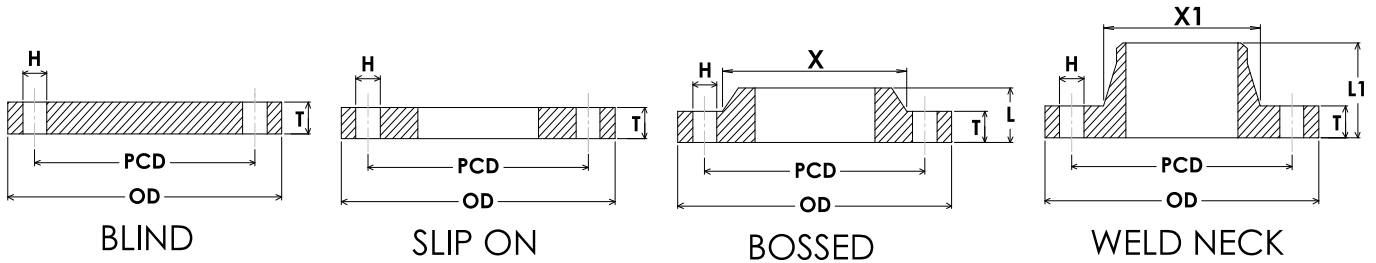


AS 2129 - TABLE D & E

TABLE D & E		FLANGE OUTSIDE DIAMETER	TABLE D	TABLE E	LENGTH THROUGH HUB BOSSED	DIAMETER AT BASE OF BOSS	DRILLING DATA					TABLE D & E	
NOMINAL PIPE SIZE			THICKNESS OF FLANGE (Refer Note.1)	THICKNESS OF FLANGE (Refer Note.1)			PITCH CIRCLE DIAMETER	TABLE D		TABLE E		NOMINAL PIPE SIZE	
MM	INCH	OD	T		L	X	PCD	H	#	H	#	MM	INCH
15	1/2	95	5	6	16	38	67	14	4	14	4	15	1/2
20	3/4	100	5	6	17	44	73	14	4	14	4	20	3/4
25	1	115	5	7	18	52	83	14	4	14	4	25	1
32	1 1/4	120	6	8	19	58	87	14	4	14	4	32	1 1/4
40	1 1/2	135	6	9	22	70	98	14	4	14	4	40	1 1/2
50	2	150	8	10	23	79	114	18	4	18	4	50	2
65	2 1/2	165	8	10	26	93	127	18	4	18	4	65	2 1/2
80	3	185	10	11	27	112	146	18	4	18	4	80	3
90	3 1/2	205	10	12	29	130	165	18	4	18	8	90	3.5
100	4	215	10	13	32	140	178	18	4	18	8	100	4
125	5	255	13	14	33	171	210	18	8	18	8	125	5
150	6	280	13	17	36	191	235	18	8	22	8	150	6
200	8	335	13	19	41	249	292	18	8	22	8	200	8
225	9	370	16	21	46	278	324	18	8	22	12	225	9
250	10	405	16	22	49	310	356	22	8	22	12	250	10
300	12	455	19	25	54	360	406	22	12	26	12	300	12
350	14	525	22	29			470	26	12	26	12	350	14
375	15	550	22	32			495	26	12	26	12	375	15
400	16	580	22	32			521	26	12	26	12	400	16
450	18	640	25	35			584	26	12	26	16	450	18
500	20	705	29	38			641	26	16	26	16	500	20
525	21	735	29	41			673	26	16	30	16	525	21
550	22	760	29	44			699	30	16	30	16	550	22
600	24	825	32	48			756	30	16	33	16	600	24
700	28	910	35	51			845	30	20	33	20	700	28
750	30	995	41	54			927	33	20	36	20	750	30
800	32	1060	41	54			984	36	20	36	20	800	32
850	34	1090	44	57			1016	36	20	36	20	850	34
900	36	1175	48	64			1092	36	24	36	24	900	36
1000	40	1255	51	67			1175	36	24	39	24	1000	40
1050	42	1335	54	70			1251	36	28	39	28	1050	42
1200	48	1490	60	79			1410	36	32	39	32	1200	48

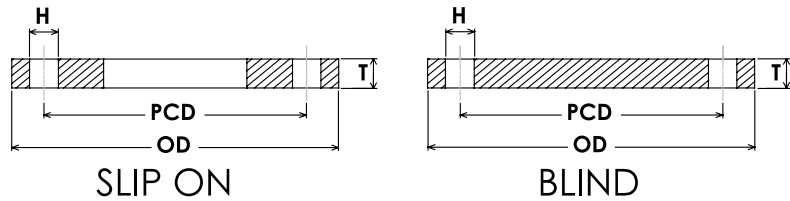
- NOTES:
- (1) The minimum flange thickness in carbon steel flanges will be 12mm.
 - (2) Bore sizes to suit ASME B 36.10 pipe unless otherwise specified.
 - (3) Flanges are generally supplied flat faced.
 - (4) Weld neck dimensions available upon request.



AS 2129 - TABLE F & H

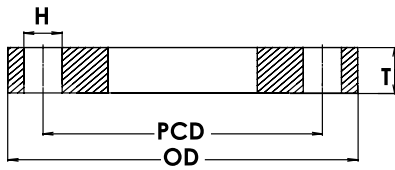
TABLE F & H		FLANGE OUTSIDE DIAMETER	TABLE F	TABLE H	LENGTH THROUGH HUB BOSSED	DIAMETER AT BASE OF BOSS	DRILLING DATA					TABLE F & H	
NOMINAL PIPE SIZE			THICKNESS OF FLANGE (Refer Note.1)	THICKNESS OF FLANGE (Refer Note.1)			PITCH CIRCLE DIAMETER	TABLE F		TABLE H		NOMINAL PIPE SIZE	
MM	INCH							BOLT HOLE DIAMETER	NUMBER OF BOLT HOLES	BOLT HOLE DIAMETER	NUMBER OF BOLT HOLES		
15	1/2	95	10	13	23	48	67	14	4	18	4	15	0.5
20	3/4	100	10	13	24	48	73	14	4	18	4	20	3/4
25	1	120	10	14	25	52	87	18	4	18	4	25	1
32	1 1/4	135	13	17	28	64	98	18	4	18	4	32	1 1/4
40	1 1/2	140	13	17	30	70	105	18	4	18	4	40	1 1/2
50	2	165	16	19	32	93	127	18	4	18	4	50	2
65	2 1/2	185	16	19	35	112	146	18	8	18	8	65	2 1/2
80	3	205	16	22	38	130	165	18	8	18	8	80	3
90	3 1/2	215	19	22	39	144	178	18	8	18	8	90	3 1/2
100	4	230	19	25	44	152	191	18	8	18	8	100	4
125	5	280	22	29	48	191	235	22	8	22	8	125	5
150	6	305	22	29	48	216	260	22	12	22	12	150	6
200	8	370	25	32	54	279	324	22	12	22	12	200	8
225	9	405	29	35	60	303	356	26	12	26	12	225	9
250	10	430	29	35	62	329	381	26	12	26	12	250	10
300	12	490	32	41	70	386	438	26	16	26	16	300	12
350	14	550	35	48			495	30	16	30	16	350	14
375	15	580	38	51			521	30	16	30	16	375	15
400	16	610	41	54			552	30	20	30	20	400	16
450	18	675	44	60			610	33	20	33	20	450	18
500	20	735	51	67			673	33	24	33	24	500	20
525	21	760	51	70			699	33	24	33	24	525	21
550	22	785	54	70			724	33	24	33	24	550	22
600	24	850	57	76			781	36	24	36	24	600	24
700	28	935	60				857	36	24			700	28
750	30	1015	67				940	36	28			750	30
800	32	1060	68				984	36	28			800	32
850	34	1090	70				1016	36	32			850	34
900	36	1185	76				1105	39	32			900	36
1000	40	1275	83				1194	39	36			1000	40
1050	42	1355	86				1270	39	36			1050	42
1200	48	1530	95				1441	42	40			1200	48

