

## 1.0 PRODUCT DESCRIPTION

### Available Sizes

- ½ – 2"

### Pipe Material

- For use on carbon steel pipe conforming to the dimensional requirements of ASME B36.10 and the pipe standards ASTM A53, ASTM A106, ASTM A135 for Schedules 5 through 80
- For use on 6061-T6 aluminum pipe conforming to ASTM B241 for Schedule 40 only
- For exceptions reference section 6.0 Notifications

### Pipe Coating

- For use on pipe with a mill-type finish
- For use on pipe with a metal-deposited coating not exceeding 0.005" (0.13 mm), such as thermally diffused zinc, hot dipped galvanized, etc.
- For use on pipe with latex paint with thickness not exceeding 0.005" (0.13 mm)

### NOTE

- For use on other pipe materials and/or pipe coatings, please contact Victaulic.

### Maximum Working Pressure

- Accommodates pressures up to 300 psi/2068 kPa
- Working pressure dependent on pipe material and wall thickness

### Maximum Operating Temperature

- Dependent on gasket selection from section 3.0

### Function

- Joins plain end carbon steel and aluminum pipe
- Rigid couplings and fittings featuring patented Victaulic Installation-Ready™ technology
- QuickVic™ SD Installation-Ready™ products include patented "Leak-If-Not-Tightened" technology during initial installation; Seal is designed to leak until the coupling or fitting is mechanically secured on the pipe

ALWAYS REFER TO ANY NOTIFICATIONS AT THE END OF THIS DOCUMENT REGARDING PRODUCT INSTALLATION, MAINTENANCE OR SUPPORT.

## 1.0 PRODUCT DESCRIPTION (CONTINUED)

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### PC3110 Cut & Mark Tool Capability

- ½ – 2" carbon steel pipe, Schedules 5 through 80
  - ½ – 2" aluminum pipe, Schedule 40
  - Designed to cut, mark and chamfer pipe outside diameter (OD) simultaneously
  - Knurled marks display a clear insertion depth on the outside of the pipe for proper coupling/fitting installation
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## 2.0 CERTIFICATION/LISTINGS

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Conforms to ASME B31.1, ASME B31.3 and ASME B31.9 code requirements.

Product designed and manufactured under the Victaulic Quality Management System, as certified by LPCB in accordance with ISO-9001:2008.

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## 3.0 SPECIFICATIONS – MATERIAL

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### Couplings and Fittings

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

### Housing Coating: (specify choice)

Standard: Orange coating.

Optional: Thermally diffused zinc-based coating conforming to ASTM A1059/A1059M.

Optional: Contact Victaulic with your requirements for other coatings.

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

#### Victaulic Grade "EHP" EPDM

EPDM (Red and Green stripes color code). Temperature range -30°F to +250°F/-34°C to +120°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 USE WITH PETROLEUM SERVICES OR STEAM SERVICES.

#### Victaulic 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, hydrocarbons, air with oil vapors, and vegetable and mineral oils within the specified temperature range; not compatible for hot dry air over +140°F/+60°C and water over +150°F/+66°C. 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.

### 3.0 SPECIFICATIONS – MATERIAL (CONTINUED)

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**Bolts/Nuts:** Carbon steel oval neck track bolts meeting the mechanical property requirements of ASTM A449. Carbon steel hex nuts meeting the mechanical property requirements of ASTM A563 Grade B. Track bolts and hex nuts are zinc electroplated per ASTM B633 Fe/Zn 5, finish Type III.

**Retainer:** 301 stainless steel conforming to ASTM A666.

**Style P07/P08 Coupling Linkage:** High strength steel with comparable physical properties to that of the track bolt (ASTM A449). Linkage is zinc electroplated per ASTM B633 Fe/Zn 5, Type III finish.

**Style P50 Reducing Coupling Ring Pipe Stop (1 ¼" x ¾" through 2" x 1 ½" Sizes):** Zinc Electroplated Carbon Steel Conforming to ASTM B633 Fe/Zn, Type III finish.

**No. P40 Threaded Adapter (Male NPT x Plain End):** Carbon steel meeting the chemical and mechanical property requirements of ASTM A53 Grade A or B, or per GB/T 8163-2008 Grade 20, or equivalent.

**No. P80 Threaded Adapter (Female NPT x Plain End):** Ductile iron conforming to ASTM A536, Grade 65-45-12.

**No. P47 and No. P97 Dielectric Adapters:** Copper silicon conforming to UNS C87850.

**No. P60 Cap:** Ductile iron conforming to ASTM A536, Grade 65-45-12.

**No. P42 Close Nipple:** Schedule 40 carbon steel pipe per ASTM A53 Grade A or B or per GB/T 8163-2008 Grade 20, or equivalent, with black oxide coating.

#### **Series P89 Full Port Ball Valve**

Body: Dezincification resistant (DZR) brass, CW602N.

Stem Seals: EPDM.

Ball: Plated DZR brass, CW602N (standard) or 316 stainless steel (optional).

Stem: DZR brass, CW602N (standard) or 316 stainless steel (optional).

Ball Seals: Polytetrafluoroethylene (PTFE).

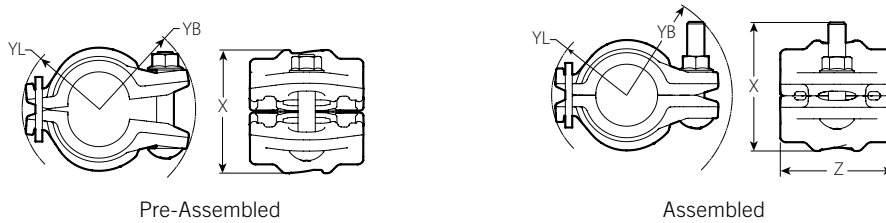
Handle: Steel with vinyl grip or Steel with Vinyl grip and Locking Handle (Optional).

