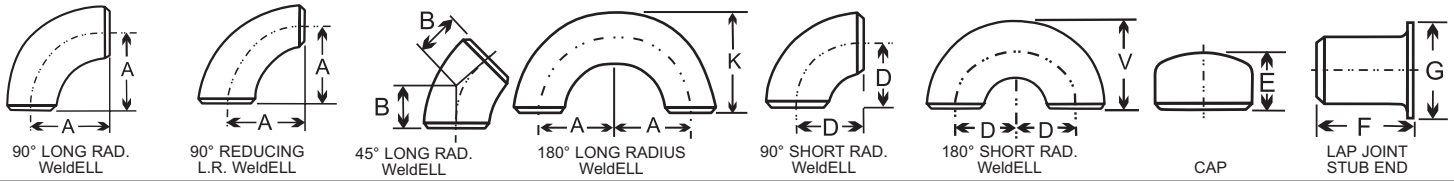




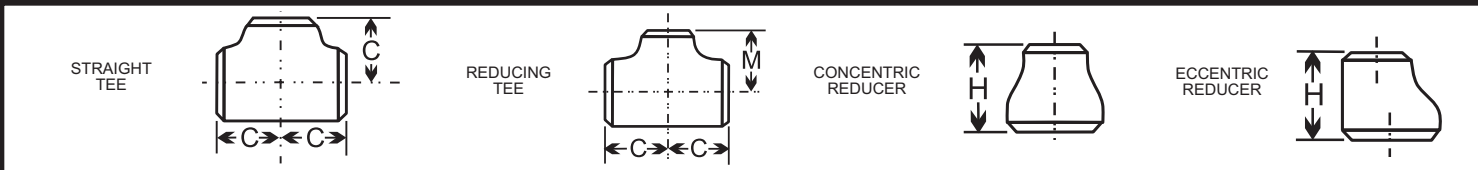
# TAYLOR FORGE ENGINEERED SYSTEMS, INC.

