

# 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

- Sizes 377mm, 426mm and 480mm are not UL, NSF and FM 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 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” 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” 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.

Carbon steel heavy hex nuts meeting the mechanical property requirements of ASTM A563 Grade B. Track bolts and heavy hex nuts are zinc electroplated per ASTM B633 ZN/FE5, finish Type III (imperial) or Type II (metric).

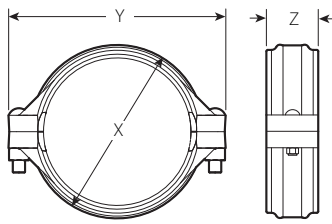
Optional: Stainless steel oval neck track bolts meeting the mechanical property requirements of ASTM A193 Grade B8M, Class 2 (316 stainless steel). Stainless steel heavy hex nuts meeting the mechanical property requirements of ASTM A194 Grade 8M (316 stainless steel), condition CW, with galling reducing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

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

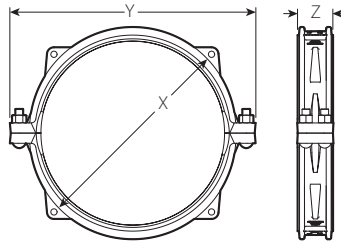
Washers: Plated carbon steel, flat. SAE high strength conforming to ASTM F436 or high strength stainless steel.

<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



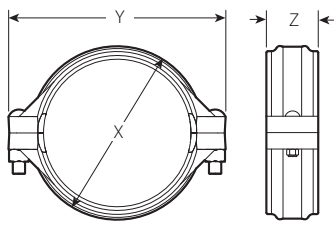
Exaggerated for clarity

| Size                     |                                      | Pipe End Separation    | Bolt/Nut |                   | Dimensions     |                |                | Weight                         |
|--------------------------|--------------------------------------|------------------------|----------|-------------------|----------------|----------------|----------------|--------------------------------|
| Nominal inches<br>DN     | Actual Outside Diameter inches<br>mm | Allowable inches<br>mm | Qty.     | Size inches<br>mm | X inches<br>mm | Y inches<br>mm | Z inches<br>mm | Approximate (Each)<br>lb<br>kg |
| 14<br>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<br>DN400              | 14.843                               | 0.25                   | 2        | 1 x 5 1/2         | 16.78          | 21.41          | 4.80           | 51.3                           |
|                          | 377.0                                | 6.4                    |          |                   | 426            | 544            | 122            | 23.3                           |
| 18<br>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<br>DN500              | 16.772                               | 0.25                   | 2        | 1 x 5 1/2         | 18.95          | 23.47          | 4.80           | 63.9                           |
|                          | 426.0                                | 6.4                    |          |                   | 481            | 596            | 122            | 29.0                           |
| 22<br>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 <sup>5</sup><br>DN600 | 18.898                               | 0.25                   | 2        | 1 x 5 1/2         | 21.18          | 25.72          | 4.80           | 74.2                           |
|                          | 480.0                                | 6.4                    |          |                   | 538            | 653            | 122            | 33.6                           |
| 26<br>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<br>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<br>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<br>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<br>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<br>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<br>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<br>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                          |
| 42<br>DN1050             | 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                          |
| 44<br>DN1100             | 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                          |
| 46<br>DN1150             | 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                          |

