

Victaulic® Strainer Vibration Isolation Pump Drop Series 392



1.0 PRODUCT DESCRIPTION

Available Sizes

- 3 - 12"/DN80 - DN300
- Offered in full or reduced port size (see Section 4.0 for details).

Maximum Working Pressure

- Rated to the working pressure of the PN10/PN16 or the Class 150 flange connection.

Temperature Range

- -30°F to +230°F/-34°C to +110°C

Application

- This Strainer Vibration Isolation Pump Drop connects the water flow intake to the pump in the mechanical room.
- Provides noise reduction, expansion, contraction and deflection.

ALWAYS REFER TO ANY NOTIFICATIONS AT THE END OF THIS DOCUMENT REGARDING PRODUCT INSTALLATION, MAINTENANCE OR SUPPORT.

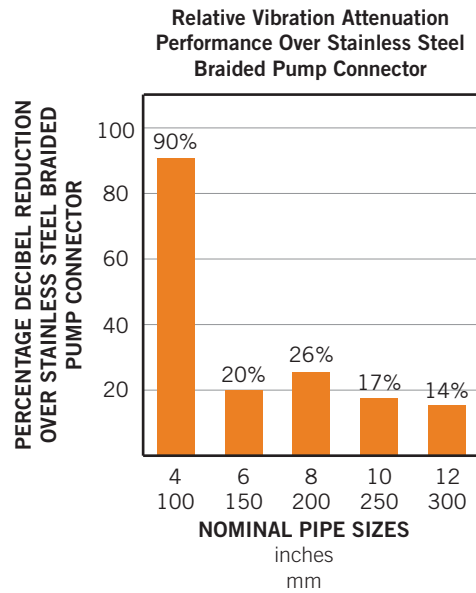
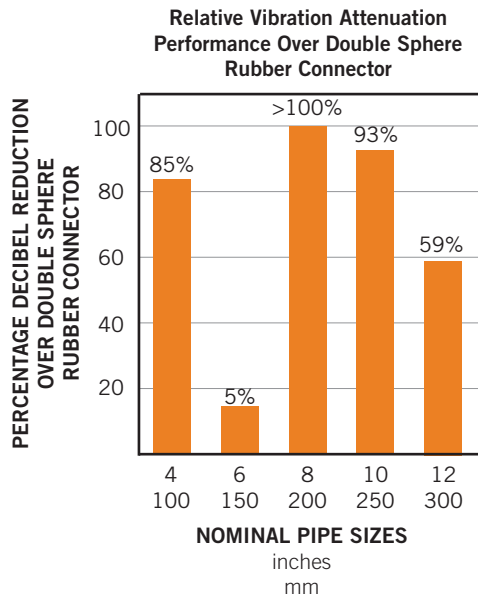
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Submitted By		Date	

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Approved		Date	

1.0 PRODUCT DESCRIPTION (CONTINUED)

Vibration Attenuation Performance

- The following charts show the relative **vibration attenuation characteristics** of the Series 392 Strainer Vibration Isolation Pump Drop compared to double sphere rubber connectors and stainless steel braided pump connectors, respectively, for typical HVAC pump speeds.
- For all sizes shown, the vibration attenuation provided by the Series 392 exceeds the vibration attenuation characteristics of the other products tested, for typical HVAC pump speeds.



- Additionally, the Series 392 provides **linear movement and angular deflection capabilities**, along with the ability to **accommodate piping misalignment**, which should reduce stresses at pump or equipment connections.
- The use of either cut grooved or roll grooved pipe offers the same vibration attenuation characteristics.

NOTE

- For more information, please refer to [publication 26.04](#): Victaulic Couplings Vibration Attenuation Characteristics.

2.0 CERTIFICATION/LISTINGS

Product designed and manufactured under the Victaulic Quality Management System, as certified by LPCB in accordance with ISO-9001:2008.

