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# International Standard



# 6169

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

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## Textile machinery and accessories — Flanged bobbins for doubling and twisting

*Matériel pour l'industrie textile — Bobines à joues à doubler et à retordre*

First edition — 1982-12-01

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Descriptors : textile machinery, twisting, bobbins, dimensions, definitions.

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

International Standard ISO 6169 was developed by Technical Committee ISO/TC 72, *Textile machinery and allied machinery and accessories*, and was circulated to the member bodies in September 1981.

It has been approved by the member bodies of the following countries :

|                     |                       |                |
|---------------------|-----------------------|----------------|
| Australia           | Italy                 | Spain          |
| Brazil              | Japan                 | Turkey         |
| Bulgaria            | Korea, Rep. of        | United Kingdom |
| Egypt, Arab Rep. of | Poland                | USSR           |
| Germany, F.R.       | Romania               |                |
| India               | South Africa, Rep. of |                |

The member bodies of the following countries expressed disapproval of the document on technical grounds :

Belgium  
Czechoslovakia

# Textile machinery and accessories — Flanged bobbins for doubling and twisting

## 0 Introduction

The bobbins specified in this International Standard are suitable for use with the range of ring sizes listed in ISO 97 and at each of the ring sizes the effective or working length of the bobbin i.e. allied to the lift of the machine, agrees with the equivalent basis used in ISO 368. The diameters of the flanges have been arranged generally to enable sufficient clearance between the flange and the ring when plastic travellers are used according to ISO 2802. However, certain makes of plastic travellers may have dimensions on the outside which might not work within the resulting clearance and a check should take place between the purchaser and supplier of the bobbin.

The barrel diameter has been founded on an angle of wind of  $21^\circ$  and rounded to the nearest diameter of aluminium tube commercially available.

## 1 Scope and field of application

This International Standard defines the terms for the main features and principal dimensions of flanged bobbins for doubling and twisting.

The principal dimensions are those which relate to the allied parts of the machine on which they fit and other accessories in conjunction with which they are called to operate.

NOTE — In addition to the terms used in the three official ISO languages (English, French and Russian), this International Standard gives the equivalent terms in German and Italian; these terms have been included at the request of Technical Committee ISO/TC 72 and are published under the responsibility of the member bodies for

Germany, F.R. (DIN) and Italy (UNI). However only the terms given in the official languages can be considered as ISO terms.

## 2 References

ISO 97, *Textile machinery and accessories — Rings for spinning, doubling and twisting for ear-shaped travellers.*

ISO 368, *Textile machinery and accessories — Tubes for ring-spinning, doubling and twisting spindles, taper 1 : 38 and 1 : 64.*

ISO 2802, *Textile machinery and accessories — Plastic travellers for spinning and twisting.*

## 3 Terminology

See figure 1 and table 1.

## 4 Material

Bobbins shall be made from wood, light alloys, plastics or other suitable materials, according to arrangements made between the purchaser and the supplier.

## 5 Protection shields

Protection shields may be applied to the rim of the flanges and should be arranged to lie within the external dimensions listed for the flanges.

