



No. 20 Tee



No. 10 Elbow

## 1.0 PRODUCT DESCRIPTION

### Available Sizes

- ¾ – 60"/20 – 1500 mm

### Maximum Working Pressure

- Pressure ratings for Victaulic standard fittings conform to the ratings of Victaulic Style 177N couplings (refer to [publication 06.24](#) for more information).

### Application

- Connects pipe, provides change in direction and adapts sizes or components.
- Supplied with Victaulic OGS grooves.
- Exclusively for use with Victaulic couplings, valves, accessories and pipe which feature ends formed with the Victaulic OGS groove profile.

### Pipe Materials

- Carbon Steel or Stainless Steel

### NOTE

- These fittings are not intended for use with Victaulic plain end couplings. Intended for use only in grooved piping systems. When connecting wafer or lug type butterfly valves directly to Victaulic fittings using Style 741 or Style 743 flange adapters, be sure to check disc clearance dimensions with I.D. dimension of fitting.

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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## 2.0 CERTIFICATION/LISTINGS

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### NOTES

- When supplied as “hot dip galvanized” the following fittings are UL Classified in accordance with ANSI/NSF 61 and for use on cold +86°F/+30°C potable water service and ANSI/NSF 372: No. 10 90° Elbow, No. 11 45° Elbow, No. 12 22 ½° Elbow, No. 13 11 ¼° Elbow, No. 100 90° Long Radius Elbow, No. 110 45° Long Radius Elbow, No. 20 Tee, No. 25 Tee with Grooved Branch, No. 30 45° Lateral, No. 60 Cap, No. 50 Concentric Reducers, No. 51 Eccentric Reducers.
- The following Victaulic fittings are VdS approved: No.10 90° Elbow, No.11 45° Elbow, No.20 Tee and No.60 Cap.
- The following Victaulic fittings are LPCB approved: No.10 90° Elbow, No.11 45° Elbow, No.12 22 ½° Elbow, No.13 11 ¼° Elbow, No.30 45° Lateral, No.30-R Reducing Lateral, No.100 Long Radius Elbow, No.110 Long Radius Elbow, No.20 Tee, No.35 Cross, No.60 Cap, No.25 Reducing Tee, No.33 True Wye, No.50 Concentric Reducer, No.51 Eccentric Reducer and No.29M Tee with Threaded Branch.
- The following Victaulic fittings are FM approved: No.10 90° Elbow, No.11 45° Elbow, No.12 22 ½° Elbow, No.13 11 ¼° Elbow, No.30 45° Lateral, No.100 Long Radius Elbow, No.20 Tee, No.35 Cross, No.60 Cap, No.25 Reducing Tee and No.50 Concentric Reducer.

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## 3.0 SPECIFICATIONS - MATERIAL

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### Fitting: (specify choice)

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

Optional: Segmentally welded steel as shown under nipples

### Nipples: (specify choice)

¾ – 4"/20 – 100 mm: Carbon steel, Schedule 40, conforming to ASTM A-53, Type F

5 – 6"/125 – 150 mm: Carbon steel, Schedule 40, conforming to ASTM A-53, Type E or S, Gr. B

8 – 12"/200 – 300 mm: Carbon steel, Schedule 30 or 40, conforming to ASTM A-53, Type E or S, Gr. B

### Flanged Adapter Nipples: (specify choice)

Class 125 Flange: Cast iron conforming to ANSI B-16.1

Class 150 Flange: Carbon steel conforming to ANSI B-16.5, raised or flat face

Class 300 Flange: Carbon steel conforming to ANSI B-16.5, raised or flat face

### Fitting Coating: (specify choice)

Standard: Orange enamel

Optional: Hot dip galvanized and others. Some fittings supplied electroplated as standard – see product specifications

### Flanged Adapter Nipple Coating: (specify choice)

Standard: None (Unfinished)

