

Victaulic® Discharge Vibration Isolation Pump Drop Series 327 – China Only



Vertical



Horizontal

1.0 PRODUCT DESCRIPTION

Available Sizes

- 4 – 12"/DN100 – 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 Discharge Vibration Isolation Pump Drop connects a pump to the interconnecting pipe/discharge header 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.

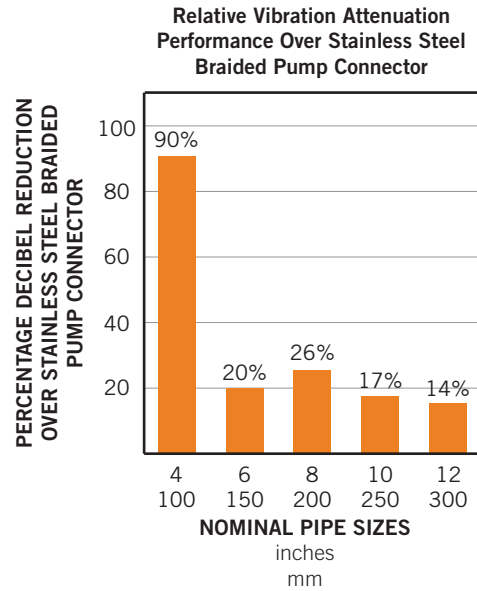
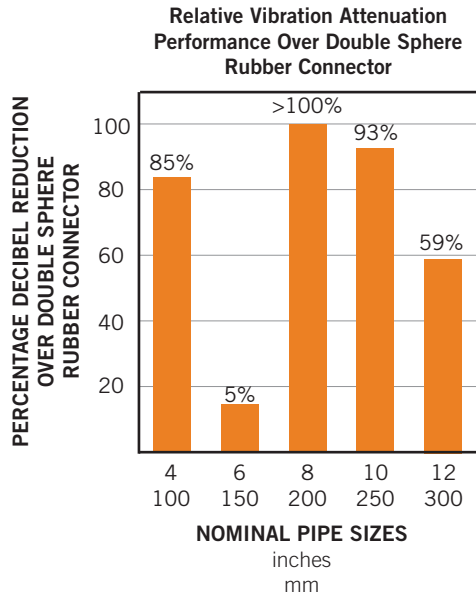
System No.		Location	
Submitted By		Date	

Spec Section		Paragraph	
Approved		Date	

1.0 PRODUCT DESCRIPTION (Continued)

Vibration Attenuation Performance

- The following charts show the relative **vibration attenuation characteristics** of the Series 327 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 327 exceeds the vibration attenuation characteristics of the other products tested, for typical HVAC pump speeds.



- Additionally, the Series 327 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.
- Standard pipe spool 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 ZN/FE5, 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.

Stem: 416 stainless steel conforming to ASTM A582.

Stem Seal Cartridge: C36000 brass.

Bearings: Fiberglass and 316 stainless steel with TFE lining.

Stem Seal: Furnished in same materials as seat.

Stem Retaining Ring: Carbon steel.

10-Position Handle: Sizes 4 - 6"/DN100 - DN150: 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 check valve conforming to ASTM A536, Grade 65-45-12, painted black enamel.

Body Seat: Ductile iron with electroless nickel plating conforming to ASTM B733.

Seat: EPDM.

Disc: Ductile iron disc conforming to ASTM A536, Grade 65-45-12 encapsulated in rubber.

Shaft: Type 316 stainless steel.

Spring: Type 302/304 stainless steel.

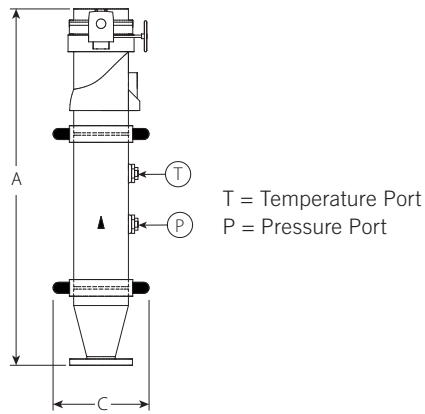
Shaft Plug: Type 416 stainless steel.

Pipe Plug: Carbon steel zinc plated.

