

Duplex Stainless Steel Flexible Coupling

STYLE 77DX

The Style 77DX is designed to provide a rugged mechanical joint for roll grooved Type 304/316 stainless steel and cut grooved duplex/super duplex stainless steel piping systems. Style 77DX couplings are available in sizes 3/4 - 6"/20 - 150mm, and are cast of duplex and/or super duplex stainless steel. Style 77DX couplings come standard with WRAS-certified, Grade "EW" EPDM gasket material with approved microbiological resistance.

See page 3 for pressure ratings based on ANSI wall thicknesses and page 4 for pressure ratings for ISO wall thicknesses.

NOTE: For sizes 8 - 18"/200 - 450mm, Type 316 stainless steel flexible couplings, please see submittal publication 17.03 for the Style 77S Stainless Steel Flexible Coupling.

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MATERIAL SPECIFICATIONS

Housing: Duplex stainless steel (CE8MN) conforming to ASTM A-890

Optional Housing: Super Duplex stainless steel (CE3MN) conforming to ASTM A-890

Gaskets:

- **Grade "EW" EPDM**
EPDM (Green W 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. WRAS-certified material with approved microbiological resistance to BS 6920 for cold and hot potable water service up to +149°F/+65°C. 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.

Optional Gaskets: (specify choice)

- **Grade "E" EPDM**
EPDM (Green Stripe 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 Stripe 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.
- **Grade "O" fluoroelastomer**
Fluoroelastomer (Blue Stripe 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.

*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.



3/4 - 6"/20 - 150MM

JOB/OWNER

System No. _____
Location _____

CONTRACTOR

Submitted By _____
Date _____

ENGINEER

Spec Sect _____ Para _____
Approved _____
Date _____

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STYLE 77DX

MATERIAL SPECIFICATIONS

Hardware:

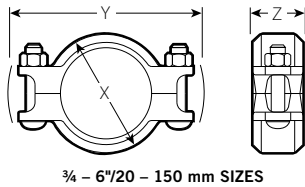
Bolts: ASTM F-593, Group 2, type 316 stainless steel oval neck track bolts

Nuts: ASME/ANSI B18.22, Type 651 silicon bronze heavy hex nut

Optional Nuts: ASTM F-594, Group 2, Type 316 stainless steel heavy hex nuts with galling resistant coating

Washers: ASME/ANSI B18.22.1, Type 316 stainless steel flat washer

DIMENSIONS



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
3/4 20	1.050 26.9	0 - 0.06 0 - 1.6	3° - 24'	0.72 60	2 - 3/8 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 - 3/8 X 2	2.54 65	4.50 114	1.66 42	1.6 0.7
1 1/4 32	1.660 42.4	0 - 0.06 0 - 1.6	2° - 10'	0.45 38	2 - 3/8 X 2	2.87 73	4.79 122	1.76 45	1.9 0.9
1 1/2 40	1.900 48.3	0 - 0.06 0 - 1.6	1° - 56'	0.40 33	2 - 3/8 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 - 3/8 X 2	3.70 94	5.33 135	1.84 47	2.5 1.1
2 1/2 65	2.875 73.0	0 - 0.06 0 - 1.6	1° - 15'	0.26 22	2 - 3/8 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 - 1/2 X 2 3/4	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 3 1/2	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 3 1/4	8.30 211	11.06 281	2.06 52	8.5 3.9
8 - 18 200 - 450	† For 8 – 18"/200 – 450mm sizes Victaulic offers stainless steel couplings. See Submittal 17.03 for the Style 77S Stainless Steel Flexible Coupling.								

