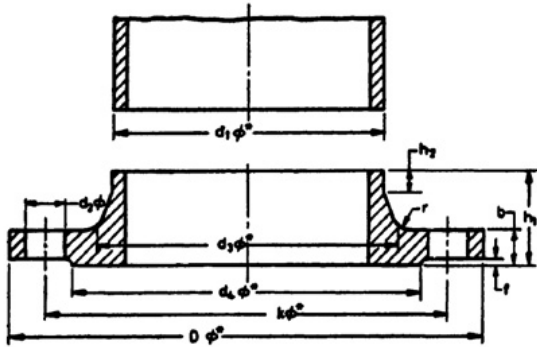


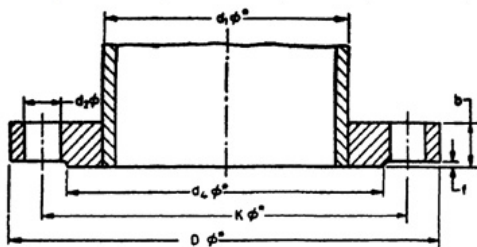
WELDING NECK FLANGES TABLE 2



NOM SIZE	FLANGE			RAISED FACE		DRILLING				NECK		
	D	b	h1	d4	f	BOLT NO	NO.	d2	K	d3	h2	r
1200	1375	26	70	1280	5	M27	52	30	1320	1245	16	16
1400	1575	26	70	1480	5	M27	56	30	1520	1445	16	16
1600	1790	26	80	1690	5	M27	40	30	1730	1645	20	16
1800	1990	26	80	1890	5	M27	44	30	1930	1845	20	16
2000	2190	26	80	2090	5	M27	48	30	2130	2043	22	16

All dimensions are in mm

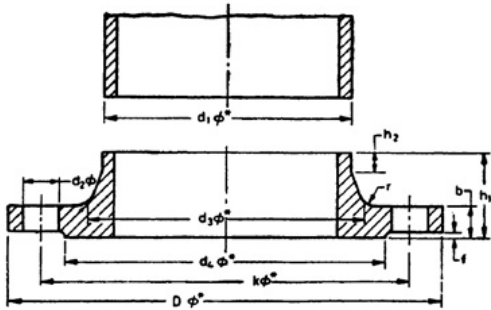
PLATE FLANGES TABLE 3



NOM SIZE	FLANGE		RAISED FACE		DRILLING			
	D	b	d4	f	BOLTNG	NO.	d2	K
1200	1375	36	1280	5	M27	32	30	1320
1400	1575	42	1480	5	M27	36	30	1520
1600	1790	46	1690	5	M27	40	30	1730
1800	1990	52	1890	5	M27	44	30	1930
2000	2190	58	2090	5	M27	48	30	2130

All dimensions are in mm

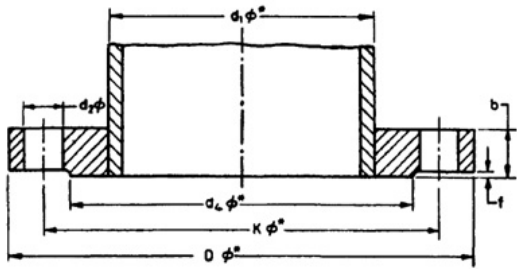
TABLE 4 WELDING NECK FLANGES



NOM SIZE	FLANGE			RAISED FACE		BOLT NO	DRILLING			NECK		
	D	b	h1	d4	f		NO.	d2	K	d3	h2	r
10	75	12	28	35	2	M10	4	11	50	26	6	4
15	80	12	30	40	2	M10	4	11	55	30	6	4
20	90	14	32	50	2	M10	4	11	65	38	6	4
25	100	14	35	60	2	M10	4	11	75	42	6	4
32	120	14	35	70	2	M12	4	14	90	55	6	6
40	150	14	38	80	3	M12	4	14	100	62	7	6
50	140	14	38	90	3	M12	4	14	110	74	8	6
65	160	14	38	110	3	M12	4	14	130	88	9	6
80	190	16	42	128	3	M16	4	18	150	102	10	8
100	210	16	45	148	3	M16	4	18	170	130	10	8
125	240	18	48	178	3	M16	8	18	200	155	10	8
150	265	18	48	202	3	M16	8	18	225	184	12	10
200	320	20	55	258	3	M16	8	18	280	236	15	10
250	375	22	60	312	3	M16	12	18	335	290	15	12
300	440	22	62	365	4	M20	12	22	395	342	15	12
350	490	22	62	415	4	M20	12	22	445	385	15	12
400	540	22	65	465	4	M20	16	22	495	438	15	12
500	645	24	68	570	4	M20	20	22	600	538	15	12
600	755	24	70	670	5	M24	20	26	705	640	16	12
700	860	24	70	775	5	M24	24	26	810	740	16	12
800	975	24	70	880	5	M27	24	30	920	842	16	12
900	1075	26	70	980	5	M27	24	30	1020	942	16	12
1000	1175	26	70	1080	5	M27	28	30	1120	1045	16	16
1200	1405	28	90	1295	5	M30	32	33	1320	1248	20	16
1400	1630	32	90	1510	5	M33	36	36	1560	1452	20	16
1600	1830	34	90	1710	5	M33	40	36	1760	1655	20	16
1800	2045	36	100	1920	5	M33	44	39	1970	1855	20	16
2000	2265	38	110	2125	5	M36	48	42	2180	2058	25	16

All dimensions are in mm

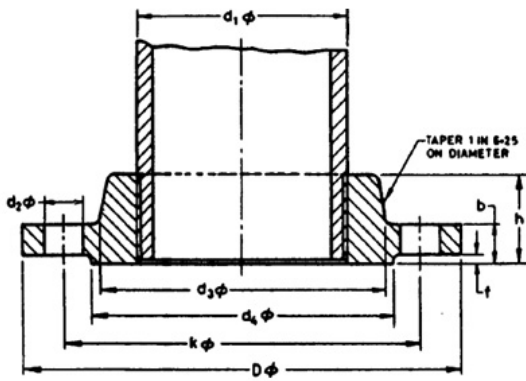
TABLE 5 PLATE FLANGES



NOM SIZE	FLANGE		RAISED FACE		DRILLING			
	D	b	d4	f	BOLTNG	NO.	d2	K
10	75	12	35	2	M10	4	11	50
15	80	12	40	2	M10	4	11	55
20	90	14	50	2	M10	4	11	65
25	100	14	60	2	M10	4	11	75
32	120	16	70	2	M12	4	14	90
40	130	16	80	3	M12	4	14	100
50	140	16	90	3	M12	4	14	110
65	160	16	110	3	M12	4	14	130
80	190	18	120	3	M16	4	18	150
100	210	18	148	3	M16	4	18	170
125	240	20	178	3	M16	8	18	200
150	265	20	202	3	M16	8	18	225
200	320	22	258	3	M16	8	18	280
250	375	24	312	3	M16	12	18	335
300	440	24	365	4	M20	12	22	395
350	493	26	415	4	M20	12	22	445
400	540	28	465	4	M20	16	22	495
500	645	30	570	4	M20	20	22	600
600	755	32	670	5	M24	20	26	705
700	860	34	775	5	M24	24	26	810
300	975	38	880	5	M27	24	30	920
900	1075	42	980	5	M27	24	30	1020
1000	1175	46	1080	5	M27	28	30	1120
1200	1405	56	1295	5	M30	32	33	1340
1400	1630	66	1510	5	M33	36	36	1560
1600	1830	74	1710	5	M33	40	36	1760
1800	2045	84	1920	5	MF36	44	39	1970
2000	2265	92	2125	5	M39	48	42	2180

All dimensions are in mm

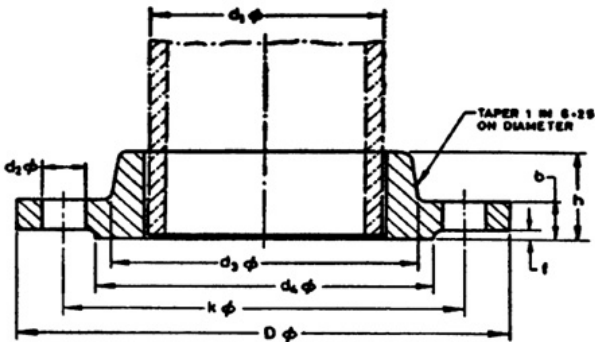
TABLE 6 SCREWED BOSS FLANGES



NOM SIZE	FLANGE			RAISED FACE		DRILLING				BOSS d2
	D	b	h	d4	f	BOLT NO	NO.	d2	K	
6	65	10	18	25	2	MIO	4	11	40	18
8	70	10	18	30	2	MIO	4	11	45	22
10	75	12	20	35	2	MIO	4	11	50	25
15	80	12	20	40	2	MIO	4	11	55	30
20	90	14	24	50	2	MIO	4	11	65	40
25	100	14	24	60	2	MIO	4	11	75	50
32	120	14	26	70	2	MI2	4	14	90	60
40	130	14	26	80	3	MI2	4	14	100	70
50	140	14	28	90	3	MI2	4	14	110	80
65	160	14	32	110	3	MI2	4	14	130	100
80	190	16	34	128	3	MI6	4	18	150	110
100	210	16	40	148	3	MIG	4	18	170	130
125	240	18	44	178	3	MI6	8	18	200	160
150	265	18	44	202	3	MI6	8	18	225	185