- NOTES: (1) The minimum flange thickness in carbon steel flanges will be 12mm.
 (2) Bore sizes to suit ASME B 36.10 pipe unless otherwise specified.
 (3) Flanges are generally supplied flat faced. Raised face available upon request.
 (4) Weld neck dimensions available upon request.

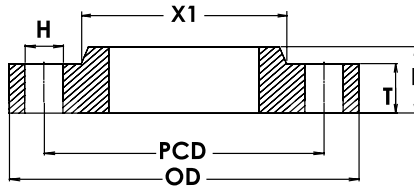


NOMINAL PIPE SIZE	FLANGE OUTSIDE DIAMETER	THICKNESS OF FLANGE	DRILLING DATA				NOMINAL PIPE SIZE	
			PITCH CIRCLE DIAMETER	BOLT HOLE DIAMETER	NUMBER OF BOLT HOLES	MM	INCH	
MM	INCH	OD	T	PCD	H	#	MM	INCH
PN - 16								
50	2	150	11	114	18	4	50	2
65	2 1/2	165	11	127	18	4	65	2 1/2
80	3	185	11	146	18	4	80	3
100	4	215	13	178	18	4	100	4
150	6	280	13	235	18	8	150	6
200	8	335	19	292	18	8	200	8
225	9	370	19	324	18	8	225	9
250	10	405	19	356	22	8	250	10
300	12	455	23	406	22	12	300	12
350	14	525	30	470	26	12	350	14
375	15	550	30	495	26	12	375	15
400	16	580	30	521	26	12	400	16
450	18	640	30	584	26	12	450	18
500	20	705	38	641	26	16	500	20
600	24	825	48	756	30	16	600	24
700	28	910	56	845	30	20	700	28
750	30	995	56	927	33	20	750	30
800	32	1060	56	984	36	20	800	32
900	36	1175	66	1092	36	24	900	36
1000	40	1255	66	1175	36	24	1000	40
1200	48	1490	76	1410	36	32	1200	48
PN - 21								
50	2	165	15	127	18	4	50	2
65	2 1/2	185	15	146	18	8	65	2 1/2
80	3	205	15	165	18	8	80	3
100	4	230	19	191	18	8	100	4
150	6	305	24	260	22	12	150	6
200	8	370	24	324	22	12	200	8
225	9	405	30	356	26	12	225	9
250	10	430	30	381	26	12	250	10
300	12	490	30	438	26	16	300	12
350	14	550	30	495	30	16	350	14
375	15	580	38	521	30	16	375	15
400	16	610	38	552	30	20	400	16
450	18	675	38	610	33	20	450	18
500	20	735	48	673	33	24	500	20
600	24	850	58	781	36	24	600	24
700	28	935	58	857	36	24	700	28
750	30	1015	58	940	36	28	750	30
800	32	1060	68	984	36	28	800	32
900	36	1185	68	1105	39	32	900	36
1000	40	1275	78	1194	39	36	1000	40
1200	48	1530	88	1441	42	40	1200	48
PN - 35								
50	2	165	19	127	18	4	50	2
65	2 1/2	185	19	146	18	8	65	2 1/2
80	3	205	24	165	18	8	80	3
100	4	230	24	191	18	8	100	4
150	6	305	31	260	22	12	150	6
200	8	370	31	324	22	12	200	8
225	9	405	38	356	26	12	225	9
250	10	430	38	381	26	12	250	10
300	12	490	38	438	26	16	300	12
350	14	550	48	495	30	16	350	14
375	15	580	48	521	30	16	375	15
400	16	610	48	552	30	20	400	16
450	18	675	58	610	33	20	450	18
500	20	735	58	673	33	24	500	20
600	24	850	68	781	36	24	600	24
700	28	935	78	857	36	24	700	28
750	30	1015	78	940	36	28	750	30
800	32	1060	84	984	36	28	800	32
900	36	1185	94	1105	39	32	900	36
1000	40	1275	98	1194	39	36	1000	40
1200	48	1530	108	1441	42	40	1200	48

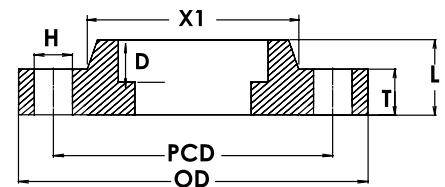
NOTES: (1) Stocked flanges are generally supplied as flat face.
 (2) Raised Face or "O" Ring groove also available.
 (3) Flanges may also be supplied in weld neck and bossed configuration (hub dimensions as per AS2129).