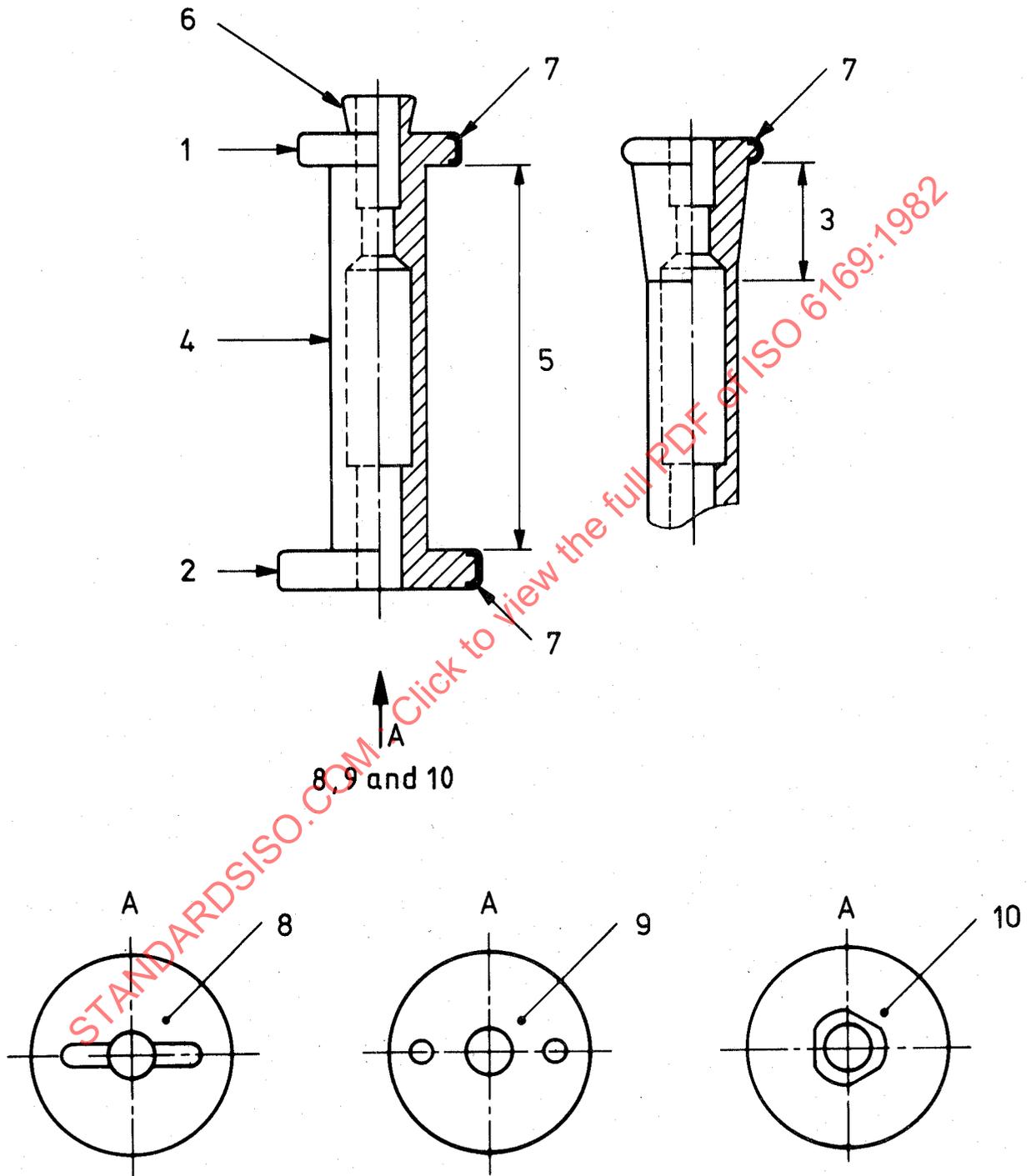


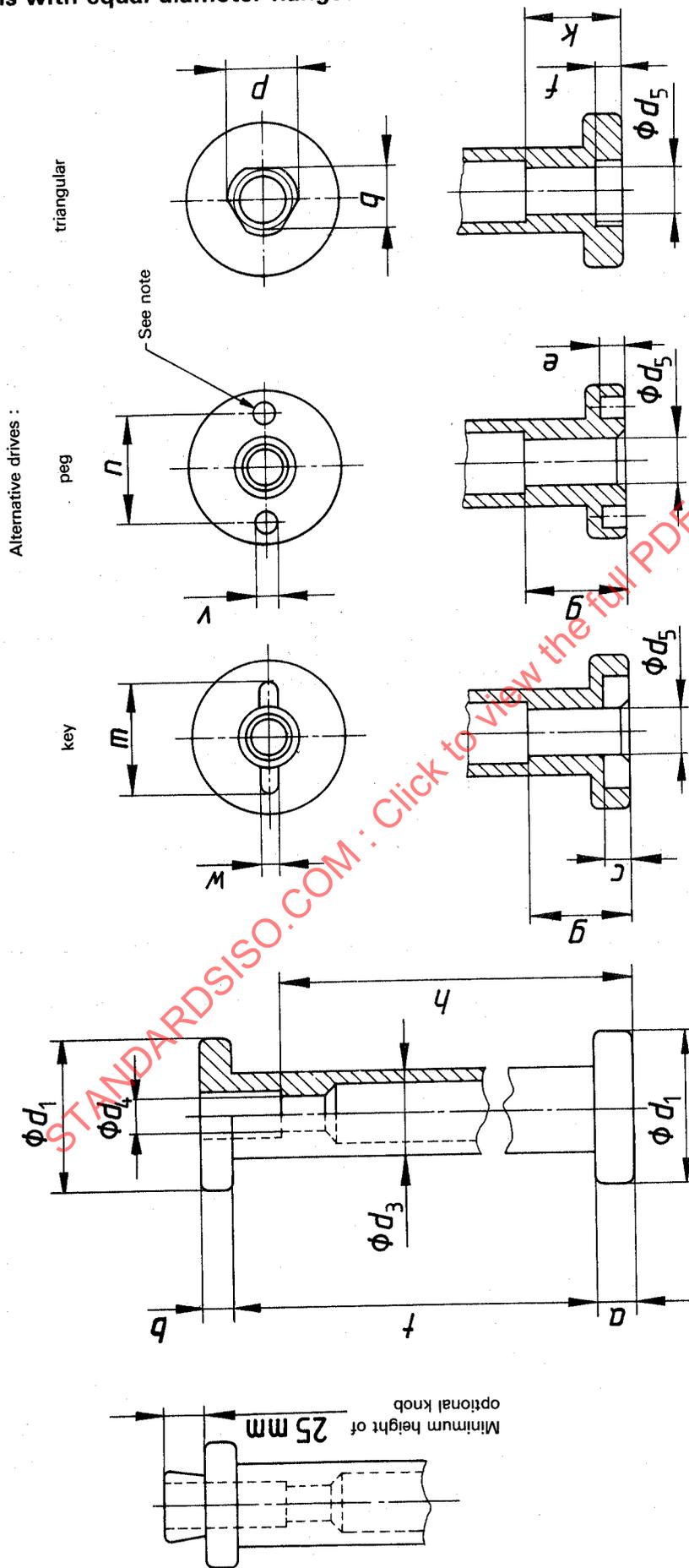
Figure 1 — Flanged bobbin (Terminology)

Table 1 — Terminology

| Ref. | English            | French                               | Russian  | German                   | Italian                          |
|------|--------------------|--------------------------------------|--|--------------------------|----------------------------------|
| 1    | Top flange         | Joue supérieure                      | Верхний фланец                                       | Kopfscheibe              | Flangia superiore                |
| 2    | Bottom flange      | Joue inférieure                      | Нижний фланец  | Fussscheibe              | Flangia inferiore                |
| 3    | Tapered top        | Partie supérieure conique (du fût)   | Верхняя коническая часть ствола                      | Konischer Schaftoberteil | Parte conica superiore del corpo |
| 4    | Barrel             | Fût                                  | Ствол  | Schaft                   | Corpo                            |
| 5    | Traverse (or lift) | Distance entre joues (course)        | Расстояние между фланцами                            | Hub                      | Lunghezza di zettatura           |
| 6    | Knob               | Bouton de préhension                 | — (не имеется эквивалентного термина)                | Halteknopf               | Impugnatura                      |
| 7    | Protection shield  | Blindage de protection               | Армировка  | Beschlagring             | Ghiera di protezione             |
| 8    | Key drive          | Entraînement par languette           | Посадочное отверстие для шпонки привода              | Mitnehmerschlitz         | Sede per traino a chiavetta      |
| 9    | Peg drive          | Entraînement par doigts              | Посадочное отверстие для штифтов привода             | Mitnehmerlöcher          | Sede per traino a pioli          |
| 10   | Triangular drive   | Entraînement curviligne à trois pans | Посадочное отверстие для треугольного штифта привода | Dreikant-Mitnehmer       | Sede per traino a tre piani      |

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6 Bobbins with equal diameter flanges



NOTE — If more than two holes are required, this shall be agreed between purchaser and supplier.