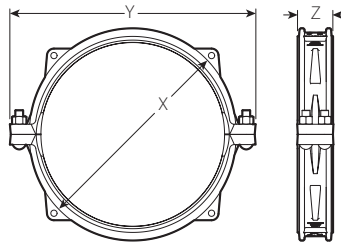
### NOTES

- WARNING: FOR ONE TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1 1/2 times the figures shown.
- The 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<br>inches<br>DN | Actual Outside Diameter<br>inches<br>mm | Allowable<br>inches<br>mm | Qty.     | Size<br>inches<br>mm | X<br>inches<br>mm | Y<br>inches<br>mm | Z<br>inches<br>mm | Approximate<br>(Each)<br>lb<br>kg |
| 42<br>DN1050            | 42.000<br>1066.8                        | 0.44<br>11.1              | 4        | 1½ x 8               | 46.00<br>1168     | 54.50<br>1384     | 6.50<br>165       | 360.0<br>163.3                    |
| 44<br>DN1100            | 44.000<br>1117.6                        | 0.44<br>11.1              | 4        | 1½ x 8               | 48.00<br>1219     | 54.50<br>1384     | 6.50<br>165       | 390.0<br>177.0                    |
| 46<br>DN1150            | 46.000<br>1168.4                        | 0.44<br>11.1              | 4        | 1½ x 8               | 50.25<br>1277     | 56.50<br>1435     | 6.50<br>165       | 415.0<br>188.2                    |
| 48<br>DN1200            | 48.000<br>1219.2                        | 0.44<br>11.1              | 4        | 1½ x 8               | 52.25<br>1328     | 58.50<br>1485     | 6.50<br>165       | 425.0<br>192.8                    |
| 50<br>DN1250            | 50.000<br>1270.0                        | 0.44<br>11.1              | 4        | 1½ x 8               | 53.63<br>1362     | 60.88<br>1546     | 10.00<br>254      | 500.0<br>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](#) 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 <sup>3</sup> |
|--------------------------|---|--|------------------------|-----------------------------------|----------------------------|
| Nominal<br>inches<br>DN  | Actual<br>Outside<br>Diameter<br>inches<br>mm | Light<br>Wall <sup>4</sup><br>psi<br>kPa | Std.Wall<br>psi<br>kPa | Extra<br>Heavy<br>½–¾"<br>13–19mm |                            |
| 14<br>DN350              | 14.000  | 350                                      | 350                    | 350                               | 55800                      |
|                          | 355.6   | 2400                                     | 2400                   | 2400                              | 248310                     |
| 16<br>DN400              | 14.843  | 350                                      | 350                    | 350                               | 60562                      |
|                          | 377.0   | 2400                                     | 2400                   | 2400                              | 27470                      |
| 16<br>DN400              | 16.000  | 350                                      | 350                    | 350                               | 72885                      |
|                          | 406.4   | 2400                                     | 2400                   | 2400                              | 324338                     |
| 18<br>DN450              | 16.772  | 350                                      | 350                    | 350                               | 77326                      |
|                          | 426.0   | 2400                                     | 2400                   | 2400                              | 35074                      |
| 18<br>DN450              | 18.000  | 350                                      | 350                    | 350                               | 92245                      |
|                          | 457.0   | 2400                                     | 2400                   | 2400                              | 410490                     |
| 20<br>DN500              | 18.898  | 350                                      | 350                    | 350                               | 98172                      |
|                          | 480.0   | 2400                                     | 2400                   | 2400                              | 44530                      |
| 20<br>DN500              | 20.000  | 350                                      | 350                    | 350                               | 113880                     |
|                          | 508.0   | 2400                                     | 2400                   | 2400                              | 506766                     |
| 22<br>DN550              | 22.000  | 350                                      | 350                    | 350                               | 114000                     |
|                          | 559.0   | 2400                                     | 2400                   | 2400                              | 507080                     |
| 24 <sup>5</sup><br>DN600 | 24.000  | 225                                      | 350                    | 350                               | 163990                     |
|                          | 610.0   | 1600                                     | 2400                   | 2400                              | 729756                     |
| 26<br>DN650              | 26.000  | 300                                      | 300                    | 300                               | 159279                     |
|                          | 660.4   | 2065                                     | 2065                   | 2065                              | 708508                     |
| 28<br>DN700              | 28.000  | 300                                      | 300                    | 300                               | 184726                     |
|                          | 711.2   | 2065                                     | 2065                   | 2065                              | 821702                     |
| 30<br>DN750              | 30.000  | 300                                      | 300                    | 300                               | 212058                     |
|                          | 762.0   | 2065                                     | 2065                   | 2065                              | 943281                     |
| 32<br>DN800              | 32.000  | 300                                      | 300                    | 300                               | 241274                     |
|                          | 812.8   | 2065                                     | 2065                   | 2065                              | 1073240                    |
| 34<br>DN850              | 34.000  | 300                                      | 300                    | 300                               | 305363                     |
|                          | 864.0   | 2065                                     | 2065                   | 2065                              | 1358322                    |
| 36<br>DN900              | 36.000  | 300                                      | 300                    | 300                               | 305363                     |
|                          | 914.4   | 2065                                     | 2065                   | 2065                              | 1358322                    |
| 38<br>DN950              | 38.000  | 300                                      | 300                    | 300                               | 340235                     |
|                          | 965.0   | 2065                                     | 2065                   | 2065                              | 1513365                    |
| 40<br>DN1000             | 40.000  | 300                                      | 300                    | 300                               | 376991                     |
|                          | 1016.0  | 2065                                     | 2065                   | 2065                              | 1676940                    |
| 42<br>DN1050             | 42.000  | 300                                      | 300                    | 300                               | 415632                     |
|                          | 1066.8  | 2065                                     | 2065                   | 2065                              | 1848823                    |
| 44<br>DN1100             | 44.000  | 232                                      | 232                    | 232                               | 352763                     |
|                          | 1117.6  | 1600                                     | 1600                   | 1600                              | 1569168                    |
| 46<br>DN1150             | 46.000  | 232                                      | 232                    | 232                               | 385561                     |
|                          | 1168.4  | 1600                                     | 1600                   | 1600                              | 1715746                    |
| 48<br>DN1200             | 48.000  | 232                                      | 232                    | 232                               | 419820                     |
|                          | 1219.2  | 1600                                     | 1600                   | 1600                              | 1868199                    |
| 50<br>DN1250             | 50.000  | 232                                      | 232                    | 232                               | 4555530                    |
|                          | 1270.0  | 1600                                     | 1600                   | 1600                              | 2026298                    |

<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 Victaulic AGS roll groove specifications 25.09. Contact Victaulic for performance on other pipe.

<sup>4</sup> 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

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

## 5.1 PERFORMANCE

### Torque Requirements

| Nominal Pipe Size                  | Required Torque |
|------------------------------------|-----------------|
| inches<br>DN                       | ft. lbs.<br>N•m |
| 14, 16, 18                         | 250             |
| 350, 400, 450                      | 340             |
| 377, 426, 480mm                    | 250             |
|                                    | 340             |
| 20, 22, 24, 26, 28                 | 375             |
| 500, 550, 600, 650, 700            | 500             |
| 30, 32, 34, 36, 38                 | 500             |
| 750, 800, 850, 900, 950            | 680             |
| 40, 42, 44, 46, 48, 50             | 600             |
| 1000, 1050, 1100, 1150, 1200, 1250 | 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: Seal Selection Guide](#)

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

[20.05: AGS Fittings](#)

[24.01: Tools](#)

[25.09: AGS Roll Groove Data](#)

[26.01: Design Data](#)

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

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

### 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.