



Basket Strainers

Sample Engineering Specification



All thermoplastic Basket Strainers shall be fabricated from PVC Type I, ASTM D 1784 Cell Classification 12454 or CPVC Type IV, ASTM D 1784 Cell Classification 23447 material. All O-rings shall be EPDM or FKM. Strainer baskets shall be perforated PVC, CPVC, or type 316 stainless steel, or type 316 stainless steel wire mesh. Standard strainer perforations shall be 1/8" or 3/32" with a minimum open area ratio of 6:1, or specified perforation/mesh opening. Basket strainer sizes 1/2" - 8" shall have quick release clamp retained bonnet, sizes 10" - 12" shall have bolt-on bonnet. Sizes 1-1/4" and larger Basket Strainers shall have pressure release valve and safety pressure gauge. Unit shall be equipped with O-ring sealed drain plug at lower end. Basket Strainer sizes

1/2" - 8" shall be pressure rated at 150 psi, sizes 10" - 12" to 50 psi for water at 73°F, as manufactured by Spears® Manufacturing Company.

Features - PVC, CPVC

Spears® fabricated Basket Strainers are constructed of heavy bodied PVC or CPVC. Available in IPS sizes 1/2" through 12" with choice of socket, spigot or flanged ends and EPDM, FKM or PTFE encapsulated O-ring seals. A convenient quick release clamp cap is equipped with safety pressure gauge and pressure release ball valve for safer system operation and strainer cleaning. Additional drain plug allows complete drain and flush of unit. Designed to remove unwanted solids from plastic or metal piping systems, Spears® Basket Strainers are ideal for protecting valves, filters, pumps, nozzles or other liquid control devices in corrosive or non-corrosive fluid systems.

Quick-View Basket Strainer Selection Chart

Valve Size	O-ring Material	PVC Part Numbers ^{1,2,3}			Pressure Rating
		Socket	Spigot	Flanged	
1/2	EPDM	BS22P_-005	BS27P_-005	BS23P_-005	150 psi Non-Shock Water @ 73°F
	FKM	BS32P_-005	BS37P_-005	BS33P_-005	
3/4	EPDM	BS22P_-007	BS27P_-007	BS23P_-007	
	FKM	BS32P_-007	BS37P_-007	BS33P_-007	
1	EPDM	BS22P_-010	BS27P_-010	BS23P_-010	
	FKM	BS32P_-010	BS37P_-010	BS33P_-010	
1-1/4	EPDM	BS22P_-012	BS27P_-012	BS23P_-012	
	FKM	BS32P_-012	BS37P_-012	BS33P_-012	
1-1/2	EPDM	BS22P_-015	BS27P_-015	BS23P_-015	
	FKM	BS32P_-015	BS37P_-015	BS33P_-015	
2	EPDM	BS22P_-020	BS27P_-020	BS23P_-020	
	FKM	BS32P_-020	BS37P_-020	BS33P_-020	
2-1/2	EPDM	BS22P_-025	BS27P_-025	BS23P_-025	
	FKM	BS32P_-025	BS37P_-025	BS33P_-025	
3	EPDM	BS22P_-030	BS27P_-030	BS23P_-030	
	FKM	BS32P_-030	BS37P_-030	BS33P_-030	
4	EPDM	BS22P_-040	BS27P_-040	BS23P_-040	
	FKM	BS32P_-040	BS37P_-040	BS33P_-040	
6	EPDM	BS22P_-060	BS27P_-060	BS23P_-060	
	FKM	BS32P_-060	BS37P_-060	BS33P_-060	
8	EPDM	BS22P_-080	BS27P_-080	BS23P_-080	
	FKM	BS32P_-080	BS37P_-080	BS33P_-080	
10	EPDM	BS22P_-100	BS27P_-100	BS23P_-100	50 psi Non-Shock Water @ 73°F
	FKM	BS32P_-100	BS37P_-100	BS33P_-100	
12	EPDM	BS22P_-120	BS27P_-120	BS23P_-120	
	FKM	BS32P_-120	BS37P_-120	BS33P_-120	

