

# ABTER Carbon Steel Pipe and Fittings



# SPECIFICATIONS • Carbon Steel Pipe, Buttwelding Fittings, Flanges

<b>Linepipe</b>	<b>Specification</b>	<b>ASTM A53/A53M</b>	<b>Buttwelding Fittings</b>	<b>Specification</b>	<b>ASTM A234M</b> (Moderate and High Temperature Service)
	<b>Dimensions</b>	<b>ASME B36.10M</b>		<b>Specification</b>	<b>ASTM A420M</b> (Low Temperature Service)
	<b>Product</b>	Welded and Seamless Steel Pipe for High and Low Temperature and Pressure		<b>Dimensions</b>	<b>ASME B16.9</b>
	<b>Grades</b>	A, B		<b>Product</b>	Elbows, Reducing Elbows, Returns, Tees, Crosses, Reducers, Stub Ends, Caps
	<b>Specification</b>	<b>ASTM A106</b>		<b>Grade</b>	WPB, WPL
	<b>Dimensions</b>	<b>ASME B36.10M</b>			
	<b>Product</b>	Seamless Carbon Steel Pipe for High Temperature Service	<b>Flanges</b>	<b>Specification</b>	<b>ASTM A105M</b>
<b>Grades</b>	A,B,C (Indicates tensile strength and yield point design)			<b>Dimensions</b>	<b>ASME B16.5</b>
<b>Specification</b>	<b>ASTM A335/A335M</b>			<b>Product</b>	Weld Neck, Slip-on, Blind Flanges
<b>Dimensions</b>	<b>ASME B36.10M</b>			Face	Plain, Raised Face
<b>Product</b>	Seamless Ferritic Alloy-Steel Pipe for High Temperature Service			Bore	Pipe Schedule
<b>Grades</b>	Refer Standard for grades			Class	150, 300,400, 600, 900, 1500, 2500 (to 600mm only)
	<b>Specification</b>	<b>ASTM A333/A333M</b>	<b>Grade</b>	Carbon Steel	
	<b>Dimensions</b>	<b>ASME B36.10M</b>			
	<b>Product</b>	Seamless & ERW Carbon and Alloy Steel Pipe for Low Temperature Service	<b>Specification</b>	<b>AS 2129</b>	
<b>Grade</b>	Refer Standard for grades		<b>Dimensions</b>	<b>AS 2129</b>	
	<b>Specification</b>	<b>API 5L</b>		"Table" flanges pressure – temperature ratings, materials and dimensions	
	<b>Dimensions</b>	<b>ASME API 5L, B36.10</b>	<b>Application</b>	Slip-on, Blind "Table" Flanges	
	<b>Product</b>	Seamless & ERW for conveying Water, Oil, Gas	Face	Plain	
	<b>Grades</b>	B, X42, X52, X60, Refer API 5L specification for others	Bore	To suit Pipe & Tube OD	
			Table	D, E, F, and H	
<b>Structural Steel</b>	<b>Specification</b>	<b>AS 1163</b>			
	<b>Dimensions</b>	<b>AS 1163</b>			
	<b>Product</b>	Structural Steel Hollow Sections			
	<b>Grade</b>	C350			



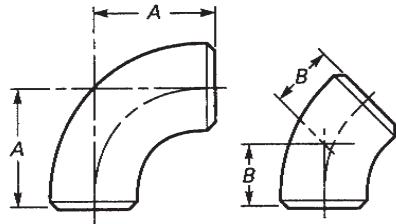
# CARBON STEEL PIPE • Weights

Nominal size		OD	Welded & Seamless Carbon Steel Pipe to ASME B36.10M All weights are in kg/m													Structural Steel Hollow Sections to AS1163 All weights are in kg/m									
DN	NPS	mm	Schedule													Wall Thickness in mm									
			10	20	30	40	Std	60	80	XS	100	120	140	160	XXS	4.8	5.5	6.0	6.4	7.1	8.2	9.3	9.5	12.7	
6	1/8	10.3	0.28		0.32	0.37	0.37		0.47	0.47															
8	1/4	13.7	0.49		0.54	0.63	0.63		0.80	0.80															
10	3/8	17.1	0.63		0.70	0.84	0.84		1.10	1.10															
15	1/2	21.3	1.00		1.12	1.27	1.27		1.62	1.62				1.95	2.55										
20	3/4	26.7	1.28		1.44	1.69	1.69		2.20	2.20				2.90	3.64										
25	1	33.4	2.09		2.18	2.50	2.50		3.24	3.24				4.24	5.45										
32	1 1/4	42.2	2.70		2.87	3.39	3.39		4.47	4.47				5.61	7.77										
40	1 1/2	48.3	3.11		3.53	4.05	4.05		5.41	5.41				7.25	9.56										
50	2	60.3	3.93		4.48	5.44	5.44		7.48	7.48				11.11	13.44										
65	2 1/2	73.0	5.26		8.04	8.63	8.63		11.41	11.41				14.92	20.39										
80	3	88.9	6.45		9.92	11.29	11.29		15.27	15.27				21.35	27.67	10.0	11.3								
90	3 1/2	101.6	7.40		11.41	13.57	13.57		18.63	18.63															
100	4	114.3	8.36		12.91	16.07	16.07		22.32	22.32		28.32		33.54	41.03	13.0		16.0							
125	5	141.3	11.57			21.77	21.77		30.97	30.97		40.28		49.11	57.43										
150	6	168.3	13.84			28.26	28.26		42.56	42.56		54.20		67.56	79.22	19.4			25.6	28.2					
200	8	219.1	19.96	33.31	36.81	42.55	42.55	53.08	64.64	64.64	75.92	90.44	100.92	111.27	107.92	25.4			33.6		42.6		60.5		64.6
250	10	273.0	27.78	41.77	51.03	60.31	60.31	81.55	96.01	81.55	114.75	133.06	155.15	172.33	155.15	31.8			42.1						81.5
300	12	323.8	36.00	49.73	65.20	79.73	73.88	108.96	132.08	186.97	159.91	186.97	208.14	238.76	186.97				50.1					73.7	97.5
350	14	355.6	54.69	67.90	81.33	94.55	81.33	126.71	158.10	107.39	194.96	224.65	253.56	281.70					55.1					81.1	107.0
400	16	406.4	62.64	77.83	93.27	123.30	93.27	160.12	203.53	123.30	245.56	286.64	333.19	365.35					63.1					93.0	123.0
450	18	457	70.57	87.71	122.38	155.80	105.16	205.74	254.55	139.15	309.62	363.56	408.26	459.37					71.1					105.0	139.0
500	20	508	78.55	117.15	155.12	183.42	117.15	247.83	311.17	155.12	381.53	441.49	508.11	564.81											
550	22	559	86.54	129.13	171.09		129.13	294.25	373.83	171.09	451.42	527.02	600.63	672.26											
600	24	610	94.53	141.12	209.64	255.41	141.12	355.26	442.08	187.06	547.71	640.03	720.15	808.22											
650	26	660	127.36	202.72			152.87			202.72															
700	28	711	137.32	218.69	271.21		164.85			218.69															
750	30	762	147.28	234.67	292.18		176.84			234.67															
800	32	813	157.24	250.64	312.15	342.91	188.82			250.64															
850	34	864	167.20	266.61	332.12	364.90	200.31			266.61															
900	36	914	176.96	282.27	351.70	420.42	212.56			282.27															
950	38	965					224.54			298.24															
1000	40	1016					236.53			314.22															
1050	42	1067					248.52			330.19															
1100	44	1118					260.50			346.16															
1150	46	1168					272.25			351.82															
1200	48	1219					284.24			377.79															

