INTERNATIONAL STANDARD

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Timekeeping instruments — Movements — Types, dimensions and nomenclature

Instruments horaires — Mouvements — Formes, dimensions et nomenclature

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2. www.iso.org/directives

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 114, *Horology*, Subcommittee SC 7, *Overall dimensions*.

This fourth edition cancels and replaces the third edition (ISO 3764:2000), which has been technically revised.

Timekeeping instruments — Movements — Types, dimensions and nomenclature

1 Scope

This International Standard specifies the types and fitting dimensions of mechanical and electromechanical watch-movements.

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

— Type 1: round;

— Type 2: shaped round;

— Type 3: round with double cutting;

— Type 4: 5 ½‴;

— Type 5: 6 ¾ × 8‴.

2 Normative references

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

ISO 286-1, *Geometrical product specifications (GPS) — ISO code system for tolerances on linear sizes — Part 1: Basis of tolerances, deviations and fits*

ISO 6426-2, *Horological vocabulary — Part 2: Technical and commercial definitions*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 286-1 and ISO 6426-2, and the following apply.

3.1 Diameters of movements

3.1.1
casing diameter
d_1
diameter of a plate, or an equivalent part or an assembly unit, by which the movement is located in the watch-case

3.1.2
outer diameter
d_2
largest diameter of the movement, on the flange of the plate, of an equivalent part or of an assembly unit

3.2 Thickness of movements

3.2.1 Mechanical type

3.2.1.1
total thickness of the movement
l_1
thickness embracing all the movement parts, including the distance between the dial support surface and the greatest protruding part of the movement

3.2.2 Electromechanical type

3.2.2.1
total thickness of the movement without battery
l_1
thickness embracing all the movement parts, including the distance between the dial support surface and the greatest protruding part of the movement

3.2.2.2
total thickness of the movement with a battery
l_2
greatest distance between the dial support surface and the most protruding surface of the battery

Note 1 to entry: 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
greatest distance between the dial support surface and the most protruding surface of the clamp

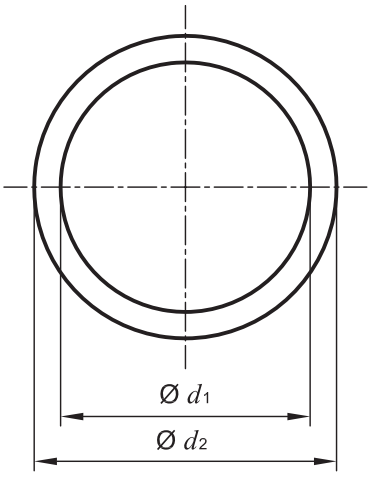
Note 1 to entry: If the battery with its clamp is not the most protruding part, the total movement thickness is determined as l_1.

Note 2 to entry: For watches with analogue display, the total thickness of the movement does not include the projection of the hand-fastening elements nor the elements providing electrical contact with the case.

4 Nomenclature of movements and their dimensions

4.1 Type 1: Round movement

See Figure 1 and Table 1.



Key

d_1 casing diameter

d_2 outer diameter

Figure 1 — Round movement (view from the side of the bridges)

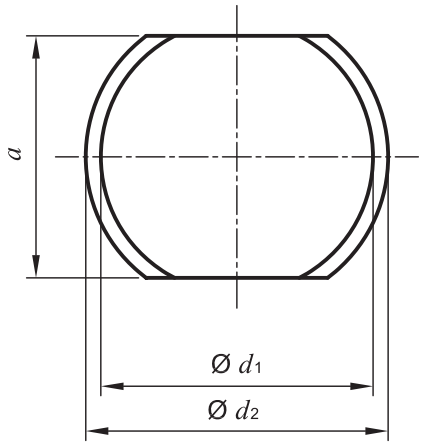
Table 1 — Type 1: Round movements

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
NOTE 1 The values d_1 with an asterisk are the preferred values.	
NOTE 2 The tolerances only apply to metallic movements.	
NOTE 3 See ISO 286-1 for definition of the tolerances.	

4.2 Type 2: Shaped round movement

See Figure 2 and Table 2.



Key

a	width
d_1	casing diameter
d_2	outer diameter

Figure 2 — Shaped round movement (view from the side of the bridges)

