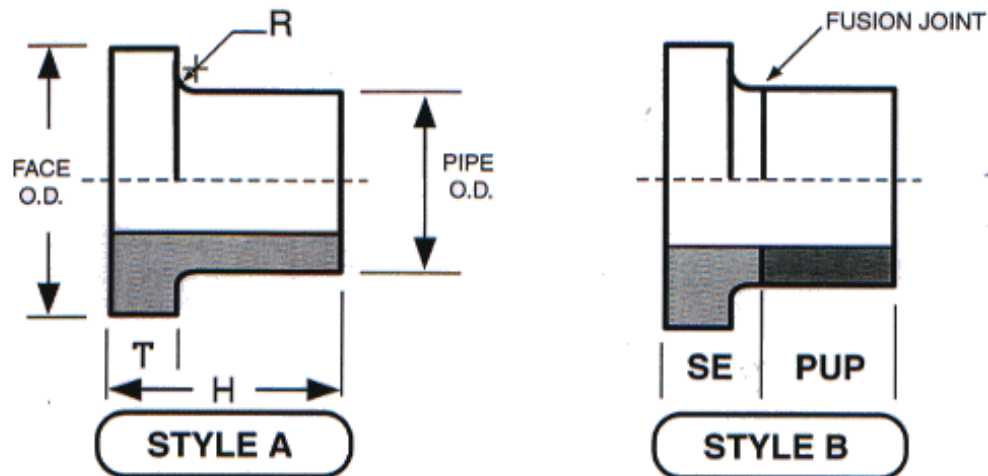
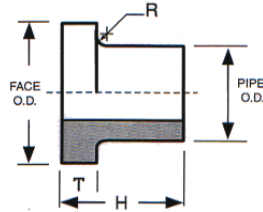




## Flange Adapter Design Information



- “T” must be at least 1.25 times pipe wall thickness for full pressure rating.
- The face diameter fits inside bolt circle to promote alignment and concentricity, with sealing.
- “H” must be long enough to allow butt-fusion in all applicable fusion machines, size on size or larger. Consult fusion machine manufacturers for their required minimum length.
- “R” must be matched to the radius of the metal bolt ring.
- Corrosion protected convoluted Bolt Rings for HDPE are recommended.
- Meet dimensions and requirements of ASTM F 2206, ASTM F 714, ASTM D 3035, AWWA C901/C906 and NSF 61 standards as applicable.
- Flange adapters may be fused to same DR and to one standard DR higher. (i.e., DR-17 to DR-21)



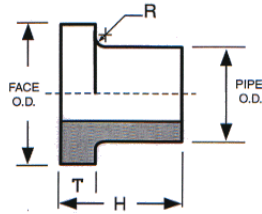
## IPS Flange Adapters

Pressure Rated for DR Ordered  
(Dimensions in Inches)

IPS Nominal Size	H (OAL)	T	Face Diameter	R (Radius)	DR	Weight (lbs)
3/4"	4.0	0.20	2.00	1/4	7-11	.1
1"	4.0	0.21	2.37	1/4	7-11	.1
1-1/4"	4.0	0.25	2.75	1/4	7-11	.2
1-1/2"	4.0	0.30	3.12	1/4	7-11	.2
2"	6.0	0.39	3.94	1/4	7-17	1
3"	6.0	0.63	5.00	1/4	7-32.5	2
4"	6.0	0.54	6.00	3/8	7-32.5	3
5"	6.0 6.0	0.99 0.63	7.50	3/8	7-9 11-32.5	5 4
6"	8.0	0.78	8.50	3/8	7-32.5	7
8"	11.0	1.00	10.63	3/8	7-32.5	10
10"	11.0 11.0 11.0	1.93 1.49 1.22	12.75	3/8	7 9 11-32.5	20 19 18
12"	11.0 11.0 11.0	2.28 1.77 1.45	15.00	3/8	7 9 11-32.5	26 25 24
14"	11.0 11.0 11.0	2.50 1.94 1.60	17.50	1/2	7 9 11-32.5	51 49 40
16"	12.0 12.0 12.0	2.86 2.22 1.82	20.00	1/2	7 9 11-32.5	76 74 60
18"	12.7 12.0 12.0	3.21 2.50 2.05	21.12	1/2	7 9 11-32.5	80 79 64

• IPS Flange Adapters Continued Next Page •

DESIGN-FLOW® High Density Polyethylene Pipe Fittings meet dimensions and requirements of ASTM F 2206, ASTM F 714, ASTM D 3035, AWWA C901/C906 and NSF 61 standards as applicable.

