
INTERNATIONAL STANDARD



725

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

ISO inch screw threads — Basic dimensions

Filetages ISO en inches — Dimensions de base

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FOREWORD

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 725 was developed by Technical Committee ISO/TC 1, *Screw threads*.

It was submitted directly to the ISO Council, in accordance with clause 6.13.1 of the Directives for the technical work of ISO. It cancels and replaces ISO Recommendation R 725-1968, which had been approved by the member bodies of the following countries :

Australia	France	South Africa, Rep. of
Austria	Hungary	Spain
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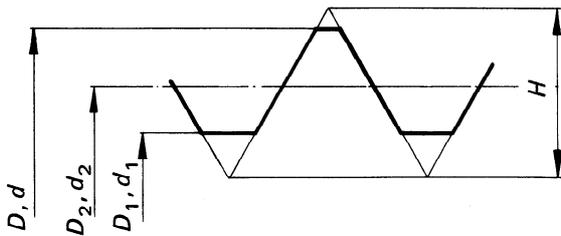
Germany, F.R.

ISO inch screw threads – Basic dimensions

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the basic dimensions, in inches, of ISO inch screw threads according to ISO 263, *ISO inch screw threads – General plan and selection for screws, bolts and nuts – Diameter range 0.06 to 6 in.* The values refer to the basic profile according to ISO 68, *ISO general purpose screw threads – Basic profile.*

2 BASIC DIMENSIONS



D = basic major diameter of internal thread

d = basic major diameter of external thread

D_2 = basic pitch diameter of internal thread

d_2 = basic pitch diameter of external thread

D_1 = basic minor diameter of internal thread

d_1 = basic minor diameter of external thread

H = height of fundamental triangle

n = number of threads per inch (25,4 mm)

The values of D_2, d_2, D_1 and d_1 have been calculated from the following formulae and rounded, in the tables, to the fourth decimal place :

$$D_2 = D - 2 \times \frac{3}{8} H = D - \frac{0.649\ 519}{n}$$

$$d_2 = d - 2 \times \frac{3}{8} H = d - \frac{0.649\ 519}{n}$$

$$D_1 = D - 2 \times \frac{5}{8} H = D - \frac{1.082\ 532}{n}$$

$$d_1 = d - 2 \times \frac{5}{8} H = d - \frac{1.082\ 532}{n}$$

Size	Number of threads per inch <i>n</i>	Major diameter <i>D, d</i>	Pitch diameter <i>D₂, d₂</i>	Minor diameter <i>D₁, d₁</i>
No. 0	80	0.06	0.051 9	0.046 5
No. 1	72	0.073	0.064 0	0.058 0
	64		0.062 9	0.056 1
No. 2	64	0.086	0.075 9	0.069 1
	56		0.074 4	0.066 7
No. 3	56	0.099	0.087 4	0.079 7
	48		0.085 5	0.076 4
No. 4	48	0.112	0.098 5	0.089 4
	40		0.095 8	0.084 9
No. 5	44	0.125	0.110 2	0.100 4
	40		0.108 8	0.097 9
No. 6	40	0.138	0.121 8	0.110 9
	32		0.117 7	0.104 2
No. 8	36	0.164	0.146 0	0.133 9
	32		0.143 7	0.130 2
No. 10	32	0.19	0.169 7	0.156 1
	24		0.162 9	0.144 9
No. 12	32	0.216	0.195 7	0.182 2
	28		0.192 8	0.177 3
	24		0.188 9	0.170 9
1/4	32	0.25	0.229 7	0.216 2
	28		0.226 8	0.211 3
	20		0.217 5	0.195 9
5/16	32	0.312 5	0.292 2	0.278 7
	28		0.289 3	0.273 8
	24		0.285 4	0.267 4
	20		0.280 0	0.258 4
	18		0.276 4	0.252 4
3/8	32	0.375	0.354 7	0.341 2
	28		0.351 8	0.336 3
	24		0.347 9	0.329 9
	20		0.342 5	0.320 9
	16		0.334 4	0.307 3
7/16	32	0.437 5	0.417 2	0.403 7
	28		0.414 3	0.398 8
	20		0.405 0	0.383 4
	16		0.396 9	0.369 8
	14		0.391 1	0.360 2
1/2	32	0.5	0.479 7	0.466 2
	28		0.476 8	0.461 3
	20		0.467 5	0.445 9
	16		0.459 4	0.432 3
	13		0.450 0	0.416 7

