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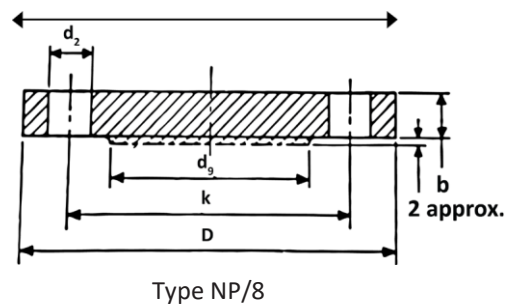
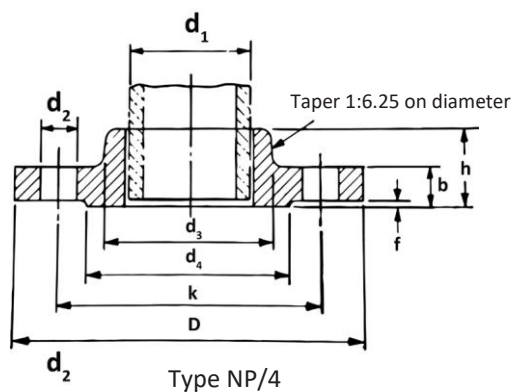
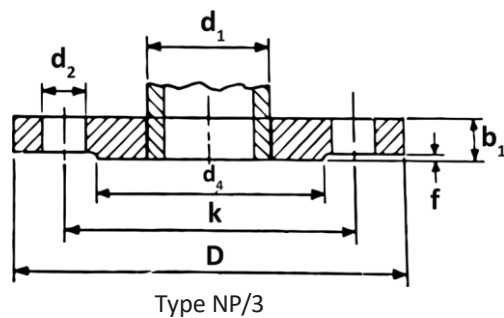
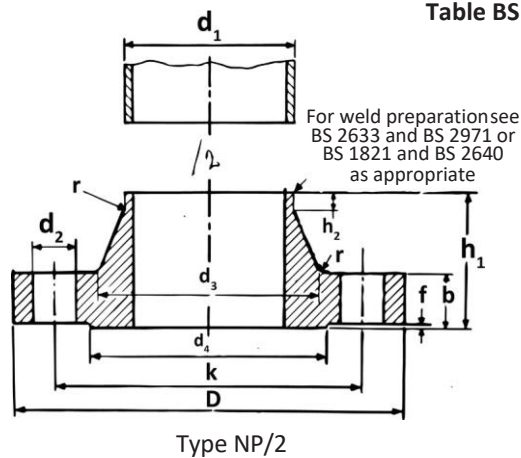
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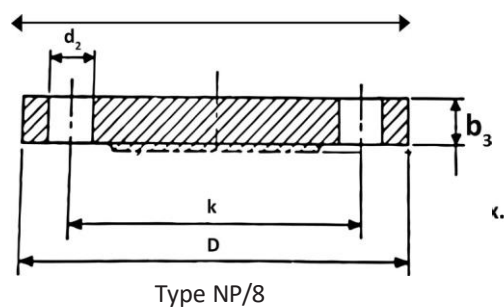
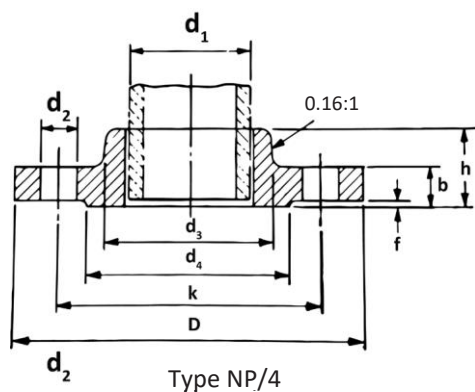
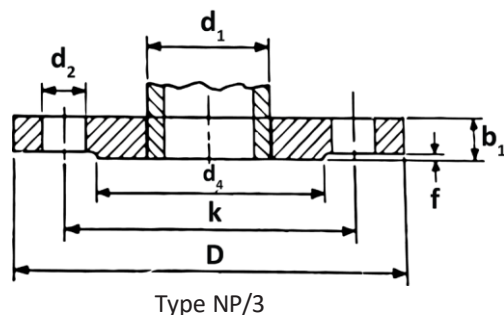
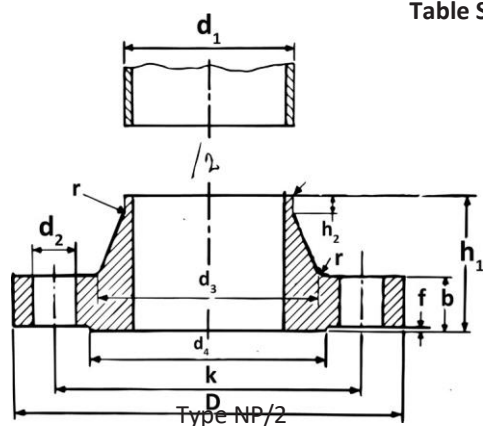


Table BS 4504 Flanges



NP = Nominal Pressure 6, 10, 16, 25, 40
Nominal pressure: 1 bar = 105 N/m²

Table SANS 1123 Flanges



NP = Nominal Pressure 600 kPa, 1000 kPa, 1600 kPa, 2500 kPa, 4000 kPa
Nominal pressure: 1 bar = 105 N/m²

FLANGES

BS 4504; EN 1092-1; SANS 1123 AND BS 10/1962 TABLES D AND E AS AMENDED 1965



15mm Nominal Bore Pipe OD 21.3 (d1)

Table	Pipe O.D. d ₁	Flange					Raised face		Bolting	Drilling			Neck			Spigot	Boss						
		D	b	b ₁	h	h ₁	d ₄	f		No.	d ₂	k	d ₃	h ₂ ≈	r	d ₉	ds	/2 (W/N)	/3 (S/O)	/4 (Scrwd)	/8 (Blind)	T/D	T/E
BS4504	6	80	12	12	20	30	40	2	M10	4	11	55	30	6	4	-	30	0.39	0.40	0.37	0.44	-	-
	10	95	14	14	20	35	45	2	M12	4	14	65	32	6	4	-	35	0.65	0.67	0.61	0.71	-	-
	16	95	14	14	20	35	45	2	M12	4	14	65	32	6	4	-	35	0.65	0.67	0.61	0.71	-	-
	25	95	16	16	22	38	45	2	M12	4	14	65	32	6	4	-	35	0.75	0.76	0.71	0.81	-	-
	40	95	16	16	22	38	45	2	M12	4	14	65	32	6	4	-	35	0.75	0.76	0.71	0.81	-	-
EN 1092-1	6	80	12	12	20	30	40	2	M10	4	11	55	30	6	4	-	30	0.39	0.40	0.37	0.44	-	-
	10	95	14	14	20	35	45	2	M12	4	14	65	32	6	4	-	35	0.65	0.67	0.61	0.71	-	-
	16	95	14	14	20	35	45	2	M12	4	14	65	32	6	4	-	35	0.65	0.67	0.61	0.71	-	-
	25	95	16	14	22	38	45	2	M12	4	14	65	32	6	4	-	35	0.75	0.67	0.71	0.81	-	-
	40	95	16	14	22	38	45	2	M12	4	14	65	32	6	4	-	35	0.75	0.67	0.71	0.81	-	-
SANS 1123	600	80	8	10	16	30	40	2	M10	4	11	55	30	6	4	-	30	0.26	0.33	0.25	0.37	-	-
	1000	95	8	10	14	35	45	2	M12	4	14	65	32	6	4	-	35	0.37	0.48	0.45	0.41	-	-
	1600	95	8	10	14	35	45	2	M12	4	14	65	32	6	4	-	35	0.37	0.48	0.45	0.41	-	-
	2500	95	14	14	17	38	45	2	M12	4	14	65	32	6	4	-	35	0.65	0.76	0.49	0.71	-	-
	4000	95	14	14	20	38	45	2	M12	4	14	65	32	6	4	-	35	0.65	0.76	0.49	0.71	-	-
BS 10/1962	T/D	95.2	-	4.8	-	-	-	-	12	4	-	66.7	-	-	-	-	-	-	-	-	-	0.42	-
	T/E	95.2	-	6.3	-	-	-	-	12	4	-	66.7	-	-	-	-	-	-	-	-	-	-	0.42

20mm Nominal Bore Pipe OD 26.9 (d1)

