

AGS Flexible Coupling

STYLE W77



The patented Style W77 AGS (Advanced Groove System) coupling is comprised of two housings and is designed to provide a strong connection for large diameter pressure piping systems. Its unique wedge-shaped key profile increases allowable pipe end separation, resulting in easier initial assembly alignment. The Style W77 AGS coupling in 26-60"/660-1525 mm sizes, features lifting lugs integrated into the housings to help ease handling during installation.

Style W77 AGS couplings are rated up to 350 psi/2400 kPa for 14 – 24"/350 – 600 mm piping systems, up to 300 psi/2065 kPa for 26 – 42"/660 – 1070 mm piping systems, to 232 psi/1600 kPa for 46-48"/1170-12220 mm piping systems and to 175 psi/1200 kPa for 54-60"/1370-1525 mm piping systems (depending on wall thickness) utilizing API 5L pipe ends. Style W77 AGS couplings provide limited linear and angular pipe movement at the pipe joint that can be used to compensate for thermal growth of piping systems, vibration attenuation, seismic, and other applications requiring flexibility. Support and hanging requirements are defined within Victaulic Design Data Submittal 26.01.

Style W77 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.



14 – 24"/350 – 600 MM SIZES PATENTED



26 – 60"/660 – 1525 MM SIZES PATENTED



WARNING



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).
- Victaulic AGS products MUST NOT be installed on pipe that is prepared with original-type grooving roll sets.

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.

When preparing pipe for AGS products, please contact Victaulic for groove specifications for AGS groove dimensions.

JOB/OWNER

System No. _____
 Location _____

CONTRACTOR

Submitted By _____
 Date _____

ENGINEER

Spec Sect _____ Para _____
 Approved _____
 Date _____

AGS Flexible Coupling

STYLE W77

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: Orange enamel.

- Optional: Hot dipped galvanized and others.

Coupling Gasket: (specify choice*)

- **Grade "E" FlushSeal EPDM**

EPDM (Green color code). Temperature range -30°F to $+230^{\circ}\text{F}$ / -34°C to $+110^{\circ}\text{C}$. Recommended 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 $+86^{\circ}\text{F}/+30^{\circ}\text{C}$ and hot $+180^{\circ}\text{F}/+82^{\circ}\text{C}$ potable water service. NOT RECOMMENDED FOR PETROLEUM SERVICES.

- **Grade "T" FlushSeal nitrile**

Nitrile (Orange color code). Temperature range -20°F to $+180^{\circ}\text{F}/-29^{\circ}\text{C}$ to $+82^{\circ}\text{C}$. Recommended for petroleum products, air with oil vapors, vegetable and mineral oils within the specified temperature range. Not recommended for hot water services over $+150^{\circ}\text{F}/+66^{\circ}\text{C}$ or for hot dry air over $+140^{\circ}\text{F}/+60^{\circ}\text{C}$.

- **Grade "L" silicone**

Silicone (Red color code). Temperature range -30°F to $+350^{\circ}\text{F}/-34^{\circ}\text{C}$ to $+177^{\circ}\text{C}$. Recommended for dry heat, air without hydrocarbons to $+350^{\circ}\text{F}/+177^{\circ}\text{C}$ and certain chemical services.

* Services listed are General Service Recommendations only. It should be noted that there are services for which these gaskets are not recommended. Reference should always be made to the latest Victaulic Gasket Selection Guide for specific gasket service recommendations and for a listing of services which are not recommended.

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

Nuts: Plated carbon steel, heavy hex conforming to ASTM A-563, Grade B.

For 26-60"/660-1525 mm Sizes

Washers: Plated carbon steel, flat, SAE high strength conforming to ASTM F-436.

