



SLOVENSKI STANDARD
SIST EN 817:2024

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Sanitarne armature - Mehanski mešalni ventili (PN 10) - Splošne tehnične zahteve

Sanitary tapware - Mechanical mixing valves (PN 10) - General technical specifications

Sanitärarmaturen - Mechanisch einstellbare Mischer (PN 10) - Allgemeine technische Spezifikation

Robinetterie sanitaire - Mitigeurs mécaniques (PN 10) - Spécifications techniques générales

Ta slovenski standard je istoveten z: EN 817:2024

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Sanitary tapware - Mechanical mixing valves (PN 10) - General technical specifications

Robinetterie sanitaire - Mitigeurs mécaniques (PN 10)
- Spécifications techniques générales

Sanitärarmaturen - Mechanisch einstellbare Mischer
(PN 10) - Allgemeine technische Spezifikation

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN 817:2024) has been prepared by Technical Committee CEN/TC 164 “Water supply”, the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2025, and conflicting national standards shall be withdrawn at the latest by March 2025.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 817:2008.

In comparison with the previous edition, the following technical modifications have been made:

- all test of hydraulic performance, acoustic characteristics and leaktightness have been completely revised;
- new endurance test for single sequential control devices has been created;
- figures, tables and dimensions have been revised;
- normative references have been updated.

This document acknowledges the field of application for mechanical mixing valves used in water supply systems of type 1 (see Figure 1 and Table 1) with a pressure range of (0,05 to 1,0) MPa [(0,5 to 10) bar].

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

EN 817:2024 (E)**Introduction**

In respect of potential adverse effects on the quality of water intended for human consumption caused by the product covered by this document, this document provides no information as to whether the product can be used without restriction in any of the Member States of the EU or EFTA.

NOTE Attention is drawn to existing national regulations that might apply concerning the use and/or the characteristics of these products.

This document identifies characteristics and technical requirements for mechanical mixing valves.

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1 Scope

This document specifies:

- a) the field of application for mechanical mixing valves for use in a supply system of Type 1 (see Figure 1);
- b) the dimensional, leaktightness, pressure resistance, hydraulic performance, mechanical strength, endurance, corrosion resistance of the surface of the product, sequence of testing and acoustic characteristics with which sanitary tapware products including their components (flexible hose, pull out spray) need to comply where applicable;
- c) test methods to verify the characteristics.

The tests described in this document are type tests (laboratory tests) and not quality control or factory production control (FPC) tests carried out during manufacture.

This document applies to draw-off taps (mechanical mixing valves) for use with sanitary appliances installed in rooms used for personal hygiene (cloakrooms, bathrooms, etc.) and for food preparation (kitchens), i.e. for use with baths, wash basins, bidets, showers and sinks.

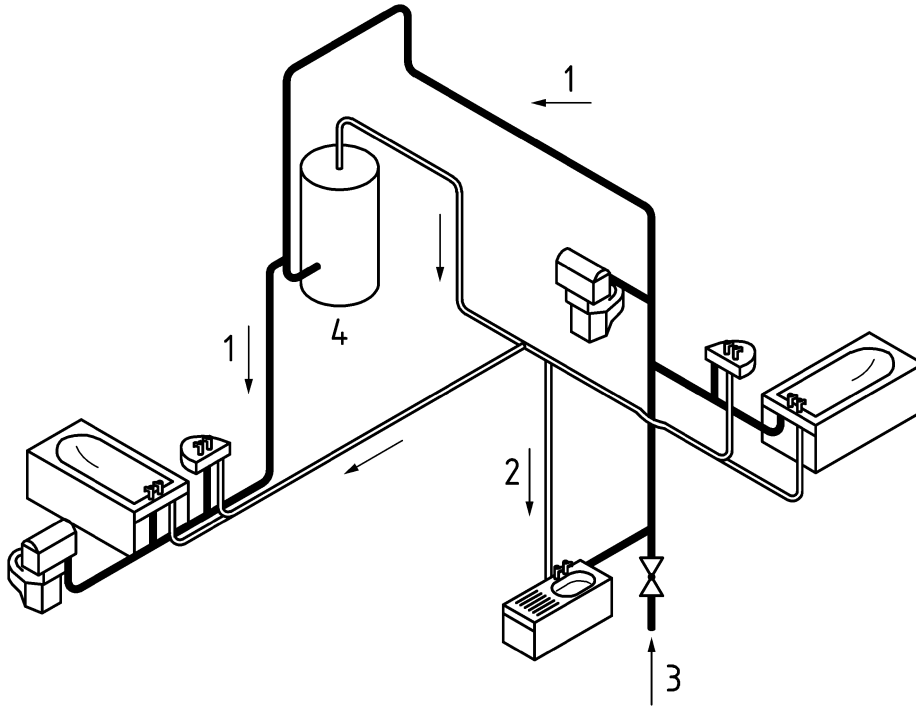
The conditions of use and classifications are given in Table 1.

