

# Victaulic Rigid and Flexible OGS Carbon Steel Long Run Fittings

Nos. R10/R13, R11/R14 and R12/R15  
Nos. R20/R23, R21/R24 and R22/R25



## 1.0 PRODUCT DESCRIPTION

### Available Sizes

- 2 ½ – 12"/73.0 mm – DN300

### Pipe Material

- Standard weight carbon steel pipe

### Maximum Working Pressure

- **Rigid Long Run Fittings:** Accommodates pressures ranging from full vacuum (29.9 in Hg/760 mm Hg) up to 750 psi/5171 kPa with the Style 107N rigid coupling
- **Flexible Long Run Fittings:** Accommodates pressures ranging from full vacuum (29.9 in Hg/760 mm Hg) up to 1000 psi/6900 kPa with the Style 177N/77 flexible coupling

### Operating Temperature

- Dependent on gasket selection from section 3.0

### Function

- All-in-one assembly reduces installation and handling
- Used in conjunction with Victaulic grooved end products

### Pipe Preparation

- Supplied with Victaulic Original Groove System (OGS) roll grooved ends

## 2.0 CERTIFICATION/LISTINGS

Product designed and manufactured under Victaulic's Quality Management System, as certified in accordance with ISO 9001:2008.

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	

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### 3.0 SPECIFICATIONS – MATERIAL

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**Steel:** Carbon steel, standard weight, conforming to ASTM A53, Type E, Grade B.

**Coupling Housing:** Ductile iron conforming to ASTM A536, Grade 65-45-12.

**Gasket: (specify choice<sup>1</sup>)**

**Grade "EHP" EPDM (Sizes 2 ½ – 8"/73.0 mm to DN200 only)**

EHP (Red 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 FOR PETROLEUM SERVICES.

**Grade "E" EPDM (Sizes 10 – 12"/DN250 – DN300 only)**

EPDM (Green stripe color code). Temperature range – 30°F to +230°F/–34°C to +110°C. May be specified for cold and hot water service within the specified temperature range plus a variety of dilute acids, oil-free air and many chemical services. NOT COMPATIBLE FOR PETROLEUM SERVICES OR STEAM SERVICES.

**Grade "T" Nitrile**

Nitrile (Orange 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, and vegetable and mineral oils within the specified temperature range. Not compatible for 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.

<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.

**Fitting:** Ductile iron conforming to ASTM A536, Grade 65-45-12

**Coupling Housing and Fitting Coating: (specify choice)**

Standard: Orange enamel.

Optional: Hot dipped galvanized conforming to ASTM A153.

Optional: Contact Victaulic with your requirements.

**Bolts/Nuts: (specify choice<sup>2</sup>)**

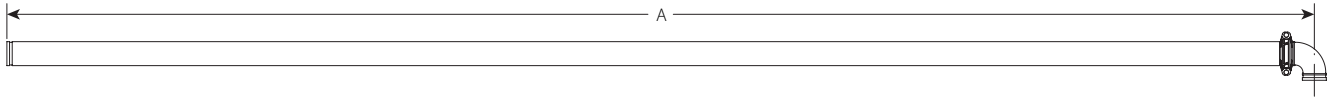
Standard: Carbon steel oval neck track bolts meeting the mechanical property requirements of ASTM A449 (imperial) and ISO 898-1 Class 9.8 (metric). Carbon steel hex nuts meeting the mechanical property requirements of ASTM A563 Grade B (imperial – heavy hex nuts) and ASTM A563M Class 9 (metric – hex 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.<sup>2</sup>

<sup>2</sup> Optional bolts/nuts are available in imperial size only.

## 4.0 DIMENSIONS

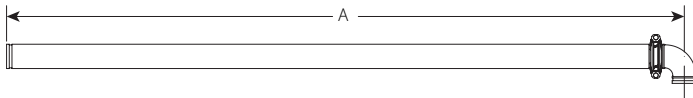
### No. R10 Rigid Long Run Fitting



Size		Dimensions	Weight
Nominal inches DN	Actual Outside Diameter inches mm	A inches mm	Approximate (Each) lb kg
2 1/2	2.875 73.0	243.90 6195	122.2 55.4
3 DN80	3.500 88.9	244.40 6208	160.2 72.7
4 DN100	4.500 114.3	245.15 6227	228.2 103.5
5	5.563 141.3	245.65 6240	310.7 140.9
6 DN150	6.625 168.3	246.65 6265	405.4 183.9
8 DN200	8.625 219.1	247.97 6298	615.0 278.9
10 DN250	10.750 273.0	249.20 6330	896.9 406.8
12 DN300	12.750 323.9	250.20 6355	1123.2 509.4