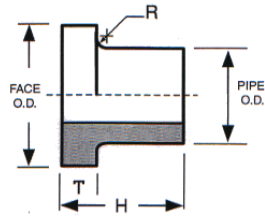


## IPS Flange Adapters (continued)

Pressure Rated for DR Ordered  
(Dimensions in Inches)

IPS Nominal Size	H (OAL)	T	Face Diameter	R (Radius)	DR	Weight (lbs)
20"	12.8	3.57	23.50	1/2	7	94
	12.0	2.78			9	81
	12.0	2.27			11-32.5	66
22"	12.0	3.06	25.60	1/2	9	83
	12.0	2.50			11-32.5	68
24"	14.0	3.33	28.00	1/2	9	97
	14.0	2.73			11-32.5	79
26"	15.0	3.61	30.00	1/2	9	143
	15.0	2.96			11-32.5	117
28"	15.7	3.89	32.30	1/2	9	158
	15.0	3.18			11-32.5	129
30"	15.8	4.17	34.30	1/2	9	164
	15.0	3.41			11-32.5	134
32"	15.0	3.64	36.50	1/2	11-13.5	163
	15.0	2.35			17-32.5	106
34"	15.9	4.72	38.50	1/2	11-13.5	208
	15.0	3.86			17-32.5	135
36"	16.5	4.09	40.80	1/2	11-13.5	218
	14.0	2.64			17-32.5	141
42"	22.4	3.89	47.50	1/2	13.5	167
	21.0	3.09			17	182
	21.0	2.50			21-32.5	152
48"	21.0	3.53	54.00	3/4	17	244
	21.0	2.86			21	204
	21.0	2.31			26-32.5	170
54"	22.4	4.00	60.00	3/4	17	304
	21.6	3.21			21	264
	21.0	2.60			26-32.5	230

**DESIGN-FLOW**® High Density Polyethylene Pipe Fittings meet dimensions and requirements of ASTM F 2206, ASTM F 714, ASTM D 3035, AWWA C901/C906 and NSF 61 standards as applicable.



## DIPS Flange Adapters

### Ductile Iron Pipe Sizes

Pressure Rated for DR Ordered

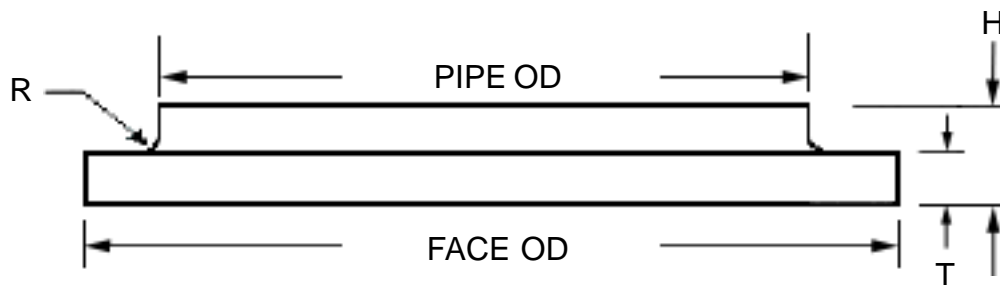
(Dimensions in Inches)

