

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

Pipe Requirements

- Carbon Steel: APL-5L, ASTM A53 Grade B, AWWA C200
- Stainless Steel: see [publication 17.01](#)
- For additional pipe requirements see [publication 25.09](#)

Maximum Allowable 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

NOTE

- For Stainless Steel Maximum Allowable Working Pressures see [publication 17.09](#)
- For Maximum Allowable Working pressures on Victaulic Vic-Rings see [publication 16.11](#)

Application

- 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.
- Sizes 26" and above feature lifting lugs integrated onto the housings to promote ease of handling during installation of the coupling housing.

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

- Sizes 377mm, 426mm, 480mm, 530mm, 630mm are not NSF Approved
- See [publication 02.06](#) Victaulic Potable Water Approvals ANSI/NSF for potable water approvals if applicable.
- Refer to [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: (specify choice)

- ☐ Standard: Ductile iron conforming to ASTM A536, Grade 65-45-12.
- ☐ Optional: Ductile iron conforming to ASTM A395, Grade 65-45-15.

Housing Coating: (specify choice)

- ☐ Standard: Orange enamel.
- ☐ Optional: Hot dipped galvanized.
- ☐ Optional: Liquid Epoxy conforming with AWWA C210.

NOTE

- For additional coating options contact Victaulic.

Coupling Gasket: (specify choice¹)

- ☐ **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.

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 choice²)

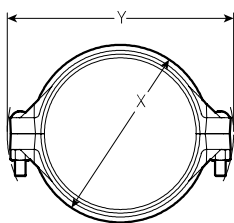
- ☐ Standard: Carbon steel oval neck track bolts meeting the mechanical property requirements of ASTM A449 (imperial) and ISO 898-1 Class 9.8 (M10-M16) Class 8.8 (M20 and greater). Carbon steel hex nuts meeting the mechanical property requirements of ASTM A563 Grade B (imperial - heavy hex nuts) and 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.

² For alternate hardware specifications not listed contact Victaulic.

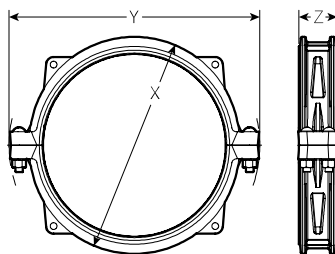
For 26 – 50”/DN650 – DN1250 sizes:

