

Victaulic® Reducing Coupling for CPVC/PVC Pipe in Potable Water Applications



33.18

Style 858



PGS™-300

1.0 PRODUCT DESCRIPTION

Available Sizes

- 2½ x 2" to 10 x 8"/73.0 x 60.3 mm to 273.0 x 219.1 mm

Pipe Material

- Schedules 40 and 80 chlorinated polyvinyl chloride (CPVC) pipe per ASTM F441, 23447 minimum cell classification per ASTM D1784.
- Schedules 40 and 80 polyvinyl chloride (PVC) pipe per ASTM D1785, 12454 minimum cell classification per ASTM D1784.

Operating Temperature

- Schedules 40 and 80 CPVC pipe: +32°F to +180°F/0°C to +82°C
- Schedules 40 and 80 PVC pipe: +32°F to +140°F/0°C to +60°C

NOTE

- Operating temperature subject to pipe manufacturer's temperature limits

Maximum Working Pressure

- See section 5.0 for pressure ratings and temperature reduction factors.

Function

- Intended for use in potable water systems.
- Joins Schedules 40 and 80 CPVC/PVC pipe prepared with the Victaulic PGS-300 groove profile.
- Permits direct reduction on piping run.
- Provides a rigid pipe joint designed to restrict axial and angular movement.

NOTE

- For non-potable water systems, refer to [publication 33.08](#): Victaulic Reducing Coupling Style 358.

Pipe Preparation

- The Style 858 Reducing Coupling is exclusively for use on pipe and fittings which feature the Victaulic PGS-300 groove profile (see section 7.0 for Reference Materials).

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



The Victaulic Grade P gasket supplied with the Style 858 Reducing Coupling is UL Classified in accordance with ANSI/NSF 61 and ANSI/NSF 372 as noted in section 3.0 Specifications – Material.

NOTE

- See [publication 02.06](#): Victaulic Potable Water Approvals ANSI/NSF for potable water approvals if applicable.

3.0 SPECIFICATIONS – MATERIAL

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

Housing Coating: Blue enamel.

Gasket¹: Grade “P” Fluoroelastomer Blend

P (Double blue stripe color code). Temperature range +0°F to +180°F/-18°C to +82°C. Specifically formulated for compatibility with potable water systems. Optimized for improved resistance to chlorine, chloramine and other typical potable water disinfectants. 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.

- 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 Seal Selection Guide](#) for specific gasket service guidelines and for a listing of services which are not compatible.

NOTE

- Victaulic reserves the right to substitute equivalent and/or higher grade elastomer products.

Bolts/Nuts: (specify choice)

Standard: Carbon steel oval neck track bolts meeting the mechanical property requirements of ASTM A449 (imperial) and ISO 898-1 Class 9.8 (M10-M16) Class 8.8 (M20 and greater). Carbon steel hex nuts meeting the mechanical property requirements of ASTM A563 Grade B (imperial - Heavy Hex nuts) and ASTM A563M Class 9 (metric - hex nuts). Track bolts and hex nuts are zinc electroplated per ASTM B633 ZN/FE5, finish Type III (imperial) or Type II (metric).

Optional:

2 ½ x 2”/73.0 mm x DN50 to 10 x 8”/DN250 x DN200: Standard bolts/nuts as listed above, with fluoropolymer top coat.

2 ½ x 2”/73.0 mm x DN50 to 3 x 2 ½”/DN80 x 73.0 mm; 6 x 4”/DN160 x DN100:² Stainless steel oval neck track bolts meeting the mechanical property requirements of ASTM F593, Group 2 (316 stainless steel), condition CW. Stainless steel Heavy Hex nuts meeting the mechanical property requirements of ASTM F594, Group 2 (316 stainless steel), condition CW, with galling reducing coating.

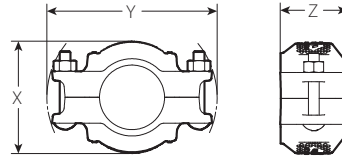
4 x 2”/DN100 x DN50 to 4 x 3”/DN100 x DN80; 8 x 6”/DN200 x DN150; 10 x 8”/DN250 x DN200:² Stainless steel oval neck track bolts meeting the mechanical property requirements of ASTM A193, Class 2 (316 stainless steel), Grade B8M. Stainless steel Heavy Hex nuts meeting the mechanical property requirements of ASTM A194 Grade 8M Heavy Hex, with galling reducing coating.

- ² Optional bolts/nuts available in imperial size only.

Anti-Telescoping Vertical Assembly Washer (Optional): Galvanized, carbon steel.

