

# Victaulic® AGS Rigid Coupling

## Style W07



14 – 24"/DN350 – DN600 sizes  
Patented



26 – 50"/DN650 – DN1250 sizes  
Patented



### 1.0 PRODUCT DESCRIPTION

#### Available Sizes

- 14 – 50"/DN350 – DN1250

#### Maximum Working Pressure

- 14 – 24"/DN350 – DN600: 350 psi/2400 kPa
- 26 – 42"/DN650 – DN1050: 300 psi/2065 kPa
- 44 – 50"/DN1100 – DN1250: 232 psi/1600 kPa

#### Application

- For buried applications, project specific details are required. Please contact Victaulic
- Provide rigidity for valve connections, machinery rooms, and long straight runs

#### Function

- Unique wedge-shaped key profile increases allowable pipe end separation, resulting in easier assembly.
- Style W07 AGS coupling in 26 – 50"/ DN650 – DN1250 sizes, features lifting lugs integrated into the housings to help ease handling during installation.

#### NOTES

- Style W07 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 W07 AGS rigid couplings can also be used on abrasive/slurry services in combination with an AGS *Vic-Ring*. See [publication 16.11](#).

### 2.0 CERTIFICATION/LISTINGS



#### NOTES

- Size 480mm is not UL, NSF and FM approved. Sizes 377mm and 426mm are not UL and NSF approved.
- See [publication 02.06](#) Victaulic Potable Water Approvals ANSI/NSF for potable water approvals if applicable.
- Download [publication 10.01](#) for Fire Protection Certifications/Listings Reference Guide.

ALWAYS REFER TO ANY NOTIFICATIONS AT THE END OF THIS DOCUMENT REGARDING PRODUCT INSTALLATION, MAINTENANCE OR SUPPORT.

### 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: Orange enamel.
- Optional: Hot dipped galvanized and others.
- Optional: Fusion Bonded Epoxy.

**NOTE**

- For additional coating options contact Victaulic.

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

- Victaulic 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.**
- Victaulic Grade “T” FlushSeal™ Nitrile**  
Nitrile (Orange 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.**
- Victaulic Grade “L” FlushSeal™ Silicone**  
Silicone (Red 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.
- Others**  
For alternate gasket selection, reference [publication 05.01](#): Victaulic Seal Selection Guide – Elastomeric Seal Construction.

<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 Seal Selection Guide](#) for specific gasket service guidelines and for a listing of services which are not compatible.

**Bolts/Nuts: (specify choice<sup>2</sup>)**

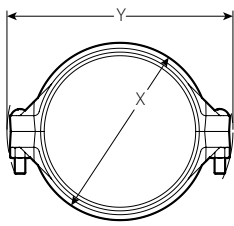
- Standard: Carbon steel oval neck track bolts meeting the mechanical property requirements of ASTM A449 (imperial) and ISO 898-1 Class 9.8 (M10-M16) Class 8.8 (M20 and greater). Carbon steel hex nuts meeting the mechanical property requirements of ASTM A563 Grade B (imperial - heavy hex nuts) and ASTM 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: Stainless steel oval neck track bolts or studs meeting the mechanical property requirements of ASTM A193 Grade B8M, Class 2 (316 stainless steel). Stainless steel heavy hex nuts meeting the mechanical property requirements of ASTM A194 Grade 8M (316 stainless steel) with galling reducing coating.

**For 26 – 50”/DN650 – DN1250 sizes:**

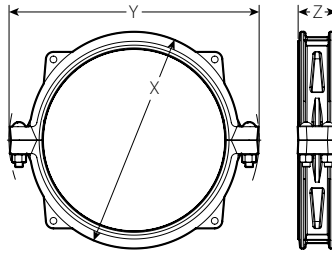
- Washers: Plated carbon steel, flat. SAE high strength conforming to ASTM F436 or high strength stainless steel.

<sup>2</sup> Optional bolts/nuts are available in imperial size only.

