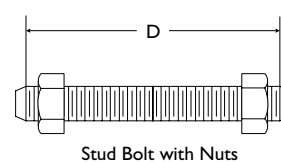
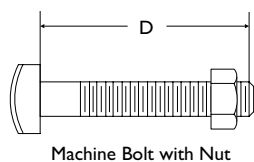
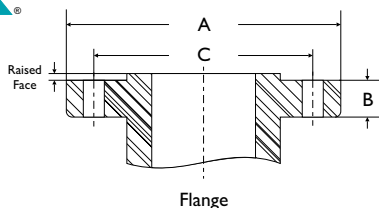




TEMPLATES FOR DRILLING & PRESSURE/TEMPERATURE RATINGS



Machine Bolt with Nut

Stud Bolt with Nuts

CLASS 125 & 150 FLANGES (3)	Pipe Size	Dia. of Flange (A)	Flange Width (B)	Dia. of Bolt Circle (C)	Dia. of Bolt Holes	No. of Bolts	Dia. of Bolts	Length of Bolts (D) (2)		
								Stud Bolts		Machine Bolts
								Raised Face .06 in	Ring Joint	Raised Face .06 in
1/2	3.50	0.38	2.38	5/8	4	1/2	2.25	---	2.00	
3/4	3.88	0.44	2.75	5/8	4	1/2	2.50	---	2.00	
1	4.25	0.50	3.12	5/8	4	1/2	2.50	3.00	2.25	
1 1/4	4.62	0.56	3.50	5/8	4	1/2	2.75	3.25	2.25	
1 1/2	5.00	0.62	3.88	5/8	4	1/2	2.75	3.25	2.50	
2	6.00	0.69	4.75	3/4	4	5/8	3.25	3.75	2.75	
2 1/2	7.00	0.81	5.50	3/4	4	5/8	3.50	4.00	3.00	
3	7.50	0.88	6.00	3/4	4	5/8	3.50	4.00	3.00	
4	9.00	0.88	7.50	3/4	8	5/8	3.50	4.00	3.00	
5	10.00	0.88	8.50	7/8	8	3/4	3.75	4.25	3.25	
6	11.00	0.94	9.50	7/8	8	3/4	4.00	4.50	3.25	
8	13.50	1.06	11.75	7/8	8	3/4	4.25	4.75	3.50	
10	16.00	1.12	14.25	1	12	7/8	4.50	5.00	4.00	
12	19.00	1.19	17.00	1	12	7/8	4.75	5.25	4.00	
14	21.00	1.31	18.75	1 1/8	12	1	5.25	5.75	4.50	
16	23.50	1.38	21.25	1 1/8	16	1	5.25	5.75	4.50	
18	25.00	1.50	22.75	1 1/4	16	1 1/8	5.75	6.25	5.00	
20	27.50	1.69	25.00	1 1/4	20	1 1/8	6.25	6.75	5.50	
24	32.00	1.81	29.50	1 3/8	20	1 1/4	6.75	7.25	6.00	

