

# Stainless Steel Pipe System

## Vic-Press™ for Schedule 10S Type 304/304L Stainless Steel



18.12



The Victaulic® PFT510 tool is the only press tool approved for use on the Vic-Press™ for Schedule 10S System.

### 1.0 PRODUCT DESCRIPTION

#### Available Sizes:

- ½ – 2"/DN15 – DN50

#### Maximum Working Pressure:

- Accommodates pressures ranging from full vacuum (29.9 in Hg/760 mm Hg) up to 500 psi/3447 kPa
- Rated up to 300 psi when used with Schedule 5S pipe
- FM Approved to 300 psi/2068 kPa

#### Application:

- Joins ASTM A312 Schedule 10S Types 304/304L stainless steel pipe
- Recommended on services conveying water, hydrocarbons, water/hydrocarbon mixtures, air (wet/dry/with oil vapors), other gases, vegetable and mineral oils, as well as automotive fluids such as engine oil and transmission fluid within the temperature range of -30°F to +300°F/-34°C to +149°C, depending on service and seal material selected.

#### Pipe Materials:

- Standard ASTM A312 Schedule 10S Types 304/304L stainless steel pipe

#### Codes and Requirements:

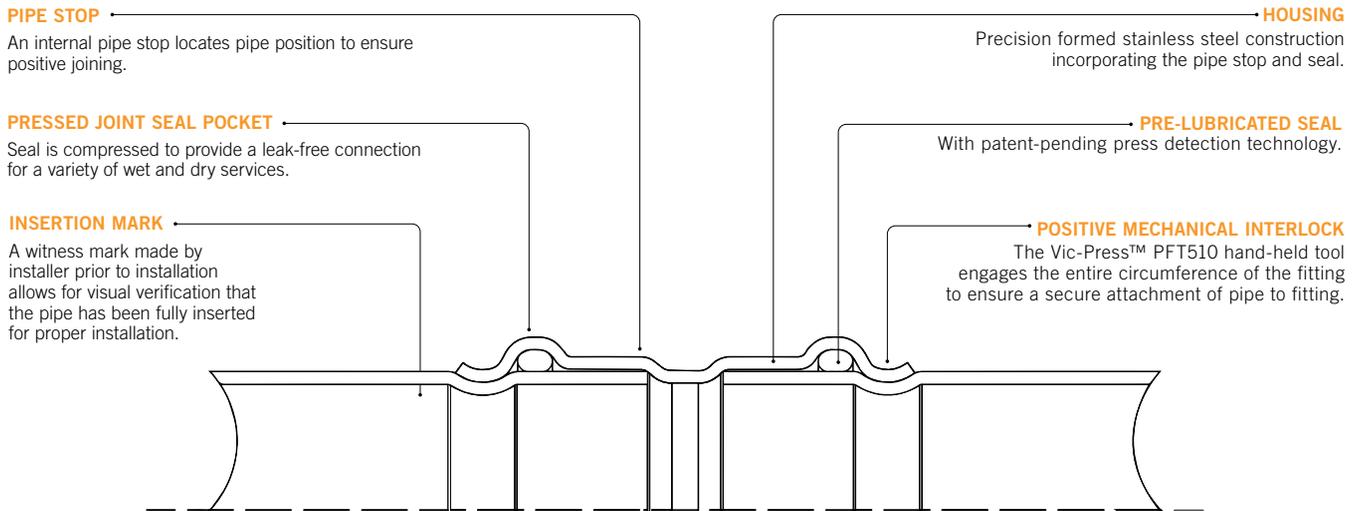
- Support hanger spacing corresponds to ASME B31.1 Power Piping Code, ASME B31.3 Process Piping, and ASME B31.9 Building Services Piping Code
- Meets ASME requirements for ANSI Class 150 systems for water, oil, gases and general chemical services
- Meets the requirements of ASME B31.1, B31.3 and B31.9 for Schedule 10S systems
- Request publications [18.16](#), [18.17](#) and [18.18](#) for details.

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



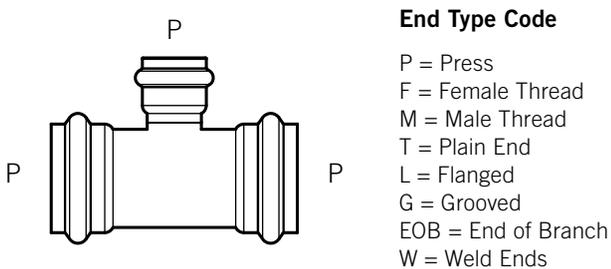
## 1.1 PRODUCT DESCRIPTION

### Vic-Press™ Joining System for Schedule 10S Type 304/304L Stainless Steel Pipe



### Dimensional Information

- Products in the Vic-Press™ for Schedule 10S system for Type 304/304L stainless steel have unique center-to-end or end-to-end dimensions which incorporate specific, “takeout” dimensions for easy fabrication calculations.
- Use of threaded products employing special features such as probes, escutcheon cups, etc., should be checked to be certain the thread standard and length of insertion are compatible with fitting dimensions.
- Failure to verify dimensional suitability in advance may result in difficulties in assembly.



## 2.0 CERTIFICATION/LISTINGS



### NOTE

- See publication [publication 02.06](#): Victaulic Potable Water Approvals ANSI/NSF for potable water approvals if applicable.
- For complete information on Maritime approvals, visit <https://www.victaulic.com/maritime-approvals/>

### 3.0 SPECIFICATIONS - MATERIAL

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**Housing:** Made from Type 304L stainless steel.

**Threaded Outlets:** Made from stainless steel bar or stainless steel pipe conforming to ASTM A312, Type 304L.

**Plain End or Grooved End Products:** Stainless steel pipe conforming to ASTM A312, Type 304L.

**Style P595 Flange Adapter:** ANSI Class 150 or AS 2129 Table E, Type 316L raised face one-piece Type 304L stainless steel flange adapter.

**Style P565 Van Stone Flange Adapter:** ANSI Class 150 or AS 2129 Table E, carbon steel raised face slip on flange with Type 304 stainless steel stub end.

**Style P594 Concentric Reducer:** Reducer body made from Type 304 stainless steel, press ends made from Type 304L stainless steel.

#### Seal:

##### Victaulic Grade "H" HNBR

HNBR (Two orange stripes color code). Temperature range -20°F to +210°F/-29°C to +98°C. May be specified for hot petroleum/water mixtures, hydrocarbons, air with oil vapors, vegetable and mineral oils, engine oil, transmission oil. UL Classified in accordance with ANSI/NSF 61 for cold +73°F/+23°C and hot +180°F/+82°C potable water service and ANSI/NSF 372.

#### Optional Seal: (specify choice<sup>1</sup>)

##### Victaulic Grade "E" EPDM

EPDM (Green stripe color code). Temperature range -30°F to +250°F/-34°C to +121°C. May be specified for hot water service, dilute acids, oil-free air, chemical services. UL Classified in accordance with ANSI/NSF 61 for cold +73°F/+23°C and hot +180°F/+82°C potable water service and ANSI/NSF 372. **NOT COMPATIBLE FOR USE WITH PETROLEUM OR STEAM SERVICES.**

##### Victaulic 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 OR STEAM SERVICES.**

#### Others

For alternate gasket selection, reference [publication 05.01](#): Victaulic Seal Selection Guide - Elastomeric Seal Construction.