208 N. Iron Street • Paola, KS 66071 • phone 913-294-5331 • fax 913-294-5337 • www.tfes.com

## Welding Fittings



Nom. Pipe Size	Pipe O.D.	WALL THICKNESS													A	B	K	D	V	E <sup>⑥</sup>	F		G	Nom. Pipe Size
		Light Wall <sup>①</sup>	Sch 20	Sch 30	Std	Sch 40	Sch 60	X-Stg	Sch 80	Sch 100	Sch 120	Sch 140	Sch 160	XX-Stg							ASA	MSS		
.50	.840	.083	---	---	.109	.109	---	.147	.147	---	---	---	.188	.294	1.50	.63	1.88	---	---	1	3	2	1.38	.50
.75	1.050	.083	---	---	.113	.113	---	.154	.154	---	---	---	.219	.308	1.13	.44	1.69	---	---	1	3	2	1.69	.75
1	1.315	.109	---	---	.133	.133	---	.179	.179	---	---	---	.250	.358	1.50	.88	2.19	1	1.63	1.50	4	2	2	1
1.25	1.660	.109	---	---	.140	.140	---	.191	.191	---	---	---	.250	.382	1.88	1	2.75	1.25	2.06	1.50	4	2	2.50	1.25
1.50	1.900	.109	---	---	.145	.145	---	.200	.200	---	---	---	.281	.400	2.25	1.13	3.25	1.50	2.44	1.50	4	2	2.88	1.50
2	2.375	.109	---	---	.154	.154	---	.218	.218	---	---	---	.344	.436	3	1.38	4.19	2	3.19	1.50	6	2.50	3.63	2
2.50	2.875	.120	---	---	.203	.203	---	.276	.276	---	---	---	.375	.552	3.75	1.75	5.19	2.50	3.94	1.50	6	2.50	4.13	2.50
3	3.500	.120	---	---	.216	.216	---	.300	.300	---	---	---	.438	.600	4.50	2	6.25	3	4.75	2	6	2.50	5	3
3.50	4.000	.120	---	---	.226	.226	---	.318	.318	---	---	---	.636	.875	5.25	2.25	7.25	3.50	5.50	2.50	6	3	5.50	3.50
4	4.500	.120	---	---	.237	.237	---	.337	.337	---	.438	---	.531	.674	6	2.50	8.25	4	6.25	2.50	6	3	6.19	4
5	5.563	.134	---	---	.258	.258	---	.375	.375	---	.500	---	.625	.750	7.50	3.13	10.31	5	7.75	3	8	3	7.31	5
6	6.625	.134	---	---	.280	.280	---	.432	.432	---	.562	---	.719	.864	9	3.75	12.31	6	9.31	3.50	8	3.50	8.50	6
8	8.625	.148	.250	.277	.322	.322	.406	.500	.500	.594	.719	.812	.906	.875	12	5	16.31	8	12.31	4	8	4	10.63	8
10	10.750	.165	.250	.307	.365	.365	.500	.500	.594	.719	.844	1.000	1.125	1.000	15	6.25	20.38	10	15.38	5	10	5	12.75	10
12	12.750	.180	.250	.330	.375	.406	.562	.500	.688	.844	1.000	1.125	1.312	1.000	18	7.50	24.38	12	18.38	6	10	6	15	12
14	14.000	.250	.312	.375	.375	.438	.594	.500	.750	.938	1.094	1.250	1.406	---	21	8.75	28	14	21	6.50	12	---	16.25	14
16	16.000	.250	.312	.375	.375	.500	.656	.500	.844	1.031	1.219	1.438	1.594	---	24	10	32	16	24	7	12	---	18.50	16
18	18.000	.250	.312	.438	.375	.562	.750	.500	.938	1.156	1.375	1.562	1.781	---	27	11.25	36	18	27	8	12	---	21	18
20	20.000	.250	.375	.500	.375	.594	.812	.500	1.031	1.281	1.500	1.750	1.969	---	30	12.50	40	20	30	9	12	---	23	20
24	24.000	.250	.375	.562	.375	.688	.969	.500	1.219	1.531	1.812	2.062	2.344	---	36	15	48	24	36	10.50	12	---	27.25	24
30	30.000	.312	.500	.625	.375	---	.500	---	---	---	---	---	---	---	45	18.50	60	30	45	10.50	---	---	---	30
36 <sup>④</sup>	36.000	.312	.500	.625	.375	.750	---	.500	---	---	---	---	---	---	54	22.25	---	36	54	10.50	---	---	---	36 <sup>④</sup>
42 <sup>④</sup>	42.000	---	---	---	.375	---	---	.500	---	---	---	---	---	---	63	26	---	42	---	12	---	---	---	42 <sup>④</sup>
48 <sup>④</sup>	48.000	---	---	---	.375	---	---	.500	---	---	---	---	---	---	72	29.75	---	48	---	13.50	---	---	---	48 <sup>④</sup>



