

Victaulic® High Performance Rigid Coupling

Style 870



1.0 PRODUCT DESCRIPTION

Available Sizes

- 2 – 8"/DN50 – DN200

Pipe Material

- Schedules 40 and 80 carbon steel per ASTM A53 Grade B and ASTM A106 Grade B.
- Schedule 40S stainless steel per ASTM A312 Grade TP316.
- For use of additional pipe materials, contact Victaulic.

Maximum Working Pressure

- Joints utilizing the Style 870 Coupling are suitable for use in saturated steam systems rated up to 200 psi/1379 kPa. Not suitable for use in superheated steam applications.
- For nonsteam applications, joints utilizing the Style 870 Coupling provide working pressures ranging from full vacuum (29.9 inches Hg/ 760 mm Hg) up to 740 psi/5102 kPa, depending upon maximum system temperature. Please refer to Figure 1 for specific pressure/temperature ratings.

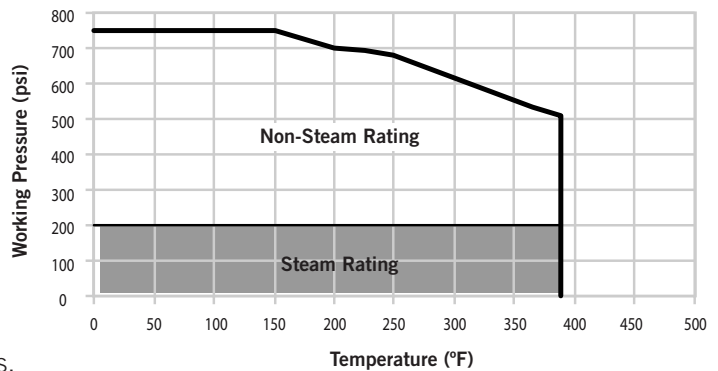


Figure 1

Operating Temperature Range

- -20°F to +388°F/-29°C to +198°C

Function

- Joins pipes, valves and fittings.
- Does not accommodate expansion, contraction or angular deflection.

Pipe Preparation

- The Style 870 Coupling is exclusively for use on pipe, valves and fittings which feature the Victaulic OGS-200 groove profile (see section 7.0 for Reference Materials).

Codes and Requirements

- Joints utilizing the Style 870 Coupling are designed in accordance with ASME B31.1, ASME B31.3 and ASME B31.9 codes.

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	

2.0 CERTIFICATION/LISTINGS



Manufacturer’s Declaration

Victaulic Company, headquartered at 4901 Kesslersville Road, Easton, PA 18040, USA, hereby declares the products listed below have been tested and witnessed by an Authorized Inspection Agency for the purpose of establishing Maximum Allowable Working Pressures (MAWP) in accordance with ANSI/ASME B31.1, ANSI/ASME B31.3, ANSI/ASME B31.9 and ASME BPVC Section VIII Div. 1, and the resulting data has been registered with the States’ Boiler and Pressure Vessel Inspection Authorities. We acknowledge individual service applications will be reviewed by the local authority having jurisdiction.

Product	Submittal Number	Material Specification	Service	Size	MAWP ¹ per referenced ASME standards psi /kPa
Style 870 Rigid Coupling	100.02	Housings: Ductile Iron conforming to ASTM A-536, Grade 65-45-12 Bolts: ASTM A193, Grade B7 Nuts: ASTM A194, Grade 2H Washers: ASTM F436, Type 3	Non-Steam Service to 388°F / 198°C	2"/DN 50	740 / 5102
				2½"	
				3"/DN 80	
				4"/DN 100	
				6"/DN 150	610 / 4206
			8"/DN 200		
			Saturated Steam Service to 388°F / 198°C	2"/DN 50	200 / 1379
				2½"	
				3"/DN 80	
				4"/DN 100	
6"/DN 150					
8"/DN 200					

¹ Test and Calculation Method: UCD-101 of ASME BPVC Section VIII Div. 1.

