

# Fittings Dimensions in 2” through 16”

(For Bondstrand® pipe systems 3000, 3200, 3300, 3000A, 3200A and 3300A)

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**Units:** All dimensions are in U.S. Customary units (inches). Diametric dimensions are maximums. Insertion depths (X) are typical. All weights (lbs.) are approximate and assume bell-end configurations.

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**Tolerances:** Tolerance for center line to face dimensions on fittings with flange-end configurations is  $\pm 1/2$  inch. Tolerance for center line to face dimensions on fittings with bell-end configurations is  $\pm 1/2$  inch. Tolerance for angular dimensions is  $\pm 1^\circ$ .

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**Standard end configurations:** Bell end is standard configurations. All other end configurations, including size reductions, are made to order.

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**Taper angle:** Taper angle on all bell x spigot end configurations is  $1^{3/4}^\circ$  for 2 through 6 inch nominal and  $2^\circ$  for sizes 8 through 16 inch pipe sizes.

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**Manufacturing methods:** The fiberglass-reinforced epoxy resin fittings shown in this publication are manufactured by the methods as indicated - Filament winding, Compression molding, Centrifugal casting and Contact molding.

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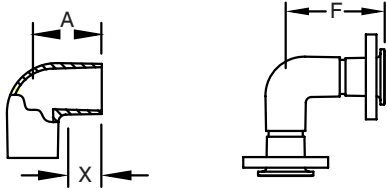
**Pressure ratings:** See the appropriate Bondstrand Product Data sheet for pressure ratings.

**Individual system components may not have the same ratings as the pipe. Refer to the detailed product information for the specific components to determine the pressure rating for the system as a whole.**

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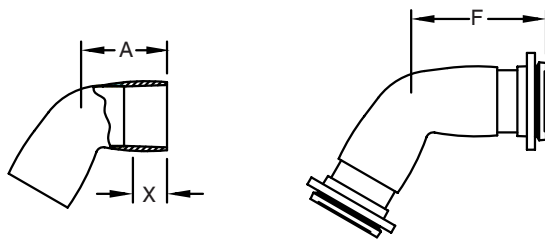
**Flange rings:** Bolt hole patterns are drilled in accordance with ANSI B16.5, Cl. 150.

## 90° Elbows



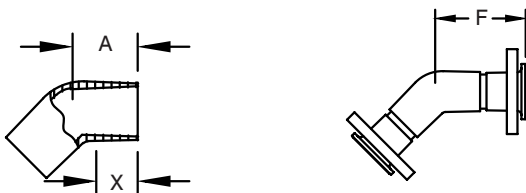
Nominal Pipe Size		Bell	Flange	Bell	BxB Wgt.
in	mm	A	F	X	
2	50	3.82	7.00	2.05	1.0
3	80	4.42	9.20	2.33	1.5
4	100	5.50	10.40	3.15	3.0
6	150	7.50	13.60	4.00	8.5
8	200	13.00	22.30	5.00	18.0
10	250	15.50	25.50	5.00	24.0
12	300	17.80	27.30	5.50	40.0
14	350	20.80	30.50	6.80	85.0
16	400	23.00	35.00	7.00	161.0

## 60° Elbows



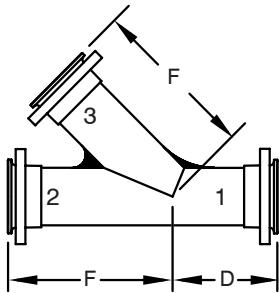
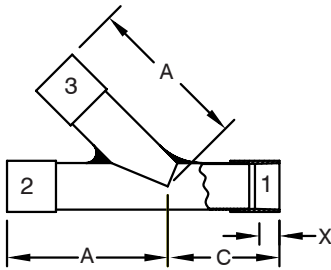
Nominal Pipe Size		Bell	Flange	Bell	BxB Wgt.
in	mm	A	F	X	
8	200	9.80	18.80	5.00	25.0
10	250	11.00	21.00	5.00	33.0
12	300	12.50	22.00	5.50	50.0
14	350	14.80	24.50	6.80	100.0
16	400	16.30	28.30	7.00	161.0