<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.

#### NOTE

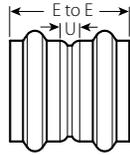
- Vic-Press™ for Schedule 10S seals are pre-lubricated to further simplify the installation process. To maintain the integrity of the lubrication, components are shipped in factory sealed bags and should remain bagged until ready for use. For more information regarding the lubricant used, please refer to [publication 05.07](#).

## 4.0 DIMENSIONS

### Standard Coupling

Style P597 (P x P)

Working Pressure: 500psi/3447 kPa



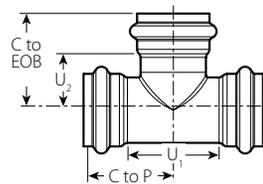
Style P597

Size		Dimensions		Weight
Nominal inches DN	Actual Outside Diameter inches mm	E to E inches mm	U Takeout inches mm	Approximate (Each) lb kg
½ DN15	0.840 21.3	2.78 70.6	0.65 16.5	0.2 0.1
¾ DN20	1.050 26.7	2.78 70.6	0.65 16.5	0.3 0.1
1 DN25	1.315 33.4	3.11 79.0	0.73 18.5	0.5 0.2
1 ½ DN40	1.900 48.3	3.48 88.4	0.72 18.3	0.7 0.3
2 DN50	2.375 60.3	3.96 100.6	0.71 18.0	1.0 0.5

### Tee

Style P592 (P x P x P)

Working Pressure: 500psi/3447 kPa



Style P592

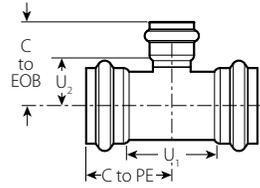
Size		Dimensions				Weight
Nominal inches DN	Actual Outside Diameter inches mm	C to P inches mm	U <sub>1</sub> Takeout inches mm	C to EOB inches mm	U <sub>2</sub> Takeout inches mm	Approximate (Each) lb kg
½ DN15	0.840 21.3	1.71 43.4	1.29 32.8	1.91 48.5	0.84 21.3	0.4 0.2
¾ DN20	1.050 26.7	2.01 51.1	1.89 48.0	1.93 49.0	0.87 22.1	0.5 0.2
1 DN25	1.315 33.4	2.27 57.7	2.17 55.1	2.24 56.9	1.05 26.7	0.9 0.4
1 ½ DN40	1.900 48.3	2.72 69.1	2.68 68.1	2.74 69.6	1.37 34.8	1.5 0.7
2 DN50	2.375 60.3	3.21 81.5	3.17 80.5	3.36 85.3	1.73 43.9	2.1 1.0

## 4.1 DIMENSIONS

### Tee with Reducing Branch

Style P593 (P x P x P)

Working Pressure: 500psi/3447 kPa



Style P593

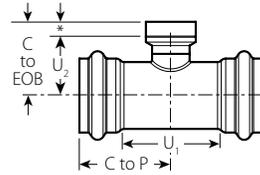
Size			Dimensions				Weight					
Nominal inches DN		Actual Outside Diameter inches mm	C to P inches mm	U <sub>1</sub> Takeout inches mm	C to EOB inches mm	U <sub>2</sub> Takeout inches mm	Approximate (Each) lb kg					
¾ DN20	x	¾ DN20	x	½ DN15	1.050	1.050	0.840	2.01	1.89	2.01	0.95	0.5
					26.7	26.7	21.3	51.1	48.0	51.1	24.1	0.2
1 DN25	x	1 DN25	x	½ DN15	1.315	1.315	0.840	2.27	2.17	2.14	1.08	0.8
					33.4	33.4	21.3	57.7	55.1	54.4	27.4	0.4
								1.050	2.17	2.07	1.00	0.8
		¾ DN20			26.7	57.7	55.1	52.6	25.4	0.4		
1 ½ DN40	x	1 ½ DN40	x	½ DN15	1.900	1.900	0.840	2.72	2.69	2.44	1.17	1.2
					48.3	48.3	21.3	69.1	68.3	62.0	29.7	0.5
								1.050	2.69	2.36	1.29	1.3
								26.7	68.3	59.9	32.8	0.6
							1 DN25			1.315	2.69	2.53
					33.4	68.3	64.3	34.0	0.6			
2 DN50	x	2 DN50	x	½ DN15	2.375	2.375	0.840	3.21	3.16	2.67	1.61	1.7
					60.3	60.3	21.3	81.5	80.3	67.8	40.9	0.8
								1.050	3.16	2.60	1.53	1.7
								26.7	80.3	66.0	38.9	0.8
							1 DN25			1.315	3.16	2.77
					33.4	81.5	80.3	70.4	40.1	0.8		
		1 ½ DN40			1.900	3.21	3.16	2.98	1.60	2.0		
					48.3	81.5	80.3	75.7	40.6	0.9		

## 4.2 DIMENSIONS

### Tee with Threaded Branch<sup>2</sup>

Style P588 (P x P x F)

Working Pressure: 500psi/3447 kPa



Style P588

\*Length of effective thread

Size			Dimensions				Weight					
Nominal inches DN		Actual Outside Diameter inches mm	C to P inches mm	U <sub>1</sub> Takeout inches mm	C to EOB inches mm	U <sub>2</sub> Takeout inches mm	Approximate (Each) lb kg					
1/2 DN15	x	1/2 DN15	x	1/2 DN15	0.840	0.840	0.840	1.71	1.29	1.46	0.93	0.4
					21.3	21.3	21.3	43.4	32.8	37.1	23.6	0.2
3/4 DN20	x	3/4 DN20	x	1/2 DN15	1.050	1.050	0.840	2.01	1.89	1.57	1.04	0.5
					26.7	26.7	21.3	51.1	48.0	39.9	26.4	0.2
				3/4 DN20	1.050	1.050	0.840	2.01	1.89	1.56	1.02	0.6
					26.7	26.7	21.3	51.1	48.0	39.6	25.9	0.3
1 DN25	x	1 DN25	x	1/2 DN15	1.315	1.315	0.840	2.27	2.17	1.70	1.17	0.9
					33.4	33.4	21.3	57.7	55.1	43.2	29.7	0.4
				3/4 DN20	1.050	1.050	0.840	2.27	2.17	1.70	1.15	0.9
					26.7	26.7	21.3	57.7	55.1	43.2	29.2	0.4
1 1/2 DN40	x	1 1/2 DN40	x	1/2 DN15	1.900	1.900	0.840	2.72	2.68	1.99	1.46	1.4
					48.3	48.3	21.3	69.1	68.1	50.5	37.1	0.6
				3/4 DN20	1.050	1.050	0.840	2.72	2.68	1.99	1.44	1.5
					26.7	26.7	21.3	69.1	68.1	50.5	36.6	0.7
2 DN50	x	2 DN50	x	1/2 DN15	2.375	2.375	0.840	3.21	3.17	2.23	1.70	1.7
					60.3	60.3	21.3	85.1	80.5	56.6	43.2	0.8
				3/4 DN20	1.050	1.050	0.840	3.21	3.17	2.23	1.68	1.7
					26.7	26.7	21.3	85.1	80.5	56.6	42.7	0.8
1 DN25	x	1 DN25	x	1.315	1.315	0.840	3.21	3.17	2.36	1.68	2.0	
				33.4	33.4	21.3	85.1	80.5	59.9	42.7	0.9	

<sup>2</sup> Available with British Standard Pipe Threads. Specify BSPT on order.