Optional: Orange enamel, hot dip galvanized and others

## 4.0 DIMENSIONS

### Elbows

**No. 10** 90° Elbow

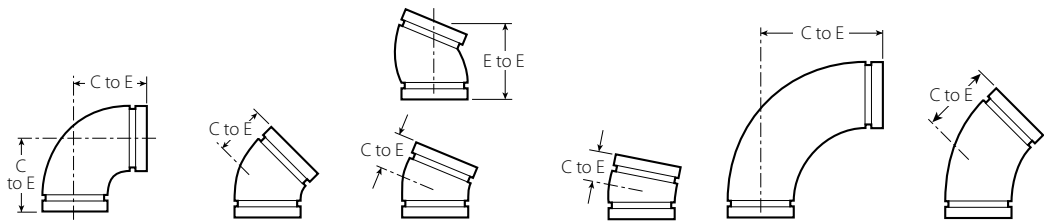
**No. 11** 45° Elbow

**No. 12** 22½° Elbow

**No. 13** 11¼° Elbow

**No. 100** 90° Long Radius Elbow

**No. 110** 45° Long Radius Elbow



Standard and GSNK

Size		No. 10 90° Elbow		No. 11 45° Elbow		No. 12 22½° Elbow		No. 13 11¼° Elbow		No. 100 90° Long Radius Elbow		No. 110 45° Long Radius Elbow	
Nominal	Actual Outside Diameter	C to E	Approx. Wgt. (Each)	C to E	Approx. Wgt. (Each)	C to E	Approx. Wgt. (Each)	C to E	Approx. Wgt. (Each)	C to E	Approx. Wgt. (Each)	C to E	Approx. Wgt. (Each)
inches DN	inches mm	inches mm	lb kg	inches mm	lb kg	inches mm	lb kg	inches mm	lb kg	inches mm	lb kg	inches mm	lb kg
¾ DN20	1.050 26.9	2.25 57	0.5 0.2	1.50 38	0.5 0.2	1.63 (sw) 41	—	1.38 (sw) 35	—	2.50 (sw) 64	0.4 0.2	1.88 (sw) 48	0.3 0.1
1 DN25	1.315 33.7	2.25 57	0.6 0.3	1.75 44	0.6 0.3	3.25 <sup>1</sup> 83	0.6 0.3	1.38 (sw) 35	0.3 0.1	2.88 (sw) 73	0.6 0.3	2.25 (sw) 57	0.5 0.2
1¼ DN32	1.660 42.4	2.75 70	1.0 0.5	1.75 44	0.9 0.4	1.75 44	0.8 0.4	1.38 (sw) 35	0.5 0.2	3.25 (sw) 83	1.1 0.5	2.38 (sw) 60	0.7 0.3
1½ DN40	1.900 48.3	2.75 70	1.2 0.5	1.75 44	0.9 0.4	1.75 44	0.8 0.4	1.38 (sw) 35	0.5 0.2	3.63 (sw) 92	2.2 1.0	2.50 (sw) 64	1.3 0.6
2 DN50	2.375 60.3	3.25 83	1.8 0.8	2.00 51	1.3 0.6	1.88 48	1.2 0.5	1.38 35	1.0 0.5	4.38 111	2.5 1.1	2.75 70	1.8 0.8
2½ DN65	2.875 73.0	3.75 95	3.2 1.5	2.25 57	2.2 1.0	4.00 <sup>1</sup> 102	2.3 1.0	1.50 38	1.1 0.5	5.13 130	3.4 1.5	3.00 76	2.8 1.3
3 DN80	3.500 88.9	4.25 108	4.5 2.0	2.50 64	3.1 1.4	4.50 <sup>1</sup> 114	3.1 1.4	1.50 38	2.1 1.0	5.88 149	6.0 2.7	3.38 86	4.9 2.2
3½ DN90	4.000 101.6	4.50 114	5.6 2.5	2.75 70	4.3 2.0	2.50 (sw) 64	4.0 1.8	1.75 (sw) 44	2.7 1.2	—	—	—	—
4 DN100	4.500 114.3	5.00 127	7.1 3.2	3.00 76	5.6 2.5	2.88 73	5.6 2.5	1.75 44	3.6 1.6	7.50 191	12.3 5.6	4.00 102	7.3 3.3
	4.250 108.0	5.00 127	11.0 5.0	3.00 76	5.6 2.5	—	—	—	—	—	—	—	—
4½ DN120	5.000 127.0	5.25 (sw) 133	10.0 4.5	3.13 (sw) 79	6.0 2.7	3.50 (sw) 89	6.6 3.0	1.88 (sw) 48	4.2 1.9	—	—	—	—
5	5.563 141.3	5.50 140	11.7 5.3	3.25 83	8.3 3.8	2.88 (sw) 73	7.8 3.5	2.00 (sw) 51	5.0 2.2	9.25 (sw) 235	18.0 8.2	4.88 (sw) 124	14.8 6.7
	5.250 133.0	5.50 140	11.7 5.3	3.25 83	8.3 3.8	—	—	—	—	—	—	—	—
DN125	5.500 139.7	5.50 140	11.7 5.3	3.25 83	8.3 3.8	2.88 73	—	2.00 51	—	—	—	—	—
6 DN150	6.625 168.3	6.50 165	17.2 7.8	3.50 89	10.8 4.9	6.25 <sup>1</sup> 159	12.2 5.5	2.00 51	7.0 3.2	10.75 273	30.4 13.8	5.50 140	17.4 7.9
	6.250 159.0	6.50 165	18.6 8.4	3.50 89	10.8 4.9	—	—	—	—	—	—	—	—
	6.500 165.1	6.50 165	15.5 7.0	3.50 89	9.8 4.4	3.13 79	11.4 5.2	2.00 51	7.4 3.4	10.75 (sw) 273	29.0 13.2	5.50 (sw) 140	19.0 8.6

<sup>1</sup> Gooseneck design, end-to-end dimension fittings in this size, contact your nearest Victaulic sales representative.