## 4.1 DIMENSIONS

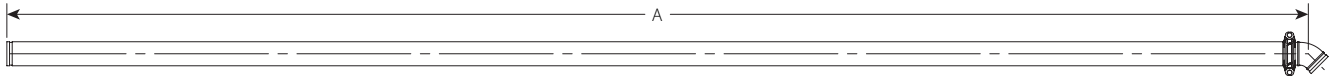
### No. R13 Rigid Long Run Fitting



Size		Dimensions	Weight
Nominal inches DN	Actual Outside Diameter inches mm	A inches mm	Approximate (Each) lb kg
2 1/2	2.875 73.0	123.90 3147	64.2 29.1
3 DN80	3.500 88.9	124.40 3160	84.2 38.2
4 DN100	4.500 114.3	125.15 3179	120.2 54.5
5	5.563 141.3	125.65 3192	164.7 74.7
6 DN150	6.625 168.3	126.65 3217	215.4 97.7
8 DN200	8.625 219.1	127.97 3250	330.0 149.7
10 DN250	10.750 273.0	129.20 3282	491.9 223.1
12 DN300	12.750 323.9	130.20 3307	612.2 277.6

## 4.2 DIMENSIONS

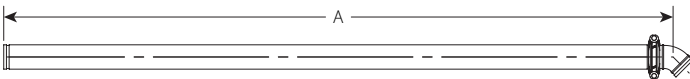
### No. R11 Rigid Long Run Fitting



Size		Dimensions	Weight
Nominal inches DN	Actual Outside Diameter inches mm	A inches mm	Approximate (Each) lb kg
2 1/2	2.875 73.0	242.40 6157	121.2 55.0
3 DN80	3.500 88.9	242.65 6163	158.8 72.0
4 DN100	4.500 114.3	243.15 6176	226.7 102.8
5	5.563 141.3	243.40 6182	307.3 139.4
6 DN150	6.625 168.3	243.65 6189	399.0 181.0
8 DN200	8.625 219.1	244.47 6210	605.5 274.6
10 DN250	10.750 273.0	244.95 6222	871.1 395.1
12 DN300	12.750 323.9	245.45 6234	1115.9 506.1

## 4.3 DIMENSIONS

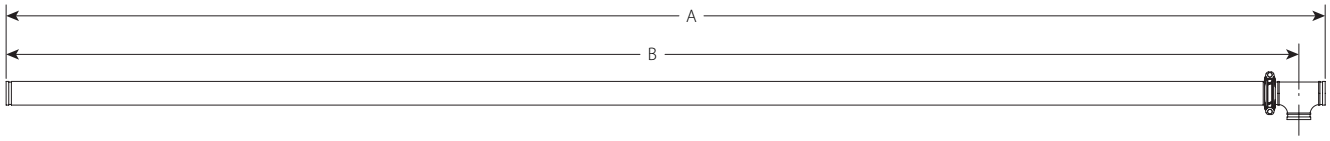
### No. R14 Rigid Long Run Fitting



Size		Dimensions	Weight
Nominal inches DN	Actual Outside Diameter inches mm	A inches mm	Approximate (Each) lb kg
2 1/2	2.875 73.0	122.40 3109	63.2 28.7
3 DN80	3.500 88.9	122.65 3115	82.8 37.6
4 DN100	4.500 114.3	123.15 3128	118.7 53.8
5	5.563 141.3	123.40 3134	161.3 73.2
6 DN150	6.625 168.3	123.65 3141	209.0 94.8
8 DN200	8.625 219.1	124.47 3162	320.5 145.4
10 DN250	10.750 273.0	124.95 3174	466.1 211.4
12 DN300	12.750 323.9	125.45 3186	604.9 274.3

#### 4.4 DIMENSIONS

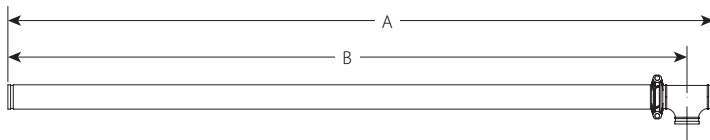
##### No. R12 Rigid Long Run Fitting



Size		Dimensions		Weight
Nominal inches DN	Actual Outside Diameter inches mm	A inches mm	B inches mm	Approximate (Each) lb kg
2 1/2	2.875 73.0	247.65 6290	243.90 6195	123.3 55.9
3 DN80	3.500 88.9	248.65 6316	244.40 6208	162.5 73.7
4 DN100	4.500 114.3	250.15 6354	245.14 6227	233.0 105.7
5	5.563 141.3	251.15 6379	245.65 6240	316.8 143.7
6 DN150	6.625 168.3	253.15 6430	246.65 6265	413.9 187.7
8 DN200	8.625 219.1	255.72 6495	247.97 6298	632.7 286.9
10 DN250	10.750 273.0	258.20 6558	249.20 6330	932.6 422.9
12 DN300	12.750 323.9	260.20 6609	250.20 6355	1182.2 536.1