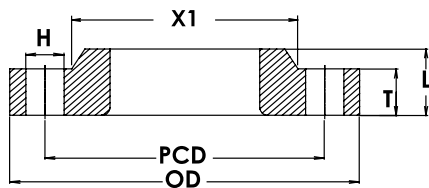
SLIP ON PLATE



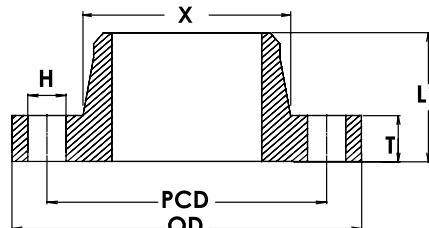
SLIP ON HUB



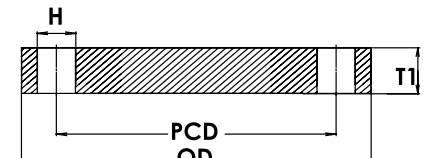
SOCKET WELD



LAPPED



WELD NECK



BLIND

RATING 5K

NOMINAL PIPE SIZE		OUTSIDE DIAMETER OF FLANGE	THICKNESS		LENGTH THROUGH BORE		HUB DIMENSION		SOCKET WELD DEPTH	DRILLING DATA			NOMINAL PIPE SIZE	
			THICKNESS OF FLANGE	THICKNESS OF BLIND FLANGE	HUBBED LENGTH (SOH, SW, LJ & TR)	WELD NECK LENGTH	BASE DIAMETRE WELD NECK	BASE DIAMETRE SOH, SW LJ & TR		PITCH CIRCLE DIAMETER	NUMBER OF BOLT HOLES	BOLT HOLE DIAMETER		
MM	INCH	C	T	T1	L	L1	X	X1	D	PCD	#	H	MM	INCH
10	3/8	75	9	9	13	24	26	26	10	55	4	12	10	3/8
15	1/2	80	9	9	13	25	31	30	10	60	4	12	15	1/2
20	3/4	85	10	10	15	28	38	36	13	65	4	12	20	3/4
25	1	95	10	10	17	30	46	44	13	75	4	12	25	1
32	1 1/4	115	12	12	19	33	55	53	13	90	4	15	32	1 1/4
40	1 1/2	120	12	12	20	34	62	60	13	95	4	15	40	1 1/2
50	2	130	14	14	24	36	73	73	16	105	4	15	50	2
65	2 1/2	155	14	14	27	39	91	91	16	130	4	15	65	2 1/2
80	3	180	14	14	30	41	105	105	16	145	4	19	80	3
90	3 1/2	190	14	14	N/A	41	117	N/A	N/A	155	4	19	90	3 1/2
100	4	200	16	16	36	41	128	130	N/A	165	8	19	100	4
125	5	235	16	16	40	43	156	161	N/A	200	8	19	125	5
150	6	265	18	18	40	49	184	189	N/A	230	8	19	150	6
175	7	300	18	18	N/A	49	209	N/A	N/A	260	8	23	175	7
200	8	320	20	20	N/A	53	235	N/A	N/A	280	8	23	200	8
225	9	345	20	20	N/A	54	261	N/A	N/A	305	12	23	225	9
250	10	385	22	22	N/A	61	290	N/A	N/A	345	12	23	250	10
300	12	430	22	22	N/A	62	342	N/A	N/A	390	12	23	300	12
350	14	480	24	24	N/A	73	385	N/A	N/A	435	12	25	350	14
400	16	540	24	24	N/A	76	438	N/A	N/A	495	16	25	400	16
450	18	605	24	24	40	79	491	500	N/A	555	16	25	450	18
500	20	655	24	24	40	79	541	552	N/A	605	20	25	500	20
550	22	720	26	26	42	81	593	603	N/A	665	20	27	550	22
600	24	770	26	26	44	81	643	654	N/A	715	20	27	600	24
650	26	825	26	28	48	85	698	708	N/A	770	24	27	650	26
700	28	875	26	30	48	94	748	758	N/A	820	24	27	700	28
750	30	945	28	32	52	100	802	810	N/A	880	24	33	750	30
800	32	995	28	34	52	100	852	862	N/A	930	24	33	800	32
850	34	1045	28	36	54	108	902	912	N/A	980	24	33	850	34
900	36	1095	30	36	56	108	952	964	N/A	1030	24	33	900	36
1000	40	1195	32	40	60	116	1052	1066	N/A	1130	28	33	1000	40

- NOTES: (1) Further sizes are available up to 1500NB.
 (2) Various types of weld preps are offered with this standard. Please confirm at enquiry.
 (3) Weld Neck available in Raised Face.

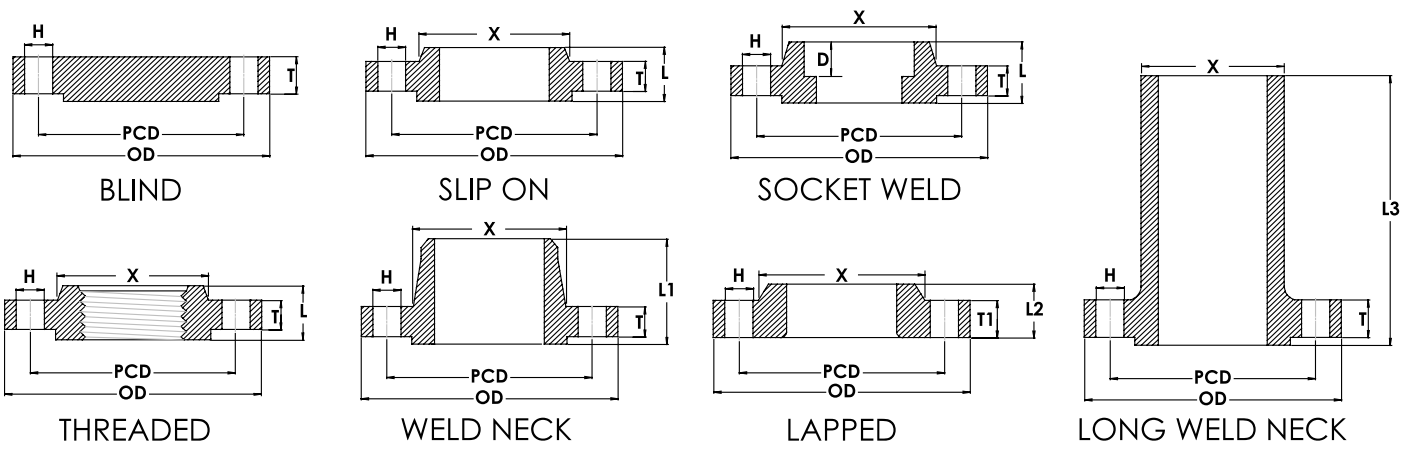
RATING 10K

NOMINAL PIPE SIZE		OUTSIDE DIAMETER OF FLANGE	THICKNESS		LENGTH THROUGH BORE		HUB DIMENSION		SOCKET WELD DEPTH	DRILLING DATA			NOMINAL PIPE SIZE	
			THICKNESS OF FLANGE	THICKNESS OF BLIND FLANGE	HUBBED LENGTH (SOH, SW, LJ & TR)	WELD NECK LENGTH	BASE DIAMETER WELD NECK	BASE DIAMETER SOH, SW LJ & TR		PITCH CIRCLE DIAMETER	NUMBER OF BOLT HOLES	BOLT HOLE DIAMETER		
MM	INCH	C	T	T1	L	L1	X	X1	D	PCD	#	H	MM	INCH
10	3/8	90	12	12	16	29	28	26	10	65	4	15	10	3/8
15	1/2	95	12	12	16	31	33	30	10	70	4	15	15	1/2
20	3/4	100	14	14	20	32	38	36	13	75	4	15	20	3/4
25	1	125	14	14	20	36	47	44	13	90	4	19	25	1
32	1 1/4	135	16	16	22	38	56	53	13	100	4	19	32	1 1/4
40	1 1/2	140	16	16	24	38	62	60	13	105	4	19	40	1 1/2
50	2	155	16	16	24	40	75	73	16	120	4	19	50	2
65	2 1/2	175	18	18	27	44	92	91	16	140	4	19	65	2 1/2
80	3	185	18	18	30	45	105	105	16	150	8	19	80	3
90	3 1/2	195	18	18	N/A	45	117	N/A	N/A	160	8	19	90	3 1/2
100	4	210	18	18	36	45	130	130	N/A	175	8	19	100	4
125	5	250	20	20	40	47	156	161	N/A	210	8	23	125	5
150	6	280	22	22	40	53	184	189	N/A	240	8	23	150	6
175	7	305	22	22	N/A	55	210	N/A	N/A	265	12	23	175	7
200	8	330	22	22	N/A	58	238	N/A	N/A	290	12	23	200	8
225	9	350	22	22	N/A	58	261	N/A	N/A	310	12	23	225	9
250	10	400	24	24	36	65	292	292	N/A	355	12	25	250	10
300	12	445	24	24	38	68	345	346	N/A	400	16	25	300	12
350	14	490	26	26	42	79	388	386	N/A	445	16	25	350	14
400	16	560	28	28	44	85	442	442	N/A	510	16	27	400	16
450	18	620	30	30	48	90	495	502	N/A	565	20	27	450	18
500	20	675	30	30	48	99	546	554	N/A	620	20	27	500	20
550	22	745	32	34	52	111	597	610	N/A	680	20	33	550	22
600	24	795	32	36	52	112	648	662	N/A	730	24	33	600	24
650	26	845	34	38	56	116	700	712	N/A	780	24	33	650	26
700	28	905	34	40	58	132	754	770	N/A	840	24	33	700	28
750	30	970	36	44	62	139	807	824	N/A	900	24	33	750	30
800	32	1020	36	46	64	139	858	876	N/A	950	28	33	800	32
850	34	1070	36	48	66	139	908	928	N/A	1000	28	33	850	34
900	36	1120	38	50	70	140	959	979	N/A	1050	28	33	900	36
1000	40	1235	40	56	74	151	1065	1081	N/A	1160	28	39	1000	40

