INTERNATIONAL STANDARD

ISO 2490

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Single-start solid (monobloc) gear hobs with tenon drive or axial keyway, 1 to 40 module — Nominal dimensions

Fraises-mères monoblocs à un filet, à entraînement par tenon ou par clavette, de modules 1 à 40 — Dimensions nominales

Reference number
ISO 2490:1996(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 2490 was prepared by Technical Committee ISO/TC 60, *Gears*.

This second edition cancels and replaces the first edition (ISO 2490:1975), which has been technically revised.

Annex A of this International Standard is for information only.

International Organization for Standardization
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Single-start solid (monobloc) gear hobs with tenon drive or axial keyway, 1 to 40 module — Nominal dimensions

1 Scope

This International Standard specifies the nominal dimensions of general-purpose single-start solid (monobloc) gear hobs with axial keyway or tenon drive of 1 to 40 module.

These hobs are intended for the production of gears which conform to ISO 54 and present a 20° pressure angle in conformity with ISO 53.

NOTE — Solid hobs are those made from one solid piece of material as opposed to hobs which have inserted blades.

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 53:—[1], *Cylindrical gears for general and heavy engineering — Standard basic rack tooth profile.*

ISO 54:—[2], *Cylindrical gears for general engineering and for heavy engineering — Modules.*

ISO 240:1994, *Milling cutters — Interchangeability dimensions for cutter arbors or cutter mandrels.*

ISO 2780:1986, *Milling cutters with tenon drive — Interchangeability dimensions with cutter arbors — Metric series.*

3 Nominal dimensions

The nominal dimensions shall be as shown in figure 1 and given in table 1.

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1) To be published. (Revision of ISO 53:1974)

2) To be published. (Revision of ISO 54:1977)