#### 4.5 DIMENSIONS

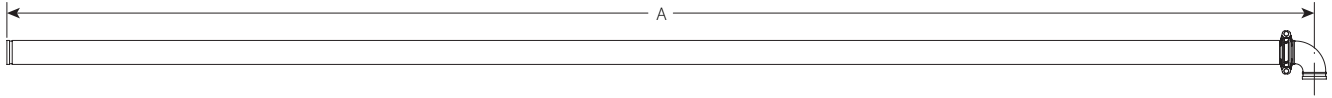
##### No. R15 Rigid Long Run Fitting



Size		Dimensions		Weight
Nominal inches DN	Actual Outside Diameter inches mm	A inches mm	B inches mm	Approximate (Each) lb kg
2 1/2	2.875 73.0	127.65 3242	123.90 3147	65.3 29.6
3 DN80	3.500 88.9	128.65 3268	124.40 3160	86.5 39.2
4 DN100	4.500 114.3	130.15 3306	125.15 3179	125.0 56.7
5	5.563 141.3	131.15 3331	125.65 3192	170.8 77.5
6 DN150	6.625 168.3	133.15 3382	126.65 3217	223.9 101.5
8 DN200	8.625 219.1	135.72 3447	127.97 3250	347.7 157.7
10 DN250	10.750 273.0	138.20 3510	129.20 3282	527.6 239.3
12 DN300	12.750 323.9	140.20 3561	130.20 3307	671.2 304.4

## 4.6 DIMENSIONS

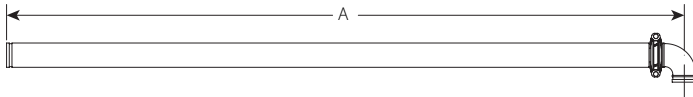
### No. R20 Flexible Long Run Fitting



Size		Dimensions	Weight
Nominal inches DN	Actual Outside Diameter inches mm	A inches mm	Approximate (Each) lb kg
2 ½	2.875 73.0	244.00 6198	121.6 55.1
3 DN80	3.500 88.9	244.50 6210	159.6 72.4
4 DN100	4.500 114.3	245.38 6233	226.8 102.9
5	5.563 141.3	245.88 6245	308.5 139.9
6 DN150	6.625 168.3	246.88 6271	403.5 183.0
8 DN200	8.625 219.1	248.13 6303	609.9 276.6
10 DN250	10.750 273.0	249.13 6328	883.8 400.8
12 DN300	12.750 323.9	250.13 6353	1123.8 509.7

## 4.7 DIMENSIONS

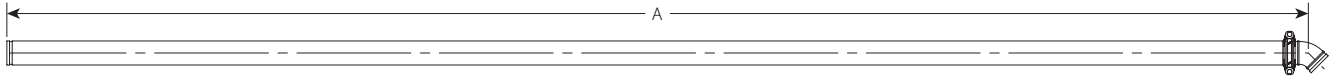
### No. R23 Flexible Long Run Fitting



Size		Dimensions	Weight
Nominal inches DN	Actual Outside Diameter inches mm	A inches mm	Approximate (Each) lb kg
2 ½	2.875 73.0	124.00 3150	63.6 28.8
3 DN80	3.500 88.9	124.50 3162	83.6 37.9
4 DN100	4.500 114.3	125.38 3185	118.8 53.9
5	5.563 141.3	125.88 3197	162.5 73.7
6 DN150	6.625 168.3	126.88 3223	213.5 96.8
8 DN200	8.625 219.1	128.13 3255	324.9 147.3
10 DN250	10.750 273.0	129.13 3280	478.8 217.1
12 DN300	12.750 323.9	130.13 3305	612.8 277.9

## 4.8 DIMENSIONS

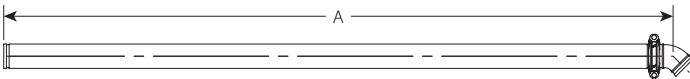
### No. R21 Flexible Long Run Fitting



Size		Dimensions	Weight
Nominal inches DN	Actual Outside Diameter inches mm	A inches mm	Approximate (Each) lb kg
2 ½	2.875 73.0	242.50 6160	120.6 54.7
3 DN80	3.500 88.9	242.75 6166	158.2 71.7
4 DN100	4.500 114.3	243.38 6182	225.3 102.2
5	5.563 141.3	243.63 6188	305.1 138.4
6 DN150	6.625 168.3	243.88 6195	397.1 180.1
8 DN200	8.625 219.1	244.63 6214	600.4 272.3
10 DN250	10.750 273.0	244.88 6220	858.0 389.1
12 DN300	12.750 323.9	245.38 6233	1116.5 506.3

