Victaulic® Reducing Coupling Style 358

33.08

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 +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

- 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

- Applications that require NSF 61-approved products should specify the Victaulic Reducing Coupling Style 858 (publication 33.18).

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

UPC®

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: Hot dipped galvanized conforming to ASTM A123.
- ☐ Optional: Contact Victaulic with your requirements for other coatings.

Gasket[1]: (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)

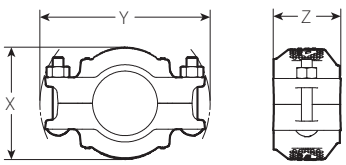
- ☐ **Standard:** Carbon steel oval neck track bolts meeting the mechanical property requirements of ASTM A449 (imperial) and ISO 898-1 Class 9.8 (M10-M16) Class 8.8 (M20 and greater). Carbon steel hex nuts meeting the mechanical property requirements of ASTM A563 Grade B (imperial - Heavy Hex nuts) 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]:**
  - ☐ **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:** 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:** 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 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 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 psi kPa	Maximum Permissible End Load lb N
Nominal inches DN			Actual Outside Diameter inches mm						
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 psi kPa	Maximum Permissible End Load lb N
Nominal inches DN			Actual Outside Diameter inches mm						
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 358 Reducing Coupling

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 Specfications
33.03: Victaulic CPVC Fittings
33.06: Victaulic Installation-Ready™ Transition Coupling Style 356
33.07: Victaulic Installation-Ready™ Rigid Coupling Style 357
33.16: 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
33.18: Victaulic Reducing Coupling for CPVC/PVC Pipe in Potable Water Applications Style 858
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

