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

**Part 3:
Weaver's beams**

*Matériel pour l'industrie textile — Ensembles pour enroulement —
Partie 3: Ensembles de tissage*

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Foreword

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The main task of technical committees is to prepare International Standards. 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.

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.

ISO 8116-3 was prepared by Technical Committee ISO/TC 72, *Textile machinery and accessories*, Subcommittee SC 3, *Machinery for fabric manufacturing including preparatory machinery and accessories*.

This third edition cancels and replaces the second edition (ISO 8116-3:1995), and ISO 13553, of which it constitutes a technical revision.

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: Test methods and 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*
- *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 specifies the main dimensions, mechanical strength and permissible tolerances of form and position for weaver's beams that are used for weaving preparation as well as for weaving. The main dimensions of the profile threads for weaver's beams and the specifications for connections for automation of beam changing are also given.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

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

ISO 8116-4, *Textile machinery and accessories — Beams for winding — Part 4: Test methods and quality classification of flanges for weaver's beams, warper's beams and sectional beams*

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

3 Types and main dimensions

Weaver's beams are divided into three types:

- Type A weaver's beams with shafts;
- Type B weaver's beams with end plates having square holes;
- Type C weaver's beams for automation of beam changing.

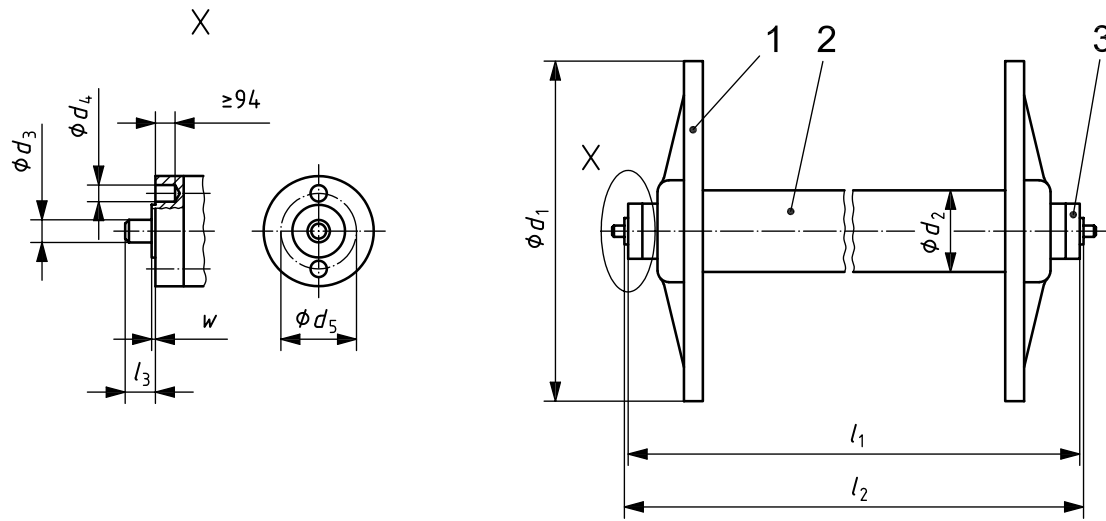
The main dimensions of weaver's beams, Type A and Type B, are given and explained in Figure 1 and Figure 2.

The main dimensions of weaver's beams, Type C, are shown and explained in Figure 3.

The main dimensions of weaver's beams, Type A and Type B, as given in Table 1 and Table 3, shall be met.

The main dimensions of weaver's beams, Type C, as given in Table 2 and Table 3, shall be met.