- Chemical & Corrosion Resistant PVC or CPVC Construction
 - Convenient Quick-Release Clamp for easy Bonnet Removal (Bolt-on Bonnet on sizes 10" & 12")
 - Includes Pressure Release Valve and 0-160 psi Safety Pressure Gauge on sizes 1-1/4" & larger. (O-ring sealed plugs provided if valve/gauge not used)
 - O-ring Sealed Drain Plug
 - EPDM or FKM O-ring Seals
 - Perforated PVC & CPVC Strainer Baskets in a variety of sizes. Stainless Steel available in perforation and multiple mesh sizes
 - High Volume 6:1 Open Area Ratio
 - Sizes 1/2" - 8" Pressure Rated to 150 psi @ 73°F
 - Sizes 10" - 12" pressure Rated to 50 psi @ 73°F
 - Assembled with Silicone-Free Seal Lubricants.
1. Commercial bronze bourdon-tube type pressure gauge w/brass NPT inlet. Check for any chemical compatibility issues. Contact Spears® for PVC, CPVC or PP Gauge Guard isolation devices available.

Special Options

- PTFE Encapsulated O-ring Seals
- Bonnet Sight Glass

Perforation Mesh Codes

Perforation Size (in.)	Mesh Code
1/16	12
3/32	8
1/8	6
3/16	4
1/4	3
3/8	2

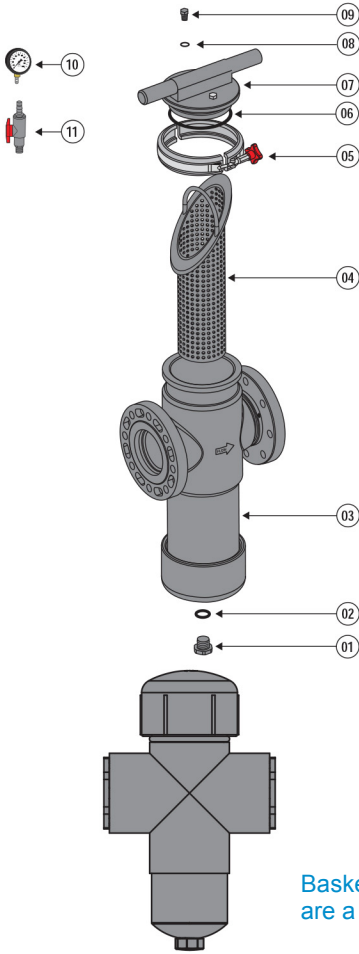
Example: BS22P6-020
Additional perforation mesh sizes available upon request.

Enter Mesh Code in part number blank as specified in table.

(Contact Spears® for additional strainer sizes).

1. For CPVC body & strainer screen unit, replace the letter "P" before the dash separator with the letter "C" and add the letter "C" to the part number (e.g., BS22C8-020C)
2. For stainless steel strainer screens, replace the letter "P" (or "C") before the dash separator with the letter "S" (e.g., BS22S8-020; BS22S8-020C)
3. For Basket Strainers with PTFE O-rings replace the number 2 with the number 5 (e.g. BS53P-010)

Basket Strainers

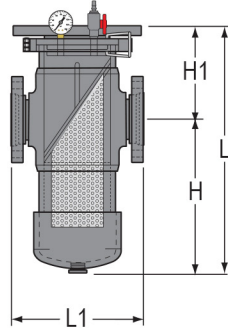


Replacement Parts

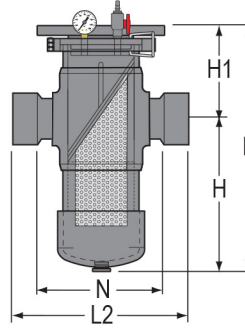
No.	Component	Quantity	Material
1	Drain Plug	1	PVC/CPVC
2	Drain Plug O-ring	1	EPDM/FKM/PTFE
3	Body	1	PVC/CPVC
4	Strainer Basket	1	PVC/CPVC /316 Stainless Steel
5	Bonnet Clamp	1	SS 316
6	Bonnet O-ring	1	EPDM/FKM/PTFE
7	Bonnet	1	PVC/CPVC
8	Plug O-ring	2	EPDM/FKM/PTFE
9	Gauge Port Plug	2	PVC/CPVC
10	Pressure Gauge	1	0-160 psi (1-1/4" & up)
11	Pressure Relief Valve	1	PVC/CPVC (1-1/4" & up)

Notes: 1) Port plugs for use when pressure gauge and relief valve are not installed.
2) Valve O-rings correspond to Strainer Basket Specification.

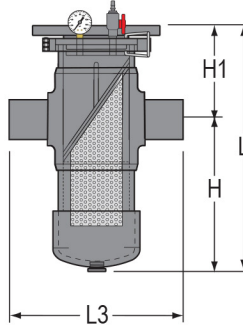
Flanged Style



Socket Style



Spigot Style



Basket Strainer sizes 1/2" through 1" bonnets are a threaded cap with O-ring seal.