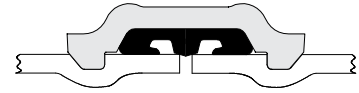
## 4.0 DIMENSIONS



Typical 14 – 24"/DN350 – DN600



Typical 26 – 50"/DN650 – DN1250



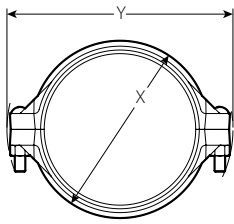
Exaggerated for clarity

Size		Pipe End Separation	Bolt/Nut		Dimensions			Weight
Nominal inches DN	Actual Outside Diameter inches mm	Allowable inches mm	Qty.	Size inches mm	X inches mm	Y inches mm	Z inches mm	Approximate (Each) lb kg
14 DN350	14.000	0.25	2	1 x 5 1/2	15.88	20.63	4.75	49.0
	355.6	6.4			404	524	121	22.2
16 DN400	14.843	0.25	2	M24 x 139.7	16.88	21.50	4.88	51.3
	377.0	6.4			427	544	122	23.3
18 DN450	16.000	0.25	2	1 x 5 1/2	18.25	23.50	4.75	61.0
	406.4	6.4			461	597	121	27.7
20 DN500	16.772	0.25	2	M24 x 139.7	19.00	23.50	4.88	63.9
	426.0	6.4			482	596	122	29.0
22 DN550	18.000	0.25	2	1 x 5 1/2	20.25	25.50	4.75	71.0
	457.2	6.4			515	648	121	32.2
24 DN600	18.898	0.25	2	M24 x 139.7	21.25	25.75	4.88	74.2
	480.0	6.4			538	653	122	33.7
26 DN650	20.000	0.25	2	1 1/8 x 5 1/2	22.50	27.13	4.75	82.0
	508.0	6.4			572	689	121	37.2
28 DN700	20.866	0.25	2	M27 x 139.7	23.50	28.25	4.75	86.0
	530.0	6.4			595	718	121	39.0
30 DN750	22.000	0.25	2	1 1/8 x 6	24.75	29.38	4.75	110.0
	558.8	6.4			629	747	121	49.9
32 DN800	24.000	0.25	2	1 1/8 x 5 1/2	26.63	32.38	4.75	116.0
	609.6	6.4			677	823	121	52.6
34 DN850	24.803	0.25	2	M27 x 139.7	16.25	27.50	4.75	120.0
	630.0	6.4			411	699	121	54.4
36 DN900	26.000	0.38	4	1 1/8 x 6	30.13	35.25	5.75	205.0
	660.4	9.7			766	896	147	93.0
38 DN950	28.000	0.38	4	1 1/8 x 6	32.25	37.25	5.75	220.0
	711.2	9.7			820	947	147	99.8
40 DN1000	30.000	0.38	4	1 1/4 x 7	33.88	39.63	5.75	227.0
	762.0	9.7			861	1007	147	103.0
42 DN1050	32.000	0.38	4	1 1/4 x 7	36.13	41.75	5.75	242.0
	812.8	9.7			918	1061	147	109.8
44 DN1100	34.000	0.38	4	1 1/4 x 7	38.25	43.75	5.75	255.0
	863.6	9.7			972	1112	147	115.7
46 DN1150	36.000	0.38	4	1 1/4 x 7	40.25	45.75	5.75	268.0
	914.4	9.7			1023	1163	147	121.6

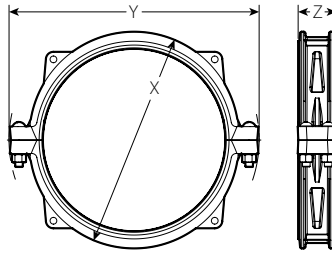
### NOTES

- WARNING: FOR ONE TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1 1/2 times the figures shown.
- The allowable pipe end separation dimension shown is for system layout purposes only. Style W07 AGS rigid 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.
- Refer to [publication 25.09](#) for proper groove specifications.
- Style W07 AGS couplings are essentially rigid and do not permit expansion/contraction.
- Additional wall thicknesses available. For performance on additional pipe wall thicknesses contact Victaulic.
- For additional pipe sizes, please contact Victaulic.