## 45° Elbows



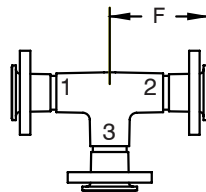
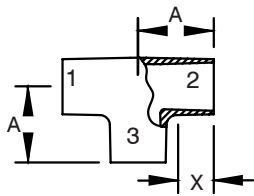
Nominal Pipe Size		Bell	Flange	Bell	BxB Wgt.
in	mm	A	F	X	
2	50	3.18	6.40	2.05	0.9
3	80	3.43	8.10	2.33	1.5
4	100	4.23	9.10	3.15	2.5
6	150	5.56	11.50	4.00	7.0
8	200	8.30	17.50	5.00	15.0
10	250	9.30	19.30	5.00	28.0
12	300	10.50	20.00	5.50	36.0
14	350	12.50	22.30	6.80	50.0
16	400	13.80	25.80	7.00	106.0

## 45° Laterals



Nominal Pipe Size		Bell	Bell	Flange	Flange	Bell	BxB Wgt.
		A	C	D	F	X	
in	mm	in	in	in	in	in	lbs.
2	50	12.31	9.81	7.62	10.12	1.80	1.7
3	80	14.16	10.66	8.26	11.76	2.13	3.5
4	100	16.44	11.94	9.48	13.98	2.44	5.4
6	150	22.95	15.95	12.27	19.27	2.69	15.8
8	200	26.00	16.00	13.00	20.50	5.00	80.0
10	250	30.00	16.00	14.00	24.50	5.00	110.0
12	300	32.50	18.50	16.00	26.00	5.50	134.0
14	350	37.50	19.50	16.50	30.00	6.80	204.0
16	400	40.50	22.50	16.50	32.50	7.00	254.0

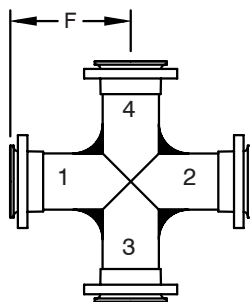
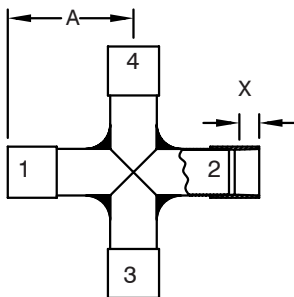
## Tees\*



Nominal Pipe Size		Bell	Flange	Bell	BxB Wgt.
		A	F	X	
in	mm	in	in	in	lbs.
2	50	3.82	7.00	2.05	1.3
3	80	4.50	9.13	2.32	2.5
4	100	5.50	10.38	3.15	4.0
6	150	7.50	13.36	4.00	12.0
8	200	13.00	22.30	5.00	67.0
10	250	15.50	25.50	5.00	92.0
12	300	17.80	27.30	5.50	112.0
14	350	20.80	30.50	6.80	170.0
16	400	23.00	35.00	7.00	212.0

The length of the reducing branch is equal to the length of the branch of the run diameter with the appropriate end configuration. Specify end configuration in the sequence: run(1), run(2), branch(3).

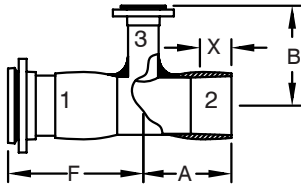
## Crosses



Nominal Pipe Size		Bell	Flange	Bell	BxB Wgt.
		A	F	X	
in	mm	in	in	in	lbs.
2	50	10.81	8.62	1.80	2.1
3	80	11.91	9.51	2.13	4.4
4	100	13.44	10.98	2.44	6.8
6	150	17.95	14.27	2.69	19.8
8	200	13.00	22.30	5.00	89.0
10	250	15.50	25.50	5.00	122.0
12	300	17.80	27.30	5.50	149.0
14	350	20.80	30.50	6.80	226.0
16	400	23.00	35.00	7.00	282.0

The length of the reducing branch is equal to the length of the branch of the run diameter with the appropriate end configuration. Specify end configuration in the sequence: run(1), run(2), branch(3), branch(4).

