

# AGS Rigid Coupling

## Style W89



14–24"/350–600 mm  
Patented

### Approvals/Listings:

See Victaulic [Publication 02.06](#) for potable water approvals if applicable

### Product Description:

Style W89 AGS (Advanced Groove Systems) couplings are designed with heavy ductile iron housings for higher pressure carbon steel and stainless steel piping systems (pressure ratings are dependent on pipe material and wall thickness). See performance tables on page 4 for details.

The wedge-shaped coupling housing keys fully engage the patented AGS grooves to provide a rigid joint. To achieve this rigidity, it is necessary to torque the nuts to the values shown in the torque requirements table on page 3.

Style W89 AGS will greatly reduce the linear or angular movement on valve connections and other joints where rigidity is required.

The couplings are provided with plated bolts and nuts and FlushSeal gaskets for a variety of services. Please specify gasket grade when ordering. Refer to [publication 05.01](#) for gasket services ratings.

### Style W89 for Schedule 10S Stainless Steel Pipe

Style W89 AGS couplings are designed for pressures up to 300 psi/2065 kPa on Schedule 10S and heavier stainless steel pipe for 14 – 24"/ 350 – 600 mm piping systems utilizing API 5L pipe end dimensions.

### Style W89 for Carbon Steel Pipe

Style W89 AGS couplings are designed for pressures up to 700 psi/4850 kPa on standard wall carbon steel or

heavier pipe for 14 – 16"/ 350 – 400 mm systems, and up to 580 psi/4000 kPa for 18 – 20"/450 – 500 mm, and up to 500 psi/3950 kPa for 22 – 24"/550 – 600 mm piping systems utilizing API 5L pipe end dimensions.

Style W89 AGS couplings are designed for use on roll grooved, standard wall pipe, AGS Vic-Rings and cut groove systems using extra heavy wall pipe.

### Style W89 for Carbon Steel Pipe Utilizing a Vic-Ring

Style W89 couplings are compatible with systems using an AGS Vic-Ring on the O.D. of the pipe. Request [publication 16.15](#) for details.

### WARNING

- **When grooving pipe for use with AGS products, Victaulic roll grooving tools must be equipped with AGS roll sets (RW for steel or RWX for stainless steel). They are identified by a silver color and the designation "RWX" on the front of the roll sets.**
- **Victaulic AGS products MUST NOT be installed on pipe that is prepared with original-type grooving roll sets.**
- **To ensure proper pipe end preparation refer to publication 25.09 for AGS (Advanced Groove System) roll groove pipe specifications.**

**Failure to follow these instructions will cause grooves that are not within Victaulic AGS specifications, resulting in joint failure, serious personal injury, and property damage.**

### NOTICE

- **Victaulic RX grooving rolls must be ordered separately. They are identified by a silver color and the designation RX on the front of the roll sets.**

### Job/Owner

System No.	
Location	

### Contractor

Submitted By	
Date	

### Engineer

Spec Section	
Paragraph	
Approved	
Date	

**Material Specifications:**

**Housing:**

Ductile iron conforming to ASTM A-536, grade 65-45-12. Ductile iron conforming to ASTM A-395, grade 65-45-15, is available upon special request.

**Housing Coating: (specify choice)**

Standard: Hot dipped galvanized

Optional: Orange enamel and others

**Coupling Gasket: (specify choice<sup>1</sup>)**

NOTE: Additional gasket styles are available. Contact Victaulic for details.

Grade "EPW" EPDM

EPDM (Blue and Green stripe color code). Temperature range -30°F to +230°F/ -34°C to +110°C. May be specified for cold and 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 ANSI/NSF 372. NOT COMPATIBLE FOR PETROLEUM SERVICES.

Grade "T" nitrile

Nitrile (Orange stripe color code). Temperature range -20°F to +180°F/-29°C to +82°C. May be specified for petroleum products, air with oil vapors, vegetable and mineral oils within the specified temperature range. Not compatible for hot water services over +150°F/+66°C or for hot dry air over +140°F/+60°C.

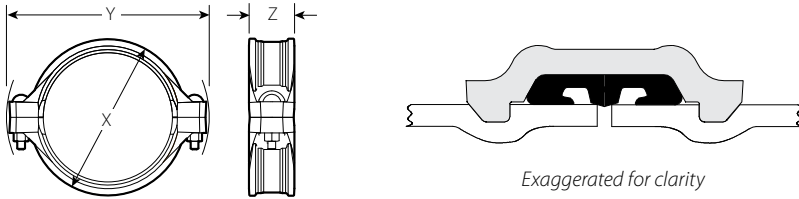
Grade "L" silicone

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.

<sup>1</sup> 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 Gasket Selection Guide for specific gasket service guidelines and for a listing of services which are not compatible.

