

## Suction Diffuser Fig. S810



The Figure S810 Suction Diffuser is compact and rugged for direct mounting to the suction side of a pump in either a horizontal or vertical position. In addition to removing foreign particles, the Figure S810 also provides proper flow conditions to the pump. Where space is limited, the Figure S810 can be used to replace the straight pipe normally required to reduce turbulence. The Figure S810 Suction Diffuser can be used for primary or additional strainer protection, especially for controls, meters and other rotating equipment.

The Figure S810 Suction Diffuser's permanent perforated stainless steel screen helps remove foreign particles. The inlet end is suitable for installation with Gruvlok couplings. The outlet end is provided with a Class 150 ANSI flat face flange. The large 5 to 1 open area ratio and the blow-off mean minimum servicing with easy draining and flushing. Quick opening knobs minimize down time on sizes 3 in. x 2 in. thru 10 in. x 8 in. (larger sizes are provided with stud/nut arrangement). Sealing between body and cover is accomplished by using an EPDM O-ring. Straightening vanes in the diffuser outlet reduce turbulence so that stress and erosion on the pump is minimized.

The Figure S810 Suction Diffuser is designed with special support pads that fit the I.D. of standard pipe. This relieves the stress on hangers and inlet piping and eliminates the need for a pipe saddle for mounting. The Figure S810 also has provisions for NPT gauge taps on both the inlet and outlet sides of the diffuser (drilling and tapping should be specified when ordering) along with a plugged NPT drain connection provided at the bottom.

The Figure S810 Suction Diffuser comes equipped with a removable, fine mesh start-up sleeve around the permanent perforated screen. The sleeve should be removed after the start-up period and discarded.

### Material Specifications

#### Body and Cover

Ductile iron conforming to ASTM A 126B

#### Knobs

Ductile iron conforming to ASTM A 536, Grade 65-45-12 for sizes 3" x 2" thru 10" x 8" (80mm x 50mm thru 250mm x 200mm)  
Stud/nuts carbon steel conforming to ASTM A 193- 4, for sizes 10" x 10" (250mm x 250mm) and larger

#### Screen

- $\frac{5}{32}$ " (4.0mm) perforated type 304 stainless steel for sizes 3" x 2" thru 6" x 6" (80mm x 50mm thru 150mm x 150mm);
- $\frac{1}{8}$ " (3.2mm) perforated type 304 stainless steel for sizes 8" x 5" (200 x 125mm) and larger
- Sleeve is 20 mesh type 304 stainless steel

#### Coating

Black enamel paint

#### Maximum Working Pressure

300 psi (20.7 bar) at 100°F (38°C)  
165 psi (11.4 bar) at 300°F (149°C)

**Note:** Pressure and temperature can be limited by O-ring material.

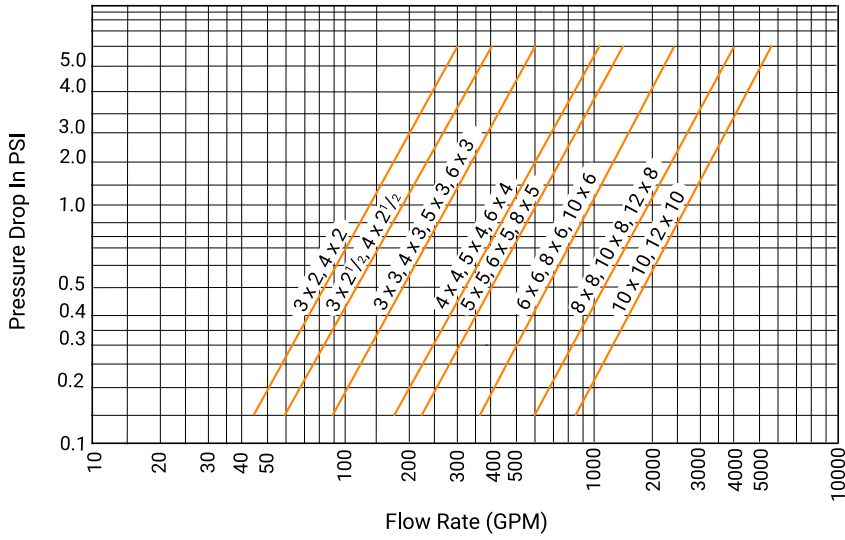
Contact an ASC Engineered Solutions Sales Representative.