Size	Number of threads per inch <i>n</i>	Major diameter <i>D, d</i>	Pitch diameter <i>D₂, d₂</i>	Minor diameter <i>D₁, d₁</i>
9/16	32	0.562 5	0.542 2	0.528 7
	28		0.539 3	0.523 8
	24		0.535 4	0.517 4
	20		0.530 0	0.508 4
	18		0.526 4	0.502 4
	16		0.521 9	0.494 8
5/8	32	0.625	0.604 7	0.591 2
	28		0.601 8	0.586 3
	24		0.597 9	0.579 9
	20		0.592 5	0.570 9
	18		0.588 9	0.564 9
	16		0.584 4	0.557 3
	12		0.570 9	0.534 8
11/16	32	0.687 5	0.667 2	0.653 7
	28		0.664 3	0.648 8
	24		0.660 4	0.642 4
	20		0.655 0	0.633 4
	16		0.646 9	0.619 8
	12		0.633 4	0.597 3
3/4	32	0.75	0.729 7	0.716 2
	28		0.726 8	0.711 3
	20		0.717 5	0.695 9
	16		0.709 4	0.682 3
	12		0.695 9	0.659 8
13/16	32	0.812 5	0.792 2	0.778 7
	28		0.789 3	0.773 8
	20		0.780 0	0.758 4
	16		0.771 9	0.744 8
	12		0.758 4	0.722 3
7/8	32	0.875	0.854 7	0.841 2
	28		0.851 8	0.836 3
	20		0.842 5	0.820 9
	16		0.834 4	0.807 3
	14		0.828 6	0.797 7
	12		0.820 9	0.784 8
15/16	32	0.937 5	0.917 2	0.903 7
	28		0.914 3	0.898 8
	20		0.905 0	0.883 4
	16		0.896 9	0.869 8
	12		0.883 4	0.847 3
1	32	1	0.979 7	0.966 2
	28		0.976 8	0.961 3
	20		0.967 5	0.945 9
	16		0.959 4	0.932 3
	12		0.945 9	0.909 8
	8		0.918 8	0.864 7

Size	Number of threads per inch <i>n</i>	Major diameter <i>D, d</i>	Pitch diameter <i>D₂, d₂</i>	Minor diameter <i>D₁, d₁</i>
1 1/16	28	1.062 5	1.039 3	1.023 8
	20		1.030 0	1.008 4
	18		1.026 4	1.002 4
	16		1.021 9	0.994 8
	12		1.008 4	0.972 3
	8		0.981 3	0.927 2
1 1/8	28	1.125	1.101 8	1.086 3
	20		1.092 5	1.070 9
	18		1.088 9	1.064 9
	16		1.084 4	1.057 3
	12		1.070 9	1.034 8
	8		1.043 8	0.989 7
1 3/16	28	1.187 5	1.164 3	1.148 8
	20		1.155 0	1.133 4
	18		1.151 4	1.127 4
	16		1.146 9	1.119 8
	12		1.133 4	1.097 3
	8		1.106 3	1.052 2
1 1/4	28	1.25	1.226 8	1.211 3
	20		1.217 5	1.195 9
	18		1.213 9	1.189 9
	16		1.209 4	1.182 3
	12		1.195 9	1.159 8
	8		1.168 8	1.114 7
1 5/16	28	1.312 5	1.289 3	1.273 8
	20		1.280 0	1.258 4
	18		1.276 4	1.252 4
	16		1.271 9	1.244 8
	12		1.258 4	1.222 3
	8		1.231 3	1.777 2
1 3/8	28	1.375	1.351 8	1.336 3
	20		1.342 5	1.320 9
	18		1.338 9	1.314 9
	16		1.334 4	1.307 3
	12		1.320 9	1.284 8
	8		1.293 8	1.239 7
1 7/16	28	1.437 5	1.414 3	1.398 8
	20		1.405 0	1.383 4
	18		1.401 4	1.377 4
	16		1.396 9	1.369 8
	12		1.383 4	1.347 3
	8		1.356 3	1.302 2
1 1/2	28	1.5	1.476 8	1.461 3
	20		1.467 5	1.445 9
	18		1.463 9	1.439 9
	16		1.459 4	1.432 3
	12		1.445 9	1.409 8
	8		1.418 8	1.364 7
6	1.391 7	1.319 6		