4.0 DIMENSIONS

Style 858 Reducing Coupling for CPVC/PVC Pipe in Potable Water Applications



Size				Pipe End Separation ³	Bolt/Nut ⁴		Dimensions			Weight
Nominal inches DN		Actual Outside Diameter inches mm		Allowable inches mm	Qty.	Size inches mm	X inches mm	Y inches mm	Z inches mm	Approximate (Each) lb kg
2 1/2 x 2 DN50		2.875 x 73.0	2.375 x 60.3	0.18 4.6	2	3/8 x 2 1/2 M10 x 64	3.96 101	5.05 128	2.36 60	3.8 1.7
3 x 2 DN80		3.500 x 88.9	2.375 x 60.3	0.18 4.6	2	1/2 x 3 M12 x 76	4.55 116	7.17 182	2.43 62	5.1 2.3
	2 1/2		2.875 x 73.0	0.18 4.6	2	1/2 x 3 M12 x 76	4.55 116	7.13 181	2.41 61	4.8 2.2
4 x 2 DN100		4.500 x 114.3	2.375 x 60.3	0.20 5.1	2	1/2 x 3 1/4 M12 x 83	5.83 148	8.50 216	2.46 62	6.8 3.1
	2 1/2		2.875 x 73.0	0.20 5.1	2	1/2 x 3 1/4 M12 x 83	5.84 148	8.50 216	2.46 62	6.8 3.1
	3		3.500 x 88.9	0.20 5.1	2	1/2 x 3 1/4 M12 x 83	5.78 147	8.50 216	2.47 63	6.9 3.1
6 x 4 DN150	DN100	6.625 x 168.3	4.500 x 114.3	0.23 5.8	2	5/8 x 3 1/4 M16 x 83	7.96 202	10.94 278	2.65 67	11.1 5.0
8 x 6 DN200	DN150	8.625 x 219.1	6.625 x 168.3	0.23 5.8	2	3/4 x 5 M20 x 127	10.49 266	14.16 360	2.92 74	22.5 10.2
10 x 8 DN250	DN200	10.750 x 273.0	8.625 x 219.1	0.23 5.8	2	3/4 x 6 1/4 M20 x 159	12.59 320	16.76 426	2.96 75	29.2 13.2

³ The Allowable Pipe End Separation dimension shown is for system layout purposes only. Style 858 reducing couplings are considered rigid connections and will not accommodate expansion/contraction or angular movement of the piping system. Contact Victaulic for torsional resistance information.

⁴ Number of bolts required equals number of housing segments.

5.0 PERFORMANCE

Style 858 Reducing Coupling for CPVC/PVC Pipe in Potable Water Applications

Maximum Working Pressure For Schedule 80 CPVC Pipe At +73°F/+23°C

Size						Maximum Working Pressure	Maximum Permissible End Load	
Nominal inches DN		Actual Outside Diameter inches mm		psi kPa	lb N			
2 ½	x	2	2.875	x	2.375	400	1772	
			73.0		60.3			2758
3	x	2	3.500	x	2.375	370	1639	
								DN80
		2 ½				2.875	370	2402
					73.0	2551	10685	
4	x	2	4.500	x	2.375	320	1418	
								DN100
		2 ½				2.875	320	2077
						73.0	2206	9239
		3			3.500	320	3079	
		DN80			88.9	2206	13696	
6	x	4	6.625	x	4.500	280	4453	
			DN150		DN100			168.3
8	x	6	8.625	x	6.625	250	8618	
			DN200		DN150			219.1
10	x	8	10.750	x	8.625	175	10225	
			DN250		DN200			273.0

Maximum Working Pressure For Schedule 40 CPVC/PVC Pipe At +73°F/+23°C

Size						Maximum Working Pressure	Maximum Permissible End Load	
Nominal inches DN		Actual Outside Diameter inches mm		psi kPa	lb N			
2 ½	x	2	2.875	x	2.375	280	1240	
			73.0		60.3			1931
3	x	2	3.500	x	2.375	230	1019	
								DN80
		2 ½				2.875	230	1493
					73.0	1586	6641	
4	x	2	4.500	x	2.375	220	975	
								DN100
		2 ½				2.875	220	1428
						73.0	1517	6352
		3			3.500	220	2117	
		DN80			88.9	1517	9417	
6	x	4	6.625	x	4.500	180	2863	
			DN150		DN100			168.3
8	x	6	8.625	x	6.625	140	4826	
			DN200		DN150			219.1
10	x	8	10.750	x	8.625	120	7011	
			DN250		DN200			273.0