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

Duplex Stainless Steel Flexible Coupling

STYLE 77DX

PERFORMANCE ON ANSI WALL THICKNESSES

Pipe Diameter		Style 77DX				
Nominal Pipe Size	Actual Outside Diameter	Pipe Wall Thickness		Grooving Method	Maximum	
					Working Pressure	End Load
Inches mm	Inches mm	Inches mm	ANSI Schedule Number	St = Standard Roll Set RX = SS Roll Set C = Cut Groove	PSI kPa	Lbs N
¾ 20	1.050 26.9	0.154 3.9	80S	C	750 5171	649 2889
		0.114 2.9	Duplex/Super Duplex 40S	C	1200 8273	1000 4450
		0.114 2.9	40S	St/C	750 5171	649 2889
		0.083 2.1	10S	RX	500 3447	433 1927
		0.065 1.6	5S	RX	500 3447	433 1927
1 25	1.315 33.7	0.193 4.9	80S	C	750 5171	1019 4531
		0.133 3.4	Duplex/Super Duplex 40S	C	1200 8273	1600 7120
		0.142 3.6	40S	St/C	750 5171	1019 4531
		0.110 2.8	10S	RX	500 3447	680 3023
		0.067 1.7	5S	RX	400 2758	543 2416
1¼ 32	1.660 42.4	0.193 4.9	80S	C	750 5171	1623 7220
		0.140 3.6	Duplex/Super Duplex 40S	C	1200 8273	2500 11120
		0.142 3.6	40S	St/C	750 5171	1623 7220
		0.110 2.8	10S	RX	500 3447	1083 4817
		0.067 1.7	5S	RX	400 2758	866 3851
1½ 40	1.900 48.3	0.201 5.1	80S	C	750 5171	2126 9459
		0.145 3.7	Duplex/Super Duplex 40S	C	1200 8273	3400 15120
		0.146 3.7	40S	St/C	750 5171	2126 9459
		0.110 2.8	10S	RX	500 3447	1419 6311
		0.067 1.7	5S	RX	400 2758	1134 5045
2 50	2.375 60.3	0.217 5.5	80S	C	750 5171	3323 14780
		0.154 3.9	Duplex/Super Duplex 40S	C	1200 8273	5300 23575
		0.154 3.9	40S	St/C	750 5171	3323 14780
		0.110 2.8	10S	RX	500 3447	2217 9861
		0.067 1.7	5S	RX	325 2241	1440 6405

Pipe Diameter		Style 77DX				
Nominal Pipe Size	Actual Outside Diameter	Pipe Wall Thickness		Grooving Method	Maximum	
					Working Pressure	End Load
Inches mm	Inches mm	Inches mm	ANSI Schedule Number	St = Standard Roll Set RX = SS Roll Set C = Cut Groove	PSI kPa	Lbs N
2½ 65	2.875 73.0	0.276 7.0	80S	C	750 5171	4869 21658
		0.203 5.2	Duplex/Super Duplex 40S	C	1200 8273	7700 34250
		0.205 5.2	40S	St/C	750 5171	4869 21658
		0.122 3.1	10S	RX	500 3447	3248 14449
		0.083 2.1	5S	RX	325 2241	2110 9386
3 80	3.500 88.9	0.299 7.6	80S	C	750 5171	7221 32122
		0.216 5.5	Duplex/Super Duplex 40S	C	1200 8273	11500 51150
		0.217 5.5	40S	St/C	750 5171	7221 32122
		0.122 3.1	10S	RX	500 3447	4814 21415
		0.083 2.1	5S	RX	325 2241	3127 13910
4 100	4.500 114.3	0.339 8.6	80S	C	750 5171	11937 53100
		0.237 6.0	Duplex/Super Duplex 40S	C	1200 8273	19000 84500
		0.236 6.0	40S	St/C	750 5171	11937 53100
		0.122 3.1	10S	RX	400 2758	6343 28217
		0.083 2.1	5S	RX	250 1724	3979 17700
6 150	6.625 168.3	0.280 7.1	80S	C	750 5171	25873 115090
		0.237 6.0	Duplex/Super Duplex 40S	C	1200 8273	19000 84500
		0.280 7.1	40S	St/C	500 3447	17249 76727
		0.134 3.4	10S	RX	200 1379	6875 30579
		0.110 2.8	5S	RX	125 862	4310 19171
8 - 8 200 - 450	For 8 - 18"/200 - 450mm sizes Victaulic offers stainless steel couplings. See Submittal 17.03 for the Style 77S Stainless Steel Flexible Coupling.					

