Victaulic® QuickVic™ Rigid Coupling Style 107N

06.23

2 – 12"/DN50 – DN300

1.0 PRODUCT DESCRIPTION

Available Sizes

- 2 – 12"/DN50 – DN300

Pipe Material

- Carbon steel; Stainless steel.
- For exceptions reference section 6.0 Notifications.

Maximum Working Pressure

- Accommodates pressures ranging from full vacuum (29.9 in Hg/760 mm Hg) up to 750 psi/5171 kPa.
- Working pressure dependent on material, wall thickness and size of pipe.

Operating Temperature

- Dependent on gasket selection from section 3.0.

Function

- Joins carbon steel and/or stainless steel pipe prepared with the Victaulic Original Groove System (OGS) groove profile.
- Provides a rigid pipe joint designed to restrict axial or angular movement.

NOTE

- Applications that require NSF 61-approved products should specify the Victaulic Installation-Ready™ Rigid Coupling Style 807N (publication 06.28).

Pipe Preparation

- Cut or roll grooved in accordance with publication 25.01: Victaulic Standard Groove Specifications.

Codes and Requirements

- Hanger support spacing corresponds to ASME B31.1 Power Piping Code and ASME B31.9 Building Services Piping Code.

2.0 CERTIFICATIONS/LISTINGS

LPS 1219: Issue 3.1
Cert/LPCB Ref. 104-1a/37

EN 10311
CPR (EU)
No. 305/2011

NOTE

- See 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.

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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, is available upon special request.

Housing Coating: (specify choice)

- ☐ Standard: Orange coating.
- ☐ Optional: Hot dipped galvanized conforming to ASTM A123.
- ☐ Optional: Contact Victaulic with your requirements for other coatings.

Gasket: (specify choice[1])

☐ **Grade "EHP" EPDM**

EHP (Red and Green or Yellow and Green Stripes color code). Temperature range –30°F to +250°F/–34°C to +121°C. May be specified for hot water service within the specified temperature range plus a variety of dilute acids, oil-free air, fire protection, and many chemical services. NOT COMPATIBLE FOR PETROLEUM SERVICES.

☐ **Grade "HMT" Nitrile**

Nitrile (Orange and Silver or Orange and Yellow Stripe color code). Temperature range –20°F to +180°F/–29°C to +82°C. May be specified for petroleum products, air with oil vapors, vegetable and mineral oils within the specified temperature range. Not compatible with hot water services over +150°F/+66°C or for hot dry air over +140°F/+60°C.

☐ **Grade "O" Fluoroelastomer**

Fluoroelastomer (Blue stripe color code). Temperature range +20°F to +300°F/–7°C to +149°C. May be specified for many oxidizing acids, petroleum oils, halogenated hydrocarbons, lubricants, hydraulic fluids, organic liquids and air with hydrocarbons. NOT COMPATIBLE FOR USE WITH HOT WATER SERVICES OR STEAM SERVICES.

☐ **Others**

For alternate gasket selection, reference publication 05.01: Victaulic Seal Selection Guide - Elastometric 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.

NOTES

- Victaulic reserves the right to substitute equivalent and/or higher grade elastomer products.
- For Grade EHP EPDM Gasket reference publication 06.33 for the Style 107V.

Bolts/Nuts: (specify choice[2])

- ☐ 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 meeting the mechanical property requirements of ASTM F593, Group 2 (316 stainless steel), condition CW. Stainless steel heavy nuts meeting the mechanical property requirements of ASTM F594, Group 2 (316 stainless steel), condition CW. Bolts and nuts include galling reducing coating.[2]

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

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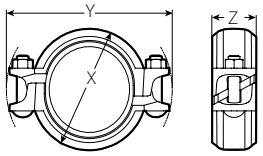
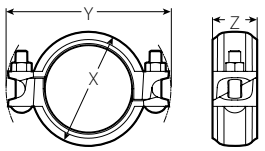
4.0 DIMENSIONS

Style 107N QuickVic™ Rigid Coupling



Pre-Assembled
(Installation-Ready™ Condition)