3.0 SPECIFICATIONS – MATERIAL

- Standard weight carbon steel conforming to ASTM A53 Grade B or equal.
- Victaulic Original Groove System (OGS).
- Standard coating: Orange enamel.
- Gaskets are EPDM.
- Bolts/Nuts: Carbon steel oval neck track bolts meeting the mechanical property requirements of ASTM A449. Carbon steel heavy hex nuts meeting the mechanical property requirements of ASTM A563 Grade B. Track bolts and heavy hex nuts are zinc electroplated per ASTM B633 Fe/Zn5, finish Type III (imperial) or Type II (metric).

Ductile iron butterfly valve: Body, end face, and seal retainer conforming to ASTM A536, Grade 65-45-12 with body black alkyd enamel coating.

Disc: Ductile iron conforming to ASTM A536 Grade 65-45-12, with electroless nickel coating conforming to ASTM B733.

Seat: EPDM.

Stems: 416 stainless steel conforming to ASTM A582.

Bearings: Fiberglass or 316 stainless steel with TFE lining.

Stem Seals: Furnished in same materials as seat.

Stem Retaining Ring: Carbon steel.

Lever Handle: Sizes 3 – 6"/DN80 – DN150: 10 Position (with Lever Lock) - Zinc plated carbon steel handle with zinc plated carbon steel latch plate and zinc plated carbon steel fasteners - infinitely variable, padlockable and includes memory stop. Optionally available with tamper-resistant hardware.

Gear Operator: Sizes 8 – 12"/DN200 – DN300: Provided with handwheel.

Ductile iron wye strainer: Body, coupling and end cap conforming to ASTM A536 Grade 65-45-12, with orange enamel coating.

Basket: Type 304 stainless steel, perforated metal.

- Size 3"/DN80: 0.062"/1.6 mm diameter perforations on 0.09"/2.3 mm centers, 41% open area.
- Sizes 4 – 12"/DN100 – DN300: 0.125"/3.2 mm diameter perforations on 0.19"/4.8 mm centers, 40% open area.

Gasket Grade: EPDM.

Bolts/Nuts: Carbon steel oval neck track bolts meeting the mechanical property requirements of ASTM A449. Carbon steel heavy hex nuts meeting the mechanical property requirements of ASTM A563 Grade B. Track bolts and heavy hex nuts are zinc electroplated per ASTM B633 ZN/FE5, finish Type III (imperial) or Type II (metric).

Couplings: Strainer is supplied with a Victaulic rigid coupling for cleaning access.

Blow Down Port: NPT tap is provided in the cap for a discharge valve connection allowing solids to be “blown down” while the system is in service. Strainer supplied with cap plugged.

Blow Down Drain Valve: DZR brass. This option is available upon request and is only offered on sizes 3"/DN80, 4"/DN100 and 6"/DN150.

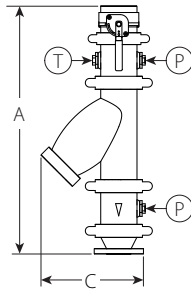
Other: Special requirements can often be met. Contact Victaulic with specific requirements for recommendations, availability and delivery.