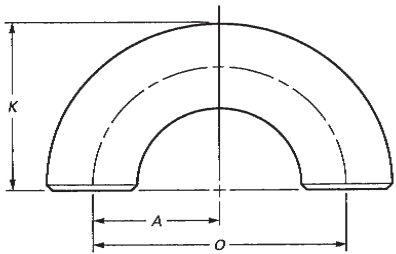
**Note 1:** All weights are theoretical and approximate  
**Note 2:** Formula for circular steel pipe kilograms/metre  $M = (D-t) t \times 0.02466$   
 Equivalent sizes shown in API Specification 5L

# CARBON STEEL BUTTWELDING FITTINGS • Dimensions

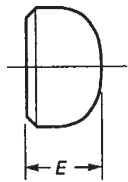
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ELBOW



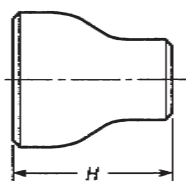
RETURN



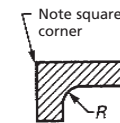
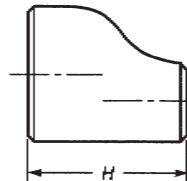
CAP

Buttwelding Fittings to ASME B16.9															
Nominal size		OD	Elbows			Returns				Caps	Reducers Note 1	Stub Ends			
			Long		Short	Long		Short				Long	Short	Radius of Fillet	Diam of Lap
			90 deg	45 deg	90 deg	O	K	O	K						
DN	NPS	D	A	B	A	O	K	O	K	E	H	F	F	R	G
15	1/2	21.3	38	16		76	48			25		76	51	3	35
20	3/4	26.7	38	19		76	51			25	38	76	51	3	43
25	1	33.4	38	22	25	76	56	51	41	38	51	102	51	3	51
32	1 1/4	42.2	48	25	32	95	70	64	52	38	51	102	51	5	64
40	1 1/2	48.3	57	29	38	114	83	76	62	38	64	102	51	6	73
50	2	60.3	76	35	51	152	106	102	81	38	76	152	64	8	92
65	2 1/2	73.0	95	44	64	190	132	127	100	38	89	152	64	8	106
80	3	88.9	114	51	76	229	159	152	121	51	89	152	64	10	127
90	3 1/2	101.6	133	57	89	267	184	178	140	64	102	152	76	10	140
100	4	114.3	152	64	102	305	210	203	159	64	102	152	76	11	157
125	5	141.3	190	79	127	381	262	254	197	76	127	203	76	11	185
150	6	168.3	229	95	152	457	313	305	237	89	140	203	89	13	218
200	8	219.1	305	127	203	610	414	406	313	102	152	203	102	13	270
250	10	273.0	381	159	254	762	518	508	391	127	178	254	127	13	324
300	12	323.8	457	190	305	914	619	610	467	152	203	254	152	13	381
350	14	355.6	533	222	356	1067	711	711	533	165	330	305	152	13	413
400	16	406.4	610	254	406	1219	813	813	610	178	356	305	152	13	470
450	18	457	686	286	457	1372	914	914	686	203	381	305	152	13	533
500	20	508	762	318	508	1524	1016	1016	762	229	508	305	152	13	584
550	22	559	838	343	559	1676	1118	1118	838	254	508	305	152	13	641
600	24	610	914	381	610	1829	1219	1219	914	267	508	305	152	13	692
650	26	660	991	405						267	610				
700	28	711	1067	438						267	610				
750	30	762	1143	470						267	610				
800	32	813	1219	502						267	610				
850	34	864	1295	533						267	610				
900	36	914	1372	565						267	610				
950	38	965	1448	600						305	610				
1000	40	1016	1524	632						305	610				
1050	42	1067	1600	660						305	610				
1100	44	1118	1676	695						343	610				
1150	46	1168	1753	727						343	711				
1200	48	1219	1829	759						343	711				

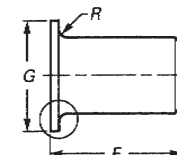
**Note 1:** Reducer dimension "H" is based on large end nominal size



