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**Hand taps for pipe threads for parallel and taper threads —
General dimensions and marking**

Tarauds à main au pas du gaz pour filetages cylindrique et conique — Dimensions générales et marquage

Second edition — 1976-06-15

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up 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.

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 2284 was drawn up by Technical Committee ISO/TC 29, *Small tools*. This second edition contains the modifications which were circulated, in the form of an amendment, to the Member Bodies in April 1975.

This amendment has been approved by the Member Bodies of the following countries :

Belgium	Japan	Sweden
Canada	Mexico	Switzerland
Chile	Netherlands	Turkey
France	Poland	United Kingdom
Hungary	Romania	U.S.S.R.
Israel	South Africa, Rep. of	Yugoslavia
Italy	Spain	

The Member Body of the following country expressed disapproval of the document on technical grounds :

Austria

This second edition cancels and replaces the first edition (i.e. ISO 2284-1972), which had been approved by the Member Bodies of the following countries :

Australia	Israel	Sweden
Austria	Italy	Switzerland
Belgium	Japan	Thailand
Czechoslovakia	Korea, Rep. of	Turkey
Egypt, Arab Rep. of	Netherlands	United Kingdom
France	Poland	U.S.A.
Hungary	Romania	U.S.S.R.
India	South Africa, Rep. of	
Ireland	Spain	

No Member Body had expressed disapproval of the document.

Hand taps for pipe threads for parallel and taper threads – General dimensions and marking

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1 SCOPE AND FIELD OF APPLICATION

ISO 529, *Short machine taps and hand taps.*

This International Standard specifies the general dimensions and marking of hand taps for pipe threads intended for the hand screwing of pipes and tubes.

It is applicable to the two following types of tap :

- taps for parallel threads (see table 1),
- taps for taper threads (see table 2),

threads in accordance with ISO/R 7 and ISO/R 228.

Furthermore it includes in an annex the bases used for calculation of the dimensions.

2 REFERENCES

ISO/R 7, *Pipe threads for gas list tubes and screwed fittings where pressure-tight joints are made on the threads (1/8 inch to 6 inches).*

ISO/R 228, *Pipe threads where pressure-tight joints are not made on the threads (1/8 inch to 6 inches).*

ISO 237, *Rotating tools with parallel shanks – Diameters of shanks and sizes of driving squares.*

3 GENERAL DIMENSIONS

The general dimensions are given in tables 1 and 2.

Shank diameters and driving squares shall conform to the specifications in ISO 237, the tolerances being as follows :

- on diameter d_1 :
 - h9 for precision shanks
 - h11 for other shanks
- on width across flats a :
 - h11
 - h12 (including errors of form of the square and of its position in relation to the shank).

4 MARKING

Marking shall be in accordance with the specifications of ISO 529.

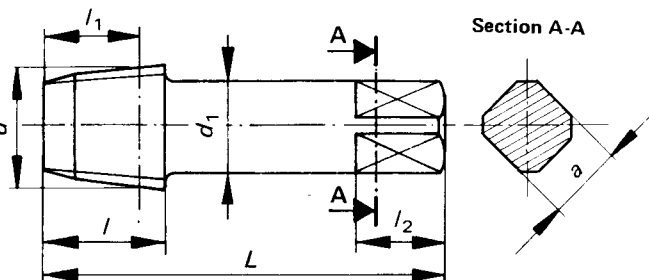
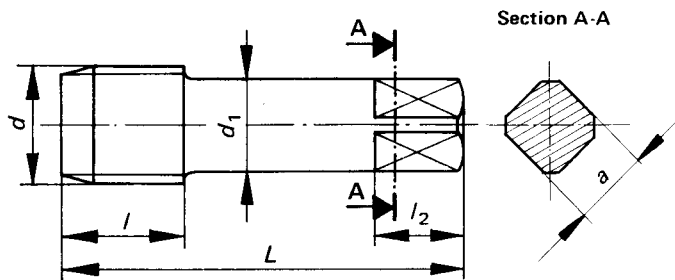


TABLE 1 – Taps for parallel threads – G series and R_p series

TABLE 2 – Taps for taper threads – R_c series

Dimensions in millimetres

Designation	d nominal	Pitch ≈	d ₁ h9	l +2 -1	L	Square	
						a h11	l ₂
1/16 – 28	7,723	0,907	5,6	14	52	4,5	7
1/8 – 28	9,728		8,0	15	59	6,3	9
1/4 – 19	13,157	1,337	10,0	19	67	8,0	11
3/8 – 19	16,662		12,5	21	75	10,0	13
1/2 – 14	20,955	1,814	16,0	26	87	12,5	16
(5/8) – 14	22,911		18,0		91	14,0	18
3/4 – 14	26,441		20,0	96	16,0	20	
(7/8) – 14	30,201		22,4	29	102	18,0	22
1 – 11	33,249	2,309	25,0	33	109	20,0	24
1 1/4 – 11	41,910		31,5	36	119	25,0	28
1 1/2 – 11	47,803		35,5	37	125	28,0	31
(1 3/4) – 11	53,746			39	132		
2 – 11	59,614		41	140	31,5	34	
(2 1/4) – 11	65,710		42	142			
2 1/2 – 11	75,184		45,0	45	153	35,5	38
3 – 11	87,884		50,0	48	164	40,0	42
3 1/2 – 11	100,330		63,0	50	173	50,0	51
4 – 11	113,030		71,0	53	185	56,0	56

Dimensions in millimetres

Designation	d nominal	Pitch ≈	d ₁ h9	l +2 -1	L	l ₁ max.	Square	
							a h11	l ₂
1/16 – 28	7,723	0,907	5,6	14	52	10,1	4,5	7
1/8 – 28	9,728		8,0	15	59		6,3	9
1/4 – 19	13,157	1,337	10,0	19	67	15,0	8,0	11
3/8 – 19	16,662		12,5	21	75	15,4	10,0	13
1/2 – 14	20,955	1,814	16,0	26	87	20,5	12,5	16
3/4 – 14	26,441		20,0	28	96	21,8	16,0	20
1 – 11	33,249		25,0	33	109	26,0	20,0	24
1 1/4 – 11	41,910	2,309	31,5	36	119	28,3	25,0	28
1 1/2 – 11	47,803		35,5	37	125	28,3	28,0	31
2 – 11	59,614		40,0	41	140	32,7	31,5	34
2 1/2 – 11	75,184		45,0	45	153	37,1	35,5	38
3 – 11	87,884		50,0	48	164	40,2	40,0	42
3 1/2 – 11	100,330		63,0	50	173	41,9	50,0	51
4 – 11	113,030		71,0	53	185	46,2	56,0	56

The sizes shown in brackets are to be avoided whenever possible.

ANNEX

BASES FOR CALCULATION OF THE DIMENSIONS

This International Standard has been prepared by means of empirical formulae extracted from standards and the existing practice in various countries, and by taking ISO 529 into consideration.

A.1 THREADED LENGTH

The threaded length consists of the entering length and the full thread length; we therefore have the formula

$$5p + 3,08 d^{0,55}$$

The first term of this formula corresponds to the maximum entering length of threads.

A.2 SHANK LENGTH

The shank length consists of the "free" length (outside the tap holder) of the shank, that supposed to be absorbed by the clamp of the tapping machine and that of the driving square; we therefore have the formula

$$(6,3 d^{0,45}) + (10 d_1^{0,25}) + l_2$$

The first term of this formula corresponds to the free length, the second to the length absorbed by the clamp and the third to the length of the square.