### 4.3 DIMENSIONS

#### Elbows

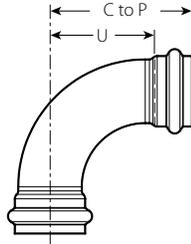
**Style P586** 90° Elbow (P x P)

**Style P542** 90° Street Elbow (P x T)

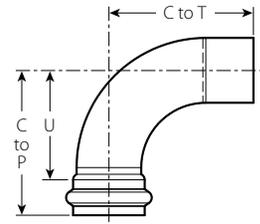
**Style P591** 45° Elbow (P x P)

**Style P543** 45° Street Elbow (P x T)

**Working Pressure:** 500 psi/3447 kPa

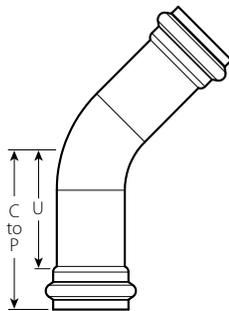


Style P586

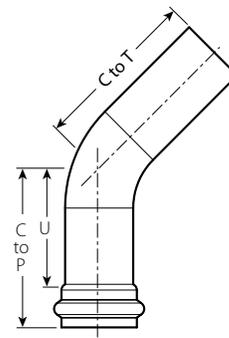


Style P542

Size		Style P586 90° Elbow			Style P542 90° Street Elbow			
Nominal	Actual Outside Diameter	C to P	U	Approx. Weight (Each)	C to P	U	C to T	Approx. Weight (Each)
inches DN	inches mm	inches mm	inches mm	lb kg	inches mm	inches mm	inches mm	lb kg
1/2 DN15	0.840 21.3	2.64 67.1	1.53 38.9	0.3 0.1	2.64 67.1	1.53 38.9	3.04 77.2	0.3 0.1
3/4 DN20	1.050 26.7	2.95 74.9	1.89 48.0	0.4 0.2	2.95 74.9	1.89 48.0	3.35 85.1	0.4 0.2
1 DN25	1.315 33.4	3.52 89.4	2.33 59.2	0.8 0.4	3.52 89.4	2.33 59.2	4.32 109.7	0.7 0.3
1 1/2 DN40	1.900 48.3	4.55 115.6	3.18 80.8	1.4 0.6	4.55 115.6	3.18 80.8	4.55 115.6	1.4 0.6
2 DN50	2.375 60.3	5.52 140.2	3.90 99.1	2.0 0.9	5.52 140.2	3.90 99.1	5.52 140.2	2.0 0.9



Style P591



Style P543

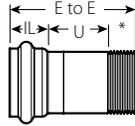
Size		Style P591 45° Elbow			Style P543 45° Street Elbow			
Nominal	Actual Outside Diameter	C to P	U	Approx. Weight (Each)	C to P	U	C to T	Approx. Weight (Each)
inches DN	inches mm	inches mm	inches mm	lb kg	inches mm	inches mm	inches mm	lb kg
1/2 DN15	0.840 21.3	1.89 48.0	0.83 21.1	0.2 0.1	1.89 48.0	0.83 21.1	1.89 48.0	0.2 0.1
3/4 DN20	1.050 26.7	2.56 65.0	1.50 38.1	0.4 0.2	2.56 65.0	1.50 38.1	2.56 65.0	0.4 0.2
1 DN25	1.315 33.4	3.27 83.1	2.09 53.1	0.8 0.4	3.27 83.1	2.09 53.1	3.27 83.1	0.8 0.4
1 1/2 DN40	1.900 48.3	4.96 126.0	3.59 91.2	1.7 0.8	4.96 126.0	3.59 91.2	4.96 126.0	1.7 0.8
2 DN50	2.375 60.3	5.84 148.3	4.22 107.2	2.5 1.1	5.84 148.3	4.22 107.2	5.84 148.3	2.5 1.1

## 4.4 DIMENSIONS

### Male Threaded Adapter<sup>2</sup>

Style P596 (P x M)

Working Pressure: 500 psi/3447 kPa



\*Length of effective thread

Style P596

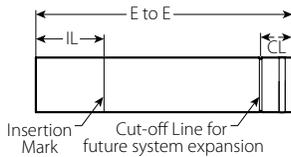
Size		Dimensions				Weight
Nominal inches DN	Actual Outside Diameter inches mm	E to E inches mm	U Takeout inches mm	IL Insertion Length inches mm	Approx. (Each) lb kg	
1/2 DN15	0.840 21.3	0.840 21.3	3.93 99.8	2.32 58.9	1.06 26.9	0.3 0.1
3/4 DN20	1.050 26.7	0.840 21.3	3.34 84.8	1.75 44.5	1.06 26.9	0.4 0.2
		1.050 26.7	3.85 97.8	2.22 56.4	1.06 26.9	0.4 0.2
		1.315 33.4	3.34 84.8	1.60 40.6	1.06 26.9	0.5 0.2
1 DN25	1.315 33.4	1.050 26.7	3.50 88.9	1.77 45.0	1.19 30.2	0.5 0.2
		1.315 33.4	4.19 106.4	2.32 58.9	1.19 30.2	0.6 0.3
1 1/2 DN40	1.900 48.3	1.050 26.7	3.65 92.7	1.73 43.9	1.38 35.1	0.8 0.4
		1.900 48.3	4.38 111.3	2.28 57.9	1.38 35.1	1.0 0.5
2 DN50	2.375 60.3	2.375 60.3	4.86 123.4	2.46 62.5	1.63 41.4	1.4 0.6

<sup>2</sup> Available with British Standard Pipe Threads. Specify BSPT on order.

### End Cap

Style P540

Working Pressure: 500 psi/3447 kPa



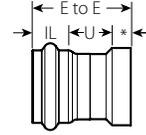
Style P540

Size		Dimensions			Weight
Nominal inches DN	Actual Outside Diameter inches mm	E to E inches mm	IL Insertion Length inches mm	CL Cut-off Line	Approx. (Each) lb kg
1/2 DN15	0.840 21.3	4.00 101.60	1.06 26.9	0.5 12.7	0.24 0.11
3/4 DN20	1.050 26.7	4.00 101.60	1.06 26.9	0.5 12.7	0.30 0.14
		4.38 111.25	1.19 30.2	0.5 12.7	0.54 0.24
1 DN25	1.315 33.4	4.75 120.65	1.38 35.1	0.5 12.7	0.87 0.39
		5.25 133.35	1.63 41.4	0.5 12.7	1.22 0.55

### Female Threaded Adapter<sup>2</sup>

Style P599 (P x F)

