

Victaulic® Discharge Vibration Isolation Pump Drop Series 336 – Korea Only



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 JIS 10K 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.

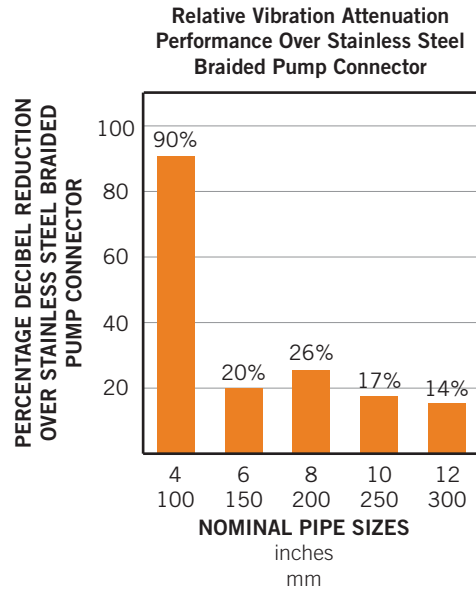
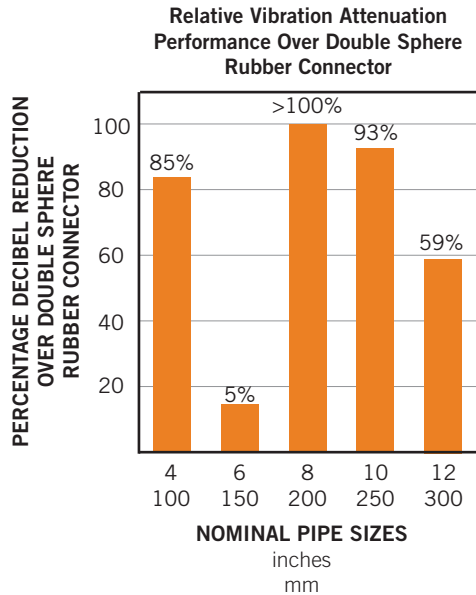
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1.0 PRODUCT DESCRIPTION (Continued)

Vibration Attenuation Performance

- The following charts show the relative **vibration attenuation characteristics** of the Series 336 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 336 exceeds the vibration attenuation characteristics of the other products tested, for typical HVAC pump speeds.



- Additionally, the Series 336 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: 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 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.

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 check valve conforming to ASTM A536, Grade 65-45-12.

Disc Coating/O-Ring: EPDM.

Body Seat: Size 3"/DN80: Machined surfaces electroless nickel plated. Sizes 4 – 12"/DN100 – DN300: Threaded electroless nickel plated seat.

Discs: Size 3"/DN80: Stainless steel disc seats against the o-ring seal, which is mounted on the electroless nickel plated end face. Sizes 4 – 12"/DN100 – DN300: Elastomer encapsulated disc and electroless nickel plated seat.

Shaft: Size 3"/DN80: Brass. Sizes 4 – 12"/DN100 – DN300: Type 316 stainless steel.

Spring: Type 302/304 stainless steel.

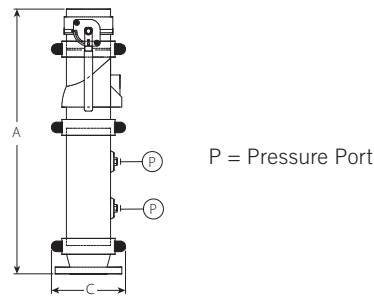
Shaft Plug: Size 3"/DN80 only: Type 416 stainless steel.

Pipe Plug: Sizes 4 – 12"/DN100 - DN300 only: Zinc plated carbon steel to ASTM B633.

Pressure Gauge Connection: ½"/15 mm BSPT.

