International Standard 8116/3

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Textile machinery and accessories — Beams for winding — Part 3: Weaver's beams — Terminology and main dimensions

Matériel pour l'industrie textile — Ensouples pour enroulement — Partie 3: Ensouples de tissage — Terminologie et dimensions principales

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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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 8116/3 was prepared by Technical Committee ISO/TC 72, *Textile machinery and allied machinery and accessories.*

Although this is a first edition of ISO 8116/3, it constitutes a minor technical revision of ISO 5241-1978 which is now cancelled and withdrawn.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Textile machinery and accessories — Beams for winding — Part 3: Weaver's beams — Terminology and main dimensions

1 Scope and field of application

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.

2 References

ISO 109, *Textile machinery — Working widths of weaving machines.*

ISO 286, *ISO system of limits and fits.*[1)]

ISO 2013, *Textile machinery and accessories — Beams — Method of measuring variations of form and position.*

ISO 6175, *Textile machinery and accessories — Recommended profile threads for weaver's beams.*

ISO 8116/1, *Textile machinery and accessories — Beams for winding — Part 1: Vocabulary.*

ISO 8116/2, *Textile machinery and accessories — Beams for winding — Part 2: Warper's beams — Terminology and main dimensions.*

ISO 8116/4, *Textile machinery and accessories — Beams for winding — Part 4: Quality classification of flanges for weaver's beams, warper's beams and sectional beams.*

1) At present at the stage of draft. (Revision of ISO/R 286-1962.)

