

HPLP SERIES

LINER / PIPE / FITTING SPECIFICATIONS

Size	Paraflo®		PTFE		PFA	PVDF	Spool Weight (Lbs.)	
	Standard	Heavy Duty	Standard	Heavy Duty			First Ft	Each Add'l
1/2	.110	.120	.110	.120	.110	O/A	5	1
3/4	.110	.120	.110	.120	.110	O/A	6	1
1	.130	.130	.130	.130	.125	.130	6	2
1 1/4	.130	.130	.130	.130	.125	.130	8	3
1 1/2	.150	.150	.150	.150	.125	.150	9	3
2	.160	.160	.160	.160	.125	.160	15	5
3	.160	.160	.160	.160	.125	.160	27	8
4	.180	.280	.180	.280	.140	.200	40	12
5	.180	.280	.180	.280	.140	.200	46	15
6	.270	.310	.270	.310	.160	.250	63	22
8	.285	.390	.285	.390	.160	.250	100	32
10	.320	.450	.320	.450	N/A	N/A	130	40
12	.320	.450	.320	.450	N/A	N/A	182	54

Standard Duty: 1/2" – 3" Full Vacuum Rated through 450° F
Heavy Duty: 4" – 12" Full Vacuum Rated through 450° F

LINERS

Paraflo® - Molecular/Mechanically Enhanced PTFE
 PTFE - Polytetrafluoroethylene (ASTM F1545 & F423)
 PFA - Perfluoroalkoxy (ASTM F781)
 PVDF - Polyvinylidene Fluoride (ASTM F491)

PIPE

1"-4" ASTM A 587 ERW Sch 40 Carbon Steel
 6"-8" ASTM A 53 Grade B Type E Sch 40 Carbon Steel
 10" ASTM A 53 Grade B Type E Sch 20 Carbon Steel
 12" ASTM A 53 Grade B Type E Sch 20 Carbon Steel
(304 SS & 316 SS Lined Pipe is Available)
(Other Pipe Schedules are Available)

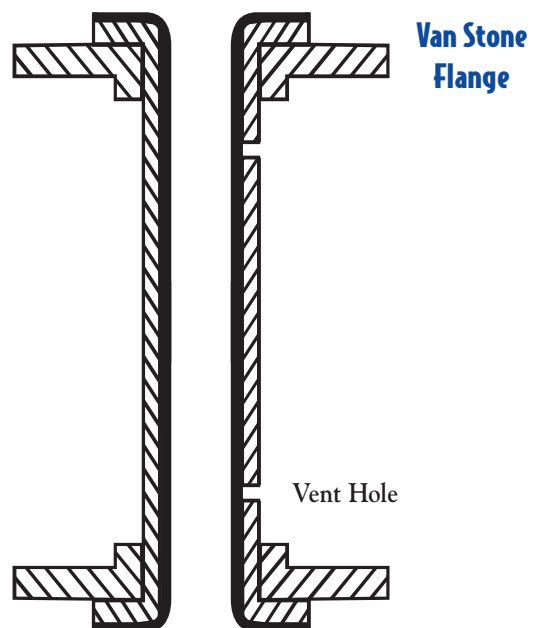
FITTINGS

Cast Steel: ASTM A216 WCB, A395 DI
 Fabricated Steel: ASTM A234, A587, A181, A105 and A53
 Dimensional Conformances: ASTM B16.42 and B16.5
 Stainless Steel: ASTM A312 (304L), ASTM A403

NOTES

Construction Tolerances:
 Pipe Spools +/- 1/8"
 Fixed Flange Bolt Alignment +/- 1/16"
 Perpendicularity of flange with the centerline of the pipe 3/32 in/ft of the pipe diameter
 3

Lined Spool



All dimensions are in inches.
 Other materials are available upon request.
 Upon request fittings and spools are available with welded vent extension couplings.



Property	Unit	Paraflon®	PFA	PTFE	PVDF
Density	g/cm ³	2.15 - 2.18	2.14 - 2.17	2.14 - 2.16	1.76 - 1.78
Maximum Continuous Operating Temperature	° F	500	450	450	275
Minimum Continuous Operating Temperature	° F	-20	-20	-20	0
Ball Pressure Hardness	N/mm ²	25 - 30	25 - 30	23 - 28	62 - 68
Shore Hardness D	Sh. D	58 - 65	60 - 65	54 - 60	72 - 82
Water Absorption	%	0.005	0.02	0.01	0.03
Coefficient of Friction V Steel Dynamic	N/A	0.15	0.25	0.10	0.45
Elongation of Break (23 ° C)	%	450 - 600	250 - 350	250 - 400	200 - 250
Tensile Strength (23 ° C)	N/mm ²	28 - 40	25 - 30	25 - 42	38 - 50
Tensile Modulus (23 ° C)	N/mm ²	600 - 700	600 - 700	400 - 800	800 - 1800
Liner Color	N/A	White	Natural	White	Black
Thermal Conductivity ("K" Factor) of Liner BTU-in./hr-sq. ft.-°F	N/A	1.7	1.3	1.7	1.18

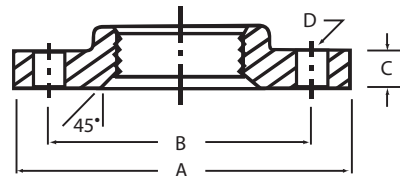
Conductive linings are available upon request.

