

• Machine Screw Threads - Metric Threads

Nominal Size	Pitch	Class 1 (4h)	Class 2 (6g)
M2	0.4	1.71~1.73	1.67~1.70
M2.2	0.45	1.88~1.90	1.83~1.87
M2.3	0.4	2.01~2.03	1.97~2.00
M2.5	0.45	2.18~2.20	2.13~2.17
	0.35	2.24~2.26	2.20~2.23
M2.6	0.45	2.27~2.30	2.23~2.27
M3	0.6	2.57~2.60	2.52~2.56
	0.5	2.64~2.67	2.60~2.63
	0.35	2.72~2.75	2.69~2.72
M3.5	0.6	3.08~3.10	3.03~3.06
	0.35	3.24~3.26	3.20~3.22
M4	0.75	3.47~3.50	3.41~3.45
	0.7	3.51~3.54	3.46~3.50
	0.5	3.63~3.66	3.57~3.61
M4.5	0.75	3.98~4.00	3.92~3.96
	0.5	4.13~4.16	4.07~4.11
M5	0.9	4.37~4.40	4.30~4.35
	0.8	4.44~4.47	4.39~4.43
	0.5	4.62~4.65	4.56~4.60
M5.5	0.5	5.12~5.15	5.06~5.10
M6	1	5.31~5.35	5.25~5.30
	0.75	5.47~5.50	5.41~5.46
	0.5	5.62~5.65	5.56~5.61
M7	1	6.31~6.34	6.25~6.30
	0.75	6.47~6.50	6.41~6.46
	0.5	6.62~6.65	6.56~6.61
M8	1.25	7.14~7.18	7.07~7.13
	1	7.31~7.34	7.25~7.30
	0.75	7.46~7.49	7.40~7.45
M9	1.25	8.14~8.18	8.07~8.13
	1	8.30~8.34	8.24~8.29
	0.75	8.47~8.50	8.40~8.45
M10	1.5	8.99~9.03	8.91~8.97
	1.25	9.14~9.18	9.07~9.13
	1	9.30~9.34	9.23~9.29
	0.75	9.47~9.50	9.41~9.46
M11	1.5	9.98~10.02	9.91~9.97
	1.25	10.12~10.16	10.05~10.11
	1	10.30~10.34	10.23~10.29
	0.75	10.46~10.50	10.41~10.46
M12	1.75	10.82~10.87	10.73~10.80
	1.5	10.97~11.02	10.89~10.96
	1.25	11.13~11.18	11.06~11.12
	1	11.29~11.33	11.21~11.27
M14	2	12.66~12.71	12.57~12.64
	1.5	12.97~13.02	12.89~12.96
	1.25	13.08~13.12	13.01~13.07
	1	13.29~13.33	13.21~13.27
M15	1.5	13.97~14.02	13.89~13.96
	1	14.29~14.33	14.21~14.27