Table	Pipe O.D. d ₁	Flange					Raised face		Bolting	Drilling			Neck			Spigot	Boss						
		D	b	b ₁	h	h ₁	d ₄	f		No.	d ₂	k	d ₃	h ₂ ≈	r	d ₉	ds	/2 (W/N)	/3 (S/O)	/4 (Scrwd)	/8 (Blind)	T/D	T/E
BS4504	6	90	14	14	24	32	50	2	M10	4	11	65	38	6	4	-	40	0.59	0.58	0.59	0.66	-	-
	10	105	15	16	24	38	58	2	M12	4	14	75	40	6	4	-	45	0.95	0.93	0.91	1.00	-	-
	16	105	16	16	24	38	58	2	M12	4	14	75	40	6	4	-	45	0.95	0.93	0.91	1.00	-	-
	25	105	18	18	26	40	58	2	M12	4	14	75	40	6	4	-	45	1.06	1.04	1.03	1.10	-	-
	40	105	18	18	26	40	58	2	M12	4	14	75	40	6	4	-	45	1.06	1.04	1.03	1.10	-	-
EN 1092-1	6	90	14	14	24	32	50	2	M10	4	11	65	38	6	4	-	40	0.59	0.53	0.59	0.66	-	-
	10	105	15	16	24	38	58	2	M12	4	14	75	40	6	4	-	45	0.95	0.93	0.91	1.00	-	-
	16	105	16	16	24	38	58	2	M12	4	14	75	40	6	4	-	45	0.95	0.93	0.91	1.00	-	-
	25	105	16	18	26	40	58	2	M12	4	14	75	40	6	4	-	45	1.06	0.93	1.03	1.10	-	-
	40	105	16	18	26	40	58	2	M12	4	14	75	40	6	4	-	45	1.06	0.93	1.03	1.10	-	-
SANS 1123	600	90	10	10	18	32	50	2	M10	4	11	65	38	6	4	-	40	0.34	0.42	0.33	0.47	-	-
	1000	105	10	10	16	38	58	2	M12	4	14	75	40	6	4	-	45	0.48	0.58	0.55	0.50	-	-
	1600	105	10	10	16	38	58	2	M12	4	14	75	40	6	4	-	45	0.48	0.58	0.55	0.50	-	-
	2500	105	14	14	19	40	58	2	M12	4	14	75	40	6	4	-	45	0.82	1.04	0.63	0.86	-	-
	4000	105	14	14	22	40	58	2	M12	4	14	75	40	6	4	-	45	0.82	1.04	0.63	0.86	-	-
BS 10/1962	T/D	101.6	4.76	-	-	-	-	-	M12	4	14.2	73.0	-	-	-	-	-	-	-	-	-	0.53	-
	T/E	101.6	6.35	-	-	-	-	-	M12	4	14.2	73.0	-	-	-	-	-	-	-	-	-	-	0.53

FLANGES

BS 4504; EN 1092-1; SANS 1123 AND BS 10/1962 TABLES D AND E AS AMENDED 1965



25mm Nominal Bore Pipe OD 33.7 (d1)

25mm Nominal Bore Pipe OD 33.7 (d1)																							
Table	Pipe O.D. d ₁	Flange					Raised face		Bolting	Drilling			Neck			Spigot	Boss						
		D	b	b ₁	h	h ₁	d ₄	f		No.	d ₂	k	d ₃	h ₂ ≈	r			d ₉	ds	/2 (W/N)	/3 (S/O)	/4 (Scrwd)	
BS4504	6	100	14	14	24	35	60	2	M10	4	11	75	42	6	4	-	50	0.75	0.69	0.74	0.82	-	-
	10	115	16	16	24	38	68	2	M12	4	14	85	46	6	4	-	52	1.14	1.11	1.10	1.20	-	-
	16	115	16	16	24	38	68	2	M12	4	14	85	46	6	4	-	52	1.14	1.11	1.10	1.20	-	-
	25	115	18	18	28	40	68	2	M12	4	14	85	46	6	4	-	-	1.29	1.24	1.28	1.40	-	-
	40	115	18	18	28	40	68	2	M12	4	14	85	46	6	4	-	-	1.29	1.24	1.28	1.40	-	-
EN 1092-1	6	100	14	14	24	35	60	2	M10	4	11	75	42	6	4	-	50	0.75	0.69	0.74	0.82	-	-
	10	115	16	16	24	38	68	2	M12	4	14	85	46	6	4	-	52	1.14	1.11	1.10	1.20	-	-
	16	115	16	16	24	38	68	2	M12	4	14	85	46	6	4	-	52	1.14	1.11	1.10	1.20	-	-
	25	115	18	16	28	40	68	2	M12	4	14	85	46	6	4	-	-	1.29	1.11	1.28	1.40	-	-
	40	115	18	16	28	40	68	2	M12	4	14	85	46	6	4	-	-	1.29	1.11	1.28	1.40	-	-
SANS 1123	600	100	8	10	18	35	60	2	M10	4	11	75	42	6	4	-	50	0.43	0.49	0.43	0.59	-	-
	1000	115	8	10	16	38	68	2	M12	4	14	85	46	6	4	-	52	0.57	0.69	0.67	0.60	-	-
	1600	115	8	10	16	38	68	2	M12	4	14	85	46	6	4	-	52	0.57	0.69	0.67	0.60	-	-
	2500	115	16	16	22	40	68	2	M12	4	14	85	46	6	4	-	52	1.15	1.24	0.85	1.24	-	-
	4000	115	16	16	26	40	68	2	M12	4	14	85	46	6	4	-	52	1.15	1.24	0.85	1.24	-	-
BS 10/1962	T/D	114.3	-	4.8	-	-	-	-	M12	4	14.3	82.6	-	-	-	-	-	-	-	-	-	0.70	-
	T/E	114.3	-	7.1	-	-	-	-	M16	4	14.3	82.6	-	-	-	-	-	-	-	-	-	-	0.70

32mm Nominal Bore Pipe OD 42.4 (d1)

32mm Nominal Bore Pipe OD 42.4 (d1)																							
Table	Pipe O.D. d ₁	Flange					Raised face		Bolting	Drilling			Neck			Spigot	Boss						
		D	b	b ₁	h	h ₁	d ₄	f		No.	d ₂	k	d ₃	h ₂ ≈	r	d ₉	ds	/2 (W/N)	/3 (S/O)	/4 (Scrwd)	/8 (Blind)	T/D	T/E
BS4504	6	120	14	16	26	35	70	2	M12	4	14	90	55	6	6	-	60	1.05	1.14	1.05	1.20	-	-
	10	140	16	16	26	40	78	2	M16	4	18	100	56	6	6	-	60	1.69	1.60	1.60	1.80	-	-
	16	140	16	16	26	40	78	2	M16	4	18	100	56	6	6	-	60	1.69	1.60	1.60	1.80	-	-
	25	140	18	18	30	42	78	2	M16	4	18	100	55	6	6	-	52	1.88	1.80	1.87	2.00	-	-
	40	140	18	18	30	42	78	2	M16	4	18	100	55	6	6	-	52	1.88	1.80	1.87	2.00	-	-
EN 1092-1	6	120	14	16	26	35	70	2	M12	4	14	90	55	6	6	-	60	1.05	1.14	1.05	1.20	-	-
	10	140	16	18	26	40	78	2	M16	4	18	100	56	6	6	-	60	1.69	1.80	1.60	1.80	-	-
	16	140	16	18	26	40	78	2	M16	4	18	100	56	6	6	-	60	1.69	1.80	1.60	1.80	-	-
	25	140	18	18	30	42	78	2	M16	4	18	100	55	6	6	-	52	1.88	1.80	1.87	2.00	-	-
	40	140	18	18	30	42	78	2	M16	4	18	100	55	6	6	-	52	1.88	1.80	1.87	2.00	-	-
SANS 1123	600	120	8	10	20	35	70	2	M12	4	14	90	55	6	6	-	60	0.60	0.71	0.60	0.86	-	-
	1000	140	10	10	20	40	78	2	M16	4	18	100	56	6	6	-	60	1.06	1.01	1.20	1.13	-	-
	1600	140	10	10	20	40	78	2	M16	4	18	100	56	6	6	-	60	1.06	1.01	1.20	1.13	-	-
	2500	140	18	18	26	42	78	2	M16	4	18	100	55	6	6	-	60	1.88	1.80	1.45	2.00	-	-
	4000	140	18	18	30	42	78	2	M16	4	18	100	55	6	6	-	60	1.88	1.80	1.45	2.00	-	-
BS 10/1962	T/D	120.7	-	6.3	-	-	-	-	M12	4	14.2	87.3	-	-	-	-	-	-	-	-	-	0.80	-
	T/E	120.7	-	7.9	-	-	-	-	M16	4	14.2	87.3	-	-	-	-	-	-	-	-	-	-	0.80

FLANGES

BS 4504; EN 1092-1; SANS 1123 AND BS 10/1962 TABLES D AND E AS AMENDED 1965



40mm Nominal Bore Pipe OD 48.3 (d1)

