

Bolting Data for Standard API Flanges

Nominal	2000 psi	2000psi	2000 psi	2000psi	2000 psi	2000 psi	Flange	Weight	Gasket	Stress	"K" factor	Yield	50 % of
Flange	Number	Stud	Bolt	Flange	Gasket	Stud	Thickness		Type	area of	is 0.17	strength	Yield
Size(in.)	of Studs	Diameter	Cir.dia.	OD	OD	Length				stud			
1 1/16	-	-	-	-	-	-	-	-	-	-	-	-	-
2 1/16	8	5/8	5	6 1/2	3 23/32	5	1.19	10	R23	0.202	0.17	105000	0.50
2 9/16	8	3/4	5 7/8	7 1/2	4 15/32	5 1/2	1.32	15	R26	0.302	0.17	105000	0.50
3 1/16	-	-	-	-	-	-	-	-	-	-	-	-	-
3 1/8	8	3/4	6 5/8	8 1/4	5 11/32	5 3/4	1.44	19	R31	0.302	0.17	105000	0.50
4 1/16	8	7/8	8 1/2	10 3/4	6 11/32	6 1/2	1.69	39	R37	0.419	0.17	105000	0.50
5 1/8	8	1	10 1/2	13	7 19/32	7 1/4	1.94	67	R41	0.551	0.17	105000	0.50
7 1/16	12	1	11 1/2	14	8 25/32	7 1/2	2.07	78	R45	0.551	0.17	105000	0.50
9	12	1 1/8	13 3/4	16 1/2	11 3/32	8 1/2	2.38	112	R49	0.728	0.17	105000	0.50
11	16	1 1/4	17	20	13 7/32	9 1/4	2.69	179	R53	0.929	0.17	105000	0.50
13 5/8	20	1 1/4	19 1/4	22	15 15/32	9 1/2	2.82	Cust.spec	R57	0.929	0.17	105000	0.50
16 3/4	20	1 1/2	23 3/4	27	18 31/32	10 3/4	3.19	Cust.spec	R65	1.405	0.17	105000	0.50
18 3/4	-	-	-	-	-	-	-	-	-	-	-	-	-
20 3/4	-	-	-	-	-	-	-	-	-	-	-	-	-
21 1/4	24	1 5/8	28 1/2	32	23 17/32	12 1/4	3.76	Cust.spec	R73	1.68	0.17	105000	0.50
26 3/4	20	1 3/4	37 1/2	41	30 1/4	14 1/4	4.85	721	BX167	1.98	0.17	105000	0.50
30	32	1 5/8	40 15/16	44 3/16	33 93/98	14 1/2	5.16	828	BX303	1.68	0.17	105000	0.50

Nominal	3000 psi	3000 psi	3000 psi	3000 psi	3000 psi	3000 psi	Flange	Weight	Gasket	Stress	"K" factor	Yield	50 % of
Flange	Number	Stud	Bolt	Flange	Gasket	Stud	Thickness		Type	area of	is 0.17	strength	Yield
Size(in.)	of Studs	Diameter	Cir.dia.	OD	OD	Length				stud			
1 1/16	-	-	-	-	-	-	-	-	-	-	-	-	-
2 1/16	8	7/8	6 1/2	8 1/2	4 7/32	6 1/2	1.69	26	R24	0.419	0.17	105000	0.50
2 9/16	8	1	7 1/2	9 5/8	4 23/32	7	1.82	36	R27	0.551	0.17	105000	0.50
3 1/16	-	-	-	-	-	-	-	-	-	-	-	-	-
3 1/8	8	7/8	7 1/2	9 1/2	5 11/32	6 1/2	1.69	32	R31	0.419	0.17	105000	0.50
4 1/16	8	1 1/8	9 1/4	11 1/2	6 11/32	7 1/2	1.94	52	R37	0.728	0.17	105000	0.50
5 1/8	8	1 1/4	11	13 3/4	7 19/32	8 1/4	2.19	82	R41	0.929	0.17	105000	0.50
7 1/16	12	1 1/8	12 1/2	15	8 25/32	8 1/2	2.38	105	R45	0.728	0.17	105000	0.50
9	12	1 3/8	15 1/2	18 1/2	11 3/32	9 1/2	2.69	178	R49	1.155	0.17	105000	0.50
11	16	1 3/8	18 1/2	21 1/2	13 7/32	10	2.94	258	R53	1.155	0.17	105000	0.50
13 5/8	20	1 3/8	21	24	15 15/32	10 3/4	3.32	Cust.spec	R57	1.155	0.17	105000	0.50
16 3/4	20	1 5/8	24 1/4	27 3/4	19 5/32	12 1/4	3.82	Cust.spec	R66	1.68	0.17	105000	0.50
18 3/4	-	-	-	-	-	-	-	-	-	-	-	-	-
20 3/4	20	2	29 1/2	33 3/4	23 25/32	15	4.75		R74	2.652	0.17	105000	0.50
21 1/4	-	-	-	-	-	-	-	-	-	-	-	-	-
26 3/4	24	2	39 3/8	43 3/8	30 38/79	17 1/2	6.22	1126	BX168	2.652	0.17	105000	0.50
30	32	1 7/8	42 15/16	46 11/16	33 93/98	17 3/4	6.46	1302	BX303	2.304	0.17	105000	0.50

Torque Value T=kxdxf
94
168
-
168
273
410
410
609
864
864
1567
-
-
2030
2577
2030
Torque Value T=kxdxf
-
273
410
-
273
609
864
609
1181
1181
1181
2030
-
3945
-
3945
3213

Torque Value T=kxdxf
-
273
410
-
609
864
1567
1181
2030
3213
2030
3213
3945
-
3945
-
-
Torque Value T=kxdxf
168
168
273
410
-
609
609
1567
1567
2577
3213
3213
5728
-
7980
-
-