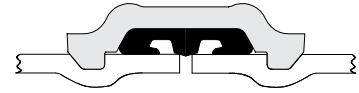
## 4.0 DIMENSIONS (CONTINUED)



Typical 14 – 24"/DN350 – DN600



Typical 26 – 50"/DN650 – DN1250



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 mm	X inches mm	Y inches mm	Z inches mm	Approximate (Each) lb kg
38 DN950	38.000 965.0	0.38 9.7	4	1 ¼ x 7	41.25 1048	48.00 1220	5.75 147	304.0 137.9
40 DN1000	40.000 1016.0	0.44 11.2	4	1 ½ x 8	44.00 1118	50.50 1283	6.50 166	340.0 154.2
42 DN1050	42.000 1066.8	0.44 11.2	4	1 ½ x 8	46.00 1169	52.50 1334	6.50 166	360.0 163.3
44 DN1100	44.000 1117.6	0.44 11.2	4	1 ½ x 8	48.00 1220	54.50 1385	6.50 166	390.0 176.9
46 DN1150	46.000 1168.4	0.44 11.2	4	1 ½ x 8	50.25 1277	56.50 1436	6.50 166	415.0 188.2
48 DN1200	48.000 1219.2	0.44 11.2	4	1 ½ x 8	52.25 1328	58.50 1486	6.50 166	425.0 192.8
50 DN1250	50.000 1270.0	0.44 11.2	4	1 ½ x 8	53.63 1363	60.88 1547	10.00 254	500.0 226.8

### NOTES

- WARNING: FOR ONE TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1½ times the figures shown.
- The outside diameter, ovality, and surface finish including flat spots and imperfections shall not vary more than the limits of API 5L end tolerance.
- Style W07 AGS couplings are essentially rigid and do not permit expansion/contraction.
- Refer to [publication 25.09](#): Victaulic Roll Groove Specifications for proper groove specifications.
- Additional wall thicknesses available. For performance on additional pipe wall thicknesses contact Victaulic.
- For additional pipe sizes, please contact Victaulic.

## 5.0 PERFORMANCE

Size		Maximum Working Pressure			Performance
Nominal inches DN	Actual Outside Diameter inches mm	Less Than Std Wt psi kPa	Std. Wt psi kPa	XS 1/2 - 3/4" 13 - 19 mm psi kPa	Maximum End Load lbs N
14 DN350	14.000	350	350	350	53900
	355.6	2413	2413	2413	239759
	14.843	350	350	350	60600
	377.0	2413	2413	2413	269562
16 DN400	16.000	350	350	350	70400
	406.4	2413	2413	2413	313155
	16.772	350	350	350	77400
	426.0	2413	2413	2413	344292
18 DN450	18.000	350	350	350	89100
	457.2	2413	2413	2413	396337
	18.898	350	350	350	98200
	480.0	2413	2413	2413	436815
20 DN500	20.000	350	350	350	110000
	508.0	2413	2413	2413	489304
	20.866	350	350	350	119700
	530.0	2413	2413	2413	532452
22 DN550	22.000	350	350	350	133100
	558.8	2413	2413	2413	592058
24 DN600	24.000	225	0	0	101800
	609.6	1551	0	0	452829
		0	350	350	158400
		0	2413	2413	704598
	24.803	225	0	0	108800
	630.0	1551	0	0	483967
		0	350	350	169200
		0	2413	2413	752639
26 DN650	26.000	300	300	300	159300
	660.4	2068	2068	2068	708602
28 DN700	28.000	300	300	300	184800
	711.2	2068	2068	2068	822031
30 DN750	30.000	300	300	300	212100
	762.0	2068	2068	2068	943468
32 DN800	32.000	300	300	300	241300
	812.8	2068	2068	2068	1073356
34 DN850	34.000	300	300	300	272400
	863.6	2068	2068	2068	1211696
36 DN900	36.000	300	300	300	305400
	914.4	2068	2068	2068	1358487
38 DN950	38.000	300	300	300	340300
	965.0	2068	2068	2068	1513730
40 DN1000	40.000	300	300	300	377000
	1016.0	2068	2068	2068	1676980
42 DN1050	42.000	300	300	300	415700
	1066.8	2068	2068	2068	1849126
44 DN1100	44.000	232	232	232	352800
	1117.6	1600	1600	1600	1569333
46 DN1150	46.000	232	232	232	385600
	1168.4	1600	1600	1600	1715234
48 DN 1200	48.000	232	232	232	419900
	1219.2	1600	1600	1600	1867808
50 DN1250	50.000	232	232	232	455600
	1270.0	1600	1600	1600	2026610