RATING 16K

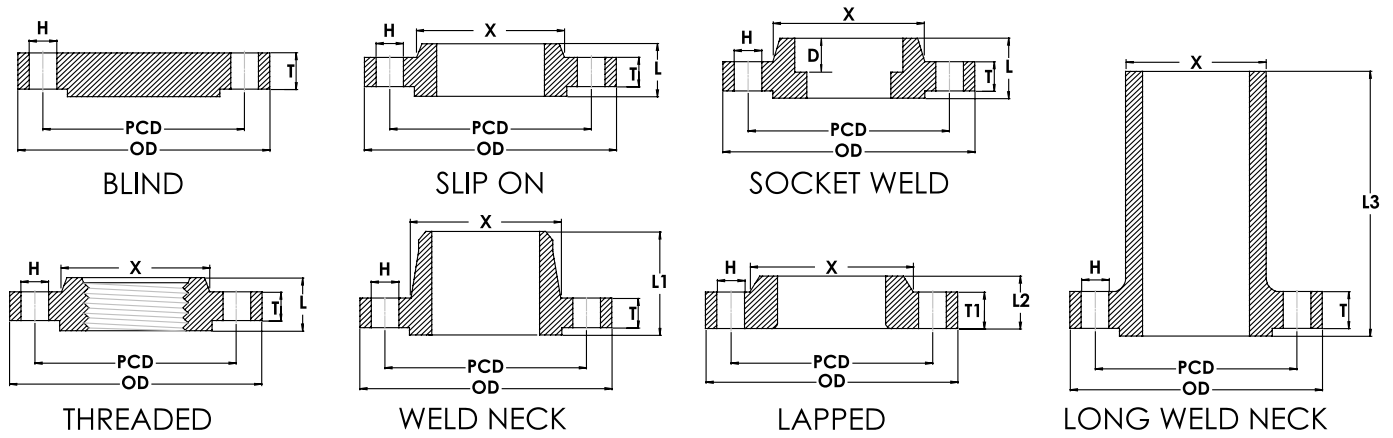
10	3/8	90	12	12	16	31	29	28	10	65	4	15	10	3/8
15	1/2	95	12	12	16	32	34	32	10	70	4	15	15	1/2
20	3/4	100	14	14	20	34	39	42	13	75	4	15	20	3/4
25	1	125	14	14	20	36	47	50	13	90	4	19	25	1
32	1 1/4	135	16	16	22	39	56	60	13	100	4	19	32	1 1/4
40	1 1/2	140	16	16	24	39	62	66	13	105	4	19	40	1 1/2
50	2	155	16	16	24	40	75	80	16	120	8	19	50	2
65	2 1/2	175	18	18	26	46	92	98	16	140	8	19	65	2 1/2
80	3	200	20	20	28	49	105	112	16	160	8	23	80	3
90	3 1/2	210	20	20	30	50	118	124	N/A	170	8	23	90	3 1/2
100	4	225	22	22	34	56	134	138	N/A	185	8	23	100	4
125	5	270	22	22	34	60	162	170	N/A	225	8	25	125	5
150	6	305	24	24	38	69	192	202	N/A	260	12	25	150	6
200	8	350	26	26	40	73	244	252	N/A	305	12	25	200	8
250	10	430	28	28	44	81	298	312	N/A	380	12	27	250	10
300	12	480	30	30	48	88	352	364	N/A	430	16	27	300	12
350	14	540	34	34	52	104	398	408	N/A	480	16	33	350	14
400	16	605	38	38	60	115	452	456	N/A	540	16	33	400	16
450	18	675	40	40	64	126	510	514	N/A	605	20	33	450	18
500	20	730	42	42	68	128	561	568	N/A	660	20	33	500	20
550	22	795	44	44	70	135	616	622	N/A	720	20	39	550	22
600	24	845	46	46	74	141	670	676	N/A	770	24	39	600	24

- NOTES: (1) Further sizes are available up to 1500NB.
 (2) Various types of weld preps are offered with this standard. Please confirm at enquiry.
 (3) Weld Neck available in Raised Face.