Table 1 — Conditions of use

Water Supply System	Operating Range of Taps	
	Limits	Recommended ^a
Type 1 see Figure 1	<u>Dynamic Pressure</u> $\geq 0,05$ MPa (0,5 bar) <u>Static Pressure</u> $\leq 1,0$ MPa (10,0 bar)	<u>Dynamic Pressure</u> (0,1 to 0,5) MPa [(1,0 to 5,0) bar]
Temperature	≤ 70 °C	≤ 65 °C
^a Measured at the point of discharge		

Figure 1 shows a supply system of Type 1 with a pressure range of (0,05 to 1,0) MPa [(0,5 to 10) bar].

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**Key**

- 1 cold water
- 2 hot water
- 3 mains supply pipe (Supply pressures up to 10 bar)
- 4 water heater

Figure 1 — Supply system of Type 1 with a pressure range of (0,05 to 1,0) MPa [(0,5 to 10) bar]

Final materials included in the product are not covered by this document.

2 Normative references

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.

EN 200, *Sanitary tapware — Single taps and combination taps for water supply systems of type 1 and type 2 — General technical specification*

EN 246, *Sanitary tapware — General specifications for aerators*

EN 248, *Sanitary tapware — General specification for electrodeposited coatings of Ni-Cr*

EN 1057, *Copper and copper alloys — Seamless, round copper tubes for water and gas in sanitary and heating applications*

EN 1717, *Protection against pollution of potable water in water installations and general requirements of devices to prevent pollution by backflow*

EN 13618, *Flexible hose assemblies in drinking water installations — Functional requirements and test methods*

EN 13959, *Anti-pollution check valves — DN 6 to DN 250 inclusive family E, type A, B, C and D*

EN 14506, *Devices to prevent pollution by backflow of potable water — Automatic diverter — Family H, type C*

EN ISO 228-1, *Pipe threads where pressure-tight joints are not made on the threads — Part 1: Dimensions, tolerances and designation (ISO 228-1)*

EN ISO 3822-1, *Acoustics — Laboratory tests on noise emission from appliances and equipment used in water supply installations — Part 1: Method of measurement (ISO 3822-1)*

EN ISO 3822-2, *Acoustics — Laboratory tests on noise emission from appliances and equipment used in water supply installations — Part 2: Mounting and operating conditions for draw-off taps and mixing valves (ISO 3822-2)*

EN ISO 3822-4:1997, *Acoustics — Laboratory tests on noise emission from appliances and equipment used in water supply installations — Part 4: Mounting and operating conditions for special appliances*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <https://www.iso.org/obp/>

— IEC Electropedia: available at <https://www.electropedia.org/>

3.1

sanitary tapware aerator

device which is fitted at the outlet of a sanitary tapware product to impact the flow rate and stream appearance of the water stream

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Note 1 to entry: A distinction is made between stream appearance:

- a) aerators without air intake, (known as “laminar” stream);
- b) aerators with air intake;
- c) spray models (numerous single jets).

Note 2 to entry: See EN 246.

3.2

anti-pollution device

device to prevent pollution by backflow of potable water

Note 1 to entry: Refer to EN 1717 for anti-pollution devices and their specific use.

3.3

cold water

water with a temperature ≤ 30 °C, unless specified for a specific test

3.4

diverter

moveable component for changing the direction of water flow between optional outlets

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3.4.1

automatic diverter

mechanism which rests in a default position and is changed by the end user to another outlet position but automatically returns to the default position on reduction of pressure

Note 1 to entry: In some cases, products can be semi-automatic when they have the ability to be locked in an optional outlet other than the default outlet position.

3.4.2

manual diverter

mechanism to select optional outlets manually

3.5

exposed surfaces

outside surfaces of sanitary tapware visible in use conditions

Note 1 to entry: See EN 248.