unit : mm

Nominal Size	Pitch	Class 1 (4h)	Class 2 (6g)
M16	2	14.65~14.70	14.56~14.63
	1.5	14.98~15.02	14.89~14.95
	1	15.29~15.33	15.21~15.27
M17	1.5	15.97~16.01	15.89~15.96
	1	16.29~16.33	16.22~16.28
M18	2.5	16.33~16.39	16.23~16.31
	2	16.65~16.70	16.54~16.62
	1.5	16.96~17.01	16.86~16.93
M20	1	17.28~17.32	17.20~17.26
	2.5	18.33~18.39	18.23~18.31
	2	18.65~18.70	18.54~18.62
M22	1.5	18.96~19.01	18.86~18.93
	1	19.28~19.32	19.20~19.26
	2.25	20.33~20.38	20.23~20.31
M24	2	20.64~20.69	20.53~20.61
	1.5	20.96~21.01	20.86~20.93
	1	21.28~21.32	21.20~21.26
M25	3	22.01~22.07	21.90~21.98
	2	22.62~22.68	22.51~22.59
	1.5	22.95~23.00	22.85~22.93
M26	1	23.28~23.32	23.20~23.26
	2	23.63~23.69	23.52~23.60
	1.5	23.95~24.00	23.85~23.93
M27	1	24.28~24.32	24.20~24.26
	1.5	24.95~25.00	24.85~24.93
	3	25.00~25.06	24.89~24.95
M28	2	25.63~25.69	25.53~25.62
	1.5	25.95~26.00	25.85~25.93
	1	26.29~26.33	26.22~26.28
M30	2	26.63~26.69	26.52~26.60
	1.5	26.95~27.00	26.85~26.93
	1	27.28~27.32	27.20~27.26
	3.5	27.68~27.75	27.56~27.66
M32	3	27.99~28.06	27.87~27.97
	2	28.63~28.68	28.52~28.60
	1.5	28.95~29.00	28.85~28.93
	1	29.28~29.32	29.20~29.26
M33	2	30.63~30.68	30.51~30.59
	1.5	30.95~31.00	30.85~30.93
	3.5	30.68~30.74	30.56~30.65
M35	3	30.99~31.05	30.87~30.97
	2	31.63~31.68	31.53~31.61
	1.5	31.95~32.00	31.85~31.93
M36	1.5	33.95~34.00	33.85~33.93
	4	33.37~33.43	33.23~33.33
	3	33.99~34.05	33.87~33.97
M38	2	34.63~34.68	34.51~34.59
	1.5	34.95~35.00	34.85~34.93
	1.5	36.95~37.00	36.85~36.93

• Machine Screw Threads - Unified Threads

Nominal Size	Pitch	Class 3A	Class 2A
NO. 3	48	2.15~2.17	2.11~2.14
	56	2.19~2.21	2.16~2.19
NO. 4	40	2.41~2.43	2.38~2.41
	48	2.48~2.50	2.44~2.47
NO. 5	40	2.74~2.76	2.70~2.73
	44	2.77~2.79	2.74~2.77
NO. 6	32	2.97~2.99	2.93~2.96
	40	3.07~3.09	3.03~3.06
NO. 8	32	3.62~3.64	3.58~3.61
	36	3.68~3.70	3.64~3.67
NO. 10	24	4.12~4.14	4.07~4.10
	32	4.28~4.30	4.24~4.27
NO. 12	24	4.77~4.80	4.73~4.76
	28	4.87~4.89	4.82~4.85
	32	4.94~4.96	4.90~4.93
U 1/4	20	5.50~5.53	5.45~5.50
	28	5.72~5.75	5.68~5.72
	32	5.80~5.82	5.75~5.78
U 5/16	18	6.99~7.03	6.93~6.98
	20	7.08~7.11	7.02~7.06
	24	7.21~7.24	7.16~7.20
	28	7.31~7.33	7.26~7.30
	32	7.38~7.40	7.34~7.37
U 3/8	16	8.46~8.50	8.40~8.45
	20	8.66~8.69	8.60~8.65
	24	8.79~8.83	8.74~8.79
	28	8.89~8.92	8.84~8.88
U 7/16	32	8.97~8.99	8.92~8.95
	14	9.90~9.94	9.83~9.89
	16	10.04~10.08	9.98~10.03
	20	10.24~10.28	10.18~10.23
	28	10.47~10.50	10.42~10.46
U 1/2	32	10.55~10.58	10.50~10.54
	13	11.39~11.44	11.32~11.39
	16	11.62~11.66	11.56~11.61
	20	11.82~11.86	11.76~11.82
	28	12.06~12.09	12.01~12.05
U 9/16	32	12.13~12.16	12.09~12.13
	12	12.87~12.92	12.80~12.87
	16	12.21~13.25	13.14~13.19
	18	13.32~13.36	13.25~13.31
	20	13.41~13.45	13.35~13.40
	24	13.62~13.65	13.49~13.53
	28	13.65~13.67	13.60~13.64
U 5/8	32	13.72~13.75	13.67~13.71
	11	14.34~14.39	14.26~14.33
	12	14.46~14.50	14.38~14.44
	16	14.79~14.83	14.72~14.78
	18	14.90~14.95	14.83~14.89
	20	14.99~15.03	14.93~14.98
24	15.13~15.16	15.08~15.12	