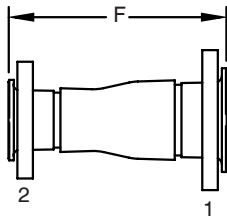
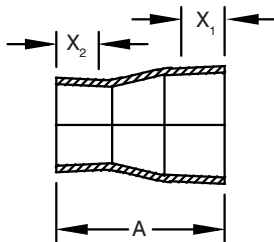
## Reducing Tees\*



Run Nominal Pipe Size		"B" Branch length for bell or Flange								Bell	Flange	Bell
		2	3	4	6	8	10	12	14	A	F	X
in	mm	in	in	in	in	in	in	in	in	in	in	in
8	200	13.00	13.50	14.80	18.80	--	--	--	--	13.00	22.30	5.0
10	250	14.30	14.80	16.00	20.00	21.50	--	--	--	15.50	25.50	5.0
12	300	15.30	15.80	17.00	21.00	22.50	25.50	--	--	17.80	27.30	5.5
14	350	16.00	16.50	17.80	21.80	23.30	26.30	28.30	--	20.80	30.50	6.8
16	400	17.00	17.50	18.80	22.80	24.30	27.30	29.30	31.30	23.00	35.00	7.0

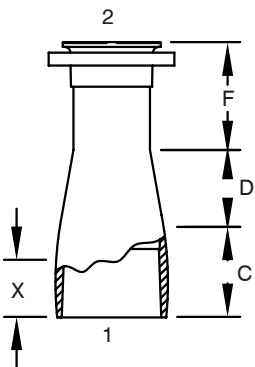
\*Specify end configurations (bell or flanges) in sequence: run(1), run(2), branch(3).

## Concentric Reducers\*



Nominal Pipe Size		Bell	Flange	Bell	Bell	BxB Wgt.
		A	F	X <sub>1</sub>	X <sub>2</sub>	
in	mm	in	in	in	in	lbs.
3x2	80x50	7.05	13.65	2.40	2.15	1.5
4x3	100x80	7.35	14.05	2.80	2.40	2.6
6x4	150x100	9.80	17.60	3.00	2.80	4.9

\*Specify end configurations (bell or flange) in the sequence: major diameter(1), minor diameter(2).

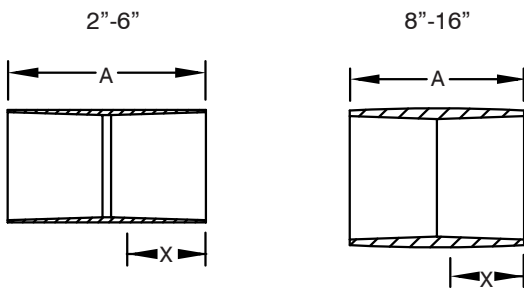


Nominal Pipe Size		Bell	Flange	Bell
		C	F	X
in	mm	in	in	in
2	50	4.30	12.50	1.80
3	80	5.00	12.50	2.13
4	100	5.80	14.50	2.44
6	150	8.00	14.50	2.69
8	200	9.00	14.50	5.0
10	250	9.00	15.50	5.0
12	300	9.60	15.50	5.5
14	350	10.50	17.00	6.8
16	400	11.30	19.50	7.0

**NOTE:** The overall length is determined by adding the two end configurations and the cone length "D".

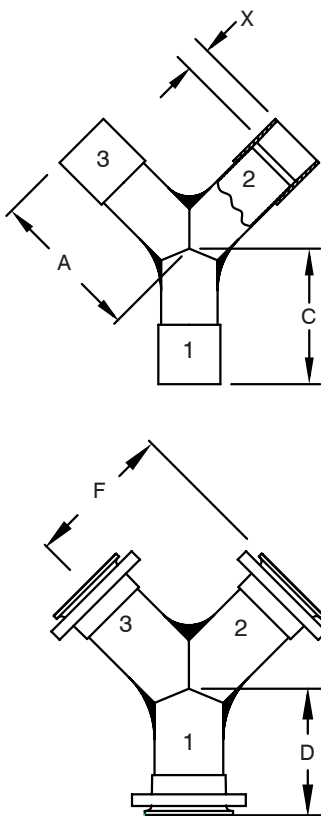
Cone length "D"										
Major Nominal Pipe Size		Minor Nominal Pipe Size								
		2	3	4	6	8	10	12	14	Wgt.
in	mm	in	in	in	in	in	in	in	in	lbs.
8	200	17.60	14.00	11.20	5.30	--	--	--	--	30
10	250	23.20	20.50	17.20	11.30	6.00	--	--	--	44
12	300	28.50	25.40	23.60	16.60	11.30	5.20	--	--	65
14	350	33.40	30.20	27.40	21.50	16.20	11.00	4.80	--	86
16	400	39.10	36.00	33.10	27.20	21.80	15.90	10.60	5.70	110