CLASS 600 FLANGES	Pipe Size	Dia. of Flange (A)	Flange Width (B)	Dia. of Bolt Circle (C)	Dia. of Bolt Holes	No. of Bolts	Dia. of Bolts	Length of Stud Bolts (D) (2)		
								Raised Face .25 in	Male & Female/Tongue & Groove	Ring Joint
								1/2	3.75	0.56
3/4	4.62	0.62	3.25	3/4	4	5/8	3.50	3.25	3.50	
1	4.88	0.69	3.50	3/4	4	5/8	3.50	3.25	3.50	
1 1/4	5.25	0.81	3.88	3/4	4	5/8	3.75	3.50	3.75	
1 1/2	6.12	0.88	4.50	7/8	4	3/4	4.25	4.00	4.25	
2	6.50	1.00	5.00	3/4	8	5/8	4.25	4.00	4.25	
2 1/2	7.50	1.12	5.88	7/8	8	3/4	4.75	4.50	4.75	
3	8.25	1.25	6.62	7/8	8	3/4	5.00	4.75	5.00	
4	10.75	1.50	8.50	1	8	7/8	5.75	5.50	5.75	
5	13.00	1.75	10.50	1 1/8	8	1	6.50	6.25	6.50	
6	14.00	1.88	11.50	1 1/8	12	1	6.75	6.50	6.75	
8	16.50	2.19	13.75	1 1/4	12	1 1/8	7.50	7.25	7.75	
10	20.00	2.50	17.00	1 3/8	16	1 1/4	8.50	8.25	8.50	
12	22.00	2.62	19.25	1 3/8	20	1 1/4	8.75	8.50	8.75	
14	23.75	2.75	20.75	1 1/2	20	1 3/8	9.25	9.00	9.25	
16	27.00	3.00	23.75	1 5/8	20	1 1/2	10.00	9.75	10.00	
18	29.25	3.25	25.75	1 3/4	20	1 5/8	10.75	10.50	10.75	
20	32.00	3.50	28.50	1 3/4	24	1 5/8	11.25	11.00	11.50	
24	37.00	4.00	33.00	2	24	1 7/8	13.00	12.75	13.25	

CLASS 250 & 300 FLANGES (3)	Pipe Size	Dia. of Flange (A)	Flange Width (B)	Dia. of Bolt Circle (C)	Dia. of Bolt Holes	No. of Bolts	Dia. of Bolts	Length of Bolts (D) (2)		
								Stud Bolts		Machine Bolts
								Raised Face .06 in	Ring Joint	Raised Face .06 in
1/2	3.75	0.50	2.62	5/8	4	1/2	2.50	3.00	2.25	
3/4	4.62	0.56	3.25	3/4	4	5/8	3.00	3.50	2.50	
1	4.88	0.62	3.50	3/4	4	5/8	3.00	3.50	2.50	
1 1/4	5.25	0.69	3.88	3/4	4	5/8	3.25	3.75	2.75	
1 1/2	6.12	0.75	4.50	7/8	4	3/4	3.50	4.00	3.00	
2	6.50	0.81	5.00	3/4	8	5/8	3.50	4.00	3.00	
2 1/2	7.50	0.94	5.88	7/8	8	3/4	4.00	4.50	3.25	
3	8.25	1.06	6.62	7/8	8	3/4	4.25	4.75	3.50	
4	10.00	1.19	7.88	7/8	8	3/4	4.50	5.00	3.75	
5	11.00	1.31	9.25	7/8	8	3/4	4.75	5.25	4.25	
6	12.50	1.38	10.62	7/8	12	3/4	4.75	5.50	4.25	
8	15.00	1.56	13.00	1	12	7/8	5.50	6.00	4.75	
10	17.50	1.81	15.25	1 1/8	16	1	6.25	6.75	5.50	
12	20.50	1.94	17.75	1 1/4	16	1 1/8	6.75	7.25	5.75	
14	23.00	2.06	20.25	1 1/4	20	1 1/8	7.00	7.50	6.25	
16	25.50	2.19	22.50	1 3/8	20	1 1/4	7.50	8.00	6.50	
18	28.00	2.31	24.75	1 3/8	24	1 1/4	7.75	8.25	6.75	
20	30.50	2.44	27.00	1 3/8	24	1 1/4	8.00	8.75	7.25	
24	36.00	2.69	32.00	1 5/8	24	1 1/2	9.00	10.00	8.00	

