

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).

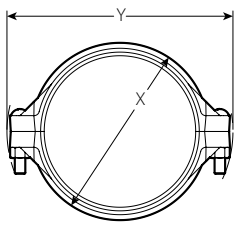
Optional: Stainless steel oval neck track bolts or studs meeting the mechanical property requirements of ASTM A193 Grade B8M, Class 2 (316 stainless steel). Stainless steel heavy hex nuts meeting the mechanical property requirements of ASTM A194 Grade 8M (316 stainless steel) with galling reducing coating.

² For alternate hardware specifications not listed contact Victaulic.

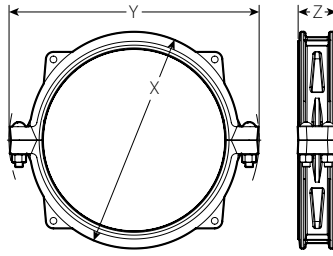
For 26 – 50”/DN650 – DN1250 sizes:

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



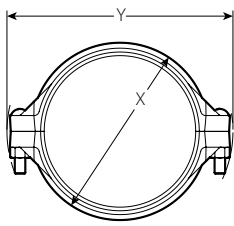
Exaggerated for clarity

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	0.25	2	1 x 5 1/2	16.13	20.88	5.00	51.0
	355.6	6.4			410	530	128	23.0
16 DN400	14.843	0.25	2	M24 x 139.7	17.13	21.75	5.00	53.0
	377.0	6.4			434	552	128	24.0
18 DN450	16.000	0.25	2	1 x 5 1/2	18.50	22.88	5.00	63.0
	406.4	6.4			470	582	128	28.5
20 DN500	16.772	0.25	2	M24 x 139.7	19.25	23.75	5.00	66.0
	426.0	6.4			488	604	128	30.0
22 DN550	18.000	0.25	2	1 x 5 1/2	20.50	25.00	5.00	74.0
	457.2	6.4			520	636	128	33.5
24 DN600	18.898	0.25	2	M24 x 139.7	21.50	26.25	5.00	77.0
	480.0	6.4			546	666	128	35.0
26 DN650	20.000	0.25	2	1 1/8 x 5 1/2	22.75	28.00	5.00	85.0
	508.0	6.4			578	712	128	38.5
28 DN700	20.866	0.25	2	M27 x 139.7	23.63	29.00	5.00	89.0
	530.0	6.4			600	736	128	40.5
30 DN750	22.000	0.25	2	1 1/8 x 6	25.00	30.25	5.00	115.0
	558.8	6.4			636	768	128	52.0
32 DN800	24.000	0.25	2	1 1/8 x 5 1/2	27.25	32.25	5.00	120.0
	609.6	6.4			692	820	128	54.5
34 DN850	24.803	0.25	2	M27 x 139.7	28.00	33.25	5.00	125.0
	630.0	6.4			712	844	128	56.5
36 DN900	26.000	0.38	4	1 1/8 x 6	30.75	35.75	6.00	215.0
	660.4	9.7			782	908	152	97.5
38 DN950	28.000	0.38	4	1 1/8 x 6	32.75	37.75	6.00	230.0
	711.2	9.7			832	958	152	104.5
40 DN1000	30.000	0.38	4	1 1/4 x 7	34.50	40.25	6.00	235.0
	762.0	9.7			876	1022	152	106.5
42 DN1050	32.000	0.38	4	1 1/4 x 7	36.75	42.25	6.00	250.0
	812.8	9.7			934	1074	152	113.5
44 DN1100	34.000	0.38	4	1 1/4 x 7	38.75	44.25	6.00	275.0
	863.6	9.7			984	1124	152	124.5
46 DN1150	36.000	0.38	4	1 1/4 x 7	40.75	46.25	6.00	300.0
	914.4	9.7			1036	1174	152	136.0

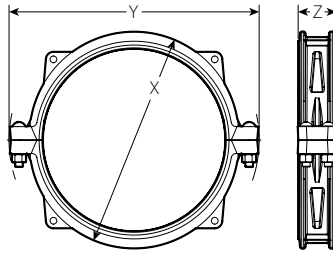
NOTES

- 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.

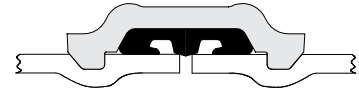
4.0 DIMENSIONS (CONTINUED)



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

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- 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 ³ / ₈ " psi kPa	XS ¹ / ₂ " psi kPa	Maximum End Load lbs N
14 DN350	14.000	350	350	350	53,000
	355.6	2413	2413	2413	235,756
	14.843	350	350	350	60,000
	377.0	2413	2413	2413	266,894
16 DN400	16.000	350	350	350	70,000
	406.4	2413	2413	2413	311,376
	16.772	350	350	350	77,000
	426.0	2413	2413	2413	342,514
18 DN450	18.000	350	350	350	89,000
	457.2	2413	2413	2413	395,892
	18.898	350	350	350	98,000
	480.0	2413	2413	2413	435,926
20 DN500	20.000	350	350	350	110,000
	508.0	2413	2413	2413	489,304
	20.866	350	350	350	115,000
	530.0	2413	2413	2413	511,546
22 DN550	22.000	350	350	350	130,000
	558.8	2413	2413	2413	578,268
24 DN600	24.000	225	–	–	100,000
	609.6	1551	–	–	444,822
24 DN600	24.000	–	350	350	155,000
	609.6	–	2413	2413	689,474
	24.803	225	–	–	105,000
	630.0	1551	–	–	467,064
	24.803	–	350	350	165,000
	630.0	–	2413	2413	733,956
26 DN650	26.000	300	300	300	155,000
	660.4	2068	2068	2068	689,474
28 DN700	28.000	300	300	300	180,000
	711.2	2068	2068	2068	800,680
30 DN750	30.000	300	300	300	210,000
	762.0	2068	2068	2068	934,126
32 DN800	32.000	300	300	300	240,000
	812.8	2068	2068	2068	1,067,574
34 DN850	34.000	300	300	300	270,000
	863.6	2068	2068	2068	1,201,020
36 DN900	36.000	300	300	300	305,000
	914.4	2068	2068	2068	1,356,708
38 DN950	38.000	300	300	300	340,000
	965.0	2068	2068	2068	1,512,396
40 DN1000	40.000	300	300	300	375,000
	1016.0	2068	2068	2068	1,668,084
42 DN1050	42.000	300	300	300	415,000
	1066.8	2068	2068	2068	1,846,012
44 DN1100	44.000	232	232	232	350,000
	1117.6	1600	1600	1600	1,556,878
46 DN1150	46.000	232	232	232	385,000
	1168.4	1600	1600	1600	1,712,566
48 DN 1200	48.000	232	232	232	415,000
	1219.2	1600	1600	1600	1,846,012
50 DN1250	50.000	232	232	232	455,000
	1270.0	1600	1600	1600	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	250
DN350, DN400, DN450	340
377, 426, 480 mm	250
20, 22, 24, 26, 28	340
DN500, DN550, DN600, DN650, DN700	375
530, 630 mm	500
30, 32, 34, 36, 38	375
DN750, DN800, DN850, DN900, DN950	500
40, 42, 44, 46, 48, 50	680
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](#)

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

[1-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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