

Victaulic® QuickVic™ Installation-Ready™ Flexible Coupling for Potable Water Applications

Style 877N



2 – 8"/DN50 – DN200

1.0 PRODUCT DESCRIPTION

Available Sizes

- 2 – 8"/DN50 – DN200

Pipe Material

- Schedules 10S and 40S stainless steel pipe
- Schedules 10 and 40 galvanized carbon steel

Maximum Working Pressure

- Accommodates pressures ranging from full vacuum (29.9 in Hg/760 mm Hg) up to 1000 psi/6895 kPa
- Working pressure dependent on pipe material, wall thickness and size of pipe

Operating Temperature

- +0°F to +180°F/-18°C to +82°C

Function

- Intended for use in potable water systems
- Joins Schedules 10S and 40S stainless steel pipe or Schedules 10 and 40 galvanized carbon steel pipe
- Provides a flexible pipe joint designed to accommodate a limited amount of linear and/or angular movement

NOTE

- For non-potable water systems, refer to [publication 06.24](#): Victaulic QuickVic™ Flexible Coupling Style 177N.

Pipe Preparation

- Cut or roll grooved in accordance with [publication 25.01](#): Victaulic Standard Groove Specifications

Codes and Requirements

- Hanger support spacing corresponds to ASME B31.1 Power Piping Code and ASME B31.9 Building Services Piping Code

2.0 CERTIFICATION/LISTINGS



The Victaulic Grade P gasket supplied with the Style 877N QuickVic™ Installation-Ready™ Flexible Coupling is UL Classified in accordance with NSF/ANSI/CAN 61 and NSF/ANSI/CAN 372 as noted in section 3.0 Specifications – Material. The Style 877N QuickVic™ Installation-Ready™ Flexible Coupling is UPC Listed in accordance with PS-53 for use with Schedules 10 and 40 stainless steel pipe in sizes 2 – 8"/DN50 – DN200.

NOTE

- See [publication 02.06](#): Victaulic Potable Water Approvals ANSI/NSF for potable water approvals if applicable.

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

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3.0 SPECIFICATIONS – MATERIAL

Housing: Ductile iron conforming to ASTM A536, Grade 65-45-12. Ductile iron conforming to ASTM A395, Grade 65-45-15 available upon special request.

Housing Coating: (specify choice)

Standard: Blue coating.

Optional: Hot dipped galvanized conforming to ASTM A123.

Gasket¹: Grade “P” Fluoroelastomer Blend

P (Double blue stripe color code). Temperature range +0°F to +180°F/-18°C to +82°C. Specifically formulated for compatibility with potable water systems. Optimized for improved resistance to chlorine, chloramine and other typical potable water disinfectants. UL Classified in accordance with NSF/ANSI/CAN 61 for cold +73°F/+23°C and hot +180°F/+82°C potable water service and NSF/ANSI/CAN 372.

¹ Services listed are General Service Guidelines only. It should be noted that there are services for which these gaskets are not compatible. Reference should always be made to the latest [Victaulic Seal Selection Guide](#) for specific gasket service guidelines and for a listing of services which are not compatible.

NOTE

- Victaulic reserves the right to substitute equivalent and/or higher grade elastomer products.

Bolts/Nuts: (specify choice²)

Standard: Carbon steel oval neck track bolts meeting the mechanical property requirements of ASTM A449 (imperial) and ISO 898-1 Class 9.8 (M10-M16) Class 8.8 (M20 and greater). Carbon steel hex nuts meeting the mechanical property requirements of ASTM A563 Grade B (imperial - heavy hex nuts) and ASTM A563M Class 9 (metric - hex nuts). Track bolts and hex nuts are zinc electroplated per ASTM B633 Fe/Zn5, finish Type III (imperial) or Type II (metric).

Optional (imperial): Stainless steel oval neck track bolts meeting the mechanical property requirements of ASTM F593, Group 2 (316 Stainless Steel), condition CW. Stainless steel heavy nuts meeting the mechanical property requirements of ASTM F594, Group 2 (316 stainless steel), condition CW, with galling reducing coating.