**Welded &
Threaded Rotating**



FLANGES

Threaded Chamfered



150 lb. Class ANSI B 16.42 & B 16.5 Flange Dimensions					Size	300 lb. Class ANSI B 16.5 Flange Dimensions				
A Outside Diameter	B Diameter Bolt Crcl	C Thickness	D No./Size Bolt Hole	Blind Fig Thickness w/ Plastic		A Outside Diameter	B Diameter Bolt Crcl	C Thickness	D No./Size Bolt Hole	Blind Fig Thickness w/ Plastic
3 1/2	2 3/8	7/16	4 - 5/8	9/16	1/2	3 3/4	2 5/8	9/16	4 - 5/8	11/16
3 7/8	2 3/4	1/2	4 - 5/8	5/8	3/4	4 5/8	3 1/4	5/8	4 - 3/4	3/4
4 1/4	3 1/8	9/16	4 - 5/8	11/16	1	4 7/8	3 1/2	11/16	4 - 3/4	13/16
4 5/8	3 1/2	5/8	4 - 5/8	3/4	1 1/4	5 1/4	3 7/8	3/4	4 - 3/4	7/8
5	3 7/8	11/16	4 - 5/8	13/16	1 1/2	6 1/8	4 1/2	13/16	4 - 7/8	15/16
6	4 3/4	3/4	4 - 3/4	7/8	2	6 1/2	5	7/8	8 - 3/4	1
7	5 1/2	7/8	4 - 3/4	1	2 1/2	7 1/2	5 7/8	1	8 - 7/8	1 1/8
7 1/2	6	15/16	4 - 3/4	1 1/16	3	8 1/4	6 5/8	1 1/8	8 - 7/8	1 1/4
9	7 1/2	15/16	8 - 3/4	1 1/16	4	10	7 7/8	1 1/4	8 - 7/8	1 3/8
11	9 1/2	1	8 - 7/8	1 1/8	6	12 1/2	10 5/8	1 7/16	12 - 7/8	1 9/16
13 1/2	11 3/4	1 1/8	8 - 7/8	1 1/4	8	15	13	1 5/8	12 - 1	1 3/4
16	14 1/4	1 3/16	12 - 1	1 15/16	10	17 1/2	15 1/4	1 7/8	16 - 1 1/8	2
19	17	1 1/4	12 - 1	1 3/8	12	20 1/2	17 3/4	2	16 - 1 1/4	2 1/8

ANSI 150 lb. ductile iron flanges conform to ASTM A-395 or A-536
 ANSI 150 lb. and 300 lb. forged steel flanges conform to ASTM A-105.
 ASTM A 182 (304 L) Stainless Steel

NOTES

All dimensions are in inches.



HPLP SERIES

PLASTIC LINED FLANGED FITTINGS

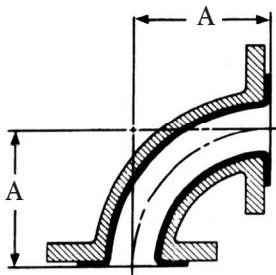


Figure 1000
90° Elbow

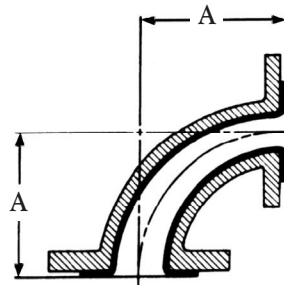


Figure 1000 R
90° Red. Elbow

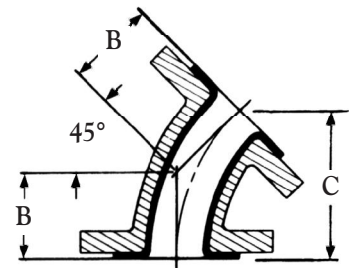


Figure 1100
45° Elbow

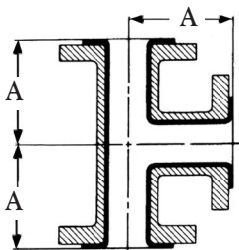


Figure 1200
Equal Tee

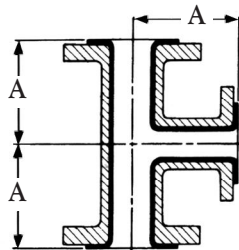


Figure 1200 R
Red. Tee

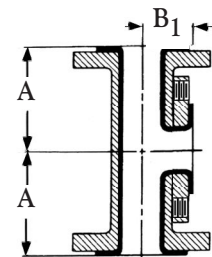


Figure 1800
Short Stack Tee

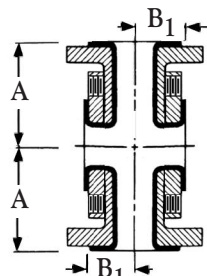


Figure 1900
Short Stack Cross

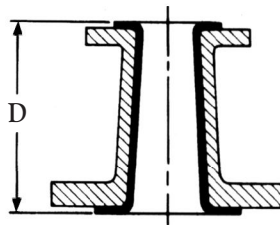


Figure 1300
Concentric Reducer

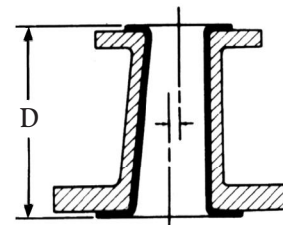


Figure 1400
Eccentric Reducer

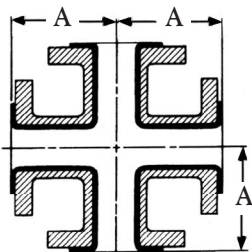


Figure 1500 - Cross

Figure 1500R - Reducing Cross

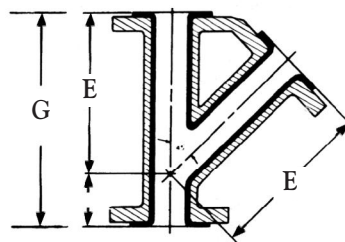


Figure 1600 - Lateral

Figure 1600R - Reducing Lateral

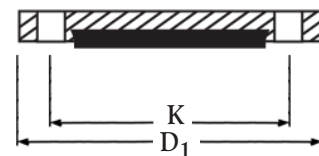


Figure 1700
Blind Flange

NOTES

Fittings are available with fixed & rotating flanges.

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Fittings are also available with DIN dimensions.