All dimensions are in mm

TABLE 7 SLIP ON BOLD FLANGES

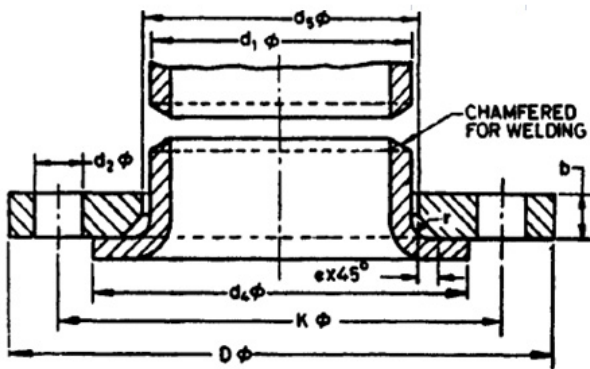


NOM SIZE	FLANGE			RAISED FACE		BOLT NO	DRILLING			BOSS d2
	D	b	h	d4	f		NO.	d2	K	
6	65	10	18	25	2	MIO	4	11	40	18
8	70	10	18	30	2	MIO	4	11	45	22
10	75	12	20	35	2	MIO	4	11	50	25

15	80	12	20	40	2	M10	4	11	55	30
20	90	14	24	50	2	M10	4	11	65	40
25	100	14	24	60	2	M10	4	11	75	50
32	120	14	26	70	2	M12	4	14	90	60
40	130	14	26	80	3	M12	4	14	100	70
50	140	14	28	90	3	M12	4	14	110	80
65	160	14	32	110	3	M12	4	14	130	100
80	190	16	54	128	3	M16	4	18	150	110
100	210	16	40	168	3	M16	4	18	170	130
125	240	18	44	178	3	MIG	8	18	200	160
130	265	18	44	202	3	MIG	8	18	225	185
200	320	20	44	258	3	M16	8	18	280	240
250	375	22	44	312	3	MIG	12	18	335	295
300	440	22	44	365	4	M20	12	22	395	355

All dimensions are in mm

TABLE 8 LOOSE FLANGES FOR WELDED ON LAPPED PIPE ENDS

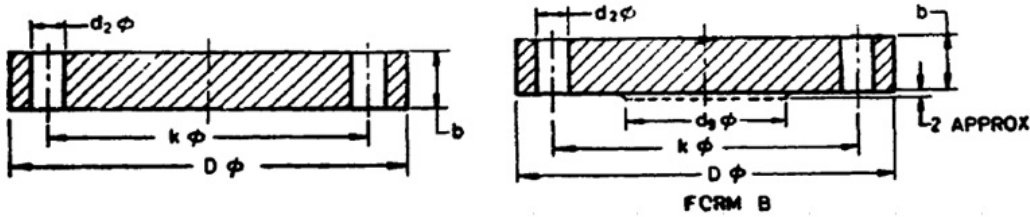


NOM SIZE	FLANGE				BOLTING	DRILLING			PIPE END	
	D	b	h	e		NO.	d2	K	d4 max	r
10	75	10	20	5	M10	4	11	50	85	3
15	80	10	24	5	M10	4	11	55	40	3
20	90	10	30	5	M10	4	11	65	50	3
25	100	12	37	6	M10	4	11	75	60	4
32	120	12	46	6	M12	4	14	90	70	4
40	130	12	52	6	M12	4	14	100	80	4
50	140	12	65	6	M12	4	14	110	90	5
65	160	12	81	6	M12	4	14	130	110	5
80	190	14	94	6	M16	4	18	150	128	5
100	210	14	119	6	M16	4	18	170	148	5
125	240	14	145	6	M16	8	18	200	178	5
150	265	14	174	6	M16	8	18	225	202	5
200	320	18	225	8	M16	8	18	280	258	5
250	375	20	279	8	M16	12	18	335	312	5
300	440	24	330	8	M20	12	22	395	365	5
350	490	26	362	8	M20	12	22	445	415	6
400	540	30	426	8	M20	16	22	495	465	6
500	645	32	516	8	M20	20	22	600	570	6
600	755	36	618	8	M24	20	26	705	670	6
700	860	40	720	8	M24	24	36	810	775	6
800	975	44	822	8	M27	24	30	920	880	6

900	1075	48	926	8	M27	24	30	1020	980	6
1000	1175	52	1028	8	M27	28	30	1120	1080	6
1200	1405	60	1232	10	M30	32	33	1340	1295	8

All dimensions are in mm

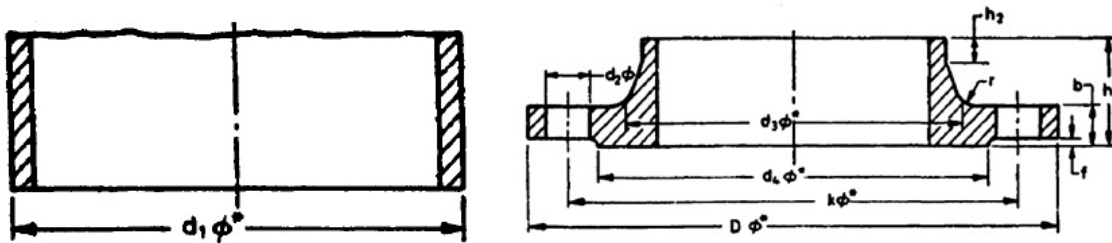
TABLE 9 PLATE BLANK FLANGES



NOM SIZE	b	SPICOT d2	BOLTING	DRILLING		
				NO.	d2	l
10	12	*	M10	4	11	50
15	12	*	M10	4	11	55
20	14	*	M10	4	11	65
25	14	*	M10	4	11	75
32	14	*	M12	4	14	90
40	14	*	M12	4	14	100
50	14	*	M12	4	14	110
65	14	55	M12	4	14	130
80	16	70	M16	4	18	150
100	16	90	M16	4	18	170
125	18	115	M16	8	18	200
150	18	140	M16	8	18	225
175	20	165	M16	8	18	255
200	20	190	M16	8	18	280
250	22	237	M16	12	18	335
300	22	285	M20	12	22	395
350	22	332	M20	12	22	445
400	22	380	M20	16	22	495
500	22	475	M20	20	22	600

All dimensions are in mm

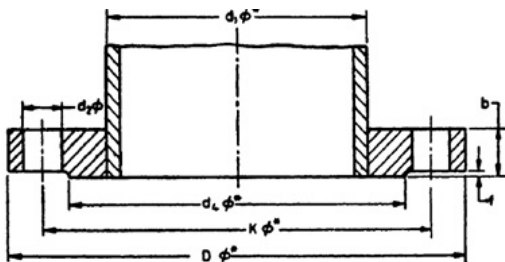
TABLE 10 WELDING NECK FLANGES



NOM SIZE	FLANGE			RAISED FACE		DRILLING				NECK		
	D	b	h1	d4	f	BOLT NO	NO.	d2	K	d3	h2	r
200	340	24	62	268	3	M20	8	22	295	235	16	10
250	395	26	68	320	3	M20	12	22	350	292	16	12
300	445	26	68	370	4	M20	12	22	400	344	16	12
350	505	26	68	430	4	M20	16	22	460	385	16	12
400	565	26	72	482	4	M24	16	26	515	440	16	12
500	670	28	75	585	4	M24	20	26	620	542	16	12
600	780	28	80	685	5	M27	20	30	725	642	18	12
700	895	30	80	300	5	M27	24	30	840	745	18	12
800	1015	32	90	905	5	M30	24	33	950	850	18	12
900	1115	34	95	1005	5	M30	28	33	1050	950	20	12
1000	1230	34	95	1110	5	M33	28	36	1160	1052	20	16
1200	1455	39	115	1330	5	M36	32	39	1380	1255	25	16
1400	1675	42	120	1535	5	M39	36	42	1590	1460	25	16
1600	1915	46	130	1760	5	M45	40	48	1820	1665	25	16
1800	2115	50	140	1960	5	M45	44	48	2020	1868	30	16
2000	2325	54	150	2170	5	M45	48	48	2230	2072	30	16

All dimensions are in mm

TABLE 11 PLATE FLANGES

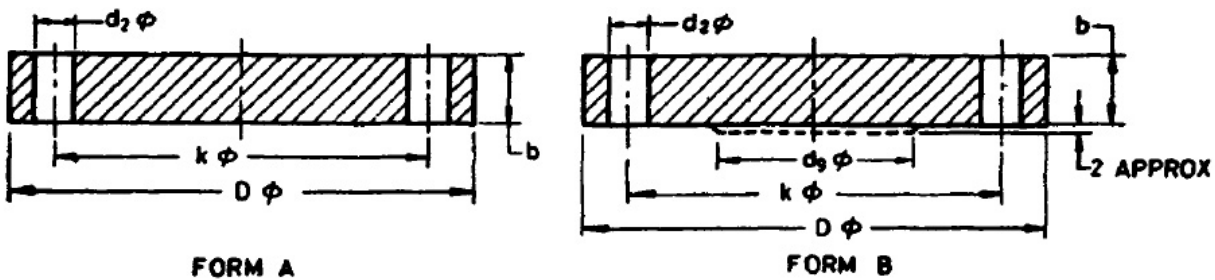


NOM SIZE	FLANGE		RAISED FACE		BOLTNG	DRILLING		
	D	b	d4	f		NO.	d2	K
200	340	24	268	3	M20	8	22	295
250	395	26	320	3	M20	12	22	350
300	445	26	370	4	M20	12	22	400
350	505	28	430	4	M20	16	22	460
400	565	32	482	4	M24	16	26	515
500	670	38	585	4	M24	20	26	620
600	780	42	685	5	M27	20	30	725
700	895	46	800	5	M27	24	30	840
800	1015	52	905	5	M30	24	33	950
900	1115	56	1005	5	M30	28	33	1050

