

# Victaulic® Strainer Vibration Isolation Pump Drop Series 332 – Hong Kong Only



Verticle



Horizontal

## 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 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.

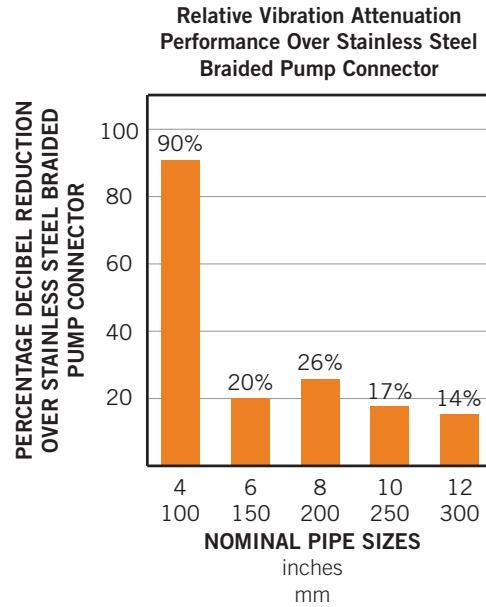
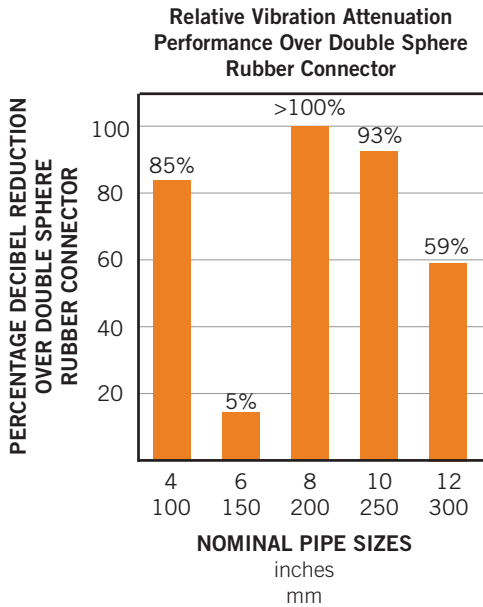
System No.		Location	
Submitted By		Date	

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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 332 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 332 exceeds the vibration attenuation characteristics of the other products tested, for typical HVAC pump speeds.



- Additionally, the Series 332 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 coupling coating: Orange enamel.
- Pipe spool coating: (specify choice)
  - Standard: Orange enamel.
  - Optional: Hot dipped galvanized.
- 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.

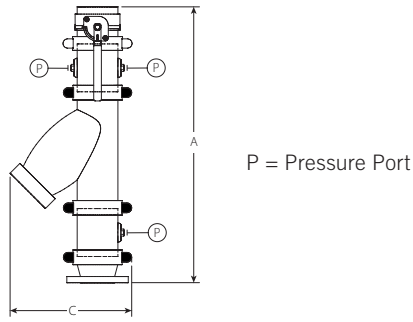
**Blow Down Drain Valve:** DZR brass. This option is available upon request and is only offered on sizes 3"/DN80, 4"/DN100 and 6"/DN150.

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

**Pressure Gauge Connection:** ½"/15 mm BSPT.

## 4.0 DIMENSIONS

### Series 332 Vertical Strainer Vibration Isolation Pump Drop



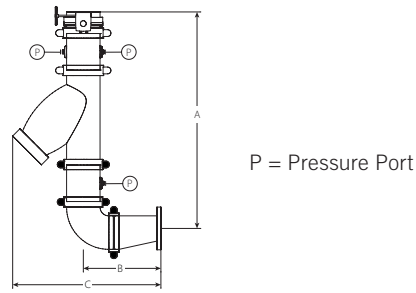
Vertical Pump Installation

Size		Dimensions		Weight	
Actual Outside Diameter		A	C	Approximate (Each)	
mm	inches	mm	mm	kg <sup>1</sup>	
		inches	inches	lb	
88.9 3.500	x	60.3	978	310	33.6
		2.375	38.50	12.20	74.1
		76.1	978	310	33.6
		3.000	38.50	12.20	74.1
		88.9	910	310	33.6
3.500	35.83	12.20	74.1		
114.3 4.500	x	76.1	1077	375	41.3
		3.000	42.40	14.76	91.1
		88.9	1077	375	42.6
		3.500	42.40	14.76	93.9
		114.3	997	375	41.3
4.500	39.25	14.76	91.1		
139.7 5.500	x	88.9	1089	443	63.7
		3.500	42.87	17.44	140.4
		114.3	1076	443	64.1
		4.500	42.36	17.44	141.3
		139.7	984	443	60.4
5.500	38.74	17.44	133.2		
165.1 6.500	x	114.3	1140	503	82.3
		4.500	44.88	19.80	181.4
		139.7	1140	503	82.8
		5.500	44.88	19.80	182.5
		165.1	1034	503	77.4
6.500	40.71	19.80	170.6		
219.1 8.625	x	139.7	1299	633	135.8
		5.500	51.14	24.92	299.4
		165.1	1299	633	136.5
		6.500	51.14	24.92	300.9
		219.1	1164	633	129.4
8.625	45.83	24.92	285.3		
273.0 10.750	x	165.1	1421	762	223.0
		6.500	55.94	30.00	491.6
		219.1	1421	762	227.1
		8.625	55.94	30.00	500.7
		273.0	1264	762	209.9
10.750	49.76	30.00	462.8		
323.9 12.750	x	219.1	1526	871	285.1
		8.625	60.08	34.29	628.5
		273.0	1526	871	282.6
		10.750	60.08	34.29	623.0
		323.9	1343	871	262.4
12.750	52.87	34.29	578.5		

