

INTERNATIONAL
STANDARD

ISO
724

Second edition
1993-10-15

**ISO general-purpose metric screw
threads — Basic dimensions**

Filetages métriques ISO pour usages généraux — Dimensions de base



Reference number
ISO 724:1993(E)

ISO 724:1993(E)

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.

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.

International Standard ISO 724 was prepared by Technical Committee ISO/TC 1, *Screw threads*, Sub-Committee SC 1, *Basic data*.

This second edition cancels and replaces the first edition (ISO 724:1978), the table of which has been technically revised.

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International Organization for Standardization

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ISO general-purpose metric screw threads — Basic dimensions

1 Scope

This International Standard specifies the basic dimensions, in millimetres, of ISO metric screw threads in accordance with ISO 261. The values refer to the basic profile in accordance with ISO 68.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 68:—¹⁾, *ISO general-purpose screw threads — Basic profile.*

ISO 261:—²⁾, *ISO general-purpose metric screw threads — General plan.*

ISO 5408:1983, *Cylindrical screw threads — Vocabulary.*

3 Definitions

For the purposes of this International Standard, the definitions given in ISO 5408 apply.

4 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

P pitch

5 Basic dimensions

Dimensions shall be as shown in figure 1 and given in table 1.

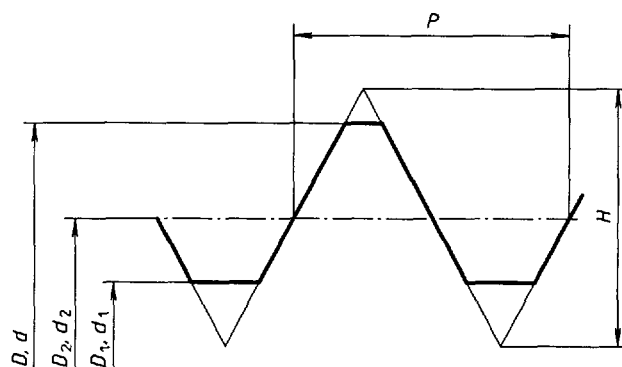


Figure 1 — Basic dimensions

1) To be published. (Revision of ISO 68:1973)

2) To be published. (Revision of ISO 261:1973)

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The values of D_2 , d_2 , D_1 and d_1 have been calculated from the following formulae and rounded, in table 1, to the third decimal place:

$$D_2 = D - 2 \times \frac{3}{8} H = D - 0,649 5P$$

$$d_2 = d - 2 \times \frac{3}{8} H = d - 0,649 5P$$

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

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

Table 1 — Basic dimensions

Nominal diameter = Major diameter D, d	Pitch P	Pitch diameter D_2, d_2	Minor diameter D_1, d_1
1	0,25	0,838	0,729
	0,2	0,870	0,783
1,1	0,25	0,938	0,829
	0,2	0,970	0,883
1,2	0,25	1,038	0,929
	0,2	1,070	0,983
1,4	0,3	1,205	1,075
	0,2	1,270	1,183
1,6	0,35	1,373	1,221
	0,2	1,470	1,383
1,8	0,35	1,573	1,421
	0,2	1,670	1,583
2	0,4	1,740	1,567
	0,25	1,838	1,729
2,2	0,45	1,908	1,713
	0,25	2,038	1,929
2,5	0,45	2,208	2,013
	0,35	2,273	2,121
3	0,5	2,675	2,459
	0,35	2,773	2,621
3,5	0,6	3,110	2,850
	0,35	3,273	3,121

Nominal diameter = Major diameter D, d	Pitch P	Pitch diameter D_2, d_2	Minor diameter D_1, d_1
4	0,7	3,545	3,242
	0,5	3,675	3,459
4,5	0,75	4,013	3,688
	0,5	4,175	3,959
5	0,8	4,480	4,134
	0,5	4,675	4,459
5,5	0,5	5,175	4,959
	1	5,350	4,917
6	0,75	5,513	5,188
	1	6,350	5,917
7	0,75	6,513	6,188
	1,25	7,188	6,647
8	1	7,350	6,917
	0,75	7,513	7,188
	1,25	8,188	7,647
9	1	8,350	7,917
	0,75	8,513	8,188
	1,5	9,026	8,376
10	1,25	9,188	8,647
	1	9,350	8,917
	0,75	9,513	9,188
	1,5	9,026	8,376

Nominal diameter = Major diameter <i>D, d</i>	Pitch <i>P</i>	Pitch diameter <i>D₂, d₂</i>	Minor diameter <i>D₁, d₁</i>
11	1,5	10,026	9,376
	1	10,350	9,917
	0,75	10,513	10,188
12	1,75	10,863	10,106
	1,5	11,026	10,376
	1,25	11,188	10,647
	1	11,350	10,917
14	2	12,701	11,835
	1,5	13,026	12,376
	1,25	13,188	12,647
	1	13,350	12,917
15	1,5	14,026	13,376
	1	14,350	13,917
16	2	14,701	13,835
	1,5	15,026	14,376
	1	15,350	14,917
17	1,5	16,026	15,376
	1	16,350	15,917
18	2,5	16,376	15,294
	2	16,701	15,835
	1,5	17,026	16,376
	1	17,350	16,917
20	2,5	18,376	17,294
	2	18,701	17,835
	1,5	19,026	18,376
	1	19,350	18,917
22	2,5	20,376	19,294
	2	20,701	19,835
	1,5	21,026	20,376
	1	21,350	20,917
24	3	22,051	20,752
	2	22,701	21,835
	1,5	23,026	22,376
	1	23,350	22,917

