

Bolting Data for Standard ASME/ANSI B16.5 Class Flanges

Nominal	150 PSI										
Pipe Size	Number	Bolt hole	Stud	Flange	Flange	Bolt	Stud Lgth.	Stud Lgth.	Stud Lgth.	Pipe	Grip
(inches)	of Studs		Diameter	Diameter	Thickness	Cir. Dia.	RF	RTJ	FF	OD	Length
1/4	4	5/8	1/2	3 3/8		2 1/4	n/a	n/a	n/a		
1/2	4	5/8	1/2	3 1/2	7/16	2 3/8	2 1/4	-	1 3/4	0.84	25.60
3/4	4	5/8	1/2	3 7/8	1/2	2 3/4	2 1/4	-	2	1.06	28.60
1	4	5/8	1/2	4 1/4	9/16	3 1/8	2 1/2	3	2	1.31	31.60
1 1/4	4	5/8	1/2	4 5/8	5/8	3 1/2	2 1/2	3	2 1/4	1.66	34.60
1 1/2	4	5/8	1/2	5	11/16	3 7/8	2 3/4	3 1/4	2 1/4	1.91	38.20
2	4	3/4	5/8	6	3/4	4 3/4	3	3 1/2	2 3/4	2.38	41.40
2 1/2	4	3/4	5/8	7	7/8	5 1/2	3 1/4	3 3/4	3	2.88	48.00
3	4	3/4	5/8	7 1/2	15/16	6	3 1/2	4	3	3.50	51.00
3 1/2	8	3/4	5/8	8 1/2	15/16	7	3 1/2	4	3	4.00	51.00
4	8	3/4	5/8	9	15/16	7 1/2	3 1/2	4	3	4.50	51.00
5	8	7/8	3/4	10	15/16	8 1/2	3 3/4	4 1/4	3 1/4	5.56	51.00
6	8	7/8	3/4	11	1	9 1/2	3 3/4	4 1/4	3 1/4	6.62	54.00
8	8	7/8	3/4	13 1/2	1 1/8	11 3/4	4	4 1/2	3 1/2	8.62	60.00
10	12	1	7/8	16	1 3/16	14 1/4	4 1/2	5	3 3/4	10.75	63.60
12	12	1	7/8	19	1 1/4	17	4 1/2	5	4	12.75	66.80
14	12	1 1/8	1	21	1 3/8	18 3/4	5	5 1/2	4 1/4	14.00	73.40
16	16	1 1/8	1	23 1/2	1 7/16	21 1/4	5 1/4	5 3/4	4 1/2	16.00	76.40
18	16	1 1/4	1 1/8	25	1 9/16	22 3/4	5 3/4	6 1/4	4 3/4	18.00	82.40
20	20	1 1/4	1 1/8	27 1/2	1 11/16	25	6	6 1/2	5 1/4	20.00	89.00
24	20	1 3/8	1 1/4	32	1 7/8	29 1/2	6 3/4	7 1/4	5 3/4	24.00	98.80

Bolting Data for Standard ASME/ANSI B16.5 Class Flanges

Bolting Data for Standard ASME/ANSI B16.5 Class Flanges

Nominal	300 PSI											
Pipe Size	Number	Bolt hole	Stud	Flange	Flange	Bolt	Stud Lgth.	Stud Lgth.	Stud Lgth.	Pipe	Grip	
(inches)	of Studs		Diameter	Diameter	Thickness	Cir. Dia.	RF	RTJ	FF	OD	Length	
1/4	4	5/8	1/2	3 3/8		2 1/4						
1/2	4	5/8	1/2	3 3/4	9/16	2 5/8	2 1/2	3	2	0.84	31.60	
3/4	4	3/4	5/8	4 5/8	5/8	3 1/4	2 3/4	3 1/4	2 1/2	1.06	34.60	
1	4	3/4	5/8	4 7/8	11/16	3 1/2	3	3 1/2	2 1/2	1.31	38.20	
1 1/4	4	3/4	5/8	5 1/4	3/4	3 7/8	3	3 1/2	2 3/4	1.66	41.20	
1 1/2	4	7/8	3/4	6 1/8	13/16	4 1/2	3 1/2	4	3	1.91	44.40	
2	8	7/8	5/8	6 1/2	7/8	5	3 1/4	4	3	2.38	47.80	
2 1/2	8	7/8	3/4	7 1/2	1	5 7/8	3 3/4	4 1/2	3 1/4	2.88	54.00	
3	8	7/8	3/4	8 1/4	1 1/8	6 5/8	4	4 3/4	3 1/2	3.50	60.00	
3 1/2	8	7/8	3/4	9	1 3/16	7 1/4	4 1/4	5	3 3/4	4.00	63.60	
4	8	7/8	3/4	10	1 1/4	7 7/8	4 1/4	5	3 3/4	4.50	66.60	
5	8	7/8	3/4	11	1 3/8	9 1/4	4 1/2	5 1/4	4	5.56	73.20	
6	12	7/8	3/4	12 1/2	1 7/16	10 5/8	4 3/4	5 1/2	4 1/4	6.62	76.20	
8	12	1	7/8	15	1 5/8	13	5 1/4	6	4 3/4	8.62	85.40	
10	16	1 1/8	1	17 1/2	1 7/8	15 1/4	6	6 3/4	5 1/4	10.75	98.60	
12	16	1 1/4	1 1/8	20 1/2	2	17 3/4	6 1/2	7 1/4	5 3/4	12.75	104.80	
14	20	1 1/4	1 1/8	23	2 1/8	20 1/4	6 3/4	7 1/2	6	14.00	110.80	
16	20	1 3/8	1 1/4	25 1/2	2 1/4	22 1/2	7 1/4	8	6 1/2	16.00	117.40	
18	24	1 3/8	1 1/4	28	2 3/8	24 3/4	7 1/2	8 1/4	6 3/4	18.00	124.00	
20	24	1 3/8	1 1/4	30 1/2	2 1/2	27	8	8 3/4	7	20.00	130.20	
24	24	1 5/8	1 1/2	36	2 3/4	32	9	10	7 3/4	24.00	142.80	