3.0 SPECIFICATIONS - MATERIAL

Housing: Ductile iron conforming to ASTM A536, Grade 65-45-12.

Housing Coating: Zinc coating.

Seal: Polytetrafluoroethylene (PTFE) composite.

Spring Energizer: Cobalt-chromium-nickel alloy conforming to AMS 5833.

Hex Bolts: ASTM A193, Grade B7, plain finish.

Heavy Hex Nuts: ASTM A194, Grade 2H, plain finish.

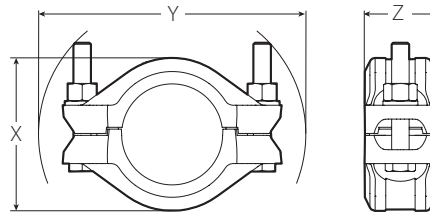
Washers: ASTM F436, Type 3, plain finish.

NOTE

- Contact Victaulic for alternative coating and material options.

4.0 DIMENSIONS

Style 870 Rigid Coupling



Size		Bolt/Nut		Dimensions			Weight
Nominal inches DN	Actual Outside Diameter inches mm	Qty.	Size inches mm	X inches mm	Y inches mm	Z inches mm	Approx. (Each) lb kg
2 DN50	2.375 60.3	2	5/8 x 4 M16 x 102	4.25 108.0	8.88 225.6	2.75 69.9	8.4 3.8
2½	2.875 73.0	2	5/8 x 4 –	4.88 124.0	9.25 235.0	2.75 69.9	9.5 4.3
DN65	3.000 76.1	2	– M16 x 102	5.12 130.1	9.38 238.3	2.75 69.9	9.8 4.4
3 DN80	3.500 88.9	2	5/8 x 4 M16 x 102	5.50 139.7	10.00 254.0	2.75 69.9	10.6 4.8
4 DN100	4.500 114.3	2	¾ x 5 M20 x 127	6.62 168.1	11.62 295.1	3.25 82.6	16.1 7.3
DN125	5.500 139.7	2	– M22 x 127	8.00 203.2	13.00 330.2	3.25 82.6	23.8 10.8
6 DN150	6.625 168.3	2	7/8 x 5 M22 x 127	9.12 231.6	14.62 371.3	3.12 79.2	25.6 11.6
	6.500 165.1	2	– M22 x 127	9.12 231.7	13.88 352.6	3.25 82.6	27.4 12.4
8 DN200	8.625 219.1	2	1 x 7 ¾ M24 x 197	11.50 292.1	17.75 450.9	3.50 88.9	43.2 19.6

5.0 PERFORMANCE






Size		Victaulic Groove Profile	Allow. Pipe End Separation ¹	Schedule 40 and ISO Carbon Steel Schedule 40S Stainless Steel				Schedule 80 and ISO Carbon Steel			
Nominal	Actual Outside Diameter			ANSI Wall Thick.	ISO Wall Thick.	Max. Joint Work. Press.	Max. Perm. End Load	ANSI Wall Thick.	ISO Wall Thick.	Max. Joint Work. Press.	Max. Perm. End Load
inches DN	inches mm		inches mm	inches mm	inches mm	psi kPa	lb N	inches mm	inches mm	psi kPa	lb N
2 DN50	2.375 60.3	OGS-200	0.14 3.6	0.154 3.91	0.157 4.0	740 5102	3278 14583	0.218 5.54	0.220 5.6	740 5102	3278 14583
2½	2.875 73.0	OGS-200	0.14 3.6	0.203 5.16	–	740 5102	4804 21369	0.276 7.01	–	740 5102	4804 21369
DN65	3.000 76.1	OGS-200	0.14 3.6	–	0.220 5.6	740 5102	5231 23268	–	0.280 7.1	740 5102	5231 23268
3 DN80	3.500 88.9	OGS-200	0.14 3.6	0.216 5.49	0.220 5.6	740 5102	7120 31670	0.300 7.62	0.315 8.0	740 5102	7120 31670
4 DN100	4.500 114.3	OGS-200	0.14 3.6	0.237 6.02	0.248 6.3	740 5102	11769 52352	0.337 8.56	0.346 8.8	740 5102	11769 52352
DN125	5.500 139.7	OGS-200	0.14 3.6	–	0.280 7.1	740 5102	17581 78205	–	0.394 10.0	740 5102	17581 78205
6 DN150	6.625 168.3	OGS-200	0.14 3.6	0.280 7.11	0.280 7.1	740 5102	25509 113470	0.432 10.97	0.433 11.0	740 5102	25509 113470
	6.500 165.1	OGS-200	0.14 3.6	–	0.280 7.1	740 5102	24555 109228	–	0.433 11.0	740 5102	24555 109228
8 DN200	8.625 219.1	OGS-200	0.14 3.6	0.322 8.18	0.346 8.8	740 5102	43235 192321	0.500 12.70	0.559 14.2	740 5102	43235 192321