Nominal diameter = Major diameter <i>D, d</i>	Pitch <i>P</i>	Pitch diameter <i>D₂, d₂</i>	Minor diameter <i>D₁, d₁</i>
25	2	23,701	22,835
	1,5	24,026	23,376
	1	24,350	23,917
26	1,5	25,026	24,376
27	3	25,051	23,752
	2	25,701	24,835
	1,5	26,026	25,376
	1	26,350	25,917
28	2	26,701	25,835
	1,5	27,026	26,376
	1	27,350	26,917
30	3,5	27,727	26,211
	3	28,051	26,752
	2	28,701	27,835
	1,5	29,026	28,376
	1	29,350	28,917
32	2	30,701	29,835
	1,5	31,026	30,376
33	3,5	30,727	29,211
	3	31,051	29,752
	2	31,701	30,835
	1,5	32,026	31,376
35	1,5	34,026	33,376
36	4	33,402	31,670
	3	34,051	32,752
	2	34,701	33,835
	1,5	35,026	34,376
38	1,5	37,026	36,376
39	4	36,402	34,670
	3	37,051	35,752
	2	37,701	36,835
	1,5	38,026	37,376
40	3	38,051	36,752
	2	38,701	37,835
	1,5	39,026	38,376

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Nominal diameter = Major diameter <i>D, d</i>	Pitch <i>P</i>	Pitch diameter <i>D₂, d₂</i>	Minor diameter <i>D₁, d₁</i>
42	4,5	39,077	37,129
	4	39,402	37,670
	3	40,051	38,752
	2	40,701	39,835
	1,5	41,026	40,376
45	4,5	42,077	40,129
	4	42,402	40,670
	3	43,051	41,752
	2	43,701	42,835
	1,5	44,026	43,376
48	5	44,752	42,587
	4	45,402	43,670
	3	46,051	44,752
	2	46,701	45,835
	1,5	47,026	46,376
50	3	48,051	46,752
	2	48,701	47,835
	1,5	49,026	48,376
52	5	48,752	46,587
	4	49,402	47,670
	3	50,051	48,752
	2	50,701	49,835
	1,5	51,026	50,376
55	4	52,402	50,670
	3	53,051	51,752
	2	53,701	52,835
	1,5	54,026	53,376
56	5,5	52,428	50,046
	4	53,402	51,670
	3	54,051	52,752
	2	54,701	53,835
	1,5	55,026	54,376
58	4	55,402	53,670
	3	56,051	54,752
	2	56,701	55,835
	1,5	57,026	56,376

Nominal diameter = Major diameter <i>D, d</i>	Pitch <i>P</i>	Pitch diameter <i>D₂, d₂</i>	Minor diameter <i>D₁, d₁</i>
60	5,5	56,428	54,046
	4	57,402	55,670
	3	58,051	56,752
	2	58,701	57,835
	1,5	59,026	58,376
62	4	59,402	57,670
	3	60,051	58,752
	2	60,701	59,835
	1,5	61,026	60,376
64	6	60,103	57,505
	4	61,402	59,670
	3	62,051	60,752
	2	62,701	61,835
	1,5	63,026	62,376
65	4	62,402	60,670
	3	63,051	61,752
	2	63,701	62,835
	1,5	64,026	63,376
68	6	64,103	61,505
	4	65,402	63,670
	3	66,051	64,752
	2	66,701	65,835
	1,5	67,026	66,376
70	6	66,103	63,505
	4	67,402	65,670
	3	68,051	66,752
	2	68,701	67,835
	1,5	69,026	68,376
72	6	68,103	65,505
	4	69,402	67,670
	3	70,051	68,752
	2	70,701	69,835
	1,5	71,026	70,376
75	4	72,402	70,670
	3	73,051	71,752
	2	73,701	72,835
	1,5	74,026	73,376

Nominal diameter = Major diameter <i>D, d</i>	Pitch <i>P</i>	Pitch diameter <i>D₂, d₂</i>	Minor diameter <i>D₁, d₁</i>
76	6	72,103	69,505
	4	73,402	71,670
	3	74,051	72,752
	2	74,701	73,835
	1,5	75,026	74,376
78	2	76,700	75,835
80	6	76,103	73,505
	4	77,402	75,670
	3	78,051	76,752
	2	78,701	77,835
	1,5	79,026	78,376
82	2	80,701	79,835
85	6	81,103	78,505
	4	82,402	80,670
	3	83,051	81,752
	2	83,701	82,835
90	6	86,103	83,505
	4	87,402	85,670
	3	88,051	86,752
	2	88,701	87,835
95	6	91,103	88,505
	4	92,402	90,670
	3	93,051	91,752
	2	93,701	92,835
100	6	96,103	93,505
	4	97,402	95,670
	3	98,051	96,752
	2	98,701	97,835
105	6	101,103	98,505
	4	102,402	100,670
	3	103,051	101,752
	2	103,701	102,835
110	6	106,103	103,505
	4	107,402	105,670
	3	108,051	106,752
	2	108,701	107,835