Size	Number of threads per inch <i>n</i>	Major diameter <i>D, d</i>	Pitch diameter <i>D₂, d₂</i>	Minor diameter <i>D₁, d₁</i>
1 9/16	20	1.562 5	1.530 0	1.508 4
	18		1.526 4	1.502 4
	16		1.521 9	1.494 8
	12		1.508 4	1.472 3
	8		1.481 3	1.427 2
	6		1.454 2	1.382 1
1 5/8	20	1.625	1.592 5	1.570 9
	18		1.588 9	1.564 9
	16		1.584 4	1.557 3
	12		1.570 9	1.534 8
	8		1.543 8	1.489 7
	6		1.516 7	1.444 6
1 11/16	20	1.687 5	1.655 0	1.633 4
	18		1.651 4	1.627 4
	16		1.646 9	1.619 8
	12		1.633 4	1.597 3
	8		1.606 3	1.552 2
	6		1.579 2	1.507 1
1 3/4	20	1.75	1.717 5	1.695 9
	16		1.709 4	1.682 3
	12		1.695 9	1.659 8
	8		1.668 8	1.614 7
	6		1.641 7	1.569 6
	5		1.620 1	1.533 5
1 13/16	20	1.812 5	1.780 0	1.758 4
	16		1.771 9	1.744 8
	12		1.758 4	1.722 3
	8		1.731 3	1.677 2
	6		1.704 2	1.632 1
	1 7/8		20	1.875
16		1.834 4	1.807 3	
12		1.820 9	1.784 8	
8		1.793 8	1.739 7	
6		1.766 7	1.694 6	
1 15/16		20	1.937 5	
	16	1.896 9		1.869 8
	12	1.883 4		1.847 3
	8	1.856 3		1.802 2
	6	1.829 2		1.757 1
	2	20		2
16		1.959 4	1.932 3	
12		1.945 9	1.909 8	
8		1.918 8	1.864 7	
6		1.891 7	1.819 6	
4 1/2		1.855 7	1.759 4	

Size	Number of threads per inch <i>n</i>	Major diameter <i>D, d</i>	Pitch diameter <i>D₂, d₂</i>	Minor diameter <i>D₁, d₁</i>
2 1/8	20	2.125	2.092 5	2.070 9
	16		2.084 4	2.057 3
	12		2.070 9	2.034 8
	8		2.043 8	1.989 7
	6		2.016 7	1.944 6
2 1/4	20	2.25	2.217 5	2.195 9
	16		2.209 4	2.182 3
	12		2.195 9	2.159 8
	8		2.168 8	2.114 7
	6		2.141 7	2.069 6
2 3/8	20	2.375	2.342 5	2.320 9
	16		2.334 4	2.307 3
	12		2.320 9	2.284 8
	8		2.293 8	2.239 7
	6		2.266 7	2.194 6
2 1/2	20	1.5	2.467 5	2.445 9
	16		2.459 4	2.432 3
	12		2.445 9	2.409 8
	8		2.418 8	2.364 7
	6		2.391 7	2.319 6
2 5/8	20	2.625	2.592 5	2.570 9
	16		2.584 4	2.557 3
	12		2.570 9	2.534 8
	8		2.543 8	2.489 7
	6		2.516 7	2.444 6
2 3/4	20	2.75	2.717 5	3.695 9
	16		2.709 4	2.682 3
	12		2.695 9	2.659 8
	8		2.668 8	2.614 7
	6		2.641 7	2.569 6
2 7/8	20	2.875	2.842 5	2.820 9
	16		2.834 4	2.807 3
	12		2.810 9	2.784 8
	8		2.793 8	2.739 7
	6		2.766 7	2.694 6
3	20	3	2.967 5	2.945 9
	16		2.959 4	2.932 3
	12		2.945 9	2.909 8
	8		2.918 8	2.864 7
	6		2.891 7	2.819 6
3 1/8	20	3.125	3.084 4	3.057 3
	16		3.070 9	3.034 8
	12		3.043 8	2.989 7
	8		3.016 7	2.944 6
	6		2.962 6	2.854 4
3 1/4	20	3.25	3.209 4	3.182 3
	16		3.195 9	3.159 8
	12		3.168 8	3.114 7
	8		3.141 7	3.069 6
	6		3.087 6	2.979 4
3 3/8	20	3.375	3.334 4	3.307 3
	16		3.320 9	3.284 8
	12		3.293 8	3.239 7
	8		3.266 7	3.194 6
	6		3.212 6	3.104 4
3 1/2	20	3.5	3.459 4	3.432 3
	16		3.445 9	3.409 8
	12		3.418 8	3.364 7
	8		3.391 7	3.319 6
	6		3.337 6	3.229 4
3 5/8	20	3.625	3.584 4	3.557 3
	16		3.570 9	3.534 8
	12		3.543 8	3.489 7
	8		3.516 7	3.444 6
	6		3.462 6	3.354 4
3 3/4	20	3.75	3.709 4	3.682 3
	16		3.695 9	3.659 8
	12		3.668 8	3.614 7
	8		3.641 7	3.569 6
	6		3.587 6	3.479 4
3 7/8	20	3.875	3.834 4	3.807 3
	16		3.820 9	3.784 8
	12		3.793 8	3.739 7
	8		3.766 7	3.694 6
	6		3.712 6	3.604 4
4	20	4	3.959 4	3.932 3
	16		3.945 9	3.909 8
	12		3.918 8	3.864 7
	8		3.891 7	3.819 6
	6		3.837 6	3.729 4
4 1/8	20	4.125	4.084 4	4.057 3
	16		4.070 9	4.034 8
	12		4.043 8	3.989 7
	8		4.016 7	3.944 6
	6		3.962 6	3.854 4
4 1/4	20	4.25	4.209 4	4.182 3
	16		4.195 9	4.159 8
	12		4.168 8	4.114 7
	8		4.141 7	4.069 6
	6		4.087 6	3.979 4