Nom. Pipe Size	Outlet	C			Nom. Pipe Size	Outlet	C			Nom. Pipe Size	Outlet	C			Nom. Pipe Size	Outlet	C		
		M	H	M			H	M	H			M	H						
.75	.75	1.13	---	---	3.50	3.50	3.75	---	---	10	10	8.50	---	---	20	20	15	---	---
	.50	1.13	1.13	1.50		3	3.75	3.63	4		8	8.50	8	7		18	15	14.50	20
1	1	1.50	---	---	4	2.50	3.75	3.50	4	12	6	8.50	7.63	7	24 <sup>④</sup>	16	15	14	20
	.75	1.50	1.50	2		2	3.75	3.25	4		5	8.50	7.50	7		14	15	14	20
1.25	.50	1.50	1.50	2	5	1.50	3.75	3.13	4	14	4	8.50	7.25	7	30 <sup>④</sup>	12	15	13.63	20
	1.25	1.88	---	---		4	4.13	---	---		12	10	---	---		10	15	13.13	20
1.50	1	1.88	1.88	2	6	3.50	4.13	4	4	16	10	10	9.50	8	36 <sup>④</sup>	8	15	12.75	20
	.75	1.88	1.88	2		2.50	4.13	3.75	4		6	10	8.63	8		24	17	---	---
2	.50	1.88	1.88	2	8	2.50	4.13	3.50	4	18	6	10	8.63	8	42 <sup>④</sup>	20	17	17	20
	1.50	2.25	---	---		2	4.13	3.50	4		5	10	8.50	8		18	17	16.50	20
2.50	1.25	2.25	2.25	2.50	8	1.50	4.13	3.38	4	20	14	11	---	---	48 <sup>④</sup>	16	17	16	20
	1	2.25	2.25	2.50		5	4.88	---	---		12	11	10.63	13		14	17	16	20
3	.75	2.25	2.25	2.50	8	4	4.88	4.63	5	24	10	11	10.13	13	30 <sup>④</sup>	12	17	16.63	20
	.50	2.25	2.25	2.50		3.50	4.88	4.50	5		8	11	9.75	13		10	17	15.13	20
3	2	2.50	---	---	8	3	4.88	4.38	5	24	6	11	9.38	13	36 <sup>④</sup>	30	22	---	---
	1.50	2.50	2.38	3		2.50	4.88	4.25	5		16	12	---	---		24	22	21	24
3	1.25	2.50	2.25	3	8	2	4.88	4.13	5	24	14	12	12	14	36 <sup>④</sup>	20	22	20	24
	1	2.50	2	3		6	5.63	---	---		12	12	11.63	14		18	22	19.50	24
3	.75	2.50	1.75	3	8	5	5.63	5.38	5.50	24	10	12	11.13	14	36 <sup>④</sup>	16	22	19	24
	2.50	3	---	---		4	5.63	5.13	5.50		8	12	10.75	14		14	22	19	24
3	2	3	2.75	3.50	8	3.50	5.63	5	5.50	24	6	12	10.38	14	36 <sup>④</sup>	36	26.50	---	---
	1.50	3	2.63	3.50		3	5.63	4.88	5.50		18	13.50	---	---		30	26.50	25	24
3	1.25	3	2.50	3.50	8	2.50	5.63	4.75	5.50	24	16	13.50	13	15	36 <sup>④</sup>	24	26.50	24	24
	1	3	2.25	3.50		8	7	---	---		14	13.50	13	15		20	26.50	23	24
3	3	3.38	---	---	8	6	7	6.63	6	24	12	13.50	12.63	15	36 <sup>④</sup>	18	26.50	22.50	24
	2.50	3.38	3.25	3.50		5	7	6.38	6		10	13.50	12.13	15		16	26.50	22	24
3	2	3.38	3	3.50	8	4	7	6.13	6	24	8	13.50	11.75	15	36 <sup>④</sup>	42	30	28	---
	1.50	3.38	2.88	3.50		3.50	7	6	6		36	30	28	24		24	30	26	24
3	1.25	3.38	2.75	3.50	8	3.50	7	6	6	24	24	30	26	24	36 <sup>④</sup>	20	30	26	24
	3	3.38	---	---		48	35	33	---		48	35	32	28		42	35	31	28
3	2	3.38	3	3.50	8	4	7	6.13	6	24	8	13.50	11.75	15	36 <sup>④</sup>	30	35	30	28
	1.25	3.38	2.75	3.50		3.50	7	6	6		36	30	28	24		24	30	26	24

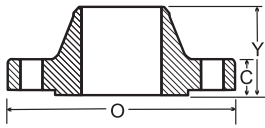
NOTES: ① Light Wall thicknesses are identical to stainless steel Schedule 10S in sizes thru 12", and to Schedule 10 in sizes 14" and larger.  
 ② Standard Wall thicknesses are identical to stainless steel Schedule 40S in sizes thru 12".  
 ③ Extra Strong Wall thicknesses are identical to stainless steel Schedule 80S in sizes thru 12".  
 ④ May be welded pipe, x-rayed and stress-relieved.  
 ⑤ Other types, sizes and thicknesses of fittings on application.  
 ⑥ See ASME B16.9 for cap lengths when wall thicknesses are greater than X-stg.



