

Standard Flexible Coupling



STYLE 77

Style 77 couplings are designed with cross-ribbed construction to provide a strong component for pressure piping systems. The coupling is offered in a two piece housing design from 3/4 – 24”/20 – 600mm sizes for pressures up to 1000 psi/6900 kPa.

All sizes are provided with plated bolts and nuts. Galvanized and stainless steel housings are also available.

Independent testing has shown the Style 77 coupling to be an effective stress relief and vibration attenuation device providing performance superior to braided steel and elastomeric arch-type connectors when used in close proximity to the source of vibration. Refer to 26.04 for vibration information.

Independent testing has shown that Victaulic Style 77 flexible couplings provide exceptional functionality during and after earthquake conditions. Refer to 26.12 for further information.

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 17.01.

For 14 – 24”/350 – 600mm flexible roll groove systems, Victaulic recommends Style W77 AGS couplings. For more information, request submittal publication 20.03.



3/4 – 12”/20 – 300MM SIZES



14 – 24”/350 – 600 MM SIZES

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



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MATERIAL SPECIFICATIONS

Housing: Ductile iron conforming to ASTM A-536, grade 65-45-12. Ductile iron conforming to ASTM A-395, grade 65-45-15, is available upon special request.

Housing Coating: Orange enamel.

- **Optional:** Hot dipped galvanized and others.

Coupling Gasket: (specify choice*)†

- **Grade “E” EPDM (All other sizes)**

EPDM (Green color code). Temperature range –30°F to +230°F/–34°C to +110°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.

NOTE: Additional gasket styles are available. Contact Victaulic for details.

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:** ASTM F-593, Group 2, Type 316 stainless steel oval neck track bolts.
- **Optional Nuts:** ASTM F-594, Group 2, Type 316 stainless steel heavy hex nuts with galling resistant coating.

† Supplemental lubricant is recommended for services installed at or continuously operating below 0°F/–18°C.

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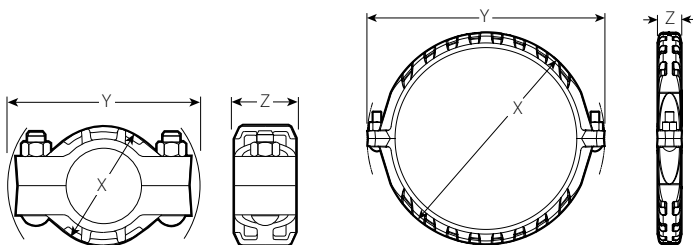
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DIMENSIONS