Working Pressure: 500 psi/3447 kPa



\*Length of effective thread

Style P599

Size		Dimensions			Weight	
Nominal inches DN	Actual Outside Diameter inches mm	E to E inches mm	U Takeout inches mm	IL Insertion Length inches mm	Approx. (Each) lb kg	
1/2 DN15	0.840 21.3	0.840 21.3	2.39 60.7	0.79 20.1	1.06 26.9	0.3 0.1
3/4 DN20	1.050 26.7	0.840 21.3	2.31 58.7	0.71 18.0	1.06 26.9	0.3 0.1
		1.050 26.7	2.31 58.7	0.79 20.1	1.06 26.9	0.4 0.2
		1.315 33.4	2.47 62.7	0.75 19.1	1.19 30.2	0.7 0.3
1 DN25	1.315 33.4	0.840 21.3	2.47 62.7	0.73 18.5	1.19 30.2	0.6 0.3
		1.315 33.4	2.60 66.0	0.88 22.4	1.19 30.2	0.6 0.3
1 1/2 DN40	1.900 48.3	1.315 33.4	2.92 74.2	0.91 23.1	1.38 35.1	1.0 0.5
		1.660 42.4	2.92 74.2	0.86 21.8	1.38 35.1	0.8 0.4
		1.900 48.3	2.92 74.2	0.86 21.8	1.38 35.1	1.0 0.5
2 DN50	2.375 60.3	1.660 42.4	3.57 90.7	1.24 31.5	1.63 41.4	1.1 0.5
		1.900 48.3	3.57 90.7	1.24 31.5	1.63 41.4	1.3 0.6
		2.375 60.3	3.57 90.7	1.24 31.5	1.63 41.4	1.2 0.5

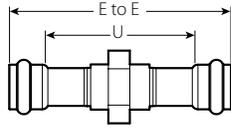
<sup>2</sup> Available with British Standard Pipe Threads. Specify BSPT on order.

## 4.5 DIMENSIONS

### Threaded Union

**Style P584** (P x P)

**Working Pressure:** 500 psi/3447 kPa



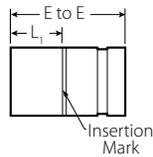
Style P584

Size		Dimensions		Weight
Nominal	Actual Outside Diameter	E to E	U Takeout	Approx. (Each)
inches DN	inches mm	inches mm	inches mm	lb kg
½	0.840	7.50	5.37	3.0
DN15	21.3	190.5	136.4	1.4
¾	1.050	7.37	5.24	3.7
DN20	26.7	187.2	133.1	1.7
1	1.315	7.59	5.21	4.3
DN25	33.4	192.8	132.3	2.0
1½	1.900	8.36	5.61	6.0
DN40	48.3	212.3	142.5	2.7
2	2.375	8.01	4.76	6.8
DN50	60.3	203.5	120.9	3.1

### Transition Nipple

**Style P587** (G x T)

**Working Pressure:** 500 psi/3447 kPa



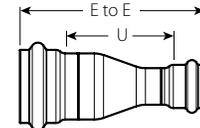
Style P587

Size		Dimensions		Weight
Nominal	Actual Outside Diameter	E to E	L1 Minimum	Approx. (Each)
inches DN	inches mm	inches mm	inches mm	lb kg
¾	1.050	4.00	1.06	0.3
DN20	26.7	101.6	26.9	0.1
1	1.315	4.00	1.19	0.5
DN25	33.4	101.6	30.2	0.2
1½	1.900	4.00	1.38	0.7
DN40	48.3	101.6	35.1	0.3
2	2.375	4.00	1.63	0.9
DN50	60.3	101.6	41.4	0.4

### Concentric Reducer

**Style P594** (P x P)

**Working Pressure:** 500 psi/3447 kPa



Style P594

Size		Dimensions		Weight
Nominal	Actual Outside Diameter	E to E	U Takeout	Approx. (Each)
inches DN	inches mm	inches mm	inches mm	lb kg
¾ x ½	1.050 x 0.840	4.25	2.13	0.5
DN20 x DN15	26.7 x 21.3	108.0	54.1	0.2
1 x ½	1.315 x 0.840	4.92	2.67	0.6
DN25 x DN15	33.4 x 21.3	125.0	67.8	0.3
¾	1.050	4.84	2.59	0.7
DN20	26.7	122.9	65.8	0.3
1½ x ½	1.900 x 0.840	5.57	3.13	0.9
DN40 x DN15	48.3 x 21.3	141.5	79.5	0.4
¾	1.050	5.49	3.06	1.0
DN20	26.7	139.4	77.7	0.5
1	1.315	5.66	3.09	1.1
DN25	33.4	143.8	78.5	0.5
2 x ½	2.375 x 0.840	6.52	3.84	1.2
DN50 x DN15	60.3 x 21.3	165.6	97.5	0.5
¾	1.050	6.44	3.76	1.3
DN20	26.7	163.6	95.5	0.6
1	1.315	6.60	3.79	1.4
DN25	33.4	167.6	96.3	0.6
1½	1.900	6.75	3.76	1.6
DN40	48.3	171.5	95.5	0.7

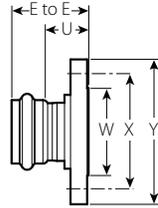
## 4.6 DIMENSIONS

### Flange Adapter

Raised face one-piece 304L stainless steel flange adapter

**Style P595** (P x L)

**Working Pressure:** 275 psi/1896 kPa



Style P595

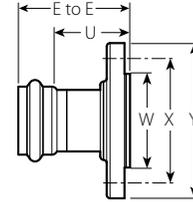
ANSI Class 150 Flange Adapter							
Size		Dimensions					Weight
Nominal	Actual Outside Diameter	E to E	W	X	Y	U Takeout	Approx. (Each)
inches	inches	inches	inches	inches	inches	inches	lb
DN	mm	mm	mm	mm	mm	mm	kg
½	0.840	3.46	1.38	2.38	3.50	2.39	2.2
DN15	21.3	87.9	35.0	60.5	88.9	60.7	1.0
¾	1.050	3.34	1.69	2.75	3.88	2.27	2.3
DN20	26.7	84.8	42.9	69.9	98.6	57.7	1.0
1	1.315	3.46	2.00	3.12	4.25	2.27	2.8
DN25	33.4	87.9	50.8	79.3	108.0	57.7	1.3
1½	1.900	3.45	2.88	3.88	5.00	2.07	3.6
DN40	48.3	87.6	73.2	98.6	127.0	52.3	1.6
2	2.375	3.42	3.62	4.75	6.00	1.79	5.8
DN50	60.3	86.9	92.0	120.7	152.4	45.5	2.6

### Van Stone Flange Adapter<sup>3</sup>

Carbon steel raised face slip on flange, with 304 stainless steel stub end

**Style P565** (P x L)

**Working Pressure:** 275 psi/1896 kPa



Style P565

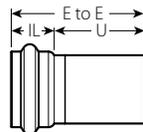
Size		Dimensions					Weight
Nominal	Actual Outside Diameter	E to E	W	X	Y	U Takeout	Approx. (Each)
inches	inches	inches	inches	inches	inches	inches	lb
DN	mm	mm	mm	mm	mm	mm	kg
½	0.840	3.37	1.38	2.38	3.50	2.30	2.4
DN15	21.3	85.6	35.0	60.5	88.9	58.4	1.1
¾	1.050	3.29	1.69	2.75	3.88	2.22	2.5
DN20	26.7	83.6	42.9	69.9	98.6	56.4	1.1
1	1.315	3.45	2.00	3.12	4.25	2.26	3.0
DN25	33.4	87.6	50.8	79.3	108.0	57.4	1.4
1½	1.900	3.61	2.88	3.88	5.00	2.22	4.1
DN40	48.3	91.7	73.2	98.6	127.0	56.4	1.9
2	2.375	4.55	3.62	4.75	6.00	2.92	6.8
DN50	60.3	115.6	92.0	120.7	152.4	74.2	3.1

<sup>3</sup> Not approved for use in maritime services.