HPLP SERIES ANSI 150 LB FLANGED FITTING DIMENSIONS

Size	A	B	C	D	E	F	G	k	D ₁	B ₁
1/2	3 1/2	1 3/4	3	4 1/2	5 3/4	1 3/4	7 1/2	2 3/8	3 1/2	—
3/4	3 1/2	1 3/4	3	4 1/2	5 3/4	1 3/4	7 1/2	2 3/4	3 7/8	—
1	3 1/2	1 3/4	3	4 1/2	5 3/4	1 3/4	7 1/2	3 1/8	4 1/4	1 1/4
1 1/4	3 3/4	2	3 13/22	4 1/2	6 1/4	1 3/4	8	3 1/2	4 5/8	—
1 1/2	4	2 1/4	3 27/32	4 1/2	7	2	9	3 7/8	5	1 1/2
2	4 1/2	2 1/2	4 1/4	5	8	2 1/2	10 1/2	4 3/4	6	1 3/4
2 1/2	5	3	5 1/8	5 1/2	9 1/2	2 1/2	12	6	7	—
3	5 1/2	3	5 1/8	6	10	3	13	6	7 1/2	2 1/4
4	6 1/2	4	6 13/16	7	12	3	15	7 1/2	9	2 3/4
6	8	5	8 9/16	9	14 1/2	3 1/2	18	9 1/2	11	3 3/4
8	9	5 1/2	9 3/8	11	17 1/2	4 1/2	22	11 3/4	13 1/2	5
10	11	6 1/2	11 1/8	12	20 1/2	5	25 1/2	14 1/4	16	6
12	12	7 1/2	12 13/16	14	24 1/4	5 1/2	30	17	19	7

ANSI 300 LB FLANGED FITTING DIMENSIONS

Size	A	B	C	D	E	F	G	H	M	k	D ₁
1/2	4	2 1/4	3 13/16	4 1/2	6 1/2	2	8 1/2	5	2 5/8	2 5/8	3 3/4
3/4	4	2 1/4	3 13/16	4 1/2	6 1/2	2	8 1/2	5	2 5/8	3 1/4	4 5/8
1	4	2 1/4	3 13/16	4 1/2	6 1/2	2	8 1/2	5	2 5/8	3 1/2	4 7/8
1 1/2	4 1/2	2 1/4	4 11/16	4 1/2	8 1/2	2 1/2	11	6	3 3/8	4 1/2	6 1/8
2	5	3	5 1/8	5	9	2 1/2	11 1/2	6 1/2	4 1/8	5	6 1/2
2 1/2	5 1/2	3 1/2	6	5 1/2	10 1/2	2 1/2	13	7	4 7/8	5 7/8	7 1/2
3	5	3 1/2	6	6	11	3	14	7 3/4	5 3/8	6 5/8	8 1/4
4	6	4 1/2	7 11/16	7	13 1/2	3	16 1/2	9	6 7/8	7 7/8	10
6	7	5 1/2	9 3/8	9	17 1/2	4	21 1/2	11 1/2	8 3/4	10 5/8	12 1/2
8	8 1/2	6	10 1/4	11	20 1/2	5	25 1/2	14	11	13	15

NOTES

All dimensions are in inches and include the lining. Tolerance +/- 1/8".

All fittings conform to ANSI B16.42 or B16.5 dimensions after lining.

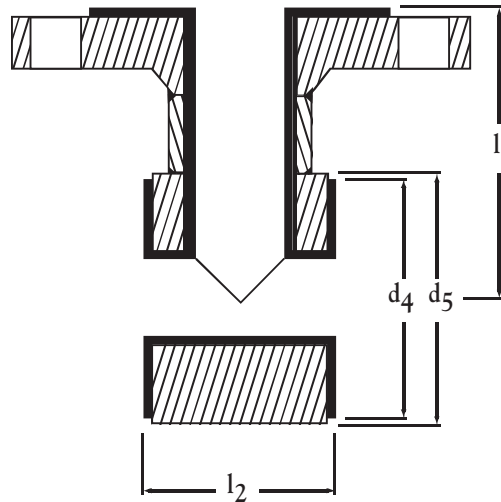


HPLP SERIES

INSTRUMENT TEES

Size	d ₄	d ₅	l ₁	Branch		
				1" l ₂	1 1/2" l ₂	2" l ₂
1	2	2 1/2	3 1/2	2	3	3 9/16
1 1/4	2 1/2	2 13/16	3 3/4	2	3	3 9/16
1 1/2	2 7/8	3 1/4	4	2	3	3 9/16
2	3 5/8	4	4 1/2	2	3	3 9/16
2 1/2	4 1/8	4 11/16	5	2	3	3 9/16
3	5	5 3/16	5 1/2	2	3	3 9/16
4	6 3/16	6 3/4	6 1/2	2	3	3 9/16
5	7 5/16	7 9/16	7 1/2	2	3	3 9/16
6	8 1/2	8 9/16	8	2	3	3 9/16
8	10 5/8	10 13/16	9	2	3	3 9/16
10	12 3/4	13 1/4	11	2	3	3 9/16
12	15	16	12	2	3	3 9/16

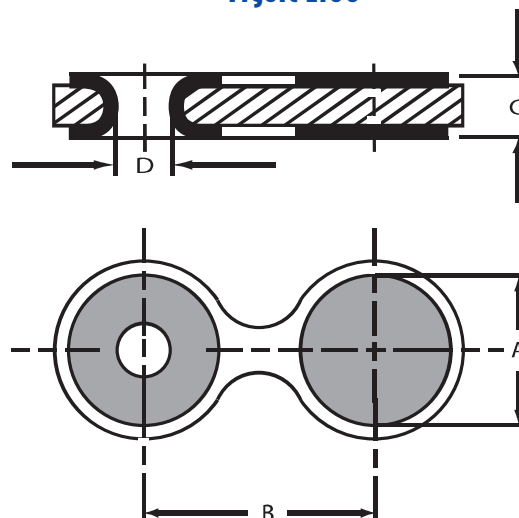
Figure 2000



ANSI 150 LB LINED SPECTACLE BLIND FLANGES

Size	A	B	C	D
1	2	2 7/8	13/16	13/16
1 1/2	2 7/8	3 11/16	15/16	1 3/8
2	3 5/8	4 7/16	1	1 13/16
3	5	5 3/4	1 3/16	2 13/16
4	6 3/16	7	1 3/16	3 13/16
6	8 1/2	9 1/8	1 1/4	5 5/8
8	10 5/8	11 3/8	1 3/8	7 1/2
10	12 3/4	13 7/8	1 3/8	9 1/2
12	15	16 1/2	1 1/2	11 7/16

Figure 2100

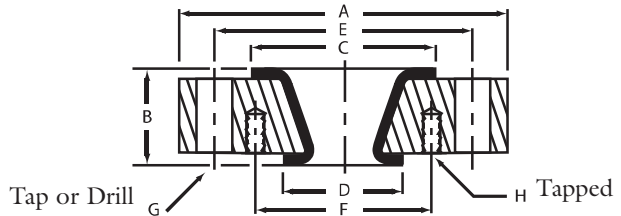


NOTES

All dimensions are in inches.

