

QuickVic® Flexible Coupling for Steel



SEE VICTAULIC PUBLICATION 10.01 FOR DETAILS

STYLE 177

The Style 177 QuickVic flexible coupling is installation-ready, and joins 2-8"/50-200 mm standard roll grooved and cut grooved steel pipe. The coupling's unique design eliminates loose parts, ensures consistent installation and provides substantial gains in productivity. The Style 177 flexible coupling can accommodate pressures ranging from full vacuum (29.9 in Hg/760 mm Hg) up to 1000 psi/6900 kPa. The coupling's maximum pressure rating will depend on the diameter and wall thickness of the pipe.



Performance data presented in this document is based on use with standard wall, carbon steel pipe. For use with stainless steel pipe, please reference document 17.09 for pressure ratings and end loads. When used on light wall stainless steel pipe, the Victaulic RX roll set must be used to roll groove the pipe. For further information regarding roll grooving stainless steel, refer to document 24.01.

* Sizes 2-4"/50-100 mm may be used to join 304/304L and 316/316L Schedule 10 stainless steel pipe from full vacuum (29.9 in Hg/760 mm Hg) to a maximum rated working pressure of 300 psi/2065 kPa.

MATERIAL SPECIFICATIONS

Housing: Ductile iron conforming to ASTM A-536, grade 65-45-12.

Housing Coating: Orange enamel.

Optional Coatings:

- Hot dipped galvanized

Gasket:

- **Grade "EHP"**

EHP (Red & Green stripe color code). Temperature range -30°F to +250°F/-34°C to +121°C. Recommended for hot water service within the specified temperature range plus a variety of dilute acids, oil-free air and many chemical services.* UL classified in accordance with ANSI/NSF 61 for cold +86°F/+30°C and hot +180°F/+82°C potable water service. NOT RECOMMENDED FOR PETROLEUM SERVICES.

- **Grade "T" nitrile**

Nitrile (Orange color code). Temperature range -20°F to +180°F/-29°C to +82°C. Recommended for petroleum products, air with oil vapors, vegetable and mineral oils within the specified temperature range. Not recommended for hot water services over +150°F/+66°C or for hot dry air over +140°F/+60°C.

* Services listed are General Service Recommendations only. It should be noted that there are services for which these gaskets are not recommended. Reference should always be made to the latest Victaulic Gasket Selection Guide for specific gasket service recommendations and for a listing of services which are not recommended.

Bolts/Nuts: Heat-treated plated carbon steel, trackhead meeting the physical and chemical requirements of ASTM A-449 and physical requirements of ASTM A-183.

Optional Bolts/Nuts: (Available in imperial size bolts and nuts only.)

Bolts: Stainless steel, meeting the requirements of ASTM F-593, Group 2 (316 stainless steel), condition CW, with galling resistant coating.

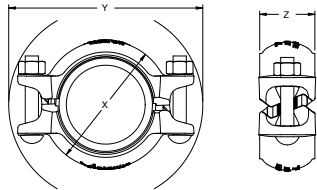
Nuts: ASTM F-594, Group 2 (316 stainless steel), condition CW

JOB/OWNER	CONTRACTOR	ENGINEER
System No. _____	Submitted By _____	Spec Sect _____ Para _____
Location _____	Date _____	Approved _____
		Date _____

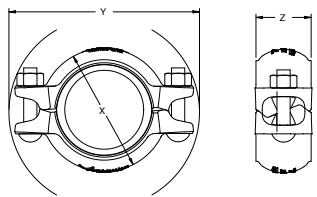
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DIMENSIONS



STYLE 177 PRE-ASSEMBLED
(INSTALLATION-READY CONDITION)