PROJECT INFORMATION	APPROVAL STAMP
Project:	Approved
Address:	Approved as noted
Contractor:	Not approved
Engineer:	Remarks:
Submittal Date:	
Notes 1:	
Notes 2:	

Suction Diffuser  
**Fig. S810**

**Fig. S810 Suction Diffuser Nominal Pressure Loss Vs Flow**



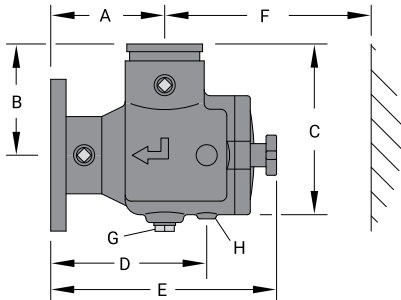
**Note:** It is good piping practice to apply a safety factor of 15% to 20% to the values in the above table for design purposes.



asc-es.com

Building connections that last™

## Suction Diffuser Fig. S810



Valve Size	O.D.	Dimensions								Approx. Wt. Ea.
		A	B	C	D	E	F Screen Removal	G Plug (NPT)	H Pipe Support I.D.	
In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	Lbs./Kg
2 x 2 50 x 50	2.375 x 2.375 60.3 x 60.3	4.50 114.3	4.50 114.3	6.69 169.9	6.13 155.7	10.19 258.8	8.81 223.80	0.75 20	0.824 20.9	19 8.6
2½ x 2 65 x 50	2.875 x 2.375 73.0 x 60.3	5.00 127.0	5.00 127.0	7.50 190.5	6.56 166.6	10.88 276.4	9.13 231.90	0.75 20	1.38 35.1	20 9.1
2½ x 2½ 65 x 65	2.875 x 2.875 73.0 x 73.0	5.00 127.0	5.00 127.0	7.50 190.5	6.56 166.6	10.88 276.4	9.13 231.90	0.75 20	1.38 35.1	22 10.0
3 x 2 80 x 50	3.500 x 2.375 88.9 x 60.3	5.50 139.7	5.50 139.7	8.44 214.4	7.38 187.5	11.56 293.6	9.63 244.60	0.75 20	1.38 35.1	38.0 17.2
3 x 2½ 80 x 65	3.500 x 2.875 88.9 x 73.0	5.50 139.7	5.50 139.7	8.44 214.4	7.38 187.5	11.56 293.6	9.63 244.60	0.75 20	1.38 35.1	39.0 17.7
3 x 3 80 x 80	3.500 x 3.500 88.9 x 88.9	5.50 139.7	5.50 139.7	8.44 214.4	7.38 187.5	11.56 293.6	9.63 244.60	0.75 20	1.38 35.1	40.0 18.1
4 x 2 100 x 50	4.500 x 2.375 114.3 x 60.3	5.75 146.1	5.75 146.1	9.13 231.9	7.63 193.8	11.81 300.0	11.18 284.00	0.75 20	1.38 35.1	48.0 21.8
4 x 2½ 100 x 65	4.500 x 2.875 114.3 x 73.0	6.50 165.1	6.50 165.1	10.48 266.2	8.75 222.3	13.13 333.5	9.63 244.60	1.00 25	1.38 35.1	49.0 22.2
4 x 3 100 x 80	4.500 x 3.500 114.3 x 88.9	6.50 165.1	6.81 173.0	10.44 265.2	8.75 222.3	13.13 333.5	11.50 292.10	1.00 25	1.38 35.1	50.0 22.7
4 x 4 100 x 100	4.500 x 4.500 114.3 x 114.3	6.50 165.1	6.81 173.0	10.44 265.2	8.75 222.3	13.13 333.5	11.50 292.10	1.00 25	1.38 35.1	52.0 23.6
5 x 3 125 x 80	5.563 x 3.500 141.3 x 88.9	6.50 165.1	6.50 165.1	10.48 266.2	8.75 222.3	13.13 333.5	11.50 292.10	1.00 25	1.38 35.1	94.0 42.6

Continued on next page.

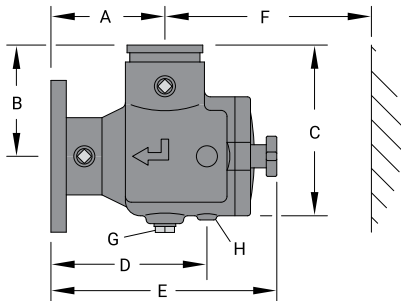
For information on larger sizes contact  
an ASC Engineered Solutions Sales  
Representative.