#### **PC3110 Cut & Mark Tool**

Required Power Supply: Power drive with foot switch (Not Provided).

## 4.0 DIMENSIONS

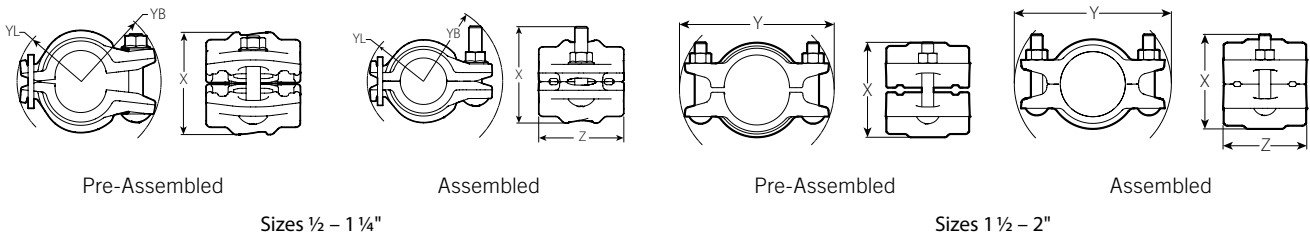
### Style P07 Coupling



Size		Pipe End Separation inches mm	Qty.	Bolt/Nut Size inches mm	Dimensions								Weight Approximate (Each) lb kg
Nominal inches	Actual Outside Diameter inches mm				Pre-Assembled				Assembled				
					Y <sub>L</sub> inches mm	Y <sub>B</sub> inches mm	X inches mm	Y <sub>L</sub> inches mm	Y <sub>B</sub> inches mm	X inches mm	Z inches mm		
½	0.840	0.14 3.6	1	¾ x 2 M10 x 51	1.50	2.00	2.38	1.50	2.13	2.50	2.50	1.2 0.5	
	21.3				38	51	60	38	54	64	64		
¾	1.050	0.14 3.6	1	¾ x 2 M10 x 51	1.63	2.13	2.38	1.50	2.13	2.63	2.50	1.3 0.6	
	26.9				41	54	60	38	54	67	64		
1	1.315	0.14 3.6	1	¾ x 2 M10 x 51	1.75	2.25	2.75	1.63	2.25	2.75	2.50	1.4 0.6	
	33.7				44	57	70	41	57	70	64		
1 ¼	1.660	0.14 3.6	1	¾ x 2 M10 x 51	1.88	2.38	3.00	1.88	2.50	2.88	2.50	1.6 0.7	
	42.4				48	60	76	48	64	73	64		
1 ½	1.900	0.14 3.6	1	7/16 x 2 ¾ M11 x 70	2.13	2.63	3.38	2.00	2.63	3.50	3.25	2.8 1.3	
	48.3				54	67	86	51	67	89	83		
2	2.375	0.14 3.6	1	7/16 x 2 ¾ M11 x 70	2.38	3.00	3.88	2.25	3.25	3.88	3.25	3.1 1.4	
	60.3				60	76	99	57	83	99	83		

## 4.1 DIMENSIONS

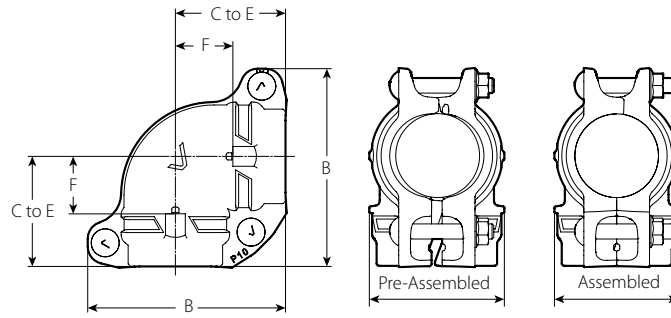
### Style P08 Slip Coupling



Size		Pipe End Separation inches mm	Qty.	Bolt/Nut Size inches mm	Dimensions										Weight Approximate (Each) lb kg
Nominal inches	Actual Outside Diameter inches mm				Pre-Assembled				Assembled						
					Y <sub>L</sub> inches mm	Y <sub>B</sub> inches mm	Y inches mm	X inches mm	Y <sub>L</sub> inches mm	Y <sub>B</sub> inches mm	Y inches mm	X inches mm	Z inches mm		
½	0.840	0.00 0	1	¾ x 2 M10 x 51	1.50	2.00	-	2.38	1.50	2.13	-	2.50	2.38	1.1 0.5	
	21.3				38	51	60	38	54	-	64	60			
¾	1.050	0.00 0	1	¾ x 2 M10 x 51	1.63	2.13	-	2.38	1.63	2.13	-	2.63	2.38	1.2 0.5	
	26.9				41	54	60	41	54	-	67	60			
1	1.315	0.00 0	1	¾ x 2 M10 x 51	1.75	2.25	-	2.75	1.75	2.25	-	2.75	2.38	1.4 0.6	
	33.7				44	57	70	44	57	-	70	60			
1 ¼	1.660	0.00 0	1	¾ x 2 M10 x 51	1.88	2.38	-	3.00	1.88	2.50	-	2.88	2.38	1.6 0.7	
	42.4				48	60	76	48	64	-	73	60			
1 ½	1.900	0.00 0	2	¾ x 2 M10 x 51	-	-	4.88	3.13	-	-	5.00	2.88	3.13	2.4 1.1	
	48.3				-	-	124	80	-	-	127	73	80		
2	2.375	0.00 0	2	7/16 x 2 ¾ M11 x 70	-	-	5.75	3.50	-	-	5.88	3.50	3.13	3.0 1.4	
	60.3				-	-	146	89	-	-	149	89	80		