Thermometer Connection: 3/4" BSPT or 3/4" BSPP outlet

Pressure Gauge Connection: 3/4" BSPT or 3/4" BSPP outlet

4.0 DIMENSIONS

Series 392 Vertical Strainer Vibration Isolation Pump Drop



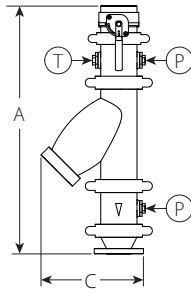
Vertical Pump Installation

Size		Dimensions		Weight	
Actual Outside Diameter		A	C	Approximate (Each)	
mm	inches	mm	mm	kg ¹	
		inches	inches	lb	
88.9 3.500	x	60.3	983.0	317.5	31.2
		2.375	38.70	12.50	68.8
		73.0	983.0	317.5	31.0
		2.875	38.70	12.50	68.3
		76.1	983.0	317.5	31.0
		3.000	38.70	12.50	68.3
114.3 4.500	x	88.9	915.0	317.5	30.1
		3.500	36.02	12.50	66.4
		114.3	1086.0	381.0	37.5
		4.500	42.76	15.00	82.7
		88.9	1086.0	381.0	38.0
139.7 5.500	x	3.500	42.76	15.00	83.8
		114.3	1006.0	381.0	35.7
		4.500	39.61	15.00	78.7
		76.1	1099.0	452.1	56.6
		3.000	43.27	17.80	124.8
		88.9	1099.0	452.1	57.4
141.3 5.563	x	3.500	43.27	17.80	126.5
		114.3	1112.0	452.1	64.1
		4.500	43.78	17.80	141.3
		139.7	994.0	452.1	54.0
		5.500	39.13	17.80	119.0
		73.0	1099.0	452.1	62.9
		2.875	43.27	17.80	138.7
		88.9	1099.0	452.1	63.7
165.1 6.500	x	3.500	43.27	17.80	140.4
		114.3	1086.0	452.1	45.1
		4.500	42.76	17.80	99.4
		141.3	994.0	452.1	54.0
		5.563	39.13	17.80	119.0
		88.9	1149.0	505.5	57.2
		3.500	45.24	19.88	126.1
165.1 6.500	x	114.3	1149.0	505.5	76.0
		4.500	45.24	19.88	167.6
		139.7	1149.0	505.5	76.1
		5.500	45.24	19.88	167.8
		165.1	1045.0	505.5	70.8
6.500	41.14	19.88	156.1		

¹ Estimated weight using standard weight pipe.

4.0 DIMENSIONS (CONTINUED)

Series 392 Vertical Strainer Vibration Isolation Pump Drop



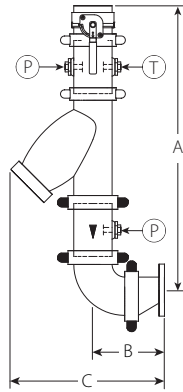
Vertical Pump Installation

Size		Dimensions		Weight	
Actual Outside Diameter	mm inches	A mm inches	C mm inches	Approximate (Each) kg ¹ lb	
					168.3 6.625
x	114.3 4.500	1149.0 45.24	505.5 19.88	75.5 166.4	
	139.7 5.500	1149.0 45.24	505.5 19.88	76.1 167.8	
	141.3 5.563	1149.0 45.24	505.5 19.88	76.1 167.8	
	168.3 6.625	1045.0 41.14	634.5 24.98	70.8 156.1	
	x	139.7 5.500	1307.0 51.46	637.5 25.10	122.4 270.0
		141.3 5.563	1307.0 51.46	637.5 25.10	122.4 270.0
165.1 6.500		1307.0 51.46	637.5 25.10	123.1 271.4	
168.3 6.625		1307.0 51.46	637.5 25.10	123.1 271.4	
219.1 8.625		1174.0 46.22	637.5 25.10	116.0 255.7	
x		165.1 6.500	1421.0 55.94	777.2 30.60	224.0 493.8
	168.3 6.625	1421.0 55.94	777.2 30.60	224.0 493.8	
	219.1 8.625	1421.0 55.94	777.2 30.60	227.9 502.4	
	273.0 10.750	1264.0 49.76	777.2 30.60	210.7 464.5	
	x	219.1 8.625	1525.0 60.04	873.8 34.40	286.0 630.5
		273.0 10.750	1525.0 60.04	873.8 34.40	283.6 625.2
323.9 12.750		1343.0 52.87	873.8 34.40	263.3 580.5	

¹ Estimated weight using standard weight pipe.

