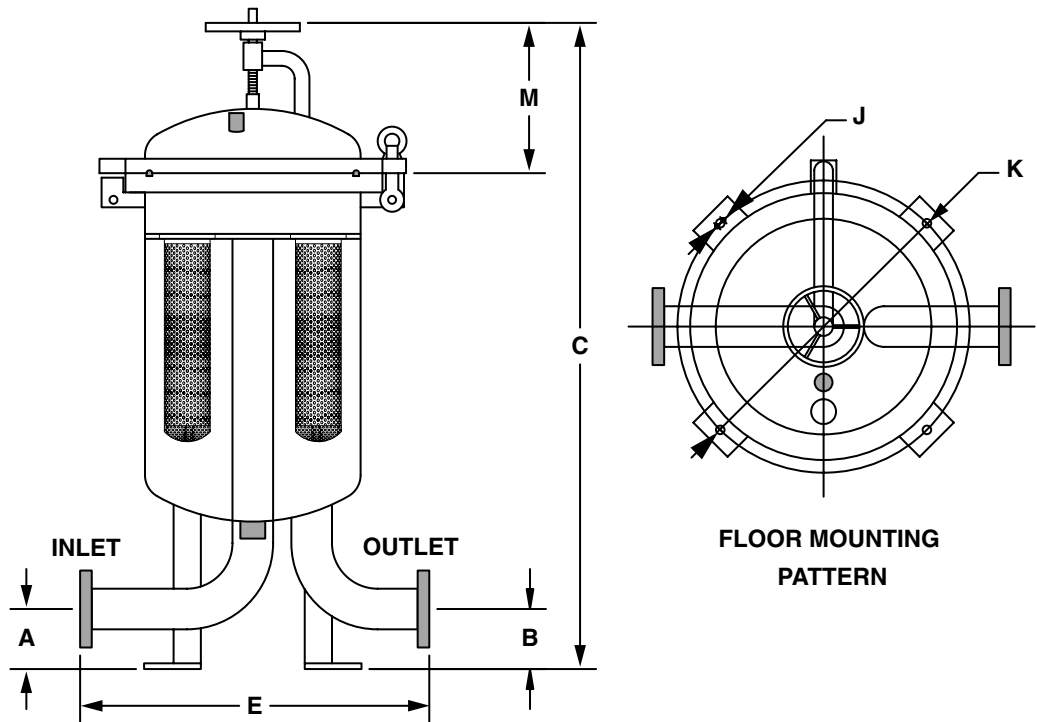
BH2-  
BH10

# Multi Bag Housings

**BH2-  
BH10**

**Multi Bag  
Housing**

**150 psi  
10 bar**



NOTE:  
Drawings may change without notice. Contact Factory for certified drawings.

## Multiple Bag Housing Dimensions

Number of Bags	Available Porting	A		B		C		E		J (dia)		K (dia)		M		Max Flow	
		inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	gpm	L/min
2	3" Flange	4.25	108	4.25	108	52.99	1346	22.99	584	0.67	17	20.31	516	10.00	254	400	1514
	4" Flange	5.00	127	5.00	127	55.00	1397	25.98	660	0.67	17	20.31	516	10.00	254	400	1514
3	3" Flange	4.25	108	4.25	108	62.01	1575	27.01	686	0.67	17	22.32	567	17.01	432	600	2271
	4" Flange	5.00	127	5.00	127	64.02	1626	28.50	724	0.67	17	22.32	567	17.01	432	600	2271
4	3" Flange	4.25	108	4.25	108	57.99	1473	27.48	698	0.67	17	27.72	704	15.98	406	800	3028
	4" Flange	5.00	127	5.00	127	62.01	1575	29.02	737	0.67	17	27.72	704	17.76	451	800	3028
	6" Flange	5.98	152	5.98	152	64.02	1626	34.49	876	0.67	17	29.53	750	15.75	400	800	3028
6	3" Flange	4.25	108	4.25	108	59.02	1499	28.50	724	0.67	17	29.53	750	16.77	426	1200	4542
	4" Flange	5.00	127	5.00	127	60.98	1549	30.00	762	0.67	17	29.53	750	16.73	425	1200	4542
	6" Flange	5.98	152	5.98	152	64.02	1626	34.49	876	0.67	17	29.53	750	15.75	400	1200	4542
8	4" Flange	5.00	127	5.00	127	65.00	1651	34.02	864	0.67	17	37.80	960	18.74	476	1600	6057
	6" Flange	5.98	152	5.98	152	70.00	1778	39.02	991	0.67	17	37.80	960	20.75	527	1600	6057
	8" Flange	7.24	184	7.24	184	72.01	1829	41.22	1047	0.67	17	37.80	960	22.76	578	1600	6057
10	6" Flange	5.98	152	5.98	152	70.98	1803	42.99	1092	0.67	17	41.81	1062	20.98	533	2000	7571
	8" Flange	7.24	184	7.24	184	71.10	1806	42.01	1067	0.67	17	41.81	1062	21.10	536	2000	7571
	10" Flange	8.50	216	8.50	216	7.87	200	47.99	1219	0.67	17	45.79	1163	23.50	597	2000	7571

## Specifications

Max. Working Pressure: 150 psi (10 bar)

Max. Working Temperature: 165°F (75°C)

Support Legs: Fixed

Lid Closure: Swing Bolts

# Multi Bag Housings

How to Build a Valid Model Number for a Schroeder Multi Bag Housing:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7
BH						

Example: NOTE: One option per box

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	
BH	4	2	304S	4F	E	1	= BH42304S4FE1

<b>BOX 1</b>	<b>BOX 2</b>	<b>BOX 3</b>	<b>BOX 4</b>	<b>BOX 5</b>
<b>Filter Series</b>	<b>Number of Bags</b>	<b>Bag Size</b>	<b>Material</b>	<b>Connection Size</b>
BH	2 3 4 6 8 10	2	304S = 304 Stainless Steel 316S = 316 Stainless Steel 316L = 316L Stainless Steel	3F = 3" Flange (2, 3, 4, and 6 bags) 4F = 4" Flange (2, 3, 4, 6, and 8 bags) 6F = 6" Flange (4, 6, 8, and 10 bags) 8F = 8" Flange (8 and 10 bags) 10 = 10" Flange (10 bags)
<b>BOX 6</b>	<b>BOX 7</b>			
<b>Seal Material</b>	<b>Pressure Rating</b>			
E = EPDM V = Viton	1 = 150 psi			

Filter Model Number Selection

Bag Elements

BH1  
100 psi

BH1  
150 psi

**BH2-  
BH10**

\*Shaded selections are preferred order codes that designate shorter lead times.

Filter and Media are sold separately.