**Bolts/Nuts:** Heat-treated plated carbon steel, trackhead meeting the physical and chemical requirements of ASTM A-449 and physical requirements of ASTM A-183

**Dimensions:**



Typical 14 – 24"/350 – 600 mm

Nominal Size inches mm	Actual Outside Diameter inches mm	Allow. Pipe End Separation <sup>2</sup> inches mm	Bolt/Nut <sup>3</sup> (No.) size inches	Nut Torque ft-lbs N•m	Dimensions			Approx. Weight Each lbs. kg
					X inches mm	Y inches mm	Z inches mm	
14 350	14.000 355.6	0.25 6.4	2 – 1 1/8 x 5 1/2	375 500	16.50 419	21.38 543	4.88 124	65.0 29.5
16 400	16.000 406.4	0.25 6.4	2 – 1 1/8 x 5 1/2	375 500	18.88 480	23.50 597	4.88 124	80.0 36.4
18 450	18.000 457.0	0.25 6.4	2 – 1 1/8 x 5 1/2	375 500	21.00 533	25.63 651	4.88 124	93.0 42.3
20 500	20.000 508.0	0.25 6.4	2 – 1 1/8 x 5 1/2	375 500	23.75 603	27.63 702	4.88 124	114.0 51.8
22 550	22.000 559.0	0.25 6.4	2 – 1 1/8 x 6	375 500	24.75 629	29.88 759	4.75 121	110.0 49.9
24 600	24.000 610.0	0.25 6.4	2 – 1 1/8 x 5 1/2	375 500	30.00 762	32.00 813	4.88 124	150.0 68.0

2 For field installation only. Style W89 couplings are essentially rigid and do not permit expansion/contraction.

3 Metric thread size bolts are available (color coded gold) for all coupling sizes upon request. Contact Victaulic for details.

**Torque Requirements:**

Nominal Size inches mm	Recommended Torque ft. lbs. N•m
14, 16, 18, 20, 22, 24 350, 400, 450, 500, 550 & 600	375 500

**Performance:**

Nominal Size inches mm	Actual Outside Diameter inches mm	Stainless Steel Pipe		
		Schedule 10S		
		Maximum Joint Working Pressure <sup>4</sup> psi kPa	Maximum Permissible End Load Lbs. N	Nominal Wall Thickness inches mm
14 350	14.000 355.6	300 2065	46200 205590	0.188 4.8
16 400	16.000 406.4	300 2065	60320 268424	0.188 4.8
18 450	18.000 457.0	300 2065	76350 339758	0.188 4.8
20 500	20.000 508.0	300 2065	94250 419413	0.218 5.5
22 550	22.000 559.0	300 2065	114000 507080	0.218 5.5
24 600	24.000 610.0	300 2065	135700 603865	0.250 6.4

Nominal Size inches mm	Actual Outside Diameter inches mm	Carbon Steel Pipe					
		Standard Weight Pipe- Roll Groove			XS Pipe- Cut Groove		
		Maximum Joint Working Pressure psi kPa	Maximum Permissible End Load Lbs. N	Nominal Wall Thickness inches mm	Maximum Joint Working Pressure psi kPa	Maximum Permissible End Load Lbs. N	Nominal Wall Thickness inches mm
14 350	14.000 355.6	580 4000	89300 397230	0.375 9.5	700 4830	107760 479340	.500 12.7
16 400	16.000 406.4	580 4000	11620 518750	0.375 9.5	700 4830	140740 626040	.500 12.7
18 450	18.000 457.0	500 3450	127230 565950	0.375 9.5	580 4000	147590 656520	.500 12.7
20 500	20.000 508.0	500 3450	157080 698730	0.375 9.5	580 4000	182210 810510	.500 12.7
22 550	22.000 559.0	400 2750	152050 676350	0.375 9.5	500 3450	190070 845470	.500 12.7
24 600	24.000 610.0	400 2750	180960 804950	0.375 9.5	500 3450	226200 1006200	.500 12.7

4 Working Pressure and End Load are total, from all internal and external loads, based on stainless steel pipe, roll grooved with Victaulic rolls in accordance with Victaulic specifications. "RWX" rolls must be used for Schedule 10S. Contact Victaulic for performance on other pipe.

WARNING: FOR ONE TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1½ times the figures shown.

**Installation**

Reference should always be made to the [I-100 Victaulic Field Installation Handbook](#) for the product you are installing. Handbooks are included with each shipment of Victaulic products for complete installation and assembly data, and are available in PDF format on our website at [www.victaulic.com](http://www.victaulic.com).

**Warranty**

Refer to the Warranty section of the current Price List or contact Victaulic for details.

**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.

**Trademarks**

Victaulic® is a registered trademark of Victaulic Company.