Table	Pipe O.D. d ₁	Flange					Raised face		Bolting	Drilling			Neck			Spigot	Boss							T/D	T/E
		D	b	b ₁	h	h ₁	d ₄	f		No.	d ₂	k	d ₃	h ₂ ≈	r	d ₉	ds	/2 (W/N)	/3 (S/O)	/4 (Scrw'd)	/8 (Blind)				
BS4504	6	130	14	16	26	38	80	3	M12	4	14	100	62	7	6	-	70	1.18	1.34	1.20	1.40	-	-		
	10	150	16	16	26	42	88	3	M16	4	18	110	64	7	6	-	70	1.86	1.84	1.78	2.10	-	-		
	16	150	16	16	26	42	88	3	M16	4	18	110	64	7	6	-	70	1.86	1.84	1.78	2.10	-	-		
	25	150	18	20	32	45	88	3	M16	4	18	110	64	7	6	-	60	2.33	2.30	2.14	2.40	-	-		
	40	150	18	20	32	45	88	3	M16	4	18	110	64	7	6	-	60	2.33	2.30	2.14	2.40	-	-		
EN 1092-1	6	130	14	16	26	38	80	3	M12	4	14	100	62	7	6	-	70	1.18	1.34	1.20	1.40	-	-		
	10	150	16	18	26	42	88	3	M16	4	18	110	64	7	6	-	70	1.86	2.10	1.78	2.10	-	-		
	16	150	16	18	26	42	88	3	M16	4	18	110	64	7	6	-	70	1.86	2.10	1.78	2.10	-	-		
	25	150	18	18	32	45	88	3	M16	4	18	110	64	7	6	-	60	2.33	2.10	2.14	2.40	-	-		
	40	150	18	18	32	45	88	3	M16	4	18	110	64	7	6	-	60	2.33	2.10	2.14	2.40	-	-		
SANS 1123	600	130	8	10	20	38	80	3	M12	4	14	100	62	7	6	-	70	0.67	0.84	0.69	1.00	-	-		
	1000	150	10	10	20	42	88	3	M16	4	18	110	64	7	6	-	70	1.16	1.15	1.40	1.31	-	-		
	1600	150	10	10	20	42	88	3	M16	4	18	110	64	7	6	-	70	1.16	1.15	1.40	1.31	-	-		
	2500	150	18	20	28	45	88	3	M16	4	18	110	64	7	6	-	70	2.33	2.30	1.66	2.67	-	-		
	4000	150	18	20	32	45	88	3	M16	4	18	110	64	7	6	-	70	2.33	2.30	1.66	2.67	-	-		
BS 10/1962	T/D	133.4	-	6.3	-	-	-	-	M12	4	-	98.4	-	-	-	-	-	-	-	-	-	1.00	-		
	T/E	133.4	-	8.7	-	-	-	-	M16	4	-	98.4	-	-	-	-	-	-	-	-	-	-	1.00		

50mm Nominal Bore Pipe OD 60.3 (d1)

Table	Pipe O.D. d ₁	Flange					Raised face		Bolting	Drilling			Neck			Spigot	Boss						
		D	b	b ₁	h	h ₁	d ₄	f		No.	d ₂	k	d ₃	h ₂ ≈	r			d ₉	ds	/2 (W/N)	/3 (S/O)	/4 (Scrw'd)	
BS4504	6	140	14	16	28	38	90	3	M12	4	14	110	74	8	6	-	80	1.34	1.48	1.37	1.60	-	-
	10	165	18	18	28	45	102	3	M16	4	18	125	75	8	6	-	85	"2.53 1"	2.45	2.43	2.90	-	-
	16	165	18	18	28	45	102	3	M16	4	18	125	75	8	6	-	85	2.53	2.45	2.43	2.90	-	-
	25	165	20	20	34	48	102	3	M16	4	18	125	75	8	6	-	70	2.82	2.72	2.86	3.20	-	-
	40	165	20	20	34	48	102	3	M16	4	18	125	75	8	6	-	70	2.82	2.72	2.86	3.20	-	-
EN 1092-1	6	140	14	16	28	38	90	3	M12	4	14	110	74	8	6	-	80	1.34	1.48	1.37	1.60	-	-
	10	165	18	20	28	45	102	3	M16	4	18	125	75	8	6	-	85	"2.53 1"	2.72	2.43	2.90	-	-
	16	165	18	20	28	45	102	3	M16	4	18	125	75	8	6	-	85	2.53	2.72	2.43	2.90	-	-
	25	165	20	20	34	48	102	3	M16	4	18	125	75	8	6	-	70	2.82	2.72	2.86	3.20	-	-
	40	165	20	20	34	48	102	3	M16	4	18	125	75	8	6	-	70	2.82	2.72	2.86	3.20	-	-
SANS 1123	600	140	8	10	22	38	90	3	M12	4	14	110	74	8	6	-	80	0.77	0.92	0.78	1.14	-	-
	1000	165	12	10	20	45	102	3	M16	4	18	125	75	8	6	-	85	1.69	1.36	1.67	1.93	-	-
	1600	165	12	12	22	45	102	3	M16	4	18	125	75	8	6	-	85	1.69	1.63	1.96	1.93	-	-
	2500	165	20	20	31	48	102	3	M16	4	18	125	75	8	6	-	85	2.82	2.72	2.43	3.20	-	-
	4000	165	20	20	34	48	102	3	M16	4	18	125	75	8	6	-	85	2.82	2.72	2.43	3.20	-	-
BS 10/1962	T/D	152.4	-	7.9	-	-	-	-	M16	4	17.5	114.3	-	-	-	-	-	-	-	-	-	0.88	-
	T/E	152.4	-	9.5	-	-	-	-	M16	4	17.5	114.3	-	-	-	-	-	-	-	-	-	-	1.06

FLANGES

BS 4504; EN 1092-1; SANS 1123 AND BS 10/1962 TABLES D AND E AS AMENDED 1965



65mm Nominal Bore Pipe OD 76.1 (d1)

Table	Pipe O.D. d ₁	Flange					Raisedface		Bolting	Drilling			Neck			Spigot	Boss						
		D	b	b ₁	h	h ₁	d ₄	f		No.	d ₂	k	d ₃	h ₂ ≈	r			d ₉	ds	/2 (W/N)	/3 (S/O)	/4 (Scrwd)	
BS4504	6	160	14	16	32	38	110	3	M12	4	14	130	88	9	6	55.00	100.00	1.67	1.85	1.92	2.10	-	-
	10	185	18	18	32	45	122	3	M16	4	18	145	90	10	6	55	105	3.06	2.98	3.18	3.60	-	-
	16	185	18	18	32	45	122	3	M16	4	18	145	90	10	6	55	105	3.06	2.98	3.18	3.60	-	-
	25	185	22	22	38	52	122	3	M16	8	18	145	90	10	6	55	85	3.74	3.64	3.85	4.30	-	-
	40	185	22	22	38	52	122	3	M16	8	18	145	90	10	6	55	85	3.74	3.64	3.85	4.30	-	-
EN 1092-1	6	160	14	16	32	38	110	3	M12	4	14	130	88	9	6	55.00	100.00	1.67	1.85	1.92	2.10	-	-
	10	185	18	20	32	45	122	3	M16	4	18	145	90	10	6	55	105	3.06	3.64	3.18	3.60	-	-
	16	185	18	20	32	45	122	3	M16	4	18	145	90	10	6	55	105	3.06	3.64	3.18	3.60	-	-
	25	185	22	22	38	52	122	3	M16	8	18	145	90	10	6	55	85	3.74	3.64	3.85	4.30	-	-
	40	185	22	22	38	52	122	3	M16	8	18	145	90	10	6	55	85	3.74	3.64	3.85	4.30	-	-
SANS 1123	600	160	8	10	26	38	110	3	M12	4	14	130	88	9	6	-	100	0.95	1.15	1.10	1.50	-	-
	1000	185	12	12	26	45	122	3	M16	4	18	145	90	10	6	-	105	2.04	1.98	2.54	2.40	-	-
	1600	185	12	12	26	45	122	3	M16	4	18	145	90	10	6	-	105	2.04	1.98	2.54	2.40	-	-
	2500	185	22	22	33	52	122	3	M16	8	18	145	90	10	6	-	105	3.74	3.64	2.98	4.30	-	-
	4000	185	22	22	38	52	122	3	M16	8	18	145	90	10	6	-	105	3.74	3.64	2.98	4.30	-	-
BS 10/1962	T/D	165.1	-	7.9	-	-	-	-	M16	4	17.5	127.0	-	-	-	-	-	-	-	-	-	1.3	-
	T/E	165.1	-	10.3	-	-	-	-	M16	4	17.5	127.0	-	-	-	-	-	-	-	-	-	-	1.6

80mm Nominal Bore Pipe OD 88.9 (d1)

