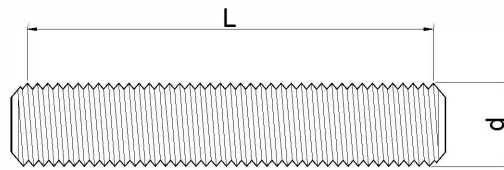
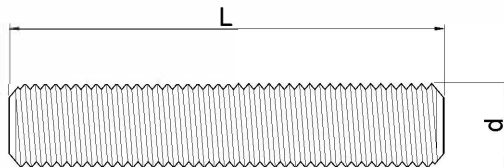


STUD BOLTS



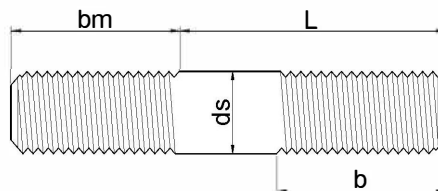
STUD BOLT FOR PRESSURE-TEMPERATURE PIPING (ANSI B16.5-1968)

L [d = 1/2" up to 6"]		TOLERANCE ON STUD LENGTHS	
Equal to 12" and under		±1/16"	
Over 12" to 18"		±1/8"	
Over 18"		±1/4"	
L = length of first thread to first thread not including point length of both ends			
d [Nominal Size or Diameter]		1" and under	Over 1"
THREAD	INCH	Unified Coarse Thread Series, Class 2A	Unified 8-thread Series, Class 2A
	METRIC	Shall conform to ISO R68 / JIS B0209	Shall conform to ISO R68 / JIS B0209



CONTINUOUS THREAD STUDS (ANSI B16.5)

DIAMETER(d)	LENGTH(L)	TOLERANCE ON STUD LENGTHS	
		L ≤ 6"	L > 6"
Over 5/16" To 3/4"	Over 5/16" To 3/4"	±1/16	±1/8
	Over 3/4" To 1-1/4"	±1/8	±3/16
	Over 1-1/4"	±1/4	±1/4

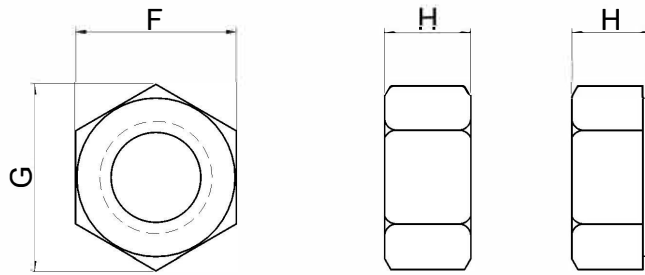


METRIC (KS B1037, JIS B1173)

(UNIT : mm)

Size	Pitch		d _s		b(L≤125mm)			b _m					
	Coarse	Fine	Max	Min	Min	Max	Fine	Class 1		Class 2		Class 3	
								Min	Max	Min	Max	Min	Max
M4	0.7	-	4	3.82	14	15.4	-	-	-	6	6.75	8	8.9
M5	0.8	-	5	4.82	16	17.6	-	-	-	7	7.9	10	10.9
M6	1	-	6	5.82	18	20	-	-	-	8	8.9	12	13.1
M8	1.25	-	8	7.78	22	24.5	-	-	-	11	12.1	16	17.1
M10	1.5	1.25	10	9.78	26	29	28.5	12	13.1	15	16.1	20	21.3
M12	1.75	1.5	12	11.73	30	33.5	32.5	15	16.1	18	19.1	24	25.3
M14	2	1.5	14	13.73	34	38	37	18	19.1	21	22.3	28	29.3
M16	2	1.5	16	15.73	38	42	41	20	21.3	24	25.3	32	33.6
M18	2.5	1.5	18	17.73	42	47	45	22	23.3	27	28.3	36	37.6
M20	2.5	1.5	20	19.6	46	51	49	25	26.3	30	31.6	40	41.6

STUD NUTS



HEAVY HEX. NUT (ANSI B18.2.4.6M)

(UNIT : mm)

Diameter	F(A/F)		G(A/C)		H(Thickness)	
	Max	Min	Max	Min	Max	Min
M12 x 1.75	21.00	20.16	24.25	22.78	12.3	11.9
M14 x 2.0	24.00	23.16	27.71	26.17	14.3	13.6
M16 x 2.0	27.00	26.16	31.18	29.56	17.1	16.4
M20 x 2.5	34.00	33.00	39.26	37.29	20.7	19.4
M22 x 2.5	36.00	35.00	41.57	39.55	23.6	22.3
M24 x 3.0	41.00	40.00	47.34	45.20	24.2	22.9
M27 x 3.0	46.00	45.00	53.12	50.85	27.6	26.3
M30 x 3.0	50.00	49.00	57.74	55.37	30.7	29.1
M36 x 3.0	60.00	58.80	69.28	66.44	36.6	35.0
M42 x 3.0	70.00	67.90	80.83	77.41	42.0	40.4
M48 x 3.0	80.00	77.60	92.38	88.46	48.0	46.4
M56 x 3.0	90.00	87.20	103.92	99.41	56.0	54.1
M64 x 3.0	100.00	96.80	115.47	110.35	64.0	62.1
M72 x 3.0	110.00	106.40	127.02	121.30	72.0	70.1
M80 x 3.0	120.00	116.00	138.56	132.24	80.0	78.1
M90 x 3.0	135.00	130.50	155.88	148.77	90.0	87.8
M100 x 3.0	150.00	145.00	173.21	165.30	100.0	97.8

HEAVY HEX. NUT (ANSI B18.2.2)

(UNIT : Inch)

Diameter	T.P.I	F(A/F)		G(A/C)		H(Thickness)	
		Max	Min	Max	Min	Max	Min
1/2	13UNC	0.875	0.850	1.010	0.969	0.504	0.464
5/8	11UNC	1.062	1.031	1.227	1.175	0.631	0.587
3/4	10UNC	1.250	1.212	1.443	1.382	0.758	0.710
7/8	9UNC	1.438	1.394	1.660	1.589	0.885	0.833
1	8UNC	1.625	1.575	1.876	1.796	1.012	0.956
1.1/8	8UN	1.812	1.756	2.093	2.002	1.139	1.079
1.1/4	8UN	2.000	1.938	2.309	2.209	1.251	1.187
1.3/8	8UN	2.188	2.119	2.526	2.416	1.378	1.310
1.1/2	8UN	2.375	2.300	2.742	2.622	1.505	1.433
1.5/8	8UN	2.562	2.481	2.959	2.828	1.632	1.556
1.3/4	8UN	2.750	2.662	3.175	3.035	1.759	1.679
1.7/8	8UN	2.938	2.844	3.392	3.242	1.886	1.802
2	8UN	3.125	3.025	3.608	3.449	2.013	1.925
2.1/4	8UN	3.500	3.388	4.041	3.862	2.251	2.155
2.1/2	8UN	3.875	3.750	4.474	4.275	2.505	2.401
2.3/4	8UN	4.250	4.112	4.907	4.688	2.759	2.647
3	8UN	4.625	4.475	5.340	5.102	3.013	2.893
3.1/4	8UN	5.000	4.838	5.774	5.515	3.252	3.124
3.1/2	8UN	5.375	5.200	6.207	5.928	3.506	3.370
3.3/4	8UN	5.750	5.562	6.640	6.341	3.760	3.616
4	8UN	6.125	5.925	7.073	6.775	4.014	3.862