

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

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.
- Provide rigidity for valve connections, machinery rooms, and long straight runs.

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.

System No.		Location	
Submitted By		Date	

Spec Section		Paragraph	
Approved		Date	

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 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).

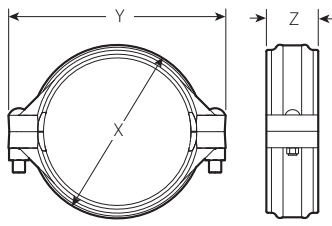
Optional: Stainless steel oval neck track bolts or studs meeting the mechanical property requirements of ASTM A193 Grade B8M, Class 2 (316 stainless steel). Stainless steel heavy hex nuts meeting the mechanical property requirements of ASTM A194 Grade 8M (316 stainless steel) with galling reducing coating.

For 26 – 50”/DN650 – DN1250 sizes:

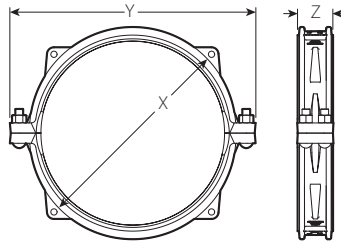
Washers: Plated carbon steel, flat. SAE high strength conforming to ASTM F436 or high strength stainless steel.

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

4.0 DIMENSIONS



Typical 14 – 24"/DN350 – DN600



Typical 26 – 50"/DN650 – DN1250



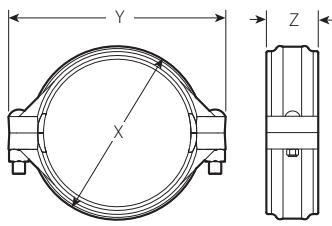
Exaggerated for clarity

Size		Pipe End Separation	Bolt/Nut		Dimensions			Weight
Nominal inches DN	Actual Outside Diameter inches mm	Allowable inches mm	Qty.	Size inches	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			403	524	121	22.2
16 DN400	14.843	0.25	2	M24 X 139.7	16.78	21.41	4.80	51.3
	377.0	6.4			426	544	122	23.3
18 DN450	16.000	0.25	2	1 x 5 1/2	18.13	23.50	4.75	61.0
	406.4	6.4			460	597	121	27.7
20 DN500	16.772	0.25	2	M24 X 139.7	18.95	23.47	4.80	63.9
	426.0	6.4			481	596	122	29.0
22 DN550	18.000	0.25	2	1 x 5 1/2	20.25	25.50	4.75	71.0
	457.0	6.4			514	648	121	32.2
24 ⁵ DN600	18.898	0.25	2	M24 X 139.7	21.18	25.72	4.80	74.2
	480.0	6.4			538	653	122	33.6
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			570	689	121	37.2
28 DN700	22.000	0.25	2	1 1/8 x 6	24.75	29.38	4.75	110.0
	559.0	6.4			629	746	121	49.9
30 DN750	24.000	0.25	2	1 1/8 x 5 1/2	26.63	32.38	4.75	116.0
	610.0	6.4			677	822	121	52.6
32 DN800	26.000	0.38	4	1 1/8 x 6	30.13	35.25	5.75	205.0
	660.4	9.6			765	895	146	93.0
34 DN850	28.000	0.38	4	1 1/8 x 6	32.25	37.25	5.75	220.0
	711.2	9.6			819	945	146	99.8
36 DN900	30.000	0.38	4	1 1/4 x 7	33.88	39.63	5.75	227.0
	762.0	9.6			863	1007	146	103.0
38 DN950	32.000	0.38	4	1 1/4 x 7	36.13	41.75	5.75	242.0
	812.8	9.6			917	1060	146	109.8
40 DN1000	34.000	0.38	4	1 1/4 x 7	38.25	43.75	5.75	255.0
	864.0	9.6			972	1161	146	115.7
40 DN1000	36.000	0.38	4	1 1/4 x 7	40.25	45.75	5.75	268.0
	914.4	9.6			1022	1161	146	121.6
40 DN1000	38.000	0.38	4	1 1/4 x 7	41.25	48.00	5.75	304.0
	965.0	9.6			1048	1219	146	138.2
40 DN1000	40.000	0.44	4	1 1/2 x 8	44.00	50.50	6.50	340.0
	1016.0	11.1			1117	1283	165	154.2