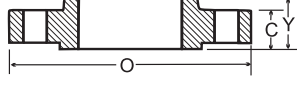
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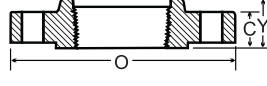
## Forged Steel Flanges



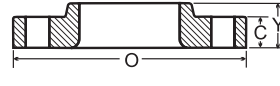
WELDING NECK FLANGE ①



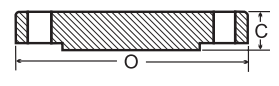
SLIP-ON FLANGE



THREADED FLANGE



LAP JOINT FLANGE



BLIND FLANGE

Nom. Pipe Size	O		Y <sup>②</sup>			Bolt Circle	No. and Size of Holes	O		Y <sup>②</sup>			Bolt Circle	No. and Size of Holes	O		Y <sup>②</sup>			Bolt Circle	No. and Size of Holes	Nom. Pipe Size																																											
	C <sup>③</sup>	Weld Neck	Slip on Thrd.	Lap Joint	Weld Neck			Slip on Thrd.	Lap Joint	C <sup>③</sup>	Weld Neck	Slip on Thrd.			Lap Joint	Weld Neck	Slip on Thrd.	Lap Joint	C <sup>③</sup>				Weld Neck	Slip on Thrd.	Lap Joint																																								
<b>150 LB. FLANGES</b>																						<b>300 LB. FLANGES</b>																						<b>400 LB. FLANGES</b>																					
.50	3.50	.44	1.88	.63	.63	2.38	4-.63	3.75	.56	2.06	.88	.88	2.63	4-.63	3.75	.56	2.06	.88	.88	2.63	4-.63	.50																																											
.75	3.88	.50	2.06	.63	.63	2.75	4-.63	4.63	.63	2.25	1	1	3.25	4-.75	4.63	.63	2.25	1	1	3.25	4-.75	.75																																											
1	4.25	.56	2.19	.69	.69	3.13	4-.63	4.88	.69	2.44	1.06	1.06	3.50	4-.75	4.88	.69	2.44	1.06	1.06	3.50	4-.75	1																																											
1.25	4.63	.63	2.25	.81	.81	3.50	4-.63	5.25	.75	2.56	1.06	1.06	3.88	4-.75	5.25	.81	2.63	1.13	1.13	3.88	4-.75	1.25																																											
1.50	5	.69	2.44	.88	.88	3.88	4-.63	6.13	.81	2.69	1.19	1.19	4.50	4-.88	6.13	.88	2.75	1.25	1.25	4.50	4-.88	1.50																																											
2	6	.75	2.50	1	1	4.75	4-.75	6.50	.88	2.75	1.31	1.31	5	8-.75	6.50	1	2.88	1.44	1.44	5	8-.75	2																																											
2.50	7	.88	2.75	1.13	1.13	5.50	4-.75	7.50	1	3	1.50	1.50	5.88	8-.88	7.50	1.13	3.13	1.63	1.63	5.88	8-.88	2.50																																											
3	7.50	.94	2.75	1.19	1.19	6	4-.75	8.25	1.13	3.13	1.69	1.69	6.63	8-.88	8.25	1.25	3.25	1.81	1.81	6.63	8-.88	3																																											
3.50	8.50	.94	2.81	1.25	1.25	7	8-.75	9	1.19	3.19	1.75	1.75	7.25	8-.88	9	1.38	3.38	1.94	1.94	7.25	8-1	3.50																																											
4	9	.94	3	1.31	1.31	7.50	8-.75	10	1.25	3.38	1.88	1.88	7.88	8-.88	10	1.38	3.50	2	2	7.88	8-1	4																																											
5	10	.94	3.50	1.44	1.44	8.50	8-.88	11	1.38	3.88	2	2	9.25	8-.88	11	1.50	4	2.13	2.13	9.25	8-1	5																																											
6	11	1	3.50	1.56	1.56	9.50	8-.88	12.50	1.44	3.88	2.06	2.06	10.63	12-.88	12.50	1.63	4.06	2.25	2.25	10.63	12-1	6																																											
8	13.50	1.13	4	1.75	1.75	11.75	8-.88	15	1.63	4.38	2.44	2.44	13	12-1	15	1.88	4.63	2.69	2.69	13	12-1.13	8																																											
10	16	1.19	4	1.94	1.94	14.25	12-1	17.50	1.88	4.63	2.63	3.75	15.25	16-1.13	17.50	2.13	4.88	2.88	4	15.25	16-1.25	10																																											
12	19	1.25	4.50	2.19	2.19	17	12-1	20.50	2	5.13	2.88	4	17.75	16-1.25	20.50	2.25	5.38	3.13	4.25	17.75	16-1.38	12																																											
14	21	1.38	5	2.25	3.13	18.75	12-1.13	23	2.13	5.63	3	4.38	20.25	20-1.25	23	2.38	5.88	3.31	4.63	20.25	20-1.38	14																																											
16	23.50	1.44	5	2.50	3.44	21.25	16-1.13	25.50	2.25	5.75	3.25	4.75	22.50	20-1.38	25.50	2.50	6	3.69	5	22.50	20-1.50	16																																											
18	25	1.56	5.50	2.69	3.19	22.75	16-1.25	28	2.38	6.25	3.50	5.13	24.75	24-1.38	28	2.63	6.50	3.88	5.38	24.75	24-1.50	18																																											
