

INTERNATIONAL STANDARD

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8116-5

Second edition
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Textile machinery and accessories — Beams for winding —

Part 5:

Sectional beams for warp knitting machines

Matériel pour l'industrie textile — Ensouples pour enroulement —

Partie 5: Ensouples sectionnelles pour métiers à mailles jetées



Reference number
ISO 8116-5:1995(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 8116-5 was prepared by Technical Committee ISO/TC 72, *Textile machinery and allied machinery and accessories*, Subcommittee SC 2, *Winding and preparatory machinery for fabric manufacture*.

This second edition cancels and replaces the first edition (ISO 8116-5:1988), which has been technically revised.

ISO 8116 consists of the following parts, under the general title *Textile machinery and accessories — Beams for winding*:

- Part 1: *General vocabulary*
- Part 2: *Warper's beams*
- Part 3: *Weaver's beams*
- Part 4: *Quality classification of flanges for weaver's beams, warper's beams and sectional beams*
- Part 5: *Sectional beams for warp knitting machines*
- Part 6: *Beams for ribbon weaving and ribbon knitting*
- Part 7: *Beams for dyeing slivers, rovings and yarns*

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- *Part 8: Definitions of run-out tolerances and methods of measurement*
- *Part 9: Dyeing beams for textile fabrics*

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Textile machinery and accessories — Beams for winding —

Part 5: Sectional beams for warp knitting machines

1 Scope

This part of ISO 8116 defines the basic terms and designation for sectional beams for warp knitting machines and lays down the main dimensions as well as the maximum values of variation of form and position for the main elements of these beams. For cases where a limit for the residual unbalance must be fixed, a recommendation is made for the choice of quality grade.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 8116. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 8116 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 286-2:1988, *ISO system of limits and fits — Part 2: Tables of standard tolerance grades and limit deviations for holes and shafts*.

ISO 1940-1:1986, *Mechanical vibration — Balance quality requirements of rigid rotors — Part 1: Determination of permissible residual unbalance*.

ISO 8116-8:1995, *Textile machinery and accessories — Beams for winding — Part 8: Definitions of run-out tolerances and methods of measurement*.

3 Terminology and main dimensions

(See figure 1 and table 1)

- d_1 flange diameter
- d_2 outside barrel diameter
- d_3 bore diameter of flange
- d_4 inside barrel diameter
- d_5 outside diameter of mandrel or shaft

- l_1 length between flanges
 l_2 overall length
 s flange thickness
 x width of key
 b width of keyway
 h d_3 + keyway depth
 y d_5 + height of key