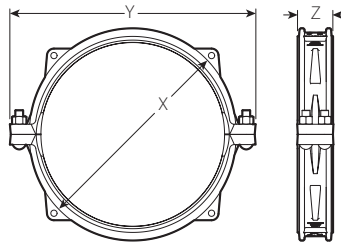
NOTES

- 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	X inches mm	Y inches mm	Z inches mm	Approximate (Each) lb kg
42 DN1050	42.000 1066.8	0.44 11.1	4	1½ x 8	46.00 1168	54.50 1384	6.50 165	360.0 163.3
44 DN1100	44.000 1117.6	0.44 11.1	4	1½ x 8	48.00 1219	54.50 1384	6.50 165	390.0 177.0
46 DN1150	46.000 1168.4	0.44 11.1	4	1½ x 8	50.25 1277	56.50 1435	6.50 165	415.0 188.2
48 DN1200	48.000 1219.2	0.44 11.1	4	1½ x 8	52.25 1328	58.50 1485	6.50 165	425.0 192.8
50 DN1250	50.000 1270.0	0.44 11.1	4	1½ x 8	53.63 1362	60.88 1546	10.00 254	500.0 227.0

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			Max. End Load ³
Nominal inches DN	Actual Outside Diameter inches mm	Light Wall ⁴ psi kPa	Std.Wall psi kPa	Extra Heavy ½–¾" 13–19mm	
14 DN350	14.000	350	350	350	55800
	355.6	2400	2400	2400	248310
16 DN400	14.843	350	350	350	60562
	377.0	2400	2400	2400	269393
16 DN400	16.000	350	350	350	72885
	406.4	2400	2400	2400	324338
18 DN450	16.772	350	350	350	77326
	426.0	2400	2400	2400	343963
18 DN450	18.000	350	350	350	92245
	457.0	2400	2400	2400	410490
20 DN500	18.898	350	350	350	98172
	480.0	2400	2400	2400	436691
20 DN500	20.000	350	350	350	113880
	508.0	2400	2400	2400	506766
22 DN550	22.000	350	350	350	114000
	559.0	2400	2400	2400	507080
24 ⁵ DN600	24.000	225	350	350	163990
	610.0	1600	2400	2400	729756
26 DN650	26.000	300	300	300	159279
	660.4	2065	2065	2065	708508
28 DN700	28.000	300	300	300	184726
	711.2	2065	2065	2065	821702
30 DN750	30.000	300	300	300	212058
	762.0	2065	2065	2065	943281
32 DN800	32.000	300	300	300	241274
	812.8	2065	2065	2065	1073240
34 DN850	34.000	300	300	300	305363
	864.0	2065	2065	2065	1358322
36 DN900	36.000	300	300	300	305363
	914.4	2065	2065	2065	1358322
38 DN950	38.000	300	300	300	340235
	965.0	2065	2065	2065	1513365
40 DN1000	40.000	300	300	300	376991
	1016.0	2065	2065	2065	1676940
42 DN1050	42.000	300	300	300	415632
	1066.8	2065	2065	2065	1848823
44 DN1100	44.000	232	232	232	352763
	1117.6	1600	1600	1600	1569168
46 DN1150	46.000	232	232	232	385561
	1168.4	1600	1600	1600	1715746
48 DN1200	48.000	232	232	232	419820
	1219.2	1600	1600	1600	1868199
50 DN1250	50.000	232	232	232	4555530
	1270.0	1600	1600	1600	2026298

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 = 0.256"/6.5mm; 480mm = 0.256"/6.5mm

⁵ The end load for 24"/DN600 installed on light wall pipe is 101790 lbs/456426 N.

5.1 PERFORMANCE

Torque Requirements

Nominal Pipe Size inches DN	Required Torque ft. lbs. N•m
14, 16, 18 350, 400, 450	250 340
377, 426, 480mm	250 340
20, 22, 24, 26, 28 500, 550, 600, 650, 700	375 500
30, 32, 34, 36, 38 750, 800, 850, 900, 950	500 680
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.

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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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