Bolting Data for Standard ASME/ANSI B16.5 Class Flanges

Bolting Data for Standard ASME/ANSI B16.5 Class Flanges

Nominal	400 PSI										
Pipe Size	Number	Bolt hole	Stud	Flange	Flange	Bolt	Stud Lgth.	Stud Lgth.	Stud Lgth.	Pipe	Grip
(inches)	of Studs		Diameter	Diameter	Thickness	Cir. Dia.	RF	RTJ	FF	OD	Length
1/4	4	5/8	1/2	3 3/8	n/a	2 1/4	n/a	n/a	n/a	n/a	n/a
1/2	4	5/8	1/2	3 3/4	9/16	2 5/8	3	3	2 3/4	0.84	44.40
3/4	4	3/4	5/8	4 5/8	5/8	3 1/4	3 1/4	3 1/4	3	1.06	47.40
1	4	3/4	5/8	4 7/8	11/16	3 1/2	3 1/2	3 1/2	3 1/4	1.31	51.00
1 1/4	4	3/4	5/8	5 1/4	13/16	3 7/8	3 3/4	3 3/4	3 1/2	1.66	57.20
1 1/2	4	7/8	3/4	6 1/8	7/8	4 1/2	4	4	3 3/4	1.91	60.80
2	8	3/4	5/8	6 1/2	1	5	4	4 1/4	3 3/4	2.38	66.80
2 1/2	8	7/8	3/4	7 1/2	1 1/8	5 7/8	4 1/2	4 3/4	4 1/4	2.88	72.80
3	8	7/8	3/4	8 1/4	1 1/4	6 5/8	4 3/4	5	4 1/2	3.50	79.60
3 1/2	8	1	7/8	9	1 3/8	7 1/4	5 1/4	5 1/2	5	4.00	86.20
4	8	1	7/8	10	1 3/8	7 7/8	5 1/4	5 1/2	5	4.50	86.20
5	8	1	7/8	11	1 1/2	9 1/4	5 1/2	5 3/4	5 1/4	5.56	92.20
6	12	1	7/8	12 1/2	1 5/8	10 5/8	5 3/4	6	5 1/2	6.62	98.20
8	12	1 1/8	1	15	1 7/8	13	6 1/2	6 3/4	6 1/4	8.62	111.60
10	16	1 1/4	1 1/8	17 1/2	2 1/8	15 1/4	7 1/4	7 1/2	7	10.75	123.60
12	16	1 3/8	1 1/4	20 1/2	2 1/4	17 3/4	7 3/4	8	7 1/2	12.75	130.40
14	20	1 3/8	1 1/4	23	2 3/8	20 1/4	8	8 1/4	7 3/4	14.00	137.00
16	20	1 1/2	1 3/8	25 1/2	2 1/2	22 1/2	8 1/2	8 3/4	8 1/4	16.00	143.00
18	24	1 1/2	1 3/8	28	2 5/8	24 3/4	8 3/4	9	8 1/2	18.00	149.00
20	24	1 5/8	1 1/2	30 1/2	2 3/4	27	9 1/2	9 3/4	9 1/4	20.00	155.80
24	24	1 7/8	1 3/4	36	2 7/8	32	10 1/2	11	10 1/4	24.00	168.40