PLASTIC LINED REDUCING FLANGES

Figure 2200



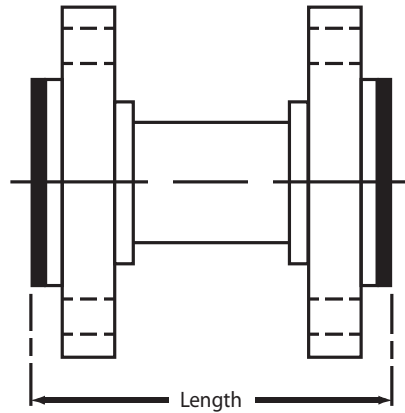
Sizes	Dimensions		Bolt Holes ^G		Bolt Holes ^H		Bolt Circle-Diameter		Flare Diameters	
	A	B	#	Size	#	Size	E	F	C	D
* 1 x 1/2	4 1/4	1 1/2	4	1/2-13	4	1/2-13	3 1/8	2 3/8	2	1 3/8
* 1 x 3/4	4 1/4	1 1/2	4	1/2-13	4	1/2-13	3 1/8	2 3/4	2	1 11/16
* 1 1/2 x 1	5	1 1/2	4	1/2-13	4	1/2-13	3 7/8	3 1/8	2 11/16	2
2 x 1	6	1 1/2	4	5/8-11	4	1/2-13	4 3/4	3 1/8	3 5/8	2
* 2 x 1 1/2	6	1 1/2	4	5/8-11	4	1/2-13	4 3/4	3 7/8	3 5/8	2 7/8
2 1/2 x 1	7	1 1/2	4	5/8-11	4	1/2-13	5 1/2	3 1/8	4 1/8	2
2 1/2 x 1 1/2	7	1 1/2	4	5/8-11	4	1/2-13	5 1/2	3 7/8	4 1/8	2 7/8
* 2 1/2 x 2	7	1 1/2	4	5/8-11	4	5/8-11	5 1/2	4 3/4	4 1/8	3 5/8
3 x 1	7 1/2	1 1/2	4	5/8	4	1/2-13	6	3 1/8	5	2
3 x 1 1/2	7 1/2	1 1/2	4	5/8	4	1/2-13	6	3 7/8	5	2 7/8
* 3 x 2	7 1/2	1 1/2	4	5/8-11	4	5/8-11	6	4 3/4	5	3 5/8
* 3 x 2 1/2	7 1/2	1 1/2	4	5/8-11	4	5/8-11	6	5 1/2	5	4 1/8
4 x 1	9	2	8	3/4	4	1/2-13	7 1/2	3 1/8	6 3/16	2
4 x 1 1/2	9	2	8	3/4	4	1/2-13	7 1/2	3 7/8	6 3/16	2 7/8
4 x 2	9	1 1/2	8	5/8	4	5/8-11	7 1/2	4 3/4	6 3/16	3 5/8
4 x 2 1/2	9	1 1/2	8	5/8-11	4	5/8-11	7 1/2	5 1/2	6 3/16	4 1/8
4 x 3	9	1 1/2	8	5/8-11	4	5/8-11	7 1/2	6	6 3/16	5
6 x 1	11	2	8	7/8	4	1/2-13	9 1/2	3 1/8	8 1/2	2
6 x 1 1/2	11	2	8	7/8	4	1/2-13	9 1/2	3 7/8	8 1/2	2 7/8
6 x 2	11	2	8	7/8	4	5/8-11	9 1/2	4 3/4	8 1/2	3 5/8
6 x 2 1/2	11	2	8	7/8	4	5/8-11	9 1/2	5 1/2	8 1/2	4 1/8
6 x 3	11	2	8	7/8	4	5/8-11	9 1/2	6	8 1/2	5
6 x 4	11	1 1/2	8	3/4-10	8	5/8-11	9 1/2	7 1/2	8 1/2	6 1/8
8 x 1	13 1/2	2	8	7/8	4	1/2-13	11 3/4	3 1/8	10 5/8	2
8 x 1 1/2	13 1/2	2	8	7/8	4	1/2-13	11 3/4	3 7/8	10 5/8	2 7/8
8 x 2	13 1/2	2	8	7/8	4	5/8-11	11 3/4	4 3/4	10 5/8	3 5/8
8 x 2 1/2	13 1/2	2	8	7/8	4	5/8-11	11 3/4	5 1/2	10 5/8	4 1/8
8 x 3	13 1/2	2	8	7/8	4	5/8-11	11 3/4	6	10 5/8	5
8 x 4	13 1/2	2	8	7/8	8	5/8-11	11 3/4	7 1/2	10 5/8	6 1/8
8 x 6	13 1/2	1 1/2	8	3/4-10	8	3/4-10	11 3/4	9 1/2	10 5/8	8 1/2
10 x 1	16	2	12	1	4	1/2-13	14 1/4	3 1/8	12 3/4	2
10 x 1 1/2	16	2	12	1	4	1/2-13	14 1/4	3 7/8	12 3/4	2 7/8
10 x 2	16	2	12	1	4	5/8-11	14 1/4	4 3/4	12 3/4	3 5/8
10 x 2 1/2	16	2	12	1	4	5/8-11	14 1/4	5 1/2	12 3/4	4 1/8
10 x 3	16	2	12	1	4	5/8-11	14 1/4	6	12 3/4	5
10 x 4	16	2	12	1	8	5/8-11	14 1/4	7 1/2	12 3/4	6 1/8
10 x 6	16	2	12	1	8	3/4-10	14 1/4	9 1/2	12 3/4	8 1/2
10 x 8	16	1 1/2	12	7/8-9	8	3/4-10	14 1/4	11 3/4	12 3/4	10 5/8
12 x 1	19	2	12	1	4	1/2-13	17	3 1/8	15	2
12 x 1 1/2	19	2	12	1	4	1/2-13	17	3 7/8	15	2 7/8
12 x 2	19	2	12	1	4	5/8-11	17	4 3/4	15	3 5/8
12 x 2 1/2	19	2	12	1	4	5/8-11	17	5 1/2	15	4 1/8
12 x 3	19	2	12	1	4	5/8-11	17	6	15	5
12 x 4	19	2	12	1	8	5/8-11	17	7 1/2	15	6 1/8
12 x 6	19	2	12	1	8	3/4-10	17	9 1/2	15	8 1/2
12 x 8	19	2	12	1	8	3/4-10	17	11 3/4	15	10 5/8
12 x 10	19	1 1/2	12	7/8-9	12	7/8-9	17	14 1/4	15	12 3/4

Note: Only one set of bolt holes is on the vertical center line. The other set straddles the center line. Dimensions are in inches.

