INTERNATIONAL STANDARD

ISO 725

Second edition
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ISO inch screw threads — Basic dimensions

Filetages ISO en inches — Dimensions de base

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 725 was prepared by Technical Committee ISO/TC 1, *Screw threads*.

This second edition results from the reinstatement of ISO 725:1978, which was withdrawn in 2000 and with which it is technically identical.

ISO inch screw threads — Basic dimensions

1 Scope

This International Standard specifies the basic dimensions, in inches, of ISO inch screw threads in accordance with ISO 263. The values refer to the basic profile in accordance with ISO 68-2.

2 Symbols

D basic major diameter of internal thread (nominal diameter)

d basic major diameter of external thread (nominal diameter)

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)

3 Basic dimensions

Dimensions shall be in accordance with Figure 1 and given in Table 1.

The values of D_2, d_2, D_1 and d_1 have been calculated from the following equations and rounded, in Table 1, to the fourth decimal place:

$$D_2 = D - 2 \times \frac{3}{8} H = D - \frac{0{,}649\,519}{n}$$

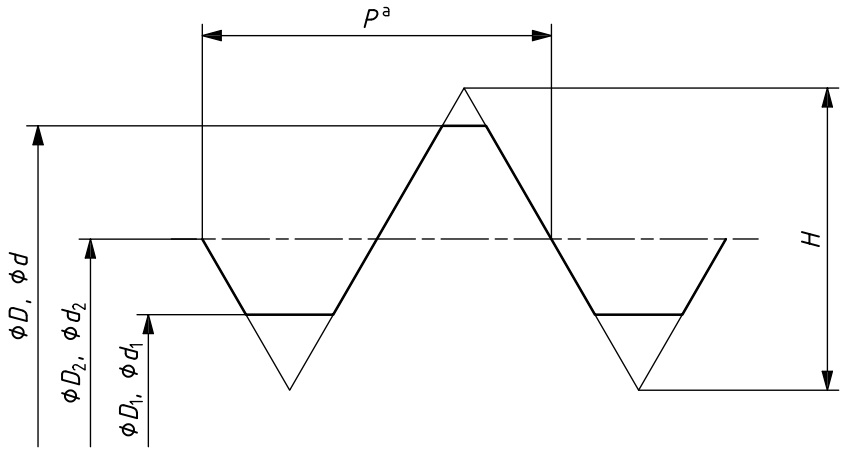
$$d_2 = d - 2 \times \frac{3}{8} H = d - \frac{0{,}649\,519}{n}$$

$$D_1 = D - 2 \times \frac{5}{8} H = D - \frac{1{,}082\,532}{n}$$

$$d_1 = d - 2 \times \frac{5}{8} H = d - \frac{1{,}082\,532}{n}$$

where

$$H = 0{,}866\,025\,40/n$$



a Pitch, $P = 1/n$.

Figure 1 — Basic dimensions

Table 1 — Basic dimensions

Size	Major diameter D, d in	Number of threads per inch n	Thread series	Pitch diameter D_2, d_2 in	Minor diameter D_1, d_1 in
No. 0	0,060 0	80	UNF	0,051 9	0,046 5
No. 1	0,073 0	64	UNC	0,062 9	0,056 1
		72	UNF	0,064 0	0,058 0
No. 2	0,086 0	56	UNC	0,074 4	0,066 7
		64	UNF	0,075 9	0,069 1
No. 3	0,099 0	48	UNC	0,085 5	0,076 4
		56	UNF	0,087 4	0,079 7
No. 4	0,112 0	40	UNC	0,095 8	0,084 9
		48	UNF	0,098 5	0,089 4
No. 5	0,125 0	40	UNC	0,108 8	0,097 9
		44	UNF	0,110 2	0,100 4
No. 6	0,138 0	32	UNC	0,117 7	0,104 2
		40	UNF	0,121 8	0,110 9
No. 8	0,164 0	32	UNC	0,143 7	0,130 2
		36	UNF	0,146 0	0,133 9
No. 10	0,190 0	24	UNC	0,162 9	0,144 9
		32	UNF	0,169 7	0,156 2
No. 12	0,216 0	24	UNC	0,188 9	0,170 9
		28	UNF	0,192 8	0,177 3
		32	UNEF	0,195 7	0,182 2
1/4	0,250 0	20	UNC	0,217 5	0,195 9
		28	UNF	0,226 8	0,211 3
		32	UNEF	0,229 7	0,216 2
5/16	0,312 5	18	UNC	0,276 4	0,252 4
		20	UN	0,280 0	0,258 4
		24	UNF	0,285 4	0,267 4
		28	UN	0,289 3	0,273 8
		32	UNEF	0,292 2	0,278 7
3/8	0,375 0	16	UNC	0,334 4	0,307 3
		20	UN	0,342 5	0,320 9
		24	UNF	0,347 9	0,329 9
		28	UN	0,351 8	0,336 3
		32	UNEF	0,354 7	0,341 2

