

# Flexible Coupling

## STYLE 77S

Designed to provide a rugged mechanical joint for grooved end stainless steel piping systems, Style 77S couplings are cast of CE8MN (duplex stainless steel) for coupling sizes 1" through 4"/25 – 100mm and CF8M (316 stainless steel) for couplings 3/4"/20mm and 6" through 18"/150 – 450mm.

See pressure rating table.



### MATERIAL SPECIFICATIONS

**Housing:**

**1" – 4"/25 – 100mm:** CE8MN (duplex stainless steel conforming to ASTM A890/A890M)

**3/4"/20mm and 6" – 18"/150 – 450mm:** CF8M (316 stainless steel) conforming to ASTM A351, A743 and A744.

**Housing Coating:** None

**Gaskets:**

\*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 (05.01) for specific gasket service recommendations and for a listing of services which are not recommended.

- **Grade "E" EPDM**

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

**Optional Gaskets:** (specify choice\*)

- **Grade "O" fluoroelastomer**

Fluoroelastomer (Blue color code). Temperature range +20°F to + 300°F/-7°C to +149°C. Recommended for many oxidizing acids, petroleum oils, halogenated hydrocarbons, lubricants, hydraulic fluids, organic liquids and air with hydrocarbons.

- **Grade "A" white nitrile**

White nitrile (White gasket). Temperature range +20°F to +180°F/-7°C to +82°C. No carbon black content. May be used for food services. Meets FDA requirements and conforms to CFR Title 21 Part 177.2600.

Other gaskets are available. Please refer to 05.01.

**Hardware:**

Track Bolts: 1" – 4"/25 – 100mm: ASTM F-593, Group 2 (316 stainless steel), condition CW.  
3/4" and 6" through 18": ASTM A-193, Grade B8M (316 stainless steel), Class 2.

Heavy Hex Nuts: 1" – 4"/25 – 100mm: ASME/ANSI B18.2.2, Type 651 silicon bronze  
Optional: ASTM F-594, Group 2 (316 stainless steel), condition CW, special anti-galling coating.

Nut Sizes: 3/8", 1/2" and 5/8"

3/4"/20mm and 6" – 18"/150 – 450mm: ASTM A-194, Grade B8M (316 stainless steel), Class 2, special anti-galling coating.

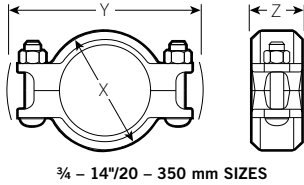
Flat Washers: 1" – 4"/25 – 100mm: 316 stainless steel per ASME/ANSI B18.22.1  
3/4"/20mm and 6" – 18"/150 – 450mm: None.

