AGS Rigid Coupling for Stainless Steel or Carbon Steel Style W89

20.15

Patented

1.0 PRODUCT DESCRIPTION

Available Sizes:

- 14 – 24"/DN350 – DN600

Maximum Working Pressure:

- Accommodates pressures ranging from full vacuum (29.9 in Hg/760 mm Hg) up to 700 psi/4826 kPa/48 Bar
- Working pressure dependent on material, wall thickness, and size of pipe.

Application:

- Unique wedge-shaped key profile increases allowable pipe end separation, resulting in easier assembly
- Provide rigidity for valve connections, machinery rooms, and long straight runs

Pipe Material:

- Stainless steel
- Carbon steel

NOTES

- Style W89 AGS couplings are provided with FlushSeal™ gaskets for a variety of services. Please specify gasket grade when ordering. Please refer to publication 05.01 for gasket service ratings.
- Style W89 AGS rigid couplings can also be used on abrasive/slurry services in combination with the AGS *Vic-Ring*. See publication 16.15.
- Style W89 AGS couplings are essentially rigid and do not permit expansion/contraction.

2.0 CERTIFICATION/LISTINGS

Product designed and manufactured under the Victaulic Quality Management System, as certified by LPCB in accordance with ISO-9001:2008.

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. Ductile iron conforming to ASTM A395, Grade 65-45-15 available upon special request.

Housing Coating: (specify choice)

- ☐ Standard: Hot dipped galvanized.
- ☐ Optional: Orange enamel and others.
- ☐ Optional: Contact Victaulic with your requirements for other coatings.

Coupling Gasket: (specify choice[1])

- ☐ **Grade "E" FlushSeal™ 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. 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. **NOT COMPATIBLE FOR USE WITH PETROLEUM SERVICES OR STEAM SERVICES.**
- ☐ **Grade "T" FlushSeal™ Nitrile**
  Nitrile (Orange stripe color code). Temperature range –20°F to +180°F/–29°C to +82°C. May be specified for oil related services, including air with oil vapor, this gasket may be specified for temperatures rated up to +180°F/+82°C. For water related services, this gasket may be specified for temperatures rated up to +150°F/+66°C. For oil free, dry air services, this gasket may be specified for temperatures rated up to +140°F/+60°C. **NOT COMPATIBLE FOR USE WITH HOT WATER SERVICES OR STEAM SERVICES.**
- ☐ **Grade "L" FlushSeal™ Silicone**
  Silicone (Red stripe color code). Temperature range –30°F to +350°F/–34° C to +177° C. May be specified for dry heat, air without hydrocarbons to +350°F/+177°C and certain chemical services. **NOT COMPATIBLE FOR USE WITH PETROLEUM SERVICES, HOT WATER SERVICES, OR STEAM SERVICES.**
- ☐ **Others**
  For alternate gasket selection, reference publication 05.01: Victaulic Seal Selection Guide.

[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.

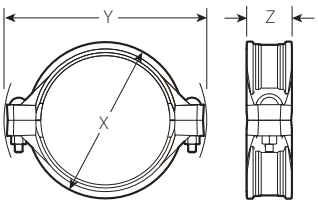
Bolts/Nuts: (specify choice[2])

- ☐ Standard: Carbon steel oval neck track bolts meeting the mechanical property requirements of ASTM A449 (imperial) and ISO 898-1 Class 9.8 (metric). 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 (imperial): Stainless steel oval neck track bolts meeting the mechanical property requirements of ASTM F593, Group 2 (316 stainless steel), condition CW. Stainless steel heavy nuts meeting the mechanical property requirements of ASTM F594, Group 2 (316 stainless steel), condition CW, with galling reducing coating.

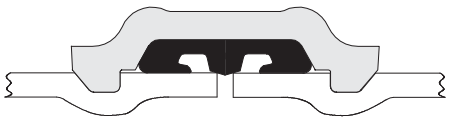
[2] Optional bolts/nuts are available in imperial size only.

4.0 DIMENSIONS

Style W89



Typical 14 – 24"/DN350 – DN600



Exaggerated for clarity

Size		Pipe End Separation	Bolt/Nut			Dimensions			Weight
Nominal inches DN	**Actual Outside Diameter** inches mm	**Allowable** inches mm	**Qty.**	**Size** inches	**Nut Torque** ft-lbs N•m	**X** inches mm	**Y** inches mm	**Z** inches mm	**Approximate (Each)** lb kg
14 DN350	14.000 355.6	0.25 6.4	2	1 ⅛ x 5 ½	375 500	16.50 419	21.38 543	4.88 124	65.0 29.5
16 DN400	16.000 406.4	0.25 6.4	2	1 ⅛ x 5 ½	375 500	18.88 480	23.50 597	4.88 124	80.0 36.4
18 DN450	18.000 457.0	0.25 6.4	2	1 ⅛ x 5 ½	375 500	21.00 533	25.63 651	4.88 124	93.0 42.3
20 DN500	20.000 508.0	0.25 6.4	2	1 ⅛ x 5 ½	375 500	23.75 603	27.63 702	4.88 124	114.0 51.8
22 DN550	22.000 559.0	0.25 6.4	2	1 ⅛ x 6	375 500	24.75 629	29.88 759	4.88 124	110.0 49.9
24 DN600	24.000 610.0	0.25 6.4	2	1 ⅛ x 5 ½	375 500	30.00 762	32.00 813	4.88 124	150.0 68.0