	D	b	h	e		NO.	d2	K	d4 max	r
10	90	14	20	5	M12	4	14	60	40	3
15	95	14	24	5	M12	4	14	65	45	3
20	105	14	30	5	M12	4	0.14	75	58	3
23	115	16	37	6	M12	4	14	85	68	4
32	140	16	46	6	M16	4	18	100	78	4
40	150	16	52	6	M16	4	18	110	88	4
50	165	16	65	6	M16	4	18	125	102	5
65	185	16	81	6	M16	4	18	145	122	5
80	200	18	94	6	M16	8	18	160	138	5
100	220	18	119	6	M16	8	18	0.18	158	5
125	250	18	145	6	M16	8	18	210	188	5
150	285	18	174	6	M20	8	22	240	212	5
200	340	20	225	8	M20	8	22	295	268	5
250	395	22	279	8	M20	12	22	350	320	5
100	445	26	330	8	M20	12	22	400	370	5

All dimensions are in mm

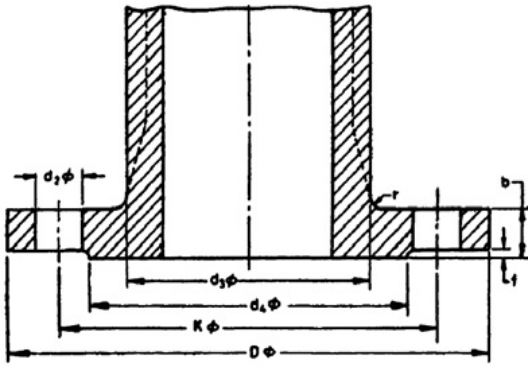
TABLE 14 PLATE BLANK FLANGES



D	FLANGE b	SPIGOT d2	BOLTING	DRILLING		
				NO.	d2	K
340	24	190	M20	8	22	295
395	26	237	M20	12	22	350
445	26	285	M20	12	22	400
505	26	352	1&20	16	22	460
565	26	380	M24	16	23	515
670	28	475	M24	20	26	620

All dimensions are in mm

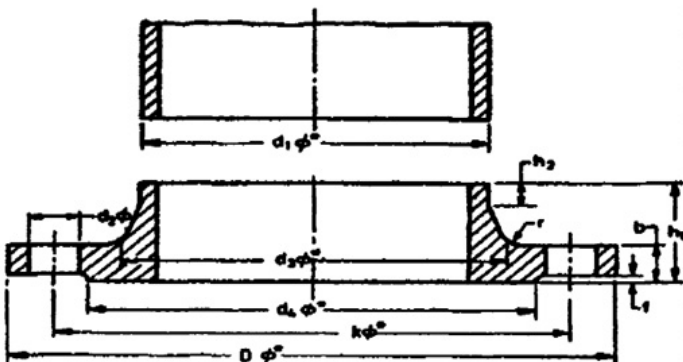
TABLE 15 INTEGRAL FLANGES



NOM SIZE	FLANGE		RAISED FACE		BOLTNG	DRILLING			NECK	
	D	b	d4	f		NO.	d2	K	d3	r
65	185	18	122	3	M16	4	18	145	93	5
80	200	20	138	3	M16	8	18	160	110	5
100	220	20	158	3	M16	8	18	180	130	5
125	250	22	188	3	M16	8	18	210	159	6
150	285	22	212	3	M20	8	22	240	184	6
175	315	24	242	3	M20	8	22	270	211	6
200	340	24	268	3	M20	12	22	295	236	6
250	405	26	320	3	M24	12	26	355	290	8
300	460	28	378	4	M24	12	26	410	342	8
350	520	30	438	4	M24	16	26	470	396	8
400	580	32	490	4	M27	16	30	525	448	10
500	715	36	610	4	M30	20	33	650	554	10
600	840	40	725	5	M33	20	36	770	660	10
700	910	42	795	5	M33	24	36	840	760	12
800	1025	42	900	5	M36	24	39	950	864	12
900	1125	44	1000	5	M36	28	39	1050	966	12
1000	1255	46	1115	5	M39	28	42	1170	1070	12
1200	1485	52	1330	5	M45	32	48	1390	1278	15
1400	1685	58	1530	5	M45	36	48	1590	1488	15
1600	1930	64	1750	5	M52	40	56	1820	1696	18
1800	2130	68	1950	5	M52	44	56	2020	1902	18
2000	2345	70	2150	5	M56	48	62	2230	2106	18
2200	2555	74	2360	6	M56	52	62	2440	2312	18

All dimensions are in mm

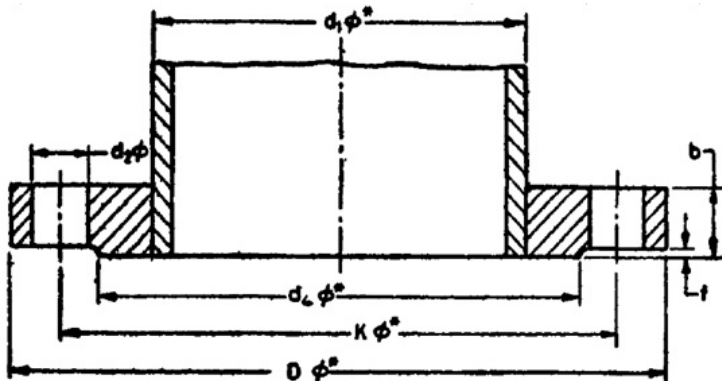
TABLE 16 WELD NECK FLANGES



NOM SIZE	PIPE O.D d1	FLANGE			RAISED FACE		BOLT NO	DRILLING			NECK		
		D	b	h1	d4	f		NO.	d2	K	d3	h2	r
10	17.2	90	14	35	40	2	M12	4	14	60	28	6	4
15	21.3	95	14	35	45	2	M12	4	14	65	32	6	4
20	26.9	100	16	38	58	2	M12	4	14	75	40	6	4
25	33.7	110	16	38	68	2	M12	4	14	85	45	6	4
32	42.4	140	16	40	78	2	M16	4	18	100	56	6	6
40	48.3	150	16	42	88	3	M16	4	18	110	64	7	6
50	60.3	165	18	45	102	3	M16	4	18	125	75	8	6
65	76.1	185	18	45	122	3	M16	4	18	145	90	10	6
80	88.9	200	20	50	138	3	M16	8	18	160	105	10	8
100	114.3	220	20	52	158	3	M16	8	18	180	131	12	8
125	139.7	250	22	55	188	3	M16	8	18	210	156	12	8
150	168.3	265	22	55	212	3	M20	8	22	240	184	12	10
175	193.7	310	24	60	242	3	M20	8	22	270	210	12	10
200	219.1	340	24	62	268	3	M20	12	22	295	235	16	10
250	273	400	26	70	320	3	M24	12	26	355	292	16	12
300	323.9	460	28	78	378	4	M24	12	26	410	344	16	12
350	366.6	520	30	82	438	4	M24	16	26	470	390	16	12
400	406.4	580	32	85	490	4	M27	16	30	525	445	16	12
500	508	715	34	90	610	4	M30	20	33	650	548	16	12
600	609.6	840	36	95	725	5	M33	20	36	770	652	18	12
700	711.2	910	36	100	795	5	M33	24	36	840	755	18	12
800	812.8	1025	38	105	900	5	M36	24	39	950	855	20	12
900	914.4	1125	40	110	1000	5	M36	28	39	1050	955	20	12
1000	1016	1255	42	120	1115	5	M39	28	42	1170	1058	22	16
1200	1220	1465	48	130	1330	5	M45	32	48	1390	1262	30	16
1400	1420	1685	52	145	1530	5	M45	36	48	1590	1465	30	16
1600	1620	1930	58	160	1750	5	M52	40	56	1820	1668	35	16
1800	1820	2130	62	170	1950	5	M52	44	56	2020	1870	35	16
2000	2020	2345	66	180	2150	5	M56	48	62	2230	2072	40	16

All dimensions are in mm

TABLE 17 PLATE FLANGES

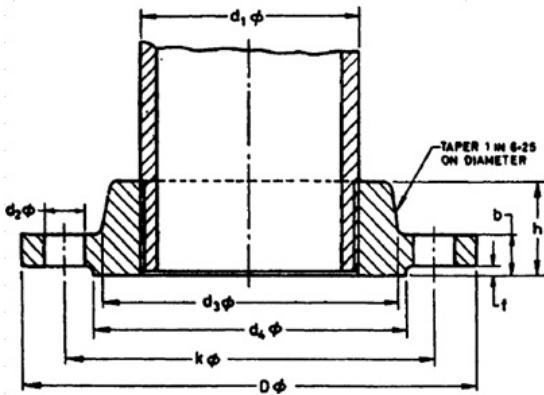


NOM SIZE	PIPE O.D d1	FLANGE		RAISED FACE		BOLTNG	DRILLING		
		D	b	d4	f		NO.	d2	K
10	17.2	90	14	40	2	M12	4	14	60
12	21.3	95	14	45	2	M12	4	14	65
20	26.9	105	16	58	2	M12	4	14	75