## Sleeve Couplings



Nominal Pipe Size		Bell	Bell	Wgt.
		A	X	
in	mm	in	in	lbs.
2	50	6.25	1.80	0.6
3	80	6.50	2.13	1.4
4	100	6.50	2.44	2.5
6	150	8.75	2.69	5.8
8	200	11.00	5.00	12.0
10	250	11.00	5.00	18.0
12	300	12.00	5.50	23.0
14	350	14.50	6.80	28.0
16	400	15.00	7.00	37.0

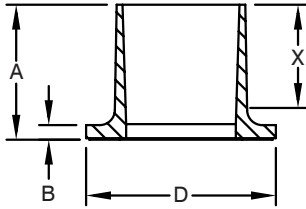
## True Wyes



Nominal Pipe Size		Bell	Bell	Bell	Flange	Flange	Flange	Bell	Wgt.
		A	B	C	D	E	F	X	
in	mm	in	in	in	in	in	in	in	lbs.
2	50	10.81	2.80	9.81	7.62	6.00	8.62	1.80	1.7
3	80	11.91	4.05	10.66	8.26	7.50	9.51	2.13	3.5
4	100	13.44	5.10	11.94	9.48	9.00	10.98	2.44	5.4
6	150	17.95	7.30	15.95	12.27	11.00	14.27	2.69	15.8
8	200	22.00	28.50	22.00	16.00	13.50	16.00	5.00	98.0
10	250	26.50	33.00	26.00	20.00	16.00	20.00	5.00	122.0
12	300	30.50	39.00	30.50	24.00	19.00	24.00	5.50	157.0
14	350	35.50	45.00	35.50	28.00	21.00	28.00	6.80	238.0
16	400	40.00	51.00	40.00	32.00	23.50	32.00	7.00	297.0

Specify end configuration in the sequence: run(1), branch(2), branch(3).

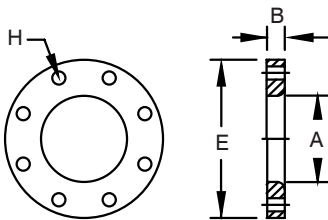
## Stub Ends<sup>(1)</sup>



Nominal Pipe Size		A	B	D	X	Wgt.
in	mm	in	in	in	in	lbs.
2	50	2.75	0.27	3.91	2.15	0.5
3	80	2.88	0.28	5.16	2.40	0.7
4	100	2.88	0.28	6.66	3.25	1.0
6	150	3.88	0.39	8.53	3.25	2.4
8	200	4.00	0.80	10.90	3.80	5.0
10	250	5.00	1.30	13.00	4.80	9.0
12	300	5.00	1.50	15.60	4.80	13.0
14	350	6.00	1.60	17.40	5.80	19.0
16	400	6.00	1.60	19.80	5.80	26.0

<sup>(1)</sup> 300 psig rating only available up to 12" diameter; 14" & 16" are limited to 200 psig rating.

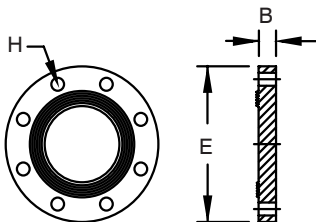
## Flange Rings



Nominal Pipe Size		A	B	E	H	Bolt-Holes	Wgt.
in	mm	in	in	in	in	#	lbs.
2	50	2.78	0.82	6.00	0.75	4	1.0
3	80	3.90	1.10	7.50	0.75	4	1.6
4	100	4.90	1.10	9.00	0.75	8	2.5
6	150	7.26	1.25	11.00	0.88	8	4.9
8	200	10.00	1.30	13.50	0.90	8	4.0
10	250	12.20	1.30	16.00	1.00	12	5.0
12	300	14.30	1.50	19.00	1.00	12	7.0
14	350	16.30	1.60	21.00	1.10	12	8.0
16	400	18.60	1.90	23.50	1.10	16	10.0