NOTES

- The allowable pipe end separation dimension shown is for system layout purposes only. Style W89 AGS rigid couplings couplings are considered rigid connections and will not accommodate expansion/contraction or angular movement of the piping system. Contact Victaulic for torsional resistance information.
- The outside diameter, ovality, and surface finish including flat spots and imperfections shall not vary more than the limits of API 5L end tolerance.
- For additional pipe sizes, please contact Victaulic.

5.0 PERFORMANCE

Style W89

Size		Stainless Steel Pipe		
		Schedule 10S		
Nominal inches DN	Actual Outside Diameter inches mm	Maximum Working Pressure psi kPa	Maximum Permissible End Load lb N	Nominal Wall Thickness inches mm
14 DN350	14.000 355.6	300 2068	46200 205590	0.188 4.8
16 DN400	16.000 406.4	300 2068	60320 268424	0.188 4.8
18 DN450	18.000 457.0	300 2068	76350 339758	0.188 4.8
20 DN500	20.000 508.0	300 2068	94250 419413	0.218 5.5
22 DN550	22.000 559.0	300 2068	114000 507080	0.218 5.5
24 DN600	24.000 610.0	300 2068	135700 603865	0.250 6.4

Size		Carbon Steel Pipe					
		ANSI Standard Weight Pipe- Roll Groove			ANSI XS Pipe		
Nominal inches DN	Actual Outside Diameter inches mm	Maximum Working Pressure psi kPa	Maximum Permissible End Load[3] lb N	Nominal Wall Thickness inches mm	Maximum Working Pressure psi kPa	Maximum Permissible End Load[3] lb N	Nominal Wall Thickness inches mm
14 DN350	14.000 355.6	580 4000	89300 397230	0.375 9.5	700 4826	107760 479340	.500 12.7
16 DN400	16.000 406.4	580 4000	11620 518750	0.375 9.5	700 4826	140740 626040	.500 12.7
18 DN450	18.000 457.0	500 3447	127230 565950	0.375 9.5	580 4000	147590 656520	.500 12.7
20 DN500	20.000 508.0	500 3447	157080 698730	0.375 9.5	580 4000	182210 810510	.500 12.7
22 DN550	22.000 559.0	400 2758	152050 676350	0.375 9.5	500 3447	190070 845470	.500 12.7
24 DN600	24.000 610.0	400 2758	180960 804950	0.375 9.5	500 3447	226200 1006200	.500 12.7

[3] End loads are total from all internal and external loads, based on carbon steel pipe, rolled with Victaulic AGS rolls in accordance with Victaulic AGS roll groove specifications. See publication 25.09 for more details. Contact Victaulic for performance on other pipe.

NOTES

- The outside diameter, ovality, and surface finish including flat spots and imperfections shall not vary more than the limits of API 5L end tolerance.
- For additional pipe sizes, please contact Victaulic.
- WARNING: FOR ONE TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1½ times the figures shown.
- Additional wall thicknesses available. For performance on additional pipe wall thicknesses, contact Victaulic.

5.0 PERFORMANCE (Continued)

Torque Requirements

Nominal Size inches DN	Required Torque ft. lbs. N•m
14-24 DN350-DN600	375 500

6.0 NOTIFICATIONS

⚠ WARNING

- **Style W89 Couplings shall be used only on pipe that is direct-grooved to Victaulic Advanced Groove System (AGS) specifications using Victaulic AGS roll sets (RWX specifically for light-wall stainless steel pipe and RW for standard-wall stainless steel pipe) or carbon steel pipe prepared with AGS *Vic-Rings*.**
- **DO NOT attempt to assemble the Style W89 Coupling on pipe that is direct-grooved with Victaulic Original Groove System (OGS) roll sets.**

Failure to follow these instructions will cause improper product assembly and joint failure, resulting 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
16.15: Victaulic *Vic-Ring* AGS Rigid Coupling for Stainless Style W89
17.01: Pipe Preparation for Use on Stainless Steel Pipe with Victaulic Products
17.05: Victaulic AGS Grooved End Stainless Steel Fittings for Schedule 10S
17.09: Victaulic Ductile Iron Grooved Couplings Performance Data for Stainless Steel Pipe
20.05: Victaulic AGS Grooved End Fittings
24.01: Victaulic Pipe Preparation Tool Specifications
25.09: Victaulic AGS Roll Groove Specifications
26.01: Victaulic Design Data
29.01: Victaulic Terms and Conditions/Warranty
I-100: Victaulic Field Installation Handbook