² Optional bolts/nuts are available in imperial size only.

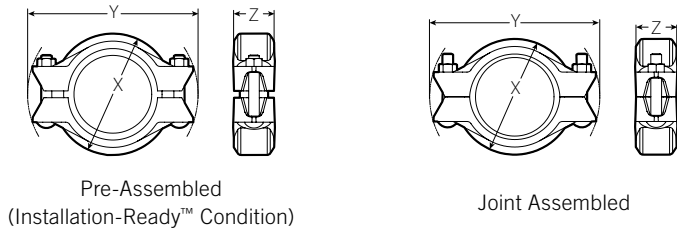
4.0 DIMENSIONS

Style 877N QuickVic™ Installation-Ready™ Flexible Coupling for Potable Water Applications

Dimensions for Determining Piping System Installation Clearances

Data in the below table is provided for system layout and installation purposes to ensure that adequate clearances are included in the piping system installation relative to other piping components or the building structure for both roll grooved and cut grooved pipe.

This is particularly important when the system is free floating, or contains no thrust anchors, and the coupling joints are installed with the pipe ends butted against the gasket⁴. If installed in this condition, when the piping is pressurized the joints will open to their full nominal pipe end separation⁵. This movement is cumulative and will be most significant in long runs of piping where multiple flexible couplings are installed in the butted condition.



Size		Nominal Range of Pipe End Separation ³		Bolt/Nut		Dimensions					Weight
Nominal inches DN	Actual Outside Diameter inches mm	Pipe Ends Butted Against Gasket ⁴ inches mm	Full Nominal Separation ⁵ inches mm	Qty.	Size inches mm	Pre-Assembled (Installation-Ready™ Condition)		Joint Assembled			Approximate (Each) lb kg
						X inches mm	Y inches mm	X inches mm	Y inches mm	Z inches mm	
2 DN50	2.375 60.3	0.13 3.3	0.25 6.4	2	½ x 3	4.38 111	6.25 159	3.75 95	6.38 162	2.13 54	3.3 1.5
2½	2.875 73.0	0.13 3.3	0.25 6.4	2	½ x 3	4.88 124	6.88 175	4.38 111	6.88 175	2.13 54	3.8 1.7
3 DN80	3.500 88.9	0.13 3.3	0.25 6.4	2	½ x 3¼	5.63 143	7.38 187	5.00 127	7.50 191	2.13 54	4.3 2.0
4 DN100	4.500 114.3	0.18 4.6	0.38 9.5	2	⅝ x 4	7.13 181	9.38 238	6.38 162	9.50 241	2.38 60	7.4 3.4
6 DN150	6.625 168.3	0.18 4.6	0.38 9.5	2	¾ x 5	9.38 238	12.38 314	8.63 219	12.25 311	2.38 60	12.8 5.8
8 DN200	8.625 219.1	0.18 4.6	0.38 9.5	2	⅞ x 5½	11.00 279	15.13 384	10.00 254	15.13 384	2.63 60	20.7 9.4

³ These columns provide the nominal range of pipe end separation that may exist at the time of installation.

⁴ The nominal pipe end separation when the pipe ends are butted against the gasket as illustrated in Figure 1.

⁵ The full nominal pipe end separation when the pipe ends are separated fully as illustrated in Figure 2.

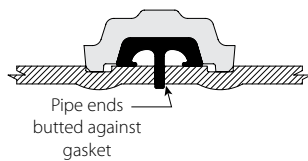


Figure 1

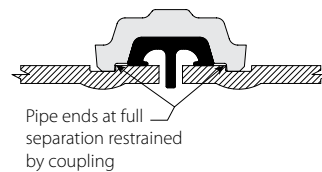


Figure 2

4.1 DIMENSIONS

Design and Installation - Linear Movement and Angular Deflection

Data in the table below provides the linear movement and joint deflection capabilities of each coupling. These mechanical properties of the flexible coupling can be used in the design of the piping system to accommodate curves in the piping system, settlement of the building structure, seismic movement, or thermally induced expansion or contraction of the piping.