CLASS 900 FLANGES	Pipe Size	Dia. of Flange (A)	Flange Width (B)	Dia. of Bolt Circle (C)	Dia. of Bolt Holes	No. of Bolts	Dia. of Bolts	Length of Stud Bolts (D) (2)		
								Raised Face .25 in	Male & Female/Tongue & Groove	Ring Joint
								1/2	4.75	0.88
3/4	5.12	1.00	3.50	7/8	4	3/4	4.50	4.25	4.50	
1	5.88	1.12	4.00	1	4	7/8	5.00	4.75	5.00	
1 1/4	6.25	1.12	4.38	1	4	7/8	5.00	4.75	5.00	
1 1/2	7.00	1.25	4.88	1 1/8	4	1	5.50	5.25	5.50	
2	8.50	1.50	6.50	1	8	7/8	5.75	5.50	5.75	
2 1/2	9.62	1.62	7.50	1 1/8	8	1	6.25	6.00	6.25	
3	9.50	1.50	7.50	1	8	7/8	5.75	5.50	5.75	
4	11.50	1.75	9.25	1 1/4	8	1 1/8	6.75	6.50	6.75	
5	13.75	2.00	11.00	1 3/8	8	1 1/4	7.50	7.25	7.50	
6	15.00	2.19	12.50	1 1/4	12	1 1/8	7.50	7.25	7.75	
8	18.50	2.50	15.50	1 1/2	12	1 3/8	8.75	8.50	8.75	
10	21.50	2.75	18.50	1 1/2	16	1 3/8	9.25	9.00	9.25	
12	24.00	3.12	21.00	1 1/2	20	1 3/8	10.00	9.75	10.00	
14	25.25	3.38	22.00	1 5/8	20	1 1/2	10.75	10.50	11.00	
16	27.75	3.50	24.25	1 3/4	20	1 5/8	11.25	11.00	11.50	
18	31.00	4.00	27.00	2	20	1 7/8	12.75	12.50	13.25	
20	33.75	4.25	29.50	2 1/8	20	2	13.75	13.50	14.25	
24	41.00	5.50	35.50	2 5/8	20	2 1/2	17.25	17.00	18.00	

- Flange width 'B' dimension does not include raised face.
- Bolt length 'D' does not include point height.
- Cast Iron Class 125 & 250 have the same bolting pattern as Class 150 & 300, respectively. The only difference is Cast Iron flanges are flat faced and are 1/16 inch thicker.
- Class 150 and 300 Flanged Strainers are regularly furnished with 1/16 inch high raised face.
- Class 600 and higher Flanged Strainers are regularly furnished with 1/4 inch high raised face.
- Facing per ANSI/MSS SP-6.
- Machine and Stud Bolt Lengths are based upon mating raised face flanges not RTJ flanges.

Titan FCI makes every effort to ensure the information presented on our literature accurately reflects exact product specifications. However, as product changes occur, there may be short-term differences between actual product specifications and the information contained within our literature. Titan FCI reserves the right to make design and specification changes to improve our products without prior notification.

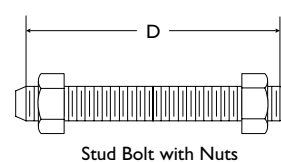
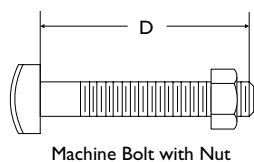
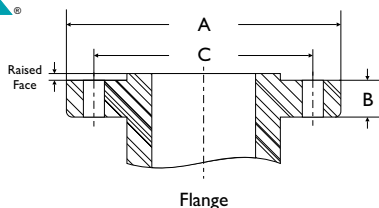
When required, request certified drawings.