Dimensions in millimetres

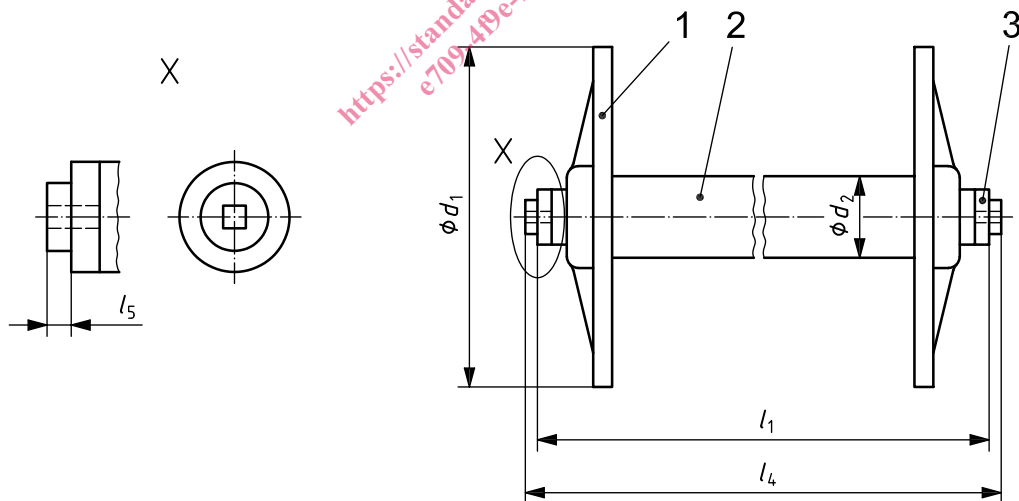


Key

- 1 beam flange
- 2 beam barrel
- 3 end plate

- 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, including bosses
- l_3 length of shaft, including boss
- w width of boss

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

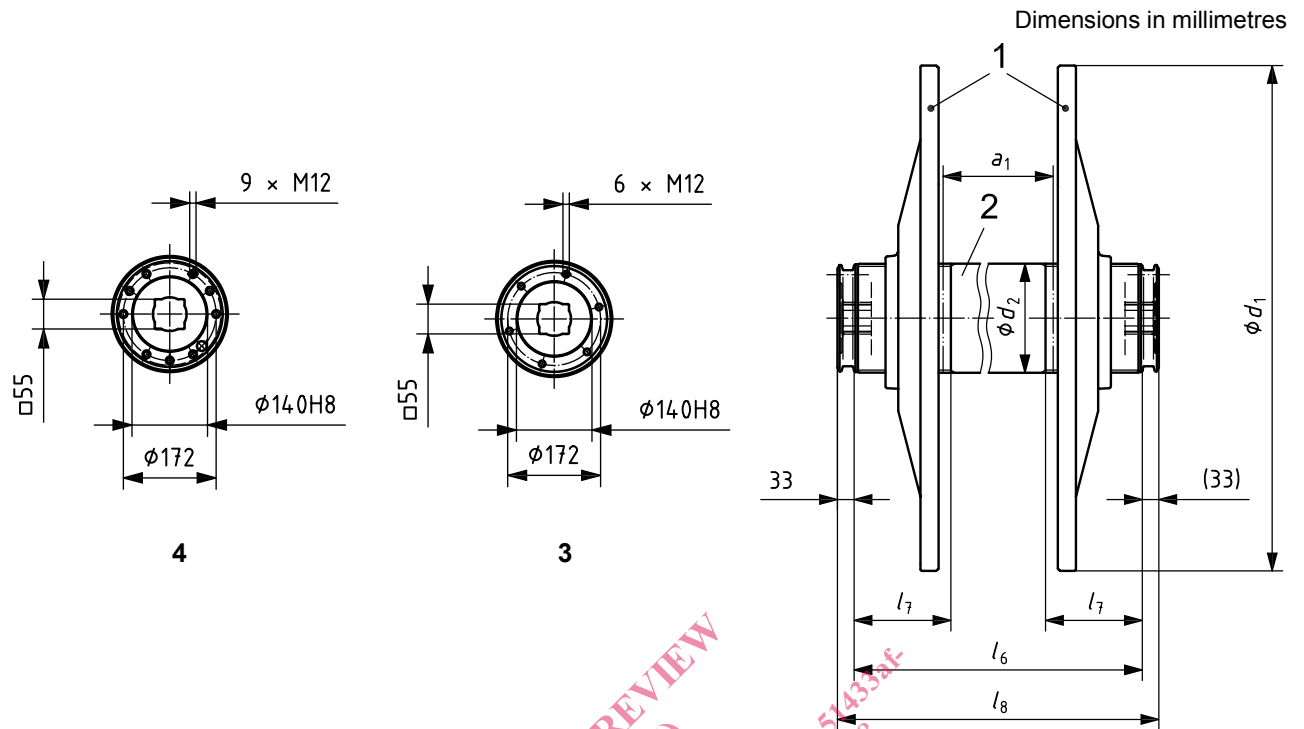


Key

- 1 beam flange
- 2 beam barrel
- 3 end plate

- d_1 flange diameter
- d_2 barrel diameter
- l_1 barrel length, including end plates
- l_4 length, including bosses (related to designs with end plates with square hole)
- l_5 length of boss