5.0 PERFORMANCE (CONTINUED)

Maximum Working Pressure For Schedule 80 PVC Pipe At +73°F/+23°C

Size				Maximum Working Pressure	Maximum Permissible End Load
Nominal inches DN		Actual Outside Diameter inches mm			
2 1/2	x	2	2.875 x 2.375	380	1683
		DN50	73.0 x 60.3	2620	7486
3	x	2	3.500 x 2.375	320	1418
DN80		DN50	88.9 x 60.3	2206	6308
		2 1/2	2.875	320	2077
			73.0	2206	9239
4	x	2	4.500 x 2.375	320	1418
DN100		DN50	114.3 x 60.3	2206	6308
		2 1/2	2.875	320	2077
			73.0	2206	9239
		3	3.500	320	3079
		DN80	88.9	2206	13696
6	x	4	6.625 x 4.500	260	4135
DN150		DN100	168.3 x 114.3	1793	18393
8	x	6	8.625 x 6.625	240	8273
DN200		DN150	219.1 x 168.3	1655	36800
10	x	8	10.750 x 8.625	175	10225
DN250		DN200	273.0 x 219.1	1207	45483

5.1 PERFORMANCE

Style 858 Reducing Coupling for CPVC/PVC Pipe in Potable Water Applications

Maximum Working Pressure For Schedules 40 and 80 CPVC Pipe At Elevated Temperature

For the maximum working pressure rating of the joint at elevated temperature, multiply the working pressure rating of the coupling at +73°F/+23°C by the appropriate derating factor in the chart below.

Pressure capacity derating factors for operating temperatures above 73°F/23°C		
At 80°F/27°C	Multiply By	1.00
At 90°F/32°C	Multiply By	0.91
At 100°F/37°C	Multiply By	0.82
At 110°F/43°C	Multiply By	0.72
At 120°F/49°C	Multiply By	0.65
At 130°F/54°C	Multiply By	0.57
At 140°F/60°C	Multiply By	0.50
At 150°F/66°C	Multiply By	0.42
At 160°F/71°C	Multiply By	0.40
At 170°F/77°C	Multiply By	0.29
At 180°F/82°C	Multiply By	0.25

NOTE

- Derating factors are typical per the pipe manufacturer's recommendation in accordance with ASTM D-2837 and PPI TR-3.

5.1 PERFORMANCE (CONTINUED)

Maximum Working Pressure for Schedules 40 and 80 PVC Pipe At Elevated Temperature

For the maximum working pressure rating of the joint at elevated temperature, multiply the working pressure rating of the coupling at +73°F/+23°C by the appropriate derating factor in the chart below.







Pressure capacity derating factors for operating temperatures above 73°F/23°C		
At 80°F/27°C	Multiply By	0.88
At 90°F/32°C	Multiply By	0.75
At 100°F/37°C	Multiply By	0.62
At 110°F/43°C	Multiply By	0.51
At 120°F/49°C	Multiply By	0.40
At 130°F/54°C	Multiply By	0.31
At 140°F/60°C	Multiply By	0.22

NOTE

- Derating factors are typical per the pipe manufacturer's recommendation in accordance with ASTM D-2837 and PPI TR-3.

6.0 NOTIFICATIONS

⚠ **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.
- DO NOT** attempt to install Victaulic couplings on pipe or fittings that show signs of damage.
- Consult with the pipe manufacturer for service recommendations and for questions concerning compatibility between the fluid media and pipe material.
- Victaulic Style 858 Reducing Couplings **SHALL NOT** be used in systems containing compressed air or other gases.
- Compressed air or other gases **SHALL NOT** be used for system acceptance testing.

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

7.0 REFERENCE MATERIALS

- [02.06: Victaulic Potable Water Approvals ANSI/NSF](#)
- [05.01: Victaulic Seal Selection Guide](#)
- [24.09: Victaulic Cut Grooving Tool for CPVC/PVC Pipe: Model CG1100](#)
- [25.18: Victaulic PGS-300 Cut Groove Specifications](#)
- [33.03: Victaulic CPVC Fittings](#)
- [33.06: Victaulic Installation-Ready™ Transition Coupling Style 356](#)
- [33.07: Victaulic Installation-Ready™ Rigid Coupling Style 357](#)
- [33.08: Victaulic Reducing Coupling Style 358](#)
- [33.16: Victaulic Installation-Ready™ Transition Coupling for CPVC/PVC Pipe in Potable Water Applications Style 856](#)
- [33.17: Victaulic Installation-Ready™ Rigid Coupling for CPVC/PVC Pipe in Potable Water Applications Style 857](#)
- [I-350: Victaulic Field Installation Handbook: CPVC Piping Products](#)
- [I-ENDCAP: Victaulic End Cap Installation Safety Instructions](#)

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, 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.

Intellectual Property Rights

No statement contained herein concerning a possible or suggested use of any material, product, service, or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Victaulic or any of its subsidiaries or affiliates covering such use or design, or as a recommendation for the use of such material, product, service, or design in the infringement of any patent or other intellectual property right. The terms "Patented" or "Patent Pending" refer to design or utility patents or patent applications for articles and/or methods of use in the United States and/or other countries.

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.

Trademarks

Victaulic and all other Victaulic marks are the trademarks or registered trademarks of Victaulic Company, and/or its affiliated entities, in the U.S. and/or other countries.