Dimensions, Weights & Cv Values

Size	H	H ¹	L	L ¹	L ²	L ³	N	Approx. Wt. (Lbs.)		C _v
								Socket/ Spigot	Flanged	
1/2	5-7/8	4-9/16	10-7/16	9-1/4	6-13/16	9-9/16	5-1/8	2.97	3.35	4.5
3/4	5-7/8	4-9/16	10-7/16	9-1/4	6-7/16	9-7/16	4-7/16	2.99	3.44	10
1	5-7/8	4-9/16	10-7/16	10-3/8	6-13/16	10-1/16	4-1/2	3.02	3.50	15
1-1/4	10-1/4	8	18-1/4	8-3/16	11-5/16	10-1/4	8-5/16	3.20	3.60	30
1-1/2	10-1/4	8	18-1/4	8-3/4	11-1/8	11	8-1/8	3.50	3.75	46
2	10-1/4	8	18-1/4	8-3/4	12-1/8	11	8-5/8	11.00	11.40	72
2-1/2	10-1/4	8	18-1/4	8-3/4	12-3/8	12-7/8	8-3/8	12.30	12.60	110
3	13-13/16	8-3/4	22-9/16	11-5/8	16-1/8	15	11-5/8	25.00	25.40	172
4	17-5/16	8-3/4	26-1/16	12	18	17-1/2	13-1/2	25.70	26.80	270
6	18-7/8	10-9/16	29-7/16	17-1/8	24-3/8	23-5/16	17-7/8	58.40	60.80	630
8	24-1/2	11-9/16	36-1/16	20-1/2	30-1/2	27-1/2	22	93.60	96.00	750
10	27-1/8	16-5/8	43-3/4	26	34-9/16	34-1/2	24-1/16	200.20	210.30	893
12	34-7/8	17-3/16	52-1/16	28-1/8	38-3/4	36-1/4	26-1/4	229.30	239.80	1063

C_v = Gallons per minute at 1 psi pressure drop.

Temperature Pressure Rating

System Operating Temperature °F (°C)		100 (38)	110 (43)	120 (49)	130 (54)	140 (60)	150 (66)	160 (71)	170 (77)	180 (82)	190 (88)	200 (93)	210 (99)	
Valve Pressure Rating psi (MPa)	1/2" - 8"	PVC	150 (1.03)	135 (.93)	110 (.76)	75 (.52)	50 (.34)	-0-	-0-	-0-	-0-	-0-	-0-	
		CPVC	150 (1.03)	140 (.97)	130 (.90)	120 (.83)	110 (.76)	100 (.70)	90 (.62)	80 (.55)	70 (.48)	60 (.41)	50 (.34)	-0-
	10" - 12"	PVC	50 (.34)	45 (.31)	40 (.30)	35 (.24)	30 (.21)	-0-	-0-	-0-	-0-	-0-	-0-	-0-
		CPVC	50 (.34)	47 (.32)	45 (.31)	42 (.83)	40 (.30)	37 (.26)	35 (.24)	30 (.21)	25 (.17)	20 (.14)	15 (.10)	-0-



Suction Strainers



Features - PVC

The Suction Strainer is a special Basket Strainer design that reduces pressure drop, a critical element in suction line applications. While same-size (inlet/outlet) units are available, the enlarged inlet performs best in suction-line applications.

- Chemical & Corrosion Resistant PVC Construction
- Bolt-on Bonnet with Top Sight Glass, Standard
- Stainless Steel Strainer Basket with 3/16" Perforation, Standard
- Bottom-Drained Internal Strainer Basket for Direct Flushing
- 360° Adjustable Side Mounted Flush-Discharge Valve Assembly
- EPDM Seals Standard
- Pressure rated to 50 psi @ 73°F

Contact Spears® for additional Basket Mesh/Perforation, Elastomer seal options, or other custom requirements desired.