## 4.9 DIMENSIONS

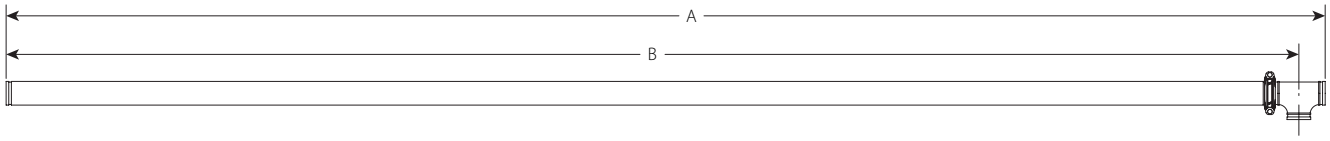
### No. R24 Flexible Long Run Fitting



Size		Dimensions	Weight
Nominal inches DN	Actual Outside Diameter inches mm	A inches mm	Approximate (Each) lb kg
2 ½	2.875 73.0	122.50 3112	62.6 28.4
3 DN80	3.500 88.9	122.75 3118	82.2 37.3
4 DN100	4.500 114.3	123.38 3134	117.3 53.2
5	5.563 141.3	123.63 3140	159.1 72.2
6 DN150	6.625 168.3	123.88 3147	207.1 93.9
8 DN200	8.625 219.1	124.63 3166	315.4 143.0
10 DN250	10.750 273.0	124.88 3172	453.0 205.4
12 DN300	12.750 323.9	125.38 3185	605.5 274.6

### 4.10 DIMENSIONS

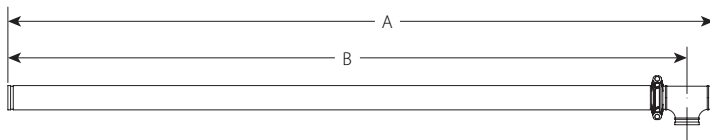
#### No. R22 Flexible Long Run Fitting



Size		Dimensions		Weight
Nominal inches DN	Actual Outside Diameter inches mm	A inches mm	B inches mm	Approximate (Each) lb kg
2 1/2	2.875 73.0	247.75 6293	244.00 6198	122.7 55.6
3 DN80	3.500 88.9	248.75 6318	244.50 6210	161.9 73.4
4 DN100	4.500 114.3	250.38 6360	245.38 6233	231.6 105.0
5	5.563 141.3	251.38 6385	245.88 6245	314.6 142.7
6 DN150	6.625 168.3	253.38 6436	246.88 6271	412.0 186.8
8 DN200	8.625 219.1	255.88 6499	248.13 6303	627.6 284.6
10 DN250	10.750 273.0	258.13 6557	249.13 6328	919.5 417.0
12 DN300	12.750 323.9	260.13 6607	250.13 6353	1182.8 536.4

### 4.11 DIMENSIONS

#### No. R25 Flexible Long Run Fitting



Size		Dimensions		Weight
Nominal inches DN	Actual Outside Diameter inches mm	A inches mm	B inches mm	Approximate (Each) lb kg
2 1/2	2.875 73.0	127.75 3245	124.00 3150	64.7 29.3
3 DN80	3.500 88.9	128.75 3270	124.50 3162	85.9 39.0
4 DN100	4.500 114.3	130.38 3312	125.38 3185	123.6 56.1
5	5.563 141.3	131.38 3337	125.88 3197	168.6 76.5
6 DN150	6.625 168.3	133.38 3388	126.88 3223	222.0 100.7
8 DN200	8.625 219.1	135.88 3451	128.13 3255	342.6 155.4
10 DN250	10.750 273.0	138.13 3509	129.13 3280	514.5 233.3
12 DN300	12.750 323.9	140.13 3559	130.13 3305	671.8 304.7









## 5.0 PERFORMANCE

For the maximum working pressure of Victaulic couplings, please reference the publications listed in section 7.0.

For the frictional resistance of Victaulic fittings as equivalent feet of straight pipe, please reference [publication 07.01](#): Victaulic Grooved End Fittings.

## 6.0 NOTIFICATIONS

**⚠ WARNING**



- Read and understand all instructions before attempting to install, remove, adjust, or maintain any Victaulic piping 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.
- Wear safety glasses, hardhat, and foot protection.

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

## 7.0 REFERENCE MATERIALS

- [06.04: Victaulic Standard Flexible Coupling Style 77](#)
- [06.23: Victaulic QuickVic™ Rigid Coupling Style 107N](#)
- [06.24: Victaulic QuickVic™ Flexible Coupling Style 177N](#)
- [07.01: Victaulic Grooved End Fittings](#)
- [29.01: Victaulic Terms and Conditions/Warranty](#)
- [I-100: Victaulic 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.

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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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