AGS Flexible Coupling

STYLE W77

DIMENSIONS

Size		Max. Working Pressure* psi/kPa			Max. End Load* Lbs./N			Allow. Pipe End Sep.†	Deflect. From CL †		Bolt/Nut No - Size	DimensionsØ – Inches/mm			Approx. Wgt. Each
Nominal Size Inches mm	Actual Outside Dia. Inches mm	Std. Wall	Light Wall ‡	Extra Heavy ½"/12.7 mm	Std. Wall	Light Wall ‡	Extra Heavy ½"/12.7 mm	Inches mm	Per Cplg. Deg.	Pipe In./Ft. mm/m	Inches	X	Y	Z	Lbs. kg
14 350	14.000 355.6	350 2500	350 2500	-	55800 248310	55800 248310	-	0.13 – 0.31 3.3 – 7.9	0.73	0.15 13	2 - 1 x 5 ½	16.00 406	20.59 523	4.50 114	48 21.8
16 400	16.000 406.4	350 2500	350 2500	-	72885 324338	72885 324338	-	0.13 – 0.31 3.3 – 7.9	0.63	0.13 11	2 - 1 x 5 ½	18.18 462	23.51 597	4.50 114	58 26.3
18 450	18.000 457.2	350 2500	350 2500	-	92245 410490	92245 410490	-	0.13 – 0.31 3.3 – 7.9	0.57	0.12 10	2 - 1 x 5 ½	20.36 517	25.46 647	4.50 114	65.0 29.5
20 500	20.000 508.0	350 2500	350 2500	-	113880 506766	113880 506766	-	0.13 – 0.31 3.3 – 7.9	0.50	0.10 9	2 - 1 ½ x 5 ½	22.56 573	27.13 689	4.50 114	82 37.2
24 600	24.000 609.6	350 2500	225 1600	-	163990 729756	104955 467050	-	0.13 – 0.31 3.3 – 7.9	0.42	0.09 8	2 - 1 ½ x 5 ½	26.88 683	32.31 821	4.50 114	107 48.5
26 660	26.000 660.4	300 2065	-	300 2065	159279 708508	-	159279 708508	0.15-0.53 3.81-13.46	0.83	0.18 15	4 - 1 ½ x 6	30.07 764	35.23 895	5.68 144	205 93.0
28 710	28.000 711.2	300 2065	-	300 2065	184726 821702	-	184726 821702	0.15-0.53 3.81-13.46	0.78	0.16 14	4 - 1 ½ x 6	32.23 819	37.22 945	5.68 144	220 99.8
30 760	30.000 762.0	300 2065	-	300 2065	212058 943281	-	212058 943281	0.15-0.53 3.81-13.46	0.73	0.16 13	4 - 1 ¼ x 7	33.90 863	39.64 1007	5.68 144	227 103.0
32 810	32.000 812.8	300 2065	-	300 2065	241274 1073240	-	241274 1073240	0.15-0.53 3.81-13.46	0.68	0.14 11	4 - 1 ¼ x 7	36.07 916	41.74 1060	5.68 144	242 109.8
34 865	34.000 865.0	300 2065	-	300 2065	272375 121207	-	-	0.21-0.59 5.33-14.99	0.69	0.13 11	4 - 1 ¼ x 7	38.25 972	43.75 1111	5.68 144	255.0 115.7
36 915	36.000 914.4	300 2065	-	300 2065	305363 1358322	-	305363 1358322	0.15-0.53 3.81-13.46	0.60	0.13 11	4 - 1 ¼ x 7	40.23 1022	45.72 1161	5.68 144	268 121.6
40 1015	40.000 1016.0	300 2065	-	300 2065	376991 1676940	-	376991 1676940	0.21-0.59 5.33-14.99	0.55	0.12 10	4 - 1 ½ x 7	43.98 1117	50.51 1283	6.50 165	340 154.2
42 1070	42.000 1066.8	300 2065	-	300 2065	415632 1848823	-	415632 1848823	0.21-0.59 5.33-14.99	0.52	0.11 9	4 - 1 ½ x 7	45.98 1168	52.50 1334	6.50 165	360 163.3
44 1150	44.000 1150.0	-	-	232 1600	-	-	385561 1715746	0.21-0.59 5.33-14.99	0.47	0.10 8	4 - 1 ½ x 7	50.28 1277	56.48 1435	6.50 165	415 188.2
46 1170	46.000 1168.4	-	-	232 1600	-	-	385561 1715746	0.21-0.59 5.33-14.99	0.47	0.10 8	4 - 1 ½ x 7	50.28 1277	56.48 1435	6.50 165	415 188.2
48 1220	48.000 1219.2	-	-	232 1600	-	-	419820 1868199	0.21-0.59 5.33-14.99	0.45	0.10 8	4 - 1 ½ x 7	52.28 1328	58.47 1485	6.50 165	425 192.8
54 1370	54.000 1371.6	-	-	175 1200	-	-	400790 1782803	0.28-0.66 7.11-16.76	0.40	0.08 7	4 - 1 ½ x 7	59.03 1499	65.16 1655	10.00 254	648 293.9
56 1420	56.000 1422.2	-	-	175 1200	-	-	431030 1917317	0.28-0.66 7.11-16.76	0.38	0.08 7	4 - 1 ½ x 7	61.03 1550	67.65 1718	10.00 254	676 306.6
60 1525	60.000 1524.0	-	-	175 1200	-	-	494800 2201025	0.28-0.66 7.11-16.76	0.36	0.08 7	4 - 1 ½ x 7	65.03 1652	72.13 1832	10.00 254	720 326.6