Bolting Data for Standard ASME/ANSI B16.5 Class Flanges

Bolting Data for Standard ASME/ANSI B16.5 Class Flanges

Nominal	600 PSI											
Pipe Size	Number	Bolt hole	Stud	Flange	Flange	Bolt	Stud Lgth.	Stud Lgth.	Stud Lgth.	Pipe	Grip	
(inches)	of Studs		Diameter	Diameter	Thickness	Cir. Dia.	RF	RTJ	FF	OD	Length	
1/4	4	5/8	1/2	3 3/8		2 1/4						
1/2	4	5/8	1/2	3 3/4	9/16	2 5/8	3	3	2 3/4	0.84	44.40	
3/4	4	3/4	5/8	4 5/8	5/8	3 1/4	3 1/4	3 1/4	3	1.06	47.40	
1	4	3/4	5/8	4 7/8	11/16	3 1/2	3 1/2	3 1/2	3 1/4	1.31	51.00	
1 1/4	4	3/4	5/8	5 1/4	13/16	3 7/8	3 3/4	3 3/4	3 1/2	1.66	57.20	
1 1/2	4	7/8	3/4	6 1/8	7/8	4 1/2	4	4	3 3/4	1.91	60.80	
2	8	3/4	5/8	6 1/2	1	5	4	4 1/4	3 3/4	2.38	66.80	
2 1/2	8	7/8	3/4	7 1/2	1 1/8	5 7/8	4 1/2	4 3/4	4 1/4	2.88	72.80	
3	8	7/8	3/4	8 1/4	1 1/4	6 5/8	4 3/4	5	4 1/2	3.50	79.60	
3 1/2	8	1	7/8	9	1 3/8	7 1/4	5 1/4	5 1/2	5	4.00	86.20	
4	8	1	7/8	10 3/4	1 1/2	8 1/2	5 1/2	5 3/4	5 1/4	4.50	92.20	
5	8	1 1/8	1	13	1 3/4	10 1/2	6 1/4	6 1/2	6	5.56	105.00	
6	12	1 1/8	1	14	1 7/8	11 1/2	6 1/2	6 3/4	6 1/4	6.62	111.60	
8	12	1 1/4	1 1/8	16 1/2	2 3/16	13 3/4	7 1/2	7 3/4	7 1/4	8.62	127.20	
10	16	1 3/8	1 1/4	20	2 1/2	17	8 1/4	8 1/2	8	10.75	143.00	
12	20	1 3/8	1 1/4	22	2 5/8	19 1/4	8 1/2	8 3/4	8 1/4	12.75	149.00	
14	20	1 1/2	1 3/8	23 3/4	2 3/4	20 3/4	9	9 1/4	8 3/4	14.00	155.80	
16	20	1 5/8	1 1/2	27	3	23 3/4	9 3/4	10	9 1/2	16.00	168.40	
18	20	1 3/4	1 5/8	29 1/4	3 1/4	25 3/4	10 1/2	10 3/4	10 1/4	18.00	181.20	
20	24	1 3/4	1 5/8	32	3 1/2	28 1/2	11 1/4	11 1/2	11	20.00	193.80	
24	24	2	1 7/8	37	4	33	12 3/4	13 1/4	12 1/2	24.00	219.20	