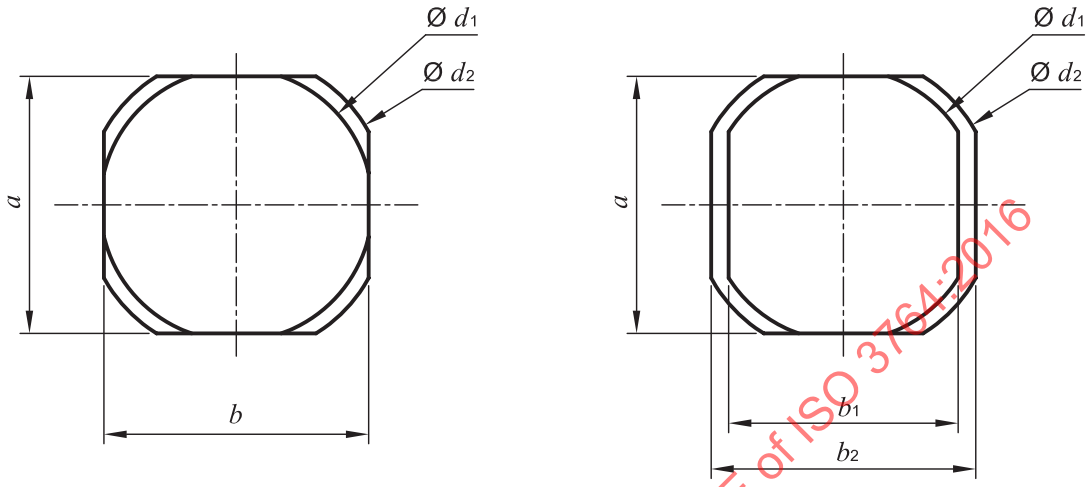
Table 2 — Type 2: Shaped round movements

Dimensions in millimetres

d_1 tol. h8	d_2 tol. h8
10,0	10,4
13,0	13,4
15,3	15,7
17,2	17,6
17,5	17,9
19,4	20,0
23,3	24,0
25,6	26,4
26,6	27,2
NOTE 1 The tolerances only apply to metallic movements.	
NOTE 2 Width a is not specified.	
NOTE 3 See ISO 286-1 for definition of the tolerances.	

4.3 Type 3: Round movement with double cutting

See Figure 3 and Table 3.



Key

a	width
b	length
b_1	fitting length
b_2	overall length
d_1	casing diameter
d_2	outer diameter

Figure 3 — Round movement with double cutting (view from the side of the bridges)

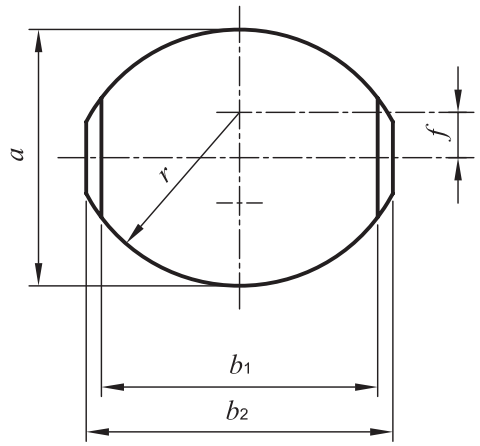
Table 3 — Type 3: Round movements with double cutting

Dimensions in millimetres

d_1 tol. h8	d_2 tol. h8
13,0	13,4
23,3	23,9
25,6	26,2
NOTE 1 The tolerances only apply to metallic movements.	
NOTE 2 Width a, fitting length b_1 and overall length b_2 are not specified.	
NOTE 3 See ISO 286-1 for definition of the tolerances.	

4.4 Type 4: 5 ½‴movement

See Figure 4 and Table 4.



Key

a	width
b_1	fitting length
b_2	overall length
f	offset of the radius centre
r	oval radius

Figure 4 — 5 ½‴movement (view from the side of the bridges)

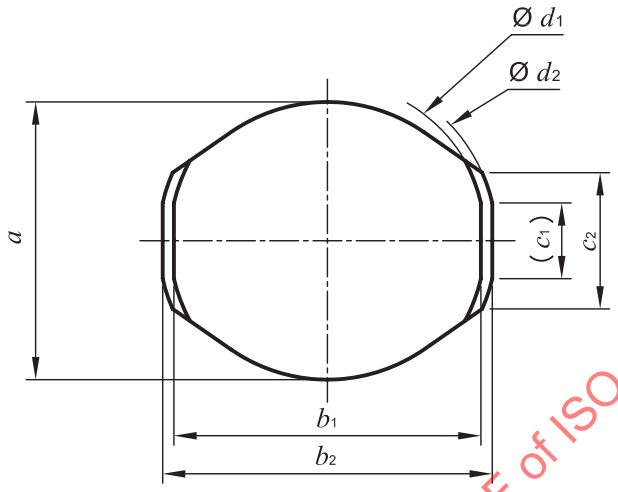
Table 4 — Type 4: 5 ½‴movements

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
NOTE 1 The tolerances only apply to metallic movements.				
NOTE 2 See ISO 286-1 for definition of the tolerances.				

4.5 Type 5: 6 ¾ × 8‴movement

See Figure 5 and Table 5.



Key

a	width
b_1	fitting length
b_2	overall length
(c_1)	length of a flat part
c_2	length of the circular part
d_1	casing diameter
d_2	outer diameter

Figure 5 — 6 ¾ × 8‴movement (view from the side of the bridges)

Table 5 — Type 5: 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
NOTE 1 The tolerances only apply to metallic movements.						
NOTE 2 See ISO 286-1 for definition of the tolerances.						
NOTE 3 The value c_1 is given as an indication.						