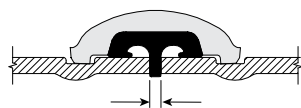


STYLE 177 JOINT ASSEMBLED

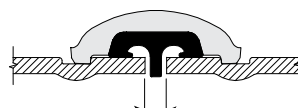
Size		Pipe End Sep. Inches mm			Bolt/Nut No. – Size	Dimensions – Inches/mm					Aprx. Wgt. Ea.
Nominal Size Inches mm	Actual Outside Diameter Inches mm	(1) Min	(2) Max	(3) Max		Pre-assembled (Installation-ready condition)		Joint Assembled			
					X	Y	X	Y	Z		
2 50	2.375 60.3	0.13 3.2	0.19 4.8	0.25 6.4	2 – 3/8 x 2 1/2	3.87 98	5.59 142	3.56 90	5.39 137	2.05 52	2.0 0.9
2 1/2 65	2.875 73.0	0.13 3.2	0.19 4.8	0.25 6.4	2 – 3/8 x 2 1/2	4.36 111	6.13 156	4.05 103	5.89 150	2.05 52	2.4 1.1
76.1mm	3.000 76.1	0.13 3.2	0.19 4.8	0.25 6.4	2 – M10 x 2 1/2	4.40 112	6.31 160	4.09 104	6.28 160	2.02 51	2.5 1.1
3 80	3.500 88.9	0.13 3.2	0.19 4.8	0.25 6.4	2 – 1/2 x 3	5.00 127	7.05 179	4.68 119	6.81 173	2.04 52	3.1 1.4
4 100	4.500 114.3	0.13 3.2	0.25 6.4	0.38 9.5	2 – 1/2 x 3	5.98 152	8.24 209	5.61 142	7.92 201	2.15 54	3.7 1.7
108.0mm	4.250 108.0	0.13 3.2	0.25 6.4	0.38 9.5	2 – M12 x 3	5.75 146	8.08 205	5.36 136	7.77 197	2.10 53	3.6 1.6
5 125	5.563 141.3	0.13 3.2	0.25 6.4	0.38 9.7	2 – 1/2 x 3	7.07 180	9.66 245	6.68 170	9.55 243	2.09 53	4.8 2.2
133.0mm	5.250 133.0	0.13 3.2	0.25 6.4	0.38 9.5	2 – M12 x 3	6.76 172	9.35 237	6.525 166	9.26 235	2.09 53	4.8 2.2
139.7mm	5.500 139.7	0.13 3.2	0.25 6.4	0.38 9.5	2 – M12 x 3	7.01 178	9.52 242	6.71 171	9.42 240	2.14 54	4.9 2.2
6 150	6.625 168.3	0.13 3.2	0.25 6.4	0.38 9.5	2 – 5/8 x 4	8.27 210	11.14 283	8.00 203	11.12 282	2.18 55	7.4 3.4
159.0mm	6.250 159.0	0.13 3.2	0.25 6.4	0.38 9.5	2 – M16 x 3 1/4	7.89 200	10.92 277	7.87 200	10.80 274	2.17 55	7.1 3.2
165.1mm	6.50 165.1	0.13 3.2	0.25 6.4	0.38 9.5	2 – M16 x 3 1/4	8.14 207	11.12 282	8.06 205	11.01 280	2.17 55	7.2 3.3
8 200	8.625 219.1	0.19 4.8	0.31 7.9	0.44 11.2	2 – 5/8 x 4	10.48 266	13.56 344	10.09 256	13.42 341	2.56 65	10.5 4.7

(1) The minimum pipe end separation as required by the gasket center leg for roll or cut grooved pipe. See illustrations below.

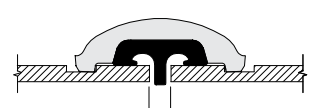
(2 & 3) Maximum pipe end separation to be used for determining overall piping system movement for roll (2) or cut (3) groove pipe. For design and installation purposes, the minimum and maximum pipe end separations should be reduced to the values shown in the table below. These design and installation considerations include thermal growth, settlement, installation misalignment and offsets. See illustrations below.



Minimum Pipe Separation (1)
Roll and Cut Groove



Maximum Pipe Separation (2)
Roll Groove
Exaggerated for clarity



Maximum Pipe Separation (3)
Cut Groove

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DESIGN AND INSTALLATION

The amount of linear movement and angular deflection to be used for design and installation consideration for each coupling is shown in the table below.

