Victaulic® Installation-Ready™ Rigid Coupling Style HP-170

06.18



2 – 8"/DN50 – DN200

1.0 PRODUCT DESCRIPTION

Available Size

- 2 – 8"/DN50 – DN200

Pipe Material

- Carbon Steel
- For use on stainless steel pipe, reference Publication 17.09: *Victaulic* Grooved Couplings Performance Data for Stainless Steel Pipe and Publication 17.01: Stainless Steel Pipe End Preparation

Maximum Working Pressure

- Accommodates pressures ranging from full vacuum (29.9 in Hg/760 mm Hg) up to 1800 psi / 12411 kPa / 124 bar
- Working Pressure dependent on pipe material, wall thickness, and size

Operating Temperature

- Dependent on gasket selection from Section 3.0 Specifications

Pipe Preparation

- Cut or roll grooved in accordance with Publication 25.01: *Victaulic* Original Groove System (OGS) Specifications
- Cut or roll grooved in accordance with Publication 25.02: *Victaulic EndSeal* "ES" Groove Specifications

Application

- Joins carbon steel or stainless steel pipe prepared with the Victaulic® Original Groove System (OGS) or Victaulic® EndSeal™ (ES) groove specifications
- Provides a rigid pipe joint designed to restrict axial and angular movement

Codes and Requirements

- Support and hanging requirements correspond to ASME B31.1 Power Piping Code and ASME B31.9 Building Services Code and NFPA 13 Sprinkler Systems

2.0 CERTIFICATIONS/LISTINGS

Manufactured under Victaulic's ISO-9001 certified Quality Management System. Contact Victaulic with any questions.

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

Housing Coating:

☐ Orange Coating

Gasket: (specify choice[1])

☐ **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 "EHP" EPDM**

EHP (Red and Green or Yellow 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.

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.

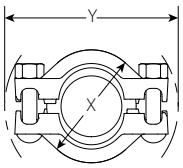
Bolts/Nuts:

☐ **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/Zn 5 finish (imperial) Type III or (metric) Type II.

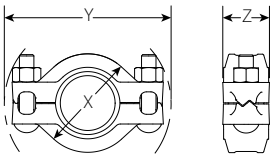
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4.0 DIMENSIONS

Style HP-170 Installation-Ready™ Rigid Coupling



Pre-Assembled
(Installation-Ready™ Condition)



Joint Assembled

Size		Pipe End Separation[2]	Bolt/Nut		Dimensions					Weight
					Pre-Assembled (IR 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	Approx. (Each) lb kg
2 DN50	2.375 60.3	0.19 4.8	2	⅝ × 3 M16 × 76	4.44 113	6.94 176	3.88 98	6.75 171	2.19 56	4.4 2.0
2 ½	2.875 73.0	0.19 4.8	2	⅝ × 3 M16 × 76	4.88 124	7.50 191	4.50 114	7.44 189	2.19 56	5.0 2.3
3 DN80	3.500 88.9	0.19 4.8	2	⅝ × 3 ⅝ M16 × 92	5.75 146	8.50 216	5.25 133	8.25 210	2.19 56	6.8 3.1
4 DN100	4.500 114.3	0.25 6.4	2	¾ × 3 ¾ M20 × 95	6.81 173	10.00 254	6.44 164	9.75 248	2.38 60	9.6 4.4
6 DN150	6.625 168.3	0.25 6.4	2	⅞ × 5 ⅝ M22 × 143	9.50 241	13.38 340	9.06 230	13.13 333	2.50 64	19.0 8.6
8 DN200	8.625 219.1	0.25 6.4	2	1 × 6 M24 × 152	12.06 306	16.00 406	11.38 289	15.75 400	2.81 71	29.0 13.2

[2] Style HP-170 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. For field installation only. Style HP-170 Couplings when sufficiently pressurized will allow pipe ends to separate to maximum value shown.