Table 1 (*continued*)

Size	Major diameter D, d in	Number of threads per inch n	Thread series	Pitch diameter D_2, d_2 in	Minor diameter D_1, d_1 in
7/16	0,437 5	14	UNC	0,391 1	0,360 2
		16	UN	0,396 9	0,369 8
		20	UNF	0,405 0	0,383 4
		28	UNEF	0,414 3	0,398 8
		32	UN	0,417 2	0,403 7
1/2	0,500 0	13	UNC	0,450 0	0,416 7
		16	UN	0,459 4	0,432 3
		20	UNF	0,467 5	0,445 9
		28	UNEF	0,476 8	0,461 3
		32	UN	0,479 7	0,466 2
9/16	0,562 5	12	UNC	0,508 4	0,472 3
		16	UN	0,521 9	0,494 8
		18	UNF	0,526 4	0,502 4
		20	UN	0,530 0	0,508 4
		24	UNEF	0,535 4	0,517 4
		28	UN	0,539 3	0,523 8
		32	UN	0,542 2	0,528 7
5/8	0,625 0	11	UNC	0,566 0	0,526 6
		12	UN	0,570 9	0,534 8
		16	UN	0,584 4	0,557 3
		18	UNF	0,588 9	0,564 9
		20	UN	0,592 5	0,570 9
		24	UNEF	0,597 9	0,579 9
		28	UN	0,601 8	0,586 3
		32	UN	0,604 7	0,591 2
11/16	0,687 5	12	UN	0,633 4	0,597 3
		16	UN	0,646 9	0,619 8
		20	UN	0,655 0	0,633 4
		24	UNEF	0,660 4	0,642 4
		28	UN	0,664 3	0,648 8
		32	UN	0,667 2	0,653 7

Table 1 (*continued*)

Size	Major diameter D, d in	Number of threads per inch n	Thread series	Pitch diameter D_2, d_2 in	Minor diameter D_1, d_1 in
3/4	0,750 0	10	UNC	0,685 0	0,641 7
		12	UN	0,695 9	0,659 8
		16	UNF	0,709 4	0,682 3
		20	UNEF	0,717 5	0,695 9
		28	UN	0,726 8	0,711 3
		32	UN	0,729 7	0,716 2
13/16	0,812 5	12	UN	0,758 4	0,722 3
		16	UN	0,771 9	0,744 8
		20	UNEF	0,780 0	0,758 4
		28	UN	0,789 3	0,773 8
		32	UN	0,792 2	0,778 7
7/8	0,875 0	9	UNC	0,802 8	0,754 7
		12	UN	0,820 9	0,784 8
		14	UNF	0,828 6	0,797 7
		16	UN	0,834 4	0,807 3
		20	UNEF	0,842 5	0,820 9
		28	UN	0,851 8	0,836 3
		32	UN	0,854 7	0,841 2
15/16	0,937 5	12	UN	0,883 4	0,847 3
		16	UN	0,896 9	0,869 8
		20	UNEF	0,905 0	0,883 4
		28	UN	0,914 3	0,898 8
		32	UN	0,917 2	0,903 7
1	1,000 0	8	UNC	0,918 8	0,864 7
		12	UNF	0,945 9	0,909 8
		16	UN	0,959 4	0,932 3
		20	UNEF	0,967 5	0,945 9
		28	UN	0,976 8	0,961 3
		32	UN	0,979 7	0,966 2
1 1/16	1,062 5	8	UN	0,981 3	0,927 2
		12	UN	1,008 4	0,972 3
		16	UN	1,021 9	0,994 8
		18	UNEF	1,026 4	1,002 4
		20	UN	1,030 0	1,008 4
		28	UN	1,039 3	1,023 8

Table 1 (*continued*)