Figure 2 — Bobbins with equal diameter flanges

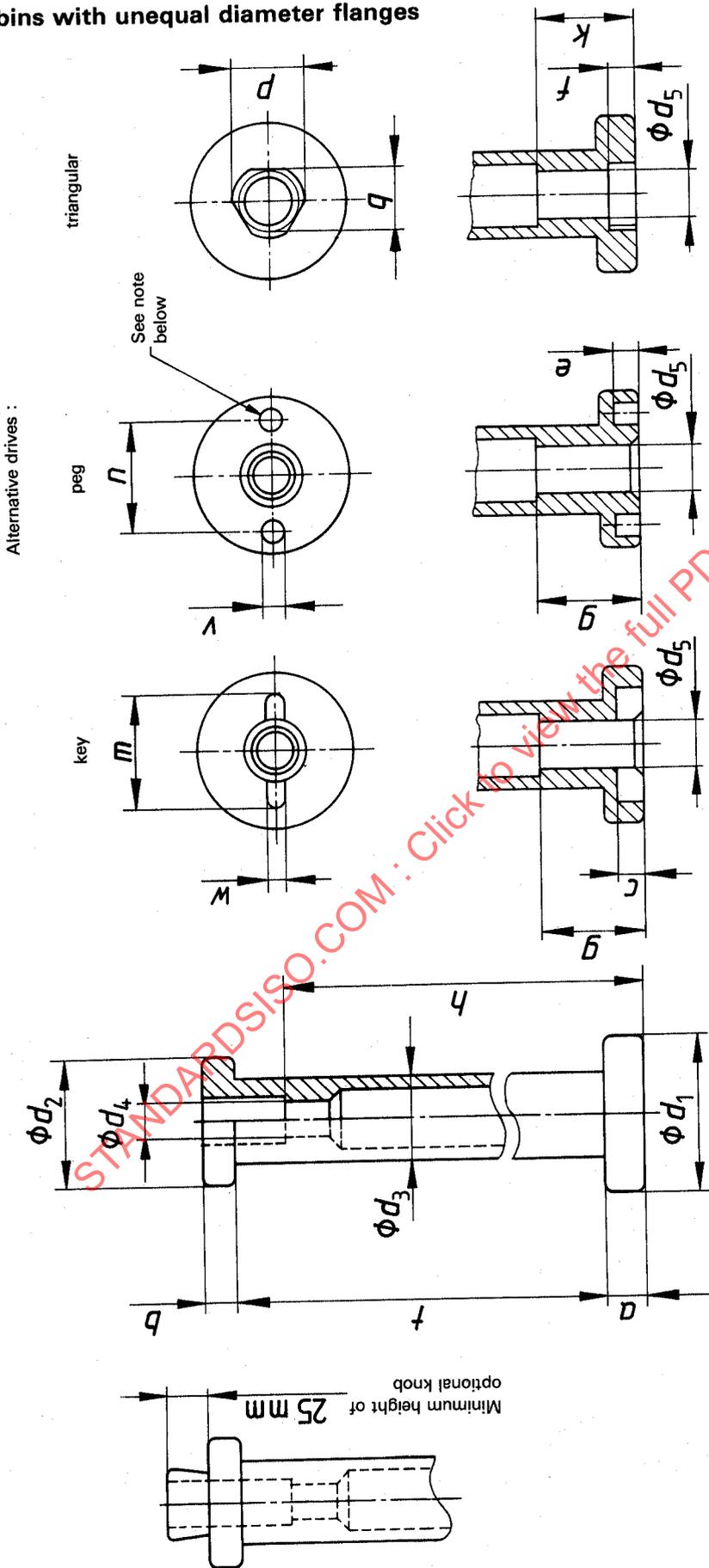
Table 2 – Dimensions of bobbins with equal diameter flanges