### Weld Adapter

**Style P561** (P x W)

**Working Pressure:** 500 psi/3447 kPa



Style P561

Size		Dimensions			Weight
Nominal	Actual Outside Diameter	E to E	U Takeout	IL Insert Length	Approx. (Each)
inches	inches	inches	inches	inches	lb
DN	mm	mm	mm	mm	kg
½	0.840	3.92	2.85	1.06	0.3
DN15	21.3	99.6	72.4	26.9	0.1
¾	1.050	3.84	2.77	1.06	0.4
DN20	26.7	97.5	70.4	26.9	0.2
1	1.315	4.18	3.00	1.19	0.6
DN25	33.4	106.2	76.2	30.2	0.3
1½	1.900	4.37	2.98	1.38	0.9
DN40	48.3	111.0	75.7	35.1	0.4
2	2.375	4.85	3.22	1.63	1.4
DN50	60.3	123.2	81.8	41.4	0.6

## 4.7 DIMENSIONS

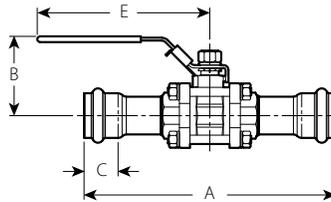
### Vic-Press™ Schedule 10S Type 316 Stainless Steel Ball Valve

#### Series P569<sup>3</sup>

**Working Pressure:** 400 psi/2758 kPa

- Series P569 Vic-Press™ for Schedule 10S System Ball Valves with Type 316 ends feature full stainless steel body and trim, rated for service up to 400 psi/2758 kPa.
- The valves are constructed of rugged Type 316 (CF8M) stainless steel with PTFE seats. The valves feature a blow-out proof stem and self-adjusting floating ball which provides uniform sealing. The full port design minimizes pressure drop for maximum flow efficiency. The three-piece swing-out design permits easy in-line maintenance.

#### Vic-Press™ for Schedule 10S x Vic-Press™ Schedule 10S (P x P)



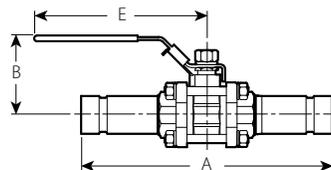
Size		Dimensions				Weight
Nominal	Actual Outside Diameter	A	B	C	E	Approximate (Each)
inches DN	inches mm	End to End inches mm	inches mm	inches mm	inches mm	lb kg
1/2 DN15	0.840 21.3	8.44 214.3	2.24 56.9	1.06 26.9	4.02 102.1	1.5 0.7
3/4 DN20	1.050 26.7	8.63 219.2	2.64 67.0	1.06 26.9	4.96 126.0	2.4 1.1
1 DN25	1.315 33.4	9.23 234.4	2.76 70.1	1.19 30.2	5.00 127.0	3.6 1.6
1 1/2 DN40	1.900 48.3	10.11 256.8	3.74 95.0	1.38 35.1	6.14 156.0	6.9 3.1
2 DN50	2.375 60.3	10.46 265.7	4.02 102.1	1.63 41.4	7.52 191.0	9.5 4.3

<sup>3</sup> Not approved for use in maritime services.

#### NOTE

- For dimensions and weights with gear operator contact Victaulic.

#### Groove x Groove (G x G)



Size		Dimensions			Weight
Nominal	Actual Outside Diameter	A	B	E	Approximate (Each)
inches DN	inches mm	End to End inches mm	inches mm	inches mm	lb kg
3/4 DN20	1.050 26.7	8.81 223.8	2.64 67.0	4.96 126.0	2.4 1.1
1 DN25	1.315 33.4	9.21 234.0	2.76 70.1	5.00 127.0	3.6 1.6
1 1/2 DN40	1.900 48.3	11.25 285.8	3.74 95.0	6.14 156.0	6.9 3.1
2 DN50	2.375 60.3	12.74 323.6	4.02 102.1	7.52 191.0	9.5 4.3

<sup>3</sup> Not approved for use in maritime services.

#### NOTE

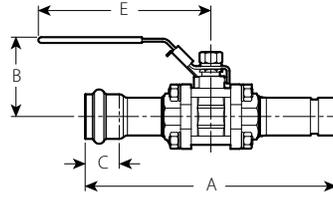
- For dimensions and weights with gear operator contact Victaulic.

## 4.8 DIMENSIONS

### Vic-Press™ Schedule 10S Type 316 Stainless Steel Ball Valve

#### Series P569<sup>3</sup>

#### Vic-Press™ Schedule 10S x Groove (P x G)



Size		Dimensions				Weight
Nominal	Actual Outside Diameter	A End to End	B	C	E	Approximate (Each)
inches DN	inches mm	inches mm	inches mm	Lbs. kg	inches mm	lb kg
3/4 DN20	1.050 26.7	8.72 221.5	2.64 67.0	1.06 26.9	4.96 126.0	2.4 1.1
1 DN25	1.315 33.4	9.21 234.0	2.76 70.1	1.19 30.2	5.00 127.0	3.6 1.6
1 1/2 DN40	1.900 48.3	10.68 271.3	3.74 95.0	1.38 35.1	6.14 156.0	6.9 3.1
2 DN50	2.375 60.3	11.60 294.6	4.02 102.1	1.63 41.4	7.52 191.0	9.5 4.3

<sup>3</sup> Not approved for use in maritime services.

**NOTE**

- For dimensions and weights with gear operator contact Victaulic.

### Series P569

**Body:** Made from Type 304L stainless steel.

**Ball:** Stainless steel, CF8M, ASTM A351

**Stem:** Stainless steel, Type 316

**Seats:** (PTFE) Polytetrafluoroethylene

**Locking Handle:** Stainless steel, Type 304

**Stem Nut:** Reducer body made from Type 304 stainless steel, press ends made from Type 304L stainless steel.

**Stem Washer:** Stainless steel, Type 304

**Stem Packing and Thrust Washer:** (PTFE) Polytetrafluoroethylene

**Bolt/Nut/Washer:** Stainless steel, Type 304

**Cap:** Stainless steel, CF8M, ASTM A351

**Extended Ends:** Schedule 10S stainless steel, Type 316

**Specify end style:**

- Vic-Press™ Schedule 10S x Vic-Press™ Schedule 10S (P x P)
- Grooved End (G x G)
- Vic-Press™ Schedule 10S x Grooved End (P x G)

## 5.0 PERFORMANCE

### Flow Characteristics

- Flow testing for the Vic-Press™ Series P569 3-Piece Ball Valve demonstrated superior flow characteristics.
- Testing was performed in our own engineering laboratory facilities with systems and equipment calibrated to National Bureau of Standards.
- CV/KV values for flow of water at +60°F/+16°C with a fully open valve are shown in tables below.