REDUCER



Enlarged Section of Lap



STUB END



# CARBON STEEL BUTTWELDING FITTINGS • Weights

Printed April 2008

Buttwelding Fittings (kgs per unit)																												
Standard Weight												XS								Sch 160								
Nominal size		OD	Elbows			Returns		Caps	Reducers	Stub Ends		Tees	Elbows			Returns		Caps	Reducers	Stub Ends		Tees	Elbows			Caps	Reducers	Tees
			Long	Short	90 deg	45 deg	90 deg			Long	Short		MSS	ASME	Long	Short	90 deg			Long	Short		MSS	ASME	Long			
DN	NPS	mm	90 deg	45 deg	90 deg	Long	Short			MSS	ASME		90 deg	45 deg	90 deg	Long	Short			MSS	ASME		90 deg	45 deg	90 deg			
15	1/2	21.3	0.08	0.04		0.16		0.04		0.12	0.14	0.09	0.10	0.05		0.20		0.05		0.13	0.12	0.11	0.12			0.06		0.12
20	3/4	26.7	0.11	0.06		0.21		0.05	0.06	0.15	0.18	0.13	0.14	0.70		0.21		0.07	0.08	0.17	0.2	0.17	0.13			0.09		0.21
25	1	33.4	0.16	0.08	0.11	0.31	0.21	0.11	0.12	0.19	0.3	0.25	0.20	0.10	0.14	0.41	0.26	0.15	0.15	0.24	0.38	0.32	0.25	0.13	0.17	0.2	0.19	0.41
32	1 1/4	42.2	0.26	0.13	0.18	0.52	0.35	0.14	0.16	0.26	0.41	0.43	0.35	0.18	0.23	0.70	0.46	0.20	0.21	0.35	0.55	0.56	0.42	0.21	0.28	0.25	0.25	0.69
40	1 1/2	48.3	0.37	0.19	0.25	0.74	0.49	0.17	0.25	0.38	0.55	0.61	0.50	0.25	0.33	1.02	0.66	0.24	0.33	0.46	0.68	0.81	0.65	0.33	0.43	0.35	0.43	1.07
50	2	60.3	0.66	0.33	0.44	1.3	0.87	0.24	0.38	0.54	0.99	0.88	0.90	0.45	0.6	1.88	1.19	0.33	0.51	0.74	1.36	1.2	1.33	0.67	0.89	0.54	0.75	1.78
65	2 1/2	73.0	1.29	0.69	0.91	2.73	1.82	0.42	0.73	0.8	1.56	1.74	1.79	0.90	1.19	3.56	2.38	0.57	0.95	1.06	2.08	2.28	2.33	1.17	1.49	0.77	1.2	2.86
80	3	88.9	2.04	1.02	1.36	4.07	2.71	0.67	0.94	1.13	2.13	2.41	2.74	1.37	1.83	5.74	3.65	0.92	1.25	1.51	2.84	3.25	3.83	1.92	2.55	1.4	1.71	4.55
90	3 1/2	101.6	2.94	1.47	1.97	5.65	3.77	0.92	1.19	1.47	2.58	3.26	4.05	2.02	2.07	12.72	5.21	1.3	1.64	2.01	3.51	4.51	5.92	2.96	3.95	2.1	2.35	6.52
100	4	114.3	3.84	1.92	2.56	7.67	5.11	1.17	1.45	1.81	3.04	4.12	5.36	2.68	3.58	15.76	7.15	1.68	2.02	2.52	4.23	5.77	8.02	4.01	5.35	2.76	3	8.5
125	5	141.3	6.48	3.24	4.32	13	8.64	1.9	2.5	2.53	5.3	6.54	9.13	4.57	6.09	19.39	12.2	2.73	3.52	3.6	7.52	9.2	14.7	7.35	9.79	4.85	5.59	14.8
150	6	168.3	9.94	4.97	6.63	19.9	13.3	2.83	3.6	3.73	6.89	9.58	15	7.50	10	31.98	20	4.38	5.38	5.57	10.42	14.5	24.2	12.1	16.2	7.81	8.63	23.3
200	8	219.1	20.1	10.1	13.4	40.3	26.8	5.11	5.7	5.89	10.42	17.9	30.5	15.3	20.3	64.33	40.7	7.91	8.63	10.12	15.86	27.1	53.2	26.6	35.5	15.2	15	47.2
250	10	273.0	35.4	17.7	23.6	70.8	47.2	8.92	9.6	10.42	18.12	30.4	47.7	23.9	31.8	99.66	74.9	12.2	12.9	13.95	24.28	41	103	51.5	68.6	28.9	27.5	88
300	12	323.8	52	26	34.6	112	71.9	13.1	13.6	14.9	22.2	43.6	68.7	34.4	45.8	144.96	94.9	17.4	18	19.93	29.81	57.7	171	85.5	114	47.7	44.6	143
350	14	355.6	67.9	34	45.3			15.9	25.4	15.5	28.3	53.5	89.9	15	60			21.2	33.6	21	38	70.9	236	118	158	61.2	88.5	186
400	16	406.4	89	44.5	59.1			20	31	18	32.7	66.1	118	59	78.3			26.7	41.1	24	44	87.7	350	175	234	92.8	121	260
450	18	457	113	56.5	75.3			25.5	37.8	21	37.5	83.9	150	75.5	100			34.1	50.1	28	50	111	495	247	330	131	165	356
500	20	508	140	70	93.1			31.8	55.4	23.3	41.7	104	186	93	124			42.5	74.9	31	56	138	676	338	451	179	233	502
550	22	559	169	84.5	113			38.8	62.4	25.8	46.3	126	225	113	150			51.7	82.9	33	61	167	886	443	591	219		657
600	24	610	202	101	135			45.1	68.4	28.4	50.5	139	268	134	179			60.1	91	37	67	186	1160	580	773	307		800
650	26	660	237	119	158			50.5	89.4			176	315	158	210			67.3	119			234						
700	28	711	276	138	184			56.2	96.6			198	367	184	245			74.9	129			264						
750	30	762	316	158	211			62.1	104			228	421	211	281			82.8	138			304						
800	32	813	361	180	241			68.4	111			259	480	240	320			91.2	148			347						
850	34	864	406	204	272			75.4	116			295	543	272	362			100	158			393						
900	36	914	457	228	304			81.9	125			331	608	304	405			109	167			441						
950	38	965	510	255	340			94.7	133			370	679	339	453			126	177			493						
1000	40	1016	565	282	377			102	140			411	753	376	502			137	187			547						
1050	42	1067	622	311	416			110	147			422	828	414	554			147	196			562						
1100	44	1118	684	342	456			126	155			475	912	456	608			167	206			633						
1150	46	1168	748	374	499			134	189			521	997	498	665			179	252			695						
1200	48	1219	814	407	543			143	197			569	1085	542	724			191	263			759						

**Note 1:** All weights are approximate  
**Note 2:** Weights shown are based on carbon steel.  
**Note 3:** As a guide to stainless steel fittings weight use carbon steel Standard Weight for Sch 40S and carbon steel XS for Sch 80S