Joint Assembled

Size		Pipe End Separation[3]	Bolt/Nut[4]		Dimensions					Weight
					Pre-Assembled (Installation-Ready™ Condition)		Joint Assembled			
Nominal inches DN	Actual Outside Diameter inches mm	Allowable inches mm	Qty.	Size inches mm	X inches mm	Y inches mm	X inches mm	Y inches mm	Z inches mm	Approximate (Each) lb kg
2 DN50	2.375 60.3	0.15 3.8	2	½ x 3 M12 x 76	4.00 100	6.13 156	3.63 92	6.13 156	2.13 54	2.7 1.2
2 ½	2.875 73.0	0.15 3.8	2	½ x 3 M12 x 76	4.50 114	6.75 171	4.00 102	6.75 171	2.13 54	3.0 1.4
DN65	3.000 76.1	0.15 3.8	2	½ x 3 M12 x 76	4.63 118	6.88 175	4.13 105	6.88 175	2.13 54	3.1 1.4
3 DN80	3.500 88.9	0.15 3.8	2	½ x 3 ¼ M12 x 83	5.25 133	7.38 187	4.63 118	7.50 191	2.13 54	3.7 1.7
4 DN100	4.500 114.3	0.15 3.8	2	½ x 3 ¼ M12 x 83	6.63 168	8.75 222	5.88 149	8.75 222	2.13 54	5.1 2.3
	4.250 108.0	0.15 3.8	2	½ x 3 ¼ M12 x 83	6.38 162	8.50 216	5.75 146	8.50 216	2.13 54	4.7 2.1
5	5.563 141.3	0.15 3.8	2	⅝ x 4 M16 x 101	7.75 197	10.25 260	7.13 181	10.25 260	2.25 57	7.0 3.2
	5.250 133.0	0.15 3.8	2	⅝ x 4 M16 x 101	7.50 191	10.00 254	6.75 171	9.88 251	2.25 57	6.1 3.0
DN125	5.500 139.7	0.15 3.8	2	⅝ x 4 M16 x 101	7.75 197	10.25 260	7.00 178	10.13 257	2.25 57	6.7 3.0
6 DN150	6.625 168.3	0.15 3.8	2	⅝ x 4 M16 x 101	8.88 226	11.38 289	8.13 207	11.25 286	2.25 57	8.2 3.7
	6.250 159.0	0.15 3.8	2	⅝ x 4 M16 x 101	8.50 216	11.00 279	7.75 197	10.88 276	2.25 57	7.6 3.4
	6.500 165.1	0.15 3.8	2	⅝ x 4 M16 x 101	8.75 222	11.25 286	8.00 203	11.13 283	2.25 57	7.9 3.6
	8.515 216.3	0.20 5.1	2	¾ x 5 M20 x 127	11.25 286	14.25 362	10.38 264	14.13 359	2.63 67	15.0 6.8
8 DN200	8.625 219.1	0.20 5.1	2	¾ x 5 M20 x 127	11.25 286	14.37 365	10.50 267	14.25 362	2.63 67	15.1 6.8
267.4mm	10.528 267.4	0.20 5.1	2	⅞ x 6½ M22 x 165	13.50 343	16.75 425	12.50 318	16.38 416	2.63 67	23.5 10.7
10 DN250	10.750 273.0	0.20 5.1	2	⅞ x 6½ M22 x 165	13.75 349	17.00 432	13.00 330	17.13 435	2.75 70	23.6 10.7
318.5mm	12.539 318.5	0.20 5.1	2	⅞ x 6½ M22 x 165	15.50 394	18.63 473	14.63 372	18.50 470	2.63 67	26.9 12.2
12 DN300	12.750 323.9	0.20 5.1	2	⅞ x 6½ M22 x 165	15.63 397	19.00 483	15.00 381	19.00 483	2.75 70	27.2 12.3

[3] The Allowable Pipe End Separation dimension shown is for system layout purposes only. Style 107N Installation-Ready™ 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.

[4] Number of bolts required equals number of housing segments.

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5.0 PERFORMANCE

Style 107N QuickVic™ Rigid Coupling – ANSI Standard

Size		Schedule 10			Standard		
Nominal inches DN	Actual Outside Diameter inches mm	Wall Thickness inches mm	Maximum Joint Working Pressure[5] psi kPa	Maximum Permissible End Load[5] lb N	Wall Thickness inches mm	Maximum Joint Working Pressure[5] psi kPa	Maximum Permissible End Load[5] lb N
2 DN50	2.375 60.3	0.109 2.8	750 5171	3323 14781	0.154 3.9	750 5170	3323 14780
2 ½	2.875 73.0	0.120 3.1	600 4135	3895 17325	0.203 5.2	750 5170	4869 21658
3 DN80	3.500 88.9	0.120 3.1	600 4135	5773 25680	0.216 5.5	750 5170	7216 32098
4 DN100	4.500 114.3	0.120 3.1	600 4135	9543 42449	0.237 6.0	750 5170	11928 53058
5	5.563 141.3	0.134 3.4	500 3447	12153 54059	0.258 6.6	750 5171	18229 81087
6 DN150	6.625 168.3	0.134 3.4	500 3450	17236 76670	0.280 7.1	700 4825	24130 107335
8 DN200	8.625 219.1	0.148 3.8	300 2070	17528 77970	0.322 8.2	600 4135	35056 155936
10 DN250	10.750 273.0	0.165 4.2	300 2065	27200 121040	0.365 9.3	500 3450	45400 202030
12 DN300	12.750 323.9	0.180 4.6	300 2065	38300 170380	0.375 9.5	400 2750	51000 226950

[5] Working Pressure and End Load are total, from all internal and external loads, based on ANSI B36.10 sized carbon steel pipe, grooved in accordance with Victaulic specifications. Contact Victaulic for performance on other pipe.