Size Range	Design and Installation Values					
	Roll Groove Pipe			Cut Groove Pipe		
	Linear Movement #	Angular Deflection †		Linear Movement #	Angular Deflection †	
Per Cplg. Deg.		Pipe In/Ft mm/m	Per Cplg. Deg.		Pipe In/Ft mm/m	
2	0.06		0.32	0.13		0.64
50	1.6	1.52°	26	3.2	3.04°	52
2½	0.06		0.26	0.13		0.52
65	1.6	1.25°	22	3.2	2.50°	44
76.1 mm	0.06		0.26	0.13		0.52
	1.6	1.20°	22	3.2	2.40°	44
3	0.06		0.22	0.13		0.44
80	1.6	1.03°	18	3.2	2.06°	36
4	0.13		0.34	0.25		0.68
100	3.2	1.60°	28	6.4	3.20°	56
108.0 mm	0.13		0.35	0.25		0.70
	3.2	1.68°	29	6.4	3.36°	58
5	0.13		0.27	0.25		0.54
125	3.3	1.30°	22	6.4	2.60°	45
133.0 mm	0.13		0.28	0.25		0.57
	3.2	1.35°	23	6.4	2.70°	47
139.7 mm	0.13		0.28	0.25		0.54
	3.3	1.30°	24	6.4	2.60°	45
6	0.13		0.23	0.25		0.46
150	3.2	1.08°	18	6.4	2.16°	36
159.0 mm	0.13		0.24	0.25		0.48
	3.2	1.15°	20	6.4	2.30°	40
165.1 mm	0.13		0.23	0.25		0.46
	3.2	1.10°	19	6.4	2.20°	38
8	0.13		0.18	0.25		0.35
200	3.3	0.83°	15	6.4	1.66°	29

† Victaulic recommends for design and installation purposes, these values should be reduced by 50% for ¾-3 ½"/20-90 mm sizes; 25% for 4"/100 mm and larger sizes.

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PERFORMANCE

ANSI STANDARD

Size		Schedule 10 (Steel Pipe)			Schedule 40 (Steel Pipe)		
Nominal Inches	Actual Outside Diameter Inches	Wall Thick. Inches	Max. * [†] Joint Work. Press. psi/kPa	Max. * [‡] Permis. End Load Lbs./N	Wall Thick. Inches	Max. * [§] Joint Work. Press. psi/kPa	Max. * [¶] Permis. End Load Lbs./N
Actual mm	mm	mm	psi/kPa	Lbs./N	mm	psi/kPa	Lbs./N
2	2.375	0.109	750	3322	0.154	1000	4430
50	60.3	2.77	5170	14780	3.91	6900	19706
2½	2.875	0.120	600	3895	0.230	1000	6492
60	73.0	3.05	4135	17326	5.84	6900	28877
3	3.500	0.120	600	5773	0.216	1000	9621
80	88.9	3.05	4135	25678	5.49	6900	42797
4	4.500	0.120	600	9543	0.237	1000	15904
100	114.3	3.05	4135	42448	6.02	6900	70746
5	5.563	0.134	500	12153	0.258	750	18229
125	141.3	3.40	3445	54059	6.55	5170	81088
6	6.625	0.134	450	15512	0.28	700	24130
150	168.3	3.40	3102	69000	7.11	4825	107336
8	8.625	0.148	300	17528	0.322	600	35056
200	219.1	3.76	2065	77968	8.18	4135	155936

WARNING: Depressurize and drain the piping system before attempting to install, remove or adjust any Victaulic piping products.

* Working Pressure and End Load are total, from all internal and external loads, based on (ANSI) steel pipe, grooved in accordance with Victaulic specifications. Contact Victaulic for performance on other pipe.

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

[†] cULus approved for use on schedule 10 pipe: 2, 2½, 3 and 4 inch sizes rated to 363 psi/25 bar; 5 inch rated to 290 psi/20 bar; 6 and 8 inch rated to 232 psi/16 bar.

