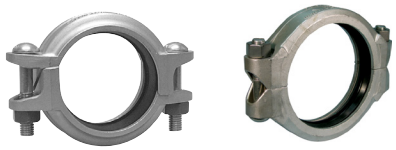
Victaulic® Stainless Steel Rigid Coupling Style 489

17.25



1.0 PRODUCT DESCRIPTION

Available Sizes

- 1½ – 12"/40 – 300 mm.

Pipe Material

- Stainless steel

Maximum Working Pressure

- Accommodates pressures up to 600 psi /4135 kPa
- Working pressure dependent on material, wall thickness and size of pipe

Operating Temperature Range

- Dependent on gasket selection from Section 3.0

Function

- Provides a rigid pipe joint designed to restrict axial or angular movement

Pipe Preparation

- Exclusively for use with fittings, valves, accessories and pipe which feature ends formed with the Victaulic OGS groove profile (see Section 7.0 for Reference Materials)

NOTE

- For duplex and super duplex options, please see publication 17.33 for the Style 489DX coupling.

2.0 CERTIFICATION/LISTINGS

This system is certified to ISO 9001:2008 by the LPCB under certificate No. 104

- Refer to Victaulic submittal publication 02.06 for potable water approvals if applicable.

ALWAYS REFER TO ANY NOTIFICATIONS AT THE END OF THIS DOCUMENT REGARDING PRODUCT INSTALLATION, MAINTENANCE OR SUPPORT.

System No.		Location	
Submitted By		Date	

Spec Section		Paragraph	
Approved		Date	

3.0 SPECIFICATIONS – MATERIAL

Housing:

Type 316 stainless steel, conforming to ASTM A351, A743 and A744, Grade CF8M.

Standard Gasket: (specify choice[1])

☐ **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.

Optional Gasket: (specify choice[1])

☐ **Grade "EW" EPDM**
EPDM (Green W stripe color code). Temperature range -30°F to +230°F/-34°C to +110°C. May be specified 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 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.

☐ **Grade "O" Fluoroelastomer**
Fluoroelastomer (Blue stripe color code). Temperature range +20°F to + 300°F/–7°C to +149°C. May be specified 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.

☐ **Others**
For alternate gasket selection, reference Victaulic submittal publication 05.01.

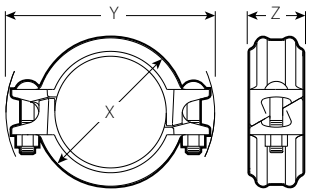
Hardware:

☐ Track Bolts: ASTM F 593, Group 2 (Type 316 stainless steel), condition CW

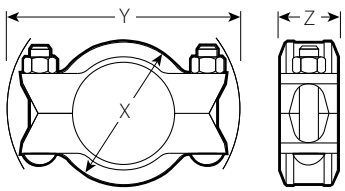
☐ Heavy Hex Nut: ASTM F 594, Group 2, (Type 316 stainless steel), condition CW with galling resistant coating

[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.