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5.0 PERFORMANCE

Style HP-170 Installation-Ready™ Rigid Coupling

ANSI Standard Carbon Steel Pipe Ratings

Size		Schedule 10			Standard Weight (STD)			Schedule 80		
Nominal inches DN	Actual Outside Diameter inches mm	Wall Thickness inches mm	Maximum Joint Working Pressure psi kPa	Maximum Permissible End Load lb N	Wall Thickness inches mm	Maximum Joint Working Pressure psi kPa	Maximum Permissible End Load lbs N	Wall Thickness inches mm	Maximum Joint Working Pressure psi kPa	Maximum Permissible End Load lb N
2 DN50	2.375 60.3	0.109 2.8	900 6205	3980 17,704	0.154 3.9	1500 10,342	6640 29,536	0.218 5.5	1800 12,411	7970 35,452
2 ½	2.875 73.0	0.120 3.0	900 6205	5840 25,978	0.203 5.2	1500 10,342	9730 43,282	0.276 7.0	1800 12,411	11,600 51,600
3 DN80	3.500 88.9	0.120 3.0	900 6205	8650 38,478	0.216 5.5	1500 10,342	14,400 64,054	0.300 7.6	1800 12,411	17,300 76,954
4 DN100	4.500 114.3	0.120 3.0	750 5171	11,900 52,934	0.237 6.0	1500 10,342	23,800 105,868	0.337 8.6	1800 12,411	28,600 127,220
6 DN150	6.625 168.3	0.134 3.4	600 4137	20,600 91,634	0.280 7.1	1500 10,342	51,500 229,084	0.432 11.0	1500 10,342	51,500 229,084
8 DN200	8.625 219.1	0.148 3.8	400 2758	23,300 103,644	0.322 8.2	1000 6895	58,000 257,996	0.500 12.7	1000 6895	58,000 257,996

NOTES

- WARNING: FOR ONE–TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1 ½ times the figures shown for all sizes when used in Schedule 10 and Standard Weight piping systems, and 1 ¼ times the figures shown for all sizes when used in Schedule 80 piping systems.
- Working Pressure and End Load are total, from all internal and external loads, based on the specified weight of steel pipe, “OGS” or "ES" cut or roll grooved in accordance with *Victaulic* specifications.
- Ratings are for uncorroded pipes only. For piping systems that are being designed with a corrosion allowance, contact Victaulic for adjusted Maximum Joint Working Pressures.
- Contact Victaulic for performance on other pipe and wall thickness.

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5.0 PERFORMANCE (CONTINUED)

Style HP-170 Installation-Ready™ Rigid Coupling

ANSI Standard Carbon Steel Component Ratings

Component	Size	Maximum Working Pressure		
	Nominal inches DN	Schedule 10 psi kPa	Standard Weight (STD) psi kPa	Schedule 80 psi kPa
Victaulic OGS Grooved Fittings (Excluding No. 60 End Cap & No. 61 Bull Plug)	2 DN50	900 6205	1000 6895	1000 6895
	2 ½	900 6205	1000 6895	1000 6895
	3 DN80	900 6205	1000 6895	1000 6895
	4 DN100	750 5171	1000 6895	1000 6895
	6 DN150	600 4137	1000 6895	1000 6895
	8 DN200	400 2758	800 5516	800 5516
Victaulic ES Grooved Fittings (Excluding No. 60-ES End Cap)	2 DN50	–	1500 10,342	1800 12,411
	2 ½	–	1500 10,342	1800 12,411
	3 DN80	–	1500 10,342	1800 12,411
	4 DN100	–	1500 10,342	1800 12,411
	6 DN150	–	1500 10,342	1500 10,342
	8 DN200	–	1000 6895	1000 6895
Victaulic No. 60 End Cap	2 DN50	900 6205	1500 10,342	1800 12,411
	2 ½	900 6205	1500 10,342	1800 12,411
	3 DN80	900 6205	1500 10,342	1800 12,411
	4 DN100	750 5171	1500 10,342	1800 12,411
	6 DN150	600 4137	1500 10,342	1500 10,342
	8 DN200	400 2758	1000 6895	1000 6895
Victaulic No. 61 Bull Plug	2 DN50	900 6205	1500 10,342	–
	2 ½	900 6205	1500 10,342	–
	3 DN80	900 6205	1500 10,342	–
	4 DN100	750 5171	1500 10,342	–
	6 DN150	600 4137	1500 10,342	–
	8 DN200	400 2758	1000 6895	–

NOTES

- *Victaulic* Original Groove System (OGS) No. 60 Caps may be center or off-center (vent/drain) tapped. ¾" maximum tap size for 2 - 3"/DN80 - DN100 sizes. 1" maximum tap size for 4 - 8"/DN100 - DN200 sizes.