Table	Pipe O.D. d ₁	Flange					Raised face		Bolting	Drilling			Neck			Spigot	Boss						
		D	b	b ₁	h	h ₁	d ₄	f		No.	d ₂	k	d ₃	h ₂ ≈	r			d ₉	ds	/2 (W/N)	/3 (S/O)	/4 (Scrwd)	
BS4504	6	190	16	18	34	42	128	3	M16	4	18	150	102	10	8	70	110	2.71	2.95	2.85	3.40	-	-
	10	200	20	20	34	50	138	3	M16	8	18	160	105	10	8	70	118	3.70	3.61	4.12	4.60	-	-
	16	200	20	20	34	50	138	3	M16	8	18	160	105	10	8	70	118	3.70	3.61	4.12	4.60	-	-
	25	200	24	24	40	58	138	3	M16	8	18	160	105	12	8	70	105	4.75	4.33	4.80	5.50	-	-
	40	200	24	24	40	58	138	3	M16	8	18	160	105	12	8	70	105	4.75	4.33	4.80	5.50	-	-
EN 1092-1	6	190	16	18	34	42	128	3	M16	4	18	150	102	10	8	70	110	2.71	2.95	2.85	3.40	-	-
	10	200	20	20	34	50	138	3	M16	8	18	160	105	10	8	70	118	3.70	3.61	4.12	4.60	-	-
	16	200	20	20	34	50	138	3	M16	8	18	160	105	10	8	70	118	3.70	3.61	4.12	4.60	-	-
	25	200	24	24	40	58	138	3	M16	8	18	160	105	12	8	70	105	4.75	4.33	4.80	5.50	-	-
	40	200	24	24	40	58	138	3	M16	8	18	160	105	12	8	70	105	4.75	4.33	4.80	5.50	-	-
SANS 1123	600	190	10	10	28	42	128	3	M16	4	18	150	102	10	8	-	110	1.69	1.64	1.78	2.13	-	-
	1000	200	14	12	26	50	138	3	M16	8	18	160	105	10	8	-	118	2.59	2.17	3.16	3.22	-	-
	1600	200	14	14	28	50	138	3	M16	8	18	160	105	10	8	-	118	2.59	2.64	3.26	3.22	-	-
	2500	200	24	22	34	58	138	3	M16	8	18	160	105	12	8	-	118	4.75	3.95	3.60	5.04	-	-
	4000	200	24	22	40	58	138	3	M16	8	18	160	105	12	8	-	118	4.75	3.95	3.60	5.04	-	-
BS 10/1962	T/D	184.1	-	9.5	-	-	-	-	M16	4	17.5	146.0	-	-	-	-	-	-	-	-	-	1.43	-
	T/E	184.1	-	11.1	-	-	-	-	M16	4	17.5	146.0	-	-	-	-	-	-	-	-	-	-	1.80

FLANGES

BS 4504; EN 1092-1; SANS 1123 AND BS 10/1962 TABLES D AND E AS AMENDED 1965



100mm Nominal Bore Pipe OD 114.3 (d1)

Table	Pipe O.D. d ₁	Flange					Raisedface		Bolting	Drilling			Neck			Spigot	Boss						T/D	T/E
		D	b	b ₁	h	h ₁	d ₄	f		No.	d ₂	k	d ₃	h ₂ ≈	r			d ₉	ds	/2 (W/N)	/3 (S/O)	/4 (Scrw'd)		
BS4504	6	210	16	18	40	45	148	3	M16	4	18	170	130	10	8	90	130	3.24	3.25	3.19	4.20	-	-	
	10	220	20	20	40	52	158	3	M16	8	18	180	131	12	8	90	140	4.62	3.99	4.47	5.60	-	-	
	16	220	20	20	40	52	158	3	M16	8	18	180	131	12	8	90	140	4.62	3.99	4.47	5.60	-	-	
	25	235	24	26	44	65	162	3	M20	8	22	190	134	12	8	90	-	6.52	6.04	6.43	7.60	-	-	
	40	235	24	26	44	65	162	3	M20	8	22	190	134	12	8	90	-	6.52	6.04	6.43	7.60	-	-	
EN 1092-1	6	210	16	18	40	45	148	3	M16	4	18	170	130	10	8	90	130	3.24	3.25	3.19	4.20	-	-	
	10	220	20	22	40	52	158	3	M16	8	18	180	131	12	8	90	140	4.62	4.80	4.47	5.60	-	-	
	16	220	20	22	40	52	158	3	M16	8	18	180	131	12	8	90	140	4.62	4.80	4.47	5.60	-	-	
	25	235	24	26	44	65	162	3	M20	8	22	190	134	12	8	90	-	6.52	6.04	6.43	7.60	-	-	
	40	235	24	26	44	65	162	3	M20	8	22	190	134	12	8	90	-	6.52	6.04	6.43	7.60	-	-	
SANS 1123	600	210	10	10	34	45	148	3	M16	4	18	170	130	10	8	-	130	2.00	1.81	1.99	2.63	-	-	
	1000	220	14	12	32	52	158	3	M16	8	18	180	131	12	8	-	140	3.23	2.39	3.73	3.92	-	-	
	1600	220	14	14	34	52	158	3	M16	8	18	180	131	12	8	-	140	3.23	2.90	3.84	3.92	-	-	
	2500	235	24	25	41	65	162	3	M20	8	22	190	134	12	8	-	145	6.52	6.04	5.63	7.92	-	-	
	4000	235	24	25	44	65	162	3	M20	8	22	190	134	12	8	-	145	6.52	6.04	5.63	7.92	-	-	
BS 10/1962	T/D	215.9	-	9.5	-	-	-	-	M16	4	17.5	177.8	-	-	-	-	-	-	-	-	-	2.00	-	
	T/E	215.9	-	12.7	-	-	-	-	M16	8	17.5	177.8	-	-	-	-	-	-	-	-	-	-	2.00	

125m Nominal Bore Pipe OD 139.7 (d1)

Table	Pipe O.D. d ₁	Flange					Raised face		Bolting	Drilling			Neck			Spigot	Boss						
		D	b	b ₁	h	h ₁	d ₄	f		No.	d ₂	k	d ₃	h ₂ ≈	r			d ₉	ds	/2 (W/N)	/3 (S/O)	/4 (Scrw'd)	
BS4504	6	240	18	20	44	48	178	3	M16	8	18	200	155	10	8	115	160	4.49	4.33	4.47	6.10	-	
	10	250	22	22	44	55	188	3	M16	8	18	210	156	12	8	115	168	6.30	5.42	6.13	8.10	-	-
	16	250	22	22	44	55	188	3	M16	8	18	210	156	12	8	115	168	6.30	5.42	6.13	8.10	-	-
	25	270	26	28	48	68	188	3	M24	8	26	220	162	12	8	115	118	9.07	8.21	8.77	11.00	-	-
	40	270	26	28	48	68	188	3	M24	8	26	220	162	12	8	115	118	9.07	8.21	8.77	11.00	-	-
EN 1092-1	6	240	18	20	44	48	178	3	M16	8	18	200	155	10	8	115	160	4.49	4.33	4.47	6.10	-	-
	10	250	22	22	44	55	188	3	M16	8	18	210	156	12	8	115	168	6.30	5.42	6.13	8.10	-	-
	16	250	22	22	44	55	188	3	M16	8	18	210	156	12	8	115	168	6.30	5.42	6.13	8.10	-	-
	25	270	26	28	48	68	188	3	M24	8	26	220	162	12	8	115	118	9.07	8.21	8.77	11.00	-	-
	40	270	26	28	48	68	188	3	M24	8	26	220	162	12	8	115	118	9.07	8.21	8.77	11.00	-	-
SANS 1123	600	240	13	12	39	48	178	3	M16	8	18	200	155	10	8	-	160	3.24	2.60	3.23	4.07	-	-
	1000	250	16	14	36	55	188	3	M16	8	18	210	156	12	8	-	168	4.58	3.45	5.26	5.89	-	-
	1600	250	16	15	38	55	188	3	M16	8	18	210	156	12	8	-	168	4.58	4.07	5.36	5.89	-	-
	2500	270	26	28	46	68	188	3	M24	8	26	220	162	12	8	-	170	9.07	8.21	8.1	11.85	-	-
	4000	270	26	28	48	68	188	3	M24	8	26	220	162	12	8	-	170	9.07	8.21	8.1	11.85	-	-
BS 10/1962	T/D	254.0	-	12.7	-	-	-	-	M16	8	-	209.6	-	-	-	-	-	-	-	-	-	3.48	-
	T/E	254.0	-	14.3	-	-	-	-	M20	8	-	209.6	-	-	-	-	-	-	-	-	-	-	3.84

FLANGES

BS 4504; EN 1092-1; SANS 1123 AND BS 10/1962 TABLES D AND E AS AMENDED 1965



150mm Nominal Bore Pipe OD 168.3 or 165.1 (d1)(to be specified)