asc-es.com

Building connections that last™

## Suction Diffuser Fig. S810



Valve Size	O.D.	Dimensions								Approx. Wt. Ea.
		A	B	C	D	E	F Screen Removal	G Plug (NPT)	H Pipe Support I.D.	
In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	Lbs./Kg
5 x 4 125 x 100	5.563 x 4.500 141.3 x 114.3	6.50 165.1	6.50 165.1	11.94 303.3	10.00 254.0	15.75 400.1	14.00 355.60	1.00 25	1.38 35.1	96.0 43.5
5 x 5 125 x 125	5.563 x 5.563 141.3 x 141.3	7.50 190.5	7.50 190.5	11.94 303.3	10.00 254.0	15.75 400.1	14.88 378.00	1.00 25	1.38 35.1	101.0 45.8
6 x 3 150 x 80	6.625 x 3.500 168.3 x 88.9	8.00 203.2	8.00 203.2	13.31 338.1	10.50 266.7	16.88 428.8	16.56 420.60	1.00 25	1.38 35.1	103.0 46.7
6 x 4 150 x 100	6.625 x 4.500 168.3 x 114.3	8.00 203.2	8.00 203.2	13.31 338.1	10.50 266.7	16.88 428.8	16.56 420.60	1.00 25	1.38 35.1	106.0 48.1
6 x 5 150 x 125	6.625 x 5.563 168.3 x 141.3	8.00 203.2	8.00 203.2	13.31 338.1	10.50 266.7	16.88 428.8	16.56 420.60	1.00 25	1.38 35.1	110.0 49.9
6 x 6 150 x 150	6.625 x 6.625 168.3 x 168.3	8.00 203.2	8.00 203.2	13.31 338.1	10.50 266.7	16.88 428.8	16.56 420.60	1.00 25	1.38 35.1	113.0 51.2
8 x 5 200 x 125	8.625 x 5.563 219.1 x 141.3	9.00 228.6	9.00 228.6	14.38 365.0	11.50 292.1	17.88 454.2	16.88 428.80	1.00 25	1.38 35.1	135.0 61.2
8 x 6 200 x 150	8.625 x 6.625 219.1 x 168.3	9.00 228.6	10.00 254.00	15.31 388.9	11.50 292.1	17.88 454.2	16.88 428.80	1.00 25	1.38 35.1	137.0 62.1
8 x 8 200 x 200	8.625 x 8.625 219.1 x 219.1	9.00 228.6	10.00 254.0	16.31 414.3	11.75 298.5	20.75 527.1	22.88 581.20	1.25 32	1.38 35.1	222.0 100.7
10 x 6 250 x 150	10.750 x 6.625 273.1 x 168.3	9.48 240.8	9.48 240.8	15.50 393.7	11.94 303.3	18.31 465.1	16.88 428.80	1.25 32	1.38 35.1	230.0 104.3
10 x 8 250 x 200	10.750 x 8.625 273.1 x 219.1	9.00 228.6	11.75 298.5	18.44 468.4	11.75 298.5	20.75 527.1	22.88 581.20	1.25 32	1.38 35.1	236.0 107.0

Continued on next page.

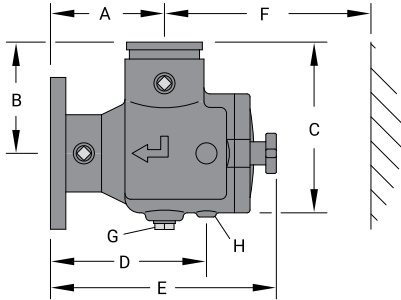
For information on larger sizes contact an ASC Engineered Solutions Sales Representative.



asc-es.com

Building connections that last™

## Suction Diffuser Fig. S810



Valve Size	O.D.	Dimensions								Approx. Wt. Ea.
		A	B	C	D	E	F Screen Removal	G Plug (NPT)	H Pipe Support I.D.	
In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	Lbs./Kg
10 x 10 250 x 250	10.750 x 10.750 273.1 x 273.1	11.00 279.4	11.75 298.5	20.00 508.0	14.00 355.6	26.38 670.1	30.75 781.10	1.25 32	1.38 35.1	343.0 155.6
12 x 8 300 x 200	12.000 x 8.625 323.9 x 219.1	9.00 228.6	9.00 228.6	19.63 498.6	11.75 298.5	20.75 527.1	22.88 581.20	1.25 32	1.38 35.1	357.0 161.9
12 x 10 300 x 250	12.000 x 10.750 323.9 x 273.1	11.00 279.4	12.88 327.2	21.00 533.4	14.00 355.6	26.38 670.1	30.75 781.10	1.25 32	1.38 35.1	357.0 161.9
12 x 12 300 x 300	12.000 x 12.000 323.9 x 323.9	12.00 304.8	12.00 304.8	22.06 560.3	15.25 387.4	26.18 665.0	30.75 781.10	1.25 32	1.38 35.1	357.0 161.9
14 x 10 350 x 250	14.000 x 10.750 355.6 x 273.1	11.00 279.4	11.00 279.4	22.50 571.5	14.00 355.6	26.38 670.1	30.75 781.10	1.25 32	1.38 35.1	507.0 229.9
14 x 12 350 x 300	14.000 x 12.000 355.6 x 323.9	12.00 304.8	12.00 304.8	22.38 568.5	15.25 387.4	26.18 665.0	31.00 787.40	1.25 32	1.38 35.1	601.0 272.6
14 x 14 350 x 350	14.000 x 14.000 355.6 x 355.6	14.00 355.6	14.00 355.6	25.00 635.0	17.50 444.5	27.75 704.9	33.13 841.50	2.00 50	1.38 35.1	706.0 320.2
16 x 14 400 x 350	16.000 x 14.000 406.4 x 355.6	14.00 355.6	14.00 355.6	26.00 660.4	17.50 444.5	27.88 708.2	31.00 787.40	2.00 50	1.38 35.1	750.0 340.1

For information on larger sizes contact an ASC Engineered Solutions Sales Representative.



asc-es.com

Building connections that last™