Sanitary tapware - Measurement of functional performance of taps and showers

EESTI STANDARDIMIS- JA AKREDITEERIMISKESKUS
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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 18021:2025 sisaldab Euroopa standardi EN 18021:2025 ingliskeelset teksti.	This Estonian standard EVS-EN 18021:2025 consists of the English text of the European standard EN 18021:2025.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 02.07.2025.	Date of Availability of the European standard is 02.07.2025.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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EUROPEAN STANDARD

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English Version

Sanitary tapware - Measurement of functional performance of taps and showers

Robinetterie sanitaire - Mesure des performances fonctionnelles des robinets et des douches

Sanitärarmaturen - Messung der Funktionsfähigkeit von Armaturen und Brausen

This European Standard was approved by CEN on 4 May 2025.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 18021:2025) 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 January 2026, and conflicting national standards shall be withdrawn at the latest by January 2026.

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 has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

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.

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.

Introduction

In respect of potential adverse effects on the quality of water intended for human consumption, caused by the products covered by this document.

This document provides no information as to whether the products can be used without restriction in any of the Member States of the EU or EFTA.

While awaiting the adoption of verifiable European criteria, existing national regulations concerning the use and/or the characteristics of these products remain in force.

This document defines the test procedures for the calculation of energy and measurements of functional performance for taps, shower outlets, shower sets and shower systems in order to identify energy efficient products.

This document does not define all requirements since these will be set by future EU legislation.

1 Scope

This document acknowledges the field of application for taps, shower outlets, shower sets and shower systems used in water supply systems with a pressure range of (0,05 to 1,0) MPa [(0,5 to 10) bar].

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

This document covers:

— PN10 taps;

— PN5 shower outlets;

— PN5 shower sets;

— PN10 shower systems.

The following products are excluded from this document:

— shower taps on its own;

— taps for filling bathtubs;

— the tub filling function of combined taps;

— the function of a tap that delivers e.g. boiling water or sparkling water, etc.;

— body or side jet showers.

The conditions of use for taps and shower systems are given in Table 1. The conditions of use for showers sets and shower outlets are given in Table 2.

Table 1 — Conditions of use for taps and shower systems

Water supply system	Operating range of taps and shower systems	
	Limits	Recommended
see Figure 1	dynamic pressure ≥ 0,05 MPa (0,5 bar) static pressure ≤ 1,0 MPa (10,0 bar)	dynamic pressure [b] (0,1 to 0,5) MPa [(1,0 to 5,0) bar]
temperature	≤ 70 °C [a]	≤ 65 °C

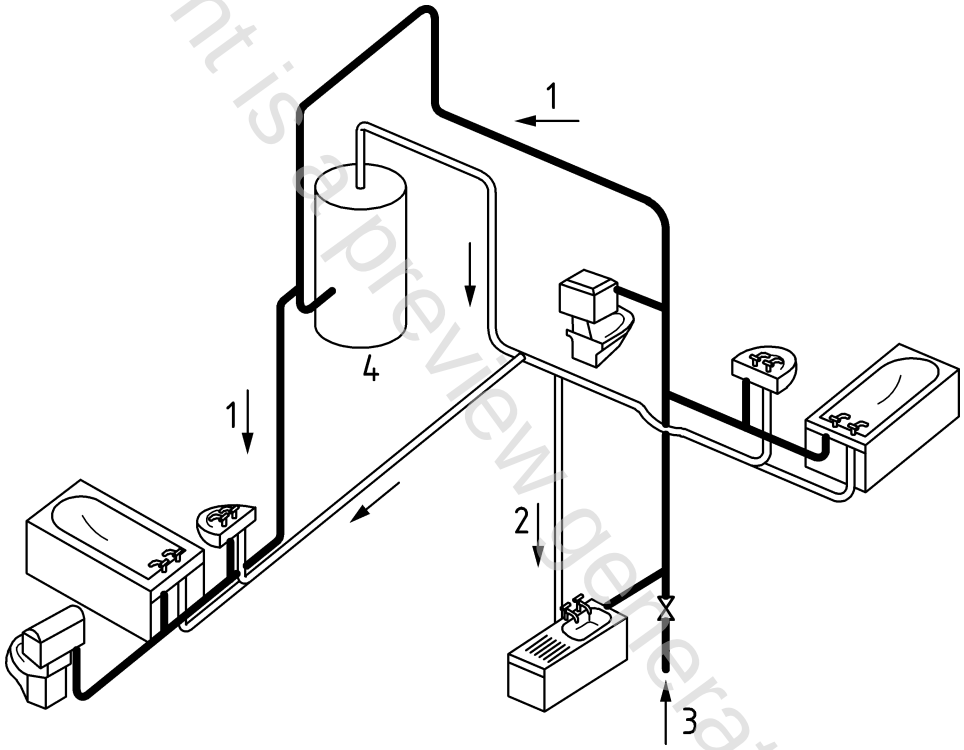
[a] This maximum temperature limit can only be reached for short durations not greater than 1 h.

[b] Measured at the point of discharge.

NOTE Taps and shower systems for use at pressures lower than those in Table 1 are not covered by this standard.

Table 2 — Conditions of use for shower outlets and shower sets

Water supply system	Operating range of showers	
	Limits	Recommended
see Figure 1	dynamic pressure ≥ 0,05 MPa (0,5 bar) static pressure ≤ 0,5 MPa (5,0 bar)	dynamic pressure (0,1 to 0,3) MPa [(1,0 to 3,0) bar]
temperature	≤ 70 °C [a]	≤ 42 °C
[a] This maximum temperature limit can only be reached for short durations not greater than 1 h.		



Key

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

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

Health and quality requirements in accordance to European and national legislation for final materials in contact with water intended for human consumption 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 816, *Sanitary tapware — Automatic shut-off valves PN 10*

EN 817, *Sanitary tapware — Mechanical mixing valves (PN 10) — General technical specifications*

EN 1111, *Sanitary tapware — Thermostatic mixing valves (PN 10) — General technical specification*

EN 1112, *Sanitary tapware — Shower outlets for sanitary tapware for water supply systems of type 1 and type 2 — General technical specification*

EN 15091:2024, *Sanitary tapware — Electronic opening and closing sanitary tapware*

3 Terms and definitions

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

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

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

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

3.1
activity
use of sanitary tapware in respect of adjusting the control, e.g. flow, water temperature

3.2
aerator
device which is fitted at the outlet of a sanitary tapware product to influence the flow rate and stream appearance of the water stream

Note 1 to entry: See EN 246.

3.3
electronic automatic shut off valve
<time flow> sanitary tapware whose opening is operated by a non-electronic action on the control device, and whose closure happens automatically after a period of adjustable or non-adjustable duration

Note 1 to entry: See EN 816.

3.4
non-electronic automatic shut off valve
<sensors> sanitary tapware whose opening is operated by an electronic sensor recognising presence of a user, and whose closure happens automatically when the presence is removed

Note 1 to entry: See EN 15091.