Bolting Data for Standard ASME/ANSI B16.5 Class Flanges

Bolting Data for Standard ASME/ANSI B16.5 Class Flanges

Nominal	900 PSI											
Pipe Size	Number	Bolt Hole	Stud	Flange	Flange	Bolt	Stud Lgth.	Stud Lgth.	Stud Lgth.	Pipe	Grip	
(inches)	of Studs		Diameter	Diameter	Thickness	Cir. Dia.	RF	RTJ	FF	OD	Length	
1/4												
1/2	4	7/8	3/4	4 3/4	7/8	3 1/4	4	4	3 3/4	0.84	60.60	
3/4	4	7/8	3/4	5 1/8	1	3 1/2	4 1/4	4 1/4	4	1.06	66.80	
1	4	1	7/8	5 7/8	1 1/8	4	4 3/4	4 3/4	4 1/2	1.31	72.80	
1 1/4	4	1	7/8	6 1/4	1 1/8	4 3/8	4 3/4	4 3/4	4 1/2	1.66	72.80	
1 1/2	4	1 1/8	1	7	1 1/4	4 7/8	5 1/4	5 1/4	5	1.91	79.40	
2	8	1	7/8	8 1/2	1 1/2	6 1/2	5 1/2	5 3/4	5 1/4	2.38	92.20	
2 1/2	8	1 1/8	1	9 5/8	1 1/2	7 1/2	6	6 1/4	5 3/4	2.88	98.20	
3	8	1	7/8	9 1/2	1 1/2	7 1/2	5 1/2	5 3/4	5 1/4	3.50	92.20	
3 1/2										4.00	-	
4	8	1 1/4	1 1/8	11 1/2	1 3/4	9 1/4	6 1/2	6 3/4	6 1/4	4.50	104.80	
5	8	1 3/8	1 1/4	13 3/4	2	11	7 1/4	7 1/2	7	5.56	117.60	
6	12	1 1/4	1 1/8	15	2 3/16	12 1/2	7 1/2	7 1/2	7 1/4	6.62	127.20	
8	12	1 1/2	1 3/8	18 1/2	2 1/2	15 1/2	8 1/2	8 3/4	8 1/4	8.62	143.00	
10	16	1 1/2	1 3/8	21 1/2	2 3/4	18 1/2	9	9 1/4	8 3/4	10.75	155.60	
12	20	1 1/2	1 3/8	24	3 1/8	21	9 3/4	10	9 1/2	12.75	174.40	
14	20	1 5/8	1 1/2	25 1/4	3 3/8	22	10 1/2	11	10 1/4	14.00	187.60	
16	20	1 3/4	1 5/8	27 3/4	3 1/2	24 1/4	11	11 1/2	10 3/4	16.00	193.80	
18	20	2	1 7/8	31	4	27	12 3/4	13 1/4	12 1/2	18.00	219.20	
20	20	2 1/8	2	33 3/4	4 1/4	29 1/2	13 1/2	14	13 1/4	20.00	231.80	
24	20	2 5/8	2 1/2	41	5 1/2	35 1/2	17	17 3/4	16 3/4	24.00	295.40	

Bolting Data for Standard ASME/ANSI B16.5 Class Flanges

Bolting Data for Standard ASME/ANSI B16.5 Class Flanges

Nominal	1500 PSI										
Pipe Size	Number	Bolt Hole	Stud	Flange	Flange	Bolt	Stud Lgth.	Stud Lgth.	Stud Lgth.	Pipe	Grip
(inches)	of Studs		Diameter	Diameter	Thickness	Cir. Dia.	RF	RTJ	FF	OD	Length
1/4											
1/2	4	7/8	3/4	4 3/4	7/8	3 1/4	4	4	3 3/4	0.84	60.60
3/4	4	7/8	3/4	5 1/8	1	3 1/2	4 1/4	4 1/4	4	1.05	66.80
1	4	1	7/8	5 7/8	1 1/8	4	4 3/4	4 3/4	4 1/2	1.32	72.80
1 1/4	4	1	7/8	6 1/4	1 1/8	4 3/8	4 3/4	4 3/4	4 1/2	1.66	72.80
1 1/2	4	1 1/8	1	7	1 1/4	4 7/8	5 1/4	5 1/4	5	1.90	79.40
2	8	1	7/8	8 1/2	1 1/2	6 1/2	5 1/2	5 3/4	5 1/4	2.38	92.20
2 1/2	8	1 1/8	1	9 5/8	1 5/8	7 1/2	6	6 1/4	5 3/4	2.88	98.20
3	8	1 1/4	1 1/8	10 1/2	1 7/8	8	6 3/4	7	6 1/2	3.50	111.40
3 1/2											-
4	8	1 3/8	1 1/4	12 1/4	2 1/8	9 1/2	7 1/2	7 3/4	7 1/4	4.50	123.60
5	8	1 5/8	1 1/2	14 3/4	2 7/8	11 1/2	9 1/2	9 3/4	9 1/4	5.56	162.20
6	12	1 1/2	1 3/8	15 1/2	3 1/4	12 1/2	10	10 1/4	9 3/4	6.63	181.00
8	12	1 3/4	1 5/8	19	3 5/8	15 1/2	11 1/4	11 3/4	11	8.63	199.80
10	12	2	1 7/8	23	4 1/4	19	13 1/4	13 1/2	13	10.75	231.80
12	16	2 1/8	2	26 1/2	4 7/8	22 1/2	14 3/4	15 1/4	14 1/2	12.75	263.80
14	16	2 3/8	2 1/4	29 1/2	5 1/4	25	16	16 3/4	15 3/4	14.00	282.60
16	16	2 5/8	2 1/2	32 1/2	5 3/4	27 3/4	17 1/2	18 1/2	17 1/4	16.00	308.00
18	16	2 7/8	2 3/4	36	6 3/8	30 1/2	19 1/4	20 1/4	19	18.00	340.00
20	16	3 1/8	3	38 3/4	7	32 3/4	21	22 1/4	20 3/4	20.00	371.60
24	16	3 5/8	3 1/2	46	8	39	24	25 1/2	23 3/4	24.00	422.40