25	33.7	115	16	68	2	M12	4	14	85
52	42.4	140	16	78	2	M16	4	18	100
40	48.3	150	16	88	3	M16	4	18	110
50	60.3	165	18	102	3	M16	4	18	125
65	76.1	185	18	122	3	M16	4	18	145
80	88.9	200	20	138	3	M16	8	18	160
100	114.3	220	20	158	3	M16	8	18	180
125	139.7	250	22	188	3	M16	8	18	210
150	168.3	285	22	212	3	M20	8	22	240
175	193.7	315	24	242	3	M20	8	22	270
200	219.1	340	24	268	3	M20	12	22	295
250	273	405	26	320	3	M24	12	26	355
300	323.9	460	28	378	4	M24	12	26	410
350	355.6	520	52	438	4	M24	16	26	470
400	406.4	580	36	490	4	M27	16	30	525
500	508	715	44	610	4	M30	20	33	650
600	609.6	840	52	725	5	M33	20	56	770
700	711.2	910	58	795	5	M33	24	56	840
800	812.8	1025	64	900	5	M36	24	59	950
900	914.4	1125	72	1000	5	M36	28	59	1050
1000	1016	1255	78	1115	5	M39	28	42	1170
1200	1220	1485	94	1330	5	M45	32	48	1390

All dimensions are in mm

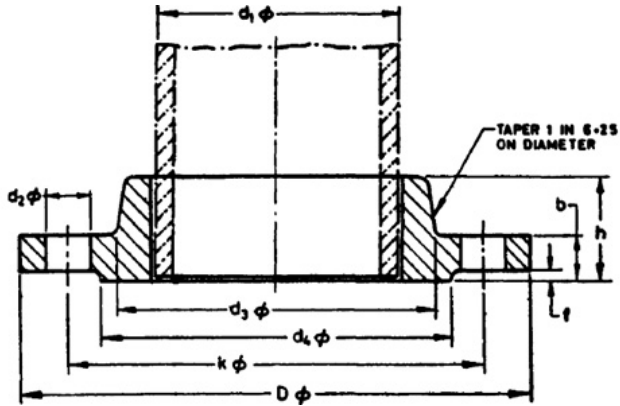
TABLE I8 SCREWED BOSS FLANGES



NOM SIZE	PIPE O.D d1	FLANGE			RAISED FACE		BOLT NO	DRILLING			BOSS d2
		D	b	h	d4	f		NO.	d2	K	
6	10.2	75	12	18	32	2	M10	4	11	50	20
8	13.5	80	12	18	38	2	M10	4	11	55	25
10	11.2	90	14	20	40	2	M12	4	14	60	30
15	21.3	95	14	20	45	2	M12	4	14	65	35
20	26.9	105	16	24	58	2	M12	4	14	75	45
25	33.7	115	16	24	68	2	M12	4	14	85	52
32	42.4	140	16	26	78	2	M16	4	18	100	60
40	48.3	150	16	26	88	3	M16	4	18	110	70
50	60.3	165	18	2	102	3	M16	4	18	125	85
65	76.1	185	18	32	122	3	M16	4	18	145	105
80	88.9	200	20	34	138	3	M16	8	18	160	118
100	114.3	220	20	40	158	3	M16	8	18	180	140
125	139.7	250	22	44	188	3	M16	8	18	210	168

150	165.1	285	22	44	212	3	M20	8	22	240	195
All dimensions are in mm											

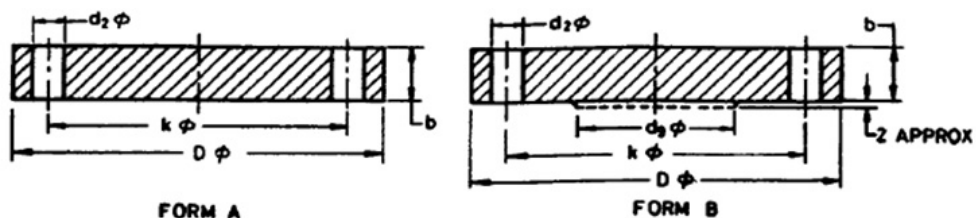
TABLE 19 SLIP.ON BOSS FLANGES



NOM SIZE	PIPE O.D d_1	FLANGE			RAISED FACE		BOLT NO	DRILLING			BOSS d_2
		D	b	h	d_4	f		NO.	d2	K	
6	10.2	75	12	18	32	2	M10	4	11	50	20
8	13.5	80	12	18	38	2	M10	4	11	55	25
10	11.2	90	14	20	40	2	M12	4	14	60	30
15	21.3	95	14	20	45	2	M12	4	14	65	35
20	26.9	105	16	24	58	2	M12	4	14	75	40
25	33.7	115	16	24	68	2	M12	4	14	85	52
32	42.4	140	16	26	78	2	M16	4	18	100	60
40	48.3	150	16	26	88	3	M16	4	18	110	70
50	60.3	165	18	28	102	3	M16	4	18	125	85
65	76.1	185	18	32	122	3	M16	4	18	145	105
80	88.9	200	20	34	138	3	M16	8	18	160	118
100	111.3	220	20	40	158	3	M16	8	18	180	140
125	139.7	250	22	44	188	3	M16	8	18	210	168
150	165.1	285	22	44	212	3	M20	8	22	240	195
200	219.3	340	24	44	268	3	M20	8	22	295	247
250	273	405	26	46	320	3	M24	12	26	355	300
300	323.9	460	28	46	378	4	M24	12	26	410	355

All dimensions are in mm

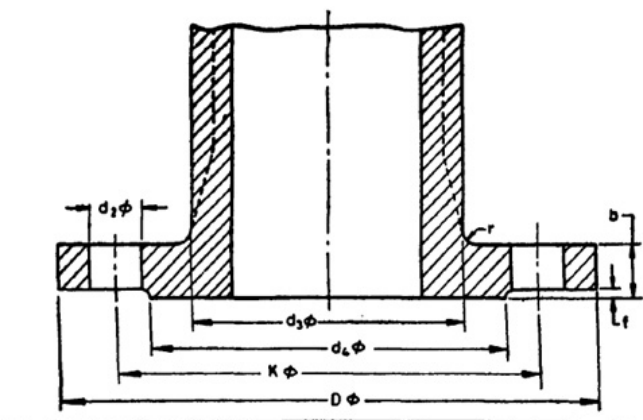
TABLE 20 PLATE BLANK FLANGES



NOM SIZE	FLANGE		SPIGOT d3	BOLTING NO	DRILLING		
	D	b			d2	K	k
10	90	14	-	M12	4	14	60
15	95	14	-	M12	4	14	65
20	105	16	-	M12	4	14	75
25	115	16	-	M12	4	14	85
32	140	16	-	M16	4	18	10
40	150	16	-	M16	4	18	110
50	165	18	-	M16	4	18	125
65	185	18	55	M16	4	18	145
80	200	20	70	M16	8	18	160
100	220	20	90	M16	8	18	180
125	250	22	115	M16	8	18	210
150	285	22	140	M20	8	22	240
175	315	24	165	M20	8	22	270
200	340	24	190	M20	12	22	295
250	405	26	237	M24	12	26	555
300	460	28	285	M24	12	26	410
350	520	30	332	M24	16	26	470
400	580	32	380	M27	16	30	525
500	715	56	475	M30	20	55	650

All dimensions are in mm

TABLE 21 INTEGRAL FLANGES

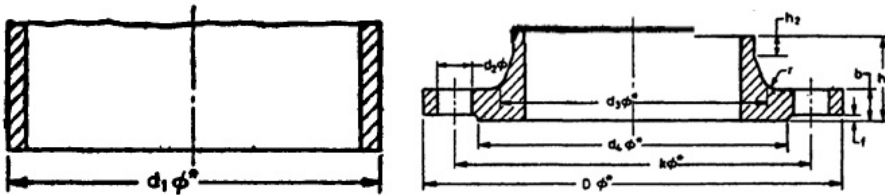


NOM SIZE	FLANGE		RAISED FACE		BOLTNG	DRILLING			NECK	
	D	b	d4	f		NO.	d2	K	d3	r
175	330	28	248	3	M24	12	26	280	217	8
200	360	30	278	3	M24	12	26	310	246	8
250	425	32	335	3	M27	12	30	370	298	10
300	485	34	395	4	M27	16	30	430	352	10

350	555	38	450	4	M30	16	33	490	408	10
400	620	40	505	4	M33	16	36	550	460	10
500	730	44	615	4	M33	20	36	660	566	12
600	845	46	720	5	M3fi	20	39	770	670	12
700	960	50	820	5	M39	24	42	875	776	12
800	1085	54	930	5	M45	24	48	990	882	15
900	1185	58	1030	5	M45	28	48	1090	988	15
1000	1320	62	1140	5	M52	28	56	1210	1094	18
1200	1550	70	1350	5	M52	32	56	1420	1306	18
1400	1755	76	1560	5	M56	36	62	1640	1514	18
1600	1975	84	1780	5	M56	40	62	1860	1726	20
1800	2195	90	1985	5	M64	44	70	2070	1936	20
2000	2425	96	2210	5	M64	48	70	2300	2144	20