## 3000A/3200A Blind Flanges

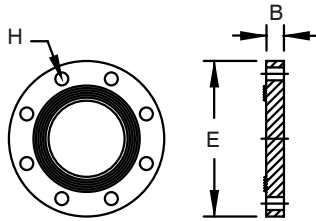
ANSI B16.5, 150 Bolt Hole configuration



Nominal Pipe Size		B	E	H	Bolt-Holes	Wgt.
in	mm	in	in	in	#	lbs.
2	50	0.75	6.00	0.75	4	0.9
3	80	1.00	7.50	0.75	4	1.9
4	100	1.00	9.00	0.75	8	2.7
6	150	1.13	11.00	0.88	8	4.7
8	200	1.80	13.50	0.90	8	11.5
10	250	2.00	16.00	1.00	12	15.9
12	300	2.40	19.00	1.00	12	25.1
14	350	2.60	21.00	1.10	12	36.2
16	400	2.80	23.50	1.10	16	49.8

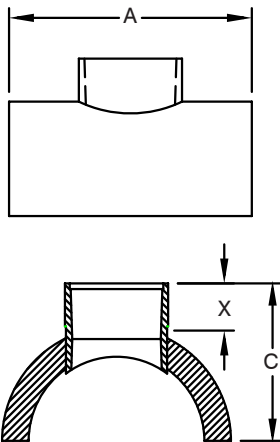
### 3300A Blind Flanges

ANSI B16.5, 150 Blot Hole configuration



Nominal Pipe Size		B	E	H	Bolt-Holes	Wgt.
in	mm	in	in	in	#	lbs.
2	50	0.75	6.00	0.75	4	0.9
3	80	1.00	7.50	0.75	4	1.9
4	100	1.00	9.00	0.75	8	2.7
6	150	1.13	11.00	0.88	8	4.7
8	200	2.00	13.50	0.90	8	17.7
10	250	2.40	16.00	1.00	12	29.5
12	300	2.70	19.00	1.00	12	47.2
14	350	3.00	21.00	1.10	12	64.4
16	400	3.10	23.50	1.10	16	85.5

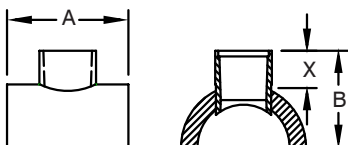
### 3000A Saddles



Minor Nominal Pipe Size		Bell	Major NPS Dimension C					Bell
		A	8	10	12	14	16	X
in	mm	in	in	in	in	in	in	in
2	50	10.00	7.80	8.90	9.90	10.80	11.80	1.80
3	80	11.00	8.40	9.50	10.50	11.40	12.40	2.13
4	100	12.00	8.40	9.50	10.50	11.40	12.40	2.44
6	150	14.00	8.80	9.90	10.90	11.80	12.80	2.69
8	200	16.00	--	10.90	11.90	12.80	13.80	5.0
10	250	20.00	--	--	11.90	12.80	13.80	5.0
12	300	24.00	--	--	--	--	14.20	5.5

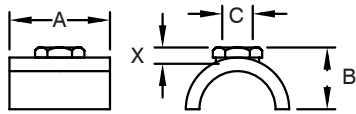
Saddles are available in the sizes shown above. The standard branch end configuration is bell. The taper angle on 2"-6" NPS bells is 1.75° and 2° for 8"-12"

### Bonded Branch Saddles



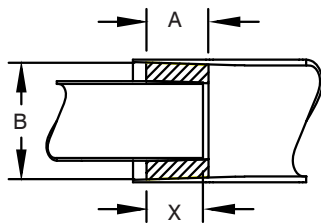
Nominal Pipe Size		A	B	X	Wgt.
in	mm	in	in	in	lbs.
3x2	80x50	6.00	4.00	1.80	1.2
4x2	100x50	6.00	4.50	1.80	1.4
4x3	100x80	6.00	5.25	2.13	1.4
6x2	150x50	7.75	5.56	1.80	3.0
6x3	150x80	7.75	6.31	2.13	3.0
6x4	150x100	7.75	7.63	2.44	3.0