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



Key

- 1 beam flange
- 2 beam barrel
- 3 execution C2
- 4 execution C1

- a_1 maximum working width
- d_1 flange diameter
- d_2 barrel diameter
- l_6 length of beam barrel
- l_7 length of profile thread
- l_8 total length

Figure 3 — Weaver's beam for automation of beam changing — Type C, executions C1 and C2

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

Dimensions in millimetres

d_2	d_3 h11 ^a	l_1	l_2 0 -2	l_3	l_4	l_5	w	d_4	d_5
150	30	> 1 000 in steps of 100	$l_1 + 2 w^b$	40	$l_1 + 2 l_5$	32 68	5 (50) ^b	22	100
150	38							—	—
216	45							—	—
269	50							—	—
269	—	—	—	—	—	—	—	—	

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 flange diameter d_1 of the beam (see Table 3) be selected. There is no fixed relationship among the diameters of shaft, barrel and flange, and the barrel length.

^a Standard tolerance grades and limit deviations in accordance with ISO 286-2.

^b 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.

Table 2 — Main dimensions of weaver's beams for automation of beam changing — Type C, executions C1 and C2

Dimensions in millimetres

Barrel diameter d_2		216 269
Length of profile width l_7	Maximum working width a_1^a	
	$a_1 \leq 1\ 800$	600
	$1\ 800 < a_1 \leq 2\ 500$	885
	$a_1 > 2\ 500$	1 150
Length of beam barrel l_6		$a_1 + 300$
Total length $l_8 \pm 1$		$a_1 + 366$

^a Term in accordance with ISO 109.

Table 3 — Flange geometry for weaver's beams — Types A, B and C

Type	d_1 mm	d_2 mm
A B	500	150
	600	150
	700	150
	750	150
	800	150
C	800	216
	850	216
	900	216
	950	216
	1 000	269
	1 250	269
	1 400	269
1 500	269	

4 Mechanical strength

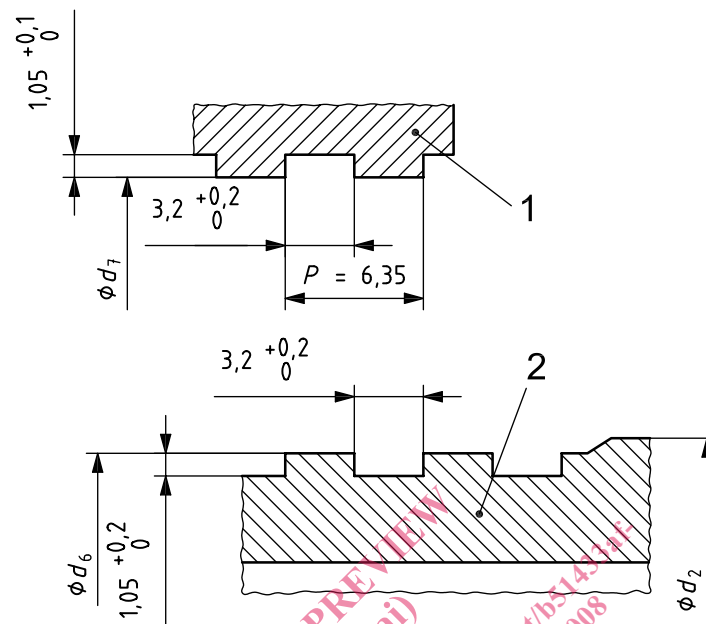
The mechanical strength of weaver's beam flanges is classified in accordance with the quality classes defined in ISO 8116-4. The mechanical strength of the weaver's beam flanges shall be verified, depending on the quality class, using the test method described in ISO 8116-4.

5 Profile threads

The threads are divided into two main types, which are given and dimensioned in Figure 4 and Figure 5.

The dimensions given in Table 4 and Table 5 shall be met.

Dimensions in millimetres



Key

- 1 flange
- 2 barrel
- d_2 barrel diameter
- d_6 outer diameter of barrel thread
- d_7 inner diameter of flange thread
- P pitch of the thread

Figure 4 — Type 1 threads