Outlet Connection: ½"/15 mm BSPT.

4.0 DIMENSIONS

Series 327 Vertical Discharge Vibration Isolation Pump Drop



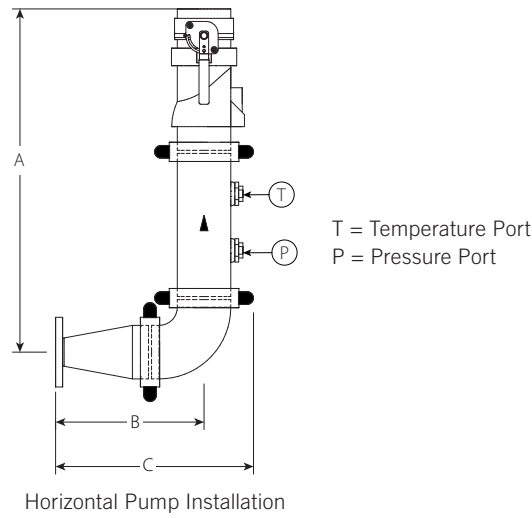
Vertical Pump Installation

Size	Dimensions		Weight	
	Actual Outside Diameter			Approximate (Each)
	mm inches	A mm inches	C mm inches	kg ¹ lb
114.3 4.500	x 88.9	937	241	33.3
	3.500	36.89	9.49	73.4
	x 114.3	835	241	42.7
	4.500	32.87	9.49	94.1
165.1 6.500	x 88.9	1206	311	59.9
	3.500	47.48	12.24	132.1
	x 114.3	1206	311	60.4
	4.500	47.48	12.24	133.2
	x 165.1	1066	311	55.23
	6.500	41.97	12.24	121.8
168.3 6.625	x 88.9	1206	311	59.9
	3.500	47.48	12.24	132.1
	x 114.3	1206	311	60.4
	4.500	47.48	12.24	133.2
	x 168.3	1066	311	55.23
	6.625	41.97	12.24	121.8
219.1 8.625	x 114.3	1426	384	100.0
	4.500	56.14	15.12	220.5
	x 165.1	1426	384	101.5
	6.500	56.14	15.12	223.8
	x 219.1	1273	384	89.6
	8.625	50.12	15.12	197.5
273.0 10.750	x 165.1	1697	435	186.1
	6.500	66.81	17.13	410.3
	x 219.1	1697	435	190.1
	8.625	66.81	17.13	419.1
	x 273.0	1570	435	170.9
	10.750	61.81	17.13	376.8
323.9 12.750	x 219.1	1942	489	245.8
	8.625	76.46	19.25	541.9
	x 273.0	1942	489	244.8
	10.750	76.46	19.25	539.7
	x 323.9	1789	489	221.8
	12.750	70.43	19.25	489.0

¹ Estimated weight using standard weight pipe.

4.1 DIMENSIONS

Series 327 Horizontal Discharge Vibration Isolation Pump Drop



Size		Dimensions			Weight	
Actual Outside Diameter		A	B	C	Approximate (Each)	
mm	inches	mm	mm	mm	kg ¹	
		inches	inches	inches	lb	
114.3 4.500	x	88.9	810	391	511	38.3
		3.500	31.89	15.39	20.12	84.4
		114.3	810	289	410	35.6
		4.500	31.89	11.38	16.14	78.4
165.1 6.500	x	88.9	1079	467	622	77.6
		3.500	42.48	18.39	24.49	171.2
		114.3	1079	467	622	71.7
		4.500	42.48	18.39	24.49	158.1
165.1 6.500	x	1079	327	483	66.4	
		42.48	12.87	19.02	146.4	
		168.3	1079	467	622	77.6
		4.500	18.39	24.49	158.1	
168.3 6.625	x	88.9	1079	467	622	77.6
		3.500	42.48	18.39	24.49	171.2
		114.3	1079	467	622	71.7
		4.500	42.48	18.39	24.49	158.1
168.3 6.625	x	168.3	1079	327	483	66.4
		6.625	42.48	12.87	19.02	146.4
		219.1	1319	511	703	118.0
		8.625	51.93	20.12	27.68	260.2
219.1 8.625	x	165.1	1319	511	703	121.6
		6.500	51.93	20.12	27.68	268.1
		219.1	1319	359	551	110.6
		8.625	51.93	14.13	21.69	243.8
273.0 10.750	x	165.1	1595	562	780	225.1
		6.500	62.80	22.13	30.71	496.3
		219.1	1595	562	780	228.9
		8.625	62.80	22.13	30.71	504.6
273.0 10.750	x	273.0	1595	435	653	211.8
		10.750	62.80	17.13	25.71	566.8
		323.9	1840	613	857	292.2
		12.750	72.44	24.13	33.74	644.2
323.9 12.750	x	273.0	1840	613	857	289.8
		10.750	72.44	24.13	33.74	638.9
		323.9	1840	460	705	270.0
		12.750	72.44	18.11	27.76	595.3