<sup>3</sup> End loads are total from all internal and external loads, based on carbon steel pipe, rolled with Victaulic AGS rolls in accordance with [publication 25.09](#): Victaulic AGS Roll Groove Specifications. Contact Victaulic for performance on other pipe.

<sup>4</sup> Less Than Std Wt for 14"/DN350 = 0.22"/5.6mm; 16 - 24"/DN400 - DN600 = 0.25"/6.35mm; 26 - 50"/DN650 - DN1250 = 0.312"/7.9mm  
Less Than Std Wt for 377mm = 0.217"/5.5mm; 426mm = 0.256"/6.5mm; 480mm = 0.256"/6.5mm

## 5.1 PERFORMANCE

### Torque Requirements

Nominal Pipe Size inches DN	Required Torque ft. lbs. N•m
14, 16, 18 350, 400, 450	250 339
377, 426, 480 mm	250 339
20, 22, 24, 26, 28 500, 550, 600, 650, 700	375 508
530, 630 mm	375 508
30, 32, 34, 36, 38 750, 800, 850, 900, 950	500 678
40, 42, 44, 46, 48, 50 1000, 1050, 1100, 1150, 1200, 1250	600 813

## 6.0 NOTIFICATIONS

### 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).
- RWX grooving rolls 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.

## 7.0 REFERENCE MATERIALS

[02.06: Potable Water Approvals](#)

[05.01: Victaulic Seal Selection Guide](#)

[16.11: AGS Vic-Ring Systems](#)

[20.05: AGS Fittings](#)

[24.01: Pipe Preparation Tools](#)

[25.09: AGS Roll Groove Specifications](#)

[26.01: Victaulic Design Data](#)

[29.01: Terms and Conditions/Warranty](#)

[I-100: Field Installation Handbook](#)

[I-ENDCAP: Victaulic End Caps Installation Instructions](#)

### User Responsibility for Product Selection and Suitability

Each user bears final responsibility for making a determination as to the suitability of Victaulic products for a particular end-use application, in accordance with industry standards and project specifications, and the applicable building codes and related regulations as well as Victaulic performance, maintenance, safety, and warning instructions. Nothing in this or any other document, nor any verbal recommendation, advice, or opinion from any Victaulic employee, shall be deemed to alter, vary, supersede, or waive any provision of Victaulic Company's standard conditions of sale, installation guide, or this disclaimer.

### Intellectual Property Rights

No statement contained herein concerning a possible or suggested use of any material, product, service, or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Victaulic or any of its subsidiaries or affiliates covering such use or design, or as a recommendation for the use of such material, product, service, or design in the infringement of any patent or other intellectual property right. The terms "Patented" or "Patent Pending" refer to design or utility patents or patent applications for articles and/or methods of use in the United States and/or other countries.

### 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.

### Installation

Reference should always be made to the Victaulic installation handbook or installation instructions of the product you are installing. Handbooks are included with each shipment of Victaulic products, providing 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.

### Trademarks

*Victaulic* and all other Victaulic marks are the trademarks or registered trademarks of Victaulic Company, and/or its affiliated entities, in the U.S. and/or other countries.