unit : mm

Nominal Size	Pitch	Class 3A	Class 2A
U 5/8	28	15.23~15.26	15.18~15.22
	32	15.31~15.34	15.26~15.30
U 11/16	12	16.04~16.08	15.97~16.03
	16	16.38~16.42	16.31~16.36
	20	16.58~16.62	16.52~16.57
	24	16.72~16.75	16.66~16.71
	28	16.82~16.85	16.77~16.81
U 3/4	32	16.89~16.92	16.84~16.88
	10	17.38~17.43	17.27~17.34
	12	17.62~17.67	17.54~17.61
	16	17.96~18.00	17.89~17.95
	20	18.16~18.20	18.10~18.16
	28	18.40~18.44	18.35~18.40
U 13/16	32	18.48~18.51	18.43~18.47
	12	19.21~19.26	19.13~19.20
	16	19.55~19.59	19.48~19.54
	20	19.75~19.79	19.69~19.75
	28	19.99~20.03	19.93~19.98
U 7/8	32	20.07~20.10	20.02~20.06
	9	20.37~20.42	20.26~20.33
	12	20.79~20.84	20.71~20.78
	14	20.98~21.03	20.91~20.98
	16	21.13~21.18	21.06~21.12
	20	21.34~21.38	21.27~21.33
U 15/16	28	21.57~21.61	21.52~21.57
	32	21.60~21.69	21.60~21.64
	12	22.38~22.43	22.29~22.36
	16	22.71~22.76	22.65~22.71
	20	22.92~22.96	22.86~22.92
U 1	28	23.16~23.20	23.11~23.16
	32	23.24~23.27	23.19~23.23
	8	23.29~23.35	23.20~23.27
	12	23.96~24.01	23.87~23.95
	16	24.30~24.35	24.23~24.29
U 1 1/16	20	24.51~24.55	24.44~24.50
	28	24.75~24.79	24.69~24.74
	32	24.83~24.86	24.77~24.82
	8	24.87~24.94	24.78~24.86
	12	25.55~25.60	25.47~25.54
	16	25.89~25.94	25.82~25.88
U 1 1/8	18	26.00~26.05	25.91~26.00
	20	26.10~26.14	26.03~26.09
	28	26.33~26.37	26.28~26.33
	7	26.17~26.24	26.08~26.15
	8	26.45~26.52	26.36~26.44
U 1 1/4	12	27.13~27.19	27.05~27.12
	16	27.48~27.53	27.41~27.47
	18	27.59~27.64	27.53~27.59
	20	27.68~27.73	27.62~27.68
	28	27.92~27.96	27.87~27.92

Whitworth Threads

unit : mm

Nominal Size	TPI	Class		
		Class 2	Class 3	
W	3/16	24	4.05~4.08	4.02~4.06
	1/4	20	5.46~5.51	5.42~5.49
	5/16	18	6.95~7.01	6.91~6.99
W	3/8	16	8.41~8.48	8.37~8.46
	7/16	14	9.85~9.92	9.81~9.90
	1/2	12	11.25~11.31	11.19~11.29
	9/16	12	12.82~12.89	12.77~12.87
W	5/8	11	14.29~14.36	14.24~14.34
	3/4	10	17.30~17.38	17.25~17.36
	7/8	9	20.29~20.38	20.23~20.35
	1	8	23.25~23.34	23.19~23.31
	1 1/8	7	26.12~26.21	26.05~26.18
W	1 1/4	7	29.29~29.38	29.22~29.35
	1 3/8	6	32.06~32.17	31.99~32.13
	1 1/2	6	35.23~35.34	35.16~35.30