HPLP SERIES MINIMUM SPOOL LENGTH AND DISTANCE PIECE

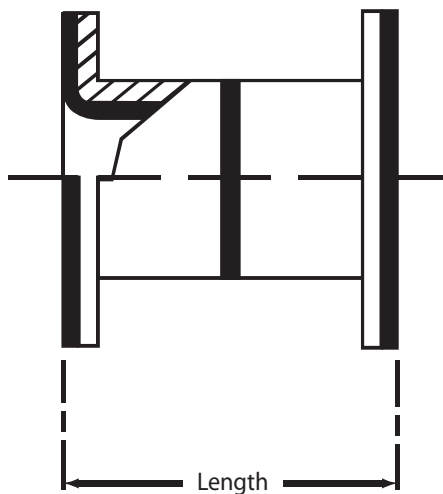
Minimum Spool Lengths (OSL)		
Nominal Pipe Size	Standard	
	Class 150	Class 300
1	4	4
1 1/2	4	4
2	4 1/2	4 1/2
2 1/2	5	N/A
3	5	5
4	5 1/2	5 1/2
6	5 1/2	5 1/2
8	7	7
10	8 1/2	9 7/8
12	8 1/2	10 3/8

Minimum Spool Length



Minimum Spool Lengths (IFL)		
Nominal Pipe Size	Standard	
	Class 150	Class 300
1	3	3 5/8
1 1/2	3 3/8	4
2	3 1/2	4 1/4
3	4	5 1/8
4	4 3/8	5 1/24
6	5 1/2	6 3/8
8	6 1/2	7 1/2
10	8 1/2	9 7/8
12	8 1/2	10 3/8

Distance Piece



A distance piece is used for filling spaces greater in length than the maximum spacer length of (3”) but less than the minimum flanged pipe spool length. The exact length of the distance piece must be specified.

NOTES

All dimensions are in inches.



Class 150						
Size (NPS)	Ring			Full Face		
	A	B	D	Bolt Holes No.	Bolt Hole Size	Bolt Circle Dia F
1	2 ⁵ / ₈	1	4 ¹ / ₄	4	5/8	3 ¹ / ₈
1 ¹ / ₂	3 ³ / ₈	1 ¹ / ₂	5	4	5/8	3 ⁷ / ₈
2	4 ¹ / ₈	2	6	4	3/4	4 ³ / ₄
2 ¹ / ₂	4 ⁷ / ₈	2 ¹ / ₂	7	4	3/4	5 ¹ / ₂
3	5 ³ / ₈	3	7 ¹ / ₂	4	3/4	6
4	6 ⁷ / ₈	4	9	8	3/4	7 ¹ / ₂
6	8 ³ / ₄	6	11	8	7/8	9 ¹ / ₂
8	11	8	13 ¹ / ₂	8	7/8	11 ³ / ₄
10	13 ³ / ₈	10	16	12	1	14 ¹ / ₄
12	16 ¹ / ₈	12	19	12	1	17

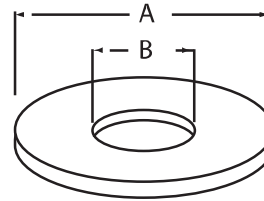
Class 300						
Size (NPS)	Ring			Full Face		
	A	B	D	Bolt Holes No.	Bolt Hole Size	Bolt Circle Dia F
1	2 ⁷ / ₈	1	4 ⁷ / ₈	4	3/4	3 ¹ / ₂
1 ¹ / ₂	4 ³ / ₄	1 ¹ / ₂	6 ¹ / ₈	4	7/8	4 ¹ / ₂
2	4 ³ / ₈	2	6 ¹ / ₂	8	3/4	5
2 ¹ / ₂	5 ¹ / ₈	2 ¹ / ₂	7 ¹ / ₂	8	7/8	5 ⁷ / ₈
3	5 ⁷ / ₈	3	8 ¹ / ₄	8	7/8	6 ⁵ / ₈
4	7 ¹ / ₈	4	10	8	7/8	7 ⁷ / ₈
6	9 ⁷ / ₈	6	12 ¹ / ₂	12	7/8	10 ⁵ / ₈
8	12 ¹ / ₈	8	15	12	1	13

Spacers are available with many different dimensions. They may be supplied as tapered, special bored, orifice tapered, taper bored for butterfly valves, reducing, blind, etc. The exact length of the spacer should be specified.

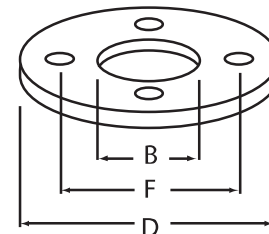
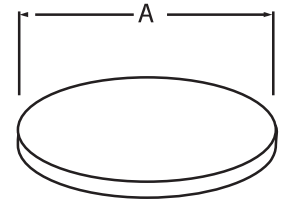
NOTES

All dimensions are in inches.