NOTES

- WARNING: FOR ONE-TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1½ times the figures shown.
- LPCB and VdS approved for DIN wall pipe (6.3mm thickness) for 10" rated to 232 psi/16 bar, (7.8mm thickness) for 12" rated to 232 psi/16 bar.
- FM approved on schedule 10 pipe: 2-4 inch sizes rated to 400 psi/28 bar; 5-6 inch sizes rated to 300 psi/21 bar; and 8 and 10 inch sizes (.188" wall thickness) rated to 300 psi/21 bar. FM approved on standard pipe: 2-4 inch sizes rated to 600 psi/41 bar; 5-6 inch sizes rated to 500 psi/34 bar; and 10 and 12 inch sizes rated to 400 psi/28 bar. Includes all metric sizes in range.
- UL listed on schedule 10 pipe: 2, 2 ½, 3 and 4 inch sizes rated to 400 psi; and 6, 8 and 10 inch sizes rated to 300 psi. Standard pipe: 2, 2 ½ and 3 inch sizes rated to 600 psi; 4 inch rated to 450 psi; and 6, 8, 10 and 12 inch sizes rated to 400 psi.

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5.1 PERFORMANCE

Style 107N QuickVic™ Rigid Coupling – ISO Standard

Size		ISO Wall Pipe					
Nominal inches DN	Actual Outside Diameter inches mm	Wall Thickness inches mm	Maximum Joint Working Pressure[6] psi kPa	Maximum Permissible End Load[6] lb N	Wall Thickness inches mm	Maximum Joint Working Pressure[6] psi kPa	Maximum Permissible End Load[6] lb N
2 50	2.375 60.3	0.091 2.3	750 5171	3323 14781	0.157 4.0	750 5171	3323 14780
DN65	3.000 76.1	0.150 3.8	600 4135	4239 18856	0.200 5.1	750 5170	5299 73571
3 80	3.500 88.9	0.114 2.9	600 4135	5773 25680	0.197 5.0	750 5171	7216 32098
4 100	4.500 114.3	0.126 3.2	600 4137	9543 42449	0.220 5.6	750 5171	11928 53058
	4.250 108.0	0.114 2.3	600 4135	8507 37841	0.220 5.6	750 5170	10634 47302
	5.250 133.0	0.142 3.6	500 3447	10818 48121	0.248 6.3	750 5170	16227 72181
DN125	5.500 139.7	0.150 3.8	500 3447	11873 52814	0.220 5.6	750 5170	17810 79223
6 150	6.625 168.3	0.157 4.0	500 3450	17236 76670	0.280 7.1	700 4826	24130 107335
	6.250 159.0	0.197 5..0	500 3447	15332 68200	0.276 7.0	700 4825	21465 95481
	6.500 165.1	0.134 3.4	500 3447	16583 73765	0.276 7.0	700 4825	23216 103270
	8.515 216.3	0.228 5.8	300 2070	17075 75953	0.315 8.0	600 4135	34150 151907
8 200	8.625 219.1	0.177 4.5	300 2070	17528 77970	0.315 8.0	600 4137	35056 155936
267.4 mm	10.528 267.4	0.188 4.8	300 2065	26116 116170	0.365 9.3	500 3450	43526 193613
10 250	10.750 273.0	0.228 5.8	300 2065	27200 121040	0.248 6.3	500 3450	45400 202030
318.5 mm	12.539 318.5	0.188 4.8	300 2065	37000 164797	0.406 10.3	400 2750	49394 219715
12 300	12.750 323.9	0.264 6.7	300 2065	38300 107380	0.307 7.8	400 2750	51000 226950

[6] Working Pressure and End Load are total, from all internal and external loads, based on ISO 4200 sized carbon steel pipe, grooved in accordance with Victaulic specifications. Contact Victaulic for performance on other pipe.