#### Formulas for C<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

#### Formulas for K<sub>v</sub> Values:

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

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

**Where:**

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

Valve Size		Full Open
Nominal inches DN	Actual Outside Diameter inches mm	Flow Coefficient C <sub>v</sub> K <sub>v</sub>
½ DN15	0.840 21.3	10 9
¾ DN20	1.050 26.7	17 14
1 DN25	1.315 33.4	45 39
1½ DN40	1.900 48.3	125 107
2 DN50	2.375 60.3	365 314

### Series P569 Repair Kits

- Kits and replacement parts are available for the Series P569 valve.
- The Repair Kit consists of two seats, two gaskets, one stem seal and one thrust washer, all made of PTFE.
- For replacement stem information, contact Victaulic.

Size		Repair Kit
Nominal inches DN	Actual Outside Diameter inches mm	Part No.
½ DN15	0.840 21.3	K-004-569-0P2
¾ DN20	1.050 26.7	K-006-569-0P2
1 DN25	1.315 33.4	K-010-569-0P2
1½ DN40	1.900 48.3	K-014-569-0P2
2 DN50	2.375 60.3	K-020-569-0P2

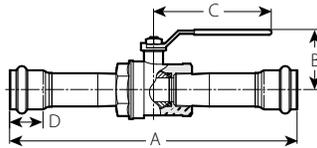
## 5.1 PERFORMANCE

### Vic-Press™ Brass Body Ball Valve with Stainless Steel Vic-Press™ Schedule 10S Ends

#### Series P589<sup>3</sup> (P x P)

**Working Pressure:** 300 psi/2068 kPa

- Series P589 Ball Valve is a full port valve with Vic-Press™ Schedule 10S ends for fast, easy installation. The valve, with Vic-Press™ Schedule 10S ends, is designed for service to 300 psi/ 2068 kPa.
- The valve body is constructed from forged brass. The ball is chrome plated brass and seals on PTFE seats. A hollow ball design eliminates unnecessary weight while maintaining flow and mechanical strength. PTFE seats and washers reduce the friction coefficient which eases valve operation.



Size		Dimensions				Weight	Flow Coefficient (Fully Open)
Nominal	Actual Outside Diameter	A ± 0.125 3.18	B	C	D	Approximate (Each)	Cv Values Kv Values
inches DN	inches mm	inches mm	inches mm	inches mm	inches mm	lb kg	
1/2 DN15	0.840 21.3	9.030 229.3	1.42 36.1	3.03 77.0	1.06 26.9	1.0 0.5	11 9.4
3/4 DN20	1.050 26.7	9.120 231.7	1.90 48.3	3.74 95.0	1.06 26.9	1.6 0.7	25 21.3
1 DN25	1.315 33.4	10.11 256.7	2.05 52.1	3.74 95.0	1.19 30.2	2.8 1.3	36 30.7
1 1/2 DN40	1.900 48.3	11.18 283.9	2.76 70.1	5.40 137.2	1.38 35.1	4.7 2.1	112 95.5
2 DN50	2.375 60.3	12.69 322.3	3.15 80.0	5.40 137.2	1.63 41.4	6.9 3.1	195 166.3

<sup>3</sup> Not approved for use in maritime services.

#### NOTES

- The Vic-Press™ Schedule 10S ends are of ASTM A312 Type 304 stainless steel.
- The Series P589 Brass Body Ball Valve is NOT ANSI/NSF certified for potable water. For potable water applications use the Series P569 Stainless Steel Ball Valve.

#### Series P589

**Valve Body:** Forged Brass ASTM B30

**Ball:** Brass ASTM B30, chrome plated

**Stem:** Brass ASTM B16

**Seats:** (PTFE) Polytetrafluoroethylene

**Handle:** Carbon steel, zinc plated

**Stem Nut:** Carbon steel, zinc plated

**Stem Washer:** (PTFE) Polytetrafluoroethylene

**Extended Ends:** Schedule 10S stainless steel, Type 304

**Handle Locking Plate:** Carbon Steel, Galvanized (supplied with every valve and installed by the customer)

## 5.2 PERFORMANCE

### Pipe Support

- Piping joined with Vic-Press™ Schedule 10S System products for Type 304 stainless steel requires support to carry the weight of pipes and equipment.
- The support or hanging method must be such as to eliminate undue stresses on joints, piping and other components. Additionally, the method of support must be such as to allow movement of the pipes where required and to provide drainage, etc., as may be specified by the designer.
- The maximum hanger spacing corresponds to ASME B31.1, B31.3 or B31.9 as noted, and should be used in conjunction with Victaulic Vic-Press™ Schedule 10S System products on approved Type 304 Schedule 10S stainless steel pipe.

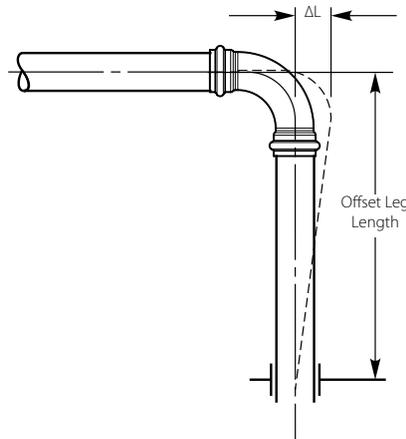
Size		Suggested Max. Span Between Supports - Feet/meters					
Nominal inches DN	Actual Outside Diameter inches mm	Water Service			Gas/Air Service		
		B31.1	B31.3	B31.9	B31.1	B31.3	B31.9
½ DN15	0.840 21.3	6.5 2.0	6.5 2.0	7.0 2.1	7.0 2.1	7.0 2.1	7.5 2.3
¾ DN20	1.050 26.7	7.5 2.3	7.5 2.3	8.5 2.6	8.0 2.4	8.0 2.4	9.0 2.7
1 DN25	1.315 33.4	8.5 2.6	8.5 2.6	10.0 3.1	9.0 2.7	9.0 2.7	10.5 3.2
1½ DN40	1.900 48.3	10.0 3.1	10.0 3.1	12.5 3.8	11.0 3.6	11.0 3.6	13.5 4.1
2 DN50	2.375 60.3	11.0 3.6	11.0 3.6	13.0 4.0	12.5 3.8	12.5 3.8	15.5 4.7

### 5.3 PERFORMANCE

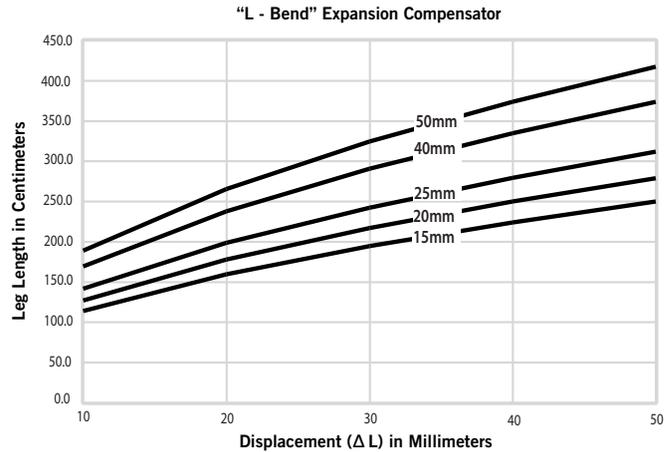
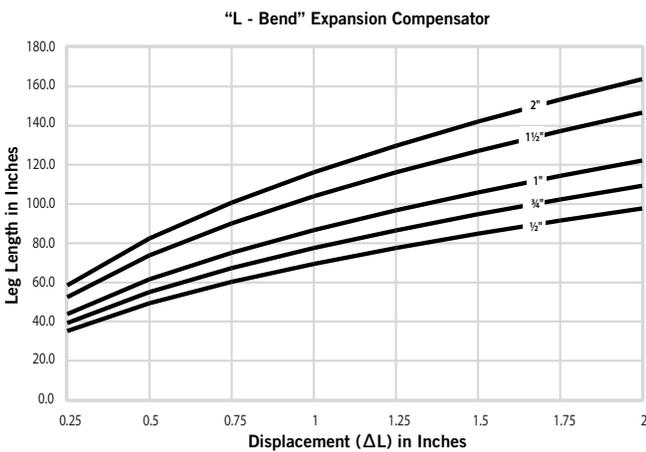
#### Thermal Expansion/Contraction

