INTERNATIONAL STANDARD

ISO 3764

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Timekeeping instruments — Movements — Forms, dimensions and nomenclature

Instruments horaires — Mouvements — Formes, dimensions et nomenclature

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 3764 was prepared by Technical Committee ISO/TC 114, *Horology*, Subcommittee SC 7, *Overall dimensions*.

This second edition cancels and replaces the first edition (ISO 3764:1976), which has been technically revised.

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Timekeeping instruments — Movements — Forms, dimensions and nomenclature

1 Scope

This International Standard specifies the forms, fitting and overall fixing dimensions of mechanical and electromechanical watch movements.

This International Standard is applicable to the four following types of movements:

Type 1: circle

Type 2: truncated circle

Type 3: 5 ½‴

Type 4: 6 ¾ × 8‴

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard 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 286-1:1988, *ISO system of limits and fits — Part 1: Bases of tolerances, deviations and fits.*

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

3 Definitions and symbols

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

3.1 Diameters of movement

3.1.1 fitting diameter, d_1

diameter of a plate or an equivalent part or an assembly unit by which the movement is based in the watch case

NOTE — The protruding elements of parts are not included in the fitting diameter if the protrusion does not exceed 1,5 % of a diameter value and if in length they are no more than 10 % of the plate perimeter.

3.1.2 outer diameter, d_2

largest diameter of the movement by the bearing collar of a plate, by an equivalent part or by an assembly unit

3.2 Thicknesses of movement

3.2.1 Mechanical type

3.2.1.1 total thickness of the movement, l_1

thickness covering all the movement parts, including the distance between the dial support surface of the movement and the lowest protruding part of the movement

3.2.2 Electromechanical type

3.2.2.1 total thickness of the movement without a battery, l_1

thickness covering all the movement parts; i.e. the distance between the dial support surface of the movement and the lowest protruding part of the movement

3.2.2.2 total thickness of the movement with a battery, l_2

distance between the dial support surface of the movement and the lower battery surface

NOTE — If the battery is not the most protruding part, the total movement thickness is determined as l_1.

3.2.2.3 total thickness of the movement including a battery and its fastening clamp, l_3

distance between the dial support surface of the movement and the lower surface of the clamp

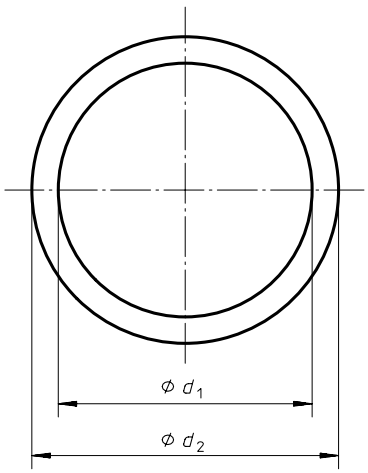
NOTE 1 If the battery with its clamp is not the most protruding part, the total movement thickness is determined as l_1.

NOTE 2 For watches with analog indication, the total thickness of the movement does not include the thickness of the gear-train consisting of an hour wheel, a cannon and a centre second pinion, hand-fastening elements and the elements of earthing to a case.

4 Nomenclature of movements and their dimensions

4.1 Type 1: Circle movement

See figure 1 and table 1.



d_1 is the fitting diameter
d_2 is the outer diameter

Figure 1 — Circle movement (side view of bridge)

Table 1 — Type 1: Circle movements

Dimensions in millimetres

d_1 tol. h8	d_2 tol. h8
10,0*	10,4
12,0	12,4
13,0	13,4
15,3*	15,7
16,0	16,4
17,2*	17,6
19,4*	20,0
21,0	21,6
22,0	22,6
23,3*	23,9
24,0	24,6
25,6*	26,2
28,0	28,6
30,0	30,6
36,0	36,8
40,0	40,8

NOTES

1 The values d_1* are the preferred ones.

2 Tolerances are indicated only for movements made of metal.

3 See ISO 286-1 for definition of the tolerances.

4.2 Type 2: Truncated circle movement

See figure 2 and table 2.