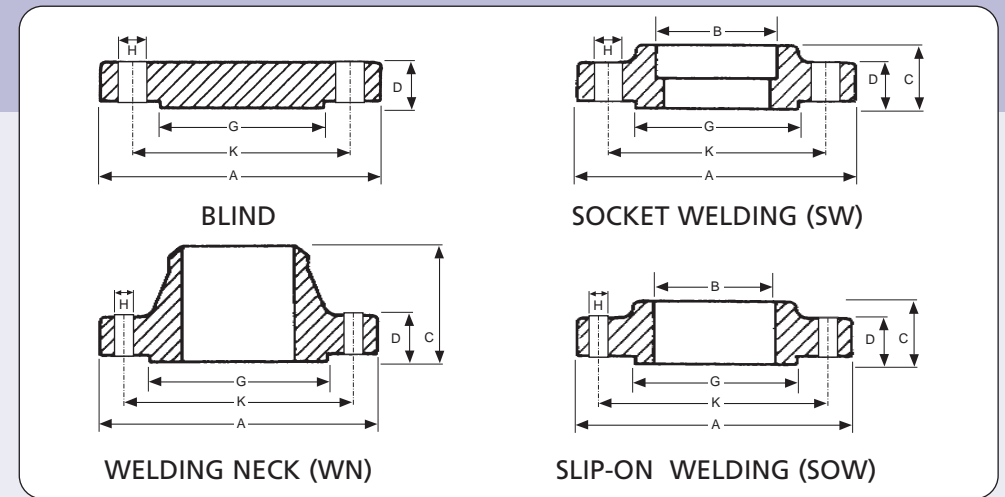
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# CARBON STEEL FLANGES • Dimensions & Weights

Class 150 Flanges to ASME B16.5																
Nominal Size		Dimensions											Weight (kg)			
DN	NPS	Flange OD A mm	Flange Thickness D mm	Bore SOW SW B mm	Raised Face Diam. G mm	Length Thru Hub		Bolt Drilling			RF Stud Bolt Length mm	RF Mach. Bolt Length mm	SOW SW	WN	Blind	
						SOW, SW Threaded C mm	W Neck C mm	Circle Diam. K mm	Hole Diam. H mm	Bolets No.						Bolt Diam. In
15	1/2	88.9	11.2	22.4	35.1	15.8	47.8	60.4	15.7	4	1/2"	60.0	45.0	0.4	0.5	0.4
20	3/4	98.6	12.7	27.7	42.9	15.8	52.3	69.9	15.7	4	1/2"	65.0	50.0	0.6	0.7	0.6
25	1	108.0	14.2	34.5	50.8	17.5	55.6	79.2	15.7	4	1/2"	65.0	55.0	0.8	1.0	0.9
32	1 1/4	117.3	15.7	43.2	63.5	20.6	57.2	88.9	15.7	4	1/2"	70.0	55.0	1.0	1.3	1.2
40	1 1/2	127.0	17.5	49.5	73.2	22.4	62.0	98.6	15.7	4	1/2"	70.0	60.0	1.3	1.7	1.5
50	2	152.4	19.1	62.0	91.9	25.5	63.5	120.7	19.1	4	5/8"	80.0	65.0	2.1	2.6	2.4
65	2 1/2	177.8	22.4	74.7	104.6	28.5	69.9	139.7	19.1	4	5/8"	90.0	75.0	3.3	4.1	3.9
80	3	190.5	23.9	90.7	127.0	30.2	69.9	152.4	19.1	4	5/8"	90.0	75.0	3.9	4.9	4.9
90	3 1/2	215.9	23.9	103.4	139.7	31.8	71.4	177.8	19.1	8	5/8"	90.0	75.0	4.8	6.1	6.2
100	4	228.6	23.9	116.1	157.2	33.3	76.2	190.5	19.1	8	5/8"	90.0	75.0	5.3	6.8	7.0
125	5	254.0	23.9	143.8	185.7	36.6	88.9	215.9	22.4	8	3/4"	90.0	80.0	6.1	8.6	8.6
150	6	279.4	25.4	170.7	215.9	39.6	88.9	241.3	22.4	8	3/4"	100.0	85.0	7.5	10.6	11.3
200	8	342.9	28.4	221.5	269.7	44.5	101.6	298.5	22.4	8	3/4"	110.0	90.0	12.1	17.6	19.6
250	10	406.4	30.2	276.4	323.9	49.3	101.6	362.0	25.4	12	7/8"	115.0	95.0	16.5	24.0	28.8
300	12	482.6	31.8	327.2	381.0	55.6	114.3	431.8	25.4	12	7/8"	120.0	100.0	26.2	36.5	43.2
350	14	533.4	35.1	359.2	412.8	57.2	127.0	476.3	28.4	12	1"	130.0	110.0	34.6	48.4	58.1
400	16	596.9	36.6	410.5	469.9	63.5	127.0	539.8	28.4	16	1"	135.0	115.0	44.8	60.6	76.1
450	18	635.0	39.6	461.8	533.4	68.3	139.7	577.9	31.8	16	1 1/8"	150.0	125.0	48.9	68.3	93.7
500	20	698.5	42.9	513.1	584.2	73.2	144.5	635.0	31.8	20	1 1/8"	160.0	135.0	61.9	84.5	122.0
600	24	812.8	47.8	616.0	692.2	82.6	152.4	749.3	35.1	20	1 1/4"	175.0	145.0	86.9	115.0	185.0