¹ For field installation only. Style 870 Rigid Couplings, when sufficiently pressurized, will allow pipe ends to separate to maximum point shown before joint acts in a fully restrained manner.

NOTES

- Torque values can be found within the product's installation instructions and on the crown of the Style 870 housing.
- WARNING: FOR ONE-TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1½ times the figures shown.
- For use on additional pipe materials, contact Victaulic.

6.0 NOTIFICATIONS

⚠ WARNING	
	<ul style="list-style-type: none"> • 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. • When the Style 870 Coupling is considered suitable for use in saturated steam service, use extreme caution when working around steam systems. • DO NOT impact the coupling or pipe when the system is pressurized. • The Style 870 Coupling must be installed ONLY on carbon steel or stainless steel pipe that is prepared to Victaulic OGS-200 Specifications. DO NOT install the Style 870 Coupling on pipe that is prepared to any other groove specification. • DO NOT attempt to install the Style 870 Coupling on non-metallic pipe. <p>Failure to follow these instructions may cause joint failure, resulting in death or serious personal injury and property damage.</p>
 	
 	

Tools, Materials or Other Processes Required For Proper Installation

- Victaulic R9S roll sets must be used when grooving schedule 40 and 80 carbon steel pipe to Victaulic OGS-200 groove specifications. Victaulic R9S roll sets must be ordered separately. They are identified by the designation "R9S" on the front of the roll set, as well as a red color stripe on both the upper and lower roll.
- Proper installation requires the use of a torque wrench. Refer to markings on the Style 870 housing or installation instructions for torque requirement.
- A new seal must be installed any time the coupling is disassembled, even if the joint has not been in service.

7.0 REFERENCE MATERIALS

- [17.01: Victaulic Stainless Steel Pipe End Preparation](#)
- [24.01: Victaulic Pipe Preparation Tools](#)
- [25.12: Victaulic OGS-200 Roll Groove Specifications](#)
- [100.01: Victaulic OGS-200 Grooved End Fittings](#)
- [100.12: Victaulic Series 871 Gate Valve](#)
- [100.13: Victaulic Series 159 Flexible Loop for Steam](#)
- [I-100: Victaulic Field Installation Handbook](#)
- [I-870: Victaulic Installation Instructions Style 870 Rigid Coupling](#)

NOTE

- Refer to installation instructions provided with the product.

User Responsibility for Product Selection and Suitability

Each user bears final responsibility for making a determination as to the suitability of Victaulic products for a particular end-use application, in accordance with industry standards and project specifications, and the applicable building codes and related regulations as well as Victaulic performance, maintenance, safety, and warning instructions. Nothing in this or any other document, nor any verbal recommendation, advice, or opinion from any Victaulic employee, shall be deemed to alter, vary, supersede, or waive any provision of Victaulic Company's standard conditions of sale, installation guide, or this disclaimer.

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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.

Installation

Reference should always be made to the Victaulic installation handbook or installation instructions of the product you are installing. Handbooks are included with each shipment of Victaulic products, providing 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.

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