4.0 DIMENSIONS



1½ – 4"/100 mm and 76.1 mm sizes



5 – 12"/125 – 300 mm, 139.7 mm, 165.1 mm, 216.3 mm, 267.4 mm and 318.5 mm sizes

Size		Pipe End Separation [2]	Bolt/Nut [3]		Nut Torque	Dimensions			Weight
Nominal inches DN	Actual Outside Diameter inches mm	Allowable inches mm	Qty.	Size inches mm	ft-lbs N•m	X inches mm	Y inches mm	Z inches mm	Approximate (Each) lb kg
1½ DN40	1.900 48.3	0.05 1.3	2	⅜ x 2½	18 - 22 25 - 30	2.86 73	4.42 118	1.84 47	1.6 0.7
2 DN50	2.375 60.3	0.05 1.3	2	⅜ x 2½	18 - 22 25 - 30	3.34 85	5.19 132	1.86 47	1.6 0.7
2½ DN65	2.875 73.0	0.05 1.3	2	⅜ x 2½	18 - 22 25 - 30	3.92 100	5.62 143	1.86 47	1.9 0.9
DN76	3.000 76.1	0.05 1.3	2	⅜ x 2½	18 - 22 25 - 30	4.02 102	5.72 145	1.86 47	2.0 0.9
3 DN80	3.500 88.9	0.05 1.3	2	½ x 2¾	45 - 50 60 - 68	4.54 115	6.78 172	1.86 47	2.8 1.3
4 DN100	4.500 114.3	0.19 4.8	2	½ x 2¾	45 - 50 60 - 68	5.77 147	7.90 201	2.07 53	4.0 1.8
5 DN125	5.563 141.3	0.25 6.4	2	¾ x 4¼	85 - 125 115 - 170	7.05 179	10.63 270	2.25 57	12.50 5.7
DN140	5.500 139.7	0.25 6.4	2	¾ x 4¼	75 - 100 100 - 135	7.07 180	11.13 283	2.38 60	12.0 5.5
DN165	6.500 165.1	0.25 6.4	2	⅞ x 5½	125 - 200 170 - 275	8.16 207	12.68 321	2.50 64	15.5 7.0
6 DN150	6.625 168.3	0.25 6.4	2	⅞ x 5½	125 - 200 170 - 275	8.16 207	12.68 321	2.50 64	15.5 7.0
DN216	8.515 216.3	0.25 6.4	2	1 x 5½	200 - 300 275 - 400	10.63 270	15.00 381	2.75 70	24.0 10.9
8 DN200	8.625 219.1	0.25 6.4	2	1 x 5½	200 - 300 275 - 400	10.63 270	15.00 381	2.75 70	24.0 10.9
DN267	10.528 267.4	0.25 6.4	2	1 x 6½	200 - 300 275 - 400	13.09 332	17.25 438	3.00 76	33.0 15.0
10 DN250	10.750 273.0	0.25 6.4	2	1 x 6½	200 - 300 275 - 400	13.09 332	17.25 438	3.00 76	33.0 15.0
DN318	12.539 318.5	0.25 6.4	2	1 x 6½	200 - 300 275 - 400	15.13 384	19.13 486	3.13 80	40.0 18.1
12 DN300	12.750 323.9	0.25 6.4	2	1 x 6½	200 - 300 275 - 400	15.13 384	19.13 486	3.13 80	40.0 18.1

[2] For field installation only. Style 489 is essentially rigid and does not permit expansion or contraction.

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

5.0 PERFORMANCE

Performance on ANSI wall thicknesses

Pipe Diameter		Style 489				
		Pipe Wall Thickness			Maximum	
Nominal inches DN	Actual Outside Diameter inches mm	inches mm	ANSI Schedule Number	Groove Type	Working Pressure psi kPa	End Load lb N
1 ½ DN40	1.900 48.3	0.200 5.1	80S	C	600 4136	1701 7566
		0.145 3.7	40S	Std/C	600 4136	1701 7566
		0.109 2.8	10S	RX	300 2065	849 3777
		0.065 1.7	5S	RX	200 1379	567 2522
2 DN50	2.375 60.3	0.218 5.5	80S	C	600 4136	2658 11821
		0.154 3.9	40S	Std/C	600 4136	2658 11821
		0.109 2.8	10	RX	300 2065	1327 5902
		0.065 1.7	5S	RX	200 1379	886 3941
2 ½ DN65	2.875 73.0	0.276 7.0	80S	C	600 4136	3894 17323
		0.203 5.2	40S	Std/C	600 4136	3894 17323
		0.120 3.1	10S	RX	300 2065	1944 8649
		0.083 2.1	5S	RX	232 1600	1506 6699
3 DN80	3.500 88.9	0.300 7.6	80S	C	600 4136	5771 25673
		0.216 5.5	40S	Std/C	600 4136	5771 25673
		0.120 3.1	10S	RX	300 2065	2882 12818
		0.083 2.1	5S	RX	232 1600	2232 9929
4 DN100	4.500 114.3	0.337 8.6	80S	C	600 4136	9541 42439
		0.237 6.0	40S	Std/C	600 4136	9541 42439
		0.120 3.1	10S	RX	300 2065	4763 21189
		0.083 2.1	5S	RX	232 1600	3690 16413
5 DN125	5.563 141.3	0.375 6.6	80S	C	600 4136	14580 64857
		0.258 6.6	40S	Std/C	600 4136	14580 64857
		0.134 3.4	10S	RX	375 2586	9115 40544
		0.109 2.8	5S	RX	275 1896	6684 29732

RX = Roll Set for light wall stainless steel pipe marked with the prefix "RX"

Std = Standard roll set marked with the prefix "R"