Size	Major diameter D, d in	Number of threads per inch n	Thread series	Pitch diameter D_2, d_2 in	Minor diameter D_1, d_1 in
1 1/8	1,125 0	7	UNC	1,032 2	0,970 4
		8	UN	1,043 8	0,989 7
		12	UNF	1,070 9	1,034 8
		16	UN	1,084 4	1,057 3
		18	UNEF	1,088 9	1,064 9
		20	UN	1,092 5	1,070 9
		28	UN	1,101 8	1,086 3
1 3/16	1,187 5	8	UN	1,106 3	1,052 2
		12	UN	1,133 4	1,097 3
		16	UN	1,146 9	1,119 8
		18	UNEF	1,151 4	1,127 4
		20	UN	1,155 0	1,133 4
		28	UN	1,164 3	1,148 8
1 1/4	1,250 0	7	UNC	1,157 2	1,095 4
		8	UN	1,168 8	1,114 7
		12	UNF	1,195 9	1,159 8
		16	UN	1,209 4	1,182 3
		18	UNEF	1,213 9	1,189 9
		20	UN	1,217 5	1,195 9
		28	UN	1,226 8	1,211 3
1 5/16	1,312 5	8	UN	1,231 3	1,177 2
		12	UN	1,258 4	1,222 3
		16	UN	1,271 9	1,244 8
		18	UNEF	1,276 4	1,252 4
		20	UN	1,280 0	1,258 4
		28	UN	1,289 3	1,273 8
1 3/8	1,375 0	6	UNC	1,266 7	1,194 6
		8	UN	1,293 8	1,239 7
		12	UNF	1,320 9	1,284 8
		16	UN	1,334 4	1,307 3
		18	UNEF	1,338 9	1,314 9
		20	UN	1,342 5	1,320 9
		28	UN	1,351 8	1,336 3

Table 1 (*continued*)

Size	Major diameter D, d in	Number of threads per inch n	Thread series	Pitch diameter D_2, d_2 in	Minor diameter D_1, d_1 in
1 7/16	1,437 5	6	UN	1,329 2	1,257 1
		8	UN	1,356 3	1,302 2
		12	UN	1,383 4	1,347 3
		16	UN	1,396 9	1,369 8
		18	UNEF	1,401 4	1,377 4
		20	UN	1,405 0	1,383 4
		28	UN	1,414 3	1,398 8
1 1/2	1,500 0	6	UNC	1,391 7	1,319 6
		8	UN	1,418 8	1,364 7
		12	UNF	1,445 9	1,409 8
		16	UN	1,459 4	1,432 3
		18	UNEF	1,463 9	1,439 9
		20	UN	1,467 5	1,445 9
		28	UN	1,476 8	1,461 3
1 9/16	1,562 5	6	UN	1,454 2	1,382 1
		8	UN	1,481 3	1,427 2
		12	UN	1,508 4	1,472 3
		16	UN	1,521 9	1,494 8
		18	UNEF	1,526 4	1,502 4
		20	UN	1,530 0	1,508 4
1 5/8	1,625 0	6	UN	1,516 7	1,444 6
		8	UN	1,543 8	1,489 7
		12	UN	1,570 9	1,534 8
		16	UN	1,584 4	1,557 3
		18	UNEF	1,588 9	1,564 9
		20	UN	1,592 5	1,570 9
1 11/16	1,687 5	6	UN	1,579 2	1,507 1
		8	UN	1,606 3	1,552 2
		12	UN	1,633 4	1,597 3
		16	UN	1,646 9	1,619 8
		18	UNEF	1,651 4	1,627 4
		20	UN	1,655 0	1,633 4

Table 1 (*continued*)

Size	Major diameter D, d in	Number of threads per inch n	Thread series	Pitch diameter D_2, d_2 in	Minor diameter D_1, d_1 in
1 3/4	1,750 0	5	UNC	1,620 1	1,533 5
		6	UN	1,641 7	1,569 6
		8	UN	1,668 8	1,614 7
		12	UN	1,695 9	1,659 8
		16	UN	1,709 4	1,682 3
		20	UN	1,717 5	1,695 9
1 13/16	1,812 5	6	UN	1,704 2	1,632 1
		8	UN	1,731 3	1,677 2
		12	UN	1,758 4	1,722 3
		16	UN	1,771 9	1,744 8
		20	UN	1,780 0	1,758 4
1 7/8	1,875 0	6	UN	1,766 7	1,694 6
		8	UN	1,793 8	1,739 7
		12	UN	1,820 9	1,784 8
		16	UN	1,834 4	1,807 3
		20	UN	1,842 5	1,820 9
1 15/16	1,937 5	6	UN	1,829 2	1,757 1
		8	UN	1,856 3	1,802 2
		12	UN	1,883 4	1,847 3
		16	UN	1,896 9	1,869 8
		20	UN	1,905 0	1,883 4
2	2,000 0	4 1/2	UNC	1,855 7	1,759 4
		6	UN	1,891 7	1,819 6
		8	UN	1,918 8	1,864 7
		12	UN	1,945 9	1,909 8
		16	UN	1,959 4	1,932 3
		20	UN	1,967 5	1,945 9
2 1/8	2,125 0	6	UN	2,016 7	1,944 6
		8	UN	2,043 8	1,989 7
		12	UN	2,070 9	2,034 8
		16	UN	2,084 4	2,057 3
		20	UN	2,092 5	2,070 9