Quick-View Suction Strainer Selection Chart

Valve Size	O-ring Material	Part Numbers	Pressure Rating
		Flanged	
4	EPDM	SS23BS4SG-040	50 psi Non-Shock Water @73°F
4 x 2	EPDM	SS23BS4SG-420	
4 x 2-1/2	EPDM	SS23BS4SG-421	
4 x 3	EPDM	SS23BS4SG-422	
6	EPDM	SS23BS4SG-060	
6 x 4	EPDM	SS23BS4SG-532	
8	EPDM	SS23BS4SG-080	
8 x 4	EPDM	SS23BS4SG-582	
8 x 6	EPDM	SS23BS4SG-585	
10	EPDM	SS23BS4SG-100	
10 x 6	EPDM	SS23BS4SG-626	
10 x 8	EPDM	SS23BS4SG-628	
12	EPDM	SS23BS4SG-120	
12 x 8	EPDM	SS23BS4SG-668	
12 x 10	EPDM	SS23BS4SG-670	

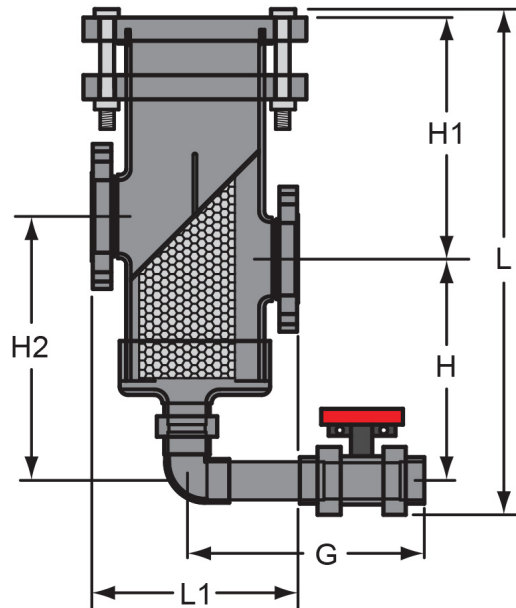
Sample Engineering Specification

All thermoplastic Suction Strainers shall be fabricated from PVC Type I Cell Classification 12454 material. All O-rings shall be EPDM. Strainer basket shall be type 316 stainless steel. Standard strainer perforations shall be 3/16" with a minimum open area ratio of 6:1. Basket shall have bottom-drained direct discharge with 360° adjustable side discharge assembly, including Ball Valve at terminal end. Unit shall have bolt-on bonnet with built-in sight glass. Suction strainer shall be pressure rated at 50 psi for water at 73°F, as manufactured by Spears® Manufacturing Company.

Suction Strainer Stainless Steel Baskets 3/16" Perforation

Size	Part Number
4	SSS4-040
6	SSS4-060
8	SSS4-080
10	SSS4-100
12	SSS4-120

Suction Strainers



Dimensions

Size	G	H	H1	H2	L	L1
4	14-13/16	13-5/8	15-1/16	16-5/16	31-7/16	12-7/8
4 x 2	14-13/16	13-5/8	15-1/16	16-5/16	31-7/16	12-9/16
4 x 2-1/2	14-13/16	13-5/8	15-1/16	16-5/16	31-7/16	12-9/16
4 x 3	14-13/16	13-5/8	15-1/16	16-5/16	31-7/16	12-9/16
6	14-13/16	16-7/8	16-3/8	19-15/16	35-15/16	15-7/8
6 x 4	14-13/16	16-7/8	16-3/8	19-15/16	35-15/16	15-7/8
8	17-15/16	22-1/4	21-13/16	27-7/8	46-13/16	18
8 x 4	17-15/16	22-1/4	21-13/16	27-7/8	46-13/16	17-7/8
8 x 6	17-15/16	22-1/4	21-13/16	27-7/8	46-13/16	18
10	17-15/16	27-13/16	20-11/16	31-11/16	51-1/4	23-15/16
10 x 6	17-15/16	27-13/16	20-11/16	31-11/16	51-1/4	22-15/16
10 x 8	17-15/16	27-13/16	20-11/16	31-11/16	51-1/4	22-15/16
12	17-15/16	32-5/8	22-3/8	36-5/8	57-11/16	28-1/16
12 x 8	17-15/16	32-5/8	22-3/8	36-5/8	57-11/16	26-13/16
12 x 10	17-15/16	32-5/8	22-3/8	36-5/8	57-11/16	27-1/4

Temperature Pressure Rating

System Operating Temperature °F (°C)			100 (38)	110 (43)	120 (49)	130 (54)	140 (60)	150 (66)	160 (71)	170 (77)	180 (82)	190 (88)	200 (93)	210 (99)
Valve Pressure Rating psi (MPa)	4" - 12"	PVC	50 (.34)	45 (.31)	40 (.30)	35 (.24)	30 (.21)	-0-	-0-	-0-	-0-	-0-	-0-	-0-