All dimensions are in mm

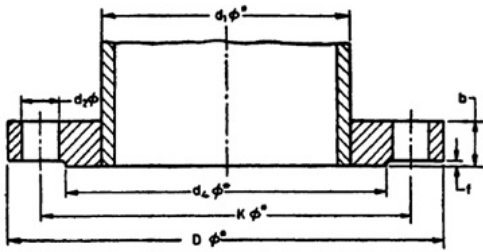
TABLE 22 WELDING NECK FLANGES



NOM SIZE	PIPE O.D d_1	FLANGE			RAISED FACE		BOLT NO	DRILLING			NECK		
		D	b	h	d_4	f		NO.	d_2	K	d_3	h_2	r
175	193.7	330	28	75	248	3	M24	12	26	280	218	15	10
200	219.1	360	30	80	278	3	M24	12	26	310	244	16	10
250	273	425	32	88	335	3	M27	12	30	570	298	18	12
300	323.9	485	34	92	395	4	M27	16	30	430	352	18	12
350	355.6	555	38	100	450	4	M30	16	33	490	398	20	12
400	406.4	620	40	110	505	4	M33	16	36	550	452	20	12
500	508	730	44	125	615	4	M33	20	36	660	558	20	12
600	609.6	845	46	125	720	5	M36	20	38	770	660	20	12
700	711.2	960	46	125	820	5	M39	24	42	875	760	20	12
800	812.8	1085	50	135	930	5	M45	24	48	990	865	22	12
900	914.4	1185	54	145	1030	5	M45	28	48	1090	968	24	12
1000	1016	1320	58	155	1140	5	M52	28	56	1210	1070	24	16

All dimensions are in mm

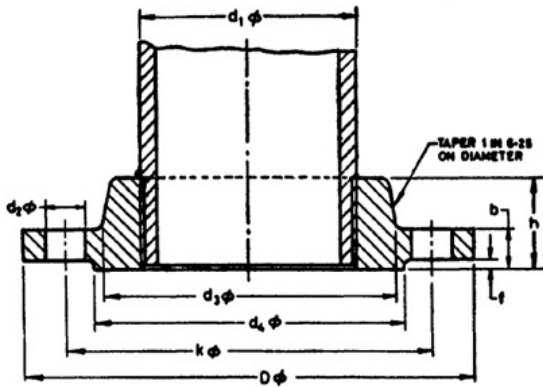
TABLE 23 PLATE FLANGES



NOM SIZE	PIPE O.D d1	FLANGE		RAISED FACE		BOLTNG	DRILLING		
		D	b	d4	f		NO.	d2	K
175	193.7	330	26	248	3	M24	12	26	280
200	219.1	360	28	278	3	M24	12	26	310
250	273	425	32	335	3	M27	12	30	370
300	323.9	485	38	395	4	M27	16	30	430
350	355.6	555	42	450	4	M30	16	33	490
400	406.4	620	46	505	4	M33	16	36	550
500	508	730	58	615	4	M33	20	56	660
600	609.6	845	66	720	5	M36	20	59	770

All dimensions are in mm

TABLE 24 SLIP ON BOSS FLANGES

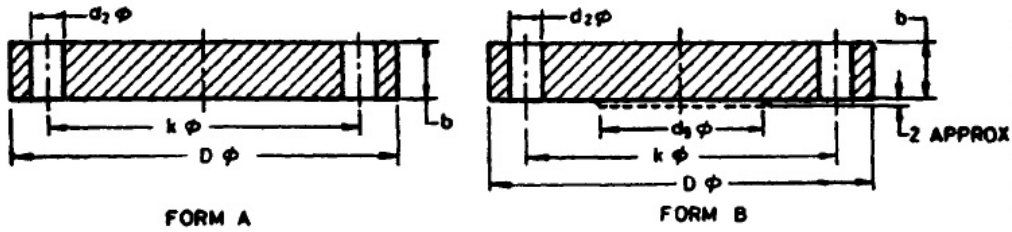


NOM SIZE	PIPE O.D d1	FLANGE			RAISED FACE		BOLT NO	DRILLING			BOSS d2
		D	b	h	d4	f		NO.	d2	K	
6	10.2	75	14	20	32	2	M10	4	11	50	20
8	13.5	80	14	20	38	2	M10	4	11	55	25
10	17.2	90	16	22	40	2	M12	4	14	60	30
15	21.3	95	16	22	45	2	M12	4	14	65	35
20	26.9	105	18	26	58	2	M12	4	14	75	45
25	33.7	115	18	28	68	2	M12	4	14	85	52
32	42.4	140	18	30	78	2	M16	4	18	100	60
40	48.3	150	18	32	88	3	M16	4	18	110	70
50	60.3	165	20	34	102	3	M16	4	18	125	85
65	76.1	185	22	38	122	3	M16	8	18	145	105
80	88.9	200	24	40	ISS	3	M16	8	18	160	118
100	114.3	235	24	44	162	3	M20	8	22	190	145
125	139.7	270	26	48	188	3	M24	8	26	220	170
150	168.3	300	28	52	218	3	M24	8	26	250	200

200	219.1	360	32	52	278	3	M24	12	26	310	256
250	273	425	40	60	335	3	M27	12	30	370	310
300	323.9	485	48	67	395	4	M27	16	30	430	364

All dimensions are in mm

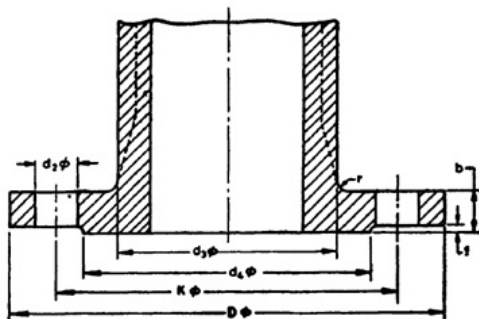
TABLE 25 PLATE BLANK FLANGES



NOM SIZE	FLANGE		SPIGOT d3	BOLTING NO	DRILLING		
	D	b			d2	K	k
175	330	28	165	M24	12	26	280
200	360	30	190	M24	12	26	310
250	425	32	237	M27	12	30	370
300	485	34	285	M27	16	30	430
350	555	38	332	M30	16	33	490
400	620	40	380	M33	16	36	550
500	730	45	475	M33	20	36	660

All dimensions are in mm

TABLE 26 INTEGRAL FLANGES

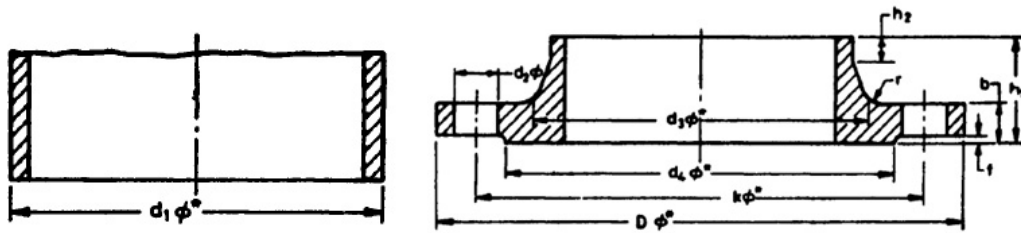


NOM SIZE	FLANGE		RAISED FACE		BOLTNG	DRILLING			NECK	
	D	b	d4	f		NO.	d2	K	d3	r
10	90	16	40	2	M12	4	14	60	30	4
15	95	16	45	2	M12	4	14	65	37	4
20	105	18	58	2	M12	4	14	75	44	5
25	115	18	68	2	M12	4	14	85	53	5

32	140	18	78	2	M16	4	18	100	60	5
40	150	18	88	3	M16	4	18	110	68	5
50	165	20	102	3	M16	4	18	125	80	5
65	185	22	122	3	M16	8	18	145	99	6
80	200	24	138	3	M16	8	18	160	116	6
100	235	24	162	3	M20	8	22	190	136	6
125	270	26	188	3	M24	8	26	220	165	8
150	300	28	218	3	M24	8	26	250	192	8
175	350	32	260	3	M27	12	30	295	223	10
200	375	54	285	3	M27	12	30	320	252	10
250	450	38	345	3	M30	12	33	385	308	10
500	515	42	410	4	M50	16	33	450	364	12
550	580	46	465	4	M33	16	36	510	420	12
400	660	50	535	4	M36	16	39	585	476	12
500	755	52	615	4	M39	20	42	670	578	15
600	890	60	735	5	M45	20	48	795	690	15
700	995	64	840	5	M45	24	48	900	796	18
800	1140	72	960	5	M52	24	56	1030	908	18
900	1250	76	1070	5	M52	28	56	1140	1014	18
1000	1360	80	1180	5	M52	28	56	1250	1120	20
1200	1575	88	1580	5	M56	32	62	1460	1332	332
1400	1795	98	1600	5	M56	36	62	1680	1548	20
1600	2025	108	1815	5	M64	40	70	1900	1762	20

All dimensions are in mm

TABLE 27 WELDING NECK FLANGES

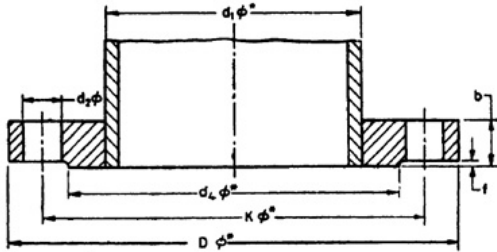


NOM SIZE	PIPE O.D d1	FLANGE			RAISED FACE		BOLT NO	DRILLING			NECK		
		D	b	h	d4	f		NO.	d2	K	d3	h2	r
10	17.2	90	16	35	40	2	M12	4	14	60	28	6	4
15	21.3	95	16	38	45	2	M12	4	14	65	32	6	4
20	26.9	105	18	40	58	2	M12	4	14	75	40	6	4
25	33.7	115	18	40	68	2	M12	4	14	85	46	6	4
12	42.4	140	18	42	78	2	M16	4	18	100	56	6	4
40	48.3	150	18	45	88	3	M16	4	18	110	64	7	6
50	60.3	165	20	48	102	3	M16	4	18	125	75	8	6
65	76.1	185	22	52	122	3	M16	8	18	145	90	10	6
80	88.9	200	24	58	138	3	M16	8	18	160	105	12	8
100	114.3	235	24	65	162	3	M20	8	22	190	134	12	8
125	139.7	270	26	68	188	3	M24	8	26	220	162	12	8
150	168.3	300	28	75	218	3	M24	8	26	250	192	12	10
175	193.7	350	12	82	260	3	M27	12	30	295	218	15	10
200	219.1	375	34	88	285	3	M27	12	30	320	244	16	10
250	273	450	38	105	345	3	M30	12	33	385	306	18	12
300	123.9	515	42	115	410	4	M30	16	33	450	562	18	12
350	355.6	580	46	125	465	4	M33	16	56	510	408	20	12

