

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 866

CENTRE DRILLS
FOR CENTRE HOLES WITHOUT PROTECTING CHAMFERS
TYPE A

1st EDITION
November 1968

COPYRIGHT RESERVED

The copyright of ISO Recommendations and ISO Standards belongs to ISO Member Bodies. Reproduction of these documents, in any country, may be authorized therefore only by the national standards organization of that country, being a member of ISO.

For each individual country the only valid standard is the national standard of that country.

Printed in Switzerland

Also issued in French and Russian. Copies to be obtained through the national standards organizations.

BRIEF HISTORY

The ISO Recommendation R 866, *Centre drills for centre holes without protecting chamfers – Type A*, was drawn up by Technical Committee ISO/TC 29, *Small tools*, the Secretariat of which is held by the Association Française de Normalisation (AFNOR).

Work on this question by the Technical Committee began in 1960 and led, in 1965, to the adoption of a Draft ISO Recommendation.

In March 1966, this Draft ISO Recommendation (No. 955) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Argentina	India	Portugal
Austria	Israel	Spain
Belgium	Italy	Sweden
Canada	Japan	Switzerland
Chile	Korea, Rep. of	Turkey
Czechoslovakia	Netherlands	U.A.R.
France	New Zealand	U.S.S.R.
Hungary	Poland	

Three Member Bodies opposed the approval of the Draft :

Ireland
United Kingdom
Yugoslavia

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in November 1968, to accept it as an ISO RECOMMENDATION.

CENTRE DRILLS
FOR CENTRE HOLES WITHOUT PROTECTING CHAMFERS
TYPE A

1. SCOPE

This ISO Recommendation relates to centre drills and deals only with centre drills for centre holes without protecting chamfers – Type A; the other types of drills will be dealt with in further ISO Recommendations as the corresponding studies are completed.

This ISO Recommendation covers only metric dimensions, regarded as the only recommended dimensions in the future for this type of drill.

The flutes may be straight or spiral at the option of the manufacturer.

Unless otherwise indicated, these drills will be right-hand cutting.

An Annex is attached giving the recommended dimensions for the centre holes – Type A – which can be obtained by a rational use of the centre drills listed in this ISO Recommendation.

2. DESIGNATION

Centre drills should be designated by the type (in this case, Type A), the pilot diameter d (first column of Table 1) and the shank diameter d_1 (second column of Table 1).

Examples : A 0.63/3.15

A 2/5

3. RECOMMENDED DIMENSIONS

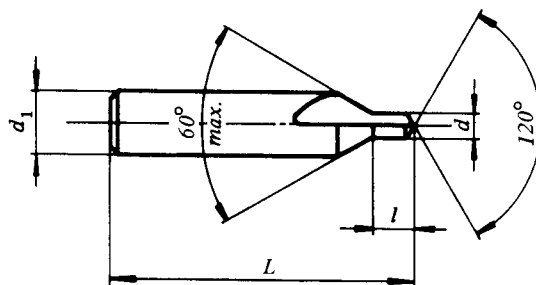
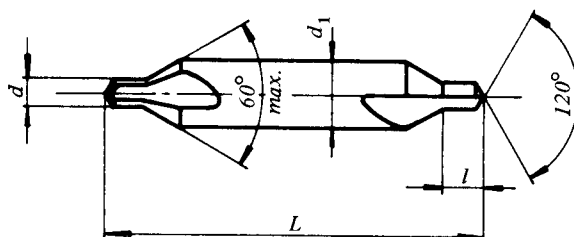
FIG. 1 - Single-ended centre drill - Type A - ($d \leq 0.8$ mm)FIG. 2 - Double-ended centre drill - Type A - ($d \geq 1$ mm)

TABLE I

Dimensions in millimetres

d k12	d_1 h9	L		l	
		max.	min.	max.	min.
(0.5)*	3.15	21	19	1.0	0.8
(0.63)*				1.2	0.9
(0.8)*				1.5	1.1
1.0				1.9	1.3
(1.25)*				2.2	1.6
1.6	4.0	37.5	33.5	2.8	2.0
2.0	5.0	42	38	3.3	2.5
2.5	6.3	47	43	4.1	3.1
3.15	8.0	52	48	4.9	3.9
4.0	10.0	59	53	6.2	5.0
(5.0)*	12.5	66	60	7.5	6.3
6.3	16.0	74	68	9.2	8.0
(8.0)*	20.0	83	77	11.5	10.1
10.0	25.0	103	97	14.2	12.8

* Sizes in brackets should be avoided whenever possible.

ANNEX

RECOMMENDED DIMENSIONS FOR CENTRE HOLES – TYPE A –
AND CHOICE OF THE DIMENSIONING METHOD

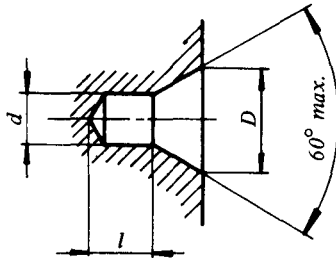


FIG. A.1 – 1st Method

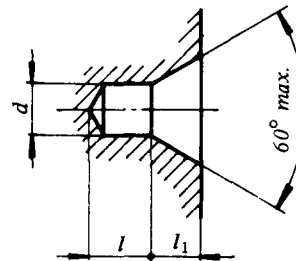


FIG. A.2 – 2nd Method

The two methods of dimensioning are practical equivalents.

Member Bodies will choose one *or* the other for inclusion in their national standards.

TABLE A.1

Dimensions in millimetres

<i>d</i> nominal	<i>l</i> min.	1st Method	2nd Method
		<i>D</i> nominal	<i>l</i> ₁ nominal
(0.5)*	0.8	1.06	0.48
(0.63)*	0.9	1.32	0.60
(0.8)*	1.1	1.70	0.78
1.0	1.3	2.12	0.97
(1.25)*	1.6	2.65	1.21
1.6	2.0	3.35	1.52
2.0	2.5	4.25	1.95
2.5	3.1	5.30	2.42
3.15	3.9	6.70	3.07
4.0	5.0	8.50	3.90
(5.0)*	6.3	10.60	4.85
6.3	8.0	13.20	5.98
(8.0)*	10.1	17.00	7.79
10.0	12.8	21.20	9.70

* Sizes in brackets should be avoided whenever possible.