Class 600 Flanges to ASME B16.5																
Nominal Size		Dimensions											Weight (kg)			
DN	NPS	Flange OD A mm	Flange Thickness D mm	Bore SOW SW B mm	Raised Face Diam. G mm	Length Thru Hub		Bolt Drilling			RF Stud Bolt Length mm	RF Mach. Bolt Length mm	SOW SW	WN	Blind	
						SOW, SW Threaded C mm	W Neck C mm	Circle Diam. K mm	Hole Diam. H mm	Bolets No.						Bolt Diam. In
15	1/2	95.3	14.2	22.4	35.1	22.4	52.3	66.5	15.7	4	1/2"	80.0	65.0	0.7	0.9	0.8
20	3/4	117.3	15.7	27.7	42.9	25.4	57.2	82.6	19.1	4	5/8"	90.0	75.0	1.3	1.5	1.3
25	1	124.0	17.5	34.5	50.8	26.9	62.0	88.9	19.1	4	5/8"	90.0	80.0	1.5	1.8	1.6
32	1 1/4	133.4	20.6	43.2	63.5	28.4	66.5	98.6	19.1	4	5/8"	100.0	80.0	2.0	2.5	2.2
40	1 1/2	155.4	22.4	49.5	73.2	31.8	69.9	114.3	22.4	4	3/4"	105.0	90.0	3.0	3.5	3.3
50	2	165.1	25.4	62.0	91.9	36.6	73.2	127.0	19.1	8	5/8"	105.0	90.0	3.6	4.4	4.2
65	2 1/2	190.5	28.4	74.7	104.6	41.1	79.2	149.4	22.4	8	3/4"	120.0	100.0	5.3	6.4	6.1
80	3	209.6	31.8	90.7	127.0	46.0	82.6	168.1	22.4	8	3/4"	125.0	100.0	7.0	8.5	8.4
90	3 1/2	228.6	35.1	103.4	139.7	49.3	85.9	184.2	25.4	8	7/8"	140.0	110.0	8.8	10.7	11.0
100	4	273.1	38.1	116.1	157.2	53.8	101.6	215.9	25.4	8	7/8"	145.0	115.0	14.5	17.4	17.3
125	5	330.2	44.5	143.8	185.7	60.5	114.3	266.7	28.4	8	1"	165.0	125.0	24.4	29.2	29.4
150	6	355.6	47.8	170.7	215.9	66.5	117.3	292.1	28.4	12	1"	170.0	130.0	28.7	34.9	36.1
200	8	419.1	55.6	221.5	269.7	76.2	133.4	349.3	31.8	12	1 1/8"	195.0	145.0	43.4	53.9	58.9
250	10	508.0	63.5	276.4	323.9	85.9	152.4	431.8	35.1	16	1 1/4"	215.0	160.0	70.3	86.5	97.5
300	12	558.8	66.5	327.2	381.0	91.9	155.4	489.0	35.1	20	1 1/4"	220.0	170.0	84.2	103.0	124.0
350	14	603.3	69.9	359.2	412.8	93.7	165.1	527.1	38.1	20	1 3/8"	235.0	180.0	98.7	122.0	151.0
400	16	685.8	76.2	410.5	469.9	106.4	177.8	603.3	41.1	20	1 1/2"	255.0	190.0	142.0	170.0	214.0
450	18	743.0	82.6	461.8	533.4	117.3	184.2	654.1	44.5	20	1 5/8"	275.0	200.0	173.0	204.0	272.0
500	20	812.8	88.9	513.1	584.2	127.0	190.5	723.9	44.5	24	1 5/8"	290.0	220.0	254.0	349.0	
600	24	939.8	101.6	616.0	692.2	139.7	203.2	838.2	50.8	24	1 7/8"	330.0	250.0	312.0	358.0	533.0

Class 300 Flanges to ASME B16.5																
Nominal Size		Dimensions											Weight (kg)			
DN	NPS	Flange OD A mm	Flange Thickness D mm	Bore SOW SW B mm	Raised Face Diam. G mm	Length Thru Hub		Bolt Drilling			RF Stud Bolt Length mm	RF Mach. Bolt Length mm	SOW SW	WN	Blind	
						SOW, SW Threaded C mm	W Neck C mm	Circle Diam. K mm	Hole Diam. H mm	Bolets No.						Bolt Diam. In
15	1/2	95.3	14.2	22.4	35.1	22.4	52.3	66.5	15.7	4	1/2"	65.0	55.0	0.6	0.8	0.6
20	3/4	117.3	15.7	27.7	42.9	25.4	57.2	82.6	19.1	4	5/8"	75.0	60.0	1.1	1.3	1.1
25	1	124.0	17.5	34.5	50.8	26.9	62.0	88.9	19.1	4	5/8"	80.0	65.0	1.4	1.5	1.4
32	1 1/4	133.4	19.1	43.2	63.5	26.9	65.0	98.6	19.1	4	5/8"	80.0	65.0	1.7	2.0	1.8
40	1 1/2	155.5	20.6	49.5	73.2	30.2	68.3	114.3	22.4	4	3/4"	90.0	75.0	2.5	2.9	2.7
50	2	165.1	22.4	62.0	91.9	33.3	69.9	127.0	19.1	8	5/8"	90.0	75.0	2.9	3.4	3.2
65	2 1/2	190.5	25.4	74.7	104.6	38.1	76.2	149.4	22.4	8	3/4"	100.0	85.0	4.3	5.2	4.9
80	3	215.9	28.4	90.7	127.0	42.9	79.2	168.1	22.4	8	3/4"	110.0	90.0	5.9	6.9	6.8
90	3 1/2	228.6	30.2	103.4	139.7	44.5	81.0	184.2	22.4	8	3/4"	110.0	95.0	7.3	8.7	8.7
100	4	254.0	31.8	116.1	157.2	47.8	85.9	200.2	22.4	8	3/4"	110.0	95.0	9.6	11.2	11.5
125	5	279.4	35.1	143.8	185.7	50.8	98.6	235.0	22.4	8	3/4"	120.0	100.0	12.3	15.1	15.6
150	6	317.5	36.6	170.7	215.9	52.3	98.6	269.7	22.4	12	3/4"	125.0	105.0	15.6	19.1	20.9
200	8	381.0	41.1	221.5	269.7	62.0	112.3	330.2	25.4	12	7/8"	140.0	110.0	24.2	29.9	34.3
250	10	444.5	47.6	276.4	323.9	66.5	117.3	387.4	28.4	16	1"	155.0	130.0	34.1	42.7	53.3
300	12	520.7	50.8	327.2	381.0	73.2	130.0	450.9	31.8	16	1 1/8"	170.0	145.0	49.8	61.8	78.8
350	14	584.2	53.8	359.2	412.8	76.2	142.7	514.4	31.8	20	1 1/8"	175.0	150.0	69.9	85.8	105.0
400	16	647.7	57.2	410.5	469.9	82.6	146.1	571.5	35.1	20	1 1/4"	190.0	160.0	88.1	106.0	137.0
450	18	711.2	60.5	461.8	533.4	88.9	158.8	626.7	35.1	24	1 1/4"	195.0	170.0	109.0	131.0	175.0
500	20	774.7	63.5	513.1	584.2	95.3	162.1	685.8	35.1	24	1 1/4"	205.0	180.0	134.0	158.0	221.0
600	24	914.4	70.0	616.0	692.2	106.4	168.1	812.8	41.1	24	1 1/2"	230.0	195.0	201.0	230.0	339.0



**Note 1:** All weights are approximate  
**Note 2:** For Class 150, 300 the flange thickness "D" dimension includes approx. 1.5mm for the raised face height. For Class 600, 900, 1500, 2500 the flange thickness does not include the raised face height and approx. 6.4mm must be added to D dimension  
**Note 3:** Bolt length dimensions incorporate the height of the raised face  
**Note 4:** Welding Neck bore is derived from the pipe schedule