Table	Pipe O.D. d ₁	Flange					Raised face		Bolting	Drilling			Neck			Spigot	Boss						
		D	b	b ₁	h	h ₁	d ₄	f		No.	d ₂	k	d ₃	h ₂ ≈	r	d ₉	ds	/2 (W/N)	/3 (S/O)	/4 (Scrwd)	/8 (Blind)	T/D	T/E
BS4504	6	265	18	20	44	48	202	3	M16	8	18	225	184	12	10	140	185	5.15	4.86	5.30	7.50	-	-
	10	285	22	22	44	55	212	3	M20	8	22	240	184	12	10	140	195	7.75	6.66	7.92	10.50	-	-
	16	285	22	22	44	55	212	3	M20	8	22	240	184	12	10	140	195	7.75	6.66	7.92	10.50	-	-
	25	300	28	30	52	75	218	3	M24	8	26	250	192	12	10	140	145	11.80	10.42	10.50	14.50	-	-
	40	300	28	30	52	75	218	3	M24	8	26	250	192	12	10	140	145	11.80	10.42	10.50	14.50	-	-
EN 1092-1	6	265	18	20	44	48	202	3	M16	8	18	225	184	12	10	140	185	5.15	4.86	5.30	7.50	-	-
	10	285	22	24	44	55	212	3	M20	8	22	240	184	12	10	140	195	7.75	7.50	7.92	10.50	-	-
	16	285	22	24	44	55	212	3	M20	8	22	240	184	12	10	140	195	7.75	7.50	7.92	10.50	-	-
	25	300	28	30	52	75	218	3	M24	8	26	250	192	12	10	140	145	11.80	10.42	10.50	14.50	-	-
	40	300	28	30	52	75	218	3	M24	8	26	250	192	12	10	140	145	11.80	10.42	10.50	14.50	-	-
SANS 1123	600	265	13	12	39	48	202	3	M16	8	18	225	184	12	10	-	185	3.72	2.91	3.83	5.00	-	-
	1000	285	18	16	38	55	212	3	M20	8	22	240	184	12	10	-	195	6.34	4.81	7.14	8.59	-	-
	1600	285	18	18	40	55	212	3	M20	8	22	240	184	12	10	-	195	6.34	5.41	7.40	8.59	-	-
	2500	300	28	30	48	75	218	3	M24	8	26	250	192	12	10	-	200	11.80	10.42	9.00	15.54	-	-
	4000	300	28	30	52	75	218	3	M24	8	26	250	192	12	10	-	200	11.80	10.42	9.00	15.54	-	-
BS 10/1962	T/D	279.4	-	12.7	-	-	-	-	M16	8	17.5	235.0	-	-	-	-	-	-	-	-	-	3.88	-
	T/E	279.4	-	17.5	-	-	-	-	M20	8	22.2	235.0	-	-	-	-	-	-	-	-	-	-	5.36

200mm Nominal Bore Pipe OD 219.1 (d1)

Table	Pipe O.D. d ₁	Flange					Raised face		Bolting	Drilling			Neck			Spigot	Boss						
		D	b	b ₁	h	h ₁	d ₄	f		No.	d ₂	k	d ₃	h ₂ ≈	r	d ₉	ds	/2 (W/N)	/3 (S/O)	/4 (Scrwd)	/8 (Blind)	T/D	T/E
BS4504	6	320	20	22	44	55	258	3	M16	8	18	280	236	15	10	190	-	7.78	6.91	-	12.50	-	-
	10	340	24	24	44	62	268	3	M20	8	22	295	235	16	10	190	-	11.30	9.30	-	16.50	-	-
	16	340	24	24	44	62	268	3	M20	12	22	295	235	16	10	190	-	11.00	9.30	-	16.50	-	-
	25	360	30	28	52	80	278	3	M24	12	26	310	244	16	10	190	-	17.00	12.53	-	22.50	-	-
	40	375	34	34	52	88	285	3	M27	12	30	320	244	16	10	190	200	21.50	16.96	-	27.00	-	-
EN 1092-1	6	320	20	22	44	55	258	3	M16	8	18	280	236	15	10	190	-	7.78	6.91	-	12.50	-	-
	10	340	24	24	44	62	268	3	M20	8	22	295	235	16	10	190	-	11.30	9.30	-	16.50	-	-
	16	340	24	26	44	62	268	3	M20	12	22	295	235	16	10	190	-	11.00	10.30	-	16.50	-	-
	25	360	30	32	52	80	278	3	M24	12	26	310	244	16	10	190	-	17.00	14.40	-	22.50	-	-
	40	375	34	36	52	88	285	3	M27	12	30	320	244	16	10	190	200	21.50	18.30	-	27.00	-	-
SANS 1123	600	320	13	14	-	55	258	3	M16	8	18	280	236	15	10	-	-	5.06	4.40	-	8.75	-	-
	1000	340	18	18	-	62	268	3	M20	8	22	295	235	16	10	-	-	8.48	6.97	-	12.38	-	-
	1600	340	22	22	-	62	268	3	M20	12	22	295	235	16	10	-	-	10.08	7.51	-	15.13	-	-
	2500	360	27	28	-	80	278	3	M24	12	26	310	244	16	10	-	-	15.30	12.59	-	21.00	-	-
	4000	375	34	32	-	88	285	3	M24	12	26	320	244	16	10	-	-	21.50	16.96	-	25.41	-	-
BS 10/1962	T/D	336.6	-	12.7	-	-	-	-	M16	8	17.5	292.1	-	-	-	-	-	-	-	-	-	4.91	-
	T/E	336.6	-	19	-	-	-	-	M20	8	22.2	292.1	-	-	-	-	-	-	-	-	-	-	7.59

FLANGES

BS 4504; EN 1092-1; SANS 1123 AND BS 10/1962 TABLES D AND E AS AMENDED 1965



250mm Nominal Bore Pipe OD 273.0 (d1)

Table	Pipe O.D. d ₁	Flange					Raisedface		Bolting	Drilling			Neck			Spigot	Boss						T/E
		D	b	b ₁	h	h ₁	d ₄	f		No.	d ₂	k	d ₃	h ₂ ≈	r	d ₉	ds	/2 (W/N)	/3 (S/O)	/4 (Scrwd)	/8 (Blind)	T/D	
BS4504	6	375	22	24	44	60	312	3	M16	12	18	335	290	15	12	237	-	10.80	9.03	-	18.50	-	-
	10	395	26	26	46	68	320	3	M20	12	22	350	292	16	12	237	-	14.70	11.95	-	24.00	-	-
	16	405	26	26	46	70	320	3	M24	12	26	355	292	16	12	237	-	15.60	12.86	-	25.00	-	-
	25	425	32	32	60	88	335	3	M27	12	30	370	298	18	12	237	-	24.40	18.57	-	33.50	-	-
	40	450	38	42	60	105	345	3	M30	12	33	384	306	18	12	237	-	34.90	29.44	-	44.50	-	-
EN 1092-1	6	375	22	24	44	60	312	3	M16	12	18	335	290	15	12	237	-	10.80	9.03	-	18.50	-	-
	10	395	26	26	46	68	320	3	M20	12	22	350	292	16	12	237	-	14.70	11.95	-	24.00	-	-
	16	405	26	29	46	70	320	3	M24	12	26	355	292	16	12	237	-	15.60	14.79	-	25.00	-	-
	25	425	32	35	60	88	335	3	M27	12	30	370	298	18	12	237	-	24.40	20.43	-	33.50	-	-
	40	450	38	42	60	105	345	3	M30	12	33	384	306	18	12	237	-	34.90	29.44	-	44.50	-	-
SANS 1123	600	375	16	16	-	60	312	3	M16	12	18	335	290	15	12	-	-	7.85	6.02	-	13.45	-	-
	1000	395	20	20	-	68	320	3	M20	12	22	350	292	16	12	-	-	11.31	9.14	-	18.46	-	-
	1600	405	24	25	-	70	320	3	M24	12	26	355	292	16	12	-	-	14.04	12.36	-	24.04	-	-
	2500	425	30	30	-	88	335	3	M24	12	26	370	298	18	12	-	-	22.88	17.90	-	31.41	-	-
	4000	450	38	38	-	105	345	3	M30	12	33	385	306	18	12	-	-	34.90	29.44	-	44.50	-	-
BS 10/1962	T/D	406.4	-	15.9	-	-	-	-	M20	8	22.2	355.6	-	-	-	-	-	-	-	-	-	8.70	-
	T/E	406.4	-	22.2	-	-	-	-	M20	12	22.2	355.6	-	-	-	-	-	-	-	-	-	-	12.05

300m Nominal Bore Pipe OD 323.9 (d1)