<sup>1</sup> Estimated weight using standard weight pipe.

## 4.1 DIMENSIONS

### Series 332 Horizontal Strainer Vibration Isolation Pump Drop



P = Pressure Port

Horizontal Pump Installation

Size		Dimensions			Weight	
Actual Outside Diameter		A	B	C	Approximate (Each)	
		mm inches	mm inches	mm inches		kg <sup>1</sup> lb
88.9 3.500	x	60.3	1051	354	578	38.2
		2.375	41.38	13.94	22.76	84.2
		76.1	1059	354	578	39.4
		3.000	41.69	13.94	22.76	86.9
		88.9	1063	108	332	35.1
		3.500	41.85	4.25	13.07	77.4
114.3 4.500	x	76.1	1174	387	662	48.9
		3.000	46.22	15.24	26.06	107.8
		88.9	1180	387	662	49.3
		3.500	46.46	15.24	26.06	108.7
		114.3	1190	127	402	46.9
		4.500	46.85	5.00	15.83	103.4
139.7 5.500	x	88.9	1125	425	747	76.4
		3.500	44.29	16.73	29.41	168.4
		114.3	1208	425	747	77.8
		4.500	47.56	16.73	29.41	171.5
		139.7	1223	140	462	68.1
		5.500	48.15	5.51	18.19	150.1
165.1 6.500	x	114.3	1245	464	825	98.2
		4.500	49.02	18.27	32.48	216.5
		139.7	1258	464	825	98.7
		5.500	49.53	18.27	32.48	217.6
		165.1	1313	165	527	88.2
		6.500	51.69	6.50	20.75	194.4
219.1 8.625	x	139.7	1496	508	971	159.2
		5.500	58.90	20.00	38.23	351.0
		165.1	1417	508	971	162.7
		6.500	55.79	20.00	38.23	358.7
		219.1	1534	197	659	161.7
		8.625	60.39	7.76	25.95	356.5
273.0 10.750	x	165.1	1597	562	1107	270.1
		6.500	62.87	22.13	43.58	595.5
		219.1	1546	562	1107	226.1
		8.625	60.87	22.13	43.58	498.5
		273.0	1572	229	773	249.3
		10.750	61.89	9.02	30.43	549.6
323.9 12.750	x	219.1	1755	613	1239	332.1
		8.625	69.09	24.13	48.78	732.2
		273.0	1782	613	1239	337.2
		10.750	70.16	24.13	48.78	743.4
		323.9	1806	254	880	308.8
		12.750	71.10	10.00	34.65	680.8

<sup>1</sup> Estimated weight using standard weight pipe.

## 5.0 COMPONENT PERFORMANCE

### Butterfly Valve Flow Characteristics

C<sub>v</sub>/K<sub>v</sub> values for flow of water at +60°F/+16°C with various disc positions are shown in the table below.

Formulas for C<sub>v</sub>/K<sub>v</sub> 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<sub>v</sub> = Flow Coefficient

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

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

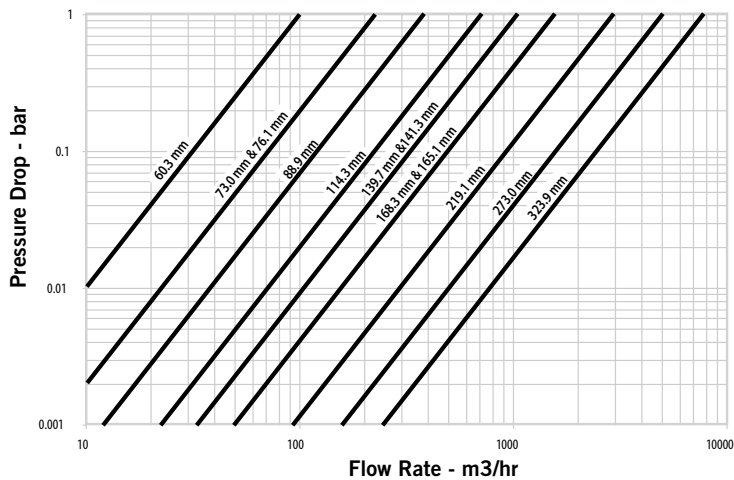
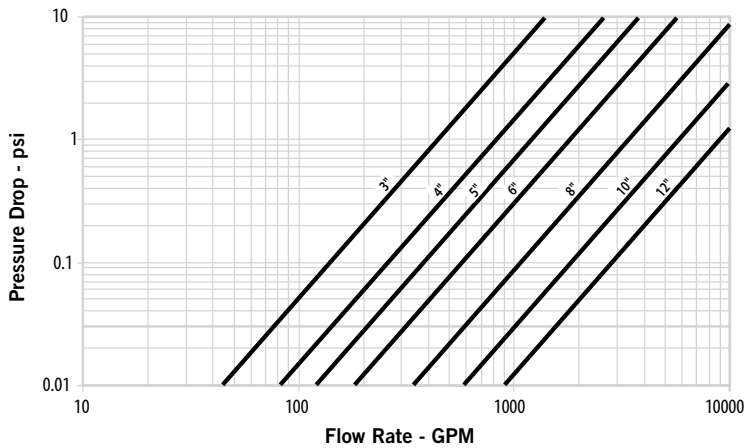
**Where:**

