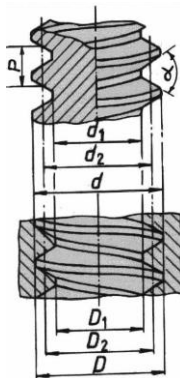


THREADS

INFORMATION ON STANDARD M, UNC, PIPE THREADS (G) & WHITWORTH PLUS PITCH DIAMETER TOLERANCES



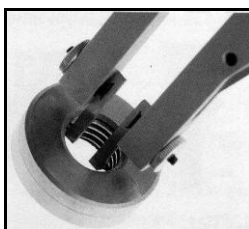
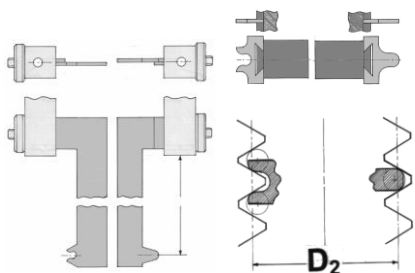
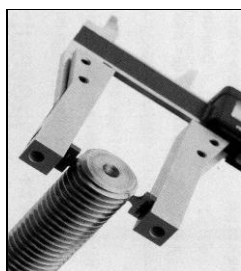
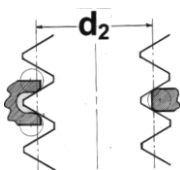
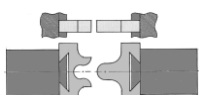
EXTERNAL THREAD

d = Major diameter
d₂ = Pitch diameter
 d₁ = Minor diameter

INTERNAL THREAD

D = Major diameter
D₂ = Pitch diameter
 D₁ = Minor diameter

P = Pitch
α = Flank angle



Important:

These table are made as a guideline for calculating pitch diameter tolerances. As the primary purpose is to measure with a digital caliper, most dimensions are calculated to the nearest 0.01 mm.

When a tolerance in a table is used it should be remembered that the tolerance will often be slightly larger for a finer pitch than standard. i.e. the pitch diameter tolerance for M60x2 is larger than for M36x2, which again is larger than that for M16x2 – which is standard.

For exact tolerances use the relevant, approved standard.

Thread	Pitch diameter tolerances	
	Nut (6H)	Bolt (6g)
M16x2	+0.212 / -0	-0.038 / -0.198 (0.16)
M36x2	+0.224 / -0	-0.038 / -0.208 (0.17)
M60x2	+0.236 / -0	-0.038 / -0.218 (0.18)
M120x2	+0.250 / -0	-0.038 / -0.228 (0.19)

Nominal Pitch diameter = Nominal Major diameter - (minus) PD_N

i.e. Nominal Pitch diameter for :

M20 x2 = 20.00 - 1.30 = 18.70

and **1-8UNC = 25.4 - 2.06 = 23.34**

Pitch	PD _N	Pitch diameter tolerances	
		Nut (6H)	Bolt (6g)
1	0.65	+0.15 / -0	-0.03 / -0.14
1.25	0.81	+0.16 / -0	-0.03 / -0.15
1.5	0.97	+0.18 / -0	-0.03 / -0.16
1.75	1.14	+0.20 / -0	-0.03 / -0.18
2	1.30	+0.21 / -0	-0.04 / -0.20
2.5	1.62	+0.22 / -0	-0.04 / -0.21
3	1.95	+0.26 / -0	-0.05 / -0.25
3.5	2.27	+0.28 / -0	-0.05 / -0.26
4	2.60	+0.30 / -0	-0.06 / -0.28
4.5	2.92	+0.31 / -0	-0.06 / -0.30
5	3.25	+0.33 / -0	-0.07 / -0.32
5.5	3.57	+0.35 / -0	-0.07 / -0.34
6	3.90	+0.37 / -0	-0.08 / -0.36

Pitch	PD _N	Pitch diameter tolerances	
		Nut (2B)	Bolt (2A)
24	0.69	+0.11 / -0	-0.025 / -0.11
20	0.825	+0.12 / -0	-0.03 / -0.12
18	0.92	+0.14 / -0	-0.03 / -0.13
16	1.03	+0.15 / -0	-0.03 / -0.15
14	1.18	+0.16 / -0	-0.04 / -0.16
13	1.27	+0.17 / -0	-0.04 / -0.17
12	1.37	+0.17 / -0	-0.04 / -0.17
11	1.50	+0.18 / -0	-0.04 / -0.18
10	1.65	+0.20 / -0	-0.05 / -0.20
9	1.83	+0.21 / -0	-0.05 / -0.21
8	2.06	+0.22 / -0	-0.05 / -0.22
7	2.36	+0.24 / -0	-0.06 / -0.24
6	2.75	+0.26 / -0	-0.06 / -0.26
5	3.30	+0.30 / -0	-0.07 / -0.30
4½	3.665	+0.32 / -0	-0.07 / -0.32
4	4.125	+0.34 / -0	-0.08 / -0.34

Pitch	PD _N	Pitch diameter tolerances	
		Nut	Bolt
19	0.86	+0.125 / -0	A +0 / -0.125 B +0 / -0.25
14	1.16	+0.14 / -0	A +0 / -0.14 B +0 / -0.28
11	1.48	+0.18 / -0	A +0 / -0.18 B +0 / -0.36
up til G2	11	1.48	A +0 / -0.22 B +0 / -0.44
over G2	11	1.48	A +0 / -0.22 B +0 / -0.44

P (gpt)	PD _N	Pitch diameter tolerances	
		Nut (Normal)	Bolt (Medium)
24	0.68	+0.13 / -0	-0.03 / -0.12
20	0.81	+0.15 / -0	-0.03 / -0.13
18	0.90	+0.16 / -0	-0.03 / -0.14
16	1.02	+0.17 / -0	-0.03 / -0.14
14	1.16	+0.18 / -0	-0.04 / -0.16
12	1.36	+0.20 / -0	-0.04 / -0.17
11	1.48	+0.22 / -0	-0.04 / -0.19
10	1.63	+0.23 / -0	-0.05 / -0.20
9	1.81	+0.24 / -0	+0 / -0.16
8	2.03	+0.26 / -0	+0 / -0.17
7	2.32	+0.27 / -0	+0 / -0.18
6	2.71	+0.30 / -0	+0 / -0.20
5	3.25	+0.33 / -0	+0 / -0.22
4½	3.61	+0.35 / -0	+0 / -0.23
4	4.07	+0.37 / -0	+0 / -0.24