
**Centre drills for centre holes without
protecting chamfers — Type A**

Forets à centrer pour centres sans chanfrein de protection — Type A

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: [Foreword — Supplementary information](#).

The committee responsible for this document is ISO/TC 29, *Small tools*, Subcommittee SC 2, *Holding tools, adaptive items and interfaces*.

This second edition cancels and replaces the first edition (ISO 866:1975), which constitutes a minor revision with the addition of [Annex B](#), showing the relationship between the symbols in this International Standard and the symbols in the ISO 13399 series.

Introduction

This International Standard, relating to centre drills, covers only centre drills for centre holes without a protecting chamfer (Type A). The other types are covered in ISO 2540 (Type B) and ISO 2541 (Type R).

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Centre drills for centre holes without protecting chamfers — Type A

1 Scope

This International Standard specifies the dimensions of centre drills for centre holes without protecting chamfers (Type A).

It covers only metric dimensions, which are regarded as the only recommended dimensions in the future for this type of drill.

The flutes may be straight or spiral, depending on the manufacturer's discretion.

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

Recommended dimensions for Type A centre holes, which can be obtained by a rational use of the centre drills listed in this International Standard, are given in [Annex A](#).

2 Dimensions

Dimensions of the centre drill shall be in accordance with the dimensions shown in [Figures 1](#) and [2](#) and given in [Table 1](#).

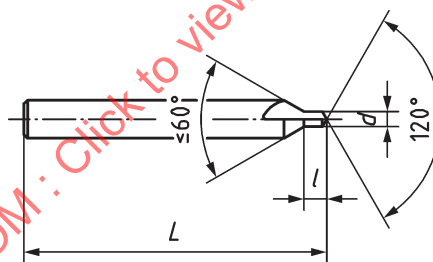


Figure 1 — Single-ended centre drill — Type A ($d \leq 0,8$ mm)

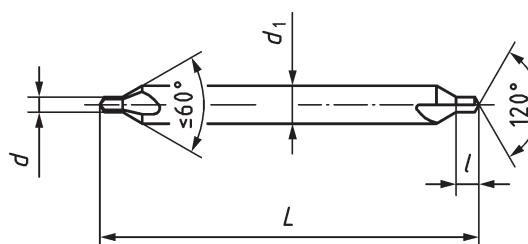


Figure 2 — Double-ended centre drill — Type A ($d \geq 1$ mm)

Table 1 — Single- and double-ended centre drill (Type A) dimensions

Dimensions in millimetres

d^a k12	d_1 h9	L		l	
		max.	min.	max.	min.
(0,5)	3,15	21	19	1,0	0,8
(0,63)	3,15	21	19	1,2	0,9
(0,8)	3,15	21	19	1,5	1,1
1,0	3,15	33,5	29,5	1,9	1,3
(1,25)	3,15	33,5	29,5	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

^a Sizes in brackets should be avoided whenever possible.

3 Designation

A centre drills in accordance with this International Standard shall be designated by the following:

- the term “Centre drill”;
- reference to this International Standard (e.g. ISO 866);
- Type A;
- pilot diameter, d (in millimetres);
- shank diameter, d_1 (in millimetres).

EXAMPLE A centre drill type A, pilot diameter $d = 0,63$, shank diameter $d_1 = 3,15$ is designated as follows:

Centre drill ISO 866 - A 0,63/3,15

Annex A (normative)

Dimensions for Type A centre holes and choice of the dimensioning method

There are two methods for dimensioning type A centre holes (see [Figures A.1](#) and [A.2](#)), which are practically equivalent. One or the other method may be used.

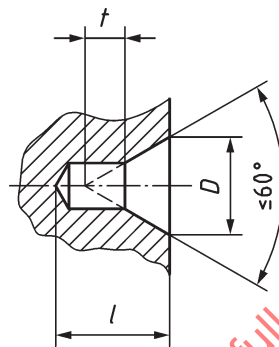


Figure A.1 — Method 1

Dimension l depends on the length, l , of the centre drill. It should not, even in the case of drilling with re-sharpened centre drills, be less than the reference value, t , given in [Table A.1](#).

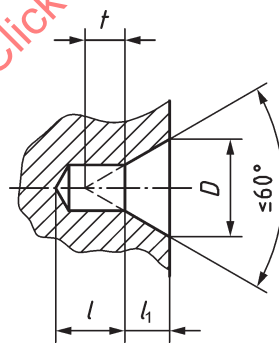


Figure A.2 — Method 2

Dimension l depends on the length, l , of the centre drill. It should not, even in the case of drilling with re-sharpened centre drills, be less than the reference value, t , given in [Table A.1](#).

Table A.1 — Dimensioning methods for type A centre holes

Dimensions in millimetres

d^a nominal	Method 1 D nominal	Method 2 l_1 nominal	t Reference value
(0,5)	1,06	0,48	0,5
(0,63)	1,32	0,60	0,6
(0,8)	1,70	0,78	0,7
1,0	2,12	0,97	0,9
(1,25)	2,65	1,21	1,1
1,6	3,35	1,52	1,4
2,0	4,25	1,95	1,8
2,5	5,30	2,42	2,2
3,15	6,70	3,07	2,8
4,0	8,50	3,90	3,5
(5,0)	10,60	4,85	4,4
6,3	13,20	5,98	5,5
(8,0)	17,00	7,79	7,0
10,0	21,20	9,70	8,7

^a Sizes in brackets should be avoided whenever possible.

Annex B (informative)

Relationship between designations in this International Standard and ISO 13399

For the relationship between the designations in this International Standard and preferred symbols in ISO 13399, see [Table B.1](#).

Table B.1 — Relationship between designations in this International Standard and ISO 13399

ISO 866		ISO 13399 series		
Symbol	Reference	Property name	Symbol	Reference
d	Figure 1 , Figure 2 , Table 1	cutting diameter	DC	ISO/TS 13399-3 BSU 71D084653E57F
d_1	Table 1	connection diameter machine side	DCONMS	ISO/TS 13399-3 BSU 71EBDBF5060E6
l	Figure 1 , Figure 2 , Table 1	step diameter length and point length	SDL + PL	ISO/TS 13399-3 BSU 71DCCC3DFA23A (SDL) BSU 71DCCFD064042 (PL)
L	Figure 1 , Figure 2 , Table 1	overall length	OAL	ISO/TS 13399-3 BSU 71D078EB7C086
120°	Figure 1 , Figure 2 , Table 1	point angle	SIG	ISO/TS 13399-3 BSU 71DCCC4FEF366
$\leq 60^\circ$	Figure 1 , Figure 2 , Table 1	step included angle	STA	ISO/TS 13399-3 BSU 71DF151D6E547