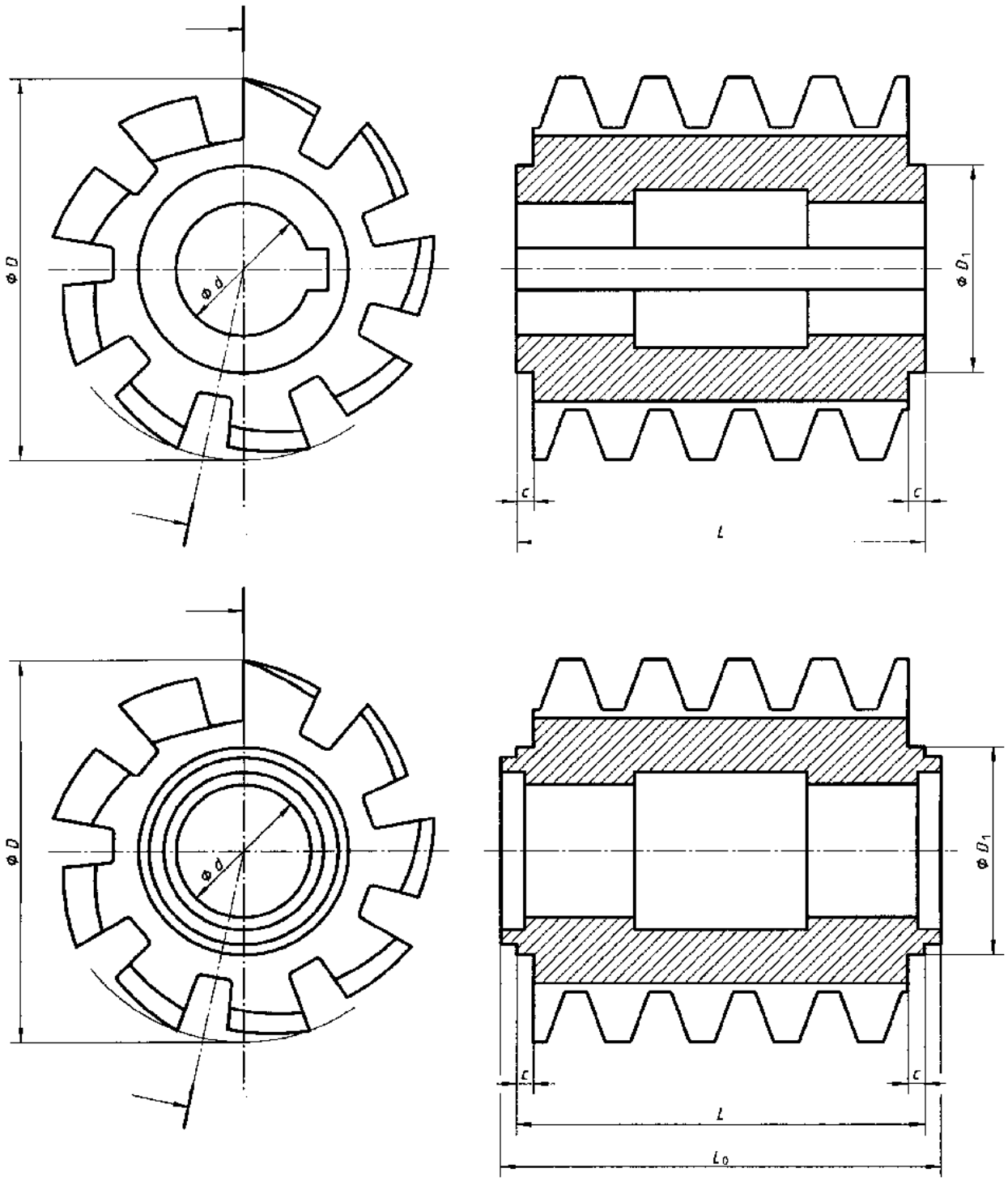

Figure 1 — Dimensions of gear hobs

Table 1 — Nominal dimensions of gear hobs

Standardized modules		Outside diameter	Bore diameter	Minimum hub length	Overall length		Typical number of gashings
Series I	Series II	D mm	d mm	c mm	L mm	L_0 mm	
1	1,125	50	22	4	32	44	14
1,25							
1,5	1,375	63	27		40	52	
	1,75						
2	2,25	71	27		50	63	
2,5	2,75	71	27		63	78	
3	3,5	80	32		71	88	
4	4,5	90	32		90	107	
5	5,5	100	32		100	117	10
6	7	112	40		112	130	
8	9	125	40	5	140	160	
10	11	140	50		170	190	
12	14	180	50		200	220	9
16	18	212	60		250	275	
20	22	250	60		300	325	
25		300	60		360	390	
	28	320	80		400	430	
32	36	350	80		450	480	
40		400	80		480	510	

NOTES

1 The inclination angle of the cutter is calculated from the formula

$$\sin \delta_0 = \frac{m \times z_0}{D - 2h_{a0}}$$

where

m is the module;

z_0 is the number of threads on the gear hob;

D is the outside diameter of the gear hob;

h_{a0} is the hob addendum of the gear hob (in conformity with ISO 53).

2 Axial gashing is permitted up to a 6° lead angle.

3 Hobs may be either cylindrical or conical. In the case of conical hobs, the outside diameter quoted in this table is the major diameter.

4 Hub diameter D_1 is left to the manufacturer's discretion.

5 Dimensions of keyway and tenonway are specified in ISO 240 and ISO 2780, respectively.

Annex A
(informative)

Bibliography

[1] ISO 701-1:—[3], *International gear notation — Part 1: Symbols for geometrical data.*

[2] ISO 839-2:1977, *Milling machine arbors with 7/24 tapers — Part 2: Accessories.*

[3] ISO 1122-1:—[4], *Vocabulary of gear terms — Part 1: Definitions related to geometry.*

[4] ISO 4468:1982, *Gear hobs — Single start — Accuracy requirements.*

3) To be published. (Revision of ISO 701-1:1976)

4) To be published. (Revision of ISO 1122-1:1983)

ICS 21.200

Descriptors: metal cutting, gears, gear hobs, dimensions.

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