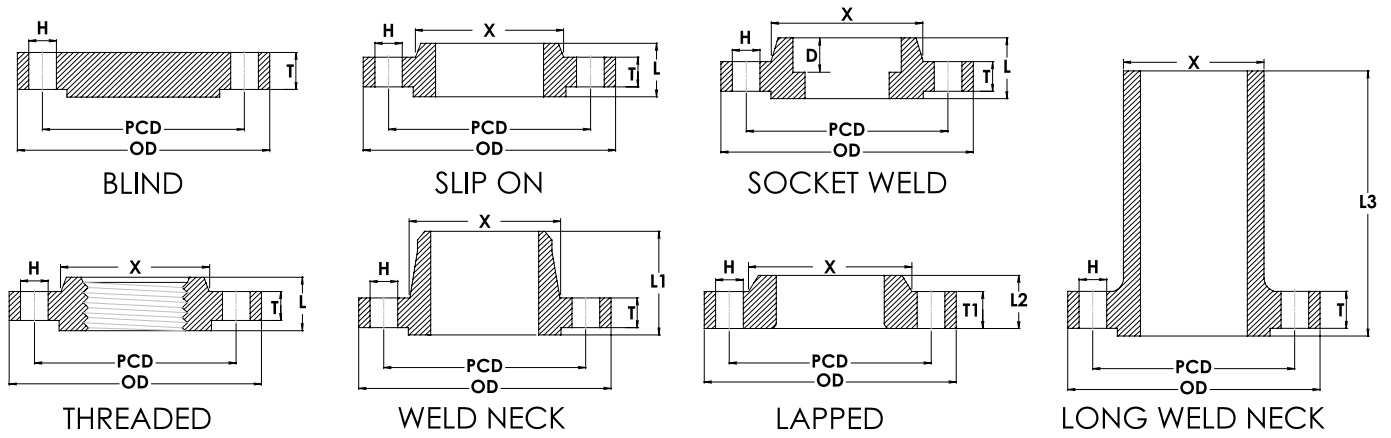
NOMINAL PIPE SIZE	FLANGE OUTSIDE DIAMETER	THICKNESS		LENGTH THROUGH BORE				DIAMETER AT BASE OF HUB	SOCKET WELD DEPTH	DRILLING DATA			NOMINAL PIPE SIZE		
		THICKNESS OF FLANGE	THICKNESS OF LAPPED	SLIP ON, SOCKET WELD & THREADED (Ref. Note 1)	WELD NECK (Ref. Note 1)	LAPPED	LONG WELD NECK (Ref. Note 1)			PITCH CIRCLE DIAMETER	BOLT HOLE DIAMETER	NUMBER OF BOLT HOLES	MM	INCH	
MM	INCH	OD	T	T1	L	L1	L2	L3	X	D	PCD	H	#	MM	INCH
CLASS 150															
15	1/2	90	9.6	11.2	16	48	16	231	30	10	60.3	16	4	15	1/2
20	3/4	100	11.2	12.7	16	53	16	231	38	11	69.9	16	4	20	3/4
25	1	110	12.7	14.3	18	56	17	231	49	13	79.4	16	4	25	1
32	1 1/4	115	14.3	15.9	21	58	21	231	59	14	88.9	16	4	32	1 1/4
40	1 1/2	125	15.9	17.5	23	62	22	231	65	16	98.4	16	4	40	1 1/2
50	2	150	17.5	19.1	26	64	25	231	78	17	120.7	20	4	50	2
65	2 1/2	180	20.7	22.3	29	70	29	231	90	19	139.7	20	4	65	2 1/2
80	3	190	22.3	23.9	31	70	30	231	108	21	152.4	20	4	80	3
90	3 1/2	215	22.3	23.9	32	72	32	231	122		177.8	20	8	90	3 1/2
100	4	230	22.3	23.9	34	77	33	231	135		190.5	20	8	100	4
125	5	255	22.3	23.9	37	89	36	307	164		215.9	23	8	125	5
150	6	280	23.9	25.4	40	89	40	307	192		241.3	23	8	150	6
200	8	345	27	28.6	45	102	44	307	246		298.5	23	8	200	8
250	10	405	28.6	30.2	50	102	49	307	305		362	26	12	250	10
300	12	485	30.2	31.8	56	115	56	307	365		431.8	26	12	300	12
350	14	535	33.4	35	58	127	79	307	400		476.3	29	12	350	14
400	16	595	35	36.6	64	127	87	307	457		539.8	29	16	400	16
450	18	635	38.1	39.7	69	140	97	307	505		577.9	32	16	450	18
500	20	700	41.3	42.9	73	145	103	307	559		635	32	20	500	20
600	24	815	46.1	47.7	83	153	111	307	663		749.3	35	20	600	24
CLASS 300															
15	1/2	95	12.7	14.3	23	53	22	231	38	10	66.7	16	4	15	1/2
20	3/4	115	14.3	15.9	26	58	25	231	48	11	82.6	20	4	20	3/4
25	1	125	15.9	17.5	27	62	27	231	54	13	88.9	20	4	25	1
32	1 1/4	135	17.5	19.1	27	66	27	231	64	14	98.4	20	4	32	1 1/4
40	1 1/2	155	19.1	20.7	31	69	30	231	70	16	114.3	23	4	40	1 1/2
50	2	165	20.7	22.3	34	70	33	231	84	17	127	20	8	50	2
65	2 1/2	190	23.9	25.4	39	77	38	231	100	19	149.2	23	8	65	2 1/2
80	3	210	27	28.6	43	80	43	231	117	21	168.3	23	8	80	3
90	3 1/2	230	28.6	30.2	45	81	44	231	133		184.2	23	8	90	3 1/2
100	4	255	30.2	31.8	48	86	48	231	146		200	23	8	100	4
125	5	280	33.4	35	51	99	51	307	178		235	23	8	125	5
150	6	320	35	36.6	53	99	52	307	206		269.9	23	12	150	6
200	8	380	39.7	41.3	62	112	62	307	260		330.2	26	12	200	8
250	10	445	46.1	47.7	67	118	95	307	321		387.4	29	16	250	10
300	12	520	49.3	50.8	73	131	102	307	375		450.8	32	16	300	12
350	14	585	52.4	54	77	143	111	307	425		514.4	32	20	350	14
400	16	650	55.6	57.2	83	146	121	307	483		571.5	35	20	400	16
450	18	710	58.8	60.4	89	159	130	307	533		628.6	35	24	450	18
500	20	775	62	63.5	96	162	140	307	587		685.8	35	24	500	20
600	24	915	68.3	69.9	107	169	152	307	702		812.8	42	24	600	24

NOTES: (1) LTB dimensions include RF thickness of 2 mm.