The linear movement⁶ can be used to accommodate any axial movement of the piping caused by thermally induced expansion or contraction of the pipe. When used in this manner, thrust anchors must be installed at changes in direction, at the ends of straight runs, or to divide long runs of pipe into more manageable sections and reduce movement at branch connections. Reference should be made to Victaulic [publication 26.02](#) for detailed instructions regarding determining thrust anchor or guide locations.

The joint deflection^{7,8} can also be used to accommodate the axial change in length of the piping caused by thermally induced expansion or contraction of the piping through the controlled deflection of offsets at existing changes in direction of the piping. Again, refer to Victaulic [publication 26.02](#) for detailed instructions.

Size		Linear Movement per Coupling ^{6,9}	Joint Deflection ⁹	
Nominal inches DN	Actual Outside Diameter inches mm		Angle at Coupling ⁷ Degrees per coupling	Slope of Pipe ⁸ in/ft mm/m
2 DN50	2.375 60.3	0.09 2.3	2.17	0.46 38.1
2½	2.875 73.0	0.09 2.3	1.79	0.38 31.5
3 DN80	3.500 88.9	0.09 2.3	1.47	0.31 25.9
4 DN100	4.500 114.3	0.18 4.6	2.29	0.48 40.3
6 DN150	6.625 168.3	0.18 4.6	1.56	0.33 27.3
8 DN200	8.625 219.1	0.18 4.6	1.20	0.25 21.0

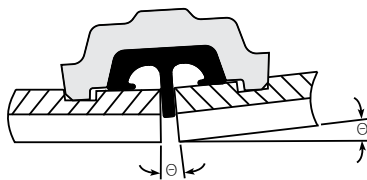
⁶ This is the actual net linear movement available at each coupling for design purposes as illustrated in Figures 1 and 2.

⁷ This is the actual net deflection angle available at each coupling listed in degrees as illustrated in Figure 3.

⁸ This is the actual net deflection angle available at each coupling listed as a slope of the pipe as illustrated in Figure 4.

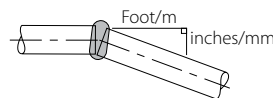
⁹ These values are the net amount of linear movement or joint deflection available at the couplings. No further reduction, as detailed in Victaulic [publication 26.02](#), is needed to allow for design and installation purposes.

Exaggerated for clarity



Deflection Angle at Each Coupling Listed in Degrees

Figure 3



Deflection Angle at Each Coupling Listed as a Slope of the Pipe

Figure 4

NOTE

- A coupling joint cannot provide the full linear movement and full angular deflection at the same time. If both linear movement and angular deflection are needed, sufficient couplings must be installed for each purpose. Refer to Victaulic [publication 26.02](#) for complete details.

5.0 PERFORMANCE

Style 877N QuickVic™ Installation-Ready™ Flexible Coupling for Potable Water Applications – ANSI Standard Schedules 10S and 40S Stainless Steel Pipe

Size		Schedule 10S			Schedule 40S		
Nominal inches DN	Actual Outside Diameter inches mm	Pipe Wall Thickness inches mm	Maximum Joint Working Pressure ¹⁰ psi kPa	Maximum Permissible End Load ¹⁰ lb N	Pipe Wall Thickness inches mm	Maximum Joint Working Pressure ¹⁰ psi kPa	Maximum Permissible End Load ¹⁰ lb N
2 DN50	2.375 60.3	0.109 2.8	500 3447	2215 9853	0.154 3.9	750 5171	3323 14781
2 ½	2.875 73.0	0.120 3.0	400 2758	2597 11552	0.203 5.2	700 4826	4544 20213
3 DN80	3.500 88.9	0.120 3.0	400 2758	3848 17117	0.216 5.5	700 4826	6735 29959
4 DN100	4.500 114.3	0.120 3.0	300 2068	4771 21222	0.237 6.0	600 4137	9543 42449
6 DN150	6.625 168.3	0.134 3.4	150 1034	5171 23002	0.280 7.1	500 3447	17236 76670
8 DN200	8.625 219.1	0.148 3.8	125 862	7303 32485	0.322 8.2	400 2758	23371 103959

¹⁰ Working Pressure and End Load are total, from all internal and external loads, based on ANSI Types 304/304L and 316/316L stainless steel pipe, grooved in accordance with Victaulic specifications. Contact Victaulic for performance on other pipe.