4.1 DIMENSIONS

Series 392 Horizontal Strainer Vibration Isolation Pump Drop



Horizontal Pump Installation

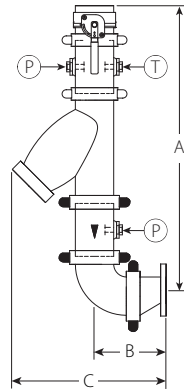
Size	Dimensions			Weight		
	Actual Outside Diameter mm inches	A mm inches	B mm inches	Approximate (Each) kg ¹ lb		
88.9 3.500	x	60.3	1067.0	203.0	473.1	37.4
		2.375	42.01	8.00	18.63	82.5
		73.0	1067.0	203.0	473.1	38.6
		2.875	42.01	8.00	18.63	85.1
		76.1	1067.0	203.0	473.1	38.6
3.000	42.01	8.00	18.63	85.1		
88.9 3.500	x	88.9	1068.0	108.0	380.0	34.4
		3.500	42.05	4.25	14.96	75.8
114.3 4.500	x	60.3	1197.0	238.0	579.5	47.4
		2.375	47.13	9.37	22.81	104.5
		88.9	1197.0	238.0	579.5	47.2
		3.500	47.13	9.37	22.81	104.1
114.3 4.500	x	114.3	1197.0	127.0	579.5	44.8
		4.500	47.13	5.00	22.81	98.8
		139.7	1225.0	429.0	850.9	72.6
		5.500	48.23	16.89	33.50	160.1
		88.9	1155.0	429.0	850.9	73.0
3.500	45.47	16.89	33.50	160.9		
114.3 4.500	x	114.3	1225.0	276.0	698.5	74.4
		4.500	48.23	10.87	27.50	164.0
		139.7	1233.0	140.0	698.5	64.4
		5.500	48.54	5.51	27.50	142.4
		141.3	1225.0	429.0	850.9	73.1
5.563	48.23	16.89	33.50	161.2		
88.9 3.500	x	88.9	1155.0	429.0	850.9	73.0
		3.500	45.47	16.89	33.50	160.9
		114.3	1225.0	276.0	698.5	74.4
		4.500	48.23	10.87	27.50	164.0
		141.3	1233.0	140.0	565.0	64.6
5.563	48.54	5.51	22.24	142.4		
165.1 6.500	x	88.9	1276.0	314.0	676.0	64.5
		3.500	50.24	12.36	26.61	142.2
		114.3	1276.0	314.0	676.0	84.2
		4.500	50.24	12.36	26.61	185.6
		139.7	1276.0	314.0	676.0	86.5
5.500	50.24	12.36	26.61	190.7		
165.1	1322.0	165.0	527.0	87.7		
6.500	52.05	6.50	20.75	193.3		

* Dimension to connection of pump.

¹ Estimated weight using standard weight pipe.

4.1 DIMENSIONS (Continued)

Series 392 Horizontal Strainer Vibration Isolation Pump Drop



Horizontal Pump Installation

Size		Dimensions			Weight	
Actual Outside Diameter		A	B	C	Approximate (Each)	
mm	inches	mm	mm	mm	kg ¹	
		inches	inches	inches	lb	
168.3 6.625	x	88.9	1276.0	314.0	676.0	64.5
		3.500	50.24	12.36	26.61	142.2
		114.3	1276.0	314.0	676.0	84.2
		4.500	50.24	12.36	26.61	185.6
		139.7	1276.0	314.0	676.0	86.5
		5.500	50.24	12.36	26.61	190.7
		141.3	1276.0	314.0	676.0	87.7
		5.563	50.24	12.36	26.61	193.3
219.1 8.625	x	139.7	1540.0	511.0	972.0	162.3
		5.500	60.63	20.12	38.27	357.8
		141.3	1540.0	511.0	972.0	162.0
		5.563	60.63	20.12	38.27	357.1
		165.1	1448.0	359.0	820.0	162.0
		6.500	57.01	14.13	32.28	357.1
		168.3	1448.0	359.0	820.0	162.0
		6.625	57.01	14.13	32.28	357.1
	219.1	1543.0	197.0	658.0	164.8	
	8.625	60.75	7.76	25.91	363.3	
273.0 10.750	x	165.1	1651.0	562.0	1105.0	291.0
		6.500	65.00	22.13	43.50	641.5
		168.3	1651.0	562.0	1105.0	291.0
		6.625	65.00	22.13	43.50	641.5
		219.1	1573.0	410.0	953.0	249.8
		8.625	61.92	16.14	37.52	550.7
	273.0	1651.0	229.0	772.0	270.0	
	10.750	65.00	9.02	30.39	595.2	
323.9 12.750	x	219.1	1807.0	613.0	1444.5	370.5
		8.625	709.33	24.13	56.87	816.8
		273.0	1807.0	613.0	1444.5	375.5
		10.750	709.33	24.13	56.87	827.8
	323.9	1805.0	254.0	1085.8	347.0	
	12.750	71.06	10.00	42.75	765.0	