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

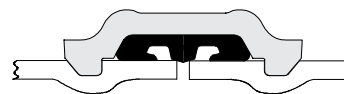
4.0 DIMENSIONS



Typical 14 – 24"/DN350 – DN600



Typical 26 – 50"/DN650 – DN1250



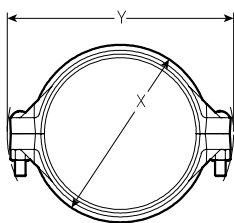
Exaggerated for clarity

Size		Pipe End Separation	Bolt/Nut		Dimensions			Weight
Nominal inches DN	Actual Outside Diameter inches mm	Nominal inches mm	Qty.	Size inches mm	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 x 5 1/2	16.13 410	20.88 530	5.00 128	51.0 23.0
	14.843 377.0	0.25 6.4	2	M24 x 139.7	17.13 434	21.75 552	5.00 128	53.0 24.0
16 DN400	16.000 406.4	0.25 6.4	2	1 x 5 1/2	18.50 470	22.88 582	5.00 128	63.0 28.5
	16.772 426.0	0.25 6.4	2	M24 x 139.7	19.25 488	23.75 604	5.00 128	66.0 30.0
18 DN450	18.000 457.2	0.25 6.4	2	1 x 5 1/2	20.50 520	25.00 636	5.00 128	74.0 33.5
	18.898 480.0	0.25 6.4	2	M24 x 139.7	21.50 546	26.25 666	5.00 128	77.0 35.0
20 DN500	20.000 508.0	0.25 6.4	2	1 1/8 x 5 1/2	22.75 578	28.00 712	5.00 128	85.0 38.5
	20.866 530.0	0.25 6.4	2	M27 x 139.7	23.63 600	29.00 736	5.00 128	89.0 40.5
22 DN550	22.000 558.8	0.25 6.4	2	1 1/8 x 6	25.00 636	30.25 768	5.00 128	115.0 52.0
24 DN600	24.000 609.6	0.25 6.4	2	1 1/8 x 5 1/2	27.25 692	32.25 820	5.00 128	120.0 54.5
	24.803 630.0	0.25 6.4	2	M27 x 139.7	28.00 712	33.25 844	5.00 128	125.0 56.5
26 DN650	26.000 660.4	0.38 9.7	4	1 1/8 x 6	30.75 782	35.75 908	6.00 152	215.0 97.5
28 DN700	28.000 711.2	0.38 9.7	4	1 1/8 x 6	32.75 832	37.75 958	6.00 152	230.0 104.5
30 DN750	30.000 762.0	0.38 9.7	4	1 1/4 x 7	34.50 876	40.25 1022	6.00 152	235.0 106.5
32 DN800	32.000 812.8	0.38 9.7	4	1 1/4 x 7	36.75 934	42.25 1074	6.00 152	250.0 113.5
34 DN850	34.000 863.6	0.38 9.7	4	1 1/4 x 7	38.75 984	44.25 1124	6.00 152	275.0 124.5
36 DN900	36.000 914.4	0.38 9.7	4	1 1/4 x 7	40.75 1036	46.25 1174	6.00 152	300.0 136.0

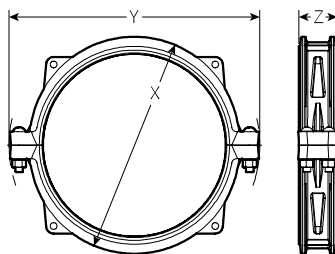
NOTES

- The nominal 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. (See [publication 25.09](#) for more details).
- 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.

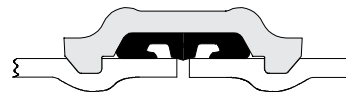
4.0 DIMENSIONS (CONTINUED)



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	Nominal 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	42.75 1086	48.25 1226	6.00 152	325.0 147.5
40 DN1000	40.000 1016.0	0.44 11.2	4	1 ½ x 8	44.50 1130	51.00 1296	6.75 172	375.0 170.0
42 DN1050	42.000 1066.8	0.44 11.2	4	1 ½ x 8	46.50 1182	53.00 1346	6.75 172	375.0 170.0
44 DN1100	44.000 1117.6	0.44 11.2	4	1 ½ x 8	49.00 1244	55.00 1398	6.75 172	425.0 193.0
46 DN1150	46.000 1168.4	0.44 11.2	4	1 ½ x 8	51.00 1296	57.00 1448	6.75 172	450.0 204.0
48 DN1200	48.000 1219.2	0.44 11.2	4	1 ½ x 8	53.00 1346	59.00 1498	6.75 172	450.0 204.0
50 DN1250	50.000 1270.0	0.44 11.2	4	1 ½ x 8	55.50 1410	61.50 1562	10.25 260	525.0 238.0

NOTES

- The nominal 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. (See [publication 25.09](#) for more details).
- 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.