## 4.2 DIMENSIONS

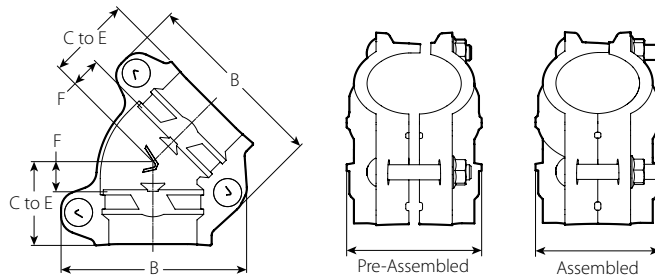
### No. P10 90° Elbow



Size		Bolt/Nut		Dimensions					Weight	
Nominal inches	Actual Outside Diameter inches mm	Qty.	Size inches mm	F Takeout inches mm	C to E inches mm	B inches mm	Pre-Assembled inches mm	Assembled inches mm	Approximate (Each) lb kg	
½	0.840 21.3	3	¾ x 2 M10 x 51	0.88 22	2.13 54	3.88 99	2.38 60	2.38 60	1.8 0.8	
¾	1.050 26.9	3	¾ x 2 M10 x 51	1.00 25	2.13 54	4.00 102	2.50 64	2.50 64	2.1 1.0	
1	1.315 33.7	3	¾ x 2 M10 x 51	1.13 29	2.25 57	4.38 111	2.75 70	2.63 67	2.4 1.1	
1 ¼	1.660 42.4	3	¾ x 2 M10 x 51	1.25 32	2.50 64	4.75 121	3.00 76	2.75 70	2.8 1.3	
1 ½	1.900 48.3	3	¾ x 2 M10 x 51	1.38 35	3.00 76	5.38 137	3.25 83	3.00 76	3.4 1.5	
2	2.375 60.3	3	7/16 x 2 ¾ M11 x 70	1.63 41	3.25 83	5.88 149	4.00 102	3.63 92	5.8 2.6	

## 4.3 DIMENSIONS

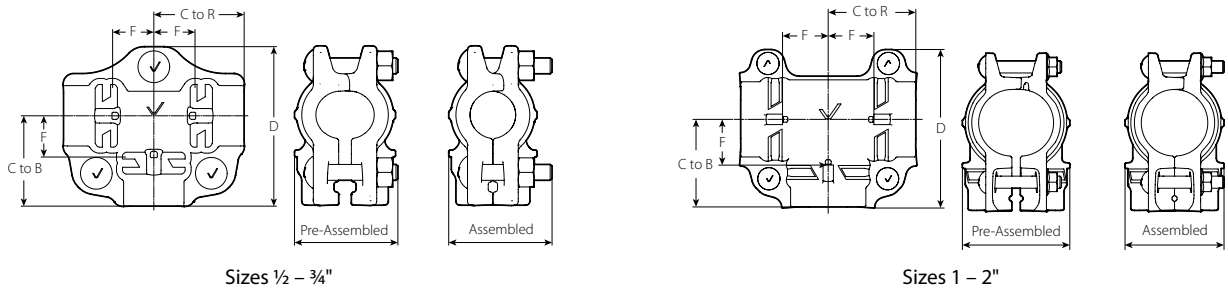
### No. P11 45° Elbow



Size		Bolt/Nut		Dimensions					Weight	
Nominal inches	Actual Outside Diameter inches mm	Qty.	Size inches mm	F Takeout inches mm	C to E inches mm	B inches mm	Pre-Assembled inches mm	Assembled inches mm	Approximate (Each) lb kg	
½	0.840 21.3	3	¾ x 2 M10 x 51	0.63 15	1.75 44	3.50 89	2.38 60	2.38 60	0.7 0.3	
¾	1.050 26.9	3	¾ x 2 M10 x 51	0.75 19	1.88 48	3.75 95	2.50 64	2.50 64	2.4 1.1	
1	1.315 33.7	3	¾ x 2 M10 x 51	0.75 19	1.88 48	4.00 102	2.75 70	2.63 67	2.7 1.2	
1 ¼	1.660 42.4	3	¾ x 2 M10 x 51	0.75 19	1.88 48	4.38 111	3.13 80	2.88 73	3.2 1.5	
1 ½	1.900 48.3	3	¾ x 2 M10 x 51	0.75 19	2.25 57	4.75 121	3.38 86	3.00 76	3.7 1.7	
2	2.375 60.3	3	7/16 x 2 ¾ M11 x 70	0.88 22	2.38 60	5.38 137	3.88 99	3.88 99	5.4 2.5	