3.6

extractable hose

flexible supply pipe which connects sanitary tapware to an extractable outlet

Note 1 to entry: See EN 16146.

3.7

extractable outlet

moveable hand-held outlet designed to be fitted to sanitary tapware via an extractable hose

Note to entry: See EN 16145.

3.8

fitting

component attached to the end of a flexible hose to facilitate connection between the water supply and the sanitary tapware

3.9

flow control device

manual equipment controlling the flow of water

3.10

flow rate regulator

device which is fitted to or within sanitary tapware, to enable dynamic control of the delivered water flow rate

3.11

flexible hose assembly

flexible hose with or without braiding and furnished with fittings to connect the sanitary tapware to the water supply

Note 1 to entry: See EN 13618.

3.12**mechanical mixing valve (MMV)**

valve which mixes hot and cold water and which, by means of a control device, allows the user to adjust between 'all cold water' and 'all hot water', which implies the flow rate of the mixture obtained may be adjusted between 'no flow' and 'maximum flow' using either the same control device or another separate control device

3.13**obturator**

moveable component in the valve whose position in the flow path permits or obstructs flow of water through the sanitary tapware

3.14**shower hose**

flexible supply pipe which connects sanitary tapware to a shower handset

Note 1 to entry: See EN 1113.

3.15**shower outlet**

device for ablutionary purposes which allows water to be emitted in the form of jets or water droplets

Note 1 to entry: See EN 1112.

3.16**single sequential mixing valve**

sanitary tapware designed to mix hot and cold with a single control operating around one axis and through a predetermined sequence of flow, starting with cold and increasing temperature as the flow and obturator are turned around the single axis

4 Designation

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Sanitary tapware covered by this document are designated by characteristics identified in Table 2.

Table 2 — Designation index

Sanitary tapware according to application	
Type of sanitary tapware	Mechanical mixing valve
Intended use	Basin, bidet, sink, bath, shower (including combinations)
Connection Size	G3/8, G1/2 or G3/4, Male or Female (cross refer to dimensions table as appropriate)
Mounting method	Horizontal or vertical surfaces
Body	Single or multi-hole, visible or concealed
Diverter	With or without diverter
Type of outlet	Fixed, moveable, extractable
Acoustic group and classification	
Taps for supply system of Type 1	Group I or Group II or U (unclassified/untested)
Flow rate	Nominal flow rate
Ref. to this European Standard	EN 817

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Table 2 presents many useful elements that help to define the use and intended function of a product. Manufacturers may choose a selection of these elements as applicable to their sanitary tapware products that are pertinent to their specific market.

EXAMPLE Mechanical mixing valve, Bath/Shower, nominal size 3/4, 2-hole with visible body, for mounting on vertical surface, diverter, fixed outlet, nominal flow rate, with acoustic group I, EN 817.

5 Marking and identification**5.1 Marking**

Sanitary tapware shall be marked permanently and legibly with the manufacturer's or agent's name or identification:

- of the sanitary tapware on the body, handle or spout. This marking shall be visible after installation;
- of the obturator on the on/off obturator, (not applicable when the on/off obturator is of a special design to suit the body or when manufactured by the same manufacturer of the sanitary tapware). This marking does not need to be visible after installation.

NOTE 1 Permanently in this case means not removable without direct intent (e.g. may require the use of a tool or implement to remove).

NOTE 2 Visible after installation can be visible by use of a mirror or on the underside of a spout etc. This list is not exhaustive.

5.2 Identification**5.2.1 Identification of inlets**

Normal convention is to configure sanitary tapware with the cold water inlet on the right side of the product when the product is viewed from the front.

If the product is configured conventionally, no identification of the inlets is required.

If the product is not configured conventionally, or the product can be installed in multiple orientations that can be conventional or non-conventional, hot or cold inlets shall be identified as follows:

- cold: Colour blue or words/letters;
- hot: Colour red or words/letters.

In these cases, only one of the inlets needs to be identified. This marking need not be permanent.

5.2.2 Identification of control device (s)

Normal convention is where the sanitary tapware's control device operates in two planes [on (up)/off (down) plane and hot/cold in the left/right plane] when the product is viewed from the front.

If the product is configured conventionally, no identification of the flow control device is required.

In all other cases, for control devices, to facilitate the understanding of the function, the device shall be permanently identified as follows:

- colour blue for cold;
- colour red for hot;