Parallel Pipe Threads

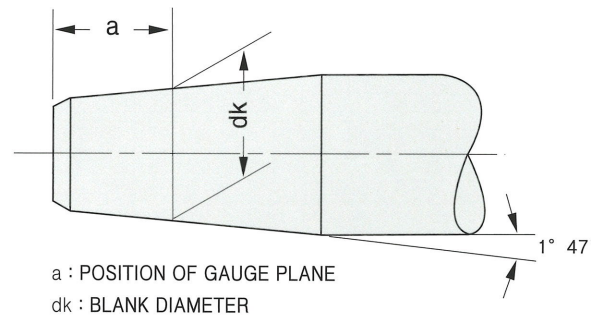
unit : mm

Nominal Size	TPI	Class		
		Class A	Class B	
PF	1/8	28	9.05~9.10	8.94~9.04
	1/4	19	12.19~12.25	12.07~12.19
	3/8	19	15.69~15.76	15.57~15.69
	1/2	14	19.67~19.74	19.53~19.67
	5/8	14	21.61~21.69	21.48~21.62
PF	3/4	14	25.15~25.22	25.01~25.15
	7/8	14	28.91~28.98	28.77~28.91
	1	11	31.61~31.70	31.43~31.61
	1 1/8	11	36.25~36.34	36.05~36.23
PF	1 1/4	11	40.27~40.36	40.09~40.27
	1 1/2	11	46.16~46.25	45.98~46.16
	1 3/4	11	52.10~52.19	51.92~52.10
2	11	57.97~58.06	57.79~57.97	

Taper Pipe Threads

unit : mm

Nominal Size	PT		PS
	a	dk	
1/8 - 28	3.97	9.10~9.16	8.92~9.00
1/4 - 19	6.01	12.24~12.32	12.00~12.10
3/8 - 19	6.35	15.74~15.82	15.51~15.62
1/2 - 14	8.16	19.70~19.81	19.43~19.55
3/4 - 14	9.53	25.18~25.29	24.90~25.03
1 - 11	10.39	31.65~31.79	31.30~31.45
1 1/4 - 11	12.70	40.31~40.45	39.98~40.12
1 1/2 - 11	12.70	46.20~46.34	45.88~46.02
2 - 11	15.88	58.01~58.15	57.66~57.82



Taper Pipe Threads, USA

unit : mm

Nominal Size	NPT		NPSC	NPSM
	a	dk		
1/16 - 27	4.064	7.10~7.16	-	-
1/8 - 27	4.102	9.44~9.50	9.41~9.50	9.38~9.42
1/4 - 18	5.786	12.42~12.50	12.37~12.50	12.36~12.41
3/8 - 18	6.096	15.85~15.94	15.81~15.94	15.78~15.84
1/2 - 14	8.128	19.68~19.79	19.62~19.79	19.62~19.69
3/4 - 14	8.611	25.02~25.13	24.96~25.13	24.96~25.02
1 - 11.5	10.160	31.34~31.48	31.27~31.48	31.29~31.36
1 1/4 - 11.5	10.668	40.09~40.23	40.02~40.23	40.03~40.11
1 1/2 - 11.5	10.668	46.16~46.30	46.09~46.30	46.10~46.17
2 - 11.5	11.074	58.20~58.33	58.13~58.33	58.13~58.21

Tapping Screw Threads

Size	Blank	MAX	MIN
Tapping Screw Type "1" - JIS			
M2.0~32		1.68	1.65
M2.3~32		1.90	1.88
M2.5~28		2.04	2.01
M2.6~28		2.14	2.12
M3.0~24		2.46	2.43
M3.5~18		2.85	2.81
M4.0~16		3.28	3.24
M4.5~14		3.64	3.60
M5.0~12		4.02	3.98
M6.0~10		4.83	4.79
M8.0~9		6.52	6.48