Size		Max. Work Pressure *	Max. End Load *	Allow. Pipe End Sep. †	Deflect. Fr. C ₁ †		Bolt/Nut@ No - Size	Dimensions – Inches/mm			Approx. Wgt. Each
Nominal Size Inches mm	Actual Outside Diameter Inches mm	psi kPa	Lbs. N	Inches mm	Per Cplg. Deg.	Pipe In./Ft. mm/m	Inches mm	X	Y	Z	Lbs. kg
¾ 20	1.050 26.7	1,000 6900	865 3850	0 – 0.06 0 – 1.6	3° – 24'	0.72 60	2 – ¾ x 2	2.13 54	4.00 102	1.75 44	1.1 0.5
1 25	1.315 33.4	1,000 6900	1,360 6050	0 – 0.06 0 – 1.6	2° – 43'	0.57 48	2 – ¾ x 2	2.38 61	4.12 105	1.75 44	1.2 0.5
1 ¼ 32	1.660 42.2	1,000 6900	2,160 9610	0 – 0.06 0 – 1.6	2° – 10'	0.45 38	2 – ½ x 2 ½	2.65 67	5.00 127	1.88 48	2.0 0.9
1 ½ 40	1.900 48.3	1,000 6900	2,835 12615	0 – 0.06 0 – 1.6	1° – 56'	0.40 33	2 – ½ x 2 ½	3.13 79	5.38 137	1.88 48	2.1 1.0
2 50	2.375 60.3	1,000 6900	4,430 19715	0 – 0.06 0 – 1.6	1° – 31'	0.32 26	2 – ½ x 2 ½	3.63 92	5.88 149	1.88 48	2.6 1.2
57.0mm	2.664 57.0	1,000 6900	3955 17592	0 – 0.16 0 – 1.6	1° – 34'	0.33 27	2 – ½ x 2 ½	3.43 87	5.73 146	1.9 48	3.0 1.4
2 ½ 65	2.875 73.0	1,000 6900	6,490 28880	0 – 0.06 0 – 1.6	1° – 15'	0.26 22	2 – ½ x 2 ¾	4.25 108	6.50 165	1.88 48	3.1 1.4
76.1mm	3.000 76.1	1,000 6900	7,070 31460	0 – 0.06 0 – 1.6	1° – 12'	0.26 22	2 – ½ x 2 ¾	4.38 111	6.63 168	1.88 48	3.2 1.5
3 80	3.500 88.9	1,000 6900	9,620 46810	0 – 0.06 0 – 1.6	1° – 2'	0.22 18	2 – ½ x 2 ¾	5.00 127	7.13 181	1.88 48	3.7 1.7
3 ½ 90	4.000 101.6	1,000 6900	12,565 55915	0 – 0.06 0 – 1.6	0° – 54'	0.19 16	2 – ¾ x 3 ¼	5.63 143	8.25 210	1.88 48	5.6 2.5
4 100	4.500 114.3	1,000 6900	15,900 70755	0 – 0.13 0 – 3.2	1° – 36'	0.34 28	2 – ¾ x 3 ¼	6.13 156	8.88 226	2.13 54	6.7 3.0
108.0mm	4.250 108.0	1,000 6900	14,180 63100	0 – 0.13 0 – 3.2	1° – 41'	0.35 29	2 – 16 x 82.5	6.00 152	8.63 219	2.13 54	11.0 5.0
5 125	5.563 141.3	1,000 6900	24,300 108135	0 – 0.13 0 – 3.2	1° – 18'	0.27 23	2 – ¾ x 4 ¼	7.75 197	10.65 270	2.13 54	10.6 4.8
133.0mm	5.250 133.0	1,000 6900	21,635 96275	0 – 0.13 0 – 3.2	1° – 21'	0.28 24	2 – 20 x 108	7.63 194	10.38 264	2.13 54	10.0 4.5
139.7mm	5.500 139.7	1,000 6900	23,745 105665	0 – 0.13 0 – 3.2	1° – 18'	0.28 24	2 – 20 x 108	8.63 219	10.65 270	2.13 54	10.0 4.5
6 150	6.625 168.3	1,000 6900	34,470 153390	0 – 0.13 0 – 3.2	1° – 5'	0.23 18	2 – ¾ x 4 ¼	8.63 219	11.88 302	2.13 54	12.0 5.4
159.0mm	6.250 159.0	1,000 6900	30,665 136460	0 – 0.13 0 – 3.2	1° – 9'	0.24 20	2 – 20 x 108	8.63 219	11.50 292	2.13 54	13.2 6.0
165.1mm	6.500 165.1	1,000 6900	33,185 147660	0 – 0.13 0 – 3.2	1° – 6'	0.23 19	2 – ¾ x 4 ¼	8.88 226	11.63 295	2.13 54	13.2 6.0

Table continued on page 3.

See notes on page 3.