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)

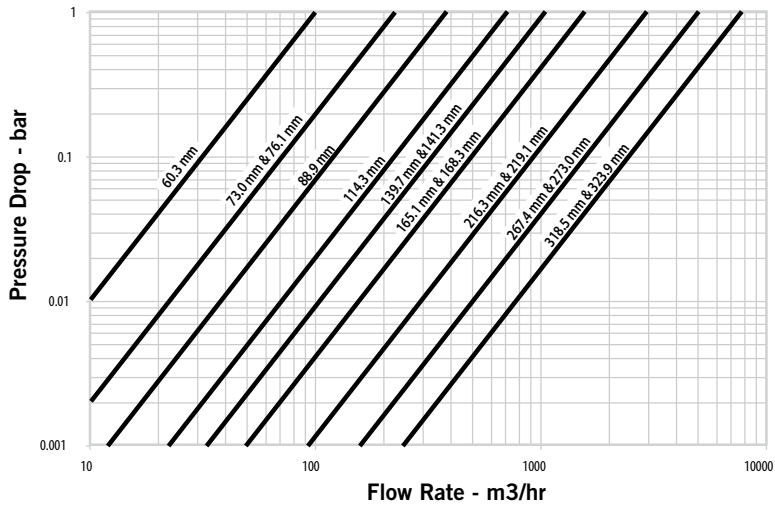
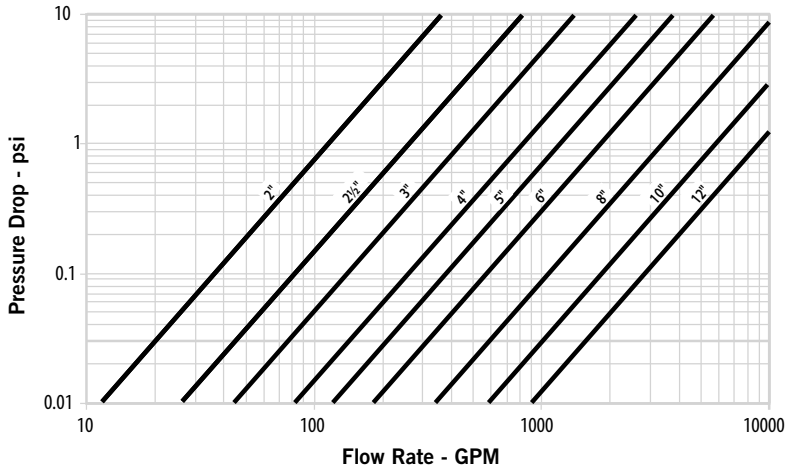
ΔP = Pressure Drop (Bar)







K_v = Flow Coefficient

Size		(Full Open) C _v K _v
Nominal inches DN	Actual Outside Diameter inches mm	
4 DN100	4.500 114.3	820 707
5 DN125	5.563 141.3	1200 1034
6 DN150	6.625 168.3	1800 1552
8 DN200	8.625 219.1	3400 2931
10 DN250	10.750 273.0	5800 5000
12 DN300	12.750 323.9	9000 7758

5.0 COMPONENT PERFORMANCE (Continued)

Butterfly Valve Flow Characteristics



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

5.1 COMPONENT PERFORMANCE

Check Valve Flow Characteristics

C_v/K_v values for flow of water at +60°F/+16°C at full open 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