Values in millimetres

| Ring diameter | $d_1$<br>h14 | $d_3$ | $d_4$ <sup>1)</sup><br>H9 | $d_5$ <sup>1)</sup><br>H9 | $a$ | $b$ | $t$   | $h$   | $g$ | $k$ | $m$ | $w$ | $c$ | $n$ | $v$ | $e$ | $p$  | $q$  | $f$ |
|---------------|--------------|-------|---------------------------|---------------------------|-----|-----|---|---|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|
| 90            | 75           | 32    | 12,0                      | 18,0                      | 13  | 13  | 260<br>280                                    | 230<br>245                                    | 40  | —   | 45  | 6   | 7   | 30  | 6   | 7   | —    | —    | —   |
| 100           | 85           | 35    | 15,0                      | 22,0                      | 13  | 13  | 260<br>280<br>300                             | 230<br>245<br>260                             | 40  | —   | 45  | 6   | 7   | 37  | 6   | 7   | —    | —    | —   |
| 110           | 95           | 40    | 15,0                      | 25,0                      | 16  | 16  | 260<br>280<br>300<br>320<br>340               | 230<br>245<br>260<br>275<br>290               | 40  | —   | 45  | 6   | 7   | 37  | 6   | 7   | —    | —    | —   |
| 125           | 110          | 45    | 15,0                      | 25,0                      | 16  | 16  | 280<br>300<br>320<br>340<br>360<br>380        | 245<br>260<br>275<br>290<br>310<br>330        | 40  | 45  | 45  | 6   | 7   | 37  | 6   | 7   | 32,8 | 28,6 | 10  |
| 140           | 125          | 50    | 19,0                      | 25,0                      | 16  | 16  | 300<br>320<br>340<br>360<br>380<br>400<br>450 | 260<br>275<br>290<br>310<br>330<br>350<br>380 | 40  | 45  | 60  | 9   | 10  | 48  | 9   | 10  | 32,8 | 28,6 | 10  |
| 160           | 140          | 55    | 19,0                      | 31,0                      | 16  | 16  | 300<br>320<br>340<br>360<br>380<br>400<br>450 | 260<br>275<br>290<br>310<br>330<br>350<br>380 | 40  | 45  | 60  | 9   | 10  | 48  | 9   | 10  | 41,5 | 36,6 | 15  |
| 180           | 160          | 60    | 19,0                      | 31,0                      | 20  | 20  | 320<br>340<br>360<br>380<br>400<br>450        | 275<br>290<br>310<br>330<br>350<br>380        | 40  | 45  | 60  | 9   | 10  | 48  | 9   | 10  | 41,5 | 36,6 | 15  |
| 200           | 180          | 70    | 22,0                      | 40,0                      | 20  | 20  | 320<br>340<br>360<br>380<br>400<br>450        | 275<br>290<br>310<br>330<br>350<br>380        | 40  | 45  | 80  | 9   | 10  | 60  | 9   | 10  | 57,5 | 48,1 | 18  |
| 225           | 205          | 80    | 22,0                      | 40,0                      | 20  | 20  | 340<br>360<br>380<br>400<br>450               | 290<br>310<br>330<br>350<br>380               | 40  | 45  | 80  | 9   | 10  | 60  | 9   | 10  | 57,5 | 48,1 | 18  |
| 250           | 230          | 90    | 22,0                      | 40,0                      | 20  | 20  | 360<br>380<br>400<br>450                      | 310<br>330<br>350<br>380                      | 40  | 45  | 80  | 9   | 10  | 60  | 9   | 10  | 57,5 | 48,1 | 18  |

1) The tolerance of the bores  $d_4$  and  $d_5$  for wooden bobbins shall be agreed between the purchaser and supplier and, if necessary, the machine manufacturer.

7 Bobbins with unequal diameter flanges



NOTE — If more than two holes are required, this shall be agreed between purchaser and supplier.

NOTE — The finite shape of the bobbin top and diameter of top flange shall be decided between the purchaser (to take into account the recommendations of the machinery manufacturer) and the supplier according to the type of work for which the bobbin is to be used. For some types of work the bobbin may not require a top flange and in this case, the barrel length,  $l$ , shall be extended by the dimension  $b$ .