Table 1 (*continued*)

Size	Major diameter D, d in	Number of threads per inch n	Thread series	Pitch diameter D_2, d_2 in	Minor diameter D_1, d_1 in
2 1/4	2,250 0	4 1/2	UNC	2,105 7	2,0094
		6	UN	2,141 7	2,0696
		8	UN	2,168 8	2,1147
		12	UN	2,195 9	2,1598
		16	UN	2,209 4	2,1823
		20	UN	2,217 5	2,1959
2 3/8	2,375 0	6	UN	2,266 7	2,1946
		8	UN	2,293 8	2,2397
		12	UN	2,320 9	2,2848
		16	UN	2,334 4	2,3073
		20	UN	2,342 5	2,3209
2 1/2	2,500 0	4	UNC	2,337 6	2,229 4
		6	UN	2,391 7	2,319 6
		8	UN	2,418 8	2,364 7
		12	UN	2,445 9	2,409 8
		16	UN	2,459 4	2,432 3
		20	UN	2,467 5	2,445 9
2 5/8	2,625 0	4	UN	2,462 6	2,354 4
		6	UN	2,516 7	2,444 6
		8	UN	2,543 8	2,489 7
		12	UN	2,570 9	2,534 8
		16	UN	2,584 4	2,557 3
		20	UN	2,592 5	2,570 9
2 3/4	2,750 0	4	UNC	2,587 6	2,479 4
		6	UN	2,641 7	2,569 6
		8	UN	2,668 8	2,614 7
		12	UN	2,695 9	2,659 8
		16	UN	2,709 4	2,682 3
		20	UN	2,717 5	2,695 9
2 7/8	2,875 0	4	UN	2,712 6	2,604 4
		6	UN	2,766 7	2,694 6
		8	UN	2,793 8	2,739 7
		12	UN	2,820 9	2,784 8
		16	UN	2,834 4	2,807 3
		20	UN	2,842 5	2,820 9

Table 1 (*continued*)

Size	Major diameter D, d in	Number of threads per inch n	Thread series	Pitch diameter D_2, d_2 in	Minor diameter D_1, d_1 in
3	3,000 0	4	UNC	2,837 6	2,729 4
		6	UN	2,891 7	2,819 6
		8	UN	2,918 8	2,864 7
		12	UN	2,945 9	2,909 8
		16	UN	2,959 4	2,932 3
		20	UN	2,967 5	2,945 9
3 1/8	3,125 0	4	UN	2,962 6	2,854 4
		6	UN	3,016 7	2,944 6
		8	UN	3,043 8	2,989 7
		12	UN	3,070 9	3,034 8
		16	UN	3,084 4	3,057 3
3 1/4	3,250 0	4	UNC	3,087 6	2,979 4
		6	UN	3,141 7	3,069 6
		8	UN	3,168 8	3,114 7
		12	UN	3,195 9	3,159 8
		16	UN	3,209 4	3,182 3
3 3/8	3,375 0	4	UN	3,212 6	3,104 4
		6	UN	3,266 7	3,194 6
		8	UN	3,293 8	3,239 7
		12	UN	3,320 9	3,284 8
		16	UN	3,334 4	3,307 3
3 1/2	3,500 0	4	UNC	3,337 6	3,229 4
		6	UN	3,391 7	3,319 6
		8	UN	3,418 8	3,364 7
		12	UN	3,445 9	3,409 8
		16	UN	3,459 4	3,432 3
3 5/8	3,625 0	4	UN	3,462 6	3,354 4
		6	UN	3,516 7	3,444 6
		8	UN	3,543 8	3,489 7
		12	UN	3,570 9	3,534 8
		16	UN	3,584 4	3,557 3
3 3/4	3,750 0	4	UNC	3,587 6	3,479 4
		6	UN	3,641 7	3,569 6
		8	UN	3,668 8	3,614 7
		12	UN	3,695 9	3,659 8
		16	UN	3,709 4	3,682 3

Table 1 (*continued*)