Table	Pipe O.D. d ₁	Flange					Raised face		Bolting	Drilling			Neck			Spigot	Boss						T/E
		D	b	b ₁	h	h ₁	d ₄	f		No.	d ₂	k	d ₃	h ₂ ≈	r	d ₉	ds	/2 (W/N)	/3 (S/O)	/4 (Scrwd)	/8 (Blind)	T/D	
BS4504	6	440	22	24	44	62	365	4	M20	12	22	395	342	15	12	285	-	14.00	11.95	-	25.50	-	-
	10	445	26	26	46	68	370	4	M20	12	22	400	344	16	12	285	-	17.60	13.66	-	31.00	-	-
	16	460	28	28	46	78	378	4	M24	12	26	410	344	16	12	285	-	22.00	16.65	-	35.00	-	-
	25	485	34	38	67	92	395	4	M27	16	30	430	352	18	12	285	-	31.20	26.66	-	46.0	-	-
	40	515	42	50	67	115	410	4	M30	16	33	450	362	18	12	285	-	49.70	43.39	-	64.00	-	-
EN 1092-1	6	440	22	24	44	62	365	4	M20	12	22	395	342	15	12	285	-	14.00	11.95	-	25.50	-	-
	10	445	26	26	46	68	370	4	M20	12	22	400	344	16	12	285	-	17.60	13.66	-	31.00	-	-
	16	460	28	32	46	78	378	4	M24	12	26	410	344	16	12	285	-	22.00	19.20	-	35.00	-	-
	25	485	34	38	67	92	395	4	M27	16	30	430	352	18	12	285	-	31.20	26.66	-	46.0	-	-
	40	515	42	52	67	115	410	4	M30	16	33	450	362	18	12	285	-	49.70	45.56	-	64.00	-	-
SANS 1123	600	440	20	20	-	62	365	4	M20	12	22	395	342	15	12	-	-	12.73	9.96	-	23.18	-	-
	1000	445	22	22	-	68	370	4	M20	12	22	400	344	16	12	-	-	14.89	11.65	-	26.23	-	-
	1600	460	28	28	-	78	378	4	M24	12	26	410	344	16	12	-	-	22.00	16.65	-	35.00	-	-
	2500	485	34	32	-	92	395	4	M24	16	26	430	352	18	12	-	-	31.20	23.16	-	43.29	-	-
	4000	515	42	40	-	115	410	4	M30	16	33	450	362	18	12	-	-	49.70	43.39	-	60.95	-	-
BS 10/1962	T/D	457.2	-	19	-	-	-	-	M20	12	22.2	406.4	-	-	-	-	-	-	-	-	-	12.05	-
	T/E	457.2	-	25.4	-	-	-	-	M24	12	25.4	406.4	-	-	-	-	-	-	-	-	-	-	16.07

FLANGES



BS 4504; EN 1092-1; SANS 1123 AND BS 10/1962 TABLES D AND E AS AMENDED 1965

350mm Nominal Bore Pipe OD 355.6 (d1)

Table	Pipe O.D. d ₁	Flange					Raised face		Bolting	Drilling			Neck			Spigot	Boss						
		D	b	b ₁	h	h ₁	d ₄	f		No.	d ₂	k	d ₃	h ₂ ≈	r			d ₉	ds	/2 (W/N)	/3 (S/O)	/4 (Scrwd)	
BS4504	6	490	22	26	-	62	415	4	M20	12	22	445	385	15	12	332	-	16.10	16.88	-	32.00	-	-
	10	505	26	28	-	68	430	4	M20	16	22	460	385	16	12	332	-	21.40	20.42	-	39.50	-	-
	16	520	30	32	-	82	438	4	M24	16	26	470	390	16	12	332	-	28.70	25.76	-	48.00	-	-
	25	555	38	42	-	100	450	4	M30	16	33	490	398	20	12	332	-	45.00	41.48	-	68.00	-	-
	40	580	46	56	-	125	465	4	M33	16	36	510	408	20	12	332	-	68.10	64.43	-	89.00	-	-
EN 1092-1	6	490	22	26	-	62	415	4	M20	12	22	445	385	15	12	332	-	16.10	16.88	-	32.00	-	-
	10	505	26	30	-	68	430	4	M20	16	22	460	385	16	12	332	-	21.40	23.48	-	39.50	-	-
	16	520	30	35	-	82	438	4	M24	16	26	470	390	16	12	332	-	28.70	28.34	-	48.00	-	-
	25	555	38	42	-	100	450	4	M30	16	33	490	398	20	12	332	-	45.00	41.84	-	68.00	-	-
	40	580	46	58	-	125	465	4	M33	16	36	510	408	20	12	332	-	68.10	67.65	-	89.00	-	-
SANS 1123	600	490	22	22	-	62	415	4	M20	12	22	445	385	15	12	-	-	16.10	14.29	-	32.00	-	-
	1000	505	26	25	-	68	430	4	M20	16	22	460	385	16	12	-	-	21.40	18.23	-	37.98	-	-
	1600	520	30	30	-	82	438	4	M24	16	26	470	390	16	12	-	-	28.07	24.15	-	48.00	-	-
	2500	555	38	35	-	100	450	4	M30	16	33	490	398	20	12	-	-	45.00	34.87	-	62.63	-	-
	4000	580	46	45	-	125	465	4	M30	16	33	510	408	18	12	-	-	68.10	64.43	-	87.07	-	-
BS 10/1962	T/D	527.1	-	22.2	-	-	-	-	M20	12	25.4	469.9	-	-	-	-	-	-	-	-	-	19.58	-
	T/E	527.1	-	28.6	-	-	-	-	M24	12	25.4	469.9	-	-	-	-	-	-	-	-	-	-	25.89

400mm Nominal Bore Pipe OD 406.4 (d1)

Table	Pipe O.D. d ₁	Flange					Raised face		Bolting	Drilling			Neck			Spigot	Boss						
		D	b	b ₁	h	h ₁	d ₄	f		No.	d ₂	k	d ₃	h ₂ ≈	r			d ₉	ds	/2 (W/N)	/3 (S/O)	/4 (Scrwd)	
BS4504	6	540	22	28	-	65	465	4	M20	16	22	495	438	15	12	380	-	18.30	19.97	-	38.50	-	-
	10	565	26	32	-	72	482	4	M24	16	26	515	440	16	12	380	-	26.10	27.65	-	49.50	-	-
	16	580	32	36	-	85	490	4	M27	16	30	525	445	16	12	380	-	36.30	33.90	-	63.00	-	-
	25	620	40	46	-	110	505	4	M33	16	36	550	452	20	12	380	-	58.70	56.35	-	90.00	-	-
	40	660	50	64	-	135	535	4	M36	16	39	585	462	20	12	380	-	96.50	95.86	-	125.00	-	-
EN 1092-1	6	540	22	28	-	65	465	4	M20	16	22	495	438	15	12	380	-	18.30	19.97	-	38.50	-	-
	10	565	26	32	-	72	482	4	M24	16	26	515	440	16	12	380	-	26.10	27.65	-	49.50	-	-
	16	580	32	38	-	85	490	4	M27	16	30	525	445	16	12	380	-	36.30	36.40	-	63.00	-	-
	25	620	40	48	-	110	505	4	M33	16	36	550	452	20	12	380	-	58.70	58.60	-	90.00	-	-
	40	660	50	65	-	135	535	4	M36	16	39	585	462	20	12	380	-	96.50	98.00	-	125.00	-	-
SANS 1123	600	540	22	22	-	65	465	4	M20	16	22	495	438	15	12	-	-	18.30	15.69	-	38.50	-	-
	1000	565	26	25	-	72	482	4	M24	16	26	515	400	16	12	-	-	26.10	21.88	-	47.60	-	-
	1600	580	32	35	-	85	490	4	M24	16	26	525	445	16	12	-	-	36.30	34.13	-	59.06	-	-
	2500	620	40	40	-	110	505	4	M30	16	33	550	452	20	12	-	-	58.70	49.00	-	90.00	-	-
	4000	660	50	50	-	135	535	4	M36	16	39	585	462	20	12	-	-	96.50	74.58	-	125.00	-	-
BS 10/1962	T/D	577.9	-	22.2	-	-	-	-	M20	12	25.4	520.7	-	-	-	-	-	-	-	-	-	22.32	-
	T/E	577.9	-	31.8	-	-	-	-	M24	12	25.4	520.7	-	-	-	-	-	-	-	-	-	-	32.59

FLANGES

BS 4504; EN 1092-1; SANS 1123 AND BS 10/1962 TABLES D AND E AS AMENDED 1965



450mm Nominal Bore Pipe OD 457.2 (d1)