4.0 DIMENSIONS

Series 336 Vertical Discharge 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 | |
| | | | | | |
| 88.9 3.500 | x | 76.1 | 896 | 173 | 24.5 |
| | | 3.000 | 35.28 | 6.81 | 54.0 |
| | | 88.9 | 757 | 173 | 23.0 |
| | | 3.500 | 29.8 | 6.81 | 50.7 |
| 114.3 4.500 | x | 76.1 | 930 | 201 | 36.2 |
| | | 3.000 | 36.6 | 7.91 | 79.8 |
| | | 88.9 | 930 | 201 | 37.0 |
| | | 3.500 | 36.6 | 7.91 | 81.6 |
| 114.3 4.500 | x | 114.3 | 832 | 201 | 49.3 |
| | | 4.500 | 32.8 | 7.91 | 108.7 |
| | | 139.7 | 1086 | 243 | 48.3 |
| | | 5.500 | 42.8 | 9.57 | 106.5 |
| 139.7 5.500 | x | 114.3 | 1086 | 243 | 48.0 |
| | | 4.500 | 42.8 | 9.57 | 105.8 |
| | | 139.7 | 962 | 243 | 46.0 |
| | | 5.500 | 37.9 | 9.57 | 101.4 |
| 165.1 6.500 | x | 114.3 | 1197 | 282 | 65.2 |
| | | 4.500 | 47.1 | 11.10 | 143.7 |
| | | 139.7 | 1200 | 282 | 62.5 |
| | | 5.500 | 47.2 | 11.10 | 137.8 |
| 165.1 6.500 | x | 165.1 | 1063 | 282 | 63.3 |
| | | 6.500 | 41.85 | 11.10 | 139.6 |
| | | 216.3 | 1412 | 356 | 107.5 |
| | | 5.500 | 55.6 | 14.02 | 237.0 |
| 216.3 | x | 165.1 | 1412 | 356 | 104.7 |
| | | 6.500 | 55.6 | 14.02 | 230.8 |
| | | 216.3 | 1263 | 356 | 89.6 |
| | | - | 49.72 | 14.02 | 197.5 |
| 267.4 | x | 165.1 | 1695 | 422 | 190.3 |
| | | 6.500 | 66.7 | 16.61 | 419.5 |
| | | 219.1 | 1695 | 422 | 238.4 |
| | | 8.625 | 66.7 | 16.61 | 525.6 |
| 267.4 | x | 267.4 | 1588 | 422 | 170.9 |
| | | - | 62.52 | 16.61 | 376.8 |
| | | 318.5 | 1940 | 475 | 241.8 |
| | | 8.625 | 76.4 | 18.70 | 533.1 |
| 318.5 | x | 273.0 | 1940 | 475 | 247.2 |
| | | 10.750 | 76.4 | 18.70 | 545.0 |
| | | 318.5 | 1787 | 475 | 170.9 |
| | | - | 70.35 | 18.70 | 376.8 |

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)

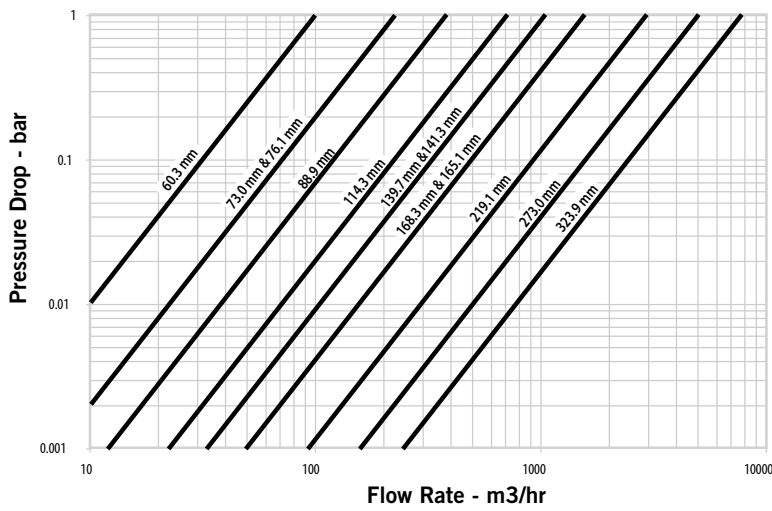
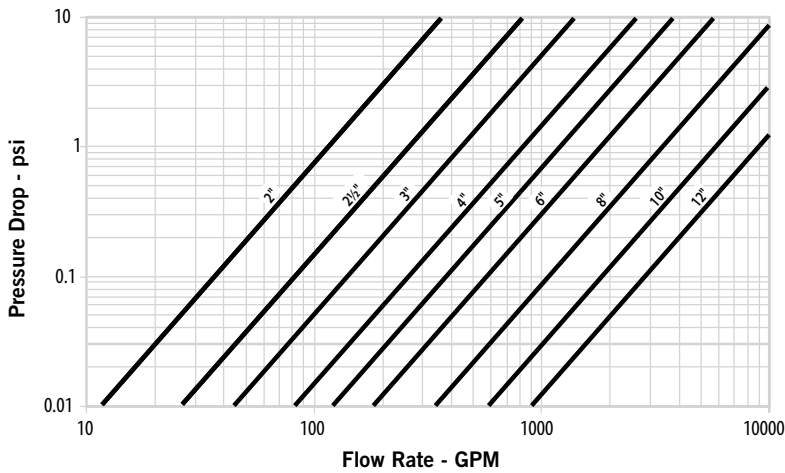
ΔP = Pressure Drop (Bar)







K_v = Flow Coefficient

| Size | | (Full Open) C _v K _v |
|-------------------------|-----------------------------------------|-------------------------------------------------|
| Nominal inches DN | Actual Outside Diameter inches mm | |
| 3 DN80 | 3.500 88.9 | 440 379 |
| 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 |
| 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

Check Valve Flow Characteristics

Cv/Kv values for flow of water at +60°F/+16°C at full open are shown in the table below.