- For stainless steel pipes, expansion/contraction will occur with temperature changes at a rate of 1 1/8"/30mm per 100 feet of pipe per 100°F (96mm per 100 meters of pipe per 100°C). Piping which cannot expand or contract may create substantial stresses within the piping system resulting in damage to the piping system and/or components.
- The change in length due to thermal movement may be absorbed by the flexibility of the piping system, particularly in systems using light wall pipe. This can be done at a simple change in direction using an "L-Bend", or with an offset leg in a "Z-Bend" configuration or with a "U-Bend" (expansion loop).
- A proper design will utilize offset legs of sufficient minimum length prior to any element that will restrict movement (anchors, guides, fixed equipment connection) to minimize pipe stress. In addition, since these methods are symmetric about the offset axis, (i.e.: the expansion loop can open or close in equal amounts), the compensator needs to be sized for the greater of the thermal expansion or contraction from the installed ambient condition.

The following charts designate the minimum offset leg length for each of the aforementioned configurations were developed from the methodology found in ASHRAE Handbook – Systems and Equipment.

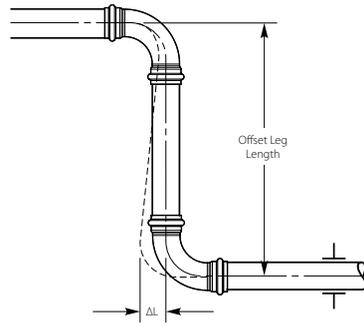


"L-Bend" Expansion Compensator  
Figure 1

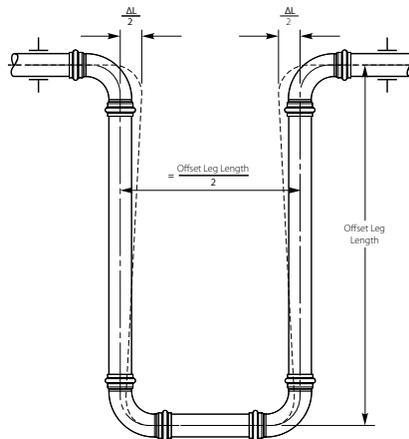
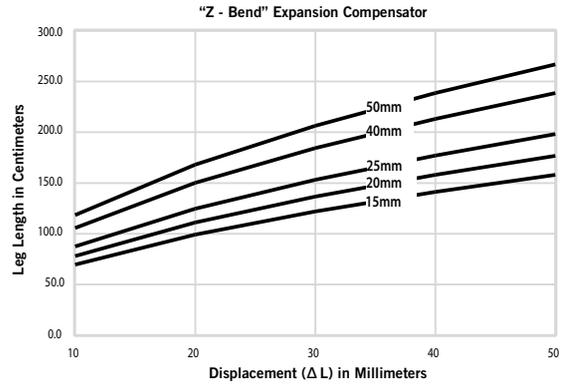
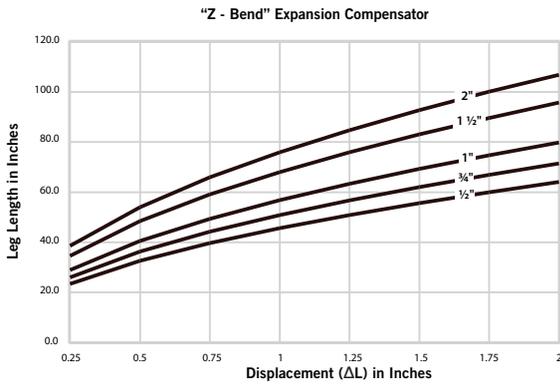


5.3 PERFORMANCE (Continued)

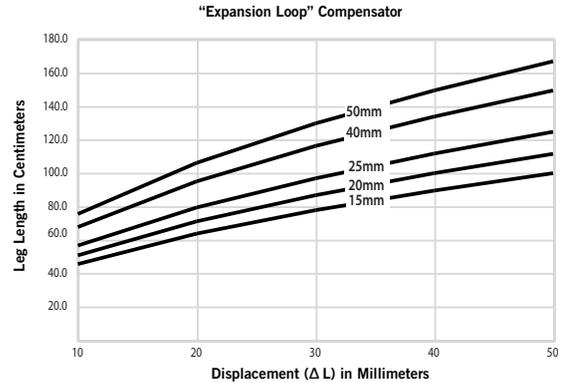
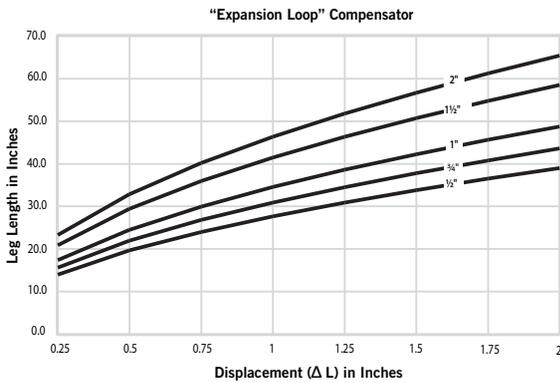
Thermal Expansion/Contraction



"Z-Bend" Expansion Compensator  
Figure 2



"U-Bend" Expansion Compensator  
Figure 3



### 5.3 PERFORMANCE (Continued)

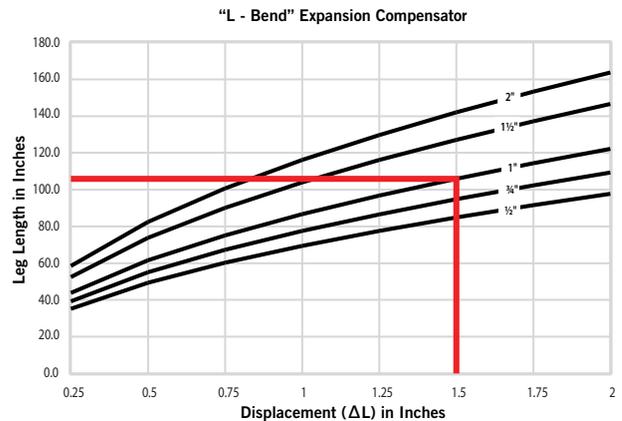
#### Thermal Expansion/Contraction

##### Examples

##### L-Bend

A 1"/25mm diameter pipeline will have thermal growth of 1.50"/40mm ( $\Delta L$ ) towards the elbow as shown in the above Figure 1. What is the minimum offset leg length from the elbow to the pipe restriction for the "L-Bend" configuration?