Q = Flow (m<sup>3</sup>/hr)

ΔP = Pressure Drop (Bar)







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

Size		
Nominal	Actual Outside Diameter	(Full Open)
inches DN	inches mm	C <sub>v</sub> K <sub>v</sub>
3	3.500	440
DN80	88.90	379
4	4.500	820
DN100	114.30	707
5	5.563	1200
DN125	141.30	1034
6	6.625	1800
DN150	168.30	1552
8	8.625	3400
DN200	219.10	2931
10	10.750	5800
DN250	273.00	5000
12	12.750	9000
DN300	323.90	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  Cv Kv	70  Cv Kv	60  Cv Kv	50  Cv Kv	40  Cv Kv	30  Cv Kv
		3 DN80	3.500 88.9	440 379	230 198	140 121	90 78
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<sub>v</sub>/K<sub>v</sub> values for flow of water at 60°F/16°C are shown in tables below.

Formulas for C<sub>v</sub>/K<sub>v</sub> 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<sub>v</sub> = Flow Coefficient

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

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

**Where:**

Q = Flow (m<sup>3</sup>/hr)

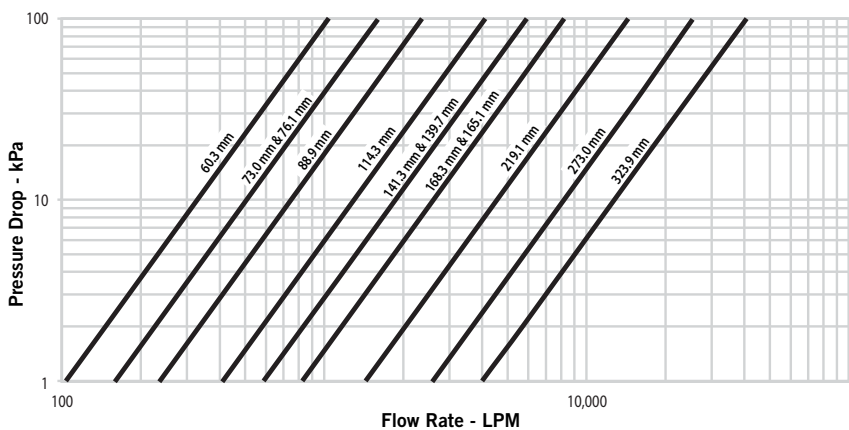
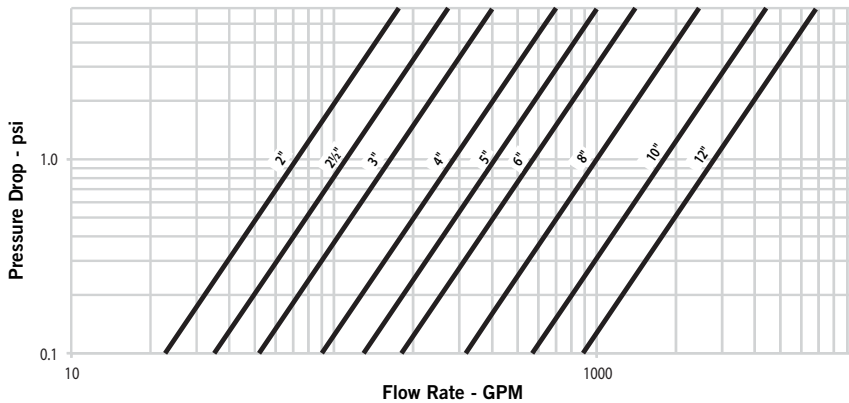
ΔP = Pressure Drop (Bar)

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

Size		C <sub>v</sub> K <sub>v</sub>
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

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

- **Depressurize and drain the piping system before attempting to install, remove, or adjust any Victaulic piping products. Failure to follow these instructions could result in serious personal injury, improper product installation, and/or 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](#)

### **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](http://www.victaulic.com).

### **Warranty**

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

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