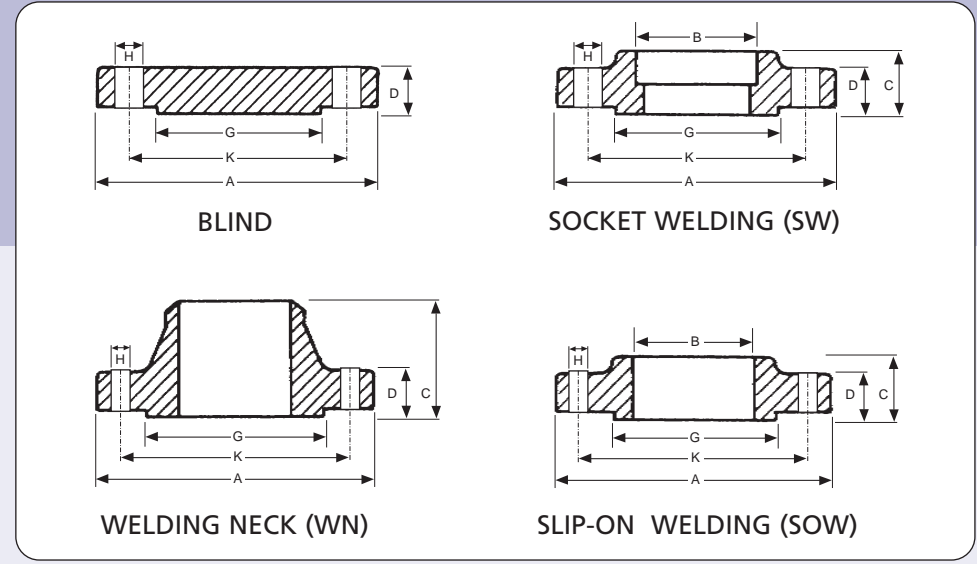


# CARBON STEEL FLANGES • Dimensions & Weights

Class 900 Flanges to ASME B16.5															
Nominal Size		Dimensions										Weight (kg)			
		Flange OD A mm	Flange Thickness D mm	Bore SOW SW B mm	Raised Face Diam. G mm	Length Thru Hub		Bolt Drilling			RF Stud Bolt Length mm	SOW SW	WN	Blind	
SOW, SW Threaded C mm	W Neck C mm					Circle Diam. K mm	Hole Diam. H mm	Bolets No.	Bolt Diam. In						
15	1/2	120.7	22.4	22.4	35.1	31.8	60.5	82.6	22.4	4	3/4"	105.0	1.8	1.9	1.8
20	3/4	130.0	25.4	27.7	42.9	35.1	70.0	88.9	22.4	4	3/4"	115.0	2.4	2.6	2.4
25	1	149.4	28.4	34.5	50.8	41.1	73.2	101.6	25.4	4	7/8"	125.0	3.6	3.7	3.6
32	1 1/4	158.8	28.4	43.2	63.5	41.1	73.2	111.3	25.4	4	7/8"	125.0	4.0	4.3	4.1
40	1 1/2	177.8	31.8	49.5	73.2	44.5	82.6	124.0	28.4	4	1"	140.0	5.5	5.9	5.8
50	2	215.9	38.1	62.0	91.9	57.2	101.6	165.1	25.4	8	7/8"	145.0	10.2	10.8	10.1
65	2 1/2	244.3	41.1	74.7	104.6	63.5	104.6	190.5	28.4	8	1"	160.0	13.9	15.0	14.0
80	3	241.3	38.1	90.7	127.0	53.8	101.6	190.5	25.4	8	7/8"	145.0	11.6	13.7	13.1
100	4	292.1	44.5	116.1	157.2	69.9	114.3	235.0	31.8	8	1 1/8"	170.0	19.7	22.5	26.9
125	5	349.3	50.8	143.8	185.7	79.2	127.0	279.4	35.1	8	1 1/4"	190.0	31.9	37.4	36.5
150	6	381.0	55.6	170.7	215.9	85.9	139.7	317.5	31.8	12	1 1/8"	195.0	41.1	47.7	47.4
200	8	469.9	63.5	221.5	269.7	101.6	162.1	393.7	38.1	12	1 3/8"	220.0	70.7	81.3	82.5
250	10	546.1	69.9	276.4	323.9	108.0	184.2	469.9	38.1	16	1 3/8"	235.0	101.0	119.0	122.0
300	12	609.6	79.2	327.2	381.0	117.3	200.2	533.4	38.1	20	1 3/8"	255.0	133.0	157.0	173.0
350	14	641.4	85.6	359.2	412.8	130.0	212.9	558.8	41.1	20	1 1/2"	275.0	153.0	180.0	206.0
400	16	704.9	88.9	410.5	469.9	133.4	215.9	616.0	44.5	20	1 5/8"	285.0	185.0	217.0	259.0
450	18	787.4	101.6	461.8	533.4	152.4	228.6	685.8	50.8	20	1 7/8"	325.0	258.0	292.0	367.0
500	20	857.3	108.0	513.1	584.2	158.8	247.7	749.3	53.8	20	2"	345.0	317.0	362.0	463.0
600	24	1041.4	139.7	616.0	692.2	203.2	292.1	901.7	66.5	20	2 1/2"	435.0	606.0	665.0	876.0