NOTE

- WARNING: FOR ONE TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1½ times the figures shown.

Schedules 10 and 40 Galvanized Carbon Steel Pipe

Size		Schedule 10			Schedule 40		
Nominal inches DN	Actual Outside Diameter inches mm	Pipe Wall Thickness inches mm	Maximum Joint Working Pressure ¹¹ psi kPa	Maximum Permissible End Load ¹¹ lb N	Pipe Wall Thickness inches mm	Maximum Joint Working Pressure ¹¹ psi kPa	Maximum Permissible End Load ¹¹ lb N
2 DN50	2.375 60.3	0.109 2.8	750 5171	3323 14781	0.154 3.9	1000 6895	4430 19706
2 ½	2.875 73.0	0.120 3.0	600 4137	3895 17325	0.203 5.2	1000 6895	6492 28877
3 DN80	3.500 88.9	0.120 3.0	600 4137	5773 25680	0.216 5.5	1000 6895	9621 42797
4 DN100	4.500 114.3	0.120 3.0	600 4137	9543 42449	0.237 6.0	1000 6895	14504 70746
6 DN150	6.625 168.3	0.134 3.4	450 3103	15512 69000	0.280 7.1	1000 6895	34470 153390
8 DN200	8.625 219.1	0.148 3.8	300 2068	17528 77970	0.322 8.2	800 5516	46732 207836

¹¹ Working Pressure and End Load are total, from all internal and external loads, based on ANSI B36.10 sized carbon steel pipe, grooved in accordance with Victaulic specifications. Contact Victaulic for performance on other pipe.

NOTE

- WARNING: FOR ONE TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1½ times the figures shown.

6.0 NOTIFICATIONS

WARNING



- Read and understand all instructions before attempting to install, remove, adjust, or maintain any Victaulic piping products.
- Always verify that the piping system has been completely depressurized and drained immediately prior to installation, removal, adjustment, or maintenance of any Victaulic products.
- Wear safety glasses, hardhat, and foot protection.

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

WARNING

- Victaulic RX roll sets must be used when grooving light-wall/thin-wall stainless steel pipe for use with Victaulic Couplings.

Failure to use Victaulic RX roll sets when grooving light-wall/thin-wall stainless steel pipe may cause joint failure, resulting in serious personal injury and/or property damage.

NOTICE

- Victaulic RX grooving rolls must be ordered separately. They are identified by a silver color and the designation RX on the front of the roll sets.

WARNING

- When assembling Style 877N couplings onto end caps, take additional care to ensure the end cap is seated fully against the center leg of the gasket.
- Use only No. 60 End Caps containing the "EZ QV" marking on the inside face, or No. 460 Stainless Steel End Caps containing the "QV" marking on the inside face.
- Victaulic recommends the use of Victaulic fittings with Style 877N couplings.

Failure to follow this instruction could cause improper product installation, resulting in personal injury and/or property damage.

7.0 REFERENCE MATERIALS

- [02.06: Victaulic Potable Water Approvals](#)
- [05.01: Victaulic Seal Selection Guide](#)
- [06.24: Victaulic QuickVic™ Flexible Coupling Style 177N](#)
- [17.01: Victaulic Pipe Preparation for Use on Stainless Steel Pipe With Victaulic Products](#)
- [25.01: Victaulic Standard Groove Specifications](#)
- [26.01: Victaulic Design Data](#)
- [29.01: Victaulic Terms and Conditions/Warranty](#)
- [I-100: Victaulic Field Installation Handbook](#)
- [I-877N: Victaulic QuickVic™ Installation-Ready™ Flexible Coupling Installation Instructions](#)
- [I-ENDCAP: Victaulic End Caps Installation Instructions](#)
- [I-IMPACT: Victaulic Impact Tool Usage Guidelines](#)

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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