Table	Pipe O.D. d ₁	Flange					Raised face		Bolting	Drilling			Neck			Spigot	Boss							
		D	b	b ₁	h	h ₁	d ₄	f		No.	d ₂	k	d ₃	h ₂ ≈	r			d ₉	ds	/2 (W/N)	/3 (S/O)	/4 (Scrwd)	/8 (Blind)	
BS4504	6	595	24	30	-	65	520	4	M20	16	22	550	492	15	12	428	-		25.28	-	52.00	-	-	
	10	615	28	36	-	72	532	4	M24	20	26	565	492	16	12	428	-	-	34.16	-	65.00	-	-	
	16	640	34	40	-	87	550	4	M27	20	30	585	496	16	12	428	-	-	44.56	-	85.00	-	-	
	25	670	42	52	-	110	555	4	M33	20	36	600	505	20	12	425	-	-	68.00	-	115.50	-	-	
	40	685		68	-		560	4	M36	20	39	610	-	-	-	-	-	-	95.55	-	155.50	-	-	
EN 1092-1	6	595	24	30	-	65	520	4	M20	16	22	550	492	15	12	428	-		25.28	-	52.00	-	-	
	10	615	28	36	-	72	532	4	M24	20	26	565	492	16	12	428	-	-	34.16	-	65.00	-	-	
	16	640	34	42	-	87	550	4	M27	20	30	585	496	16	12	428	-	-	46.80	-	85.00	-	-	
	25	670	42	54	-	110	555	4	M33	20	36	600	505	20	12	425	-	-	70.80	-	115.50	-	-	
	40	685		68	-		560	4	M36	20	39	610	-	-	-	-	-	-	95.55	-	155.50	-	-	
SANS 1123	600	595	24	25	-	65	520	4	M20	16	22	550	492	15	12	-	-	-	21.07	-	54.17	-	-	
	1000	615	28	30	-	72	532	4	M24	20	26	565	492	16	12	-	-	-	28.29	-	69.64	-	-	
	1600	640	34	40	-	87	550	4	M24	20	26	585	496	16	12	-	-	-	45.68	-	100.00	-	-	
	2500	670	42	45	-	110	555	4	M30	20	33	600	505	20	12	-	-	-	60.00	-	123.75	-	-	
	4000	685	52	60	-	140	560	4	M36	20	39	610	510	20	12	-	-	-	95.55	-	149.52	-	-	
BS 10/1962	T/D	641.4	-	25.4	-	-	-	-	M20	12	25.4	584.2	-	-	-	-	-	-	-	-	-	30.80	-	
	T/E	641.4	-	34.9	-	-	-	-	M20	16	25.4	584.2	-	-	-	-	-	-	-	-	-	-	42.86	

500m Nominal Bore Pipe OD 508.0 (d1)

Table	Pipe O.D. d ₁	Flange					Raised face		Bolting	Drilling			Neck			Spigot	Boss						
		D	b	b ₁	h	h ₁	d ₄	f		No.	d ₂	k	d ₃	h ₂ ≈	r			d ₉	ds	/2 (W/N)	/3 (S/O)	/4 (Scrwd)	
BS4504	6	645	24	30	-	68	570	4	M20	20	22	600	538	15	12	475	-	24.60	27.03	-	60.00	-	-
	10	670	28	38	-	75	585	4	M24	20	26	620	542	16	12	-	-	34.70	41.03	-	75.00	-	-
	16	715	34	44	-	90	610	4	M30	20	33	650	548	16	12	475	-	59.30	62.16	-	110.00	-	-
	25	730	44	58	-	125	615	4	M33	20	36	660	558	20	12	475	-	86.10	88.20	-	140.00	-	-
	40	755	52	72	-	140	615	4	M39	20	42	670	562	20	12	475	-	117.00	121.81	-	185.00	-	-
EN 1092-1	6	645	24	30	-	68	570	4	M20	20	22	600	538	15	12	475	-	24.60	27.03	-	60.00	-	-
	10	670	28	38	-	75	585	4	M24	20	26	620	542	16	12	-	-	34.70	41.03	-	75.00	-	-
	16	715	34	46	-	90	610	4	M30	20	33	650	548	16	12	475	-	59.30	65.30	-	110.00	-	-
	25	730	44	58	-	125	615	4	M33	20	36	660	558	20	12	475	-	86.10	88.20	-	140.00	-	-
	40	755	52	-	-	140	615	4	M39	20	42	670	562	20	12	475	-	117.00	120.00	-	185.00	-	-
SANS 1123	600	645	24	25	-	68	570	4	M20	20	22	600	538	15	12	-	-	24.60	22.52	-	62.50	-	-
	1000	670	28	32	-	75	585	4	M24	20	26	620	542	16	12	-	-	34.70	34.65	-	75.00	-	-
	1600	715	34	40	-	90	610	4	M30	20	33	650	548	16	12	-	-	59.30	56.51	-	122.22	-	-
	2500	730	44	50	-	125	615	4	M30	20	33	660	558	20	12	-	-	86.10	77.31	-	155.56	-	-
	4000	755	52	70	-	140	615	4	M36	20	39	670	562	20	12	-	-	117.00	121.81	-	198.21	-	-
BS 10/1962	T/D	704	-	28.6	-	-	-	-	M20	16	25.4	641.4	-	-	-	-	-	-	-	-	-	41.07	-
	T/E	704.9	-	38.1	-	-	-	-	M20	16	25.4	641.1	-	-	-	-	-	-	-	-	-	-	55.80

FLANGES



BS 4504; EN 1092-1; SANS 1123 AND BS 10/1962 TABLES D AND E AS AMENDED 1965

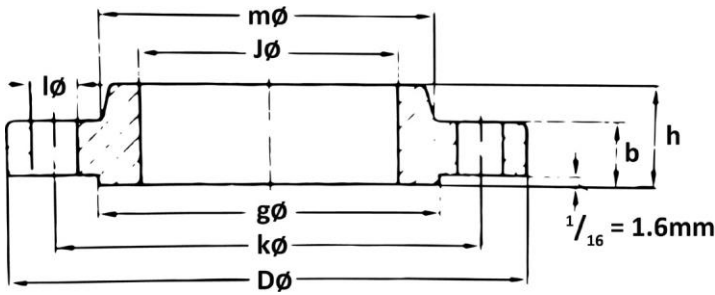
600mm Nominal Bore Pipe OD 609.6 (d1)																								
Table	Pipe O.D. d ₁	Flange					Raised face		Bolting	Drilling			Neck			Spigot	Boss							
		D	b	b ₁	h	h ₁	d ₄	f		No.	d ₂	k	d ₃	h ₂ ≈	r	d ₉	ds	/2 (W/N)	/3 (S/O)	/4 (Scrwd)	/8 (Blind)	T/D	T/E	
BS4504	6	755	24	32	-	70	670	5	M24	20	26	705	640	16	12	-	-	31.50	35.87	-	-	-	-	
	10	780	28	42	-	80	685	5	M27	20	30	725	642	18	12	-	-	42.20	55.85	-	-	-	-	
	16	840	36	52	-	95	725	5	M33	20	36	770	652	18	12	-	-	73.40	97.74	-	-	-	-	
	25	845	46	66	-	125	720	5	M36	20	39	770	660	20	12	-	-	101.00	125.65	-	-	-	-	
	40	890	-	84	-	-	735	5	M45	20	48	795	-	-	-	-	-	-	192.21	-	-	-	-	-
EN 1092-1	6	755	24	32	-	70	670	5	M24	20	26	705	640	16	12	-	-	31.50	35.87	-	-	-	-	
	10	780	28	42	-	80	685	5	M27	20	30	725	642	18	12	-	-	42.20	55.85	-	-	-	-	
	16	840	36	55	-	95	725	5	M33	20	36	770	652	18	12	-	-	73.40	104.00	-	-	-	-	
	25	845	46	68	-	125	720	5	M36	20	39	770	660	20	12	-	-	101.00	129.50	-	-	-	-	
	40	890	-	90	-	-	735	5	M45	20	48	795	-	-	-	-	-	-	207.00	-	-	-	-	-
SANS 1123	600	755	24	30	-	70	670	5	M24	20	26	705	640	16	12	-	-	31.50	33.63	-	-	-	-	
	1000	780	28	38	-	80	685	5	M24	20	26	725	642	18	12	-	-	42.20	51.58	-	-	-	-	
	1600	840	36	50	-	95	725	5	M30	20	33	770	652	18	12	-	-	73.40	95.26	-	-	-	-	
	2500	845	46	60	-	125	720	5	M36	20	39	770	660	20	12	-	-	101.00	114.86	-	-	-	-	
	4000	890	-	84	-	-	735	5	M45	20	48	795	-	-	-	-	-	-	192.21	-	-	-	-	-
BS 10/1962	T/D	825.5	-	31.8	-	-	-	-	M24	16	28.6	755.7	-	-	-	-	-	-	-	-	-	-	60.27	-
	T/E	825.5	-	47.6	-	-	-	-	M30	16	31.8	755.7	-	-	-	-	-	-	-	-	-	-	-	89.29

Temperature Pressure Rating for Carbon Steel Flanges

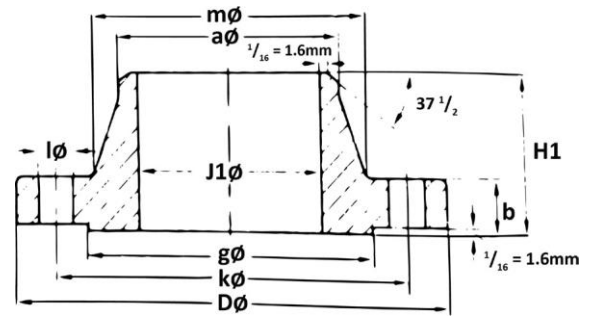
°C	-17,8 To 232,2	260	287,8	315,6	343,3	371,1	399	427	441	454	468	482	Max. Hyd. Test Press
kPa T/D T/E	689,7 1379,4	655,2 1275,95	586,2 1172,5	551,7 1069	482,8 965,6	448,3 896,6	379,3 793,2	344,85 689,7	- -	- -	- -	- -	1034,6 2069,5

FLANGES

ANSI (ASA) B 16.5 150 LBS.