¾ – 12"/20 – 300 MM SIZES

14 – 24"/350 – 600 MM SIZES

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DIMENSIONS

Size		Max. Work Pressure *	Max. End Load *	Allow. Pipe End Sep. †	Deflect. Fr. C, †		Bolt/Nut@ No - Size	Dimensions – Inches/mm			Approx. Wgt. Each
Nominal Size Inches mm	Actual Outside Diameter Inches mm	psi kPa	Lbs. N	Inches mm	Per Cplg. Deg.	Pipe In./Ft. mm/m	Inches mm	X	Y	Z	Lbs. kg
8 § 200	8.625 219.1	800 5500	46,740 207995	0 – 0.13 0 – 3.2	0° – 50'	0.18 14	2 – 7/8 x 5	11.00 279	14.75 375	2.50 63	20.8 9.4
10 § 250	10.750 273.0	800 5500	73,280 326100	0 – 0.13 0 – 3.2	0° – 40'	0.14 12	2 – 1 x 6	13.63 346	17.13 435	2.63 67	31.1 14.1
12 § 300	12.750 323.9	800 5500	102,000 453900	0 – 0.13 0 – 3.2	0° – 34'	0.12 9	2 – 1 x 6 1/2	15.63 397	19.25 489	2.63 67	27.8 12.6
14 ‡ 350	14.000 355.6	300 2065	46,180 205500	0 – 0.13 0 – 3.2	0° – 31'	0.11 9	2 – 1 x 3 1/2	16.75 425	20.25 514	3.00 76	39.2 17.8
377.0 mm μ	14.842 377.0	300 2065	51,875 230,845	0 – 0.13 0 – 3.2	0° – 31'	0.11 9	2 – 1 x 3 1/2	17.39 442	20.96 531	2.8 71	48.8 22.1
16 ‡ 400	16.000 406.4	300 2065	60,320 268425	0 – 0.13 0 – 3.2	0° – 27'	0.10 9	2 – 1 x 3 1/2	18.75 476	22.25 565	3.00 76	45.0 20.4
426.0 mm μ	16.772 426	300 2065	66,245 294,795	0 – 0.13 0 – 3.2	0° – 27'	0.10 9	2 – 1 x 3 1/2	19.69 500	22.92 581	2.92 74	56.7 25.7
18 ‡ 450	18.000 457.2	300 2065	76,340 339710	0 – 0.13 0 – 3.2	0° – 24'	0.08 7	2 – 1 1/8 x 4	21.56 548	25.00 635	3.13 80	64.1 29.1
480.0 mm μ	18.898 48	300 2065	84,105 374,265	0 – 0.13 0 – 3.2	0° – 24'	0.08 7	2 – 1 1/8 x 4	22.38 569	25.86 655	3.04 77	77.2 35
20 ‡ 500	20.000 508.0	300 2065	94,000 418300	0 – 0.13 0 – 3.2	0° – 22'	0.08 7	2 – 1 1/8 x 4	23.63 600	27.00 686	3.13 80	74.8 34.0
22 550	22.00 559.0	300 2065	114,000 507300	0 – 0.13 0 – 3.2	0° – 19'	0.07 6	2 – 1 1/8 x 4	25.63 651	29.13 740	3.13 80	82.6 37.5
530.0 mm μ	20.866 530	300 2065	102,535 456,280	0 – 0.13 0 – 3.2	0° – 22'	0.08 7	2 – 1 1/8 x 4	24.29 617	27.8 704	3.07 77	91.7 41.6
580.0 mm μ	22.835 580	300 2065	102,380 455,591	0 – 0.13 0 – 3.2	0° – 19'	0.07 6	2 – 1 1/8 x 4	26.76 680	30.01 762	3.12 79	92.8 42.2
24 ‡ 600	24.000 609.6	250 1725	113,000 502850	0 – 0.13 0 – 3.2	0° – 18'	0.07 6	2 – 1 1/8 x 4	27.75 705	31.00 787	3.19 81	89.6 40.7
630.0 mm μ	24.803 630	250 1725	102,790 457,416	0 – 0.13 0 – 3.2	0° – 18'	0.07 6	2 – 1 1/8 x 4	28.42 722	32.16 817	3.12 79	96.8 44
14 – 24 350 – 600	AGS See Style W77, Publication 20.03										

§ Couplings 8, 10, 12"/200, 250, 300 mm sizes available to JIS standards. Refer to Section 06.17 for details.

* Working Pressure and End Load are total, from all internal and external loads, based on standard weight (ANSI) steel pipe, standard **roll** or **cut** 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 1 1/2 times the figures shown.

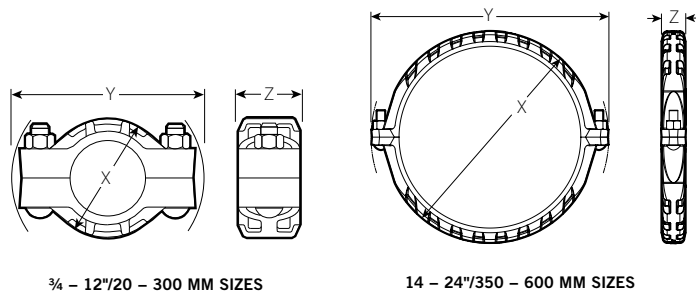
† Allowable Pipe End Separation and Deflection figures show the maximum nominal range of movement available at each joint for standard **roll** grooved pipe. Figures for standard **cut** grooved pipe may be doubled. These figures are maximums; for design and installation purposes these figures should be reduced by: 50% for 3/4 – 3 1/2"/20 – 90 mm; 25% for 4"/100 mm and larger.

@ Number of bolts required equals number of housing segments.

Metric thread size bolts are available (color coded gold) for all coupling sizes upon request. Contact Victaulic for details.

‡ For 14 – 24"/350 – 600 mm Roll Groove systems Victaulic offers the Advanced Groove System (AGS) line of products. Request publication 20.03 for information on the Style W77 flexible AGS coupling.

μ CIS size product is designed with two housings and requires two bolts.



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INSTALLATION

Reference should always be made to the I-100 Victaulic Field Installation Handbook for the product you are installing. Handbooks 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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