Victaulic® Standard Flexible Coupling Style 77

06.04

¾ – 12"/20 – 300 mm sizes

14 – 24"/350 – 600 mm sizes

Approvals/Listings

104-1a/04

See Victaulic publication 10.01 for details

See Victaulic publication 02.06 for potable water approvals if applicable.

Product Description

Style 77 couplings are designed with cross-ribbed construction to provide a component for pressure piping systems. The coupling is offered in a two piece housing design from ¾ – 24"/20 – 600 mm 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 publication 26.04 for vibration information.

Independent testing has shown that Victaulic Style 77 flexible couplings provide functionality during and after earthquake conditions. Refer to publication 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 publication 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 grooving stainless steel pipe, refer to publication 17.01.

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

⚠ 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.**

Job/Owner

System No.	
Location	

Contractor

Submitted By	
Date	

Engineer

Spec Section	
Paragraph	
Approved	
Date	

06.04 1469 Rev O Updated 09/2014

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: (specify choice)

- ☐ Standard: Orange enamel.
- ☐ Optional: Hot dipped galvanized and others.

Gasket: (specify choice[1])

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

- ☐ **Grade "E" EPDM**
  EPDM (Green stripe color code). Temperature range –30°F to +230°F/–34°C to +110°C. May be specified for cold and 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 +73°F/+23°C and hot +180°F/+82°C potable water service and ANSI/NSF 372. NOT COMPATIBLE FOR PETROLEUM SERVICES.
- ☐ **Grade "T" Nitrile**
  Nitrile (Orange stripe color code). Temperature range -20°F to +180°F/-29°C to +82°C. May be specified for petroleum products, air with oil vapors, vegetable and mineral oils within the specified temperature range. Not compatible for hot water services over +150°F/+66°C or for hot dry air over +140°F/+60°C.

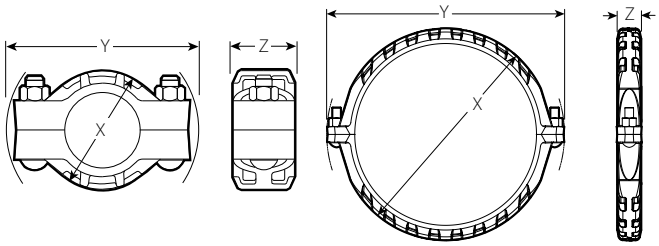
1 Services listed are General Service Guidelines only. It should be noted that there are services for which these gaskets are not compatible. Reference should always be made to the latest Victaulic Gasket Selection Guide for specific gasket service guidelines and for a listing of services which are not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

Bolts/Nuts: (specify choice)

- ☐ Standard: Heat-treated plated carbon steel, trackhead meeting the physical and chemical requirements of ASTM A-449 and physical requirements of ASTM A-183
- ☐ Optional: ASTM F-593, Group 2, Type 316 stainless steel oval neck track bolts.
- ☐ Optional: ASTM F-594, Group 2, Type 316 stainless steel heavy hex nuts with galling resistant coating.

