

# Suction Diffuser

## STYLE 731-I

Victaulic Series 731-I Suction Diffuser provides optimum flow conditions at the inlet side of the pump. Each suction diffuser is provided with a removable basket and a fine mesh sleeve which acts as a startup strainer. For convenience, a pressure port is provided in the cap to measure the pressure downstream of the diffuser. A plug is also provided on the cap to allow for easy draining of the system. Series 731-I is rated to the working pressure of the mating flange up to a maximum of 300 psi/2065 kPa.

Note: Saddle-type support is required, supplied by others.



**WARNING**

**WARNING**

**Always depressurize and drain system before disassembly. Failure to do so could result in serious personal injury, property damage, joint leakage or joint separation.**

### MATERIAL SPECIFICATIONS

**Housing (body, coupling, end cap):** Ductile iron conforming to ASTM A-536, grade 65-45-12.

- **Optional:** Hot dip galvanized

**Coupling Gasket:** (specify choice\*)

- **Grade "E" EPDM**  
EPDM (Green color code). Temperature range -34°C to +110°C (-30°F to +230°F). Recommended for cold and hot water service within the specified temperature range. NOT RECOMMENDED FOR PETROLEUM SERVICES.
- \*Services listed are General Service Recommendations only. It should be noted that there are services for which these gaskets are not recommended. Reference should always be made to the latest Victaulic Gasket Selection Guide for specific gasket service recommendations and for a listing of services which are not recommended.

**Diffuser:** Stainless steel, type 304, frame and perforated sheet with 5 mm (3/16") diameter holes (51% open area).

**Start-up Pre-filter:** Bronze, 16 mesh screen.

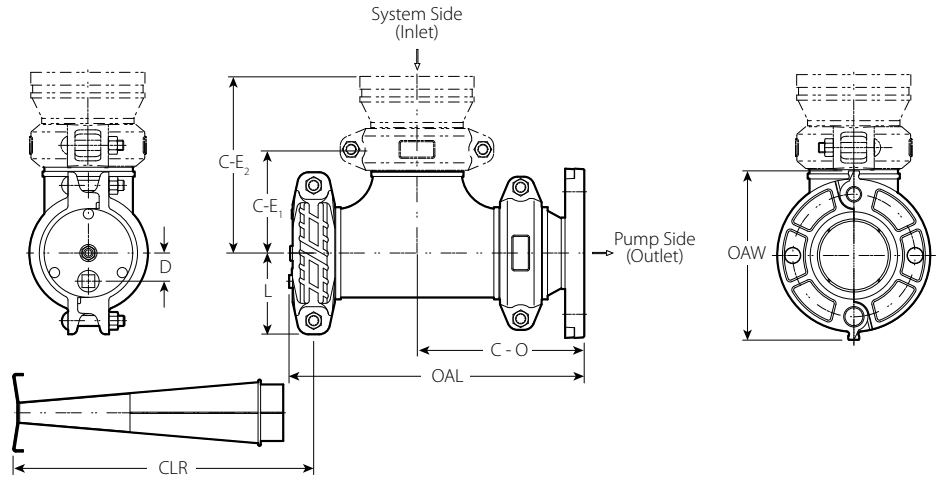
**Bolts/Nuts:** Heat treated carbon steel, track head conforming to physical properties of ASTM A-183 minimum tensile 110,000 psi.

<b>JOB/OWNER</b>	<b>CONTRACTOR</b>	<b>ENGINEER</b>
System No. _____	Submitted By _____	Spec Sect _____ Para _____
Location _____	Date _____	Approved _____
		Date _____