Size	Number of threads per inch <i>n</i>	Major diameter <i>D, d</i>	Pitch diameter <i>D₂, d₂</i>	Minor diameter <i>D₁, d₁</i>
3 1/8	16	3.125	3.084 4	3.057 3
	12		3.070 9	3.034 8
	8		3.043 8	2.989 7
	6		3.016 7	2.944 6
	4		2.962 6	2.854 4
3 1/4	16	3.25	3.209 4	3.182 3
	12		3.195 9	3.159 8
	8		3.168 8	3.114 7
	6		3.141 7	3.069 6
	4		3.087 6	2.979 4
3 3/8	16	3.375	3.334 4	3.307 3
	12		3.320 9	3.284 8
	8		3.293 8	3.239 7
	6		3.266 7	3.194 6
	4		3.212 6	3.104 4
3 1/2	16	3.5	3.459 4	3.432 3
	12		3.445 9	3.409 8
	8		3.418 8	3.364 7
	6		3.391 7	3.319 6
	4		3.337 6	3.229 4
3 5/8	16	3.625	3.584 4	3.557 3
	12		3.570 9	3.534 8
	8		3.543 8	3.489 7
	6		3.516 7	3.444 6
	4		3.462 6	3.354 4
3 3/4	16	3.75	3.709 4	3.682 3
	12		3.695 9	3.659 8
	8		3.668 8	3.614 7
	6		3.641 7	3.569 6
	4		3.587 6	3.479 4
3 7/8	16	3.875	3.834 4	3.807 3
	12		3.820 9	3.784 8
	8		3.793 8	3.739 7
	6		3.766 7	3.694 6
	4		3.712 6	3.604 4
4	16	4	3.959 4	3.932 3
	12		3.945 9	3.909 8
	8		3.918 8	3.864 7
	6		3.891 7	3.819 6
	4		3.837 6	3.729 4
4 1/8	16	4.125	4.084 4	4.057 3
	12		4.070 9	4.034 8
	8		4.043 8	3.989 7
	6		4.016 7	3.944 6
	4		3.962 6	3.854 4
4 1/4	16	4.25	4.209 4	4.182 3
	12		4.195 9	4.159 8
	8		4.168 8	4.114 7
	6		4.141 7	4.069 6
	4		4.087 6	3.979 4