* Dimension to connection of pump.
¹ Estimated weight using standard weight pipe.

5.0 COMPONENT PERFORMANCE

Butterfly Valve Flow Characteristics

C_v/K_v values for flow of water at +60°F/+16°C with various disc positions are shown in the table below.

Formulas for C_v/K_v values:

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

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

Where:

Q = Flow (GPM)

ΔP = Pressure Drop (psi)

C_v = Flow Coefficient

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

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

Where:

Q = Flow (m³/hr)

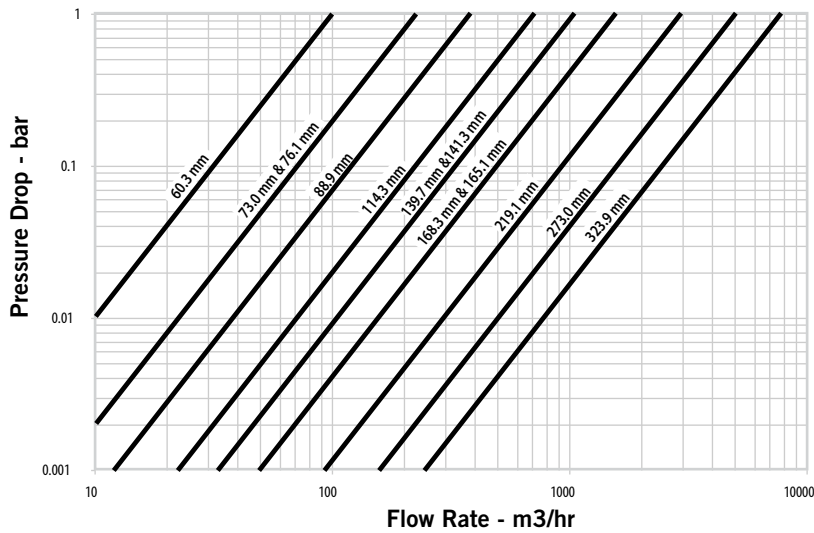
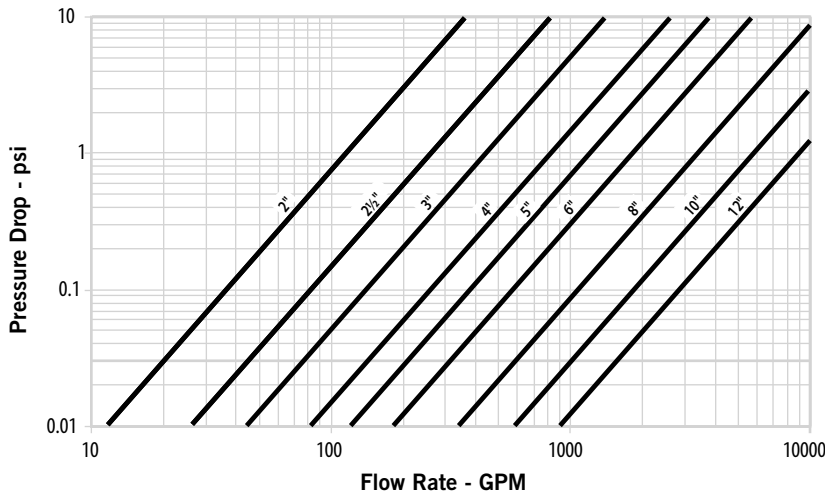
ΔP = Pressure Drop (Bar)