3 Terminology and main dimensions

d_1 = flange diameter

d_2 = barrel diameter

d_3 = shaft diameter

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

Dimensions in millimetres

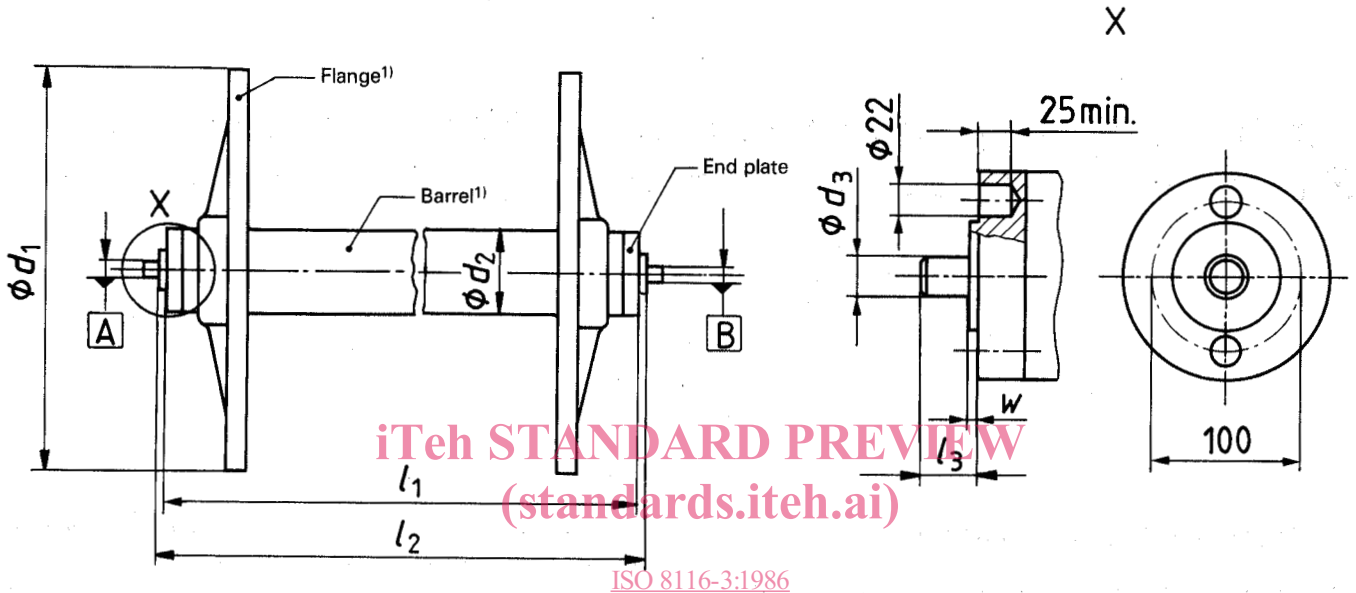

Figure 1 — Weaver's beam with shafts — Type A

Dimensions in millimetres

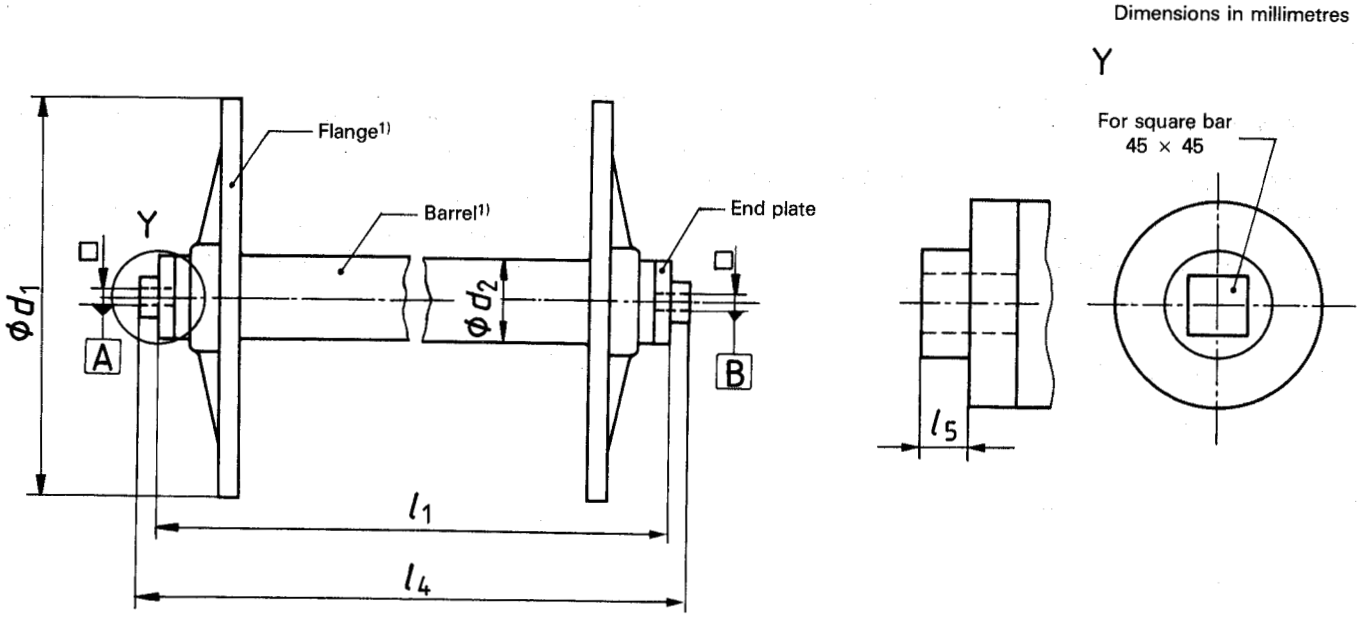

Figure 2 — Weaver's beam with end plates having square hole — Type B

1) For the method of fixation of the flange and barrel, see ISO 6175.

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

Values in millimetres

d_1	d_2 Completely machined	d_2 Partly machined	d_3 h11[1]	l_1	l_2 $^{0}_{-2}$	l_3	l_4	l_5	w
500 600 700 750 800	150	152,4	30 38 45	Above 1 000, in steps of 100	$l_1 + 2w$[2]	40	$l_1 + 2l_5$	32 68	5 (50)[2]
850 900	216	219,1							
950 1 000	265	273							

1) See ISO 286.

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.

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 to select the shaft diameter and the barrel diameter next in size to that indicated for the flange diameter d_1 of the beam. There is no fixed relationship between the diameters of shaft, barrel and flange, and the barrel length.

4 Circular axial run-out, T_a, of flanges

The circular axial run-out, T_a, of flanges shall be measured in accordance with ISO 2013.

Table 2 — Permissible circular axial run-out of flanges

Values in millimetres

d_1	T_a Quality grade 1	T_a Quality grade 2
$d_1 \leqslant 600$	0,50	1,00
$600 < d_1 \leqslant 800$	0,75	1,50
$800 < d_1 \leqslant 1\,000$	1,00	2,00

5 Total run-out, T_r, of the barrel

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

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

and shall be measured in accordance with ISO 2013.

6 Other specifications

The following details should be specified as appropriate:

a) materials of barrel, end plates and flanges;

b) nature of material to be wound;

c) surface finish of the inner sides of the flanges and the exterior surface of the barrel;

d) end plates with shafts on both sides as an alternative to the use of different shaft diameters;

e) fastening of the end plates on the barrel;

f) holes in the barrel for fastening the warp (care should be taken when winding highly elastic yarns as holes for fastening the warp cause a weakening of the cross-section of the barrel);

g) design of flanges;

h) fastening of the flanges on the barrel;

i) maximum and minimum lengths of barrel between flanges ("dress width");

j) driving hole in the barrel;

k) use of ruffles.

For standard working widths of weaving machines, see ISO 109.

7 Designation

Example of designation for a weaver's beam type A with flange diameter d_1 = 800 mm, shaft diameter d_3 = 38 mm and barrel length l_1 = 1 800 mm:

Weaver's beam ISO 8116/3 - A 800 × 38 × 1 800