NOTES

- WARNING: FOR ONE-TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1½ times the figures shown.
- LPCB and VdS approved for DIN wall pipe (6.3mm thickness) for 10" rated to 232 psi/16 bar, (7.8mm thickness) for 12" rated to 232 psi/16 bar.
- FM approved on schedule 10 pipe: 2-4 inch sizes rated to 400 psi/28 bar; 5-6 inch sizes rated to 300 psi/21 bar; and 8 and 10 inch sizes (.188" wall thickness) rated to 300 psi/21 bar. FM approved on schedule 40 pipe: 2-4 inch sizes rated to 600 psi/41 bar; 5-6 inch sizes rated to 500 psi/34 bar; and 10 and 12 inch sizes rated to 400 psi/28 bar. Includes all metric sizes in range.
- UL listed on schedule 10 pipe: 2, 2½, 3 and 4 inch sizes rated to 400 psi; and 6, 8 and 10 inch sizes rated to 300 psi. Schedule 40 pipe: 2, 2½ and 3 inch sizes rated to 600 psi; 4 inch rated to 450 psi; and 6, 8, 10 and 12 inch sizes rated to 400 psi.
- Sizes 267.4 mm and 318.5 mm are not UL Listed or FM Approved.

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6.0 NOTIFICATIONS

⚠ WARNING

- **Read and understand all instructions before attempting to install any Victaulic products.**
- **Always verify that the piping system has been completely depressurized and drained immediately prior to installation, removal, adjustment, or maintenance of any Victaulic products.**
- **Confirm that any equipment, branch lines, or sections of piping that may have been isolated for/during testing or due to valve closures/positioning are identified, depressurized, and drained immediately prior to installation, removal, adjustment, or maintenance of any Victaulic products.**
- **Wear safety glasses, hardhat, foot protection, and hearing protection.**
- **When assembling Style 107N Couplings onto end caps, take additional time to inspect and verify that the end cap is seated fully against the center leg of the gasket.**
- **Use only Victaulic® End Caps containing the "QV" or "EZ QV" marking on the inside face.**
- **Always read and follow the I-ENDCAP, Victaulic® End Cap Installation Safety Instructions, which can be downloaded at Victaulic.com.**
- **Victaulic recommends the use of Victaulic® fittings with Style 107N Couplings.**

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

⚠ WARNING

FOR STYLE 107N COUPLINGS USED ON STAINLESS STEEL:

- **Victaulic® RX roll sets shall be used when grooving light-wall/thin-wall stainless steel pipe. Victaulic® RX grooving rolls must be ordered separately. They are identified by a silver color and the designation RX on the front of the roll sets.**
- **It is the system designer's responsibility to verify suitability of stainless steel components for use with the intended fluid media within the piping system and external environment.**
- **The material specifier shall evaluate the effect of chemical composition, pH level, operating temperature, chloride level, oxygen level, and flow rate on stainless steel components to confirm system life will be acceptable for the intended service.**
- **Always reference Victaulic publication 17.01 for stainless steel pipe end preparation and grooving roll set requirements.**

Failure to follow these instructions may cause joint failure, resulting in death or serious personal injury and property damage.

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7.0 REFERENCE MATERIALS

05.01: Victaulic Seal Selection Guide
06.15: Victaulic Pressure Ratings and End Loads for Victaulic Couplings on Steel Pipe
06.28: Victaulic QuickVic™ Installation-Ready™ Rigid Coupling for Potable Water Applications Style 807N
06.33: Victaulic® QuickVic™ Rigid Coupling Style 107V
10.01: Victaulic Fire Protection Certifications/Listings Reference Guide
17.01: Victaulic Pipe Preparation for Use on Stainless Steel Pipe With Victaulic Products
17.09: Victaulic Pressure Ratings and End Loads for Victaulic Ductile Iron Grooved Couplings on Stainless Steel Pipe
25.01: Victaulic Standard Groove Specifications
26.01: Victaulic Design Data
29.01: Victaulic Terms and Conditions of Sale
I-100: Victaulic Field Installation Handbook
I-107N: Victaulic Installation Instructions - Style 107N QuickVic™ Installation-Ready™ Rigid Coupling
I-ENDCAP: Victaulic End Cap Installation Safety Instructions
I-IMPACT: Victaulic Impact Tool Usage Guidelines

User Responsibility for Product Selection and Suitability
Each user bears final responsibility for determining the suitability of Victaulic products for their end-use application, in accordance with industry standards, project specifications, and Victaulic's published performance, maintenance, and safety data, as well as all warnings and installation 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, warranty, installation instructions, or this disclaimer.

Installation
Always refer to and follow the Victaulic Installation Handbook or installation instructions for 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 victaulic.com.

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

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Note
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