Victaulic® QuickVic™ Rigid Coupling Style 107V

06.33

2 – 12"/DN50 – DN300

1.0 PRODUCT DESCRIPTION

Available Size

- 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 pipe material, wall thickness and size of pipe

Operating Temperature

- Dependent on gasket selection from section 3.0

Function

- Joins carbon steel 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 CERTIFICATION/LISTINGS

c UL us LISTED

FM APPROVED

CE
EN 10311
CPR (EU)
No. 305/2011

UK CA
BS EN 10311
CPR (UK)
2019 No. 465

Product designed and manufactured under the Victaulic Quality Management System, as certified by LPCB in accordance with ISO-9001:2015.

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.

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:

- ☐ Orange coating.
- ☐ **Optional for Style 107V:** 2 – 4" Mechanically Galvanized per ASTM B695 (North America Only).
- ☐ **Optional for Style 107V:** 2 – 4" Hot dipped galvanized conforming to ASTM A123. (EMEAI & Asia Only).
- ☐ **Optional for Style 107V:** 5 – 12" Hot dipped galvanized conforming to ASTM A123.

Gasket[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 and many chemical services. NOT COMPATIBLE WITH PETROLEUM SERVICES.

- ☐ **Grade "HMT" Nitrile**

  Nitrile (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.

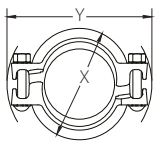
Bolts/Nuts: (specify choice[2])

- ☐ Standard: Carbon steel oval neck track bolts meeting the mechanical property requirements of (imperial) ASTM A449 or (metric) ISO 898-1 Class 9.8 (M10-M16) or Class 8.8 (M20 and greater). Carbon steel hex nuts meeting the mechanical property requirements of (imperial heavy hex nuts) ASTM A563 Grade B or (metric hex nuts) ISO 898-2 Class 10 (M12-M16) or Class 8 (M20 and greater). Track bolts and hex nuts are zinc electroplated per ASTM B633 Fe/Zn5 finish (imperial) Type III or (metric) Type II.
- ☐ 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]

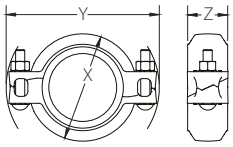
2 Optional bolts/nuts are available in imperial sizes only.

4.0 DIMENSIONS

Style 107V 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 2¾ M12 x 70	4.13 105	6.25 159	3.63 92	6.25 159	2.38 60	3.0 1.4
2 ½	2.875 73.0	0.15 3.8	2	½ x 2¾ M12 x 70	4.69 119	6.81 173	4.19 106	6.81 173	2.44 62	3.4 1.5
DN65	3.000 76.1	0.15 3.8	2	½ x 2¾ M12 x 70	4.81 122	7.00 178	4.31 110	7.00 178	2.38 60	3.6 1.6
3 DN80	3.500 88.9	0.15 3.8	2	½ x 3 M12 x 76	5.38 137	7.50 191	4.81 122	7.56 192	2.44 62	3.9 1.8
4 DN100	4.500 114.3	0.15 3.8	2	½ x 3 M12 x 76	6.75 171	8.81 224	6.06 154	8.81 224	2.50 64	5.2 2.4
5	5.563 141.3	0.15 3.8	2	⅝ x 3⅝ M16 x 92	7.81 198	10.44 265	7.19 183	10.38 264	2.50 62	7.5 3.4
DN125	5.500 139.7	0.15 3.8	2	⅝ x 3⅝ M16 x 92	7.75 197	10.38 264	7.13 181	10.31 262	2.50 64	7.5 3.4
	6.500 165.1	0.15 3.8	2	⅝ x 3⅝ M16 x 92	8.81 224	11.38 289	8.06 205	11.25 286	2.50 64	8.4 3.8
6 DN150	6.625 168.3	0.15 3.8	2	⅝ x 3⅝ M16 x 92	9.00 229	11.44 291	8.25 210	11.38 289	2.50 64	8.4 3.8
8 DN200	8.625 219.1	0.20 5.1	2	¾ x 4⅝ M20 x 117	11.31 287	14.63 371	10.56 268	14.38 365	2.88 73	17.0 7.7
10 DN250	10.750 273.0	0.20 5.1	2	⅞ x 6 M22 x 152	13.75 349	17.50 445	13.00 330	17.25 438	2.94 75	26.0 12.0
12 DN300	12.750 323.9	0.20 5.1	2	⅞ x 6 M22 x 152	16.00 406	19.50 495	15.13 384	19.25 489	2.94 75	30.0 13.5

[3] The Allowable Pipe End Separation dimension shown is for system layout purposes only. Style 107V QuickVic™ 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] Contact Victaulic for stainless steel bolt lengths.