400	406.4	660	50	135	535	4	M36	16	39	585	462	20	12
500	508	755	52	140	615	4	M39	20	42	670	562	20	12

All dimensions are in mm

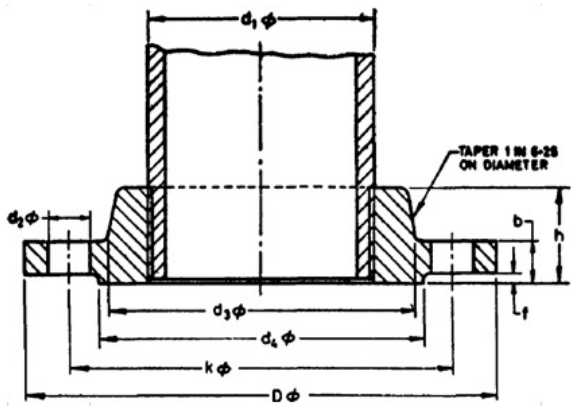
TABLE 28 PLATE FLANGES



NOM SIZE	PIPE O.D d1	FLANGE		RAISED FACE		BOLTNG	DRILLING		
		D	b	d4	f		NO.	d2	K
10	17.2	90	16	40	2	M12	4	14	60
15	21.3	95	16	45	2	M12	4	14	65
20	26.9	105	18	58	2	M12	4	14	75
25	33.7	115	18	68	2	M12	4	14	85
52	42.4	140	18	78	2	M16	4	18	100
40	48.3	150	20	88	3	M16	4	18	110
50	60.3	165	20	102	3	M16	4	18	125
65	76.1	185	22	122	3	M16	8	18	145
80	88.9	200	24	138	3	M16	8	18	160
100	114.3	235	26	162	3	M20	8	22	190
125	139.7	270	28	188	3	M24	8	26	220
150	168.3	300	30	218	3	M24	8	26	250
175	193.7	350	32	260	3	M27	12	30	295
200	219.1	575	34	285	3	M27	12	30	320
250	273	450	42	345	3	M30	12	33	385
300	323.9	515	50	410	4	M30	16	33	450
350	355.6	580	56	465	4	M33	16	36	510
400	406.4	660	64	535	4	M36	16	39	585
500	508	755	72	615	4	M39	20	42	670

All dimensions are in mm

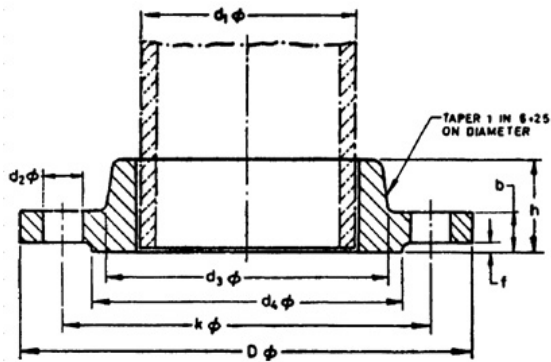
TABLE 29 SCREWED BOSS FLANGES



NOM SIZE	PIPE O.D d1	FLANGE			RAISED FACE		BOLT NO	DRILLING			BOSS d3
		D	b	h	d4	f		NO.	d2	K	
6	10.2	75	14	20	32	2	M10	4	11	50	20
8	13.5	80	14	20	38	2	M10	4	11	55	25
10	17.2	90	16	22	40	2	M12	4	14	60	30
15	21.3	95	16	22	45	2	M12	4	14	65	35
20	26.9	105	18	26	58	2	M12	4	14	75	45
25	33.7	115	18	28	68	2	M12	4	14	85	52
32	42.4	140	18	30	78	2	M16	4	18	100	60
40	48.3	150	18	32	88	3	M16	4	18	110	70
50	60.3	165	20	34	102	3	M16	4	18	125	85
65	76.1	185	22	38	122	3	M16	8	18	145	105
80	88.9	200	24	40	138	3	M16	8	18	160	118
100	114.3	235	24	44	162	3	M20	8	22	190	145
125	139.7	270	26	48	188	3	M24	8	26	220	170
150	165.1	300	28	52	218	3	M24	8	26	250	200

All dimensions are in mm

TABLEB 30 SLIP ON FLANGES

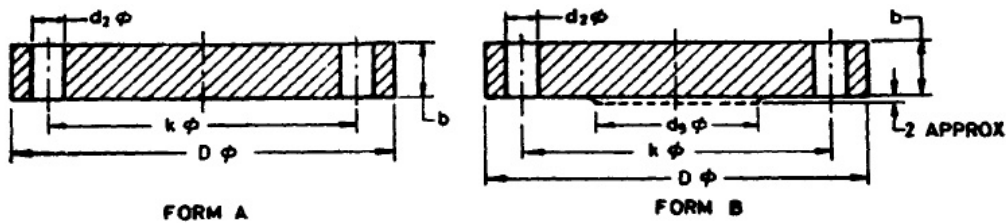


NOM SIZE	PIPE O.D d1	FLANGE			RAISED FACE		BOLT NO	DRILLING			BOSS d3
		D	b	h	d4	f		NO.	d2	K	
6	10.2	75	14	20	32	2	M10	4	11	50	20
8	13.5	80	14	20	38	2	M10	4	11	55	25
10	11.2	90	16	22	40	2	M12	4	14	60	30
15	21.3	95	16	22	45	2	M12	4	14	65	35
20	26.9	105	18	26	58	2	M12	4	14	75	45
25	33.7	115	18	28	68	2	M12	4	14	85	52

32	42.4	140	18	30	78	2	M16	4	18	100	60
40	48.3	150	18	32	88	3	M16	4	18	110	70
50	60.3	165	20	34	102	3	M16	4	18	125	85
65	76.1	185	22	38	122	3	M16	8	18	145	105
80	88.9	200	24	40	138	3	M16	8	18	160	118
100	114.3	235	24	44	162	3	M20	8	22	190	145
125	139.7	270	26	48	188	3	M24	8	26	220	170
150	168.3	300	28	52	218	3	M24	8	26	250	200
200	219.1	375	32	52	285	3	M27	12	30	320	260
250	273	450	40	60	345	3	M30	12	33	385	320
300	323.9	515	48	67	410	4	M30	16	33	450	380

All dimensions are in mm

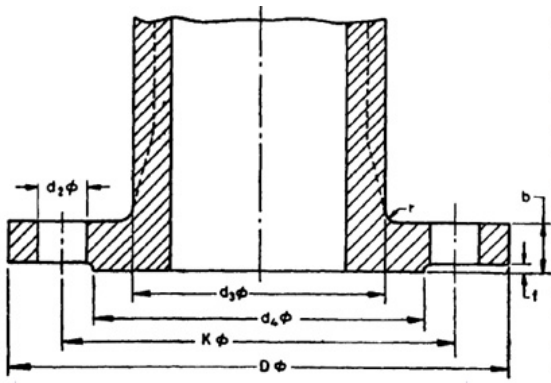
TABLE 31 PLATE BLANK FLANGES



NOM SIZE	PIPE O.D d1	FLANGE		BOLTING	DRILLING		
		D	b		NO.	d2	K
10	90	16	-	M12	4	14	60
15	95	16	-	M12	4	14	65
20	105	18	-	M12	4	14	75
25	115	18	-	M12	4	14	85
32	140	18	-	M16	4	18	100
40	150	18	-	M16	4	18	110
50	165	20	-	M16	4	18	125
65	185	22	55	M16	8	18	145
80	200	24	70	M16	8	18	160
100	235	24	90	M20	8	22	190
125	270	26	115	M24	8	26	220
150	300	28	140	M24	8	26	250
175	350	32	165	M27	12	30	295
200	375	34	190	M27	12	30	320
250	450	38	237	M30	12	33	385
300	515	42	285	M30	16	35	450
350	580	46	332	M33	16	36	510
400	660	50	380	M36	16	39	585
500	755	56	475	M39	20	42	670