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

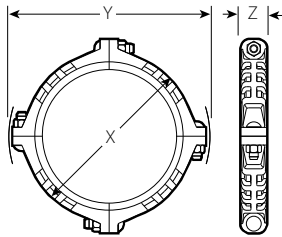
# Flexible Coupling

## STYLE 77S

### DIMENSIONS



¾ - 14"/20 - 350 mm SIZES



16 - 18"/400 - 450 mm SIZES

Size			Deflect. Fr. $C_L$ †		Bolt/Nut No.-Size*	Dimensions – Inches/mm			Approx. Wgt. Each
Nominal Size Inches mm	Actual Out. Dia. Inches mm	Allow. Pipe End Sep. # In./mm	Per Deg. Cplg.	Pipe In./Ft. mm/m	Inches mm	X	Y	Z	Lbs. kg
¾ 20	1.050 26.9	0 - 0.06 0 - 1.6	3° - 24'	0.72 60	2 - ¾ X 2	2.08 53	3.89 99	1.70 43	1.2 0.6
1 25	1.315 33.7	0 - 0.06 0 - 1.6	2° - 43'	0.57 48	2 - ¾ X 2	2.54 65	4.50 114	1.66 42	1.6 0.7
1¼ 32	1.900 42.4	0 - 0.06 0 - 1.6	2° - 10'	0.45 38	2 - ¾ X 2	2.87 73	4.79 122	1.76 45	1.9 0.9
1½ 40	1.900 48.3	0 - 0.06 0 - 1.6	1° - 56'	0.40 33	2 - ¾ X 2	3.24 82	4.80 122	1.76 45	2.1 1.0
2 50	2.375 60.3	0 - 0.06 0 - 1.6	1° - 31'	0.32 26	2 - ¾ X 2	3.70 94	5.33 135	1.84 47	2.5 1.1
2½ 65	2.875 73.0	0 - 0.06 0 - 1.6	1° - 15'	0.26 22	2 - ¾ X 2	4.20 107	5.79 147	1.84 47	2.9 1.3
3 80	3.500 88.9	0 - 0.06 0 - 1.6	1° - 2'	0.22 18	2 - ½ X 2¾	4.83 123	6.99 178	1.84 47	4.1 1.9
4 100	4.500 114.3	0 - 0.13 0 - 3.2	1° - 36'	0.34 28	2 - 5/8 X 3½	5.93 151	9.00 229	2.06 52	6.7 3.0
6 150	6.625 168.3	0 - 0.13 0 - 3.2	1° - 12'	0.21 18	2 - 5/8 X 3¾	8.30 211	11.06 281	2.06 52	8.5 3.9
8 200	8.625 219.1	0 - 0.13 0 - 3.2	0° - 50'	0.18 14	2 - 7/8 X 5	11.38 229	14.74 374	2.44 62	23.5 10.7
10 250	10.750 273.0	0 - 0.13 0 - 3.2	0° - 40'	0.14 12	2 - 1 X 6	13.50 343	17.33 440	2.63 67	33.0 15.0
12 300	12.750 323.9	0 - 0.13 0 - 3.2	0° - 34'	0.12 9	2 - 1 X 6½	15.50 394	19.15 486	2.56 65	35.0 15.9
14 350	14.000 355.6	0 - 0.13 0 - 3.2	0° - 31'	0.11 9	2 - 1 X 6½	16.56 421	20.44 519	2.81 71	37.0 16.8
16 400	16.000 406.4	0 - 0.13 0 - 3.2	0° - 27'	0.10 9	4 - 1 X 5½	18.94 481	22.52 572	2.94 75	53.0 24.0
18 450	18.000 457.0	0 - 0.13 0 - 3.2	0° - 24'	0.08 7	4 - 1 X 5½	21.25 540	24.62 625	3.06 78	62.0 25.0

† 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 - 3½"/20 - 90mm; 25% for 4"/100mm and larger.