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

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

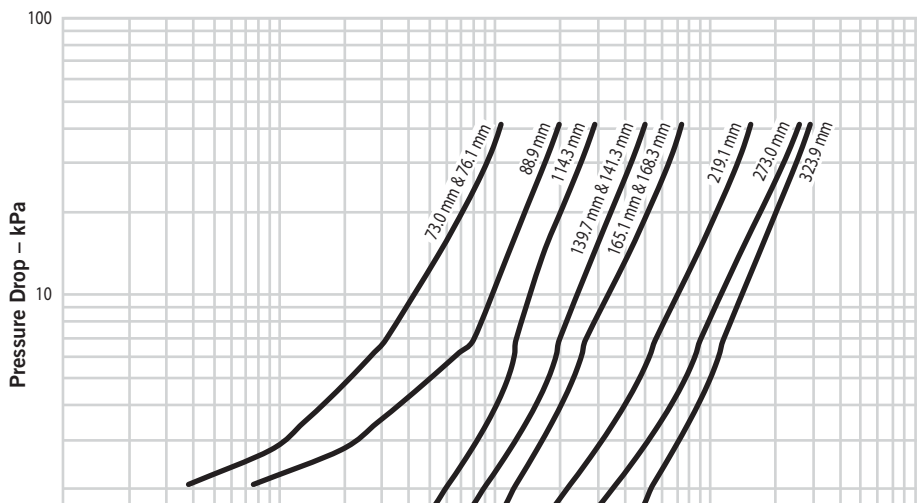
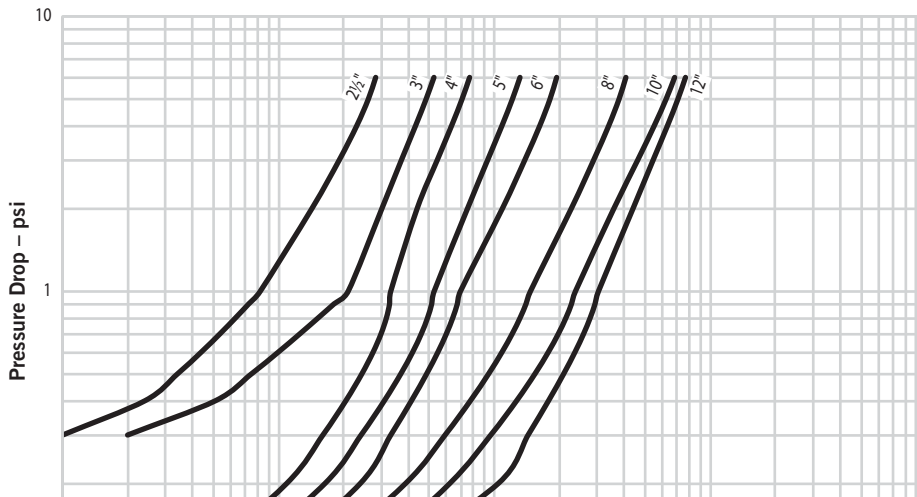
Where:

Q = Flow (m³/hr)








ΔP = Pressure Drop (Bar)

K_v = Flow Coefficient

Size			Size		
Nominal inches DN	Actual Outside Diameter inches mm	(Full Open) C _v K _v	Nominal inches DN	Actual Outside Diameter inches mm	(Full Open) C _v K _v
4 DN100	4.500 114.3	390 337	10 DN250	10.750 273.0	3000 2595
5 DN125	5.563 141.3	700 606	12 DN300	12.750 323.9	4200 3633
6 DN150	6.625 168.3	1000 865			



6.0 NOTIFICATIONS

 WARNING					
					
<ul style="list-style-type: none">• 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.• A Victaulic flexible coupling (not included) must also be installed in the piping above the Series 327 Discharge Vibration Isolation Pump Drop when using a vertical configuration with no reduction in pipe size. <p>Failure to follow these instructions could result in death or serious personal injury and property damage.</p>					

7.0 REFERENCE MATERIALS

- [05.01: Victaulic Seal Selection Guide](#)
- [06.15: Victaulic Pressure Ratings and End Loads for Victaulic Couplings on Steel Pipe](#)
- [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-177N: Installation Instructions for QuickVic™ Flexible Coupling - Style 177N](#)

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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