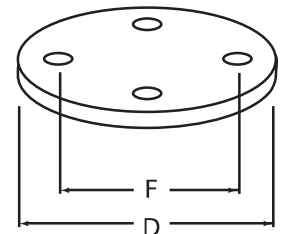
Ring Spacer



Blind Spacer

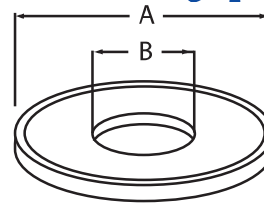


Full Face Spacer

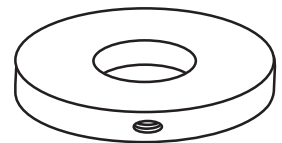


Blind Full Face Spacer

Armored Ring Spacer



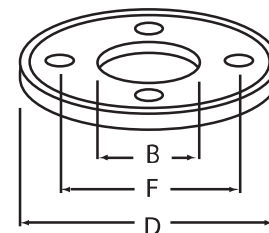
Orifice Ring Spacer



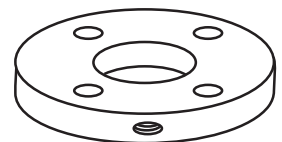
Steel Reinforcement Plastic Spacer



Drill Thru and NPT Tap



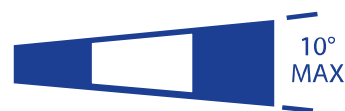
Armored Full Face Spacer



Orifice Full Face Spacer



Single Taper Spacer

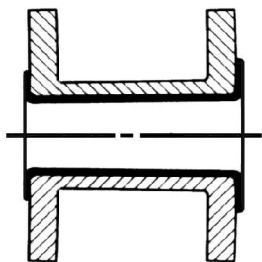


Double Taper Spacer



Taper Bore Spacer

HPLP SERIES LARGE DIAMETER PTFE LINED PIPE & FITTINGS



Pipe Spool

Size	Weight 1st Foot	Each Additional Foot	Liner Thickness
14	241	66	.275
16	276	77	.275
18	352	83	.275
20	441	92	.275
24	555	111	.275

Available through size 48"

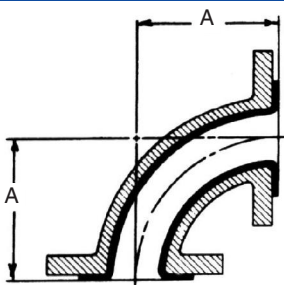


Figure 2300 90° Elbow

Size	A	Weight
14	14	335
16	15	388
18	16 ¹ / ₂	490
20	18	615
24	22	813

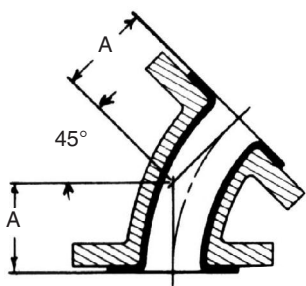


Figure 2400 45° Elbow

Size	A	Weight
14	7 ¹ / ₂	309
16	8	354
18	8 ¹ / ₂	443
20	9 ¹ / ₂	560
24	11	734

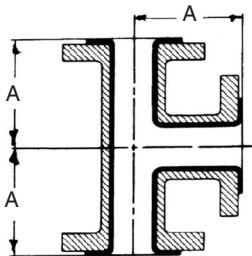


Figure 2500 Equal Tee

Size	A	Weight
14	14	435
16	15	489
18	16 ¹ / ₂	603
20	18	777
24	22	1230

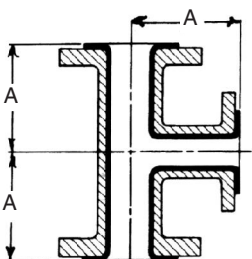
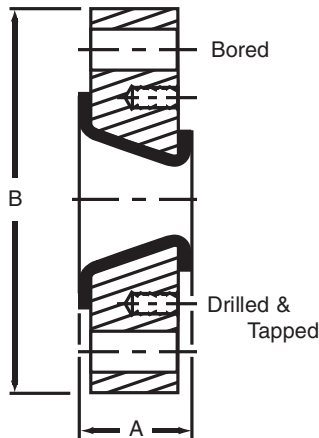


Figure 2500R Reducing Tee

Size	A	Weight
14	14	370
16	15	416
18	16 ¹ / ₂	512
20	18	660
24	22	1046

Figure 2600 Reducing Flange



Size	A	B	Type	Weight
14 x 6	2 ³ / ₄	21	1	149
14 x 8	2 ³ / ₄	21	1	152
14 x 10	2 ³ / ₄	21	1	121
14 x 12	2 ³ / ₄	21	2	111
16 x 10	2 ⁷ / ₈	23 ¹ / ₂	1	182
16 x 12	2 ⁷ / ₈	23 ¹ / ₂	1	179

18" - 24" are available upon request

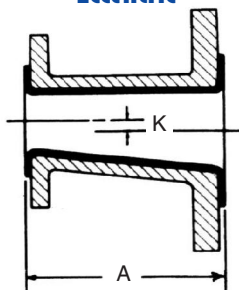
Size	Flare Dia. (Min.)	No. Bolt Holes	Dia. Bolt Circle	Drilled Size	Tapped Size
6	8 ³ / ₈	8	9 ¹ / ₂	7/8	3/4 - 10
8	10 ¹ / ₂	8	11 ³ / ₄	7/8	3/4 - 10
10	12 ⁵ / ₈	12	14 ¹ / ₄	1	7/8 - 9
12	14 ⁵ / ₈	12	17	1	7/8 - 9
14	16 ¹ / ₄	12	18 ³ / ₄	1 ¹ / ₈	1 - 8
16	18 ¹ / ₈	16	21 ¹ / ₄	1 ¹ / ₈	1 - 8

TYPE 1 All bolt holes straddle centerline

TYPE 2 One set holes straddle, one set is centerline

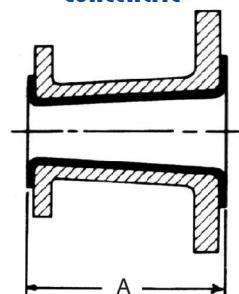
Eccentric

Figure 2700 Concentric and Eccentric Reducers



Concentric

Figure 2800



Size	A	K	Weight
14 x 12	16	1	231
14 x 10	16	2	214
16 x 14	18	1	282
16 X 12	18	2	251
18 X 16	19	1	336
18 X 14	19	2	324
20 x 18	20	1	468
20 x 16	20	2	439
24 x 20	24	2	570
24 x 18	24	3	529

PIPE

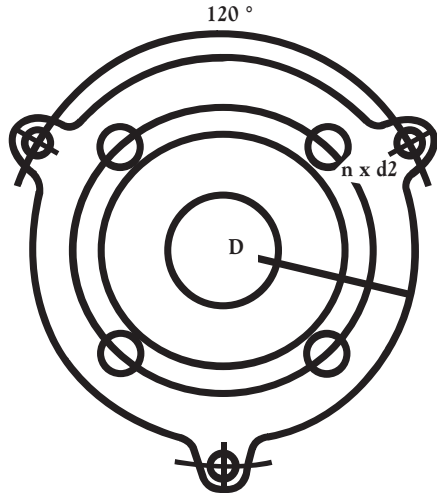
Flanges A105/ANSI B16.5
 Pipe 375 Wall - A53
 Liner PTFE