* **Working Pressure** and **End Load** are total, from all internal and external loads, based on minimum nominal wall thicknesses shown within AGS Roll Groove Specifications 25.09, AGS **roll** grooved in accordance with Victaulic® specifications. Contact Victaulic for performance on other pipe. **Note:** Actual maximum working pressure is 363 psi/2500 kPa for 14 – 20"/350 – 500 mm on light wall; 232 psi/1600 kPa for 24"/600 mm on light wall; 363 psi/2500 kPa for 14 – 24"/350 – 500 mm on standard wall.

WARNING: FOR ONE TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1 ½ times the figures shown.

α The 14"/350 mm size Style W77 AGS coupling is FM approved for a maximum working pressure of 350 psi/2415kPa on cut grooved Sch 30 pipe and roll grooved 0.188"/5 mm wall pipe.

‡ Light Wall for 14"/350 mm = 0.22"/5.6 mm; 16 – 24"/400 – 600 mm = 0.25"/6.35 mm

† Allowable Pipe End Separation and Deflection figures show the maximum nominal range of movement available at each joint for AGS roll grooved pipe. These figures are maximums; for design and installation purposes these figures should be reduced by 25%.

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

Ø Corresponding line drawings are on page 4.

NOTE: Style W77 AGS couplings must not be used to join PVC pipe.

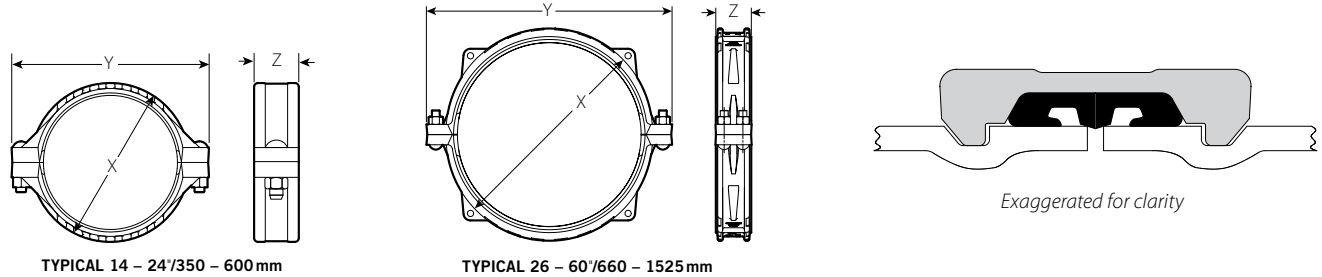
NOTE: The Style W07 coupling in 26-60"/660 – 1525 mm sizes cannot be used on wall thicknesses greater than 0.5"/12.7mm.

NOTE: The outside diameter of roll grooved pipe shall not vary more than the limits of API 5L end tolerance. The maximum allowable tolerance from square cut ends is 0.125"/3.18 mm measured from a true square line.

AGS Flexible Coupling

STYLE W77

DIMENSIONS



TORQUE REQUIREMENTS

Size	Recommended Torque
Nominal Size Inches mm	ft. lbs. N•m
14, 16, 18 350, 400, 450	250 340
20, 24, 26, 28 500, 600, 660, 710	375 500
30, 32, 36 760, 810, 915	500 680
40, 42, 46, 48, 54, 56, 60 1015, 1070, 1170, 1220, 1370, 1420, 1525	600 813

INSTALLATION

Reference should always be made to the Victaulic Field Installation Instructions for the product you are installing. Victaulic Field Installation Instructions 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.

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.

For complete contact information, visit www.victaulic.com

20.03 3853 REV I UPDATED 08/2011

VICTAULIC IS A REGISTERED TRADEMARK OF VICTAULIC COMPANY. © 2011 VICTAULIC COMPANY. ALL RIGHTS RESERVED.