

# INTERNATIONAL STANDARD

**ISO**  
**8116-3**

Second edition  
1995-09-15

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## **Textile machinery and accessories — Beams for winding —**

### **Part 3: Weaver's beams**

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*Matériel pour l'industrie textile — Ensembles pour enroulement —*

*Partie 3: Ensembles de tissage*



Reference number  
ISO 8116-3:1995(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 8116-3 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 of ISO 8116-3 cancels and replaces ISO 6175:1983 and ISO 8116-3:1986, which have 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 3: Weaver's beams

### 1 Scope

This part of ISO 8116 defines the basic terms and lays down the main dimensions and the variations in form and position for weaver's beams that are used for weaving preparation as well as for weaving. Furthermore the main dimensions of the profile threads for weaver's beams are given.

### 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 109:1982, *Textile machinery — Working widths of weaving machines*.

ISO 286-2:1988, *ISO system of limits and fits — Part 2: Tables of standard tolerance grades and limit deviations for holes and shafts*.

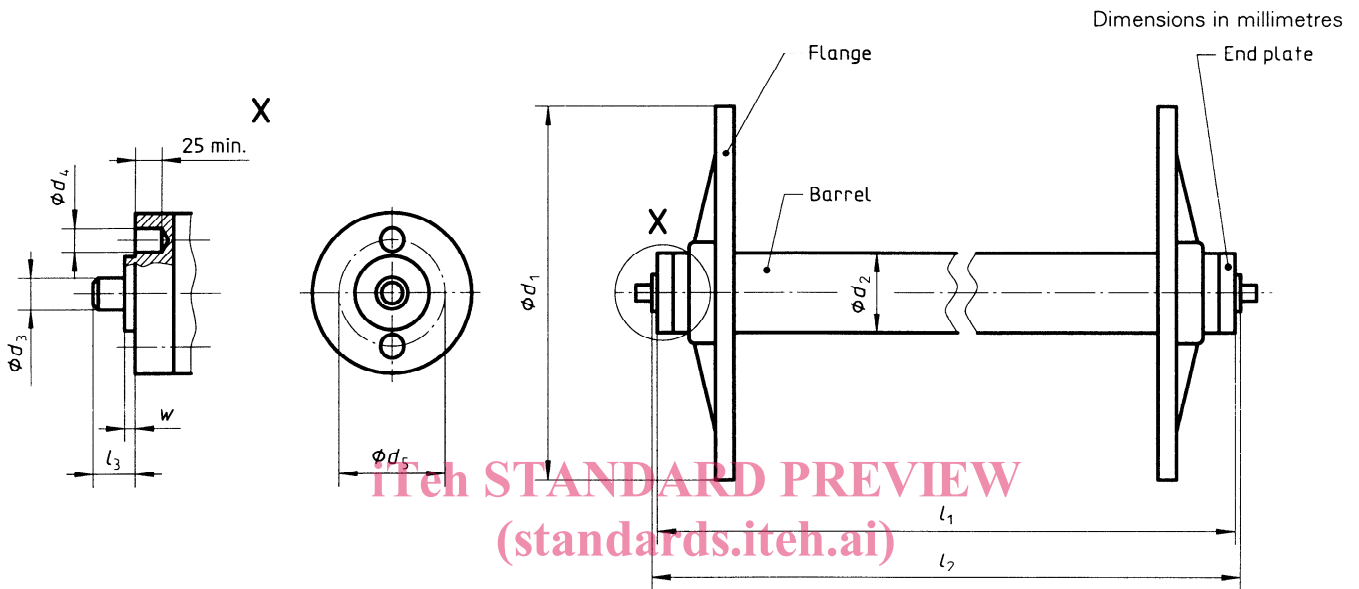
ISO 8116-8:1995, *Textile machinery and accessories — Beams for winding — Part 8: Definitions of run-out tolerances and methods of measurement*.

