



SLOVENSKI STANDARD
oSIST prEN ISO 4064-4:2023

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Vodomeri za merjenje hladne pitne vode in vroče vode - 4. del: Nemetrološke zahteve, ki niso zajete v ISO 4064-1 (ISO/DIS 4064-4:2023)

Water meters for cold potable water and hot water - Part 4: Non-metrological requirements not covered in ISO 4064-1 (ISO/DIS 4064-4:2023)

Wasserzähler zum Messen von kaltem Trinkwasser und heißem Wasser - Teil 4: Nichtmetrologische Anforderungen, die nicht Gegenstand von ISO 4064-1 sind (ISO/DIS 4064-4:2023)

Compteurs d'eau potable froide et d'eau chaude - Partie 4: Exigences non métrologiques non couvertes par l'ISO 4064-1 (ISO/DIS 4064-4:2023)

Ta slovenski standard je istoveten z: EN prEN ISO 4064-4

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| 17.120.10 | Pretok v zaprtih vodih | Flow in closed conduits |
| 91.140.60 | Sistemi za oskrbo z vodo | Water supply systems |

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Water meters for cold potable water and hot water —

Part 4: Non-metrological requirements not covered in ISO 4064-1

*Compteurs d'eau potable froide et d'eau chaude —**Partie 4: Exigences non métrologiques non couvertes par l'ISO 4064-1*

ICS: 91.140.60

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Contents

| | Page |
|---|-----------|
| Foreword | iv |
| 1 Scope | 1 |
| 2 Normative references | 1 |
| 3 Terms and definitions | 1 |
| 4 Technical characteristics | 2 |
| 4.1 In-line meters..... | 2 |
| 4.1.1 Meter size and overall dimensions..... | 2 |
| 4.1.2 Threaded connection..... | 2 |
| 4.1.3 Flanged connection..... | 2 |
| 4.1.4 Combination meter connection..... | 3 |
| 4.2 Concentric and cartridge meters and exchangeable metrological modules..... | 4 |
| 4.2.1 Meter size and overall dimensions..... | 4 |
| 4.2.2 Design of the meter manifold connection..... | 4 |
| 4.2.3 Dimensions of concentric and cartridge meters..... | 4 |
| 4.2.4 Dimensions of exchangeable metrological modules..... | 5 |
| Annex A (informative) Concentric water meter manifold | 10 |
| Annex B (normative) Connection interfaces — Solutions for cartridge meters | 13 |
| Annex C (informative) Examples of adaptors and converters | 24 |
| Bibliography | 26 |

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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.

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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The committee responsible for this document is ISO/TC 30, *Measurement of fluid flow in closed conduits*, Subcommittee SC 7, *Volume methods including water meters*.

ISO 4064 consists of the following parts, under the general title *Water meters for cold potable water and hot water*:

- *Part 1: Metrological and technical requirements*
- *Part 2: Test methods*
- *Part 3: Test report format*
- *Part 4: Non-metrological requirements not covered in ISO 4064-1:2023*
- *Part 5: Installation requirements*

Water meters for cold potable water and hot water —

Part 4:

Non-metrological requirements not covered in ISO 4064-1

1 Scope

This part of ISO 4064 applies to water meters used to meter the volume of cold potable water and hot water flowing through a fully charged, closed conduit. These water meters incorporate devices which indicate the integrated volume.

This part of ISO 4064 specifies technical characteristics and pressure loss requirements for meters for cold potable water and hot water. It applies to water meters which can withstand:

- a) a maximum admissible pressure (MAP) equal to at least 1 MPa¹⁾ [0,6 MPa for meters for use with pipe nominal diameters (DNs) ≥ 500 mm];
- b) a maximum admissible temperature (MAT) for cold potable water meters of 30 °C;
- c) a MAT for hot water meters of up to 180 °C, depending on class.

In addition to meters based on mechanical principles, this part of ISO 4064 also applies to water meters based on electrical or electronic principles, and to water meters based on mechanical principles incorporating electronic devices, used to meter the volume flow of hot water and cold potable water. It also applies to electronic ancillary devices. As a rule ancillary devices are optional. However, national or international regulations may make some ancillary devices mandatory in relation to the utilization of the water meter.

2 Normative references

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<https://standards.iso.org/iso/4064-4:2023> The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 228

ISO 4064-1

ISO 7005-2, *Metallic flanges — Part 2: Cast iron flanges*

ISO 7005-3, *Metallic flanges — Part 3: Copper alloy and composite flanges*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4064-1|OIML R 49-1 apply.

NOTE Many of the definitions used in this part of ISO 4064 conform to ISO/IEC Guide 99:2007|OIML V 2-200:2012^[1], OIML V 1:2013^[2], and OIML D 11^[3].

1) 1 MPa = 10 bar.