Formulas for Cv/Kv values:

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

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

Where:

Q = Flow (GPM)

ΔP = Pressure Drop (psi)

Cv = Flow Coefficient

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

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

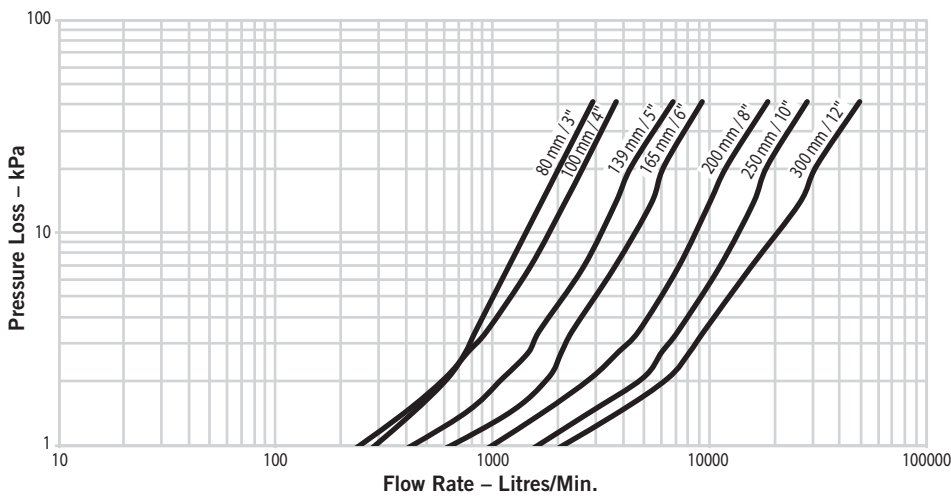
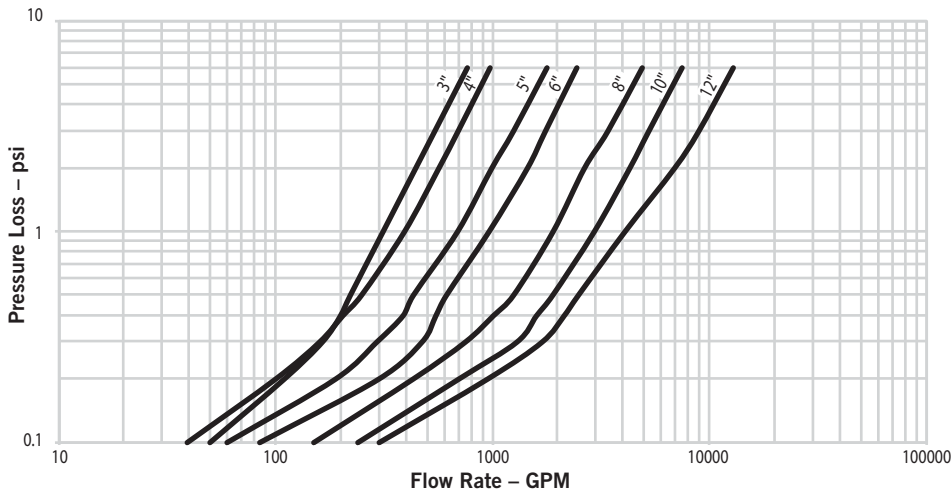
Where:

Q = Flow (m³/hr)

ΔP = Pressure Drop (Bar)

Kv = Flow Coefficient

| Size | | | Size | | |
|-------------------------|-----------------------------------------------|----------------------------|-------------------------|-----------------------------------------------|----------------------------|
| Nominal inches DN | Actual Outside Diameter inches mm | (Full Open) Cv Kv | Nominal inches DN | Actual Outside Diameter inches mm | (Full Open) Cv Kv |
| 3 DN80 | 3.500 88.9 | 315 273 | 8 DN200 | 8.625 219.1 | 1800 1557 |
| 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



- 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 336 Discharge Vibration Isolation Pump Drop when using a vertical configuration with no reduction in pipe size.

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](#)

[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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