INTERNATIONAL STANDARD

ISO 1112

Second edition
1999-08-01

Horology — Functional and non-functional jewels

Horlogerie — Pierres fonctionnelles et non fonctionnelles

Reference number
ISO 1112:1999(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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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 1112 was prepared by Technical Committee ISO/TC 114, *Horology.*

This second edition cancels and replaces the first edition (ISO 1112:1974), which has been technically revised.

International Organization for Standardization
Case postale 56 • CH-1211 Genève 20 • Switzerland
Internet iso@iso.ch

Printed in Switzerland

Horology — Functional and non-functional jewels

1 Scope

This International Standard specifies the technical definitions of functional and non-functional horological jewels. It describes the different types of jewels used, and how this is to be marked on a time-keeping instrument or used in advertising.

2 Normative reference

The following normative document contains provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, this publication do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the normative document indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 6426-2:1984, *Horological vocabulary — Part 2: Technico-commercial definitions*.

3 Terms and definitions

For the purposes of this International Standard, the terms and definitions given in ISO 6426-2 apply, together with the following.

3.1
horological jewel
jewel used in horology, usually a synthetic ruby

NOTE See ISO 6426-2:1984, 6.26, for a definition of the term "ruby".

3.2
functional jewel
jewel which serves to stabilize friction and to reduce the wear rate of contacting surfaces of the components of a timekeeping instrument

NOTE Based on ISO 6426-2:1984, 6.23.

3.3
non-functional jewel
jewel used for purposes other than as defined in 3.2

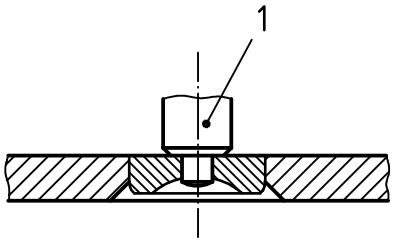
4 Functional jewels

The following are considered as functional jewels, whatever their shape.

4.1 Jewels with holes serving as radial or axial bearings (or both)

a) Fixed, with movable arbor (see Figure 1).

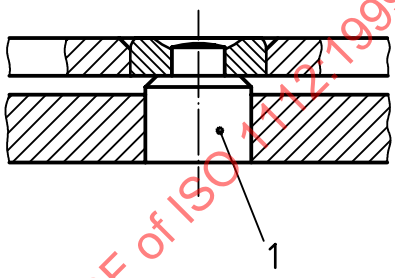
b) Movable, with fixed arbor (see Figure 2).



Key

1 Movable arbor

Figure 1



Key

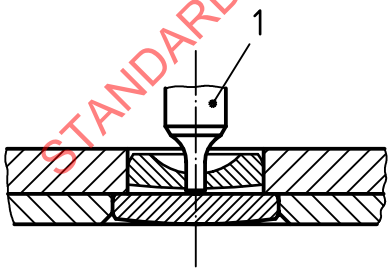
1 Fixed arbor

Figure 2

4.2 Jewels without holes, serving as axial bearings

a) Fixed, with movable arbor (see Figure 3).

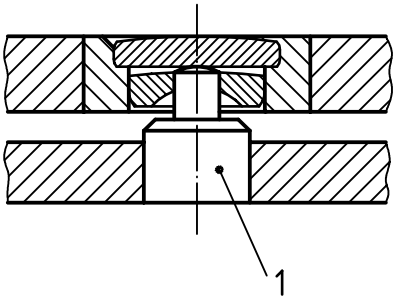
b) Movable, with fixed arbor (see Figure 4).



Key

1 Movable arbor

Figure 3



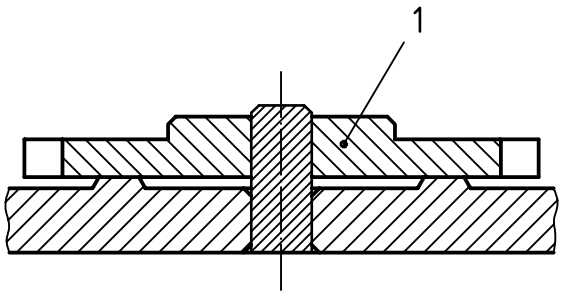
Key

1 Fixed arbor

Figure 4

4.3 Jewels without holes, serving as radial bearings

See Figure 5.



Key

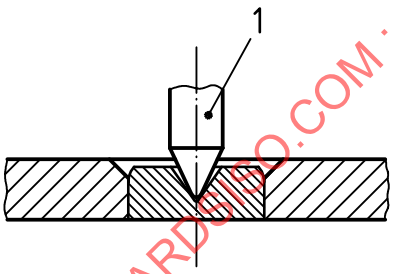
1 Movable part

Figure 5

4.4 Jewels with conical recesses (cup bearings), serving both as radial and axial bearings

a) Fixed, with movable arbor (see Figure 6).

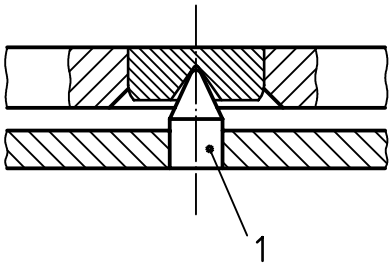
b) Movable, with fixed arbor (see Figure 7).



Key

1 Movable arbor

Figure 6



Key

1 Fixed arbor

Figure 7

4.5 Jewels contributing to the transmission of a force or movement, or both simultaneously

Examples are jewels used for the maintenance of an oscillating system with pallets in accordance with ISO 6426-2:1984, 6.22.

4.6 Jewelled units comprising several jewels

Examples are ball-bearings or clutch devices for automatic winding mechanisms. Each unit should be counted as a single functional jewel in the description and marking of the instrument (see clause 6).

5 Non-functional jewels

All stones which do not serve the purposes described in clause 4 are regarded as non-functional jewels, as follows.

a) Jewels for ornament and replacement.

b) Jewels covering a jewel hole but not serving as an axial bearing (see Figure 8).

EXAMPLE Oil chamber, dust protection.

c) Jewels serving as a support for moving parts such as the hour wheel, ratchet wheel, transmission wheel, winding shaft.

d) Jewels serving to limit the occasional displacement of an oscillating mass, or serving as a support for date and calendar discs, etc. (see Figures 9 and 10).

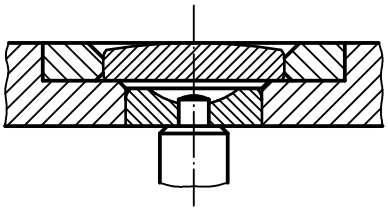


Figure 8

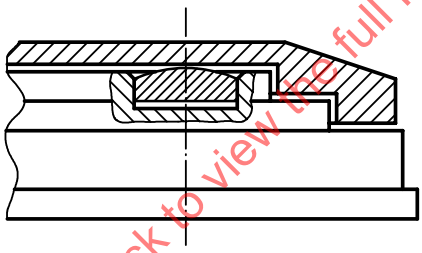


Figure 9

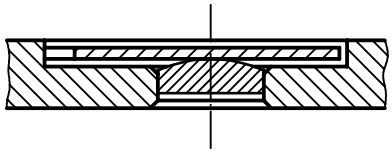


Figure 10

6 Description or marking

Only the number of functional jewels and functional jewelled units (see 4.6) shall be mentioned in describing the characteristics of the timekeeping instrument in sales literature and general advertising and in marking the instrument.