## 4.4 DIMENSIONS

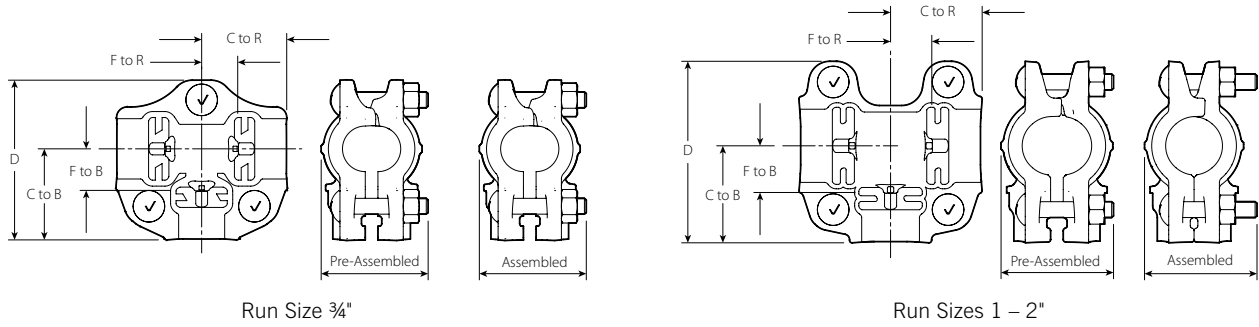
### No. P20 Tee



Size		Bolt/Nut		Dimensions						Weight
Nominal inches	Actual Outside Diameter inches mm	Qty.	Size inches mm	F Takeout inches mm	C to B inches mm	C to R inches mm	D inches mm	Pre-Assembled inches mm	Assembled inches mm	Approximate (Each) lb kg
1/2	0.840 21.3	3	3/8 x 2 M10 x 51	0.88 22	2.13 54	2.13 54	3.63 92	2.38 60	2.38 60	2.4 1.1
3/4	1.050 26.9	3	3/8 x 51 M10 x 2	1.00 25	2.25 57	2.25 57	3.88 99	2.50 64	2.50 64	2.8 1.3
1	1.315 33.7	4	3/8 x 2 M10 x 51	1.13 29	2.25 57	2.25 57	4.38 111	2.75 70	2.63 67	3.2 1.5
1 1/4	1.660 42.4	4	3/8 x 2 M10 x 51	1.25 32	2.50 64	2.50 64	4.75 121	3.00 76	2.75 70	3.7 1.7
1 1/2	1.900 48.3	4	3/8 x 2 M10 x 51	1.38 35	3.00 76	3.00 76	5.38 137	3.25 83	3.00 76	4.6 2.1
2	2.375 60.3	4	7/16 x 2 3/4 M11 x 70	1.63 41	3.25 83	3.25 83	5.88 149	4.00 102	3.63 92	7.0 3.2

## 4.5 DIMENSIONS

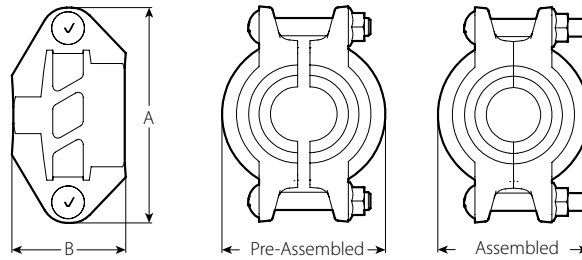
### No. P25 Reducing Tee



Size			Bolt/Nut		Dimensions							Weight	
Nominal inches	Actual Outside Diameter		Qty	Size inches mm	F to B Takeout inches mm	F to R Takeout inches mm	C to B inches mm	C to R inches mm	D inches mm	Pre-Assembled inches mm	Assembled inches mm	Approx. (Each)	
	inches	mm										lb	kg
3/4 x 3/4 x 1/2	1.050 26.9	1.050 26.9	3	3/8 x 2 M10 x 51	1.13 29	1.00 25	2.25 57	2.13 54	3.88 99	2.50 64	2.50 64	2.9	1.3
				3/8 x 2 M10 x 51	1.13 29	1.00 25	2.38 60	2.13 54	4.38 111	2.75 70	2.75 70	3.2	1.4
1 x 1 x 1/2	1.315 33.7	1.315 33.7	4	3/8 x 2 M10 x 51	1.13 29	1.00 25	2.38 60	2.25 57	4.63 117	2.75 70	2.63 67	3.3	1.5
				3/8 x 2 M10 x 51	1.13 29	1.13 29	2.38 60	2.25 57	4.63 117	2.75 70	2.63 67	3.3	1.5
1 1/4 x 1 1/4 x 1/2	1.660 42.4	1.660 42.4	4	3/8 x 2 M10 x 51	1.38 35	1.00 25	2.50 64	2.13 54	4.75 121	3.00 76	2.88 73	3.6	1.6
				3/8 x 2 M10 x 51	1.38 35	1.13 29	2.50 64	2.25 57	4.75 121	3.00 76	2.75 70	4.0	1.8
1 1/4 x 1 1/4 x 3/4	1.660 42.4	1.660 42.4	4	3/8 x 2 M10 x 51	1.38 35	1.13 29	2.50 64	2.25 57	4.75 121	3.00 76	2.75 70	4.2	1.9
				3/8 x 2 M10 x 51	1.38 35	1.25 32	2.50 64	2.38 60	4.75 121	3.00 76	2.75 70	4.2	1.9
1 1/2 x 1 1/2 x 1/2	1.900 48.3	1.900 48.3	4	3/8 x 2 M10 x 51	1.63 41	0.88 22	2.75 70	2.38 60	5.00 127	3.25 83	3.00 76	4.2	1.9
				3/8 x 2 M10 x 51	1.63 41	1.00 25	2.75 70	2.50 64	5.13 130	3.25 83	3.00 76	4.6	2.1
1 1/2 x 1 1/2 x 3/4	1.900 48.3	1.900 48.3	4	3/8 x 2 M10 x 51	1.63 41	1.13 29	2.75 70	2.75 70	5.13 130	3.25 83	3.00 76	4.8	2.2
				3/8 x 2 M10 x 51	1.63 41	1.38 35	2.75 70	3.00 76	5.00 127	3.25 83	3.00 76	5.1	2.3
1 1/2 x 1 1/2 x 1	1.900 48.3	1.900 48.3	4	3/8 x 2 M10 x 51	1.63 41	1.38 35	2.75 70	3.00 76	5.00 127	3.25 83	3.00 76	5.1	2.3
				3/8 x 2 M10 x 51	1.63 41	1.38 35	2.75 70	3.00 76	5.00 127	3.25 83	3.00 76	5.1	2.3
2 x 2 x 1/2	2.375 60.3	2.375 60.3	4	7/16 x 2.75 M11 x 70	1.88 48	0.88 22	3.13 79	2.38 60	5.63 143	4.00 102	3.63 92	6.2	2.8
				7/16 x 2.75 M11 x 70	1.88 48	1.13 29	3.00 76	2.63 67	5.63 143	4.00 102	3.63 92	7.0	3.2
2 x 2 x 3/4	2.375 60.3	2.375 60.3	4	7/16 x 2.75 M11 x 70	1.88 48	1.38 35	3.00 76	2.88 73	5.63 143	4.00 102	3.63 92	7.5	3.4
				7/16 x 2.75 M11 x 70	1.88 48	1.38 35	3.00 76	3.00 76	5.63 143	4.00 102	3.63 92	7.2	3.3
2 x 2 x 1	2.375 60.3	2.375 60.3	4	7/16 x 2.75 M11 x 70	1.88 48	1.38 35	3.00 76	3.00 76	5.63 143	4.00 102	3.63 92	8.0	3.6
				7/16 x 2.75 M11 x 70	1.88 48	1.63 41	3.25 83	3.13 79	5.75 146	4.00 102	3.63 92	8.0	3.6