### 3 Terminology and main dimensions

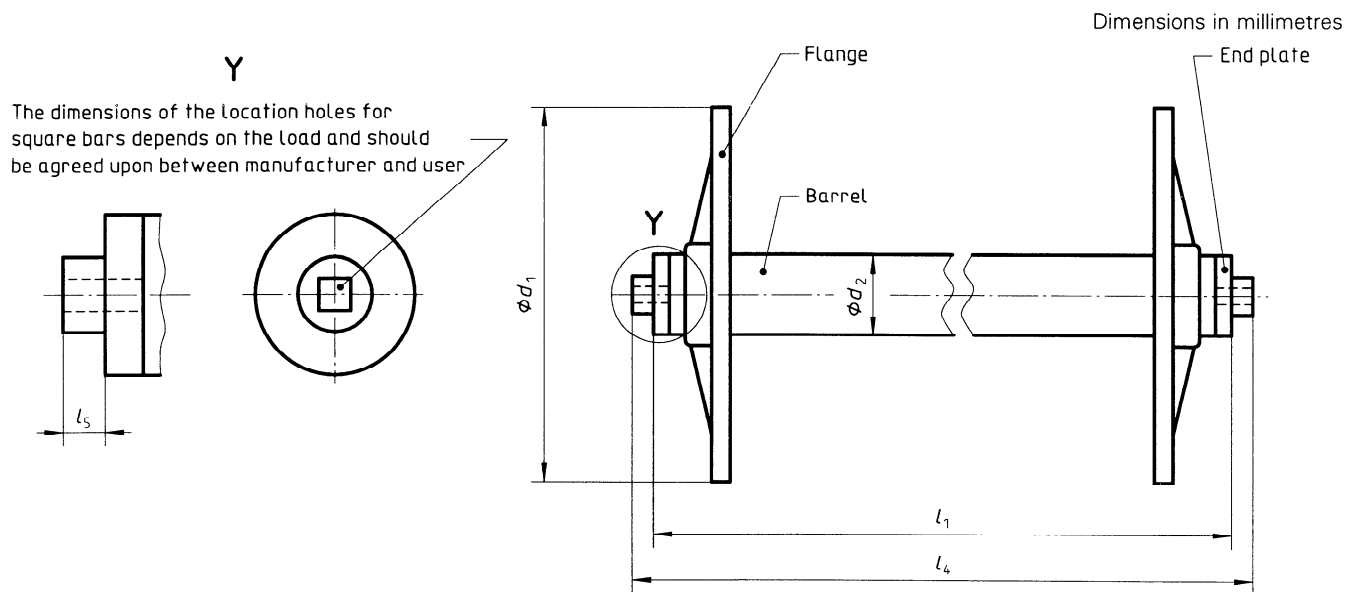
(See figures 1 and 2 and table 1)

- $d_1$  flange diameter
- $d_2$  barrel diameter
- $d_3$  shaft diameter
- $d_4$  driving hole diameter
- $d_5$  diameter between driving hole centres
- $l_1$  barrel length including end plates

- $l_2$  length over bosses (collar to collar)
- $l_3$  length of shaft (boss included)
- $l_4$  length over bosses (collar to collar) (related to designs with end plates with square hole)
- $l_5$  length of boss
- $w$  width of boss



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**Figure 1 — Weaver's beam with shafts — Type A**  
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**Figure 2 — Weaver's beam with end plates having square hole — Type B**

Table 1 — Main dimensions of weaver's beams, types A and B

Dimensions in millimetres

$d_1$	$d_2$		$d_3$ h11 <sup>1)</sup>	$l_1$	$l_2$ $\begin{matrix} 0 \\ -2 \end{matrix}$	$l_3$	$l_4$	$l_5$	$w$	$d_4$	$d_5$
	Completely machined	Partly machined									
500 600 700 750	150	152,4	30							22	100
800											
850 900	216	219,1	38 45	above 1 000 in steps of 100	$l_1 + 2w^{2)}$	40	$l_1 + 2l_5$	32 68	5 (50) <sup>2)</sup>		
950 1 000											
1 250 1 400 1 500	269	273	50 —								

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NOTE — For very long beam barrels, the values of the barrel diameters  $d_2$  indicated in table 1 are no longer sufficient. In this case it is recommended that the shaft diameter and the barrel diameter next in size to that indicated for the flange diameter  $d_1$  of the beam be selected. There is no fixed relationship among the diameters of shaft, barrel and flange, and the barrel length.

1) See ISO 286-2.

2) In the case of special designs of end plates (for example shaft with square shank), dimension  $w$  should be either 5 mm or 50 mm.

#### 4 Profile threads

(See figures 3 and 4 and tables 2 and 3)