FITTINGS:

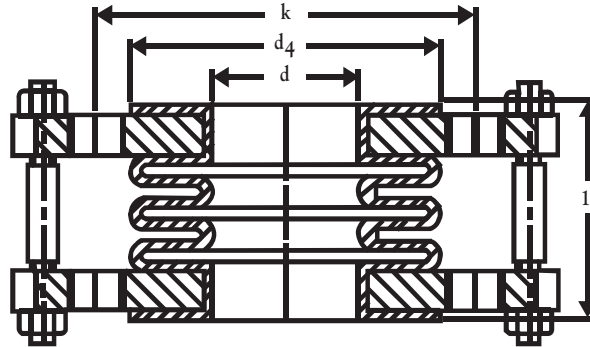
Fabricated Carbon Steel
 Flanges A105/ANSI B126.5
 Pipe A234/ANSI B16.28
 Liner PTFE



HPLP SERIES



EXPANSION JOINTS



Size	d	d4	k	n x d2	D	l for 2 conv.	l for 3 conv.	l for 4 conv.	l for 5 conv.	l for 6 conv.	l for 7 conv.	l for 8 conv.
1/2"	.866	1.38	2.36	4 x 1/2"	3.50	1.50	2.00	2.25	2.91	3.30	3.86	4.33
3/4"	.866	1.69	2.76	4 x 1/2"	3.85	1.50	2.00	2.45	2.91	3.39	3.86	4.33
1"	.866	2.00	3.11	4 x 1/2"	4.25	1.60	2.16	2.72	3.27	3.82	4.38	4.92
1 1/4"	1.10	2.52	3.50	4 x 1/2"	4.60	1.60	2.16	2.72	3.27	3.82	4.38	4.92
1 1/2"	1.30	2.87	3.86	4 x 1/2"	5.00	2.00	2.56	3.11	3.66	4.22	4.76	5.32
2"	1.73	3.62	4.76	4 x 5/8"	5.98	2.20	2.75	3.30	3.86	4.41	4.96	5.51
2 1/2"	2.44	4.13	5.51	4 x 5/8"	7.00	2.13	2.75	3.38	4.02	4.65	5.28	6.00
3"	2.76	5.00	6.00	4 x 5/8"	7.50	2.13	2.75	3.38	4.02	4.65	5.28	6.00
4"	3.70	6.18	7.48	8 x 5/8"	9.00	3.22	4.00	4.65	5.35	6.06	6.77	7.48
5"	4.80	7.28	8.50	8 x 3/4"	10.00	3.22	4.00	4.65	5.35	6.06	6.77	7.48
6"	5.67	8.50	9.50	8 x 3/4"	11.00	3.43	4.14	4.84	5.55	6.27	6.97	7.68
8"	7.64	10.63	11.73	8 x 3/4"	13.50	3.39	4.14	4.88	5.63	6.38	7.13	8.00
10"	9.70	12.76	14.25	12 x 7/8"	16.00	3.08	4.14	5.20	6.26	7.32	n.a.	n.a.
12"	11.70	15.00	17.00	12 x 7/8"	19.00	3.08	4.14	5.20	6.26	7.32	n.a.	n.a.
14"	12.80	16.25	18.75	12 x 1"	21.00	3.08	4.14	5.20	6.26	7.32	n.a.	n.a.
16"	14.80	18.50	21.25	16 x 1"	23.50	3.66	4.72	5.79	6.85	7.91	n.a.	n.a.
18"	16.54	21.00	22.75	16 x 1 1/8"	25.00	3.66	4.72	5.79	6.85	7.91	n.a.	n.a.
20"	18.54	23.00	25.00	20 x 1 1/8"	27.50	3.66	4.72	5.79	6.85	7.91	n.a.	n.a.
24"	23.42	27.25	29.50	20 x 1 1/4"	32.00	3.20	4.00	n.a.	n.a.	n.a.	n.a.	n.a.

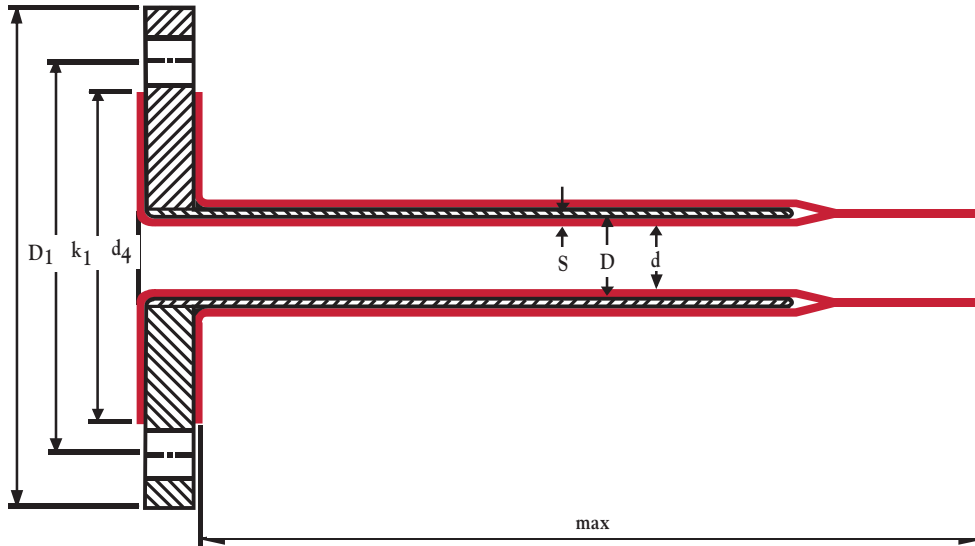
NOTES

All flanges are in accordance with ASME B16.5 dimensions and are provided with threaded holes. All expansion joints are manufactured from Paraflex® molecular and mechanically enhanced PTFE. Stainless steel limit bolts and reinforcing

rings are supplied as a standard with each expansion joint. Upon request stainless steel flanges and special dimensions are available.