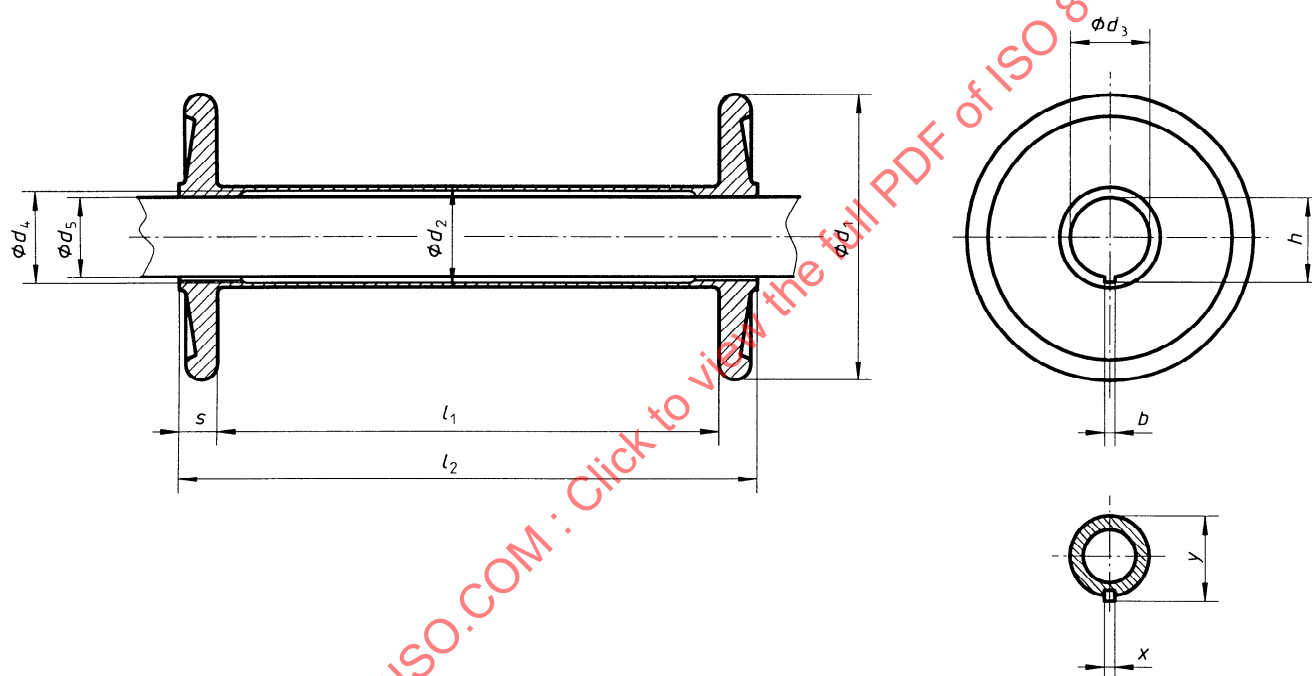


Figure 1 — Sectional beam

Table 1 — Main dimensions

Dimensions in millimetres

d_1 ± 3	l_2 $\begin{smallmatrix} 0 \\ -1 \end{smallmatrix}$	d_2 ¹⁾ min.	d_3 H11 ²⁾	b min.	h min.
355	355 535	110	70,4	14	75
535	535 1 065 1 270 1 325	185	152,7	19	159
765	1 065	250			
(815)	1 270				
1 015	1 325	360			
NOTE — The value in parentheses should be avoided whenever possible.					
1) Minimum values depending on the setting device of the machine. 2) See ISO 286-2.					

4 Circular axial run-out tolerance, T_a , of flanges

The permissible circular axial run-out tolerance, T_a , of flanges is given in table 2.

The run-out tolerance shall be measured in accordance with ISO 8116-8.

Table 2 — Permissible circular axial run-out tolerance of flanges

d_1 mm	T_a mm
335	0,2
535	0,35
765	0,5
(815)	
1 015	0,75

5 Total run-out tolerance, T_r , of barrel

The permissible total run-out tolerance of the barrel is given, in millimetres, by the formula

$$T_r = \frac{0,25 \times l_1}{1\,000}$$

The run-out shall be measured in accordance with ISO 8116-8.

6 Residual unbalance

Depending on the circumstances, it is sometimes necessary to fix a value for the residual unbalance of sectional beams. In general, a quality grade G6,3 (see ISO 1940-1) will be appropriate. If special conditions call for another grade, this shall be specified.

7 Other specifications

The following details should be specified as appropriate:

- a) materials of barrel and flanges;
- b) nature of material to be wound;
- c) fabrication process of flanges (casting or forging);
- d) surface quality and, if possible, treatment (paint, chromium-plating or nickelling etc.) of the beam in contact with the material to be wound (inner sides of the flanges and the outside barrel diameter);
- e) number of grooves (one or two) to be included in the boss of each flange.

8 Designation

The designation of a sectional beam in accordance with this part of ISO 8116 shall include the following information in the order given:

- a) "Sectional beam";
- b) reference to this part of ISO 8116, i.e. ISO 8116-5;
- c) the flange diameter, d_1 , in millimetres;
- d) the overall length, l_2 , in millimetres;

EXAMPLE

A sectional beam with flange diameter d_1 of 535 mm and overall length l_2 of 1 065 mm shall be designated as follows:

Sectional beam ISO 8116-5 — 535 × 1 065

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