5.0 PERFORMANCE

Style 107V QuickVic™ Rigid Coupling

ANSI Standard

Size		Schedule 10			Standard Weight (STD)		
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	3,320 14,768	0.154 3.9	750 5171	3,320 14,768
2 ½	2.875 73.0	0.120 3.0	600 4137	3,890 17,304	0.203 5.2	750 5171	4,860 21,618
3 DN80	3.500 88.9	0.120 3.0	600 4137	5,770 25,666	0.216 5.5	750 5171	7,210 32,072
4 DN100	4.500 114.3	0.120 3.0	600 4137	9,540 42,436	0.237 6.0	750 5171	11,900 52,934
5	5.563 141.3	0.134 3.4	500 3447	12,100 53,824	0.258 6.6	750 5171	18,200 80,958
6 DN150	6.625 168.3	0.134 3.4	500 3447	17,200 76,510	0.280 7.1	700 4826	24,100 107,202
8 DN200	8.625 219.1	0.148 3.8	300 2068	17,500 77,844	0.322 8.2	600 4137	35,000 155,688
10 DN250	10.750 273.0	0.165 4.2	300 2068	27,200 120,992	0.365 9.3	500 3447	45,300 201,504
12 DN300	12.750 323.9	0.180 4.6	300 2068	38,300 170,366	0.375 9.5	400 2758	51,000 226,860

[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 1 ½ times the figures shown.
- FM approved on Schedule 10 pipe: sizes 2 – 4"/DN50 – DN100 rated to 400 psi/28 bar; size 6"/DN150 rated to 300 psi/21 bar; and sizes 8 – 10"/DN200 – DN250 (0.188" wall thickness) rated to 300 psi/21 bar. FM approved on standard weight pipe: sizes 2 – 4"/DN50 – DN100 rated to 600 psi/41 bar; size 6"/DN150 rated to 500 psi/34 bar; size 8"/DN200 rated to 450 psi/31 bar; and sizes 10 – 12"/DN250 – DN300 rated to 400 psi/28 bar.
- UL listed on Schedule 10 pipe: sizes 2 – 4"/DN50 – DN100 rated to 400 psi/28 bar and sizes 6 – 10"/DN150 – DN250 rated to 300 psi/21 bar. UL listed on standard weight pipe: sizes 2 – 3"/DN50 – DN80 rated to 600 psi/41 bar; size 4"/DN100 rated to 450 psi/31 bar; and sizes 6 – 12"/DN150 – DN300 rated to 400 psi/28 bar.

5.0 PERFORMANCE

Style 107V QuickVic™ Rigid Coupling

ISO Standard

Size		Wall Thickness	Performance		Wall Thickness	Performance	
inches DN	Actual Outside Diameter	inches mm	Maximum Working Pressure[5] psi kPa	Maximum Permissible End Load[5] lbs N	inches mm	Maximum Working Pressure[5] psi kPa	Maximum Permissible End Load[5] lbs N
2 DN50	2.375 60.3	0.091 2.3	750 5171	3,320 14,768	0.157 4.0	750 5171	3,320 14,768
 DN65	3.000 76.1	0.150 3.8	600 4137	4,240 18,860	0.200 5.1	750 5171	5,300 23,576
3 DN80	3.500 88.9	0.114 2.9	600 4137	5,770 25,666	0.197 5.0	750 5171	7,210 32,072
4 DN100	4.500 114.3	0.126 3.2	600 4137	9,540 42,436	0.220 5.6	750 5171	11,900 52,934
 DN125	5.500 139.7	0.150 3.8	500 3447	11,800 52,490	0.220 5.6	750 5171	17,800 79,178
	6.500 165.1	0.134 3.4	500 3447	16,500 73,396	0.276 7.0	700 4826	23,200 103,198
6 DN150	6.625 168.3	0.157 4.0	500 3447	17,200 76,510	0.280 7.1	700 4826	24,100 107,202
8 DN200	8.625 219.1	0.177 4.5	300 2068	17,500 77,844	0.315 8.0	600 4137	35,000 155,688
10 DN250	10.750 273.0	0.228 5.8	300 2068	27,200 120,992	0.248 6.3	500 3447	45,300 201,504
12 DN300	12.750 323.9	0.264 6.7	300 2068	38,300 170,366	0.307 7.8	400 2758	51,000 226,860

[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.

NOTE

- WARNING: FOR ONE-TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1 ½ 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.**
- **Always 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 working with an end cap.**
- **Wear safety glasses, hardhat, and foot protection.**

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

⚠ WARNING

- **Victaulic RX roll sets must be used when grooving light-wall/thin-wall stainless steel pipe for use with Victaulic Couplings.**
- **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.**

Failure to use Victauilc RX roll sets when grooving light-wall/thin-wall stainless steel pipe may cause joint failure, resulting in serious personal injury and/or property damage.

⚠ WARNING

- **When assembling Style 107V 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. Always read and follow the installation instructions provided with the product; these instructions can be downloaded at Victaulic.com.**
- **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 107V Couplings.**

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

NOTICE

- **Victaulic does not recommend the use of any furnace butt-welded pipe with sizes NPS 2"/DN50 and smaller Victaulic gasketed joint products. This includes, but is not limited to, ASTM A53 Type F pipe.**

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
07.14 Rev A QuickVic™ Grooved End Fittings
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-107V: Victaulic Installation Instructions – Style 107V QuickVic™ Installation-Ready™ Rigid Coupling
I-ENDCAP: Victaulic End Cap Installation Safety Instructions
I-IMPACT: Victaulic Impact Tool Usage Guidelines