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5.1 PERFORMANCE

Style HP-170 Installation-Ready™ Rigid Coupling

ANSI Standard Stainless Steel Pipe Ratings

Size		Schedule 10S			Schedule 40S		
Size inches DN	Actual Outside Diameter inches mm	Wall Thickness inches mm	Maximum Joint Working Pressure psi kPa	Maximum Permissible End Load lb N	Wall Thickness inches mm	Maximum Joint Working Pressure psi kPa	Maximum Permissible End Load lb N
2 DN50	2.375 60.3	0.109 2.8	750 5171	3320 14,768	0.154 3.9	900 6205	3980 17,704
2 ½	2.875 73.0	0.120 3.0	750 5171	4860 21,618	0.203 5.2	900 6205	5840 25,978
3 DN80	3.500 88.9	0.120 3.0	750 5171	7210 32,072	0.216 5.5	900 6205	8650 38,478
4 DN100	4.500 114.3	0.120 3.0	600 4137	9540 42,436	0.237 6.0	750 5171	11,900 52,934
6 DN150	6.625 168.3	0.134 3.4	450 3103	15,500 68,948	0.280 7.1	600 4137	20,600 91,634
8 DN200	8.625 219.1	0.148 3.8	300 2068	17,500 77,844	0.322 8.2	400 2758	23,300 103,644

NOTES

- WARNING: FOR ONE–TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1 ½ times the figures shown.
- Working Pressure and End Load are total, from all internal and external loads, based on the specified weight of stainless steel pipe, “OGS” roll grooved in accordance with *Victaulic* specifications.
- *Victaulic* RX rolls shall be used when roll grooving light-wall stainless steel pipe for use with OGS couplings.

Contact Victaulic for performance on other pipe and wall thickness.

ANSI Standard Stainless Steel Component Ratings

Component	Size	Maximum Working Pressure	
	Nominal inches DN	Schedule 10S psi kPa	Schedule 40S psi kPa
Victaulic Schedule 10S Stainless Steel Fittings (including No. 460 End Cap)	2 DN50	500 3447	–
	2 ½	500 3447	–
	3 DN80	500 3447	–
	4 DN100	400 2758	–
	6 DN150	400 2758	–
	8 DN200	300 2068	–
Victaulic Schedule 40S Stainless Steel Fittings (including No. 460H End Cap)	2 DN50	–	750 5171
	2 ½	–	750 5171
	3 DN80	–	750 5171
	4 DN100	–	750 5171
	6 DN150	–	600 4137
	8 DN200	–	400 2758

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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 HP-170 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 the following end caps with Style HP-170 Couplings:**
  - **_Victaulic_ No. 60 End Caps containing the "QV" or "EZ QV" marking on the inside face**
  - **_Victaulic_ No. 460 End Caps**
  - **_Victaulic_ No. 460H End Caps**
- **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 HP-170 Couplings.**

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

⚠ WARNING

FOR STYLE HP-170 COUPLINGS USED ON ANSI STANDARD 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 – Elastomeric Seal Construction
06.15: Pressure Ratings and End Loads for Victaulic® Couplings on Steel Pipe
07.01: *Victaulic* Grooved End Fittings
07.03: *Victaulic* EndSeal™ Extra Strong Fittings
17.01: *Victaulic* Stainless Steel Pipe End Preparation
17.16: *Victaulic* Stainless Steel Schedule 10S OGS Fittings
25.01: *Victaulic* Original Groove System (OGS) Specifications
26.01: *Victaulic* Grooved Piping System – Design Data
29.01: *Victaulic* Terms and Conditions of Sale/Warranty
I-100: *Victaulic* Field Installation Handbook
I-HP170: *Victaulic* Style HP-170 Installation-Ready™ Rigid Coupling Quick Installation Guide
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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