Dimensions

Style 77



¾ – 12"/20 –300 mm sizes 14 – 24"/350 –600 mm sizes

Nominal Size	Actual Outside Diameter	Maximum Working Pressure [2]	Maximum End Load [2]	Allow. Pipe End Separation [3]	Deflection from Centerline [3]		Bolt/Nut [4]	Dimensions			Approx. Weight Each
								X	Y	Z	
inches mm	inches mm	psi kPa	lbs. N	inches mm	Per Cplg. Degrees	Pipe inches/ft. mm/m	(No.) size inches	inches mm	inches mm	inches mm	lbs. kg
¾ 20	1.050 26.7	1000 6900	865 3850	0–0.06 0–1.6	3º–24′	0.72 60	2– ⅜ x 2	2.13 54	4.00 102	1.75 44	1.1 0.5
1 25	1.315 33.4	1000 6900	1,360 6050	0–0.06 0–1.6	2º–43′	0.57 48	2– ⅜ x 2	2.38 61	4.12 105	1.75 44	1.2 0.5
1 ¼ 32	1.660 42.2	1000 6900	2,160 9610	0–0.06 0–1.6	2º–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	1000 6900	2,835 12615	0–0.06 0–1.6	1º–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	1000 6900	4,430 19715	0–0.06 0–1.6	1º–31′	0.32 26	2– ½ x 2 ½	3.63 92	5.88 149	1.88 48	2.6 1.2
57.0 mm	2.664 57.0	1000 6900	3955 17592	0–0.06 0–1.6	1º–34′	0.33 27	2– ½ x 2 ½	3.43 87	5.73 146	1.90 48	3.0 1.4
2½ 65	2.875 73.0	1000 6900	6,490 28880	0–0.06 0–1.6	1º–15′	0.26 22	2– ½ x 2¾	4.25 108	6.50 165	1.88 48	3.1 1.4
76.1 mm	3.000 76.1	1000 6900	7,070 31460	0–0.06 0–1.6	1º–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	1000 6900	9,620 46810	0–0.06 0–1.6	1º–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	1000 6900	12,565 55915	0–0.06 0–1.6	0º–54′	0.19 16	2– ⅝ x 3 ¼	5.63 143	8.25 210	1.88 48	5.6 2.5
4 100	4.500 114.3	1000 6900	15,900 70755	0–0.13 0–3.2	1º–36′	0.34 28	2– ⅝ x 3 ¼	6.13 156	8.88 226	2.13 54	6.7 3.0
108.0 mm	4.250 108.0	1000 6900	14,180 63100	0–0.13 0–3.2	1º–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	1000 6900	24,300 108135	0–0.13 0–3.2	1º–18′	0.27 23	2– ¾ x 4 ¼	7.75 197	10.65 270	2.13 54	10.6 4.8
133.0 mm	5.250 133.0	1000 6900	21,635 96275	0–0.13 0–3.2	1º–21′	0.28 24	2– 20 x 108	7.63 194	10.38 264	2.13 54	10.0 4.5
139.7 mm	5.500 139.7	1000 6900	23,745 105665	0–0.13 0–3.2	1º–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	1000 6900	34,470 153390	0–0.13 0–3.2	1º–5′	0.23 18	2– ¾ x 4 ¼	8.63 219	11.88 302	2.13 54	12.0 5.4
159.0 mm	6.250 159.0	1000 6900	30,665 136460	0–0.13 0–3.2	1º–9′	0.24 20	2– 20 x 108	8.63 219	11.50 292	2.13 54	13.2 6.0

2 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.

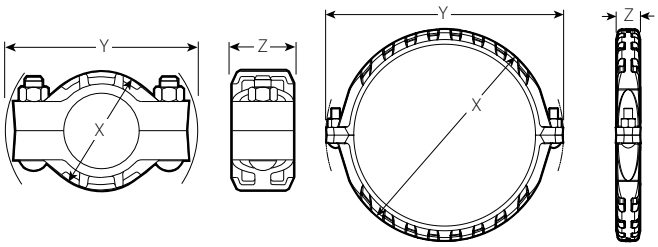
3 Allowable Pipe End Separation and Deflection figures show the maximum nominal range of movement available at each joint for standard **roll** grooved pipe. Figures for standard **cut** grooved pipe may be doubled. These figures are maximums; for design and installation purposes these figures should be reduced by: 50% for ¾ – 3 ½"/20 – 90 mm; 25% for 4"/100 mm and larger.

4 Number of bolts required equals number of housing segments.

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

6 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.