DIPS Nominal Size	H (OAL)	T	Face Diameter	R (Radius)	DR	Weight (lbs)
3"	6.0	0.45	5.000	7/16	11-32.5	2
4"	6.0	0.67 0.55	6.625	7/16	9 11-32.5	4 3
6"	8.0	0.96 0.78	8.625	7/16	9 11	6 4
8"	9.0	1.26 1.03	10.750	7/16	9 11-32.5	8 6
10"	9.0	1.54 1.26	12.750	7/16	9 11-32.5	13 10
12"	11.0	1.83 1.50	15.000	7/16	9 11-32.5	21 17
14"	11.0	2.13 1.74	17.500	7/16	9 11-32.5	35 28
16"	12.0	2.42 1.98	20.000	7/16	9 11-32.5	43 35
18"	12.0	2.71 2.22	21.500	7/16	9 11-32.5	56 46
20"	12.0	3.00 2.46	23.600	7/16	9 11-32.5	68 55
24"	14.8 14.0	3.58 2.93	27.800	7/16	9 11-32.5	99 81
30"	15.0	3.64	34.300	1/2	11-32.5	134

**DESIGN-FLOW**® High Density Polyethylene Pipe Fittings meet dimensions and requirements of ASTM F 2206, ASTM F 714, ASTM D 3035, AWWA C901/C906 and NSF 61 standards as applicable.



## Stub End Design Information



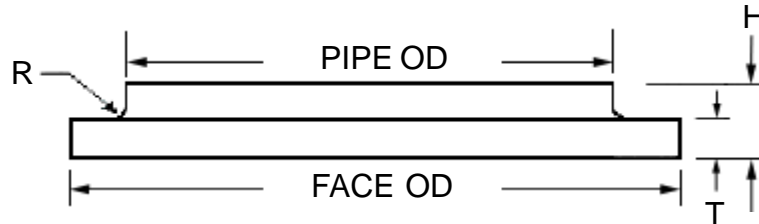
- A fusion machine mounted stub end holder is required for fusion of a stub end.
- “T” must be at least 1.25 times pipe wall thickness for full pressure rating.
- The face diameter fits inside bolt circle to promote alignment and concentricity, with sealing.
- “R” must be matched to the radius of the metal bolt ring.
- Corrosion protected Convuluted Ductile Iron Bolt Rings for HDPE are recommended.
- Meet dimensions and requirements of ASTM F 2206, ASTM F 714, ASTM D 3035, AWWA C901/C906 and NSF 61 standards as applicable.
- Stub ends may be fused to same DR and to one standard DR higher. (i.e., DR-17 to DR-21)
- CAUTION: Stub ends are intended to pressure seal & handle axial loads; stub ends should not be used in applications subjected to significant flange face misalignment, lateral pipe bending or significant pipe ring deflection.



## IPS Stub Ends

Pressure Rated for DR Ordered

(Dimensions in Inches)



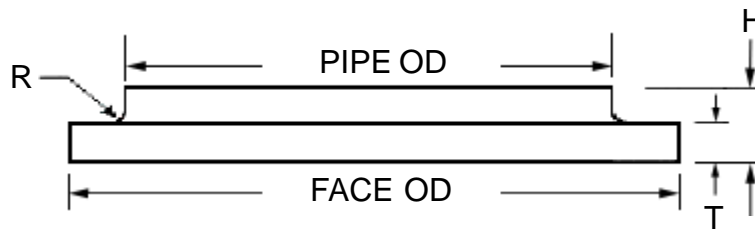
IPS Nominal Size	H (OAL)	T	Face Diameter	R (Radius)	DR	Weight (lbs)
14"	0	2.50	17.50	1/2	7	45
	0	1.94			9	38
	4.0	1.60			11-32.5	32
16"	0	2.86	20.00	1/2	7	64
	0	2.22			9	53
	4.0	1.82			11-32.5	44
18"	0	3.21	21.12	1/2	7	68
	0	2.50			9	57
	4.0	2.05			11-32.5	48
20"	5.3	3.57	23.50	1/2	7	77
	4.5	2.78			9	64
	4.0	2.27			11-32.5	53
22"	4.6	3.06	25.60	1/2	9	75
	4.0	2.50			11-32.5	62
24"	4.6	3.33	28.00	1/2	9	88
	4.0	2.73			11-32.5	74
26"	4.6	3.61	30.00	1/2	9	44
	4.0	2.96			11-32.5	36
28"	5.5	3.89	32.30	1/2	9	53
	4.8	3.18			11-32.5	44
30"	5.8	4.17	34.30	1/2	9	64
	5.0	3.41			11-32.5	53
32"	5.3	3.64	36.50	1/2	11-13.5	61
	4.0	2.35			17-32.5	51
34"	4.9	4.72	38.50	1/2	11-13.5	71
	4.0	3.86			17-32.5	59
36"	5.4	4.09	40.80	1/2	11-13.5	80
	4.0	2.64			17-32.5	67
42"	5.3	3.89	47.50	1/2	13.5	98
	4.5	3.09			17	82
	4.5	2.50			21-32.5	66
48"	5.7	3.53	54.00	3/4	17	124
	5.0	2.86			21	104
	4.5	2.31			26-32.5	87
54"	5.9	4.00	60.00	3/4	17	218
	5.1	3.21			21	182
	4.5	2.60			26-32.5	152