## 4.6 DIMENSIONS

### Style P50 Reducing Coupling

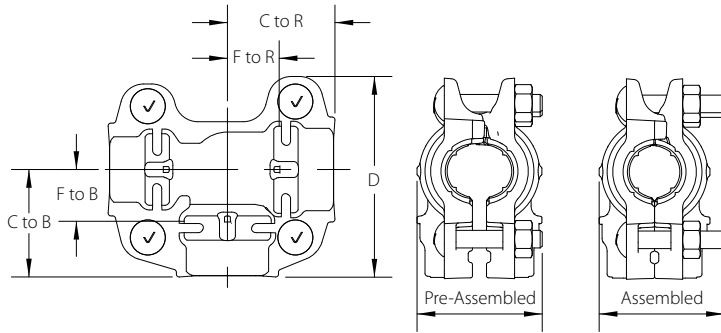


Size		Pipe End Separation inches mm	Bolt/Nut		Dimensions				Weight
Nominal inches	Actual Outside Diameter inches mm		Qty.	Size inches mm	A inches mm	B inches mm	Pre-Assembled inches mm	Assembled inches mm	Approximate (Each) lb kg
3/4 x 1/2	1.050 x 0.840 26.9 x 21.3	0.15 4	2	3/8 x 2 M10 x 51	3.63 92	2.50 64	2.50 64	2.50 64	1.7 0.8
1 x 3/4	1.315 x 1.050 33.7 x 26.9	0.20 5	2	3/8 x 2 M10 x 51	3.88 99	2.50 64	2.75 70	2.63 67	1.9 0.9
1 1/4 x 3/4	1.660 x 1.050 42.4 x 26.9	0.06 2	2	3/8 x 2 M10 x 51	4.63 118	2.50 64	3.25 83	3.00 76	2.6 1.2
		1.315 33.7	2	3/8 x 2 M10 x 51	4.63 118	2.50 64	3.25 83	3.00 76	2.3 1.0
1 1/2 x 3/4	1.900 x 1.050 48.3 x 26.9	0.06 2	2	3/8 x 2 M10 x 51	4.88 124	2.75 70	3.50 89	3.25 83	3.1 1.4
		1.315 33.7	2	3/8 x 2 M10 x 51	4.88 124	2.75 70	3.50 89	3.25 83	3.0 1.4
		1.660 42.4	2	3/8 x 2 M10 x 51	4.88 124	2.75 70	3.50 89	3.25 83	3.0 1.4
2 x 1	2.375 x 1.315 60.3 x 33.7	0.06 2	2	7/16 x 2 3/4 M11 x 70	5.25 133	2.75 70	4.00 102	3.75 95	3.8 1.7
		1.660 42.4	2	7/16 x 2 3/4 M11 x 70	5.25 133	2.75 70	4.13 105	3.75 95	3.8 1.7
		1.900 48.3	2	7/16 x 2 3/4 M11 x 70	5.25 133	3.13 79	4.00 102	3.88 99	4.1 1.9



## 4.7 DIMENSIONS

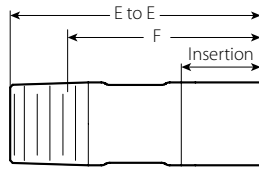
### No. P27 Reducing on Run Tee



Size			Bolt/Nut		Dimensions						Weight	
Nominal inches		DN	Qty	Size inches mm	F to B Takeout inches mm	F to R Takeout inches mm	C to B inches mm	C to R inches mm	D inches mm	Pre-Assembled inches mm	Assembled inches mm	Approx. (Each) lb kg
1 x 3/4 x 3/4 DN25		1 DN20	4	3/8 x 2 M10 x 51	1.00 25	1.00 25	2.38 60	2.38 60	4.31 109	2.75 70	2.75 70	3.4 1.6
		1 DN25	4	3/8 x 2 M10 x 51	1.00 25	1.00 25	2.38 60	2.38 60	4.31 109	2.75 70	2.75 70	3.5 1.6
1 1/4 x 3/4 x 1 1/4 DN32		1 DN20	4	3/8 x 2 M10 x 51	1.31 33	1.25 32	2.63 67	2.50 64	4.75 121	2.88 73	2.88 73	4.0 1.8
		1 DN25	4	3/8 x 2 M10 x 51	1.25 32	1.00 25	2.50 64	2.25 57	4.75 121	2.88 73	2.88 73	3.8 1.7
1 1/4 x 1 x 3/4 DN32		1 DN20	4	3/8 x 2 M10 x 51	1.38 35	1.13 29	2.63 67	2.25 57	4.75 121	2.88 73	2.88 73	3.8 1.7
		1 DN25	4	3/8 x 2 M10 x 51	1.31 33	1.31 33	2.63 67	2.63 67	4.75 121	2.88 73	2.88 73	4.0 1.8
		1 DN32	4	3/8 x 2 M10 x 51	1.31 33	1.31 33	2.63 67	2.63 67	4.75 121	2.88 73	2.88 73	4.0 1.8
1 1/2 x 1 1/4 x 3/4 DN40		1 DN20	4	3/8 x 2 M10 x 51	1.50 38	1.25 25	2.63 67	2.50 64	5.00 127	3.00 76	3.00 76	4.0 1.8
		1 DN25	4	3/8 x 2 M10 x 51	1.25 32	1.50 35	2.50 64	2.75 70	4.88 124	3.00 76	3.00 76	4.4 2.0