Size	Major diameter D, d in	Number of threads per inch n	Thread series	Pitch diameter D_2, d_2 in	Minor diameter D_1, d_1 in
3 7/8	3,875 0	4	UN	3,712 6	3,604 4
		6	UN	3,766 7	3,694 6
		8	UN	3,793 8	3,739 7
		12	UN	3,820 9	3,784 8
		16	UN	3,834 4	3,807 3
4	4,000 0	4	UNC	3,837 6	3,729 4
		6	UN	3,891 7	3,819 6
		8	UN	3,918 8	3,864 7
		12	UN	3,945 9	3,909 8
		16	UN	3,959 4	3,932 3
4 1/8	4,125 0	4	UN	3,962 6	3,854 4
		6	UN	4,016 7	3,944 6
		8	UN	4,043 8	3,989 7
		12	UN	4,070 9	4,034 8
		16	UN	4,084 4	4,057 3
4 1/4	4,250 0	4	UN	4,087 6	3,979 4
		6	UN	4,141 7	4,069 6
		8	UN	4,168 8	4,114 7
		12	UN	4,195 9	4,159 8
		16	UN	4,209 4	4,182 3
4 3/8	4,375 0	4	UN	4,212 6	4,104 4
		6	UN	4,266 7	4,194 6
		8	UN	4,293 8	4,239 7
		12	UN	4,320 9	4,284 8
		16	UN	4,334 4	4,307 3
4 1/2	4,500 0	4	UN	4,337 6	4,229 4
		6	UN	4,391 7	4,319 6
		8	UN	4,418 8	4,364 7
		12	UN	4,445 9	4,409 8
		16	UN	4,459 4	4,432 3
4 5/8	4,625 0	4	UN	4,462 6	4,354 4
		6	UN	4,516 7	4,444 6
		8	UN	4,543 8	4,489 7
		12	UN	4,570 9	4,534 8
		16	UN	4,584 4	4,557 3

Table 1 (*continued*)

Size	Major diameter D, d in	Number of threads per inch n	Thread series	Pitch diameter D_2, d_2 in	Minor diameter D_1, d_1 in
4 3/4	4,750 0	4	UN	4,587 6	4,479 4
		6	UN	4,641 7	4,569 6
		8	UN	4,668 8	4,614 7
		12	UN	4,695 9	4,659 8
		16	UN	4,709 4	4,682 3
4 7/8	4,875 0	4	UN	4,712 6	4,604 4
		6	UN	4,766 7	4,694 6
		8	UN	4,793 8	4,739 7
		12	UN	4,820 9	4,784 8
		16	UN	4,834 4	4,807 3
5	5,000 0	4	UN	4,837 6	4,729 4
		6	UN	4,891 7	4,819 6
		8	UN	4,918 8	4,864 7
		12	UN	4,945 9	4,909 8
		16	UN	4,959 4	4,932 3
5 1/8	5,125 0	4	UN	4,962 6	4,854 4
		6	UN	5,016 7	4,944 6
		8	UN	5,043 8	4,989 7
		12	UN	5,070 9	5,034 8
		16	UN	5,084 4	5,057 3
5 1/4	5,250 0	4	UN	5,087 6	4,979 4
		6	UN	5,141 7	5,069 6
		8	UN	5,168 8	5,114 7
		12	UN	5,195 9	5,159 8
		16	UN	5,209 4	5,182 3
5 3/8	5,375 0	4	UN	5,212 6	5,104 4
		6	UN	5,266 7	5,194 6
		8	UN	5,293 8	5,239 7
		12	UN	5,320 9	5,284 8
		16	UN	5,334 4	5,307 3
5 1/2	5,500 0	4	UN	5,337 6	5,229 4
		6	UN	5,391 7	5,319 6
		8	UN	5,418 8	5,364 7
		12	UN	5,445 9	5,409 8
		16	UN	5,459 4	5,432 3

Table 1 (*continued*)

Size	Major diameter D, d in	Number of threads per inch n	Thread series	Pitch diameter D_2, d_2 in	Minor diameter D_1, d_1 in
5 5/8	5,625 0	4	UN	5,462 6	5,354 4
		6	UN	5,516 7	5,444 6
		8	UN	5,543 8	5,489 7
		12	UN	5,570 9	5,534 8
		16	UN	5,584 4	5,557 3
5 3/4	5,750 0	4	UN	5,587 6	5,479 4
		6	UN	5,641 7	5,569 6
		8	UN	5,668 8	5,614 7
		12	UN	5,695 9	5,659 8
		16	UN	5,709 4	5,682 3
5 7/8	5,875 0	4	UN	5,712 6	5,604 4
		6	UN	5,766 7	5,694 6
		8	UN	5,793 8	5,739 7
		12	UN	5,820 9	5,784 8
		16	UN	5,834 4	5,807 3
6	6,000 0	4	UN	5,837 6	5,729 4
		6	UN	5,891 7	5,819 6
		8	UN	5,918 8	5,864 7
		12	UN	5,945 9	5,909 8
		16	UN	5,959 4	5,932 3

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