**DESIGN-FLOW**® High Density Polyethylene Pipe Fittings meet dimensions and requirements of ASTM F 2206, ASTM F 714, ASTM D 3035, AWWA C901/C906 and NSF 61 standards as applicable.

CAUTION: Stub ends are intended to pressure seal & handle axial loads; stub ends should not be used in applications subjected to significant flange face misalignment, lateral pipe bending or significant pipe ring deflection.



## DIPS Stub Ends Ductile Iron Pipe Sizes Pressure Rated for DR Ordered (Dimensions in Inches)



DIPS Nominal Size	H (OAL)	T	Face Diameter	R (Radius)	DR	Weight (lbs)
14"	4.0	2.13 1.74	17.5	7/16	9 11-32.5	22 18
16"	4.0	2.42 1.98	20.0	7/16	9 11-32.5	29 24
18"	4.0	2.71 2.22	21.5	7/16	9 11-32.5	32 27
20"	4.0	3.00 2.46	23.6	7/16	9 11-32.5	29 33
24"	4.5	3.58 2.93	27.8	7/16	9 11-32.5	55 46
30"	5.0	3.64	34.3	1/2	11-32.5	110

**DESIGN-FLOW**® High Density Polyethylene Pipe Fittings meet dimensions and requirements of ASTM F 2206, ASTM F 714, ASTM D 3035, AWWA C901/C906 and NSF 61 standards as applicable.

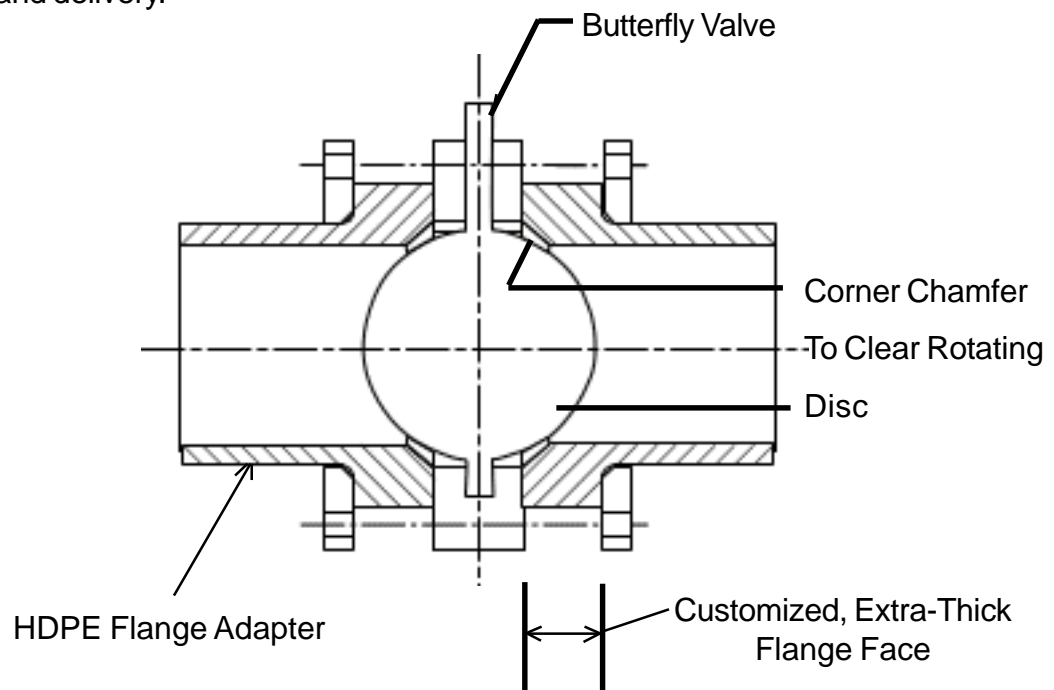
CAUTION: Stub ends are intended to pressure seal & handle axial loads; stub ends should not be used in applications subjected to significant flange face misalignment, lateral pipe bending or significant pipe ring deflection.