## 4.8 DIMENSIONS

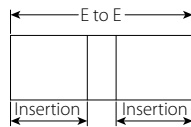
### No. P40 Threaded Adapter (Male NPT x Plain End)



Size		Dimensions		Insertion Depth inches mm	Weight
Nominal inches	Actual Outside Diameter inches mm	E to E inches mm	F Takeout inches mm		Approx. (Each) lb kg
½	0.840 21.3	3.75 95	3.25 83	1.125 29	0.3 0.1
¾	1.050 26.9	3.75 95	3.25 83	1.125 29	0.3 0.1
1	1.315 33.7	4.00 102	3.25 83	1.125 29	0.4 0.2
1 ¼	1.660 42.4	4.00 102	3.38 86	1.125 29	0.6 0.3
1 ½	1.900 48.3	4.38 111	3.75 95	1.500 38	0.7 0.3
2	2.375 60.3	4.38 111	3.75 95	1.500 38	0.9 0.4

## 4.9 DIMENSIONS

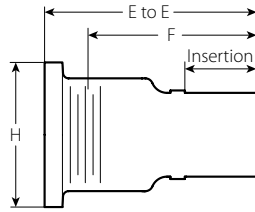
### No. P42 Close Nipple



Size		Dimensions		Weight
Nominal inches DN	Actual Outside Diameter inches mm	E to E inches mm	Insertion Depth inches mm	Approx. (Each) lb kg
½ DN15	0.840 21.3	2.38 60	1.13 29	0.2 0.1
¾ DN20	1.050 26.9	2.38 60	1.13 29	0.3 0.1
1 DN25	1.315 33.7	2.38 60	1.13 29	0.4 0.2
1 ¼ DN32	1.660 42.4	2.38 60	1.13 29	0.5 0.2
1 ½ DN40	1.900 48.3	3.13 79	1.50 38	0.8 0.4
2 DN50	2.375 60.3	3.13 79	1.50 38	1.0 0.5

### 4.10 DIMENSIONS

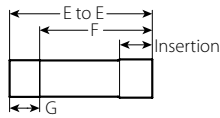
#### No. P80 Threaded Adapter (Female NPT x Plain End)



Size		Dimensions			Insertion Depth inches mm	Weight	
Nominal inches	Actual Outside Diameter inches mm	E to E inches mm	F Takeout inches mm	H inches mm		Approx. (Each) lb kg	
½	0.840	3.25	2.63	1.75	1.125	0.6	
	21.3	83	67	44		0.3	
¾	1.050	3.25	2.63	2.00	1.125	0.9	
	26.9	83	67	51		0.4	
1	1.315	3.38	2.63	2.25	1.125	1.2	
	33.7	86	67	58		0.6	
1 ¼	1.660	3.38	2.63	2.63	1.125	1.6	
	42.4	86	67	67		0.7	
1 ½	1.900	3.75	3.00	2.88	1.500	2.1	
	48.3	95	76	73		1.0	
2	2.375	3.75	3.00	3.50	1.500	2.9	
	60.3	95	76	89		1.3	

### 4.11 DIMENSIONS

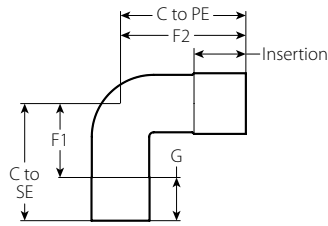
#### No. P47 Straight Dielectric Adapter (Sweat x Plain End)



Size		Dimensions			Insertion Depth inches mm	Weight	
Nominal inches	Actual Outside Diameter inches mm	G (Sweat Depth) inches mm	End to End inches mm	F Takeout inches mm		Approx. (Each) lb kg	
½	0.840	0.50	4.50	4.00	1.125	0.3	
	21.3	13	114	102		0.1	
¾	1.050	0.75	4.75	4.00	1.125	0.5	
	26.9	19	121	102		0.2	
1	1.315	0.91	5.00	4.00	1.125	0.7	
	33.7	23	127	102		0.3	
1 ¼	1.660	0.97	5.00	4.00	1.125	0.9	
	42.4	25	127	102		0.4	
1 ½	1.900	1.09	5.09	4.00	1.500	1.1	
	48.3	28	129	102		0.5	
2	2.375	1.34	5.34	4.00	1.500	1.5	
	60.3	34	136	102		0.7	

4.12 DIMENSIONS

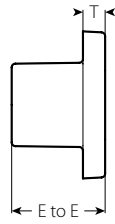
No. P97 90° Elbow Dielectric Adapter (Sweat x Plain End)



Size		Dimensions					Weight	
Nominal inches	Actual Outside Diameter inches mm	G (Sweat Depth) inches mm	C to SE (Center to Sweat End) inches mm	C to PE (Center to Plain End) inches mm	F1 Copper Takeout inches mm	F2 Steel Takeout inches mm	Insertion Depth inches mm	Approx. (Each) lb kg
½	0.840 21.3	0.50 13	1.84 47	2.59 66	1.34 34	2.59 66	1.125 29	0.3 0.1
¾	1.050 26.9	0.75 19	2.09 53	2.59 66	1.34 34	2.59 66	1.125 29	0.4 0.2
1	1.315 33.7	0.91 23	2.54 65	2.72 69	1.63 41	2.72 69	1.125 29	0.7 0.3
1 ¼	1.660 42.4	0.97 25	2.82 72	2.88 73	1.85 47	2.88 73	1.125 29	1.0 0.5
1 ½	1.900 48.3	1.09 28	2.88 73	2.88 73	1.79 45	2.88 73	1.500 38	1.2 0.5
2	2.375 60.3	1.34 34	3.25 83	3.25 83	1.91 49	3.25 83	1.500 38	1.7 0.8