5.0 PERFORMANCE

Size		Maximum Allowable Working Pressure			Performance
Nominal inches DN	Actual Outside Diameter inches mm	Light Wall ⁴ psi kPa	Std. Wt $\frac{3}{8}$ " psi kPa	XS $\frac{1}{2}$ " psi kPa	Maximum End Load lbs N
14 DN350	14.000 355.6	350 2413	350 2413	350 2413	53,000 235,756
	14.843 377.0	350 2413	350 2413	350 2413	60,000 266,894
16 DN400	16.000 406.4	350 2413	350 2413	350 2413	70,000 311,376
	16.772 426.0	350 2413	350 2413	350 2413	77,000 342,514
18 DN450	18.000 457.2	350 2413	350 2413	350 2413	89,000 395,892
	18.898 480.0	350 2413	350 2413	350 2413	98,000 435,926
20 DN500	20.000 508.0	350 2413	350 2413	350 2413	110,000 489,304
	20.866 530.0	350 2413	350 2413	350 2413	115,000 511,546
22 DN550	22.000 558.8	350 2413	350 2413	350 2413	130,000 578,268
24 DN600	24.000 609.6	225 1551	–	–	100,000 444,822
24 DN600	24.000 609.6	–	350 2413	350 2413	155,000 689,474
	24.803 630.0	225 1551	–	–	105,000 467,064
	24.803 630.0	–	350 2413	350 2413	165,000 733,956
26 DN650	26.000 660.4	300 2068	300 2068	300 2068	155,000 689,474
28 DN700	28.000 711.2	300 2068	300 2068	300 2068	180,000 800,680
30 DN750	30.000 762.0	300 2068	300 2068	300 2068	210,000 934,126
32 DN800	32.000 812.8	300 2068	300 2068	300 2068	240,000 1,067,574
34 DN850	34.000 863.6	300 2068	300 2068	300 2068	270,000 1,201,020
36 DN900	36.000 914.4	300 2068	300 2068	300 2068	305,000 1,356,708
38 DN950	38.000 965.0	300 2068	300 2068	300 2068	340,000 1,512,396
40 DN1000	40.000 1016.0	300 2068	300 2068	300 2068	375,000 1,668,084
42 DN1050	42.000 1066.8	300 2068	300 2068	300 2068	415,000 1,846,012
44 DN1100	44.000 1117.6	232 1600	232 1600	232 1600	350,000 1,556,878
46 DN1150	46.000 1168.4	232 1600	232 1600	232 1600	385,000 1,712,566
48 DN 1200	48.000 1219.2	232 1600	232 1600	232 1600	415,000 1,846,012
50 DN1250	50.000 1270.0	232 1600	232 1600	232 1600	455,000 2,023,942

³ 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.

⁴ Light Wall for 14"/DN350 = 0.22"/5.6mm; 16 – 24"/DN400 – DN600 = 0.25"/6.35mm; 26 – 50"/DN650 – DN1250 = 0.312"/7.9mm
Light Wall for 377mm = 0.217"/5.5mm; 426mm, 480mm, 530mm, 630mm = 0.256"/6.5mm

NOTES

- WARNING: FOR ONE TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1 ½ times the figures shown.
- Additional wall thicknesses available. For performance on additional pipe wall thicknesses contact Victaulic.
- For additional pipe sizes, please contact Victaulic.
- AGS is a fully self-restrained joint.

5.1 PERFORMANCE

Torque Requirements

Nominal Pipe Size inches DN	Required Torque ft. lbs. N•m
14, 16, 18 DN350, DN400, DN450	250 340
377, 426, 480 mm	250 340
20, 22, 24, 26, 28 DN500, DN550, DN600, DN650, DN700	375 500
530, 630 mm	375 500
30, 32, 34, 36, 38 DN750, DN800, DN850, DN900, DN950	500 680
40, 42, 44, 46, 48, 50 DN1000, DN1050, DN1100, DN1150, DN1200, DN1250	600 815

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](#)

[17.01: Stainless Steel Pipe End Preparation](#)

[17.09: Victaulic Grooved Couplings Performance Data for Stainless Steel Pipe](#)

[20.05: AGS Fittings](#)

[23.19: AGS Butterfly Valve Series W719](#)

[24.01: Pipe Preparation Tools](#)

[25.09: AGS Roll Groove Specifications](#)

[26.01: Victaulic Design Data](#)

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

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

[I-W100 Field Installation Handbook - Advanced Grooved System Products](#)

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.

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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.

Warranty

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

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