Duplex Stainless Steel Flexible Coupling

STYLE 77DX

PERFORMANCE ON ISO WALL THICKNESSES

Pipe Diameter		Style 77DX			
Nominal Pipe Size	Actual Outside Diameter	Pipe Wall Thickness	Grooving Method	Maximum	
				Working Pressure	End Load
Inches mm	Inches mm	Inches mm	St = Standard Roll Set RX = SS Roll Set C = Cut Groove	PSI kPa	Lbs N
¾ 20	1.050 26.9	0.157 4.0	C	750 5171	649 2889
		0.126 3.2	C	750 5171	649 2889
		0.102 2.6	St	650 4482	563 2504
		0.079 2.0	RX	500 3450	433 1927
		0.063 1.6	RX	500 3450	433 1927
1 25	1.315 33.7	0.177 4.5	C	750 5171	1019 4531
		0.126 3.2	St	625 4313	849 3779
		0.102 2.6	RX	475 3275	645 2870
		0.091 2.3	RX	450 3103	611 2719
		0.079 2.0	RX	425 2930	577 2568
		0.063 1.6	RX	400 2758	543 2416
1¼ 32	1.660 42.4	0.197 5.0	C	750 5171	1623 7220
		0.142 3.6	St/C	750 5171	1623 7220
		0.126 3.2	St	625 4313	1354 6021
		0.102 2.6	RX	475 3275	1028 4573
		0.079 2.0	RX	425 2930	920 4091
		0.063 1.6	RX	400 2758	866 3851
		0.197 5.0	C	750 5171	2126 9459
1½ 40	1.900 48.3	0.142 3.6	St/C	750 5171	2126 9459
		0.126 3.2	St	600 4137	1701 7567
		0.102 2.6	RX	475 3275	1347 5991
		0.079 2.0	RX	425 2930	1205 5360
		0.063 1.6	RX	400 2758	1134 5045

Pipe Diameter		Style 77DX			
Nominal Pipe Size	Actual Outside Diameter	Pipe Wall Thickness	Grooving Method	Maximum	
				Working Pressure	End Load
Inches mm	Inches mm	Inches mm	St = Standard Roll Set RX = SS Roll Set C = Cut Groove	PSI kPa	Lbs N
2 50	2.375 60.3	0.220 5.6	C	750 5171	3323 14780
		0.157 4.0	St/C	750 5171"	3323 14780
		0.142 3.6	St	675 4654	2990 13302
		0.126 3.2	St	600 4137	2658 11824
		0.114 2.9	St	525 3620	2326 10346
		0.102 2.6	RX	475 3275	2104 9360
		0.091 2.3	RX	425 2930	1883 8375
		0.079 2.0	RX	375 2586	1661 7390
		0.063 1.6	RX	325 2241	1440 6405
		3 80	3.500 88.9	0.315 8.0	C
0.220 5.6	St/C			750 5171	7221 32122
0.157 4.0	St			600 4137	5717 25430
0.142 3.6	St			550 3792	5316 23645
0.126 3.2	St			525 3620	4915 21861
0.114 2.9	RX			450 3103	4477 19914
0.102 2.6	RX			425 2930	3971 17662
0.091 2.3	RX			350 2413	3465 15411
0.079 2.0	RX			325 2241	3127 13910
0.063 1.6	RX			N/R	
4 100	4.500 114.3	0.346 8.8	C	750 5171	11937 53100
		0.248 6.3	C	750 5171	11937 53100
		0.177 4.5	St	575 3964	9044 40229
		0.142 3.6	St	450 3103	7308 32507
		0.114 2.9	RX	375 2586	5871 26114
		0.102 2.6	RX	325 2241	5161 22958
		0.079 2.0	RX	250 1724	3979 17700
		0.063 1.6	RX	N/R	

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STYLE 77DX

PERFORMANCE ON ISO WALL THICKNESSES

Pipe Diameter		Style 77DX			
Nominal Pipe Size	Actual Outside Diameter	Pipe Wall Thickness	Grooving Method	Maximum	
				Working Pressure	End Load
Inches mm	Inches mm	Inches mm	St = Standard Roll Set RX = SS Roll Set C = Cut Groove	PSI kPa	Lbs N
6 150	6.625 168.3	0.433 11.0	C	750 5171	25873 115090
		0.280 7.1	St	750 5171	25873 115090
		0.280 7.1	C	500 3450	17249 76727
		0.197 5.0	St	325 2241	10983 48855
		0.177 4.5	St	275 1896	9491 42219
		0.157 4.0	St	225 1551	7999 35583
		0.126 3.2	RX	175 1207	6097 27120
		0.118 3.0	RX	150 1034	5171 23001
		0.102 2.6	RX	N/R	
		0.079 2.0	RX		
		0.063 1.6	RX		

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.

GENERAL NOTES

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 or cut grooved pipe. See submittal publication 24.01 for more information pertaining to tools.

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.

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.

WARRANTY

Refer to the Warranty section of the current Price List or contact Victaulic for details.

For complete contact information, visit www.victaulic.com

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