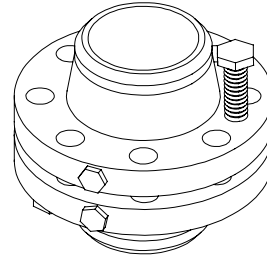
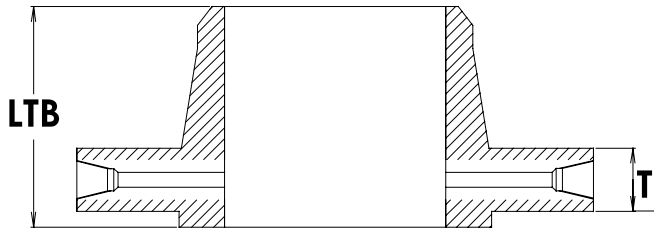
NOMINAL PIPE SIZE		FLANGE OUTSIDE DIAMETER	THICKNESS OF FLANGE	LENGTH THROUGH BORE				DIAMETER AT BASE OF HUB	SOCKET WELD DEPTH	DRILLING DATA			NOMINAL PIPE SIZE																
				SLIP ON, SOCKET WELD & THREADED (Ref. Note 1)	WELD NECK (Refer Note.1)	LAPPED	LONG WELD NECK (Ref. Note 1)			PITCH CIRCLE DIAMETER	BOLT HOLE DIAMETER	NUMBER OF BOLT HOLES																	
MM	INCH	OD	T & T1	L	L1	L2	L3	X	D	PCD	H	#	MM	INCH															
CLASS 600															15	1/2	95	14.3	29	59	22	236	38	10	66.7	16	4	15	1/2
															20	3/4	115	15.9	32	64	25	236	48	11	82.6	20	4	20	3/4
															25	1	125	17.5	34	69	27	236	54	13	88.9	20	4	25	1
															32	1 1/4	135	20.7	36	74	29	236	64	14	98.4	20	4	32	1 1/4
															40	1 1/2	155	22.3	39	77	32	236	70	16	114.3	22	4	40	1 1/2
															50	2	165	25.4	44	80	37	236	84	17	127	20	8	50	2
															65	2 1/2	190	28.6	48	86	41	236	100	19	149.2	22	8	65	2 1/2
															80	3	210	31.8	53	90	46	236	117	21	168.3	22	8	80	3
															90	3 1/2	230	35	56	93	49	236	133		184.2	26	8	90	3 1/2
															100	4	275	38.1	61	109	54	236	152		215.9	26	8	100	4
															125	5	330	44.5	67	121	60	312	189		266.7	29	8	125	5
															150	6	355	47.7	74	124	67	312	222		292.1	29	12	150	6
															200	8	420	55.6	83	140	76	312	273		349.2	32	12	200	8
															250	10	510	63.5	93	159	111	312	343		431.8	35	16	250	10
															300	12	560	66.7	99	163	117	312	400		489	35	20	300	12
															350	14	605	69.9	101	172	127	312	432		527	38	20	350	14
400	16	685	76.2	113	185	140	312	495		603.2	42	20	400	16															
450	18	745	82.6	124	191	152	312	546		654	45	20	450	18															
500	20	815	88.9	134	197	165	312	610		723.9	45	24	500	20															
600	24	940	101.6	147	210	184	312	718		838.2	51	24	600	24															
CLASS 900															15	1/2	121	22.3	39	67	32	236	38	10	82.6	22	4	15	1/2
															20	3/4	130	25.4	42	77	35	236	44	11	88.9	22	4	20	3/4
															25	1	149	28.6	48	80	41	236	52	13	101.6	26	4	25	1
															32	1 1/4	159	28.6	48	80	41	236	64	14	111.1	26	4	32	1 1/4
															40	1 1/2	178	31.8	51	90	44	236	70	16	123.8	29	4	40	1 1/2
															50	2	216	38.1	64	109	57	236	105	17	165.1	26	8	50	2
															65	2 1/2	244	41.3	71	112	64	236	124	19	190.5	29	8	65	2 1/2
															80	3	240	38.1	61	109	54	236	127		190.5	26	8	80	3
															100	4	290	44.5	77	121	70	236	159		235	32	8	100	4
															125	5	350	50.8	86	134	79	312	190		279.4	35	8	125	5
															150	6	380	55.6	93	147	86	312	235		317.5	32	12	150	6
															200	8	470	63.5	109	169	114	312	298		393.7	38	12	200	8
															250	10	545	69.9	115	191	127	312	368		469.9	38	16	250	10
															300	12	610	79.4	124	207	143	312	419		533.4	38	20	300	12
															350	14	640	85.8	137	220	156	312	451		558.8	42	20	350	14
															400	16	705	88.9	140	223	165	312	508		616	45	20	400	16
450	18	785	101.6	159	236	190	312	565		685.8	51	20	450	18															
500	20	855	108	166	255	210	312	622		749.3	54	20	500	20															
600	24	1040	139.7	210	299	267	312	749		901.7	67	20	600	24															

NOTES: (1) LTB dimensions include RF thickness of 7 mm.



NOMINAL PIPE SIZE	FLANGE OUTSIDE DIAMETER	THICKNESS OF FLANGE	LENGTH THROUGH BORE				DIAMETER AT BASE OF HUB	SOCKET WELD DEPTH	DRILLING DATA			NOMINAL PIPE SIZE																	
			SLIP ON, SOCKET WELD & THREADED (Ref. Note 1)	WELD NECK (Ref. Note 1)	LAPPED	LONG WELD NECK (Ref. Note 1)			PITCH CIRCLE DIAMETER	BOLT HOLE DIAMETER	NUMBER OF BOLT HOLES																		
MM	INCH	OD	T & T1	L	L1	L2	L3	X	D	PCD	H	#	MM	INCH															
CLASS 1500															15	1/2	121	22.3	39	67	32	236	38	10	82.6	22	4	15	1/2
															20	3/4	130	25.4	42	77	35	236	44	11	88.9	22	4	20	3/4
															25	1	149	28.6	48	80	41	236	52	13	101.6	26	4	25	1
															32	1 1/4	159	28.6	48	80	41	236	64	14	111.1	26	4	32	1 1/4
															40	1 1/2	178	31.8	51	90	44	236	70	16	123.8	29	4	40	1 1/2
															50	2	216	38.1	64	109	57	236	105	17	165.1	26	8	50	2
															65	2 1/2	244	41.3	71	112	64	236	124	19	190.5	29	8	65	2 1/2
															80	3	267	47.7		124	73	236	133		203.2	32	8	80	3
															100	4	311	54		131	90	236	162		241.3	35	8	100	4
															125	5	375	73.1		163	105	312	197		292.1	42	8	125	5
															150	6	394	82.6		178	119	312	229		317.5	38	12	150	6
															200	8	483	92.1		220	143	312	292		393.7	45	12	200	8
															250	10	585	108		261	178	312	368		482.6	51	12	250	10
															300	12	675	123.9		290	219	312	451		571.5	54	16	300	12
															350	14	750	133.4		305	241	312	495		635	60	16	350	14
															400	16	825	146.1		318	260	312	552		704.8	67	16	400	16
															450	18	915	162		334	276	312	597		774.7	73	16	450	18
															500	20	985	177.8		363	292	312	641		831.8	79	16	500	20
600	24	1170	203.2		413	330	312	762		990.6	92	16	600	24															
CLASS 2500															15	1/2	135	30.2	47	80	40	236	43		88.9	22	4	15	1/2
															20	3/4	140	31.8	50	86	43	236	51		95.2	22	4	20	3/4
															25	1	160	35	55	96	48	236	57		108	26	4	25	1
															32	1 1/4	185	38.1	59	102	52	236	73		130.2	29	4	32	1 1/4
															40	1 1/2	205	44.5	67	118	60	236	79		146	32	4	40	1 1/2
															50	2	235	50.9	77	134	70	236	95		171.4	29	8	50	2
															65	2 1/2	265	57.2	86	150	79	236	114		196.8	32	8	65	2 1/2
															80	3	305	66.7		175	92	236	133		228.6	35	8	80	3
															100	4	355	76.2		197	108	312	165		273	42	8	100	4
															125	5	420	92.1		235	130	312	203		323.8	48	8	125	5
															150	6	485	108		280	152	312	235		368.3	54	8	150	6
															200	8	550	127		325	178	312	305		438.2	54	12	200	8
250	10	675	165.1		426	229	312	375		539.8	67	12	250	10															
300	12	760	184.2		471	254	312	441		619.1	73	12	300	12															

NOTES: (1) LTB dimensions include RF thickness of 7 mm.