$d_6$  outer diameter of barrel thread

$d_7$  inner diameter of flange thread

$P$  pitch of the thread

Dimensions in millimetres

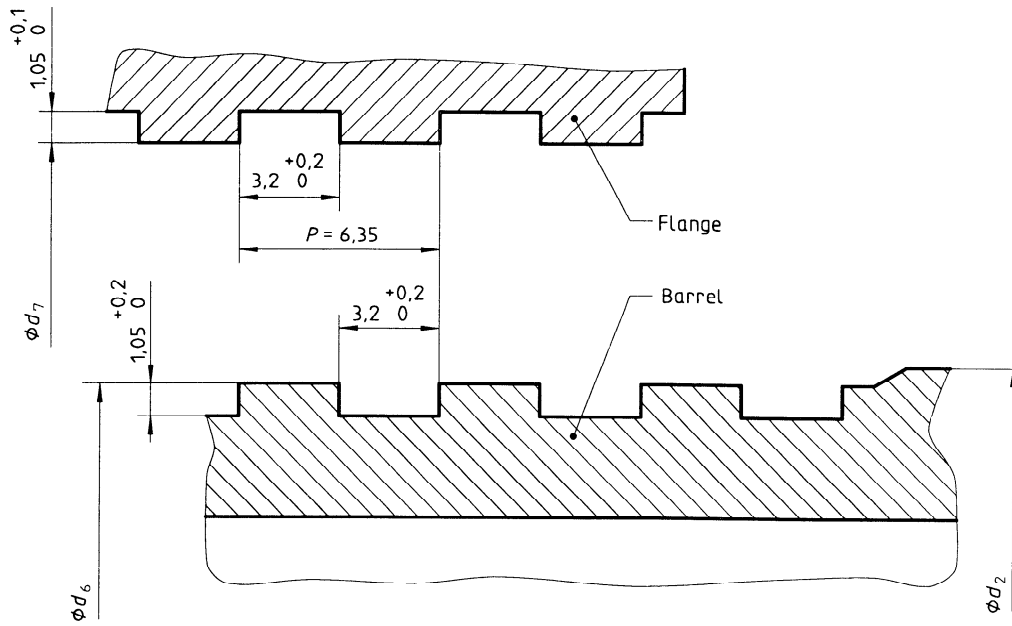


Figure 3 — Type 1 threads

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Dimensions in millimetres

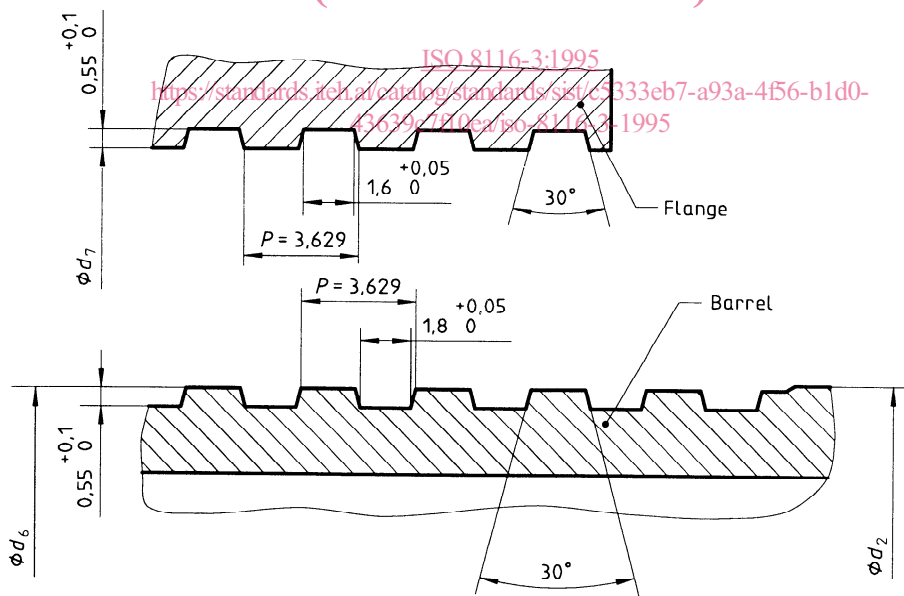


Figure 4 — Type 2 threads



**Table 2 — Type 1 threads**

Dimensions in millimetres

$d_2$	$d_6$ 0 -0,2	$d_7$ +0,15 0
150	149,35	147,45
216	215,35	213,45
269	268,35	266,45

**Table 3 — Type 2 threads**

Dimensions in millimetres

$d_2$	$d_6$ 0 -0,1	$d_7$ +0,15 0
150	149,9	149,2
216	215,9	215,2
269	268,9	268,2

NOTE — Threads of type 2 are primarily used as adjusting threads. Flanges are usually secured to the barrel by separate means.

## 5 Circular axial run-out tolerance, $T_a$ , of flanges

The permissible circular axial run-out tolerances,  $T_a$ , of the flanges are given in table 4. The run-out shall be measured in accordance with ISO 8116-8.

**Table 4 — Permissible circular axial run-out of flanges**

$d_1$ mm	$T_a$ mm
$d_1 \leq 600$	0,5
$600 < d_1 \leq 800$	0,75
$800 < d_1 \leq 1\ 000$	1
$1\ 000 < d_1 \leq 1\ 250$	1,25
$d_1 > 1\ 250$	1,5

## 6 Total run-out tolerance, $T_r$ , of the barrel

The permissible total run-out tolerance,  $T_r$ , 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.