## Threaded Branch Saddles



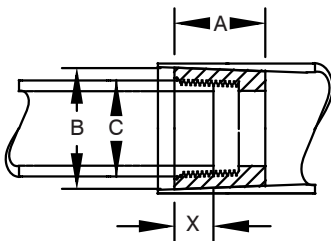
Nominal Pipe Size		A	B	C	X	Wgt.
in	mm	in	in	in	in	lbs.
2x <sup>1</sup> / <sub>2</sub>	50x12	4.00	2.00	<sup>1</sup> / <sub>2</sub> x 14	0.50	1.0
3x <sup>1</sup> / <sub>2</sub>	80x12	4.00	2.62	<sup>1</sup> / <sub>2</sub> x 14	0.50	1.6
4x <sup>1</sup> / <sub>2</sub>	100x12	4.00	3.12	<sup>1</sup> / <sub>2</sub> x 14	0.50	2.0
6x <sup>1</sup> / <sub>2</sub>	150x12	4.00	4.18	<sup>1</sup> / <sub>2</sub> x 14	0.50	2.4

## Bonded Reducer Bushings



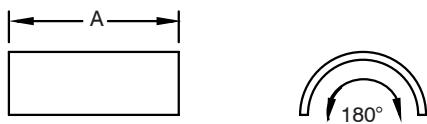
Nominal Pipe Size		A	B	X	Wgt.
in	mm	in	in	in	lbs.
3x2	80x50	1.88	3.51	1.75	0.7
4x3	100x80	1.96	4.51	2.00	0.9
6x4	150x100	2.86	6.65	2.20	4.1

## Threaded Reducer Bushings



Nominal Pipe Size		A	B	C	X	Wgt.
in	mm	in	in	in	in	lbs.
2x <sup>1</sup> / <sub>2</sub>	50x12	1.80	2.40	<sup>1</sup> / <sub>2</sub> x 14	0.50	0.9
2x <sup>3</sup> / <sub>4</sub>	50x19	1.80	2.40	<sup>3</sup> / <sub>4</sub> x 14	0.50	0.8
2x1	50x25	1.80	2.40	1 x 11 <sup>1</sup> / <sub>2</sub>	0.70	0.8
2x1 <sup>1</sup> / <sub>4</sub>	50x32	1.80	2.40	1 <sup>1</sup> / <sub>4</sub> x 11 <sup>1</sup> / <sub>2</sub>	0.70	0.6
2x1 <sup>1</sup> / <sub>2</sub>	50x40	1.80	2.40	1 <sup>1</sup> / <sub>2</sub> x 11 <sup>1</sup> / <sub>2</sub>	0.70	0.3

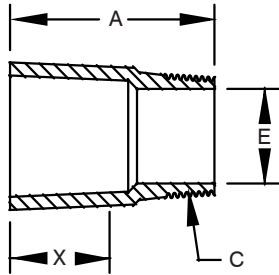
## Wear Saddles



Nominal Pipe Size		A	Wgt.
in	mm	in	lbs.
2	50	6.00	0.12
3	80	6.00	0.17
4	100	6.00	0.25
6	150	6.00	0.48
8	200	6.00	0.78
10	250	6.00	1.13
12	300	6.00	1.53
14	350	6.00	1.88
16	400	6.00	2.35

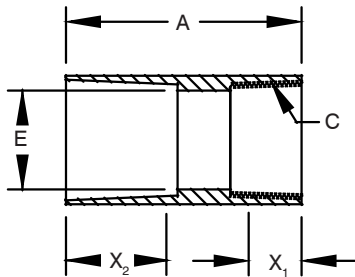


### Adapters: Bell x NPT Male



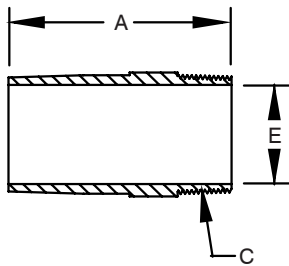
Nominal Pipe Size		A	C	E	X	Wgt.
in	mm	in	in	in	in	lbs.
2	50	4.16	2 x 11 <sup>1</sup> / <sub>2</sub>	1.90	2.00	0.4
3	80	5.00	3 x 8	2.80	2.05	0.7
4	100	5.19	4 x 8	3.90	2.05	0.9
6	150	6.00	6 x 8	5.90	3.20	2.1