20	27.50	1.69	5.69	2.88	4.06	25	20-1.25	30.50	2.50	6.38	3.75	5.50	27	24-1.38	30.50	2.75	6.63	4	5.75	27	24-1.63	20																																											
24	32	1.88	6	3.25	4.38	29.50	20-1.38	36	2.75	6.63	4.19	6	32	24-1.63	36	3	6.88	4.50	6.25	32	24-1.88	24																																											
<b>600 LB. FLANGES</b>																						<b>900 LB. FLANGES</b>																						<b>1500 LB. FLANGES</b>																					
.50	3.75	.56	2.06	.88	.88	2.63	4-.63	4.75	.88	2.38	1.25	1.25	3.25	4-.88	4.75	.88	2.38	1.25	1.25	3.25	4-.88	.50																																											
.75	4.63	.63	2.25	1	1	3.25	4-.75	5.13	1	2.75	1.38	1.38	3.50	4-.88	5.13	1	2.75	1.38	1.38	3.50	4-.88	.75																																											
1	4.88	1.06	2.44	1.06	1.06	3.50	4-.75	5.88	1.13	2.88	1.63	1.63	4	4-1	5.88	1.13	2.88	1.63	1.63	4	4-1	1																																											
1.25	5.25	.81	2.63	1.13	1.13	3.88	4-.75	6.25	1.13	2.88	1.63	1.63	4.38	4-1	6.25	1.13	2.88	1.63	1.63	4.38	4-1	1.25																																											
1.50	6.13	.88	2.75	1.25	1.25	4.50	4-.88	7	1.25	3.25	1.75	1.75	4.88	4-1.13	7	1.25	3.25	1.75	1.75	4.88	4-1.13	1.50																																											
2	6.50	1	2.88	1.44	1.44	5	8-.75	8.50	1.50	4	2.25	2.25	6.50	8-1	8.50	1.50	4	2.25	2.25	6.50	8-1	2																																											
2.50	7.50	1.13	3.13	1.63	1.63	5.88	8-.88	9.63	1.63	4.13	2.50	2.50	7.50	8-1.13	9.63	1.63	4.13	2.50	2.50	7.50	8-1.13	2.50																																											
3	8.25	1.25	3.25	1.81	1.81	6.63	8-.88	9.50	1.50	4	2.13	2.13	7.50	8-1	10.50	1.88	4.63	2.88	2.88	8	8-1.25	3																																											
3.50	9	1.38	3.38	1.94	1.94	7.25	8-1	11.50	1.75	4.50	2.75	2.75	9.25	8-1.25	12.25	2.13	4.88	3.56	3.56	9.50	8-1.38	3.50																																											
4	10.75	1.50	4	2.13	2.13	8.50	8-1	11.50	1.75	4.50	2.75	2.75	9.25	8-1.25	12.25	2.13	4.88	3.56	3.56	9.50	8-1.38	4																																											
5	13	1.75	4.50	2.38	2.38	10.50	8-1.13	13.75	2	5	3.13	3.13	11	8-1.38	14.75	2.88	6.13	4.13	4.13	11.50	8-1.63	5																																											
6	14	1.88	4.63	2.63	2.63	11.50	12-1.13	15	2.19	5.50	3.38	3.38	12.50	12-1.25	15.50	3.25	6.75	4.69	4.69	12.50	12-1.50	6																																											
8	16.50	2.19	5.23	3	3	13.75	12-1.25	18.50	2.50	6.38	4	4.50	15.50	12-1.50	19	3.63	8.38	5.63	5.63	15.50	12-1.75	8																																											
10	20	2.50	6	3.38	4.38	17	16-1.38	21.50	2.75	7.25	4.25	5	18.50	16-1.50	23	4.25	10	6.25	7	19	12-2	10																																											
12	22	2.63	6.13	3.63	4.63	19.25	20-1.38	24	3.13	7.88	4.63	5.63	21	20-1.50	26.50	4.88	11.13	7.13	8.63	22.50	16-2.13	12																																											
14	23.75	2.75	6.50	3.69	5	20.75	20-1.50	25.25	3.38	8.38	5.13	6.13	22	20-1.63	29.50	5.25	11.75	---	---	9.50	25	16-2.38	14																																										
16	27	3	7	4.19	5.50	23.75	20-1.63	27.75	3.50	8.50	5.25	6.50	24.25	20-1.75	32.50	5.75	12.25	---	---	10.25	27.75	16-2.63	16																																										
18	29.25	3.25	7.25	4.63	6	25.75	20-1.75	31	4	9	6	7.50	27	20-2	36	6.38	12.88	---	---	10.88	30.50	16-2.88	18																																										
20	32	3.50	7.50	5	6.50	28.50	24-1.75	33.75	4.25	9.75	6.25	8.25	29.50	20-2.13	38.75	7	14	---	---	11.50	32.75	16-3.13	20																																										
24	37	4	8	5.50	7.25	33	24-2	41	5.50	11.50	8	10.50	35.50	20-2.63	46	8	16	---	---	13	39	16-3.63	24																																										