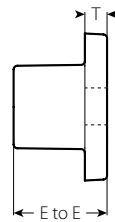
### 4.13 DIMENSIONS

#### No. P60 Cap/Tapped Cap



No. P60 Cap

Size		Dimensions		Weight
Nominal inches	Actual Outside Diameter inches mm	E to E inches mm	T inches mm	Approximate (Each) lb kg
1/2	0.840	1.50	0.38	0.4
	21.3	38	10	0.2
3/4	1.050	1.50	0.38	0.5
	26.9	38	10	0.2
1	1.315	1.50	0.38	0.7
	33.7	38	10	0.3
1 1/4	1.660	1.50	0.38	0.9
	42.4	38	10	0.4
1 1/2	1.900	1.88	0.38	1.3
	48.3	48	10	0.6
2	2.375	1.88	0.38	1.7
	60.3	48	10	0.8

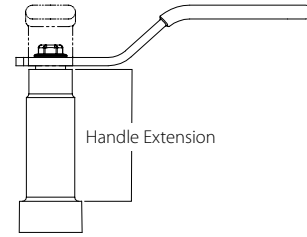
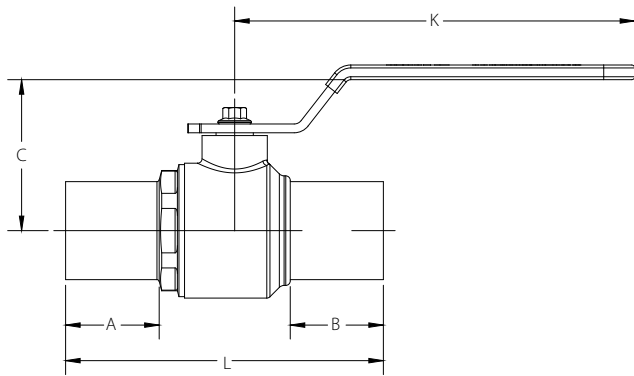


No. P60 Tapped Cap  
(Optional)

Size		Dimensions		Thread Size	Weight
Nominal inches	Actual Outside Diameter inches mm	E to E inches mm	T inches mm		Approximate (Each) lb kg
1/2	0.840	1.50	0.38	1/4 - 18 NPT	0.4
	21.3	38	10		0.2
3/4	1.050	1.50	0.38	3/8 - 18 NPT	0.5
	26.9	38	10		0.2
1	1.315	1.50	0.38	1/2 - 14 NPT	0.7
	33.7	38	10		0.3
1 1/4	1.660	1.50	0.38	1/2 - 14 NPT	0.9
	42.4	38	10		0.4
1 1/2	1.900	1.88	0.38	1/2 - 14 NPT	1.3
	48.3	48	10		0.6
2	2.375	1.88	0.38	1/2 - 14 NPT	1.7
	60.3	48	10		0.8

## 4.14 DIMENSIONS

### Series P89 Full Port Ball Valve

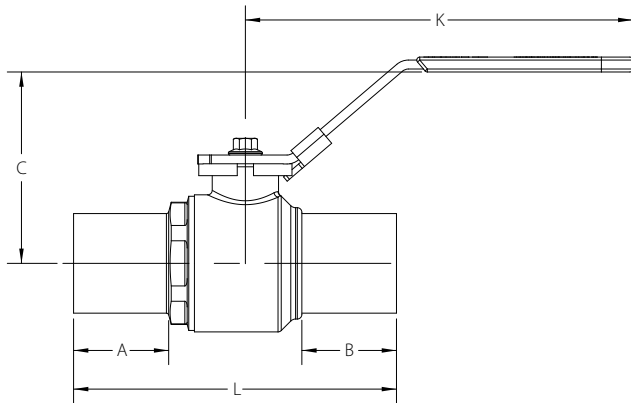


Valve Inlet Size	2" Handle Extension	4" Handle Extension
inches		
1/2 - 3/4	P-004-78Y-2HL	P-004-78Y-4HL
1 - 1 1/4	P-012-78Y-2HL	P-012-78Y-4HL
1 1/2 - 2	P-020-78Y-2HL	P-020-78Y-4HL

Size		Dimensions					Weight
Nominal	Actual Outside Diameter	A	B	C	L	K	Approximate (Each)
inches	inches mm	inches mm	inches mm	inches mm	inches mm	inches mm	lb kg
1/2	0.840 21.3	1.25 32	1.25 32	2.50 64	4.00 102	4.25 108	0.6 0.3
3/4	1.050 26.9	1.25 32	1.25 32	2.63 67	4.13 105	4.25 108	0.9 0.4
1	1.315 33.7	1.25 32	1.25 32	2.75 70	4.50 114	5.25 133	1.4 0.6
1 1/4	1.660 42.4	1.25 32	1.25 32	2.88 73	4.75 121	5.25 133	2.0 0.9
1 1/2	1.900 48.3	1.63 41	1.63 41	3.00 76	6.13 156	6.13 156	3.7 1.7
2	2.375 60.3	1.63 41	1.63 41	3.63 92	6.38 162	6.38 162	5.4 2.5

### 4.15 DIMENSIONS

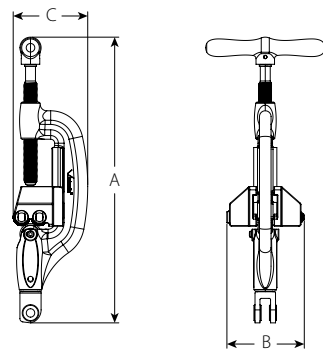
#### Series P89 Full Port Valve With Locking Handle