### Adapters: Bell x NPT Female



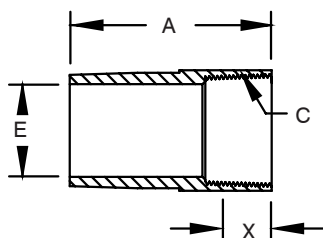
Nominal Pipe Size		A	C	E	X <sub>1</sub>	X <sub>2</sub>	Wgt.
in	mm	in	in	in	in	in	lbs.
2	50	4.75	2 x 11 <sup>1</sup> / <sub>2</sub>	2.00	0.70	1.85	0.4
3	80	5.38	3 x 8	3.00	1.00	2.00	0.7
4	100	5.38	4 x 8	4.00	1.10	2.25	0.9
6	150	6.75	6 x 8	6.00	1.20	3.20	2.1

### Adapters: Spigot x NPT Male



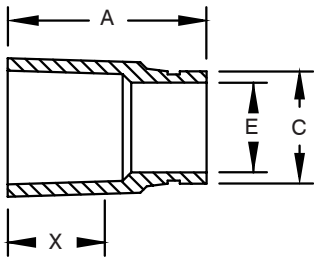
Nominal Pipe Size		A	C	E	Wgt.
in	mm	in	in	in	lbs.
2	50	5.65	2 x 11 <sup>1</sup> / <sub>2</sub>	2.00	0.5
3	80	6.90	3 x 8	3.00	1.3
4	100	7.55	4 x 8	4.00	1.7
6	150	10.15	6 x 8	6.00	4.2

### Adapters: Spigot x NPT Female



Nominal Pipe Size		A	C	E	X	Wgt.
in	mm	in	in	in	in	lbs.
2	50	5.65	2 x 11 <sup>1</sup> / <sub>2</sub>	2.00	0.70	0.5
3	80	6.90	3 x 8	3.00	1.00	1.3
4	100	7.55	4 x 8	4.00	1.20	1.7
6	150	10.15	6 x 8	6.00	1.00	4.2

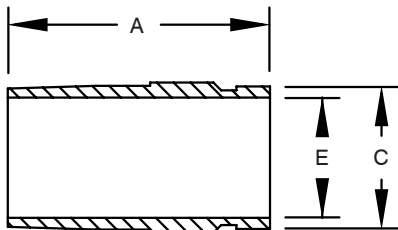
### Adapters: Bell x Grooved End\*



Nominal Pipe Size		A	C	E	X	Wgt.
in	mm	in	in	in	in	lbs.
2	50	4.16	2.38	1.90	2.00	0.5
3	80	5.00	3.50	2.80	2.05	0.9
4	100	5.20	4.50	3.90	2.05	1.1
6	150	6.00	6.63	5.90	3.20	2.2

\*Compatible with Victaulic coupling style 77 Standard or HP-70ES.

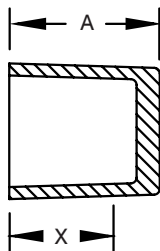
### Adapters: Spigot x Grooved End\*



Nominal Pipe Size		A	C	E	Wgt.
in	mm	in	in	in	lbs.
2	50	5.65	2.38	2.00	0.5
3	80	6.90	3.50	3.00	1.3
4	100	7.55	4.50	4.00	1.7
6	150	10.15	6.63	6.00	4.2

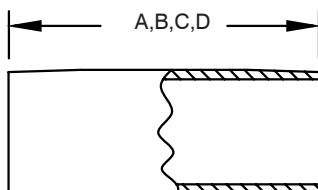
\*Compatible with Victaulic coupling style 77 Standard or HP-70ES.

### End Caps



Nominal Pipe Size		A	X	Wgt.
in	mm	in	in	lbs.
2	50	3.25	2.00	0.6
3	80	3.38	2.25	1.0
4	100	3.38	2.25	1.4
6	150	4.63	3.30	4.5

### Nipples



Nominal Pipe Size		A	B	C	D	Wgt.
in	mm	in	in	in	in	lbs/ft
2	50	6.00	8.00	10.00	12.00	0.5
3	80	--	8.00	10.00	12.00	0.7
4	100	--	--	10.00	12.00	1.0
6	150	--	--	--	12.00	2.1



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