K_v = Flow Coefficient

Size		(Full Open) C _v K _v
Nominal inches DN	Actual Outside Diameter inches mm	
3 DN80	3.500 88.90	440 379
4 DN100	4.500 114.30	820 707
5 DN125	5.563 141.30	1200 1034
6 DN150	6.625 168.30	1800 1552
8 DN200	8.625 219.10	3400 2931
10 DN250	10.750 273.00	5800 5000
12 DN300	12.750 323.90	9000 7758

5.0 COMPONENT PERFORMANCE (Continued)

Butterfly Valve Flow Characteristics



Size		Flow Coefficients					
		Disc Position (Degrees Open)					
Nominal inches mm	Actual Outside Diameter inches mm	90 	70 	60 	50 	40 	30 
		C _v K _v	C _v K _v	C _v K _v	C _v K _v	C _v K _v	C _v K _v
3 DN80	3.500 88.9	440 379	230 198	140 121	90 78	50 43	26 22
4 DN100	4.500 114.3	820 707	430 371	250 216	160 138	100 86	50 43
5 DN125	5.563 141.3	1200 1034	620 534	370 319	240 207	140 121	70 60
6 DN150	6.625 168.3	1800 1552	940 8190	560 483	360 310	220 190	110 95
8 DN200	8.625 219.1	3400 2931	1770 1526	1050 905	670 578	410 353	200 172
10 DN250	10.750 273.0	5800 5000	3020 2603	1800 1552	1150 991	700 603	350 302
12 DN300	12.750 323.9	9000 7758	4680 4034	2790 2405	1780 1534	1080 931	540 465

5.1 COMPONENT PERFORMANCE

Strainer Flow Characteristics

C_v/K_v values for flow of water at 60°F/16°C are shown in tables below.

Formulas for C_v/K_v values:

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

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

Where:

Q = Flow (GPM)
 ΔP = Pressure Drop (psi)
 C_v = Flow Coefficient

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

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

Where:

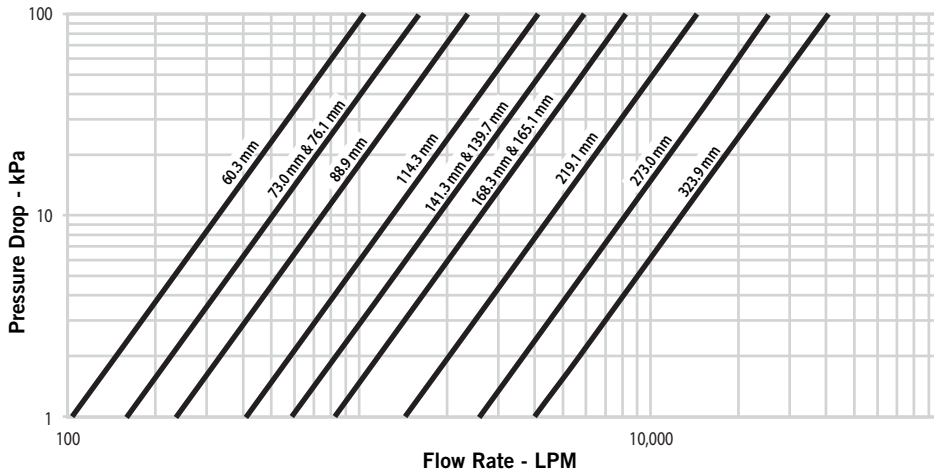
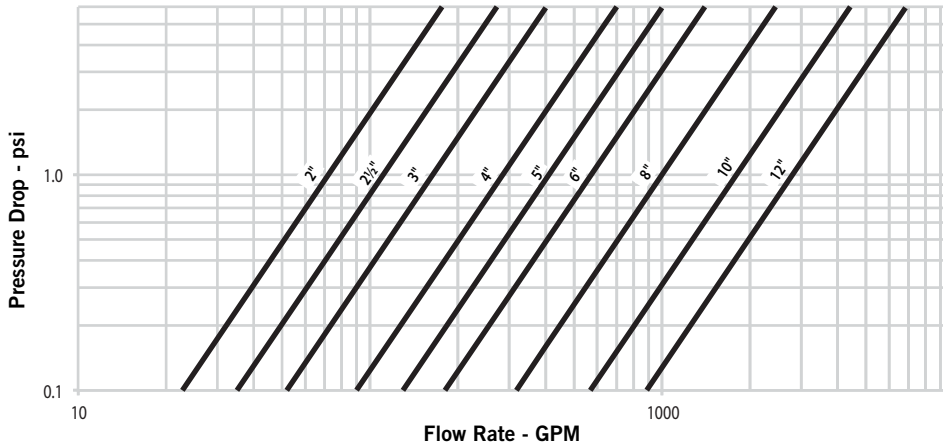
Q = Flow (m³/hr)
 ΔP = Pressure Drop (Bar)
 K_v = Flow Coefficient