C = Cut groove

NOTE

- For pressure ratings on wall thickness not mentioned please contact Victaulic

5.0 PERFORMANCE (Continued)

Performance on ANSI wall thicknesses

Pipe Diameter		Style 489				
		Pipe Wall Thickness			Maximum	
Nominal inches DN	Actual Outside Diameter inches mm	inches mm	ANSI Schedule Number	Groove Type	Working Pressure psi kPa	End Load lb N
6 DN150	6.625 168.3	0.432 11.0	80S	C	750 5171	25854 115003
		0.280 7.1	40S	Std/C	750 5171	25854 115003
		0.134 3.4	10S	RX	300 2065	10324 45925
		0.109 2.8	5S	RX	250 1724	8618 38334
8 DN200	8.625 219.1	0.500 12.7	80S	C	600 4136	35049 155903
		0.322 8.2	40S	Std/C	600 4136	35049 155903
		0.148 3.8	10S	RX	300 2065	17499 77838
		0.109 2.8	5S	RX	200 1379	11686 51980
10 DN250	10.750 273.0	0.500 12.7	80S	C	600 4136	54446 242188
		0.365 9.3	40S	Std/C	600 4136	54446 242188
		0.165 4.2	10S	RX	300 2065	27184 120918
		0.134 3.4	5S	RX	250 1724	22691 100933
12 DN300	12.750 323.9	0.500 12.7	80S	C	600 4136	76590 340687
		0.375 9.5	40S	Std/C	600 4136	76590 340687
		0.180 4.6	10S	RX	300 2065	38239 170097
		0.156 4.0	5S	RX	200 1379	25536 113590

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NOTES

- For pressure ratings on wall thickness not mentioned please contact Victaulic
- 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. See 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.

5.1 PERFORMANCE

Performance on ISO wall thicknesses

Pipe Diameter		Style 489			
		Pipe Wall Thickness		Maximum	
Nominal inches DN	Actual Outside Diameter inches mm	mm inches	Groove Type	Working Pressure kPa psi	End Load N lb
1 ½ DN40	1.900 48.3	5.0 0.197	C	4136 600	7566 1701
		3.6 0.142	Std/C	3792 550	6937 1559
		3.2 0.126	Std	2930 425	5360 1205
		2.6 0.102	RX	1896 275	3468 780
		2.0 0.079	RX	1600 232	2927 658
		1.6 0.063	RX	1379 200	2522 567
2 DN50	2.375 60.3	5.6 0.220	C	4136 600	11821 2658
		4.0 0.157	Std/C	4136 600	11821 2658
		3.6 0.142	Std	3620 525	10346 2326
		3.2 0.126	Std	3620 525	7882 1772
		2.9 0.114	Std	2241 325	6404 1440
		2.6 0.102	RX	1896 275	5419 1218
		2.3 0.091	RX	1724 250	4927 1108
		2.0 0.079	RX	1600 232	4537 1028
		1.6 0.063	RX	1379 200	3941 886
3 DN76.1	3.000 76.1	7.1 0.280	C	4136 600	18862 4240
		6.4 0.252	C	4136 600	18862 4240
		5.0 0.197	Std/C	3275 475	14935 3358
		4.0 0.157	Std	2586 375	11791 2651
		3.6 0.142	Std	2413 350	11005 2474
		3.1 0.122	Std	2065 300	9417 2117
		2.9 0.114	RX	2065 300	9433 2121
		2.6 0.102	RX	1896 275	8647 1944
		2.3 0.091	RX	1724 250	7875 1770
		2.1 0.083	RX	1600 232	7297 1640
		2.0 0.079	RX	1600 232	7297 1640

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C = Cut groove

NOTE

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5.1 PERFORMANCE (Continued)

Performance on ISO wall thicknesses

Pipe Diameter		Style 489			
		Pipe Wall Thickness		Maximum	
Nominal inches DN	Actual Outside Diameter inches mm	mm inches	Groove Type	Working Pressure kPa psi	End Load N lb
3 DN80	3.500 88.9	8.0 0.315	C	4136 600	25673 5771
		5.6 0.220	Std/C	4136 600	25673 5771
		4.0 0.157	Std	2758 400	17119 3848
		3.6 0.142	Std	2413 350	14979 3367
		3.2 0.126	Std	2065 300	12839 2886
		2.9 0.114	RX	2065 300	12839 2886
		2.6 0.102	RX	1896 275	11769 2646
		2.3 0.091	RX	1724 250	10719 2410
		2.0 0.079	RX	1600 232	9931 2233
4 DN100	4.500 114.3	8.8 0.346	C	4136 600	42439 9541
		6.3 0.248	C	4136 600	42439 9541
		4.5 0.177	Std	3103 450	31836 7157
		3.6 0.142	Std	2065 300	21224 4771
		2.9 0.114	RX	2065 300	21224 4771
		2.6 0.102	RX	1896 275	19455 4374
		2.0 0.079	RX	1600 232	16417 3691

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- 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.