FM approved on schedule 10 pipe: 2, 2½, 76.1mm, 3, 4, 139.7 mm, 5, 6 and 8 inch sizes rated to 363 psi/25 bar.

[§] cULus approved for use on schedule 40 pipe: 2, 2½, 3, 4, 5, 6 and 8 inch sizes rated to 363 psi/25 bar.

FM approved for use on schedule 10 and 40 pipe: 2, 2½, 76.1mm, 3, 4, 139.7 mm, 5, 6 and 8 inch sizes rated to 363 psi/25 bar.

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PERFORMANCE

DIN STANDARD

Size		Normal Din Wall Pipe			Other DIN Wall Pipe		
Nominal Inches mm	Actual Outside Diameter Inches mm	Wall Thick. Inches mm	Max. *†§ Joint Work. Press. psi/kPa	Max. * Permis. End Load Lbs./N	Wall Thick. Inches mm	Max. *§ Joint Work. Press. psi/kPa	Max. * Permis. End Load Lbs./N
2	2.375	0.091	750	3320	0.157	1000	4430
50	60.3	2.3	5170	14780	4.0	6900	19706
76.1 mm †	3.000	0.150	600	4240	0.200	1000	7070
	76.1	3.8	4135	18870	5.1	6900	31460
3	3.500	0.114	600	5773	0.197	1000	9621
80	88.9	2.9	4135	25678	5.0	6900	42797
4	4.500	0.126	600	9543	0.220	1000	15904
100	114.3	3.2	4135	42448	5.6	6900	70746
108.0 mm	4.250	0.114	600	8512	0.220	1000	14186
	108.0	2.9	4135	37862	5.6	6900	63104
133.0 mm	5.250	0.126	500	10824	0.248	750	16236
	133.0	3.2	3445	48147	6.3	5170	72220
139.7 mm †	5.500	0.150	500	11879	0.200	750	17819
	139.7	3.8	3445	52840	5.1	5170	79262
6	6.625	0.157	450	15512	0.280	700	24130
150	168.3	4.0	3102	69000	7.1	4825	107336
159.0 mm	6.250	0.126	500	15340	0.28	700	21476
	159.0	3.2	3445	68235	7.1	4825	95529
165.1 mm	6.50	0.177	450	14932	0.280	700	23228
	165.1	4.5	3102	66423	7.1	4825	103324
8	8.625	0.177	300	17528	0.315	600	35056
200	219.1	4.5	2065	77968	8.0	4135	155936

WARNING: Depressurize and drain the piping system before attempting to install, remove or adjust any Victaulic piping products.

* Working Pressure and End Load are total, from all internal and external loads, based on (ANSI) steel pipe, grooved in accordance with Victaulic specifications. Contact Victaulic for performance on other pipe.

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

† cULus approved for use on DIN wall pipe (2.9 mm thickness) 76.1 mm rated to 363 psi/25 bar; (4.0 mm thickness) 139.7 mm rated to 290 psi/20 bar; (4.5 mm thickness) 165.1 mm rated to 290 psi/20 bar.

§ FM approved on schedule 10 and 40 pipe: 2, 2½, 76.1mm, 3, 4, 108.0 mm, 133.0 mm, 139.7 mm, 5, 159.0 mm, 165.1, 6 and 8 inch sizes rated to 363 psi/25 bar.

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GENERAL NOTES

NOTE: When assembling Style 177 QuickVic flexible couplings onto end caps, take additional care to make certain the end cap is fully seat against the gasket center leg. For Style 177 QuickVic flexible couplings, use Victaulic No. 60 end caps containing "QV" or "QV/EZ" markings on the inside of the face. Non-Victaulic fittings shall not be used with Style 177 QuickVic flexible couplings.

INSTALLATION

Reference should always be made to the I-177 Victaulic Field Installation Instructions for the product you are installing. Instructions are included with each shipment of Victaulic products for 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.

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.

For complete contact information, visit www.victaulic.com

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