Class 1500 Flanges to ASME B16.5															
Nominal Size		Dimensions										Weight (kg)			
		Flange OD A mm	Flange Thickness D mm	Bore SOW SW B mm	Raised Face Diam. G mm	Length Thru Hub		Bolt Drilling			RF Stud Bolt Length mm	SOW SW	WN	Blind	
SOW, SW Threaded C mm	W Neck C mm					Circle Diam. K mm	Hole Diam. H mm	Bolets No.	Bolt Diam. In						
15	1/2	120.7	22.4	22.4	35.1	31.8	60.5	82.6	22.4	4	3/4"	105.0	1.8	1.9	1.8
20	3/4	130.0	25.4	27.7	42.9	35.1	69.9	88.9	22.4	4	3/4"	115.0	2.4	2.6	2.4
25	1	149.4	28.4	34.5	50.8	41.1	73.2	101.6	25.4	4	7/8"	125.0	3.6	3.7	3.6
32	1 1/4	158.8	28.4	43.2	63.5	41.1	73.2	111.3	25.4	4	7/8"	125.0	4.0	4.3	4.1
40	1 1/2	177.8	31.8	49.5	73.2	44.5	82.6	124.0	28.4	4	1"	140.0	5.5	5.9	5.8
50	2	215.9	38.1	62.0	91.9	57.2	101.6	165.1	25.4	8	7/8"	145.0	10.2	10.8	10.1
65	2 1/2	244.3	41.1	74.7	104.6	63.5	104.6	190.5	28.4	8	1"	160.0	13.9	15.0	14.0
80	3	266.7	47.8	90.7	127.0	117.3	203.2	318.8	31.8	8	1 1/8"	180.0	19.9	19.1	19.1
100	4	311.2	53.8	116.1	157.2	124.0	241.3	351.8	35.1	8	1 1/4"	195.0	29.9	29.9	29.9
125	5	374.7	73.2	143.8	185.7	155.4	292.1	411.8	41.1	8	1 1/2"	250.0	55.4	58.4	58.4
150	6	393.7	82.6	170.7	215.9	171.5	317.5	381.8	38.1	12	1 3/8"	260.0	68.4	71.8	71.8
200	8	482.6	91.9	221.5	269.7	212.9	393.7	445.8	44.5	12	1 5/8"	290.0	117.0	122.0	122.0
250	10	584.2	108.0	276.4	323.9	254.0	482.6	508.8	50.8	12	1 7/8"	335.0	194.0	210.0	210.0
300	12	673.1	124.0	327.2	381.0	282.4	571.5	538.8	53.8	16	2"	375.0	288.0	316.0	316.0
350	14	749.3	133.4	359.2	412.8	298.5	635.0	604.8	60.4	16	2 1/4"	405.0	380.0	420.0	420.0
400	16	825.5	146.1	410.5	469.9	311.2	704.9	665.8	66.5	16	2 1/2"	445.0	485.0	558.0	558.0
450	18	914.4	162.1	461.8	533.4	327.2	774.7	732.8	73.2	16	2 3/4"	495.0	644.0	760.0	760.0
500	20	984.3	177.8	513.1	584.2	355.6	831.9	792.8	79.2	16	3.0	540.0	775.0	965.0	965.0
600	24	1168.4	203.2	616.0	692.2	406.4	990.6	919.8	91.9	16	3 1/2"	615.0	1232.0	1558.0	1558.0

Class 2500 Flanges to ASME B16.5														
Nominal Size		Dimensions										Weight (kg)		
		Flange OD A mm	Flange Thickness D mm	Raised Face Diam. G mm	Length Thru Hub		Bolt Drilling			RF Stud Bolt Length mm	WN	Blind		
SOW, SW Threaded C mm	W Neck C mm				Circle Diam. K mm	Hole Diam. H mm	Bolets No.	Bolt Diam. In						
15	1/2	133.4	30.2	35.1	39.6	73.2	88.9	22.4	4	3/4"	125.0	3.1	3.0	3.0
20	3/4	139.7	31.8	42.9	42.9	79.2	95.3	22.4	4	3/4"	125.0	3.7	3.5	3.5
25	1	158.8	35.1	50.8	47.8	88.9	108.0	25.4	4	7/8"	140.0	5.2	5.0	5.0
32	1 1/4	184.2	38.1	63.5	52.3	95.3	130.0	28.4	4	1"	150.0	7.7	7.4	7.4
40	1 1/2	203.2	44.5	73.2	60.5	111.3	146.1	31.8	4	1 1/8"	170.0	10.9	10.4	10.4
50	2	235.0	50.8	91.9	69.9	127.0	171.5	28.4	8	1"	175.0	16.2	15.6	15.6
65	2 1/2	266.7	57.2	104.6	79.2	142.7	196.9	31.8	8	1 1/8"	195.0	23.7	22.6	22.6
80	3	304.8	66.5	127.0	168.1	228.6	258.6	35.1	8	1 1/4"	220.0	36.2	34.8	34.8
100	4	355.6	76.2	157.2	190.5	273.1	317.5	41.1	8	1 1/2"	255.0	55.3	53.9	53.9
125	5	419.1	91.9	185.7	228.6	323.9	371.5	47.8	8	1 3/4"	300.0	92.5	90.8	90.8
150	6	482.6	108.0	215.9	273.1	368.3	438.2	53.8	8	2"	345.0	143.0	141.0	141.0
200	8	552.5	127.0	269.7	317.5	438.2	538.8	53.8	12	2"	380.0	215.0	214.0	214.0
250	10	673.1	165.1	323.9	419.1	539.8	665.8	66.5	12	2 1/2"	485.0	406.0	411.0	411.0
300	12	762.0	184.2	381.0	463.6	619.3	732.8	73.2	16	2 3/4"	540.0	572.0	592.0	592.0



**Note 1:** All weights are approximate  
**Note 2:** For Class 150, 300 the flange thickness "D" dimension includes approx. 1.5mm for the raised face height  
 For Class 600, 900, 1500, 2500 the flange thickness does not include the raised face height and approx. 6.4mm must be added to D dimension  
**Note 3:** Bolt length dimensions incorporate the height of the raised face  
**Note 4:** Welding Neck bore is derived from the pipe schedule

# CARBON STEEL FLANGES • Dimensions & Weights

**Table D Flanges to AS 2129**

Nominal Size	Dimensions(mm)							Weight (kg)	
	DN	OD A	Thickness D	Raised Face Diam G	Bolt Circle Diam K	Bolt Hole Diam H	Number of Bolts	Bolt Size & Thread	SOW
15	95	*5	47	67	14	4	M12	0.6	0.6
20	100	*5	53	73	14	4	M12	0.7	0.7
25	115	*5	65	83	14	4	M12	0.9	1.0
32	120	*6	67	87	14	4	M12	0.9	1.1
40	135	*6	78	98	14	4	M12	1.2	1.4
50	150	*8	90	114	18	4	M16	1.4	1.7
65	165	*8	103	127	18	4	M16	1.6	2.1
80	185	*10	122	146	18	4	M16	2.0	2.7
90	205	*10	141	165	18	4	M16	2.2	3.2
100	215	*10	154	178	18	4	M16	2.5	3.6
125	255	13	186	210	18	8	M16	3.3	4.9
150	280	13	211	135	18	8	M16	4.0	6.1
200	335	13	268	292	18	8	M16	5.0	8.8
250	405	16	328	256	22	8	M20	8.7	15.8
300	455	19	378	406	22	12	M20	11.3	23.6
350	525	22	438	470	26	12	M24	19.6	38.6
400	580	22	489	521	26	12	M24	22.3	44.9
450	640	25	532	584	26	12	M24	29.0	63.0
500	705	29	609	641	26	16	M24	39.9	86.0
550	760	29	637	699	30	16	M27	50.0	107.0
600	825	32	720	756	30	16	M27	58.0	125.0
700	910	35	809	845	30	20	M27		
750	995	41	888	927	33	20	M30		
800	1060	41	942	984	36	20	M30		
850	1090	44	974	1016	36	20	M33		
900	1175	48	1050	1092	36	24	M33		
1000	1255	51	1133	1175	36	24	M33		
1200	1490	60	1368	1410	36	32	M33		

