

# High-Pressure Coupling for Ring Systems

## Style 809N



### 1.0 PRODUCT DESCRIPTION

#### Available Sizes

- 4 – 10"/DN100 – DN250

#### Pipe Material

- For use on schedule 80 (or heavier) carbon steel pipe equivalent to or stronger than ASTM A53/API 5L grade B
- Contact Victaulic for use on other pipe materials or wall thicknesses

#### Maximum Working Pressure

- Accommodates pressures ranging from full vacuum (29.9 in Hg/760 mm Hg) up to 3000 psi/20700 kPa in accordance with the specifications and limitations in section 5.0 of this document
- Working pressure dependent on material, wall thickness and size of pipe

#### Application

- Designed for use in high-pressure applications, hydraulic applications, and abrasive systems

#### Codes and Requirements

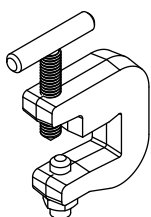
- Support hanger spacing corresponding to ASME B31.1 Power Piping Code and ASME B31.9 Building Services Piping Code

#### Pipe Preparation

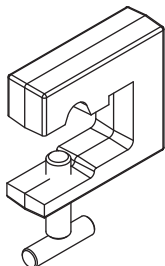
- Prepare pipe ends in accordance with [Publication I-809N](#): Style 809N High-Pressure Coupling for Ring Systems Installation Instructions

#### NOTES

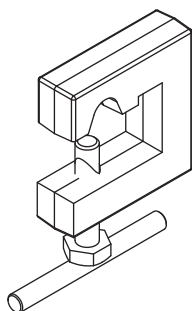
- Style 809N couplings engage directly onto rings welded to the O.D. of the pipe
- Ring positioning clamps are provided to hold the rings in proper position during tack welding to facilitate installation



Ring Positioning  
Clamp for  
4-inch/114.3-mm Pipe



Ring Positioning Clamp for  
6-inch/168.3-mm and  
8-inch/219.1-mm Pipe



Ring Positioning  
Clamp for  
10-inch/273.0-mm Pipe

**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	

## 2.0 CERTIFICATION/LISTINGS

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Product designed and manufactured under the Victaulic Quality Management System, as certified by LPCB in accordance with ISO-9001:2008.

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## 3.0 SPECIFICATIONS – MATERIAL

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**Housing:** Ductile iron conforming to ASTM A-536, Grade 65-45-12.

**Housing Coating: (specify choice)**

Standard: Orange enamel.

Optional: Hot dipped galvanized.

Optional: Others, contact Victaulic with your requirements.

**Coupling Gasket<sup>1</sup>:**

**Grade “HMT” High Modulus Nitrile**

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. For maximum gasket life under pressure extremes, temperature should be limited to +120°F/+49°C. NOT COMPATIBLE FOR USE WITH HOT WATER SERVICES OR STEAM SERVICES.

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

**Ring Material:** Carbon Steel AISI 1018 or equivalent.

**Bolts/Nuts:**

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).

## 4.0 DIMENSIONS

### Style 809N



Typical for all sizes

Nominal Size inches DN	Actual Outside Diameter <sup>1</sup> inches mm	Dimensions			Bolt/Nut		Bolt Torque lb N-m	B, C Max. Deflection From Center Line <sup>2</sup>		Allow. Pipe End Separation <sup>2</sup> inches mm	Approx. Weight (Each) lb kg
		X inches mm	Y inches mm	Z inches mm	Qty.	Size		Degrees Per Cplg.	In./Ft. mm/m		
4 DN100	4.500 114.3	6.38 162	9.75 248	5 127	4	¾ x 4 ¼ M20 x 108	250 339	1.55	0.326 27	0.250 - 0.375 6.3-9.5	23.0 10.4
6 DN150	6.625 168.3	8.88 226	13.25 337	6.38 162	4	1 x 5 M24 x 127	450 610	1.08	0.23 18	0.250 - 0.375 6.3-9.5	50.0 22.7
8 DN200	8.625 219.1	10.38 264	16.38 416	7.13 181	4	1 1/8 x 6 M27 x 152.4	500 678	0.83	0.18 14	0.250 - 0.375 6.3-9.5	78.0 35.4
10 DN250	10.750 273.0	13.63 346	19.25 489	7.88 200	4	1 ¼ x 6 M30 x 152.4	750 1017	0.67	0.14 12	0.300 - 0.425 7.6-10.8	109.0 49.4

<sup>1</sup> Pipe outside diameter must meet the tolerances listed in the [I-100 Field Installation Handbook](#).

<sup>2</sup> Allowable Pipe End Separation and Deflection figures show the maximum nominal range of movement available at each joint. These figures are maximums; for design and installation purposes these figures should be reduced by 25% for 4"/DN100 and larger.

#### NOTES

- Maximum Pipe Movement will be reduced by deflection.
- Refer to Design Data for information on tolerances and pipe gap settings.

## 5.0 PERFORMANCE

### Style 809N

Nominal Size inches DN	Actual Outside Diameter inches mm	Nominal Steel Pipe Dimension <sup>3</sup>		Maximum Joint Working Pressure <sup>4</sup>		Maximum Permissible End Load <sup>5</sup>	
		Pipe Wall Thickness inches mm	ANSI Schedule	Grade B psi kPa	Grade X42 or Higher psi kPa	Grade B lb N	Grade X42 or Higher lb N
4 DN100	4.500 114.3	0.337 8.6	80	3000 20690	3000 20684	47713 212238	47713 212238
6 DN150	6.625 168.3	0.432 11.0	80	3000 20690	3000 20684	103415 460012	103415 460012
8 DN200	8.625 219.1	0.500 12.7	80	2650 18271	3000 20684	154830 688716	175279 779679
10 DN250	10.750 273.0	0.594 15.1	80	2600 17926	3000 20684	235983 1049703	272288 1211196

<sup>3</sup> Pipe wall thickness schedule as established by ASME B36.10M.

<sup>4</sup> Maximum line pressure, including surge, to which a joint shall be subjected. Working pressure ratings are based on pipe prepared in accordance with Victaulic ring specifications. Grade B pipe as established by ASTM A53 and API 5L, Grade X42 as established by API 5L. Maximum allowable working pressures for other pipe schedules or grades must be determined by applicable code requirements.

<sup>5</sup> Maximum end load from all internal and/or external forces to which the joint should be subjected under working conditions.

#### NOTES

- Pressure performance valid for metal loss of up to 1/16 inch. For metal loss of more than 1/16 inch, contact Victaulic.
- ONE TIME FIELD TEST ONLY. The Maximum Joint Working Pressure may be increased to 1 ¼ times the figures shown.

## 6.0 NOTIFICATIONS

### WARNING



- Read and understand all instructions before attempting to install, remove, adjust, or maintain any Victaulic piping products.
- Depressurize and drain the piping system before attempting to install, remove, adjust, or maintain any Victaulic piping products.
- Wear required personal protective equipment during the welding process, and follow all jobsite regulations regarding welding safety.
- Wear safety glasses, hardhat, and foot protection during the coupling installation process.

Failure to follow these instructions could result in death or serious personal injury and property damage.

## 7.0 REFERENCE MATERIALS

[05.01: Seal Selection Guide](#)

[26.01: Design Data](#)

[29.01: Terms and Conditions of Sale](#)

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

[I-809N: Style 809N High-Pressure Coupling for Ring Systems 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](http://www.victaulic.com).

### Warranty

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

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