Nominal diameter = Major diameter <i>D, d</i>	Pitch <i>P</i>	Pitch diameter <i>D₂, d₂</i>	Minor diameter <i>D₁, d₁</i>
115	6	111,103	108,505
	4	112,402	110,670
	3	113,051	111,752
	2	113,701	112,835
120	6	116,103	113,505
	4	117,402	115,670
	3	118,051	116,752
	2	118,701	117,835
125	6	121,103	118,505
	4	122,402	120,670
	3	123,051	121,752
	2	123,701	122,835
130	6	126,103	123,505
	4	127,402	125,670
	3	128,051	126,752
	2	128,701	127,835
135	6	131,103	128,505
	4	132,402	130,670
	3	133,051	131,752
	2	133,701	132,835
140	6	136,103	133,505
	4	137,402	135,670
	3	138,051	136,752
	2	138,701	137,835
145	6	141,103	138,505
	4	142,402	140,670
	3	143,051	141,752
	2	143,701	142,835
150	8	144,804	141,340
	6	146,103	143,505
	4	147,402	145,670
	3	148,051	146,752
	2	148,701	147,835
155	6	151,103	148,505
	4	152,402	150,670
	3	153,051	151,752

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Nominal diameter = Major diameter <i>D, d</i>	Pitch <i>P</i>	Pitch diameter <i>D₂, d₂</i>	Minor diameter <i>D₁, d₁</i>
160	8	154,804	151,340
	6	156,103	153,505
	4	157,402	155,670
	3	158,051	156,752
165	6	161,103	158,505
	4	162,402	160,670
	3	163,051	161,752
170	8	164,804	161,340
	6	166,103	163,505
	4	167,402	165,670
	3	168,051	166,752
175	6	171,103	168,505
	4	172,402	170,670
	3	173,051	171,752
180	8	174,804	171,340
	6	176,103	173,505
	4	177,402	175,670
	3	178,051	176,752
185	6	181,103	178,505
	4	182,402	180,670
	3	183,051	181,752
190	8	184,804	181,340
	6	186,103	183,505
	4	187,402	185,670
	3	188,051	186,752
195	6	191,103	188,505
	4	192,402	190,670
	3	193,051	191,752
200	8	194,804	191,340
	6	196,103	193,505
	4	197,402	195,670
	3	198,051	196,752
205	6	201,103	198,505
	4	202,402	200,670
	3	203,051	201,752

Nominal diameter = Major diameter <i>D, d</i>	Pitch <i>P</i>	Pitch diameter <i>D₂, d₂</i>	Minor diameter <i>D₁, d₁</i>
210	8	204,804	201,340
	6	206,103	203,505
	4	207,402	205,670
	3	208,051	206,752
215	6	211,103	208,505
	4	212,402	210,670
	3	213,051	211,752
220	8	214,804	211,340
	6	216,103	213,505
	4	217,402	215,670
	3	218,051	216,752
225	6	221,103	218,505
	4	222,402	220,670
	3	223,051	221,752
230	8	224,804	221,340
	6	226,103	223,505
	4	227,402	225,670
	3	228,051	226,752
235	6	231,103	228,505
	4	232,402	230,670
	3	233,051	231,752
240	8	234,804	231,340
	6	236,103	233,505
	4	237,402	235,670
	3	238,051	236,752
245	6	241,103	238,505
	4	242,402	240,670
	3	243,051	241,752
250	8	244,804	241,340
	6	246,103	243,505
	4	247,402	245,670
	3	248,051	246,752
255	6	251,103	248,505
	4	252,402	250,670

Nominal diameter = Major diameter <i>D, d</i>	Pitch <i>P</i>	Pitch diameter <i>D₂, d₂</i>	Minor diameter <i>D₁, d₁</i>
260	8	254,804	251,340
	6	256,103	253,505
	4	257,402	255,670
265	6	261,103	258,505
	4	262,402	260,670
270	8	264,804	261,340
	6	266,103	263,505
	4	267,402	265,670
275	6	271,103	268,505
	4	272,402	270,670
280	8	274,804	271,340
	6	276,103	273,505
	4	277,402	275,670
285	6	281,103	278,505
	4	282,402	280,670
290	8	284,804	281,340
	6	286,103	283,505
	4	287,402	285,670
295	6	291,103	288,505
	4	292,402	290,670
300	8	294,804	291,340
	6	296,103	293,505
	4	297,402	295,670

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Descriptors: screw threads, ISO metric threads, dimensions.

Price based on 7 pages