150 lbs Slip-on Flanges

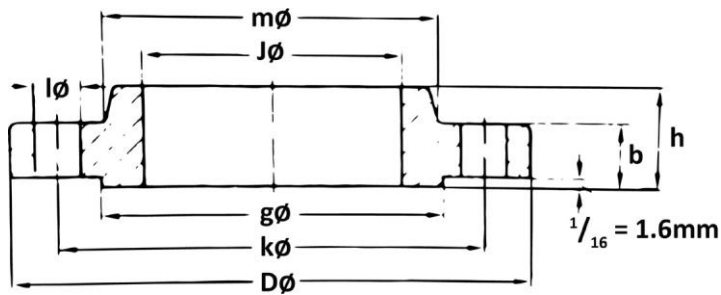


150 lbs Weld Neck Flanges

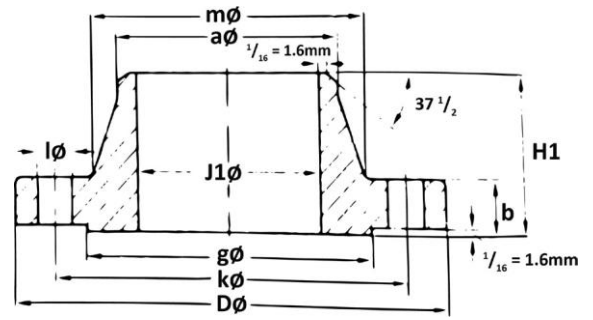
Pipe		Flange						HUB		Raised face	Drilling			Approx. Weight in kg's	
Nom. Size	O.D. mm	D	J	J1	b	h	H1	m	a	g	No.	l	k	S/O	W/N
15	21.3	88.9	22.3	15.7	11.1	15.9	47.6	30.2	21.3	34.9	4	15.9	60.3	0.5	0.9
20	26.7	98.4	27.7	20.8	12.7	15.9	52.4	38.1	26.7	42.9	4	15.9	69.8	0.9	0.9
25	33.4	107.9	34.5	26.7	14.3	17.5	55.6	49.2	33.5	50.8	4	15.9	79.4	0.9	1.4
32	42.2	117.5	43.2	35.1	15.9	20.6	57.1	58.7	42.2	63.5	4	15.9	88.9	1.4	1.4
40	48.3	127.0	49.5	40.9	17.5	22.2	61.9	65.1	48.3	73.0	4	15.9	98.4	1.4	1.8
50	60.3	152.4	62.0	52.6	19.0	25.4	63.5	77.8	60.4	92.1	4	19.0	120.6	2.3	2.7
65	73.0	177.8	74.7	62.7	22.2	28.6	69.8	90.5	73.1	104.8	4	19.0	139.7	3.2	3.6
80	88.9	190.5	90.7	78.0	23.8	30.2	69.8	107.9	88.9	127.0	4	19.0	152.4	3.6	4.5
90	101.6	215.9	103.4	90.2	23.8	31.7	71.4	122.2	101.6	139.7	8	19.0	177.8	5.0	5.4
100	114.3	228.6	116.1	102.4	23.8	33.3	76.2	134.9	114.3	157.2	8	19.0	190.5	5.9	6.8
125	141.3	254.0	143.8	128.3	23.8	36.5	88.9	163.5	141.2	185.7	8	22.2	215.9	6.8	8.6
150	168.3	279.4	170.7	154.2	25.4	39.7	88.9	192.1	168.4	215.9	8	22.2	241.3	8.6	10.9
200	219.1	342.9	221.5	202.7	28.6	44.4	101.6	246.1	219.2	269.9	8	22.2	298.4	13.6	17.7
250	273.0	406.4	276.3	254.5	30.2	49.2	101.6	304.8	273.0	323.8	12	25.4	361.9	19.5	23.6
300	323.8	482.6	327.1	304.8	31.7	55.6	114.3	365.1	323.8	381.0	12	25.4	431.8	29.0	36.3
350	355.6	533.4	359.1	To be specified by purchaser	34.9	57.1	127.0	400.0	355.6	412.9	12	28.6	476.2	41.0	50.0
400	406.4	596.9	410.5		36.5	63.5	127.0	457.2	406.4	469.9	16	28.6	539.7	44.5	64.0
450	457.2	635.0	461.8		39.7	68.3	139.7	504.8	457.2	533.4	16	31.7	577.8	59.0	68.0
500	508.0	698.5	513.1		42.9	73.0	144.5	558.8	508.0	584.2	20	31.7	635.0	75.0	81.6
600	609.6	812.8	615.9		47.6	82.5	152.4	663.6	609.6	692.1	20	34.9	749.3	99.8	118.0

FLANGES

ANSI (ASA) B 16.5 300 LBS.



300 lbs Slip-on Flanges



300 lbs Weld Neck Flanges

Pipe		Flange						HUB		Raised face	Drilling			Approx. Weight in kg's	
Nom. Size	O.D. mm	D	J	J1	b	h	H1	m	a	g	No.	l	k	S/O	W/N
15	21.3	95.2	22.3	15.7	14.3	22.2	52.4	21.3	38.1	34.9	4	15.9	66.7	0.9	0.9
20	26.7	117.5	27.7	20.8	15.9	25.4	57.1	26.7	47.6	42.9	4	19.0	82.5	1.4	1.4
25	33.4	123.8	34.5	26.7	17.5	27.0	61.9	33.5	54.0	50.8	4	19.0	88.9	1.4	1.8
32	42.2	133.3	43.2	35.1	19.0	27.0	65.1	42.2	63.5	63.5	4	19.0	98.4	1.8	2.3
40	48.3	155.6	49.5	40.9	20.6	30.2	68.3	48.3	69.8	73.0	4	19.0	114.3	2.7	3.2
50	60.3	165.1	62.0	52.6	22.2	33.3	69.8	60.4	84.1	92.1	8	22.2	127.0	3.2	4.1
65	73.0	190.5	74.7	62.7	25.4	38.1	76.2	73.1	100.0	104.8	8	22.2	149.2	4.5	5.4
80	88.9	209.5	90.7	78.0	28.6	42.9	79.4	88.9	117.5	127.0	8	22.2	168.3	5.9	6.8
90	101.6	228.6	103.4	90.2	30.2	44.4	81.0	101.6	133.3	139.7	8	22.2	184.1	7.7	8.2
100	114.3	254.0	116.1	102.4	31.7	47.6	85.7	114.3	146.0	157.2	8	22.2	200.0	10.0	11.3
125	141.3	279.4	143.8	128.3	34.9	50.8	98.4	141.2	177.8	185.7	8	22.2	234.9	12.7	14.5
150	168.3	317.5	170.7	154.2	36.5	52.4	98.4	168.4	206.4	215.9	12	22.2	269.9	17.7	19.0
200	219.1	381.0	221.5	202.7	41.3	61.9	111.1	219.2	260.3	269.9	12	25.4	330.2	26.3	30.4
250	273.0	444.5	276.3	254.5	47.6	66.7	117.5	273.0	320.7	323.8	16	28.6	387.3	36.7	41.3
300	323.8	520.7	327.1	304.8	50.8	73.0	130.2	323.8	374.6	381.0	16	31.7	450.8	52.2	63.5
350	355.6	584.2	359.1	To be specified by purchaser	54.0	76.2	142.9	355.6	425.4	412.7	20	31.7	514.3	74.8	81.6
400	406.4	647.7	410.5		57.1	82.5	146.0	406.4	482.6	469.9	20	34.9	571.5	86.2	113.0
450	457.2	711.2	461.8		60.3	88.9	158.7	457.2	533.4	533.4	24	34.9	628.6	113.0	145.0
500	508.0	774.7	513.1		63.5	95.2	161.9	508.0	587.4	584.2	24	34.9	685.8	143.0	181.0
600	609.6	914.4	615.9		69.8	106.4	168.3	609.6	701.7	692.1	24	41.3	812.8	215.0	263.0