All dimensions are in mm

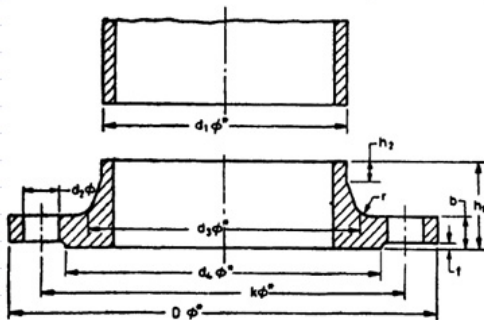
TABLE 32 INTEGRAL FLANGES



NOM SIZE	FLANGE		RAISED FACE		BOLTNG	DRILLING			NECK	
	D	b	d4	f		NO.	d2	K	d3	r
50	180	26	102	3	M20	4	22	135	90	5
65	205	26	122	3	M20	8	22	160	105	5
80	215	28	138	3	M20	8	22	170	122	5
100	250	30	162	3	M24-	8	26	200	146	5
125	295	34	188	3	M27	8	30	240	177	6
150	345	36	218	3	M30	8	33	280	204	6
175	375	40	260	3	M30	12	33	310	235	8
200	415	42	285	3	M33	12	36	345	264	8
250	470	46	345	3	M33	12	36	400	320	8
300	530	52	410	4	M33	16	36	460	378	10
350	600	56	465	4	M36	16	39	525	434	10
400	670	60	535	4	M39	16	42	585	490	12
500	800	68	615	4	M45	20	48	705	602	12
600	930	76	735	4	M52	20	56	820	714	15
700	1045	84	840	4	M52	24	56	935	826	15
800	1165	92	960	4	M56	24	62	1050	938	18
900	1285	98	1070	4	M56	28	62	1170	1048	18
1000	1415	108	1180	4	M64	28	70	1290	1162	18
1200	1665	126	1380	4	M72	32	78	1530	1390	18

All dimensions are in mm

TABLE 33 WELDING NECK FLANGES

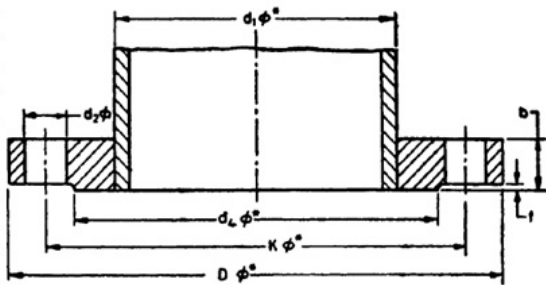


NOM SIZE	PIPE O.D d1	FLANGE			RAISED FACE		BOLT NO	DRILLING			NECK		
		D	b	h	d4	f		NO.	d2	K	d3	h2	r
50	60.3	180	26	62	102	3	M20	4	22	135	82	10	6

65	76.1	205	26	68	122	3	M20	8	22	160	98	12	6
80	88.9	215	28	72	138	3	M20	8	22	170	112	12	8
100	114.3	250	30	78	162	3	M24	8	26	200	138	12	8
125	139.7	295	34	88	188	3	M27	8	30	240	168	12	8
150	168.3	345	36	95	218	3	M30	8	33	280	202	12	10
175	193.7	375	40	105	260	3	M30	12	33	310	228	16	10
200	219.1	415	42	110	285	3	M33	12	36	345	256	16	10
250	273	470	46	125	345	3	M33	12	36	400	316	18	12
300	329.9	530	52	140	410	4	M33	16	36	460	372	18	12
350	355.6	600	56	150	465	4	M36	16	39	525	420	20	12
408	406.4	670	60	160	535	4	M39	16	42	585	475	20	12

All dimensions are in mm

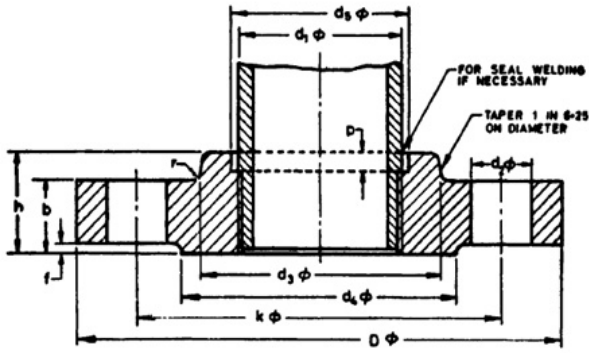
TABLE 34 PLATE FLANGES



NOM SIZE	PIPE O.D d1	FLANGE		RAISED FACE		BOLTNG	DRILLING		
		D	b	d4	f		NO.	d2	K
50	60.3	180	26	102	3	M20	4	22	135
65	76.1	205	26	122	3	M20	8	22	160
80	88.9	215	30	138	3	M20	8	22	170
100	114.3	250	32	162	3	M24	8	26	200
125	139.7	295	34	188	3	M27	8	30	240
150	168.3	345	36	218	3	M30	8	33	280
175	193.7	375	40	260	3	M30	12	33	310
200	219.1	415	46	285	3	M33	12	36	345
250	273	470	54	345	3	M33	12	56	400
300	323.9	530	62	410	4	M35	16	36	460
350	555.8	600	72	465	4	M36	16	39	525
400	406.4	670	78	535	4	M39	16	42	585

All dimensions are in mm

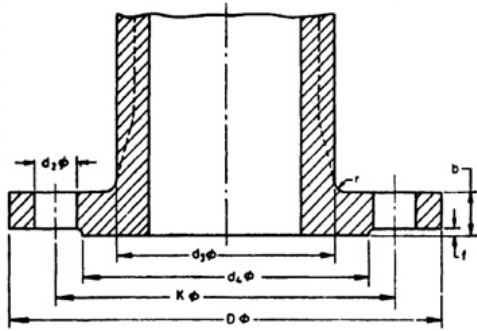
TABLE 35 SCREWED BOSS FLANGES



NOM SIZE	PIPE O.D d1	FLANGE			RAISED FACE		BOLT NO	DRILLING			BOSS		
		D	b	h	d4	f		NO.	d2	K	d3	p	r
50	60.3	180	26	36	102	3	M20	4	22	135	90	7	3
65	76.1	205	26	40	122	3	M20	8	22	160	112	7	5
80	88.9	215	28	44	138	3	M20	8	22	170	125	7	3
100	114.3	250	30	52	162	3	M24	8	26	200	152	7	3
125	139.7	295	34	56	188	3	M27	8	30	240	185	7	3
150	165.1	345	36	60	218	3	M30	8	33	280	215	7	3

All dimensions are in mm

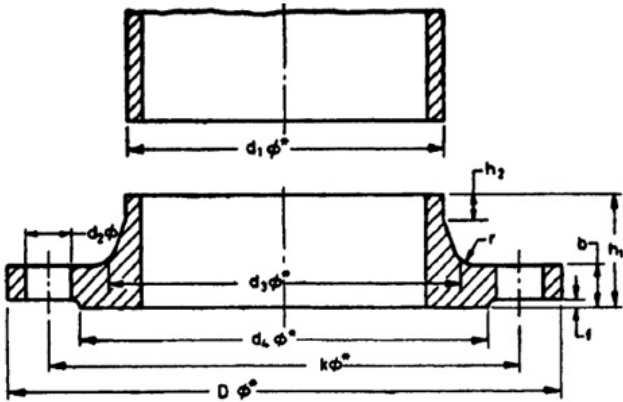
TABLE 36 INTEGRAL FLANGES



NOM SIZE	FLANGE		RAISED FACE		BOLTNG	DRILLING			NECK	
	D	b	d4	f		NO.	d2	K	d3	r
125	315	40	188	3	M30	8	33	250	185	6
150	355	44	218	5	M30	12	33	290	216	6
175	585	48	260	5	M30	12	33	320	247	8
200	430	52	285	3	M33	12	36	360	278	8
250	505	60	345	5	M36	12	39	430	340	8
300	585	68	410	4	M39	16	42	500	402	10
350	655	74	465	4	M45	16	48	560	460	10
400	715	78	535	4	M45	16	48	620	518	12
500	870	94	615	4	M52	20	56	760	630	15
600	990	104	755	4	M56	20	62	875	740	15
700	1145	120	840	4	M64	24	70	1020	860	18

All dimensions are in mm

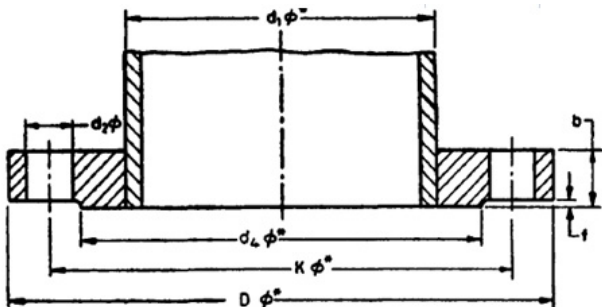
TABLE 37 WELDING NECK FLANGES



NOM SIZE	PIPE O.D d1	FLANGE			RAISED FACE		BOLT NO	DRILLING			NECK		
		D	b	h	d4	f		NO.	d2	K	d2	h2	r
10	17.2	100	20	45	40	2	M12	4	14	70	32	6	4
15	21.3	105	20	45	45	2	M12	4	14	75	34	6	4
20	26.9	130	22	58	58	2	M16	4	18	90	42	8	4
25	33.7	140	24	58	68	2	M16	4	18	100	52	8	4
32	42.4	155	24	60	78	2	M20	4	22	110	62	8	6
40	48.3	170	26	62	88	3	M20	4	22	125	70	10	6
50	60.3	195	28	68	102	3	M24	4	26	145	90	10	6
65	76.1	220	30	76	122	5	M24	8	26	170	108	12	6
80	88.9	230	32	78	138	5	M24	8	26	180	120	12	8
100	114.3	265	36	90	162	3	M27	8	30	210	150	12	8
125	159.7	315	40	105	188	3	M30	8	53	250	180	12	8
150	168.5	355	44	115	218	3	M30	12	53	290	210	12	10
175	193.7	385	48	127	260	5	M30	12	53	320	245	16	10
200	219.1	430	52	130	285	3	M33	12	56	360	278	16	10
250	273	505	60	157	345	3	M36	12	59	450	340	18	12
300	323.9	585	68	170	410	4	M39	16	42	500	400	18	12
350	355.6	655	74	189	465	4	M45	16	48	560	460	20	12