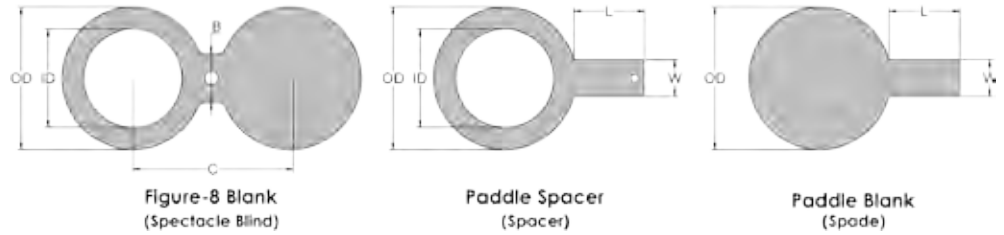


NOMINAL PIPE SIZE		CLASS 300		CLASS 600		CLASS 900		CLASS 1500		CLASS 2500		NOMINAL PIPE SIZE	
		THICKNESS MIN	LENGTH THRU HUB W/NECK	THICKNESS MIN	LENGTH THRU HUB W/NECK	THICKNESS MIN	LENGTH THRU HUB W/NECK	THICKNESS MIN	LENGTH THRU HUB W/NECK	THICKNESS MIN	LENGTH THRU HUB W/NECK		
MM	INCH	T	LTB	T	LTB	T	LTB	T	LTB	T	LTB	MM	INCH
25	1	36.6	83	36.6	83	38.1	90	38.1	90	38.1	99	25	1
40	1 1/2	36.6	86	36.6	86	38.1	96	38.1	96	44.5	118	40	1 1/2
50	2	36.6	86	36.6	86	38.1	109	38.1	109	50.8	134	50	2
65	2 1/2	36.6	89	36.6	89	41.3	112	41.3	112	57.2	150	65	2 1/2
80	3	36.6	89	36.6	89	38.1	109	47.7	124	66.7	175	80	3
100	4	36.6	92	38.1	109	44.5	121	54	131	76.2	197	100	4
150	6	36.6	100	47.7	124	55.6	147	82.6	178	108	280	150	6
200	8	39.7	112	55.6	140	63.5	169	92.1	220	127	325	200	8
250	10	46.1	118	63.5	159	69.9	191	108	261	165.1	426	250	10
300	12	49.3	131	66.7	163	79.4	207	123.9	290	184.2	471	300	12
350	14	52.4	143	69.9	172	85.8	220	133.4	305			350	14
400	16	55.6	146	76.2	185	88.9	223	146.1	318			400	16
450	18	58.8	159	82.6	191	101.6	236	162	334			450	18
500	20	62	162	88.9	197	108	255	177.8	363			500	20
600	24	68.3	169	101.6	210	139.7	299	203.2	413			600	24

- Notes:
- 1) An Orifice flange set includes:
2 x Flanges, 2 x Jack bolts, 2 x 1/2" NPT hex head plugs & 2 x plastic caps fitted in the tapped holes.
 - 2) Ring joint flanges may have special side tapping.
 - 3) Bore to be specified by purchaser.
 - 4) Jack bolt holes can be supplied with tapped holes or milled nut slot.
 - 5) Tapping bore sizes: 65 NB & less = 5.4 mm, 80 NB = 9.5 mm, 100 NB & over = 12.7 mm.
 - 6) LTB includes RF thickness.

The Orifice Plate is sandwiched between two orifice flanges (sealed by gaskets) providing a constriction in the line. When a fluid passes through this orifice constriction a pressure drop will occur across the orifice. This pressure drop can be monitored using the side ports of the orifice flanges. The change in pressure along with the fluids known physical properties can be used to calculate the flowrate. Generally Orifice Plates have a diameter as shown in B16.48, but with a reduced thickness, often only 3 mm for small orifice plates. The handle is long enough to protrude from the orifice flanges and carries the orifice detail. These plates are usually made from a corrosion resistant alloy and have machined spiral sealing surfaces.





CLASS 150

NOMINAL PIPE SIZE	INSIDE DIAMETER	OUTSIDE DIAMETER	CENTRE LINE SPACING	THICKNESS MIN	WEB WIDTH	HANDLE LENGTH	HANDLE WIDTH	HANDLE THICKNESS	
MM	INCH	ID	OD	C	T	B	L	W	
15	1/2	16	45	60	3	38	100	25	3
20	3/4	21	54	70	3	38	100	25	3
25	1	27	64	79	3	38	100	32	3
32	1 1/4	42	73	90	6.4	38	100	32	6
40	1 1/2	48	83	100	6.4	38	100	32	6
50	2	61	102	121	6.4	51	100	32	6
65	2 1/2	73	121	140	6.4	51	100	32	6
80	3	89	133	152	6.4	64	100	32	6
90	3 1/2	102	159	175	9.7	64	100	32	6
100	4	114	172	191	9.7	64	100	32	6
125	5	141	194	215	9.7	76	100	32	6
150	6	168	219	241	12.7	76	100	32	6
200	8	219	276	300	12.7	76	125	40	10
250	10	273	337	362	15.7	102	125	40	10
300	12	324	406	432	19.1	102	125	40	10
350	14	356	448	476	19.1	108	125	40	10
400	16	406	511	540	22.4	108	125	40	10
450	18	457	546	580	25.4	114	150	50	16
500	20	508	603	635	28.4	121	150	50	16
600	24	610	714	750	31.8	140	150	50	16

CLASS 300

INSIDE DIAMETER	OUTSIDE DIAMETER	CENTRE LINE SPACING	THICKNESS MIN	WEB WIDTH	HANDLE LENGTH	HANDLE WIDTH	HANDLE THICKNESS	NOMINAL PIPE SIZE
ID	OD	C	T	B	L	W	t	MM
16	51	67	6.4	38	100	25	6	15
21	64	82	6.4	38	100	25	6	20
27	70	90	6.4	38	100	25	6	25
42	79	100	6.4	38	100	25	6	32
48	92	115	6.4	38	100	25	6	40
61	108	127	9.7	51	100	25	6	50
73	127	150	9.7	51	100	32	6	65
89	146	170	9.7	64	100	32	6	80
102	162	185	12.7	64	100	32	8	90
114	178	200	12.7	64	125	32	8	100
141	213	235	15.7	76	125	32	8	125
168	248	270	15.7	76	150	32	10	150
219	305	330	22.4	76	150	40	12	200
273	359	385	25.4	102	150	40	16	250
324	419	450	28.4	102	150	40	20	300
356	483	515	31.8	108	180	40	20	350
406	536	570	38.1	108	180	40	25	400
457	594	630	41.1	114	180	50	25	450
508	651	685	44.5	121	180	50	32	500
610	772	815	50.8	140	200	50	32	600

CLASS 600

15	1/2	16	51	67	6.4	38	100	25	6
20	3/4	21	64	82	6.4	38	100	25	6
25	1	27	70	90	6.4	57	100	25	6
32	1 1/4	37	79	100	9.7	57	100	25	6
40	1 1/2	43	92	115	9.7	67	100	25	6
50	2	55	108	127	9.7	57	100	25	6
65	2 1/2	67	127	150	12.7	67	100	32	6
80	3	83	146	170	12.7	67	100	32	6
90	3 1/2	96	159	185	15.8	76	100	32	8
100	4	108	191	215	15.8	76	125	32	8
125	5	135	238	265	19.1	86	125	32	8
150	6	162	264	292	22.4	86	150	32	10
200	8	212	318	350	28.5	95	150	40	12
250	10	265	397	432	35.1	105	180	40	16
300	12	315	454	490	41.2	105	180	40	20
350	14	346	489	527	44.5	114	180	40	20
400	16	397	562	605	50.8	124	180	40	25
450	18	448	610	655	53.9	133	200	50	25
500	20	497	680	725	63.5	133	200	50	32
600	24	597	787	840	73.2	152	200	50	32