Size		Dimensions					Weight
Nominal inches	Actual Outside Diameter inches mm	A inches mm	B inches mm	C inches mm	L inches mm	K inches mm	Approximate (Each) lb kg
1/2	0.840	1.25	1.25	2.50	4.00	4.25	0.6
DN15	21.3	32	32	64	102	108	0.3
3/4	1.050	1.25	1.25	2.63	4.13	4.25	0.9
DN20	26.9	32	32	67	105	108	0.4
1	1.315	1.25	1.25	2.75	4.50	5.25	1.4
DN25	33.7	32	32	70	114	133	0.6
1 1/4	1.660	1.25	1.25	3.00	4.75	5.25	2.0
DN32	42.4	32	32	76	121	133	0.9
1 1/2	1.900	1.63	1.63	3.38	6.13	6.13	3.7
DN40	48.3	41	41	86	156	156	1.7
2	2.375	1.63	1.63	3.63	6.38	6.13	5.4
DN50	60.3	41	41	92	162	156	2.4

### 4.16 DIMENSIONS

#### PC3110 Cut & Mark Tool



Dimensions			Weight
A inches mm	B inches mm	C inches mm	Approx. (Each) lb kg
17.00	4.63	4.50	10.3
432	118	114	4.7

## 5.0 PERFORMANCE

### Carbon Steel – Schedules 5 through 80

Size		Carbon Steel			
		Schedule 5		Schedules 10 – 80	
Nominal inches	Actual Outside Diameter inches mm	Maximum Joint Working Pressure <sup>2</sup>	Maximum Permissible End Load <sup>2</sup>	Maximum Joint Working Pressure <sup>2</sup>	Maximum Permissible End Load <sup>2</sup>
		psi kPa	lb N	psi kPa	lb N
½	0.840	175	190	300	330
	21.3	1207	845	2068	1468
¾	1.050	175	230	300	400
	26.9	1207	1023	2068	1779
1	1.315	175	265	300	450
	33.7	1207	1178	2068	2002
1 ¼	1.660	175	380	300	650
	42.4	1207	1690	2068	2891
1 ½	1.900	175	495	300	850
	48.3	1207	2201	2068	3781
2	2.375	175	775	300	1330
	60.3	1207	3447	2068	5916

<sup>2</sup> Working Pressure and End Load are total, from all internal and external loads, based on ANSI B36.10 sized carbon steel pipe, prepared in accordance with Victaulic specifications.

**NOTE**

- WARNING: FOR ONE-TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1 ½ times the figures shown.

## 5.1 PERFORMANCE

### Aluminum – Schedule 40

Size		Aluminum – Schedule 40	
Nominal inches	Actual Outside Diameter inches mm	Maximum Joint Working Pressure <sup>3</sup>	Maximum Permissible End Load <sup>3</sup>
		psi kPa	lb N
½	0.840	+	+
	21.3		
¾	1.050	+	+
	26.9		
1	1.315	300	450
	33.7	2068	2002
1 ¼	1.660	300	650
	42.4	2068	2891
1 ½	1.900	300	850
	48.3	2068	3781
2	2.375	300	1330
	60.3	2068	5916

<sup>3</sup> Working Pressure and End Load are total, from all internal and external loads, based on 6061-T6 aluminum pipe per ASTM B241, prepared in accordance with Victaulic specifications.

+ Contact Victaulic for more details.

**NOTE**

- WARNING: FOR ONE-TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1 ½ times the figures shown.



## 5.2 PERFORMANCE

### Frictional Resistance

Size		Equivalent Lengths Based on Sched. 40 Pipe (C=120) <sup>4</sup>		
Nominal inches	Actual Outside Diameter inches mm	No. P10 90° Elbow ft m	No. P11 45° Elbow ft m	No. P20 Tee ft m
½	0.840	1.0	1.0	2.0
	21.3	0.3	0.3	0.6
¾	1.050	1.5	1.0	2.5
	26.9	0.5	0.3	0.8
1	1.315	2.0	1.5	3.0
	33.7	0.6	0.5	0.9
1 ¼	1.660	2.5	1.5	3.5
	42.4	0.8	0.5	1.1
1 ½	1.900	3.0	2.0	4.0
	48.3	0.9	0.6	1.2
2	2.375	5.0	2.0	6.0
	60.3	1.5	0.6	1.8

<sup>4</sup> Rounded to the nearest half foot.

## 5.3 PERFORMANCE

### Flow Characteristics for Series P89 Full Port Ball Valve

C<sub>v</sub>/K<sub>v</sub> values for flow of water at 60°F/16°C are shown in the table below. For additional details, contact Victaulic.

Formulas for C<sub>v</sub> and K<sub>v</sub> values:

$$\Delta P = \frac{Q^2}{C_v^2}$$

$$Q = C_v \times \sqrt{\Delta P}$$

**Where:**

Q = Flow (GPM)  
 ΔP = Pressure Drop (psi)  
 C<sub>v</sub> = Flow Coefficient

$$\Delta P = \frac{Q^2}{K_v^2}$$

$$Q = K_v \times \sqrt{\Delta P}$$

**Where:**

Q = Flow (m<sup>3</sup>/hr)  
 ΔP = Pressure Drop (Bar)  
 K<sub>v</sub> = Flow Coefficient

Size		Flow
Nominal inches	Actual Outside Diameter inches mm	C <sub>v</sub> K <sub>v</sub>
½	0.840	14.7
	21.3	12.7
¾	1.050	28.5
	26.9	24.7
1	1.315	56.3
	33.7	48.7
1 ¼	1.660	114.0
	42.4	98.6
1 ½	1.900	162.0
	48.3	140.1
2	2.375	245.0
	60.3	211.9

## 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.
- Wear safety glasses, hardhat, and foot protection.

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](#)

[AN-001: Victaulic Application Notification: Potential Incompatibility of Type F Pipe, Sizes NPS 2" | DN50 and Smaller](#)

[I-ENDCAP: Victaulic End Cap Installation Safety Instructions](#)

[I-IMPACT: Victaulic Impact Tool Usage Guidelines](#)

[I-P100: Victaulic Field Installation Handbook](#)

[TM-PC3110: Victaulic PC3110 Cut & Mark Tool Operating and Maintenance Instructions Manual](#)

### 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

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### 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).

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