All dimensions are in mm

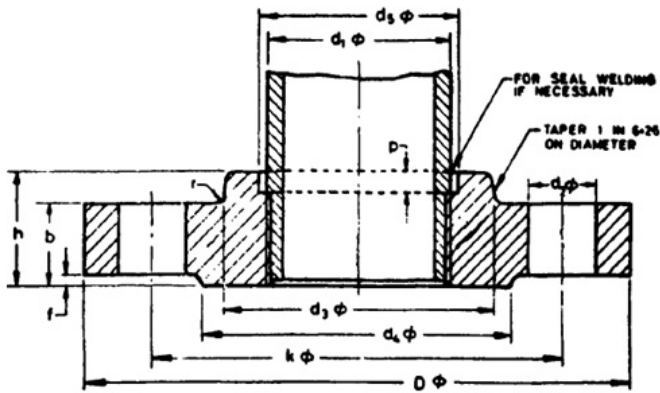
TABLE 38 PLATE FLANGES



NOM SIZE	PIPE O.D d1	FLANGE		RAISED FACE		BOLTNG	DRILLING		
		D	b	d4	f		NO.	d2	K
10	11.2	100	20	40	2	M12	4	14	70
15	21.3	105	20	45	2	M12	4	14	75
20	26.9	130	22	58	2	M16	4	18	90
25	33.7	140	24	68	2	M16	4	18	100
32	42.4	155	24	78	2	M20	4	22	110
40	48.3	170	26	88	3	M20	4	22	125
50	60.3	195	28	102	3	M24	4	26	145
65	76.1	220	30	122	3	M24	8	26	170
80	88.9	230	34	138	3	M24	8	26	180
100	114.3	265	36	162	3	M27	8	30	210
125	139.7	315	42	188	3	M30	8	33	250
150	168.3	355	48	218	3	M30	12	33	290
175	193.7	385	54	260	3	M30	12	33	320
200	219.1	430	60	285	3	M33	12	36	360
250	273	505	72	345	3	M36	12	39	430
300	223.9	585	84	410	4	M39	16	42	500
350	355.6	655	95	465	4	M45	16	48	560
400	406.4	715	106	535	4	M45	16	48	620
500	508	870	128	615	4	M52	20	56	760

All dimensions are in mm

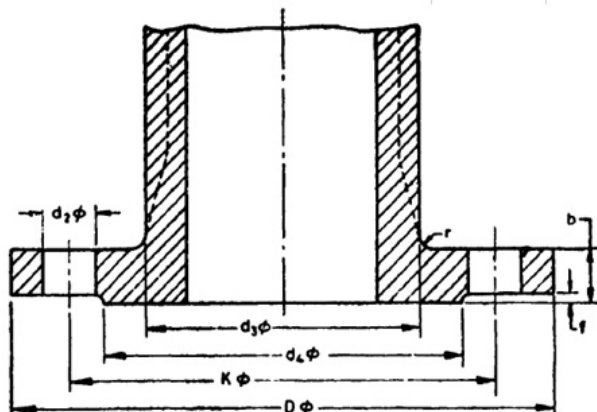
TABLE 39 SCREWED BOIS PLANOBIOSS FLANGES



NOM SIZE	PIPE O.D d1	FLANGE			RAISED FACE		BOLT NO	DRILLING			BOSS		
		D	b	h	d4	f		NO.	d2	K	d2	p	r
10	17.2	100	20	28	40	2	M12	4	14	70	40	4	2
15	21.3	105	20	28	45	2	M12	4	14	75	43	6	2
20	26.9	130	22	30	58	2	M16	4	18	90	52	7	2
25	33.7	140	24	32	68	2	M16	4	18	100	60	7	3
32	42.4	155	24	32	78	2	M20	4	22	110	68	7	3
40	48.3	170	26	34	88	3	M20	4	22	125	80	7	3
50	60.3	195	28	36	102	3	M24	4	26	145	95	7	3
65	76.1	220	50	40	122	3	M24	8	26	170	118	7	3
80	88.9	230	32	44	138	3	M24	8	26	180	130	7	3
100	114.3	265	36	52	162	3	M27	8	30	210	158	7	3
125	139.7	315	40	56	188	3	MSO	8	33	250	188	7	3
150	165.1	355	44	60	218	3	M30	12	33	290	225	7	3

All dimensions are in mm

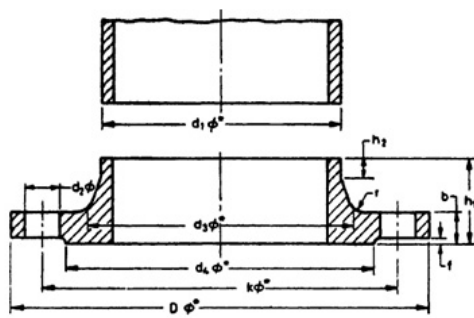
TABLE 40 INTEGRAL FLANGES



NOM SIZE	FLANGE		RAISED FACE		BOLTNG	DRILLING			NECK	
	D	b	d4	f		NO.	d2	K	d3	r
10	100	20	40	2	M12	4	14	70	40	4
15	105	20	45	2	M12	4	14	75	45	4
20	130	22	58	2	M16	4	18	90	50	4
25	140	24	68	2	M16	4	18	100	61	4
32	155	26	78	2	M20	4	22	110	68	4
40	170	20	88	2	M20	4	14	70	40	4
50	195	20	102	2	M24	4	14	75	45	4
65	220	22	122	2	M24	4	18	90	50	4
80	140	24	138	2	M24	4	18	100	61	4
100	155	26	162	2	M27	4	22	110	68	4
125	315	44	188	3	M30	8	33	250	184	6
150	355	50	218	3	M30	12	33	290	224	6
175	390	54	260	3	M33	12	36	320	250	8
200	430	60	285	3	M33	12	36	360	288	8
250	515	68	345	3	M39	12	42	430	346	8
300	585	78	410	4	M39	16	42	500	414	10

All dimensions are in mm

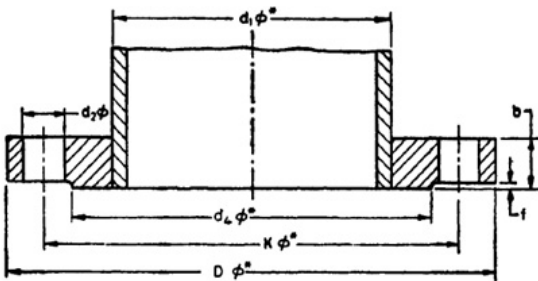
TABLE 41 WELDING NECK FLANGES



NOM SIZE	PIPE O.D d1	FLANGE			RAISED FACE		BOLT NO	DRILLING			NECK		
		D	b	h	d4	f		NO.	d2	K	d2	h2	r
10	17.2	100	20	45	40	2	M12	4	14	70	32	6	4
15	21.3	105	20	45	45	2	M12	4	14	75	34	6	4
20	26.9	130	22	58	58	2	M16	4	18	90	42	8	4
25	33.7	140	24	58	68	2	M16	4	18	100	52	8	4
32	42.4	155	26	60	78	2	M20	4	22	110	55	8	6
40	48.3	170	28	64	88	3	M20	4	22	125	70	10	6
50	60.3	195	30	75	102	3	M24	4	26	145	90	10	6
65	76.1	220	34	82	122	3	M24	8	26	170	108	12	6
80	88.9	230	36	86	138	3	M24	8	26	180	120	12	8
100	114.3	265	40	100	162	2	M27	8	30	210	150	12	8
125	139.7	315	44	115	188	3	M30	8	33	250	180	14	8
150	168.3	355	50	128	218	3	M30	12	33	290	210	14	10
175	193.7	390	54	138	260	3	M33	12	36	320	245	16	10
200	219.1	430	60	140	285	3	M33	12	36	360	278	16	10
250	273	515	68	155	345	3	M39	12	42	430	340	18	12
300	323.9	585	78	175	410	4	M39	11,	42	500	400	18	12

All dimensions are in mm

TABLE 42 PLATE FLANGES



NOM SIZE	PIPE O.D d1	FLANGE		RAISED FACE		BOLTNG	DRILLING		
		D	b	d4	f		NO.	d2	K
10	17.2	100	22	40	2	M12	4	14	70
15	21.3	105	24	45	2	M12	4	14	75
20	26.9	130	26	58	2	M16	4	18	90
25	33.7	140	26	68	2	M16	4	18	100
32	42.4	155	28	78	2	M20	4	22	110
40	48.3	170	30	88	3	M20	4	22	125
50	60.3	195	34	102	3	M24	4	26	145
65	76.1	220	36	122	3	M24	8	26	170
80	88.9	230	40	138	3	M24	8	26	180
100	114.3	265	44	162	3	M27	8	30	210
125	139.7	315	54	188	3	M30	8	33	250
150	168.3	355	62	218	3	M30	12	33	290
175	193.7	390	68	260	3	M33	12	36	320
200	219.1	430	76	285	3	M33	12	36	360
250	273	515	90	345	3	M39	12	42	430
300	323.9	585	106	410	4	M39	16	42	500

All dimensions are in mm

* There will may be typical error