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## DIMENSIONS



Size		Dimensions – Inches/mm								Approx. Wgt. Each	
System Side (Inlet)	x Pump Side Outlet									Lbs./kg	
In./mm		C-E1	C-E2 †	CLR	C-O	D	L	OAL	OAW		
76,1	X 2	60,3	–	6.81	12.0	6.81	1.01	3.32	12.25	6.75	23.0
		60,3	–	173	305	173	26	84	311	171	10.4
3 88,9	X 2	60,3	4.25	–	12.0	6.81	1.01	3.32	12.25	6.75	18.0
		60,3	108	–	305	173	26	84	311	171	8.2
	73	2½	4.25	–	12.0	6.81	1.01	3.32	12.25	6.75	22.0
		73	108	–	305	173	26	84	311	172	10.0
	76,1	3	4.25	–	12.0	6.81	1.01	3.32	12.25	8.20	20.0
		76,1	108	–	305	173	26	84	311	208	9,1
3	88,9	–	8.13	14.0	8.13	1.34	3.97	14.50	8.29	39.0	
	88,9	–	207	356	207	34	101	368	211	17.7	
4 114,3	X 2	60,3	–	7.31	12.0	6.81	1.01	3.32	12.25	6.75	25.0
		60,3	–	186	305	173	26	84	311	171	11.3
	73	2½	–	7.31	12.0	6.81	1.01	3.32	12.25	7.87	28.0
		73	–	186	305	173	26	84	311	200	12.7
	76,1	3	–	7.31	12.0	6.81	1.01	3.32	12.25	8.20	26.0
		76,1	–	186	305	173	26	84	311	208	11.8
3	88,9	5.00	–	14.0	8.13	1.34	3.97	14.50	8.29	34.0	
	88,9	127	–	356	207	34	101	368	211	15.4	
4	114,3	–	9.13	16.0	9.13	1.87	4.75	16.00	9.87	61.0	
	114,3	–	232	406	232	48	121	406	251	27.7	
139,7	X 2	76,1	–	8.81	12.0	6.81	1.01	3.32	12.25	8.20	27.0
		76,1	–	224	305	173	26	84	311	208	12.2
	3	88,9	–	9.63	14.0	8.13	1.34	3.97	14.50	8.29	43.0
		88,9	–	245	356	207	34	101	368	211	19.5
	4	114,3	5.50	–	16.0	9.13	1.87	4.71	16.00	9.87	51.0
		114,3	140	–	406	232	48	120	406	251	23.1
139,7	3	–	10.63	18.0	10.63	2.36	5.25	18.50	10.78	80.0	
	139,7	–	270	457	257	60	133	457	274	36.3	
5	X 3	88,9	–	8.63	14.0	8.13	1.34	3.97	14.50	8.29	43.0
		88,9	–	219	356	207	34	101	368	211	19.5
	4	114,3	5.50	–	16.0	9.13	1.87	4.75	16.00	9.87	50.0
		114,3	140	–	406	232	48	121	406	251	22.7
	141,3	–	10.63	18.0	10.63	2.36	5.25	18.50	10.90	80.0	
141,3	–	270	475	270	60	133	470	277	36.3		

† Dimension only applies when coupling and reducer are used on the system side inlet.

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Size		Dimensions – Inches/mm									Approx. Wgt. Each
System Side (Inlet)	x Pump Side Outlet										
In./mm		C-E1	C-E2 †	CLR	C-O	D	L	OAL	OAW	Lbs./kg	
165,1	X	3	–	9.13	14.0	8.13	1.34	3.97	14.50	8.30	46.0
		88,9	–	232	356	207	34	101	368	211	20.9
	4	–	9.63	16.0	9.13	1.87	4.75	16.00	9.87	64.0	
	114,3	–	245	406	232	48	121	406	251	29.0	
6	X	139,7	6.50	–	18.0	10.63	2.36	5.25	18.50	10.78	64.0
		165	165	–	457	270	60	133	470	274	29.0
	3	–	9.13	14.0	8.13	1.34	3.97	14.50	8.29	46.0	
	88,9	–	232	356	207	34	101	368	211	20.9	
168,3	X	4	–	9.63	16.0	9.13	1.87	4.75	16.00	9.87	63.0
		114,3	–	245	406	232	48	121	406	251	28.6
	139,7	6.50	–	18.0	10.63	2.36	5.25	18.50	10.78	66.0	
	165	165	–	475	270	60	133	470	274	29.9	
6	X	5	6.50	–	18.0	10.63	2.36	5.25	18.50	10.90	66.0
		141,3	165	–	475	270	60	133	470	277	29.9
	6	–	12.88	22.0	12.88	3.27	6.60	22.25	11.90	142.0	
	168,3	–	327	559	327	83	168	565	302	64.4	
8	X	139,7	–	11.63	18.0	10.63	2.36	5.25	18.50	10.78	86.0
		141,3	–	295	475	270	60	133	470	274	39.0
	5	–	11.63	18.0	10.63	2.36	5.25	18.50	10.90	86.0	
	141,3	–	295	475	270	60	133	470	277	39.0	
10	X	165,1	7.75	–	22.0	12.88	3.27	6.60	22.25	11.92	116.0
		197	197	–	559	327	83	168	565	303	52.6
	6	7.75	–	22.0	12.88	3.27	6.60	22.25	11.90	116.0	
	168,3	197	–	559	327	83	168	565	302	52.6	
8	X	219,1	–	15.13	25.0	15.13	4.23	7.96	26.00	14.50	280.0
		219,1	–	384	635	384	107	202	656	368	127.0
	10	–	13.88	22.0	12.88	3.27	6.60	22.25	11.92	152.0	
	165,1	–	353	559	327	83	168	565	302	69.0	
10	X	168,3	–	13.88	22.0	12.88	3.27	6.60	22.25	11.90	152.0
		168,3	–	353	559	327	83	168	565	302	69.0
	8	9.00	–	25.0	15.13	4.23	7.96	26.00	14.50	224.0	
	219,1	229	–	635	384	107	202	656	368	101.6	
12	X	273,0	–	17.13	28.0	17.13	5.32	8.93	29.00	17.25	373.0
		273,0	–	435	711	435	135	227	737	432	169.2
	8	–	16.13	25.0	15.13	4.23	7.96	26.00	14.50	316.0	
	219,1	–	410	635	384	107	202	656	368	143.3	
12	X	273,0	10.00	–	28.0	17.13	5.32	8.93	29.00	17.25	303.0
		273,0	254	–	711	435	135	227	737	432	183.3
	12	–	24.13	35.0	24.13	5.88	9.95	37.5	20.25	561.0	
	323,9	–	613	889	613	149	253	953	514	254.5	