5.1 PERFORMANCE (Continued)

Performance on ISO wall thicknesses

Pipe Diameter		Style 489			
		Pipe Wall Thickness		Maximum	
Nominal inches DN	Actual Outside Diameter inches mm	mm inches	Groove Type	Working Pressure kPa psi	End Load N lb
139.7 mm	5.500 139.7	10.0 0.394	C	4136 600	63396 14252
		7.1 0.280	C	4136 600	63396 14252
		6.6 0.260	Std/C	4136 600	63396 14252
		6.3 0.248	Std/C	3964 575	60767 13661
		5.6 0.220	Std/C	3447 500	52841 11879
		5.0 0.197	Std	3101 450	47524 10684
		4.0 0.157	Std	2413 350	36989 8315
		3.4 0.134	RX	2065 300	31652 7116
		3.2 0.126	RX	2065 300	31704 7127
		3.0 0.118	RX	1896 275	29062 6534
		2.8 0.110	RX	1896 275	29062 6534
		2.6 0.102	RX	1724 250	26420 5940
		2.0 0.079	RX	1600 232	24525 5513
6 DN150	6.625 168.3	11.0 0.433	C	5171 750	115003 25854
		7.1 0.280	Std/C	5171 750	115003 25854
		5.0 0.197	Std	3447 500	76668 17236
		4.5 0.177	Std	3101 450	69002 15512
		4.0 0.157	Std	2586 375	57501 12927
		3.2 0.126	RX	1896 275	42168 9480
		3.0 0.118	RX	1896 275	42168 9480
		2.6 0.102	RX	1600 232	35583 7999
		2.0 0.079	RX	1600 232	35574 7997

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5.1 PERFORMANCE (Continued)

Performance on ISO wall thicknesses

Pipe Diameter		Style 489			
		Pipe Wall Thickness		Maximum	
Nominal inches DN	Actual Outside Diameter inches mm	mm inches	Groove Type	Working Pressure kPa psi	End Load N lb
8 DN200	8.625 219.1	12.5 0.492	C	4136 600	155903 35049
		8.0 0.315	Std/C	4136 600	155903 35049
		6.5 0.256	Std/C	3275 475	123449 27752
		6.3 0.248	Std/C	3275 475	123449 27752
		5.0 0.197	Std	2586 375	97459 21910
		4.0 0.157	Std	2241 325	84465 18989
		3.6 0.142	RX	1896 275	71470 16067
		32 0.126	RX	1600 232	60295 13555
		3.0 0.118	RX	1551 225	58476 13146
		2.6 0.102	RX	1207 175	45481 10225
		2.0 0.079	RX	1034 150	38984 3764
10 DN250	10.750 273.0	14.2 0.559	C	4136 600	242188 54446
		12.5 0.492	C	4136 600	242188 54446
		10.0 0.394	C	4136 600	242188 54446
		6.3 0.248	Std/C	2930 425	171585 38574
		4.0 0.157	RX	2065 300	121119 27229
		3.6 0.142	RX	1724 250	100933 22691
		3.2 0.126	RX	1600 232	93690 21062
		3.0 0.118	RX	1379 200	80746 18153
		2.6 0.102	RX	1034 150	60560 13614
		2.0 0.079	RX	689 100	40373 9076

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5.1 PERFORMANCE (Continued)

Performance on ISO wall thicknesses

Pipe Diameter		Style 489			
		Pipe Wall Thickness		Maximum	
Nominal inches DN	Actual Outside Diameter inches mm	mm inches	Groove Type	Working Pressure kPa psi	End Load N lb
12 DN300	12.750 323.9	12.5 0.492	C	4136 600	340687 76590
		10.0 0.394	C	4136 600	340687 76590
		7.1 0.280	Std/C	3101 450	255568 57454
		5.0 0.197	RX	2241 325	184577 41495
		4.5 0.177	RX	2065 300	170379 38303
		4.0 0.157	RX	1379 200	113590 25536

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- Contact Victaulic for performance on other pipe. See 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.

6.0 NOTIFICATIONS

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.**

WARNING

- **Read and understand all instructions before attempting to install, remove, adjust, or maintain any Victaulic piping products.**
- **Depressurize and drain the piping system before attempting to install, remove, adjust, or maintain any Victaulic piping products.**
- **Wear safety glasses, hardhat, and foot protection.**

Failure to follow these instructions could result in death or serious personal injury and property damage.

7.0 REFERENCE MATERIALS

24.01: Victaulic Pipe Preparation Tools

