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ISO metric screw threads 1 mm to 68 mm diameter coarse pitch threads Nominal sizes	DIN 13 Part 1
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Metrisches ISO-Gewinde; Regelgewinde von 1 mm bis 68 mm
 Gewinde-Nenndurchmesser; Nennmaße

Supersedes March 1973
 edition.

In keeping with current practice in standards published by the International Organization for Standardization (ISO), a comma has been used throughout as the decimal marker.

Dimensions in mm

1 Scope and field of application

This standard applies to ISO metric screw threads having the basic profile specified in DIN 13 Part 19. It specifies the nominal sizes for 1 mm to 68 mm diameter coarse pitch threads.

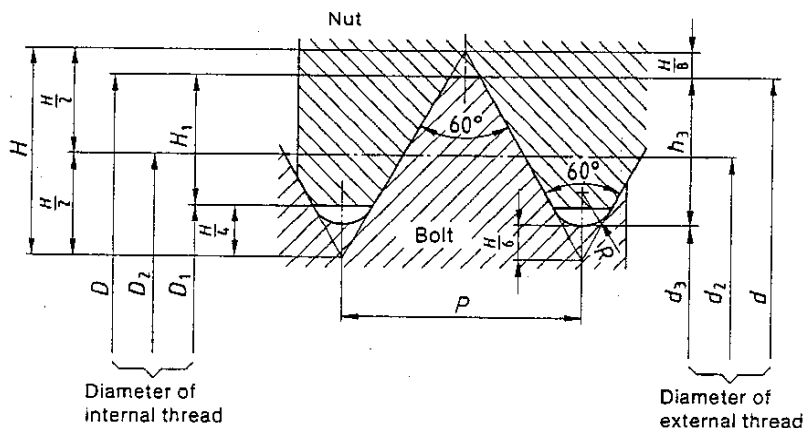
See DIN 13 Part 15 for fundamental deviations and tolerances and DIN 13 Part 20 for limits of size.

See DIN 2244 for terminology relating to screw threads.

2 Dimensions, designation

The formulae indicated adjacent to the illustration are only intended to show how the thread parameters have been calculated and are not to be used for calculating more accurate values than those given in the illustration and in the table. Use of the tabulated values is mandatory.

Choose series 1 diameters in preference to series 2 diameters and series 2 diameters in preference to series 3 diameters.



$$D_1 = d - 2 H_1$$

$$d_2 = D_2 = d - 0,64952 P$$

$$d_3 = d - 1,22687 P$$

$$H = 0,86603 P$$

$$H_1 = 0,54127 P$$

$$h_3 = 0,61343 P$$

$$R = \frac{H}{6} = 0,14434 P$$

Designation of an ISO metric (M) coarse pitch thread with $d = D = 12$ mm, accuracy grade medium ¹⁾, thread engagement group N,

- without tolerance indication: M 12;
- with tolerance indication: see DIN 13 Part 14.

¹⁾ For M 1 to M 1,4 internal threads, tolerance zone 5 H, for sizes over M 1,4, tolerance zone 6 H shall apply; for M 1 to M 1,4 external threads, tolerance zone 6h and for sizes over M 1,4, tolerance zone 6g (see DIN 13 Part 14) shall apply.

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Nominal thread diameter $d = D$			Pitch P	Pitch diameter $d_2 = D_2$	Minor diameter		Thread depth		Radius R
Series 1	Series 2	Series 3			d_3	D_1	h_3	H_1	
1	1,1		0,25	0,838	0,693	0,729	0,153	0,135	0,036
1,2			0,25	0,938	0,793	0,829	0,153	0,135	0,036
			0,25	1,038	0,893	0,929	0,153	0,135	0,036
1,6	1,4		0,3	1,205	1,032	1,075	0,184	0,162	0,043
	1,8		0,35	1,373	1,171	1,221	0,215	0,189	0,051
			0,35	1,573	1,371	1,421	0,215	0,189	0,051
2	2,2		0,4	1,740	1,509	1,567	0,245	0,217	0,058
2,5			0,45	1,908	1,648	1,713	0,276	0,244	0,065
			0,45	2,208	1,948	2,013	0,276	0,244	0,065
3	3,5		0,5	2,675	2,387	2,459	0,307	0,271	0,072
4			0,6	3,110	2,764	2,850	0,368	0,325	0,087
			0,7	3,545	3,141	3,242	0,429	0,379	0,101
5	4,5		0,75	4,013	3,580	3,688	0,460	0,406	0,108
6			0,8	4,480	4,019	4,134	0,491	0,433	0,115
			1	5,350	4,773	4,917	0,613	0,541	0,144
8		7	1	6,350	5,773	5,917	0,613	0,541	0,144
		9	1,25	7,188	6,466	6,647	0,767	0,677	0,180
			1,25	8,188	7,466	7,647	0,767	0,677	0,180
10		11	1,5	9,026	8,160	8,376	0,920	0,812	0,217
12			1,5	10,026	9,160	9,376	0,920	0,812	0,217
			1,75	10,863	9,853	10,106	1,074	0,947	0,253
16	14		2	12,701	11,546	11,835	1,227	1,083	0,289
	18		2	14,701	13,546	13,835	1,227	1,083	0,289
			2,5	16,376	14,933	15,294	1,534	1,353	0,361
20	22		2,5	18,376	16,933	17,294	1,534	1,353	0,361
24			2,5	20,376	18,933	19,294	1,534	1,353	0,361
			3	22,051	20,319	20,752	1,840	1,624	0,433
30	27		3	25,051	23,319	23,752	1,840	1,624	0,433
	33		3,5	27,727	25,706	26,211	2,147	1,894	0,505
			3,5	30,727	28,706	29,211	2,147	1,894	0,505
36	39		4	33,402	31,093	31,670	2,454	2,165	0,577
42			4	36,402	34,093	34,670	2,454	2,165	0,577
			4,5	39,077	36,479	37,129	2,760	2,436	0,650
48	45		4,5	42,077	39,479	40,129	2,760	2,436	0,650
	52		5	44,752	41,866	42,587	3,067	2,706	0,722
			5	48,752	45,866	46,587	3,067	2,706	0,722
56	60		5,5	52,428	49,252	50,046	3,374	2,977	0,794
64			5,5	56,428	53,252	54,046	3,374	2,977	0,794
			6	60,103	56,639	57,505	3,681	3,248	0,866
			6	64,103	60,639	61,505	3,681	3,248	0,866

Standards referred to

- DIN 13 Part 14 ISO metric screw threads; principles of a tolerance system for screw threads of 1 mm diameter and larger
- DIN 13 Part 15 ISO metric screw threads; fundamental deviations and tolerances for screw threads of 1 mm diameter and larger
- DIN 13 Part 19 ISO metric screw threads; basic profile and maximum and minimum material profiles
- DIN 13 Part 20 ISO metric screw threads; limits of size for 1 mm to 68 mm diameter coarse pitch threads and commonly used tolerance classes
- DIN 2244 Screw threads; terminology

Other relevant standard

- DIN 202 Screw threads; general plan

Previous edition

- DIN 13 Part 34: 11.60, 10.62, 06.64.
- DIN 13 Part 44: 03.66.
- DIN 13 Part 1: 02.49x, 11.69, 03.73.

Amendments

The following amendments have been made in comparison with the March 1973 edition.

- a) The specifications given for screw threads with a nominal thread diameter, $d = D$, of 1,7, 2,3 and 2,6 mm have been deleted.
- b) The standard has been editorially revised and harmonized with existing standards.

International Patent Classification

F 16 B 33/02