† Dimension only applies when coupling and reducer are used on the system side inlet.

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## PERFORMANCE DATA

### C<sub>v</sub> Values

C<sub>v</sub> values for flow of water at +60°F (+16°C) are shown in the table at right.

### Formulas for C<sub>v</sub> Values:

$$\Delta P = \frac{Q^2}{C_v^2}$$

$$Q = C_v \times \sqrt{\Delta P}$$

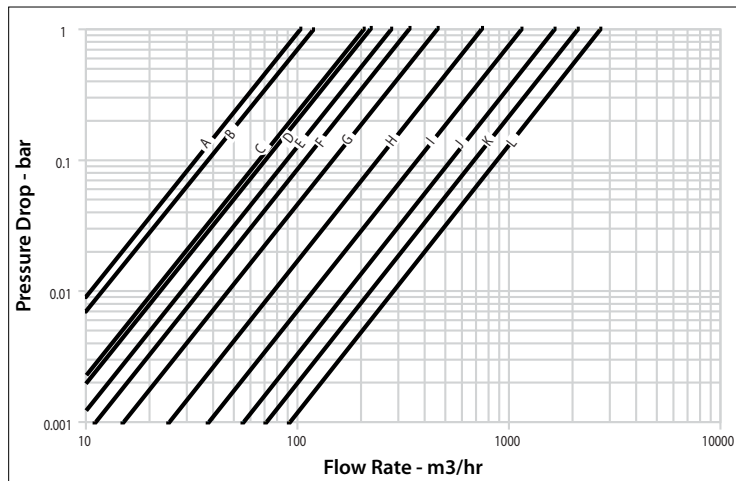
### Where:

Q = Flow (GPM)

C<sub>v</sub> = Flow Coefficient

ΔP = Pressure Drop (PSI)

Size				Flow Data	Kv/Cv Values	Size				Flow Data	Kv/Cv Values			
System Side (Inlet)	x	Pump Side Outlet				System Side (Inlet)	x	Pump Side Outlet						
In./mm				In./mm				In./mm						
76,1	X	2 60,3	B	121 140	139,7	X	139,7	G	476 550	8	X	4 114,3	E	285 330
3	X	2 60,3	B	121 140	5	X	2½ 73	D	104 120	139,7		139,7	G	476 550
88,9		2½ 73	B	121 140	3		88,9	C	208 240	5		141,3	G	476 550
		76,1	B	121 140	4		114,3	F	346 400	165,1		165,1	H	779 900
		3	C	208 240	5		141,3	G	476 550	6		168,3	H	779 900
4	X	2 60,3	B	121 140	165,1	X	3 88,9	C	208 240	8		219,1	I	1211 1400
114,3		2½ 73	B	121 140	4		114,3	F	346 400	10	X	165,1	H	779 900
		76,1	B	121 140	6	X	3 88,9	C	208 240	6		168,3	H	779 900
		3	D	225 260	4		114,3	F	346 400	8		219,1	I	1211 1400
		88,9	D	225 260	139,7		139,7	G	476 550	10		273,0	J	1730 2000
		4	F	346 400	6	X	4 114,3	F	346 400	12	X	8 219,1	J	1730 2000
139,7	X	76,1	D	225 260	4		114,3	F	346 400	10		273,0	J	1730 2000
		3	C	208 240	5		141,3	G	476 550	12		273,0	J	1730 2000
		88,9	C	208 240	6		168,3	H	779 900	12		323,9	K	2249 2600
		4	F	346 400	6	X	6 168,3	H	779 900					



## INSTALLATION

Reference should always be made to the I-100 Victaulic Field Installation Handbook for the product you are installing. Handbooks are included with each shipment of Victaulic products for complete installation and assembly data, and are available in PDF format on our website at [www.victaulic.com](http://www.victaulic.com).

## WARRANTY

Refer to the Warranty section of the current Price List or contact Victaulic for details.

## NOTE

This product shall be manufactured by Victaulic or to Victaulic specifications. All products to be installed in accordance with current Victaulic installation/assembly instructions. Victaulic reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.



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For complete contact information, visit [www.victaulic.com](http://www.victaulic.com)

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