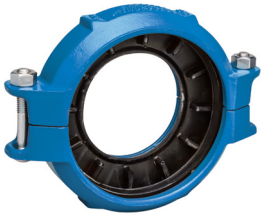
Victaulic® Reducing Coupling for CPVC/PVC Pipe in Potable Water Applications

Style 858

33.18



PGS™-300

1.0 PRODUCT DESCRIPTION

Available Sizes

- 2 ½ 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.

2.0 CERTIFICATION/LISTINGS

WATER QUALITY ANSI/NSF 61 & 372

The Victaulic Grade P gasket supplied with the Style 858 Reducing Coupling is UL Classified in accordance with NSF/ANSI/CAN 61 and NSF/ANSI/CAN 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 Color: Blue.

Gasket[1]: 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 NSF/ANSI/CAN 61 for cold +73°F/+23°C and hot +180°F/+82°C potable water service and NSF/ANSI/CAN 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 Fe/Zn5, finish Type III (imperial) or Type II (metric).

Optional:

☐ **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.

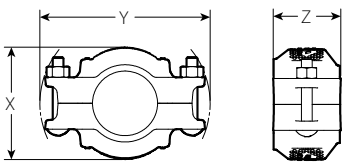
☐ **4 x 2"/DN100 x DN50 to 4 x 3"/DN100 x DN80; 8 x 6"/DN200 x DN150; 10 x 8"/DN250 x DN200:[2]** Stainless steel oval neck track bolts meeting the mechanical property requirements of ASTM A193, Class 2 (316 stainless steel), Grade B8M. Stainless steel Heavy Hex nuts meeting the mechanical property requirements 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 ½	x	2 DN50	2.875 73.0	x	2.375 60.3	0.18 4.6	2	⅜ x 2 ½ M10 x 64	3.96 101	5.05 128	2.36 60	3.8 1.7
3 DN80	x	2 DN50	3.500 88.9	x	2.375 60.3	0.18 4.6	2	½ x 3 M12 x 76	4.55 116	7.17 182	2.43 62	5.1 2.3
		2 ½			2.875 73.0	0.18 4.6	2	½ x 3 M12 x 76	4.55 116	7.13 181	2.41 61	4.8 2.2
4 DN100	x	2 DN50	4.500 114.3	x	2.375 60.3	0.20 5.1	2	½ x 3 ¼ M12 x 83	5.83 148	8.50 216	2.46 62	6.8 3.1
		2 ½			2.875 73.0	0.20 5.1	2	½ x 3 ¼ M12 x 83	5.84 148	8.50 216	2.46 62	6.8 3.1
		3 DN80			3.500 88.9	0.20 5.1	2	½ x 3 ¼ M12 x 83	5.78 147	8.50 216	2.47 63	6.9 3.1
6 DN150	x	4 DN100	6.625 168.3	x	4.500 114.3	0.23 5.8	2	⅝ x 3 ¼ M16 x 83	7.96 202	10.94 278	2.65 67	11.1 5.0
8 DN200	x	6 DN150	8.625 219.1	x	6.625 168.3	0.23 5.8	2	¾ x 5 M20 x 127	10.49 266	14.16 360	2.92 74	22.5 10.2
10 DN250	x	8 DN200	10.750 273.0	x	8.625 219.1	0.23 5.8	2	¾ x 6 ¼ 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 DN50	2.875 73.0	x	2.375 60.3	400 2758	1772 7882
3 DN80	x	2 DN50	3.500 88.9	x	2.375 60.3	370 2551	1639 7291
		2 ½			2.875 73.0	370 2551	2402 10685
4 DN100	x	2 DN50	4.500 114.3	x	2.375 60.3	320 2206	1418 6308
		2 ½			2.875 73.0	320 2206	2077 9239
		3 DN80			3.500 88.9	320 2206	3079 13696
6 DN150	x	4 DN100	6.625 168.3	x	4.500 114.3	280 1931	4453 19808
8 DN200	x	6 DN150	8.625 219.1	x	6.625 168.3	250 1724	8618 38335
10 DN250	x	8 DN200	10.750 273.0	x	8.625 219.1	175 1207	10225 45483

Maximum Working Pressure For Schedule 40 CPVC/PVC Pipe At +73ºF/+23ºC

Size						Maximum Working Pressure	Maximum Permissible End Load
Nominal inches DN			Actual Outside Diameter inches mm			psi kPa	lb N
2 ½	x	2 DN50	2.875 73.0	x	2.375 60.3	280 1931	1240 5516
3 DN80	x	2 DN50	3.500 88.9	x	2.375 60.3	230 1586	1019 4533
		2 ½			2.875 73.0	230 1586	1493 6641
4 DN100	x	2 DN50	4.500 114.3	x	2.375 60.3	220 1517	975 4337
		2 ½			2.875 73.0	220 1517	1428 6352
		3 DN80			3.500 88.9	220 1517	2117 9417
6 DN150	x	4 DN100	6.625 168.3	x	4.500 114.3	180 1241	2863 12735
8 DN200	x	6 DN150	8.625 219.1	x	6.625 168.3	140 965	4826 21467
10 DN250	x	8 DN200	10.750 273.0	x	8.625 219.1	120 827	7011 31186

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			psi kPa	lb N
2 ½	x	2 DN50	2.875 73.0	x	2.375 60.3	380 2620	1683 7486
3 DN80	x	2 DN50	3.500 88.9	x	2.375 60.3	320 2206	1418 6308
		2 ½			2.875 73.0	320 2206	2077 9239
4 DN100	x	2 DN50	4.500 114.3	x	2.375 60.3	320 2206	1418 6308
		2 ½			2.875 73.0	320 2206	2077 9239
		3 DN80			3.500 88.9	320 2206	3079 13696
6 DN150	x	4 DN100	6.625 168.3	x	4.500 114.3	260 1793	4135 18393
8 DN200	x	6 DN150	8.625 219.1	x	6.625 168.3	240 1655	8273 36800
10 DN250	x	8 DN200	10.750 273.0	x	8.625 219.1	175 1207	10225 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 Specfications
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