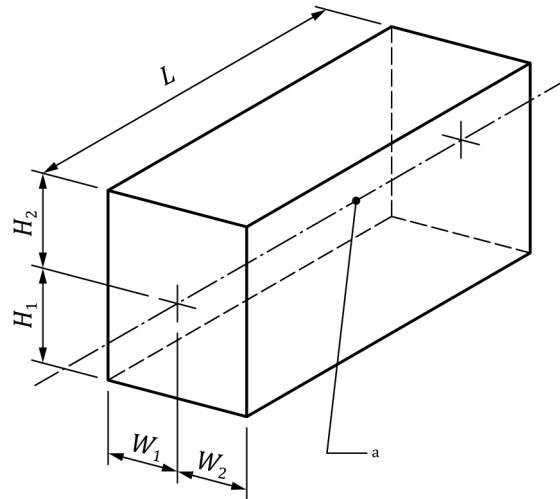
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4 Technical characteristics

4.1 In-line meters

4.1.1 Meter size and overall dimensions

Meter size is characterized either by the thread size of the end connections or by the nominal size of the flange. For each meter size, there is a corresponding fixed set of overall dimensions. The dimensions of the meter, as illustrated in [Figure 1](#), shall be in accordance with [Table 1](#).



Key

W_1, W_2 $W_1 + W_2$ is the width of a cuboid within which the water meter can be contained

H_1, H_2 $H_1 + H_2$ is the height of a cuboid within which the water meter can be contained

L length of a cuboid within which the water meter can be contained

NOTE The cover is at right angles to its closed position. Dimensions H_1, H_2, W_1 and W_2 are maxima; L is a fixed value with specified tolerances.

a Pipe axis.

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Figure 1 — Meter size and overall dimensions

4.1.2 Threaded connection

Permissible values of dimensions a and b for threaded connections are given in [Table 1](#). Threads shall conform to ISO 228-1. [Figure 2](#) defines dimensions a and b .

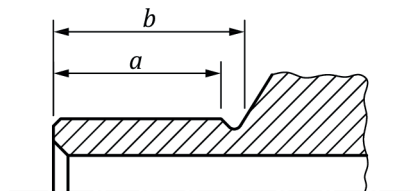


Figure 2 — Threaded connection

4.1.3 Flanged connection

Flanged end connections shall conform to ISO 7005-2 and ISO 7005-3 for the maximum pressure corresponding to that of the water meter. Dimensions shall be as given in [Table 1](#).

The manufacturer shall provide a reasonable clearance behind the rear face of the flange to allow access for installation and removal.

Table 1 — Water meter dimensions for threaded and flanged connections

Dimensions in millimetres

| DN ^a size | a_{\min} | b_{\min} | Preferred values of L^b | Alternative values of L^b | W_1, W_2 | H_1 | H_2 |
|-------------------------|-----------------|-----------------|------------------------------|---|------------|----------|----------|
| 15 | 10 ^c | 12 ^c | 165 | 80, 85, 100, 105, 110, 114, 115, 130, 134, 135, 145, 170, 175, 180, 190, 200, 220 | 65 | 60 | 220 |
| 20 | 12 | 14 | 190 | 105, 110, 115, 130, 134, 135, 165, 175, 195, 200, 220, 229 | 65 | 60 | 240 |
| 25 | 12 | 16 | 260 | 110, 150, 175, 199, 200, 210, 225, 273 | 100 | 65 | 260 |
| 32 | 13 | 18 | 260 | 110, 150, 175, 199, 200, 230, 270, 300, 321 | 110 | 70 | 280 |
| 40 | 13 | 20 | 300 | 200, 220, 245, 260, 270, 387 | 120 | 75 | 300 |
| 50 | 13 | 20 | 200 | 170, 245, 250, 254, 270, 275, 300, 345, 350 | 135 | 216 | 390 |
| 65 | 14 | 22 | 200 | 170, 270, 300, 450 | 150 | 130 | 390 |
| 80 | | | 200 | 190, 225, 300, 305, 350, 425, 500 | 180 | 343 | 410 |
| 100 | | | 250 | 210, 280, 350, 356, 360, 375, 450, 650 | 225 | 356 | 440 |
| 125 | | | 250 | 220, 275, 300, 350, 375, 450 | 135 | 140 | 440 |
| 150 | | | 300 | 230, 325, 350, 450, 457, 500, 560 | 267 | 394 | 500 |
| 200 | | | 350 | 260, 400, 500, 508, 550, 600, 620 | 349 | 406 | 500 |
| 250 | | | 450 | 330, 400, 600, 660, 800 | 368 | 521 | 500 |
| 300 | | | 500 | 380, 400, 800 | 394 | 533 | 533 |
| 350 | | | 500 | 420, 800 | 270 | 300 | 500 |
| 400 | | | 600 | 500, 550, 800 | 290 | 320 | 500 |
| 500 | | | 600 | 500, 625, 680, 770, 800, 900, 1000 | 365 | 380 | 520 |
| 600 | | | 800 | 500, 750, 820, 920, 1000, 1200 | 390 | 450 | 600 |
| 800 | | | 1200 | 600 | 510 | 550 | 700 |
| >800 | | | 1,25× DN | DN | 0,65× DN | 0,65× DN | 0,75× DN |

^a Nominal size of flanges and threaded connections.