# Flexible Coupling

## STYLE 77S

### PERFORMANCE

Nominal Size In./mm	Actual Outside Dia. In./mm	Schedule 40S §			Schedule 40S ††			Schedule 10S			Schedule 5S		
		Max. Joint Work. Press.* psi/kPa	Max. Perm. End Load Lbs./N	Nom. Wall Thck. In./mm	Max. Joint Work. Press.* psi/kPa	Max. Perm. End Load Lbs./N	Nom. Wall Thck. In./mm	Max. Joint Work. Press.* psi/kPa	Max. Perm. End Load Lbs./N	Nom. Wall Thck. In./mm	Max. Joint Work. Press.* psi/kPa	Max. Perm. End Load Lbs./N	Nom. Wall Thck. In./mm
¾ 20	1.050 26.9	750 5175	650 2893	0.113 2.87	- -	- -	- -	500 3445	430 1915	0.083 2.11	325 2241	280 1245	0.065 1.65
1 25	1.315 33.7	750 5175	1000 4450	0.133 3.38	1200 †† 8273	1600 †† 7120	0.133 3.38	500 3445	680 3025	0.109 2.77	325 2241	440 1960	0.065 1.65
1 ¼ 32	1.660 42.4	750 5175	1600 7120	0.140 3.56	1200 †† 8273	2500 †† 11120	0.140 3.56	500 3445	1080 4805	0.109 2.77	325 2241	700 3115	0.065 1.65
1 ½ 40	1.900 48.3	750 5175	2100 9345	0.145 3.68	1200 †† 8273	3400 †† 15120	0.145 3.68	500 3445	1415 6295	0.109 2.77	325 2241	920 4095	0.065 1.65
2 50	2.375 60.3	750 5175	3300 14685	0.154 3.91	1200 †† 8273	5300 †† 23575	0.154 3.91	500 3445	2215 9855	0.109 2.77	325 2241	1440 6408	0.065 1.65
2 ½ 65	2.875 73.0	750 5175	4900 21805	0.203 5.16	1200 †† 8273	7700 †† 34250	0.203 5.16	500 3445	3245 14440	0.120 3.05	325 2241	2110 9390	0.083 2.11
3 80	3.500 88.9	750 5175	7200 32040	0.216 5.49	1200 †† 8273	11500 †† 51175	0.216 5.49	400 2760	3850 17133	0.120 3.05	250 1724	2405 10702	0.083 2.11
4 100	4.500 114.3	400 † 2760	6360 28302	0.237 6.02	1200 †† 8273	19000 †† 84500	0.237 6.02	350 2413	5565 24764	0.120 3.05	225 1551	3580 15931	0.083 2.11
6 150	6.625 168.3	300 † 2068	10340 46013	0.280 7.11	- -	- -	- -	200 1379	6900 30705	0.134 3.40	125 862	4300 19135	0.109 2.77
8 200	8.625 219.1	300 † 2068	17525 77986	0.322 8.18	- -	- -	- -	125 862	7300 32485	0.148 3.76	75 517	4380 19491	0.109 2.77
10 250	10.750 273.0	300 † 2068	27225 121151	0.365 9.27	- -	- -	- -	75 517	6810 30305	0.165 4.19	50 345	4540 20203	0.134 3.40
12 300	12.750 323.9	300 † 2068	38300 170435	0.375 9.53	- -	- -	- -	125 862	15960 71022	0.180 4.57	75 517	9575 42609	0.156 3.96
14 350	14.000 355.6	200 1379	30800 137060	0.375 § 9.53	- -	- -	- -	100 689	15400 68530	0.188 4.77	65 448	10000 44500	0.156 3.96
16 400	16.000 406.4	125 862	25130 111829	0.375 § 9.53	- -	- -	- -	45 276	9050 40273	0.188 4.77	35 241	7040 31328	0.165 4.19
18 450	18.000 457.0	100 689	25450 113253	0.375 § 9.53	- -	- -	- -	40 345	10180 45301	0.188 4.77	30 207	7635 33976	0.165 4.19

§ Standard weight for 14" and above.

† Maximum joint working pressure for Schedule 40S **cut grooved** pipe may be increased to 600 psi on 4", 500 psi on 6" and 400 psi on 8 - 12" sizes

\* Working Pressure and End Load are total, from all internal and external loads, based on stainless steel pipe, roll grooved with Victaulic rolls in accordance with Victaulic specifications. "RX" rolls must be used for Schedules 5S, 10S and 10. Standard rolls should be used for Schedule 40S and Standard Weight pipe. Contact Victaulic for performance on other pipe.

WARNING: FOR ONE TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1 ½ times the figures shown.

Metric thread size bolts are available for all coupling sizes upon request. Contact Victaulic for details.

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

†† Cut grooved, Schedule 40S Duplex pipe.

## Flexible Coupling

### STYLE 77S

---

**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](http://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.



WCAS-7L5H77

---

For complete contact information, visit [www.victaulic.com](http://www.victaulic.com)

17.03 1955 REV K UPDATED 11/2008

VICTAULIC IS A REGISTERED TRADEMARK OF VICTAULIC COMPANY. © 2008 VICTAULIC COMPANY. ALL RIGHTS RESERVED.

17.03