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TEMPLATES FOR DRILLING & PRESSURE/TEMPERATURE RATINGS



Machine Bolt with Nut

Stud Bolt with Nuts

Pipe Size	Dia. of Flange (A)	Flange Width (B)	Dia. of Bolt Circle (C)	Dia. of Bolt Holes	No. of Bolts	Dia. of Bolts	Length of Stud Bolts (D) (2)		
							Raised Face .25 in	Male & Female/Tongue & Groove	Ring Joint
1/2	4.75	0.88	3.25	7/8	4	3/4	4.25	4.00	4.25
3/4	5.12	1.00	3.50	7/8	4	3/4	4.50	4.25	4.50
1	5.88	1.12	4.00	1	4	7/8	5.00	4.75	5.00
1 1/4	6.25	1.12	4.38	1	4	7/8	5.00	4.75	5.00
1 1/2	7.00	1.25	4.88	1 1/8	4	1	5.50	5.25	5.50
2	8.50	1.50	6.50	1	8	7/8	5.75	5.50	5.75
2 1/2	9.62	1.62	7.50	1 1/8	8	1	6.25	6.00	6.25
3	10.50	1.88	8.00	1 1/4	8	1 1/8	7.00	6.75	7.00
4	12.25	2.12	9.50	1 3/8	8	1 1/4	7.75	7.50	7.75
5	14.75	2.88	11.50	1 5/8	8	1 1/2	9.75	9.50	9.75
6	15.50	3.25	12.50	1 1/2	12	1 3/8	10.25	10.00	10.50
8	19.00	3.62	15.50	1 3/4	12	1 5/8	11.50	11.25	12.75
10	23.00	4.25	19.00	2	12	1 7/8	13.25	13.00	13.50
12	26.50	4.88	22.50	2 1/8	16	2	14.75	14.50	15.25
14	29.50	5.25	25.00	2 3/8	16	2 1/4	16.00	15.75	16.75
16	32.50	5.75	27.75	2 5/8	16	2 1/2	17.50	17.25	18.50
18	36.00	6.38	30.50	2 7/8	16	2 3/4	19.50	19.25	20.75
20	38.75	7.00	32.75	3 1/8	16	3	21.25	21.00	22.25
24	46.00	8.00	39.00	3 5/8	16	3 1/2	24.25	24.00	25.50

Pipe Size	Dia. of Flange (A)	Flange Width (B)	Dia. of Bolt Circle (C)	Dia. of Bolt Holes	No. of Bolts	Dia. of Bolts	Length of Stud Bolts (D) (2)		
							Raised Face .25 in	Male & Female/Tongue & Groove	Ring Joint
1/2	5.25	1.19	3.50	7/8	4	3/4	4.75	4.50	4.75
3/4	5.50	1.25	3.75	7/8	4	3/4	5.00	4.75	5.00
1	6.25	1.38	4.25	1	4	7/8	5.50	5.25	5.50
1 1/4	7.25	1.50	5.12	1 1/8	4	1	6.00	5.75	6.00
1 1/2	8.00	1.75	5.75	1 1/4	4	1 1/8	6.75	6.50	6.75
2	9.25	2.00	6.75	1 1/8	8	1	7.00	6.75	7.00
2 1/2	10.50	2.25	7.75	1 1/4	8	1 1/8	7.75	7.50	8.00
3	12.00	2.62	9.00	1 3/8	8	1 1/4	8.75	8.50	9.00
4	14.00	3.00	10.75	1 5/8	8	1 1/2	10.00	9.75	10.25
5	16.50	3.62	12.75	1 7/8	8	1 3/4	11.75	11.50	12.25
6	19.00	4.25	14.50	2 1/8	8	2	13.50	13.25	14.00
8	21.75	5.00	17.25	2 1/8	12	2	15.00	14.75	15.50
10	26.50	6.50	21.25	2 5/8	12	2 1/2	19.25	19.00	20.00
12	30.00	7.25	24.38	2 7/8	12	2 3/4	21.25	21.00	22.00
14	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---