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



¾ – 12”/20 –300 mm sizes 14 – 24”/350 –600 mm sizes

Nominal Size inches mm	Actual Outside Diameter inches mm	Maximum Working Pressure [2] psi kPa	Maximum End Load [2] lbs. N	Allow. Pipe End Separation [3] inches mm	Deflection from Centerline [3] Per Cplg. Degrees	 Pipe inches/ft. mm/m	Bolt/Nut [4] (No.) size inches	Dimensions X inches mm	 Y inches mm	 Z inches mm	Approx. Weight Each lbs. kg
165.1 mm	6.500 165.1	1000 6900	33,185 147660	0–0.13 0–3.2	1º–6′	0.23 19	2– ¾ x 4 ¼	8.88 226	11.63 295	2.13 54	13.2 6.0
8 [5] 200	8.625 219.1	800 5500	46,740 207995	0–0.13 0–3.2	0º–50′	0.18 14	2– ⅞ x 5	11.00 279	14.75 375	2.50 63	20.8 9.4
10 [5] 250	10.750 273.0	800 5500	73,280 326100	0–0.13 0–3.2	0º–40′	0.14 12	2– 1 x 6	13.63 346	17.13 435	2.63 67	31.1 14.1
12 [5] 300	12.750 323.9	800 5500	102,000 453900	0–0.13 0–3.2	0º–34′	0.12 9	2– 1 x 6 ½	15.63 397	19.25 489	2.63 67	27.8 12.6
14 [6] 350	14.000 355.6	300 2065	46,180 205500	0–0.13 0–3.2	0º–31′	0.11 9	2– 1 x 3 ½	16.75 425	20.25 514	3.00 76	39.2 17.8
377.0 mm [7]	14.842 377.0	300 2065	51,875 230,845	0–0.13 0–3.2	0º–31′	0.11 9	2– 1 x 3 ½	17.39 442	20.96 531	2.80 71	48.8 22.1
16 [6] 400	16.000 406.4	300 2065	60,320 268425	0–0.13 0–3.2	0º–27′	0.10 9	2– 1 x 3 ½	18.75 476	22.25 565	3.00 76	45 20.4
426.0 mm [7]	16.772 426.0	300 2065	66,245 294,795	0–0.13 0–3.2	0º–27′	0.10 9	2– 1 x 3 ½	19.69 500	22.92 581	2.92 74	56.7 25.7
18 [6] 450	18.000 457.2	300 2065	76,340 339710	0–0.13 0–3.2	0º–24′	0.08 7	2– 1 ⅛ x 4	21.56 548	25.00 635	3.13 80	64.1 29.1
480.0 mm [7]	18.898 48.0	300 2065	84,105 374,265	0–0.13 0–3.2	0º–24′	0.08 7	2– 1 ⅛ x 4	22.38 569	25.86 655	3.04 77	77.2 35
20 [6] 500	20.000 508.0	300 2065	94,000 418300	0–0.13 0–3.2	0º–22′	0.08 7	2– 1 ⅛ x 4	23.63 600	27.00 686	3.13 80	74.8 34
22 550	22.000 559.0	300 2065	114,000 507300	0–0.13 0–3.2	0º–19′	0.07 6	2– 1 ⅛ x 4	25.63 651	29.13 740	3.13 80	82.6 37.5
530.0 mm [7]	20.866 530.0	300 2065	102,535 456,280	0–0.13 0–3.2	0º–22′	0.08 7	2– 1 ⅛ x 4	24.29 617	27.80 704	3.07 77	91.7 41.6
580.0 mm [7]	22.835 580.0	300 2065	102,380 455,591	0–0.13 0–3.2	0º–19′	0.07 6	2– 1 ⅛ x 4	26.76 680	30.01 762	3.12 79	92.8 42.2
24 [6] 600	24.000 609.6	250 1725	113,000 502850	0–0.13 0–3.2	0º–18′	0.07 6	2– 1 ⅛ x 4	27.75 705	31.00 787	3.19 81	89.6 40.7
630.0 mm [7]	24.803 630.0	250 1725	102,790 457,416	0–0.13 0–3.2	0º–18′	0.07 6	2– 1 ⅛ 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 AGS®										

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General Notes

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

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

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.

Trademarks
Victaulic® is a registered trademark of Victaulic Company.