Size	Blank	MAX	MIN
Tapping Screw Type "A" - ANSI			
NO. 0~40		1.18	1.16
NO. 1~32		1.46	1.43
NO. 2~32		1.76	1.73
NO. 3~28		2.08	2.05
NO. 4~24		2.29	2.26
NO. 5~20		2.61	2.58
NO. 6~18		2.81	2.78
NO. 7~16		3.15	3.12
NO. 8~15		3.35	3.32
NO. 10~12		3.74	3.71
NO. 12~11		4.43	4.39
NO. 14~10		5.08	5.04
NO. 16~10		5.57	5.53

Size	Blank	MAX	MIN
Wood Screw - JIS			
M2.1~1.0P		1.69	1.66
M2.4~1.1P		1.88	1.85
M2.7~1.2P		2.12	2.09
M3.1~1.3P		2.48	2.45
M3.5~1.4P		2.83	2.79
M3.8~1.6P		3.00	2.96
M4.1~1.8P		3.22	3.18
M4.5~1.9P		3.52	3.48
M4.8~2.1P		3.78	3.74
M5.1~2.2P		4.00	3.96
M5.5~2.4P		4.31	4.27
M5.8~2.6P		4.54	4.50
M6.2~2.7P		4.84	4.80
M6.8~3.1P		5.33	5.28
M7.5~3.3P		5.86	5.81
M8.0~3.3P		6.25	6.20
M9.5~3.8P		7.52	7.47

Size	Blank	MAX	MIN
Tapping Screw Type "LAG" - ANSI			
NO. 10~11		3.70	3.65
1/4~10		5.10	5.05
5/16~9		6.55	6.50
3/8~7		7.70	7.65
7/16~7		9.30	9.25
1/2~6		10.55	10.50
5/8~5		13.25	13.20
3/4~4.5		16.10	16.05

Size	Blank	MAX	MIN
Tapping Screw Type "2", "4" - JIS			
M2.0~40		1.64	1.61
M2.3~32		1.88	1.85
M2.5~28		2.05	2.02
M2.6~28		2.15	2.12
M3.0~24		2.46	2.43
M3.5~20		2.89	2.85
M4.0~18		3.26	3.22
M4.5~16		3.66	3.62
M5.0~16		4.09	4.05
M6.0~14		4.95	4.91
M8.0~12		6.67	6.63

Size	Blank	MAX	MIN
Tapping Screw Type "AB", "B" - ANSI			
NO. 0~48		1.18	1.15
NO. 1~42		1.51	1.48
NO. 2~32		1.78	1.75
NO. 3~28		2.08	2.04
NO. 4~24		2.31	2.28
NO. 5~20		2.60	2.56
NO. 6~20		2.83	2.79
NO. 7~19		3.16	3.12
NO. 8~18		3.37	3.33
NO. 10~16		3.89	3.85
NO. 12~14		4.43	4.39
1/4~14		5.20	5.15
5/6~12		6.68	6.63

Size	Blank	MAX	MIN
Wood Screw - ANSI			
NO. 0~32		1.21	1.18
NO. 1~28		1.53	1.50
NO. 2~26		1.74	1.72
NO. 3~24		2.04	2.00
NO. 4~22		2.28	2.24
NO. 5~20		2.53	2.50
NO. 6~18		2.82	2.77
NO. 7~16		3.07	3.03
NO. 8~15		3.35	3.30
NO. 9~14		3.55	3.51
NO. 10~13		3.79	3.75
NO. 12~11		4.34	4.30
NO. 14~10		4.86	4.82
NO. 16~9		5.40	5.35
NO. 18~8		5.85	5.80
NO. 20~8		6.48	6.43
NO. 24~7		7.50	7.45