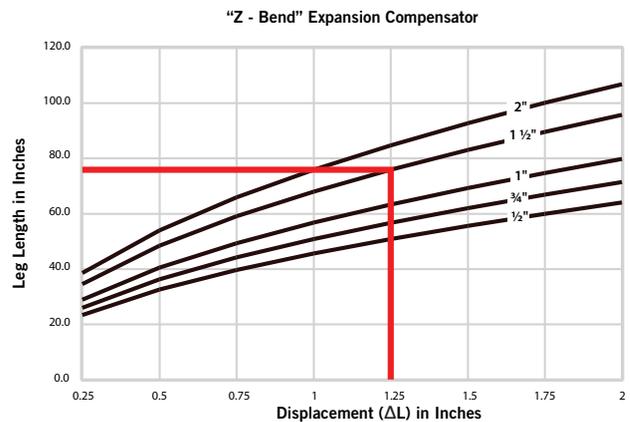
Use the "L-Bend" expansion compensator graph. Find the intersection of  $\Delta L=1.50"/40mm$  (on the horizontal axis) where it crosses the 1"/25mm pipe curve. At that point, read the "Leg Length in Inches" (on the vertical axis) to determine the minimum offset leg length from the elbow to the pipe restriction. For a thermal growth of 1.50"/40mm of 1"/25mm diameter pipe in an "L-Bend" configuration, the minimum offset leg length should be 105"/2670mm.



##### Z-Bend

A 1.50"/40mm diameter pipeline will have thermal growth of 1.25"/32mm between two opposing anchors, however, there is a perpendicular offset designed within the piping system that may be used to accommodate the thermal growth of the main run of pipe. What is the minimum offset leg length required for this "Z-Bend" configuration to accommodate the 1.25"/32mm of thermal growth?

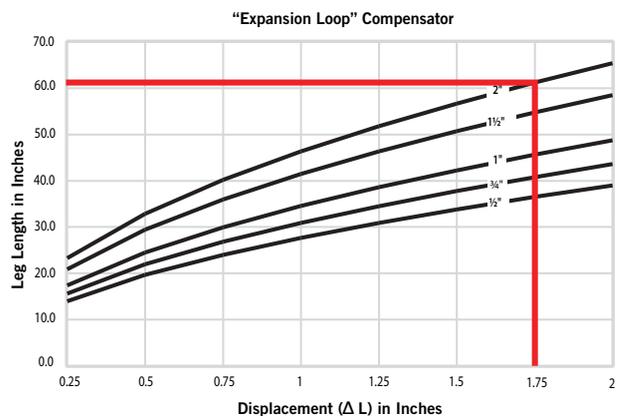
Use the "Z-Bend" expansion compensator graph. Find the intersection of  $\Delta L=1.25"/32mm$  (on the horizontal axis) where it crosses the 1.50"/40mm pipe curve. At that point, read the "Leg Length in Centimeter" (on the vertical axis) to determine the minimum offset leg length. For a thermal growth of 1.25"/32mm of 1.50"/40mm diameter pipe in a "Z-Bend" configuration, the minimum offset leg length should be 7.25"/186cm.



##### Expansion Loop

A 2"/50mm diameter pipeline will have thermal growth of 1.75"/45mm between two opposing anchors. The configuration of the system is such that there are no changes in direction; straight pipe only between the anchors. To accommodate the thermal growth an expansion loop will be required. What is the minimum offset leg length required for this expansion loop to accommodate the 1.75"/45mm of thermal growth?

Use the "Expansion Loop" compensator graph. Find the intersection of  $\Delta L=1.75"/45mm$  (on the horizontal axis) where it crosses the 2"/50mm pipe curve. At that point, read the "Leg Length in Inches" (on the vertical axis) to determine the minimum offset leg length of the expansion loop. For a thermal growth of 1.75"/45mm of 2"/50mm diameter pipe in an "L-Bend" configuration, the minimum offset leg length should be 61"/1550mm.



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## 5.4 PERFORMANCE

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### Vic-Press™ PFT510 Tool



PFT510

- The Vic-Press™ PFT510 tool is specifically designed to join Vic-Press™ components to Schedule 10S<sup>5</sup> stainless steel pipe. It can also be used for Schedule 5S pipe using Vic-Press™ components.
- Tool package includes one (1) Vic-Press™ PFT510 tool, two (2) 18V Lithium Ion batteries, one (1) battery charger, one (1) tool carrying case, one (1) jaw carrying case, one (1) ½"/15mm jaw, one (1) ¾"/20mm jaw, one (1) 1"/25mm jaw, one (1) 1½"/40mm hinged jaw, one (1) 2"/50mm hinged jaw, and one (1) adapter jaw, one (1) set of insertion gauges, one (1) cleaning brush, and one (1) marker.
- Jaws are included with every tool purchase.
- Vic-Press™ PFT510 is designed for industrial and trade use only

**Capacity:** ½"/DN15, DN¾/DN20, 1"/DN25, 1 ½"/DN40, 2"/DN50 Schedule 10S stainless steel pipe

**Power Charger Requirements:** 110 volt/60 cycle/6.5 amp

**Optional:** 220 volt

<sup>5</sup> Can also be used for Schedule 5S pipe using Vic-Press™ components.

#### NOTES

- The Vic-Press™ for Schedule 10S System is not compatible with PFT505 and/or PFT509 tools/components. The Vic-Press™ Schedule 10S System requires the use of a Vic-Press™ FT510 tool package.

## 6.0 NOTIFICATIONS

### WARNING

- Vic-Press™ for Schedule 10S products for Type 304 /304L stainless steel must only be used on services compatible with seal and fitting materials.

Incompatible services may result in leakage. Always reference the latest [Victaulic Seal Selection Guide \(05.01\)](#) for specific seal service recommendations and for a listing of services which are not recommended.

### WARNING

- It is the responsibility of designers of piping systems to verify the suitability of ASTM A312 Schedule 10S Types 304/304L stainless steel pipe for use with the intended fluid media. The fluid's chemical composition, pH level, operating temperature, chloride level, oxygen level and flow rate and their effect on ASTM A312 Types 304/304L stainless steel must be evaluated by the material specifier to confirm system life will be adequate for the intended service.

Failure to do so may cause serious personal injury or property damage.

## 7.0 REFERENCE MATERIALS

[02.06: Victaulic® Potable Water Approvals ANSI/NSF](#)

[05.01: Victaulic® Seal Selection Guide](#)

[18.11: Victaulic® Vic-Press™ for Schedule 10S Type 316 Stainless Steel](#)

[18.13: Victaulic® Vic-Press™ for Schedule 10S Qualification Test Data](#)

[18.14: Victaulic® 3 Piece Stainless Steel Ball Valve](#)

[18.16: Victaulic® Vic-Press™ for Schedule 10S ASME B31.1 Compliance](#)

[18.17: Victaulic® Vic-Press™ for Schedule 10S ASME B31.3 Compliance](#)

[18.18: Victaulic® Vic-Press™ for Schedule 10S ASME B31.9 Compliance](#)

[I-P500: Victaulic® Vic-Press™ Schedule 10S System Products](#)

[TM-PFT510: Operating and Maintenance Instruction 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, 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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