<b>2500 LB. FLANGES</b>							
.50	5.25	1.19	2.88	1.56	1.56	3.50	4-.88
.75	5.50	1.25	3.13	1.69	1.69	3.75	4-.88
1	6.25	1.38	3.50	1.88	1.88	4.25	4-1
1.25	7.25	1.50	3.75	2.06	2.06	5.13	4-1.13
1.50	8	1.75	4.38	2.38	2.38	5.75	4-1.25
2	9.25	2	5	2.75	2.75	6.75	8-1.13
2.50	10.50	2.25	5.63	3.13	3.13	7.75	8-1.25
3	12	2.63	6.63	3.63	3.63	9	8-1.38
4	14	3	7.50	4.25	4.25	10.75	8-1.63
5	16.50	3.63	9	5.13	5.13	12.75	8-1.88
6	19	4.25	10.75	6	6	14.50	8-2.13
8	21.75	5	12.50	7	7	17.25	12-2.13
10	26.50	6.50	16.50	9	9	21.25	12-2.63
12	30	7.25	18.25	10	10	24.38	12-2.88

<b>WELDING NECK FLANGE BORES ①③</b>															
Nom. Pipe Size	Outside Diam.	Light Wall ④	Sched. 20	Sched. 30	Std. Wall	Sched. 40	Sched. 60	Extra Strong	Sched. 80	Sched. 100	Sched. 120	Sched. 140	Sched. 160	Double Extra Strong	
.50	0.840	0.674	---	---	0.622	0.622	---	0.546	0.546	---	---	---	0.464	0.252	
.75	1.050	0.884	---	---	0.824	0.824	---	0.742	0.742	---	---	---	0.612	0.434	
1	1.315	1.097	---	---	1.049	1.049	---	0.957	0.957	---	---	---	0.815	0.599	
1.25	1.660	1.442	---	---	1.380	1.380	---	1.278	1.278	---	---	---	1.160	0.896	
1.50	1.900	1.682	---	---	1.610	1.610	---	1.500	1.500	---	---	---	1.338	1.100	
2	2.375	2.157	---	---	2.067	2.067	---	1.939	1.939	---	---	---	1.687	1.503	
2.50	2.875	2.635	---	---	2.469	2.469	---	2.323	2.323	---	---	---	2.125	1.771	
3	3.500	3.260	---	---	3.068	3.068	---	2.900	2.900	---	---	---	2.624	2.300	
3.50	4.000	3.760	---	---	3.548	3.548	---	3.364	3.364	---	---	---	---	2.728	
4	4.500	4.260	---	---	4.026	4.026	---	3.826	3.826	---	3.624	---	3.438	3.152	
5	5.563	5.295	---	---	5.047	5.047	---	4.813	4.813	---	4.563	---	4.313	4.063	
6	6.625	6.357	---	---	6.065	6.065	---	5.							