

Victaulic® Reducing Coupling

Style 358



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 +200°F/0°C to +93°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 non-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 use in potable water systems, refer to [publication 33.18](#): Victaulic Reducing Coupling Style 858.

Pipe Preparation

- The Style 358 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).
- Assembly washer available upon request to prevent telescoping of the smaller pipe inside the larger pipe during vertical system assembly.

2.0 CERTIFICATION/LISTINGS



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

Housing Coating: (specify choice)

Standard: Orange enamel.

Optional: Contact Victaulic with your requirements for other coatings.

Gasket¹: (specify choice)

Grade "E" EPDM

EPDM (Green 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. NOT COMPATIBLE FOR USE WITH PETROLEUM SERVICES OR STEAM SERVICES.

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. NOT COMPATIBLE FOR USE WITH HOT WATER SERVICES OR STEAM SERVICES.

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

- The maximum temperature rating listed for the gasket exceeds the temperature ratings for CPVC/PVC pipe. Consult individual pipe manufacturers for specific temperature limits.

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.

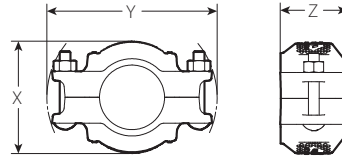
4 x 2"/DN100 x DN50 to 4 x 3"/DN100 x DN80; 8 x 6"/DN200 x DN150; 10 x 8"/DN250 x DN200:² Stainless steel oval neck track bolts meeting the mechanical property requirements of ASTM A193, Class 2 (316 stainless steel), Grade B8M. Stainless steel Heavy Hex nuts meeting the mechanical property requirements 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 358 Reducing Coupling



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	2.875	x 2.375	0.18	2	3/8 x 2 1/2	3.96	5.05	2.36	3.8			
	DN50	73.0	x 60.3	4.6		M10 x 64	101	128	60	1.7			
3	x 2	3.500	x 2.375	0.18	2	1/2 x 3	4.55	7.17	2.43	5.1			
	DN80			DN50		88.9	60.3	4.6	M12 x 76	116	182	62	2.3
	2 1/2			0.18	2	1/2 x 3	4.55	7.13	2.41	4.8			
				4.6		M12 x 76	116	181	61	2.2			
4	x 2	4.500	x 2.375	0.20	2	1/2 x 3 1/4	5.83	8.50	2.46	6.8			
	DN100			DN50		114.3	60.3	5.1	M12 x 83	148	216	62	3.1
				2 1/2			0.20	2	1/2 x 3 1/4	5.84	8.50	2.46	6.8
							5.1		M12 x 83	148	216	62	3.1
	3			0.20	2	1/2 x 3 1/4	5.78	8.50	2.47	6.9			
	DN80			5.1		M12 x 83	147	216	63	3.1			
6	x 4	6.625	x 4.500	0.23	2	5/8 x 3 1/4	7.96	10.94	2.65	11.1			
DN150	DN100	168.3	x 114.3	5.8		M16 x 83	202	278	67	5.0			
8	x 6	8.625	x 6.625	0.23	2	3/4 x 5	10.49	14.16	2.92	22.5			
DN200	DN150	219.1	x 168.3	5.8		M20 x 127	266	360	74	10.2			
10	x 8	10.750	x 8.625	0.23	2	3/4 x 6 1/4	12.59	16.76	2.96	29.2			
DN250	DN200	273.0	x 219.1	5.8		M20 x 159	320	426	75	13.2			

³ The Allowable Pipe End Separation dimension shown is for system layout purposes only. Style 358 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 358 Reducing Coupling

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		psi kPa	lb N		
2 ½	x	2	2.875	x	2.375	400	1772
			73.0		60.3	2758	7882
3	x	2	3.500	x	2.375	370	1639
						88.9	60.3
		2 ½	2.875	370	2402		
			73.0		2551	2551	10685
4	x	2	4.500	x	2.375	320	1418
						114.3	60.3
		2 ½	2.875	320	2077		
			73.0	2206	9239		
3	x	DN80	3.500	x	2.375	320	3079
						88.9	2206
6	x	4	6.625	x	4.500	280	4453
						168.3	114.3
8	x	6	8.625	x	6.625	250	8618
						219.1	168.3
10	x	8	10.750	x	8.625	175	10225
						273.0	219.1

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		psi kPa	lb N		
2 ½	x	2	2.875	x	2.375	280	1240
			73.0		60.3	1931	5516
3	x	2	3.500	x	2.375	230	1019
						88.9	60.3
		2 ½	2.875	230	1493		
			73.0		1586	1586	6641
4	x	2	4.500	x	2.375	220	975
						114.3	60.3
		2 ½	2.875	220	1428		
			73.0	1517	6352		
3	x	DN80	3.500	x	2.375	220	2117
						88.9	1517
6	x	4	6.625	x	4.500	180	2863
						168.3	114.3
8	x	6	8.625	x	6.625	140	4826
						219.1	168.3
10	x	8	10.750	x	8.625	120	7011
						273.0	219.1

5.0 PERFORMANCE (CONTINUED)

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

Size				Maximum Working Pressure psi kPa	Maximum Permissible End Load lb N
Nominal inches DN		Actual Outside Diameter inches mm			
2 ½	x	2 DN50	2.875 x 2.375 73.0 60.3	380 2620	1683 7486
3 DN80	x	2 DN50	3.500 x 2.375 88.9 60.3	320 2206	1418 6308
		2 ½	2.875 73.0	320 2206	2077 9239
4 DN100	x	2 DN50	4.500 x 2.375 114.3 60.3	320 2206	1418 6308
		2 ½	2.875 73.0	320 2206	2077 9239
		3	3.500 88.9	320 2206	3079 13696
		DN80			
6 DN150	x	4 DN100	6.625 x 4.500 168.3 114.3	260 1793	4135 18393
8 DN200	x	6 DN150	8.625 x 6.625 219.1 168.3	240 1655	8273 36800
		8 DN200	10.750 x 8.625 273.0 219.1	175 1207	10225 45483

5.1 PERFORMANCE

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
At 200°F/93°C	Multiply By	0.20

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 358 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

- [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 Transition Coupling Style 356](#)
- [33.07: Victaulic Rigid Coupling Style 357](#)
- [33.16: Victaulic Installation-Ready™ Transition Coupling Style 856](#)
- [33.17: Victaulic Installation-Ready™ Rigid Coupling Style 857](#)
- [I-350: Victaulic Field Installation Handbook: CPVC Piping Products](#)
- [I-358: Victaulic Installation Instructions Style 358 Reducing Coupling](#)
- [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.

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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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