Material	End Connection	Pressure Class	WOG (water, oil, gas)		Max Liquid
			Max Saturated Steam	Max Liquid	
Cast Iron	Threaded	ANSI 250	400 psi @ 150 °F	250 psi @ 406 °F	250 psi @ 406 °F
Cast Iron: 2" - 12"	Flanged	ANSI 125	200 psi @ 150 °F	125 psi @ 353 °F	125 psi @ 450 °F
Cast Iron: 14" - 24"	Flanged	ANSI 125	150 psi @ 150 °F	100 psi @ 353 °F	100 psi @ 353 °F
Cast Iron: 2" - 12"	Flanged	ANSI 250	500 psi @ 150 °F	250 psi @ 406 °F	250 psi @ 450 °F
Cast Iron: 14" - 24"	Flanged	ANSI 250	300 psi @ 150 °F	200 psi @ 387 °F	200 psi @ 406 °F
Ductile Iron	Flanged	ANSI 150	250 psi @ 100 °F	150 psi @ 366 °F	125 psi @ 650 °F
Ductile Iron	Flanged	ANSI 300	640 psi @ 100 °F	300 psi @ 420 °F	450 psi @ 650 °F
Bronze	Threaded	ANSI 125	200 psi @ 150 °F	125 psi @ 353 °F	125 psi @ 400 °F
Bronze	Threaded	ANSI 250	400 psi @ 150 °F	250 psi @ 406 °F	250 psi @ 400 °F
Bronze	Flanged	ANSI 150	225 psi @ 150 °F	150 psi @ 366 °F	135 psi @ 406 °F
Bronze	Flanged	ANSI 300	500 psi @ 150 °F	300 psi @ 420 °F	280 psi @ 406 °F
Carbon Steel	Threaded & Socket Weld	ANSI 300	740 psi @ 100 °F	300 psi @ 420 °F	400 psi @ 800 °F
Carbon Steel	Threaded & Socket Weld	ANSI 600	1480 psi @ 100 °F	600 psi @ 489 °F	825 psi @ 800 °F
Carbon Steel	Threaded & Socket Weld	ANSI 1500	3705 psi @ 100 °F	1500 psi @ 603 °F	2060 psi @ 800 °F
Carbon Steel	Flanged & Butt Weld	ANSI 150	285 psi @ 100 °F	150 psi @ 366 °F	80 psi @ 800 °F
Carbon Steel	Flanged & Butt Weld	ANSI 300	740 psi @ 100 °F	300 psi @ 420 °F	400 psi @ 800 °F
Carbon Steel	Flanged & Butt Weld	ANSI 600	1480 psi @ 100 °F	600 psi @ 489 °F	825 psi @ 800 °F
Carbon Steel	Flanged & Butt Weld	ANSI 900	2220 psi @ 100 °F	900 psi @ 534 °F	1225 psi @ 800 °F
Carbon Steel	Flanged & Butt Weld	ANSI 1500	3705 psi @ 100 °F	1500 psi @ 603 °F	2060 psi @ 800 °F
Carbon Steel	Flanged & Butt Weld	ANSI 2500	6170 psi @ 100 °F	2500 psi @ 673 °F	3430 psi @ 800 °F
Stainless Steel	Threaded & Socket Weld	ANSI 300	720 psi @ 100 °F	300 psi @ 420 °F	350 psi @ 1000 °F
Stainless Steel	Threaded & Socket Weld	ANSI 600	1440 psi @ 100 °F	600 psi @ 489 °F	700 psi @ 1000 °F
Stainless Steel	Threaded & Socket Weld	ANSI 1500	3600 psi @ 100 °F	1500 psi @ 603 °F	1750 psi @ 1000 °F
Stainless Steel	Flanged & Butt Weld	ANSI 150	275 psi @ 100 °F	150 psi @ 366 °F	20 psi @ 1000 °F
Stainless Steel	Flanged & Butt Weld	ANSI 300	720 psi @ 100 °F	300 psi @ 420 °F	350 psi @ 1000 °F
Stainless Steel	Flanged & Butt Weld	ANSI 600	1440 psi @ 100 °F	600 psi @ 489 °F	700 psi @ 1000 °F
Stainless Steel	Flanged & Butt Weld	ANSI 900	2160 psi @ 100 °F	900 psi @ 534 °F	1050 psi @ 1000 °F
Stainless Steel	Flanged & Butt Weld	ANSI 1500	3600 psi @ 100 °F	1500 psi @ 603 °F	1750 psi @ 1000 °F
Stainless Steel	Flanged & Butt Weld	ANSI 2500	6000 psi @ 100 °F	2500 psi @ 673 °F	2915 psi @ 1000 °F