CLASS 900

16	60	82	6.4	38	125	32	6	15
21	67	90	6.4	41	125	32	6	20
27	76	100	6.4	57	125	32	6	25
37	86	110	9.7	57	125	32	8	32
43	95	125	9.7	67	125	32	8	40
55	140	165	12.7	57	125	32	8	50
67	162	190	12.7	67	125	32	8	65
83	165	190	15.7	67	125	32	8	80
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	90
108	203	235	19.1	76	140	32	8	100
135	244	280	22.4	86	150	32	10	125
162	286	320	25.4	86	150	32	10	150
212	356	395	35.1	95	150	40	12	200
265	432	470	41.1	105	180	40	16	250
315	495	535	47.8	105	180	40	20	300
346	518	560	53.8	114	180	40	20	350
397	572	615	60.5	124	190	40	25	400
448	635	685	66.5	133	190	40	25	450
497	696	750	73.2	133	200	50	32	500
597	835	900	88.9	152	220	50	32	600

CLASS 1500

15	1/2	16	61	82	6.4	38	125	32	6
20	3/4	21	67	90	9.7	41	125	40	6
25	1	27	76	100	9.7	56	125	40	6
32	1 1/4	35	86	110	9.7	64	125	40	6
40	1 1/2	41	95	125	12.7	70	125	40	6
50	2	53	140	165	12.7	70	125	32	6
65	2 1/2	63	162	190	15.7	76	125	40	10
80	3	78	172	205	19.1	76	125	40	10
100	4	102	206	240	22.4	89	150	50	10
125	5	128	251	292	28.4	89	150	50	10
150	6	154	279	320	35.1	89	150	40	20
200	8	203	349	395	41.1	102	180	50	25
250	10	255	432	483	50.8	114	180	50	25
300	12	303	518	572	60.5	114	180	50	32
350	14	333	575	635	66.5	127	180	60	32
400	16	381	638	705	76.2	133	190	70	40
450	18	429	702	775	85.9	146	200	70	40
500	20	478	752	830	95.3	152	200	80	50
600	24	575	899	990	111.3	178	220	100	50

CLASS 2500

16	67	90	9.7	38	125	40	6	15
21	73	95	9.7	41	125	40	6	20
27	83	110	9.7	64	125	40	6	25
35	102	130	12.7	64	125	60	6	32
41	114	145	15.7	70	125	70	10	40
53	143	170	15.7	70	150	30	10	50
63	165	195	19.1	76	150	40	10	65
78	194	230	22.4	76	150	50	10	80
102	232	270	28.4	89	180	60	10	100
128	276	325	35.1	89	180	70	20	125
154	314	370	41.1	89	180	80	25	150
198	384	440	53.8	102	180	50	25	200
248	473	540	66.5	114	200	70	32	250
289	546	620	79.2	114	200	80	40	300
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	350
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	400
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	450
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	500
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	600

NOTES: (1) Full face shown. Raised Face and Ring Type Joint (male/female) are also available upon request.
 (2) Handles are available in various configurations, manufactured to suit client or project requirements.

MATERIAL	CHEMICALS									MECHANICALS				
	Standard:Grade	C	Mn	P	S	Si	Cr	Ni	Mo	N	Tensile	Yield	Elongation	Hardness
	%	%	%	%	%	%	%	%	%	%	MPa Min	MPa Min	% min	HBW Max
Carbon Steel Plates														
AS/NZS 3678 Gr 250	0.22max	1.7max	0.04max	0.03max	0.55max	0.25max	0.5max	0.10max			410	250	22	
AS 1548 PT460	0.2max	0.9-1.7	0.04max	0.03max	0.60max	0.25max	0.5max	0.10max			460-580	295	21	
ASTM A516 Gr70	0.28max	0.85-1.20	0.025max	0.025max	0.15-0.40	-	-	-			485-620	260	21	
Stainless Steel Plate														
ASTM A240 304/304L	0.03max	2.00max	0.045max	0.03max	0.75max	17.5-19.5	8.0-10.5	-	0.1max		515	205	40	201
ASTM A240 316/316L	0.03max	2.00max	0.045max	0.03max	0.75max	16.0-18.0	10.0-14.0	2.00-3.00	0.1max		515	205	40	217
ASTM A240 2205 UNS S32205	0.03max	2.00max	0.03max	0.02max	1.0max	22.0-23.0	4.5-6.5	3.0-3.5	0.14-0.20		655	450	25	293
ASTM A240 2507 UNS S32750	0.03max	1.20max	0.035max	0.020max	0.80max	24.0-26.0	6.0-8.0	3.0-5.0	0.24-0.32		795	550	15	310
NOTES: AS3678 Gr 250 Yield can vary with thickness AS1548 PT460 Yield can vary with thickness A516 Gr 70 Carbon varies with thickness														
Carbon Steel Forged														
ASTM A105	0.35max	0.6-1.05	0.035max	0.040max	0.10-0.35	0.3max	0.40max	0.12max			485	250	22	187
ASTM A350 LF2 (Charpy test @-46 °C)	0.30max	0.60-1.35	0.035max	0.040max	0.15-0.30	-	0.40max	0.12max			485-655	250	22	197
ASTM A350 LF3 (Charpy test @-101 °C)	0.20max	0.90max	0.035max	0.040max	0.20-0.35	-	3.3-3.7	0.12max			485-655	260	22	197
						-	-	-	-					
ASTM A694 F42	0.26max	1.6max	0.025max	0.025max	0.15-0.35	-	-	-	-		415	290	20	
ASTM A694 F52	0.26max	1.6max	0.025max	0.025max	0.15-0.35	-	-	-	-		455	360	20	
ASTM A694 F65	0.26max	1.6max	0.025max	0.025max	0.15-0.35	-	-	-	-		530	450	20	
Stainless Steel Forged														
ASTM A182 F304/304L	0.03max	2.00max	0.045max	0.03max	1.0max	18.0-20.0	8.0-11.0		0.1max		515	205	30	
ASTM A182 F316/F316L	0.03max	2.00max	0.045max	0.03max	1.0max	16.0-18.0	10.0-15.0	2.00-3.00	0.1max		515	205	30	
ASTM A182 F51 UNS S31803	0.03max	2.00max	0.03max	0.02max	1.0max	21.0-23.0	4.5-6.5	2.5-3.5	0.08-.02		620	450	25	
ASTM A182 F53 UNS S32750	0.03max	1.20max	0.035max	0.020max	0.80max	24.0-26.0	6.0-8.0	3.0-5.0	0.24-0.32		"800 (<50mm)"	"550 (<50mm)"	15	310
NOTES: ASTM A182 F53 Lower mechanicals apply for material >50mm thick. AS Australian Standard ASTM International standards worldwide														

Whilst all care has been taken to assemble this data final verification by the user is still recommended with the relative official standard publications thus minimizing any typographical transcripts.

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