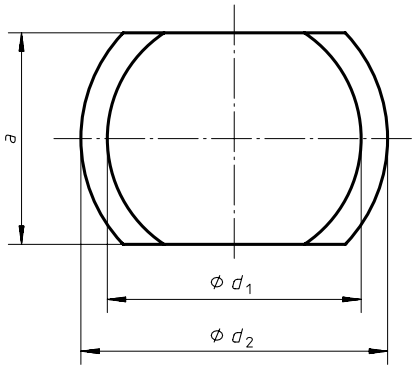


Figure 2 — Truncated circle movement (side view of bridge)

Table 2 — Truncated circle movements

Dimensions in millimetres

d_1 tol. h8	d_2 tol. h8
10,0	10,4
15,3	15,7
17,2	17,6
17,5	17,9
19,4	20,0
23,3	23,9
25,6	26,2

NOTES

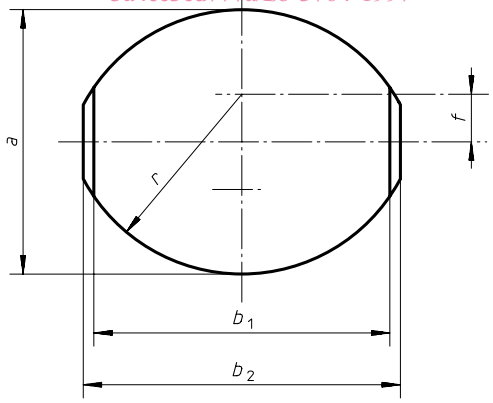
1 Tolerances are indicated only for movements made of metal.

2 Width *a* is not specified.

3 See ISO 286-1 for definition of the tolerances.

4.3 Type 3: 5 ½‴ movement

See figure 3 and table 3.



a is the width
b_1 is the fitting length
b_2 is the general length
f is the shift of radius centre
r is the oval radius

Figure 3 — 5 ½″ movement (side view of bridge)

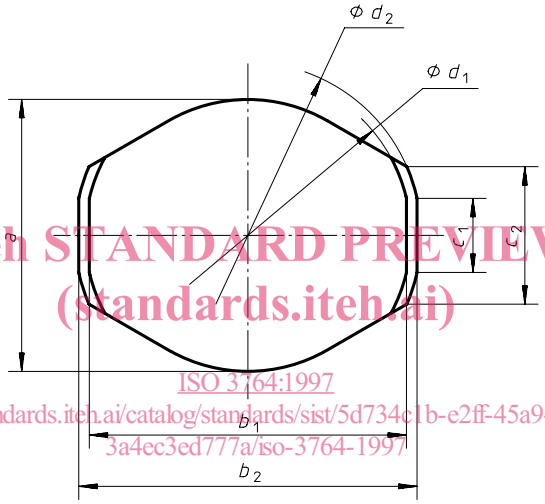
Table 3 — 5 ½‴ movements

Dimensions in millimetres

a tol. h9	b_1 tol. h8	b_2 tol. h9	f	r
13,0	15,15	15,55	2,3	8,8

NOTES
1 Tolerances are indicated only for movements made of metal.
2 See ISO 286-1 for definition of the tolerances.

4.4 Type 4: 6 ¾ × 8‴ movement



d
d_2 is the outer diameter
a is the width
b_1 is the fitting length
b_2 is the general length
c_1 is the length of a flat part
c_2 is the chamfer length

Figure 4 — 6 ¾ × 8‴ movement (side view of bridge)

Table 4 — 6 ¾ × 8″ movements

Dimensions in millimetres

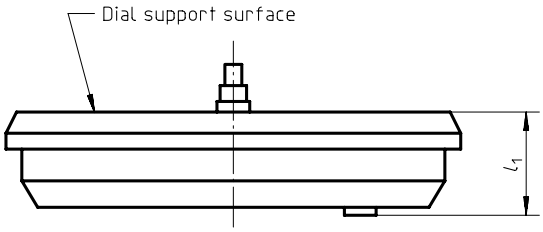
d_1 tol. h8	d_2 tol. h8	a tol. h9	b_1 tol. h8	b_2 tol h9	c_1	c_2
18,1	18,5	15,3	17,8	18,2	3,32	7,3

NOTES
1 Tolerances are indicated only for movements made of metal.
2 See ISO 286-1 for definition of the tolerances.

5 Nomenclature for thicknesses of movements

5.1 Mechanical movements

See figure 5.

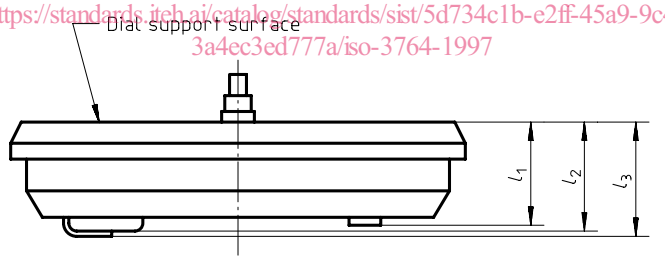


l_1 is the total movement thickness

Figure 5 — Mechanical movement

5.2 Electromechanical movements with analog indication

See figure 6.



l_1 is the total thickness of the movement
l_2 is the total thickness of the movement with a battery
l_3 is the total thickness of the movement with a battery and with a battery fastening clamp

Figure 6 — Electromechanical movement with analog indication