Figure 3 — Bobbins with unequal diameter flanges

Table 3 — Dimensions of bobbins with unequal diameter flanges

Values in millimetres

| Ring diameter | $d_1$<br>h14 | $d_2$<br>max. | $d_3$ | $d_4^{1)}$<br>H9 | $d_5^{1)}$<br>H9 | $a$ | $b$ | $t$   | $h$   | $g$ | $k$ | $m$ | $w$ | $c$ | $n$ | $v$ | $e$ | $p$  | $q$  | $f$ |
|---------------|--------------|---------------|-------|------------------|------------------|-----|-----|---|---|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|
| 90            | 75           | 50            | 32    | 12,0             | 18,0             | 13  | 10  | 260<br>280                                    | 230<br>245                                    | 40  | —   | 45  | 6   | 7   | 30  | 6   | 7   | —    | —    | —   |
| 100           | 85           | 56            | 35    | 15,0             | 22,0             | 13  | 10  | 260<br>280<br>300                             | 230<br>245<br>260                             | 40  | —   | 45  | 6   | 7   | 37  | 6   | 7   | —    | —    | —   |
| 110           | 95           | 63            | 40    | 15,0             | 25,0             | 16  | 13  | 260<br>280<br>300<br>320<br>340               | 230<br>245<br>260<br>275<br>290               | 40  | —   | 45  | 6   | 7   | 37  | 6   | 7   | —    | —    | —   |
| 125           | 110          | 73            | 45    | 15,0             | 25,0             | 16  | 13  | 280<br>300<br>320<br>340<br>360<br>380        | 245<br>260<br>275<br>290<br>310<br>330        | 40  | 45  | 45  | 6   | 7   | 37  | 6   | 7   | 32,8 | 28,6 | 10  |
| 140           | 125          | 84            | 50    | 19,0             | 25,0             | 16  | 13  | 300<br>320<br>340<br>360<br>380<br>400<br>450 | 260<br>275<br>290<br>310<br>330<br>350<br>380 | 40  | 45  | 60  | 9   | 10  | 48  | 9   | 10  | 32,8 | 28,6 | 10  |
| 160           | 140          | 95            | 55    | 19,0             | 31,0             | 16  | 13  | 300<br>320<br>340<br>360<br>380<br>400<br>450 | 260<br>275<br>290<br>310<br>330<br>350<br>380 | 40  | 45  | 60  | 9   | 10  | 48  | 9   | 10  | 41,5 | 36,6 | 15  |
| 180           | 160          | 107           | 60    | 19,0             | 31,0             | 20  | 16  | 320<br>340<br>360<br>380<br>400<br>450<br>500 | 275<br>290<br>310<br>330<br>350<br>380<br>410 | 40  | 45  | 60  | 9   | 10  | 48  | 9   | 10  | 41,5 | 36,6 | 15  |
| 200           | 180          | 120           | 70    | 22,0             | 40,0             | 20  | 16  | 320<br>340<br>360<br>380<br>400<br>450<br>500 | 275<br>290<br>310<br>330<br>350<br>380<br>410 | 40  | 45  | 80  | 9   | 10  | 60  | 9   | 10  | 57,5 | 48,1 | 18  |
| 225           | 205          | 137           | 80    | 22,0             | 40,0             | 20  | 16  | 340<br>360<br>380<br>400<br>450<br>500        | 290<br>310<br>330<br>350<br>380<br>410        | 40  | 45  | 80  | 9   | 10  | 60  | 9   | 10  | 57,5 | 48,1 | 18  |
| 250           | 230          | 155           | 90    | 22,0             | 40,0             | 20  | 16  | 360<br>380<br>400<br>450<br>500<br>550<br>600 | 310<br>330<br>350<br>380<br>410<br>445<br>480 | 40  | 45  | 80  | 9   | 10  | 60  | 9   | 10  | 57,5 | 48,1 | 18  |

1) The tolerances of the bores  $d_4$  and  $d_5$  for wooden bobbins shall be agreed between the purchaser and the supplier and, if necessary, the machine manufacturer.