## Butterfly Valve Flange & Spacer Design Information

When the butterfly valve disc rotates, it can hit the ID edge of the standard flange adapter. In the past, valve spacer rings have been used. Today, Independent Pipe Products can make and deliver a modified, one-piece flange adapter with an integral, extra-thick flange face internally machined to allow full disc opening.

Included on the following page is design data and pricing for IPPI's standard Butterfly Flange Adapters 4" through 12" IPS. For sizes not listed please call for the design, quote, and delivery.



### Design Data Needed:

Specific valve information including the manufacturer, model number, disc diameter, valve width face to face and stem location (center line location or offset location). For sizes not listed in our catalog butterfly flange adapter design is available, charges are based on an hourly rate for engineering services. Please contact customer service for more details.

### Warning & Disclaimer:

Butterfly flange adapters should always be trial fit to the actual valve and then **field tested for valve disk clearance and full rotation prior to butt fusion of the flange to the pipeline. After butt fusion and bolt up of flange repeat this trial at each occurrence to insure final install is properly centered** thus again allowing valve disk clearance and full rotation.

**The above requirement insures proper valve operation prior to burial and also will identify unexpected situations including valve design changes or valve substitutions at the project.**

**IPPI cannot be held responsible for valve interference with the butterfly flange adapter or for any related excavation costs.**



## IPS or DIPS Butterfly Valve Spacers For Use With HDPE Flange Adapters

(Dimensions in Inches)



As the butterfly valve wafer rotates, it will hit the ID of the standard Flange Adapter. Independent Pipe Products, Inc. can machine custom Flange Adapters to avoid using spacers and provide for full butterfly valve operating (see next page). Valve spacers are used to offset the standard HDPE flange face to provide for full wafer rotation, when customized flanges have not been ordered. Be sure to double check the standard spacer thickness is sufficient for the exact butterfly valve being used, by doing a simple dimensional layout.

IPS or DIPS Nominal Size	PE Flange Hub OD	Spacer OD	Spacer ID	Spacer Length	Weight (lbs)
2"	3.90	4.00	2.12	1.0	1
3"	5.00	5.25	3.25	1.0	1
4"	6.60	6.75	4.25	1.5	1
6"	8.50	8.63	6.25	2.0	2
8"	10.63	10.88	8.25	2.0	2
10"	12.75	13.25	10.25	2.0	3
12"	15.00	16.00	12.25	2.0	4
14"	17.50	17.63	13.37	2.2	5
16"	20.00	20.13	15.25	2.5	7
18"	21.12	21.50	17.25	3.0	9
20"	23.50	23.88	19.00	3.5	21
22"	25.60	25.88	21.00	4.0	26
24"	28.00	28.13	23.00	4.0	31

**For larger diameter valve-spacers - Call For Quick Quote**

**Refer to next page for modified flange adapters that avoid use of spacer rings.**

For larger valve spacers the following information is needed: width of valve from face to face, diameter of butterfly wafer and the location of the butterfly wafer stem (center stem or otherwise).

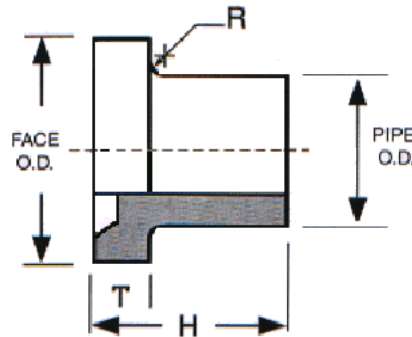
All non-stock fabricated fittings are produced to order and are noncancelable and nonreturnable.