<sup>2</sup> For 14"/350 mm and larger roll grooved systems, Victaulic offers the Advanced Groove System (AGS). For pricing and availability of cut groove fittings in this size, contact your nearest Victaulic sales representative.

<sup>3</sup> Chinese standard sizes

(s) = Carbon Steel Direct Roll Groove (OGS)

(sw) = Carbon Steel Segmentally Welded

### NOTE

- All fittings are ductile iron unless otherwise noted with an (sw) or (s).

## 5.0 PERFORMANCE

### Flow Data

#### (Frictional Resistance)

The chart expresses the frictional resistance of various Victaulic fittings as equivalent feet of straight pipe. Fittings not listed can be estimated from the data given, for example, a 22½° elbow is approximately one-half the resistance of a 45° elbow. Values of mid-sizes can be interpolated.

Size		Dimensions					
Nominal Size inches DN	Actual Outside Diameter inches mm	90° Elbows		45° Elbows		Tees	
		No. 10 Std. Radius feet meters	No. 100 1 ½ D Long Radius feet meters	No. 11 Std. Radius feet meters	No. 110 1 ½ D Long Radius feet meters	Branch feet meters	Run feet meters
1 DN25	1.315 33.7	1.7 0.5	—	0.8 0.2	—	4.2 1.3	1.7 0.5
2 DN50	2.375 60.3	3.5 1.1	2.5 0.8	1.8 0.5	1.1 0.3	8.5 2.6	3.5 1.1
DN65	3.000 76.1	4.3 1.3	—	2.1 0.7	—	10.8 3.3	4.3 1.3
3 DN80	3.500 88.9	5.0 1.5	3.8 1.2	2.6 0.8	1.6 0.5	13.0 4.0	5.0 1.5
	4.250 108.0	6.4 2.0	—	3.2 0.9	—	15.3 4.7	6.4 2.0
4 DN100	4.500 114.3	6.8 2.1	5.0 1.5	3.4 1.0	2.1 0.6	16.0 4.9	6.8 2.1
	5.250 133.0	8.1 2.5	—	4.1 1.2	—	20.0 6.2	8.1 2.5
DN125	5.500 139.7	8.5 2.6	—	4.2 1.3	—	21.0 6.4	8.5 2.6
5	5.563 141.3	8.5 2.6	—	4.2 1.3	—	21.0 6.4	8.5 2.6
	6.250 159.0	9.4 2.9	—	4.9 1.5	—	25.0 7.6	9.6 2.9
	6.500 165.1	9.6 2.9	—	5.0 1.5	—	25.0 7.6	10.0 3.0
6 DN150	6.625 168.3	10.0 3.0	7.5 2.3	5.0 1.5	3.0 0.9	25.0 7.6	10.0 3.0
8 DN200	8.625 219.1	13.0 4.0	9.8 3.0	6.5 2.0	4.0 1.2	33.0 10.1	13.0 4.0
10 DN250	10.750 273.0	17.0 5.2	12.0 3.7	8.3 2.5	5.0 1.5	41.0 12.5	17.0 5.2
12 DN300	12.750 323.9	20.0 6.1	14.5 4.4	10.0 3.0	6.0 1.8	50.0 15.2	20.0 6.1
14 DN350	14.000 355.6	24.5 <sup>15</sup> 7.5	15.8 4.8	18.5 <sup>15</sup> 5.6	11.0 3.4	70.0 21.3	23.0 7.0
16 DN400	16.000 406.4	28.0 <sup>15</sup> 8.5	18.0 5.5	21.0 <sup>15</sup> 6.4	13.0 4.0	80.0 24.4	27.0 8.2
18 DN450	18.000 457.0	31.0 <sup>15</sup> 9.5	20.0 6.1	23.5 <sup>15</sup> 7.2	14.0 4.3	90.0 27.4	30.0 9.1
20 DN800	20.000 508.0	34.0 <sup>15</sup> 10.4	22.5 6.9	25.5 <sup>15</sup> 7.8	16.0 4.9	100.0 30.5	33.0 10.1
24 DN600	24.000 610.0	42.0 <sup>15</sup> 12.8	27.0 8.2	29.5 <sup>15</sup> 9.0	19.0 5.8	120.0 36.6	40.0 12.2

AGS fittings available up to 60"/1500 mm. Contact Victaulic for details.



<sup>15</sup> Fitting flow data for 14-24"/350-600 mm size No. 10 and No. 11 Elbows is based on fittings for Style 07 and 77 couplings. For flow data on AGS fittings (No. W10 and No. W11 Elbows), refer to [publication 20.05](#).

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**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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