**Table E Flanges to AS 2129**

Nominal Size	Dimensions(mm)							Weight (kg)	
	DN	OD A	Thickness D	Raised Face Diam G	Bolt Circle Diam K	Bolt Hole Diam H	Number of Bolts	Bolt Size & Thread	SOW
15	95	*6	47	67	14	4	M12	0.6	0.7
20	100	*6	53	73	14	4	M12	0.7	0.8
25	115	*7	63	83	14	4	M12	0.9	1.0
32	120	*8	67	87	14	4	M12	1.0	1.1
40	135	*9	78	98	14	4	M12	1.2	1.4
50	150	*10	90	114	18	4	M16	1.4	1.7
65	165	*10	103	127	18	4	M16	1.6	2.1
80	185	*11	122	146	18	4	M16	2.0	2.7
90	205	12	141	165	18	8	M16		
100	215	13	154	178	18	8	M16	2.5	3.6
125	255	14	186	210	18	8	M16	3.7	5.5
150	280	17	207	235	22	8	M20	5.0	8.3
200	335	19	264	292	22	8	M20	7.1	12.9
250	405	22	328	356	22	12	M20	11.4	21.9
300	455	25	374	406	26	12	M24	15.1	31.8
350	525	29	438	470	26	12	M24	25.3	47.6
400	580	32	489	521	26	12	M24	31.3	66.0
450	640	35	552	584	26	16	M24	40.8	87.0
500	705	38	609	641	26	16	M24	53.0	114.0
550	760	44	663	699	30	16	M27		
600	825	48	717	756	33	16	M30	85.0	195.0
700	910	51	806	845	33	20	M30		
750	995	54	885	927	36	20	M33		
800	1060	54	942	984	36	20	M33		
850	1090	57	974	1016	36	20	M33		
900	1175	64	1050	1092	36	24	M33		
1000	1255	67	1130	1175	39	24	M36		
1200	1490	79	1365	1410	39	32	M36		

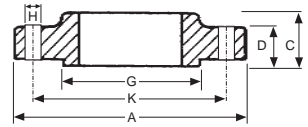
**Table F Flanges to AS 2129**

Nominal Size	Dimensions(mm)							Weight (kg)	
	DN	Flange OD A	Flange Thickness D	Raised Face Diam G	Bolt Circle Diam K	Bolt Hole Diam H	Number of Bolts	Bolt Size & Thread	SOW
15	95	10	47	67	14	4	M12	0.6	0.7
20	100	10	53	73	14	4	M12	0.7	0.8
25	120	10	63	87	18	4	M16	0.9	1.0
32	135	13	74	98	18	4	M16	1.1	1.3
40	140	13	81	105	18	4	M16	1.2	1.4
50	165	16	103	127	18	4	M16	2.2	2.6
65	185	16	122	146	18	4	M16	2.5	3.0
80	205	16	141	165	18	8	M16	3.0	3.8
90	215	19	154	178	18	8	M16		
100	230	19	167	191	18	8	M16	4.3	5.9
125	280	22	207	235	22	8	M20	7.4	10.1
150	305	22	232	260	22	12	M20	8.1	11.9
200	370	35	296	324	22	12	M20	12.7	20.3
250	430	29	349	381	26	12	M24	18.1	31.4
300	490	32	406	438	26	16	M24	23.9	44.7
350	550	35	459	495	30	16	M27	35.3	63.0
400	610	41	516	552	30	20	M27	47.6	90.0
450	675	44	571	610	33	20	M30	62.0	120.0
500	735	51	634	673	33	24	M30	80.0	162.0
550	785	54	685	724	33	24	M30		
600	850	57	739	781	36	24	M33	112.0	
700	935	60	815	857	36	24	M33		
750	1015	67	898	940	36	28	M33		
800	1060	68	942	984	36	28	M33		
850	1090	70	974	1016	36	32	M33		
900	1185	76	1060	1105	39	32	M36		
1000	1275	83	1149	1194	39	36	M36		
1200	1530	95	1385	1441	42	40	M39		

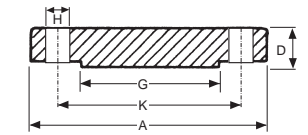
**Table H Flanges to AS 2129**

Nominal Size	Dimensions(mm)							Weight (kg)	
	DN	Flange OD A	Flange Thickness D	Raised Face Diam G	Bolt Circle Diam K	Bolt Hole Diam H	Number of Bolts	Bolt Size & Thread	SOW
15	115	13	57	83	18	4	M16	0.8	1.0
20	115	13	57	83	18	4	M16	0.9	1.0
25	120	14	64	87	18	4	M16	1.1	1.2
32	135	17	76	98	18	4	M16	1.5	1.8
40	140	17	83	105	18	4	M16	1.7	2.0
50	165	19	102	127	18	4	M16	2.6	3.1
65	185	19	114	146	18	8	M16	3.1	3.8
80	205	22	127	165	18	8	M16	4.3	5.4
90	215	22	140	178	18	8	M16		
100	230	25	152	191	18	8	M16	5.8	7.9
125	280	29	178	235	22	8	M20	9.9	12.6
150	305	29	210	260	22	12	M20	10.8	15.4
200	370	32	260	324	22	12	M20	18.3	28.2
250	430	35	311	381	26	12	M24	22.1	38.0
300	490	41	362	438	26	16	M24	31.0	58.0
350	550	48	419	495	30	16	M27	47.7	85.0
400	610	54	483	552	30	20	M27	62.0	118.0
450	675	60	533	610	33	20	M30	105.0	196.0
500	735	67	597	673	33	24	M30		
550	785	70	648	724	33	24	M30		
600	850	76	699	781	36	24	M33		

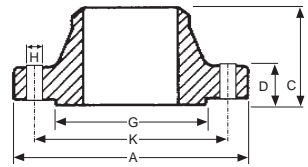
**Note 1:** All weights are approximate  
**Note 2:** A diametrical clearance of 4mm maximum applies to pipe or tube OD for plate flanges  
**Note 3:** The flange thickness "D" dimension included the raised face height  
**Note 4:** Welding Neck bore is derived from the pipe schedule



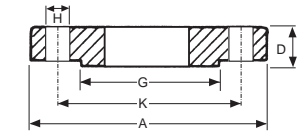
**SLIP-ON WELDING (SOW)**



**BLIND**



**WELDING NECK (WN)**



**PLATE**