Size		C _v K _v
Nominal inches DN	Actual Outside Diameter inches mm	
3 DN80	3.500 88.9	164 142
4 DN100	4.500 114.3	285 247
5 DN125	5.563 141.3	410 355
6 DN150	6.625 168.3	597 516
8 DN200	8.625 219.1	1000 862
10 DN250	10.750 273.0	1800 1557
12 DN300	12.750 323.9	2800 2422

5.1 COMPONENT PERFORMANCE (CONTINUED)

Strainer Flow Characteristics

Flow characteristics are based on standard, clean baskets. Flow may vary from these figures. The charts below express the flow of water at 65°F/18°C through strainer.



6.0 NOTIFICATIONS

WARNING



- Read and understand all instructions before attempting to install, remove, adjust, or maintain any Victaulic piping products.
- Depressurize and drain the piping system before attempting to install, remove, adjust, or maintain any Victaulic piping products.
- Wear safety glasses, hardhat, and foot protection.

Failure to follow these instructions could result in death or serious personal injury and property damage.

7.0 REFERENCE MATERIALS

[05.01: Victaulic Seal Selection Guide](#)

[06.15: Victaulic Pressure Ratings and End Loads for Victaulic Couplings on Steel Pipe](#)

[09.03: Victaulic Wye-Type Vic-Strainer Series 732](#)

[26.01: Victaulic Design Data](#)

[26.04: Victaulic Vibration Couplings Vibration Attenuation Characteristics](#)

[29.01: Victaulic Terms and Conditions/Warranty](#)

[I-100: Victaulic Field Installation Handbook](#)

[I-ENDCAP: Victaulic End Cap Installation Instructions](#)

User Responsibility for Product Selection and Suitability

Each user bears final responsibility for making a determination as to the suitability of Victaulic products for a particular end-use application, in accordance with industry standards and project specifications, and the applicable building codes and related regulations as well as Victaulic performance, maintenance, safety, and warning instructions. Nothing in this or any other document, nor any verbal recommendation, advice, or opinion from any Victaulic employee, shall be deemed to alter, vary, supersede, or waive any provision of Victaulic Company's standard conditions of sale, installation guide, or this disclaimer.

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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.

Installation

Reference should always be made to the Victaulic installation handbook or installation instructions of the product you are installing. Handbooks are included with each shipment of Victaulic products, providing complete installation and assembly data, and are available in PDF format on our website at www.victaulic.com.

Warranty

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

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