ANSI 150 lb. Single Flange PTFE Lined Dip Pipes



Size	S	d_4	k_1	D_1	D	d	Max Length
1/2"	.120	1.38	2.37	3.50	1.49	.787	10' - 0"
3/4"	.120	1.69	2.75	3.87	1.49	.787	10' - 0"
1"	.120	2.00	3.12	4.25	1.73	.866	10' - 0"
1 1/4"	.120	2.51	3.50	4.63	2.13	1.22	10' - 0"
1 1/2"	.120	2.87	3.87	5.00	2.13	1.45	10' - 0"
2"	.120	3.62	4.75	6.00	2.75	1.89	10' - 0"
2 1/2"	.140	4.14	5.50	7.00	3.23	2.48	10' - 0"
3"	.160	5.00	6.00	7.50	4.21	2.95	110' - 0"
4"	.180	6.18	7.50	9.00	5.16	3.90	10' - 0"
5"	.180	7.28	8.50	10.00	6.26	4.80	10' - 0"
6"	.200	8.50	9.50	11.00	8.11	5.86	10' - 0"
8"	.240	10.62	11.75	13.50	9.37	7.63	10' - 0"
10"	.280	12.75	14.25	16.00	12.16	9.76	10' - 0"

Flanges A105/ANSI B16.5
 Steel Pipe ASTM A106 gr. B/ANSI B36.10
 Liner Virgin PTFE/ASTM-D 4894

NOTES

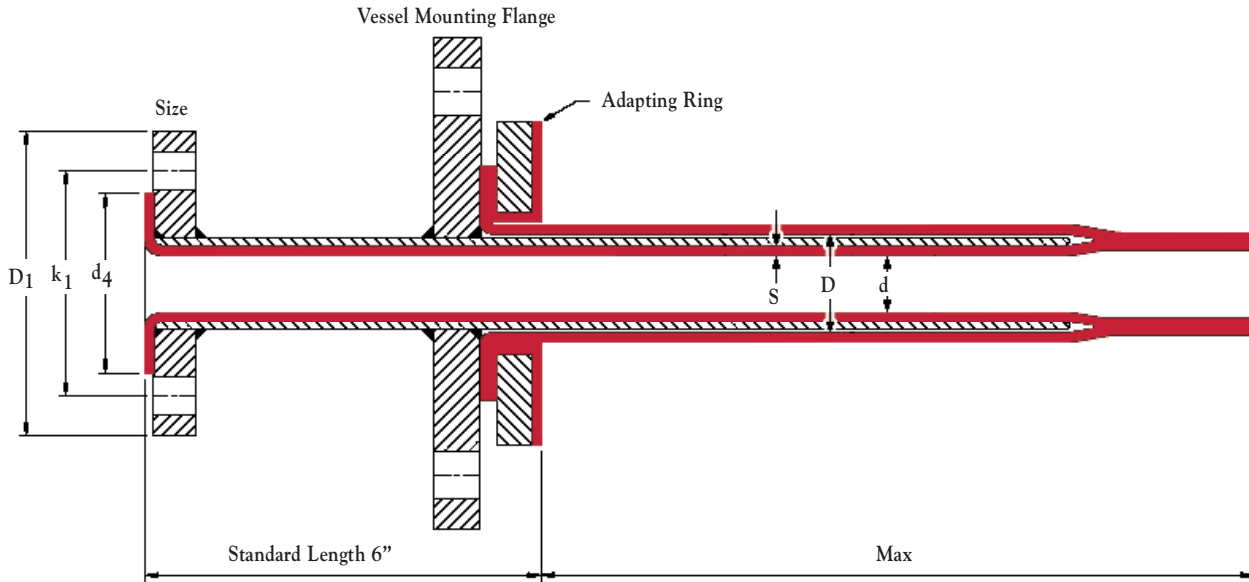
Upon request, other sizes are available as well as custom dip pipes with bends and spray nozzles.



HPLP SERIES

DF SERIES

ANSI 150 lb. Double Flanged PTFE Lined Dip Pipes



Size	S	d ₄	k ₁	D ₁	D	d	Max Length
1/2"	.120	1.38	2.37	3.50	1.49	.787	10' - 0"
3/4"	.120	1.69	2.75	3.87	1.49	.787	10' - 0"
1"	.120	2.00	3.12	4.25	1.73	.866	10' - 0"
1 1/4"	.120	2.51	3.50	4.63	2.13	1.22	10' - 0"
1 1/2"	.120	2.87	3.87	5.00	2.13	1.45	10' - 0"
2"	.120	3.62	4.75	6.00	2.75	1.89	10' - 0"
2 1/2"	.140	4.14	5.50	7.00	3.23	2.48	10' - 0"
3"	.160	5.00	6.00	7.50	4.21	2.95	10' - 0"
4"	.180	6.18	7.50	9.00	5.16	3.90	10' - 0"
5"	.180	7.28	8.50	10.00	6.26	4.80	10' - 0"
6"	.200	8.50	9.50	11.00	8.11	5.86	10' - 0"
8"	.240	10.62	11.75	13.50	9.37	7.63	10' - 0"
10"	.280	12.75	14.25	16.00	12.15	9.75	10' - 0"

Flanges A105/ANSI B16.5
 Steel Pipe ASTM A106 gr. B/ANSI B36.10
 Liner Virgin PTFE/ASTM-D 4894

NOTES

Upon request, other sizes are available as well as custom dip pipes with bends and spray nozzles.

Double wall dip pipes are available upon request.



HPLP SERIES

PTFE NOZZLE LINER



Size	S	d_A	d_4	Max Length
1/2"	.120	.630	1.38	10'-0"
3/4"	.120	.826	1.69	10'-0"
1"	.120	1.03	2.00	10'-0"
1 1/4"	.120	1.34	2.52	10'-0"
1 1/2"	.120	1.54	2.87	10'-0"
2"	.120	2.00	3.62	10'-0"
2 1/2"	.140	2.72	4.13	10'-0"
3"	.160	3.08	5.00	10'-0"
4"	.180	4.06	6.18	10'-0"
5"	.180	5.16	7.28	10'-0"
6"	.200	6.06	8.50	10'-0"
8"	.240	8.11	10.63	10'-0"
10"	.280	10.23	12.76	10'-0"
12"	.280	12.24	15.00	10'-0"

Lining Virgin PTFE/ASTM-D 4894

NOTES

Upon request other sizes are available as well as custom bends.