^b Tolerance on length: DN 15 to 40 — L_{-2}^0 ; DN 50 to 300 — L_{-3}^0 ; DN 350 to 400 — L_{-5}^0 . Tolerances on lengths of meters greater than DN 400 should be agreed between the user and manufacturer.

^c For DN 15 meters of length 80 mm or 85 mm, $a_{\min} = b_{\min} = 7,5$ mm.

4.1.4 Combination meter connection

Dimensions shall be as set out in [Table 2](#).

The overall length of a combination meter may be a fixed dimension or may be adjustable by means of a sliding coupling. In this case, the minimum possible adjustment of the meter overall length shall be 15 mm relative to the nominal value of L defined in [Table 2](#).

Because of the wide variation in the height of the various types of combination meters, this dimension is not standardized.

Table 2 — Combination water meter with flanged end connections

Dimensions in millimetres

| DN ^a size | Preferred values of L | Alternative values of L | W_1, W_2 |
|----------------------|-------------------------|---------------------------|------------|
| 50 | 300 | 270, 432, 560, 600 | 220 |
| 65 | 300 | 650 | 240 |
| 80 | 350 | 300, 432, 630, 700 | 260 |
| 100 | 350 | 360, 610, 750, 800 | 350 |
| 125 | 350 | 850 | 350 |
| 150 | 500 | 610, 1000 | 400 |
| 200 | 500 | 1160, 1200 | 400 |

^a Nominal size of flange connection.

4.2 Concentric and cartridge meters and exchangeable metrological modules

NOTE 1 This subclause contains the necessary information on meter size and overall dimensions. Two meter manifold connection designs are shown in [Annex A](#).

NOTE 2 It is possible that this subclause and [Annex A](#) will be subject to change as concentric water meter and manifold designs evolve.

4.2.1 Meter size and overall dimensions

Dimensions for a current meter design are shown in [Figure 3](#) and [Table 3](#).

4.2.2 Design of the meter manifold connection

The meter connection shall be designed to connect the meter, using the screw thread provided, to a manifold having this design of face. Suitable seals shall ensure that no leaks occur between the inlet connection and the meter/manifold exterior or between the inlet and outlet passages at the meter/manifold interface.

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4.2.3 Dimensions of concentric and cartridge meters

4.2.3.1 General

Dimensions for concentric and cartridge meters are defined by a cylinder into which the meter fits — see [Figure 3](#), in which J and K define respectively the height and diameter of a cylinder enclosing the meter.

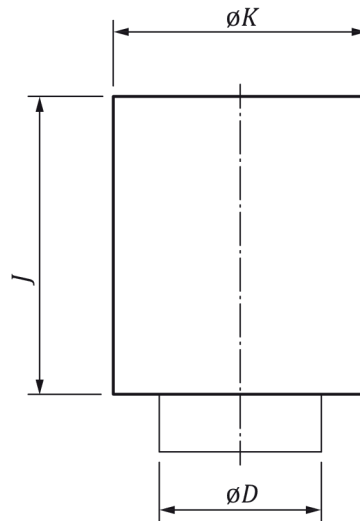


Figure 3 — Concentric and cartridge meter dimensions

Where there is a separate indicating device or calculator, the overall size specified in [Figure 3](#) applies only to the housing of the measurement transducer.

4.2.3.2 Concentric meters

Dimensions for concentric meters are specified in [Table 3](#).

Table 3 — Concentric meter dimensions

Dimensions in millimetres

| Type | Maximum ϕD | Maximum J | Maximum ϕK |
|------|-----------------------|-------------|------------------|
| 1 | (G 1½ B) ^a | 220 | 110 |
| 2 | (G 2 B) ^a | 220 | 135 |

^a Whitworth threading.

4.2.3.3 Dimensions of cartridge meters

Dimensions for cartridge meters are specified in [Table 4](#).

Table 4 — Cartridge meter dimensions

Dimensions in millimetres

| Maximum ϕD | Maximum J | Maximum ϕK |
|------------------|-------------|------------------|
| 90 | 200 | 150 |

4.2.4 Dimensions of exchangeable metrological modules

The dimensions of exchangeable metrological modules in meters with horizontal or vertical flow patterns (WP or WS) shall be in accordance with [Figure 4](#) and [Table 5](#) and [Table 6](#).