Hydrotesting for compliance with AWWA C906 fitting requirements add 15% (i.e., 1.15 multiplier).



## IPS & DIPS Butterfly Valve Flange Adapters

Pressure Rated for DR Ordered  
(Dimensions in Inches)



Nominal Size	H (OAL)	T	Face Diameter	R (Radius)	DR	Weight (lbs)
4"	6.50	1.25	6.625	3/8	11-32.5	5
6"	8.50	1.50	8.625	3/8	11-32.5	6
8"	9.50	1.75	10.750	3/8	11-32.5	8
10"	9.50	2.00	12.750	3/8	11-32.5	12
12"	11.50	2.25	15.000	3/8	11-32.5	19

Sizes 24" and smaller meet AWWA C906 fitting requirements, sizes 26" and larger are designed and quoted per fitting.

### Design Data Needed:

Specific valve information including the manufacturer, model number, disc diameter, valve width face to face and stem location (center line location or offset location). For sizes not listed in our catalog butterfly flange adapter design is available, charges are based on an hourly rate for engineering services. Please contact customer service for more details.

### Warning & Disclaimer:

Butterfly flange adapters should always be trial fit to the actual valve and then **field tested for valve disk clearance and full rotation prior to butt fusion of the flange to the pipeline. After butt fusion and bolt up of flange repeat this trial at each occurrence to insure final install is properly centered thus again allowing valve disk clearance and full rotation.**

The above requirement insures proper valve operation prior to burial and also will identify unexpected situations including valve design changes or valve substitutions at the project.

IPPI cannot be held responsible for valve interference with the butterfly flange adapter or for any related excavation costs.



## High Pressure Steel Blind Flanges IPS & DIPS AWWA C207 Class D (Dimensions in Inches)

Nominal Size	OD	BC	# dia x holes	T	WPR (psi)	Weight (lbs)
2"	6.00	4.75	4 x 3/4	0.625	175	5
3"	7.50	6.00	4 x 3/4	0.625	175	8
4"	9.00	7.50	8 x 3/4	0.625	175	12
6"	11.00	9.50	8 x 7/8	0.688	175	18
8"	13.50	11.75	8 x 7/8	0.688	175	27
10"	16.00	14.25	12 x 1	0.688	175	38
12"	19.00	17.00	12 x 1	0.812	175	63
14"	21.00	18.75	12 x 1-1/8	0.938	150	89
16"	23.50	21.25	16 x 1-1/8	1.000	150	118
18"	25.00	22.75	16 x 1-1/4	1.062	150	140
20"	27.50	25.00	20 x 1-1/4	1.125	150	181
22"	29.50	27.25	20 x 1-3/8	1.188	150	213
24"	32.00	29.50	20 x 1-3/8	1.250	150	275
30"	38.75	36.00	28 x 1-3/8	1.375	150	444
36"	46.00	42.75	32 x 1-5/8	1.625	150	735
42"	53.00	49.50	36 x 1-5/8	1.750	150	1085
48"	59.50	56.00	44 x 1-5/8	1.750	150	1369

For other sizes not listed or pressure ratings, call for a Quick-Quote.

Description: An AWWA C207 cross-section, A36 steel plate, with Red-Oxide primer, to match ANSIB16.5 150# bolt-hole pattern.



## HDPE Blind Flanges IPS & DIPS (Dimensions in Inches)



Nominal Size	Diameter Of Flange	1" Thick Weight (lbs)	2" Thick Weight (lbs)
2"	6.00	1	2
3"	7.50	2	4
4"	9.00	3	6
6"	11.00	4	8
8"	13.50	5	10
10"	16.00	7	14
12"	19.00	10	20
14"	21.00	12	24
16"	23.50	15	30
18"	25.00	18	36
20"	27.50	21	42
22"	29.50	24	48
24"	32.00	28	56

Also available manufactured from PVC material - Call For Quick Quote

These blind flanges are ordinarily used for closure or night-capping of flanged pipes. They are **NOT** fully pressure rated. Without the use of a metal back up blind flange, the HDPE flange may leak between bolt-holes at moderate pressures.