



SLOVENSKI STANDARD
SIST EN 246:2022

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Nadomešča:
SIST EN 246:2004

Sanitarne armature - Splošne specifikacije za regulatorje pretoka

Sanitary tapware - General specifications for aerators

Sanitärarmaturen - Allgemeine Anforderungen an Strahlregler

Robinetterie sanitaire - Spécifications générales pour les aérateurs

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ICS:

91.140.70 Sanitarne naprave Sanitary installations

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EUROPEAN STANDARD
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English Version

Sanitary tapware - General specifications for aerators

Robinetterie sanitaire - Spécifications générales pour
les aérateurs

Sanitärarmaturen - Allgemeine Anforderungen an
Strahlregler

This European Standard was approved by CEN on 10 October 2021.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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.

CEN members are the national standards bodies of 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, Turkey and United Kingdom.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN 246:2021 (E)

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European foreword

This document (EN 246:2021) 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 May 2022, and conflicting national standards shall be withdrawn at the latest by May 2022.

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 246:2003.

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

- Update to [Table 2](#) (dimensions);
- Update to [Table 3](#) (dimensions);
- Addition of new [Clause 8](#) – Test sequence;
- Addition of new [Clause 11](#) – Performance of aerators with integrated flow regulators.

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, Turkey and the United Kingdom.

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1 Scope

This document specifies:

- the dimensional, mechanical, hydraulic and acoustic characteristics with which sanitary tapware aerators (with and without flow regulation) should comply;
- the procedures for testing these characteristics.

This document is applicable to:

- Sanitary tapware aerators intended to be mounted on tapware used with sanitary appliances in toilets, bathrooms and kitchens (e.g. single taps, combination tap assemblies, mechanical mixing valves, thermostatic mixing valves);
- Sanitary tapware aerators used under the following pressure and temperature conditions (see [Table 1](#)).

Table 1 — Conditions for the use of aerators

	Limits of use	Recommended limits for correct operation
Dynamic Pressure	$0,05 \text{ MPa} \leq P \leq 0,5 \text{ MPa}$ ($0,5 \text{ bar} \leq P \leq 5 \text{ bar}$)	$0,1 \text{ MPa} \leq P \leq 0,5 \text{ MPa}$ ($1 \text{ bar} \leq P \leq 5 \text{ bar}$)
Temperature	$\leq 70 \text{ }^\circ\text{C}$	$\leq 65 \text{ }^\circ\text{C}$

NOTE 1 Sanitary tapware aerators can only be connected downstream of the obturator of the sanitary tapware product.

NOTE 2 For the purposes of brevity, sanitary tapware aerators will be detailed only as aerators in the rest of this document.

NOTE 3 The tests described in this document are type tests (laboratory tests) and not quality control tests carried out during manufacture.

NOTE 4 Aerator swivels are to be tested in combination with a specific aerator only and are therefore considered to be sanitary tapware accessories. (Testing of the stand-alone swivels is therefore not covered by the scope of this document. Where swivels are used they are considered to be part of the tapware constructions, e.g. for bidet taps).

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

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

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 3822-1:1999)*

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

ISO 49, *Malleable cast iron fittings threaded to ISO 7-1*

EN 246:2021 (E)**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 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

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 and
- c) spray models (numerous single jets).

3.2 aerator with integrated flow regulator
aerator that incorporates an integral flow regulator, fitted to the outlet of a sanitary tapware product to impact the stream appearance of the water stream and additionally controlling the flow rate within specified limits independent from the supply pressure

Note 1 to entry: See tolerances in [11.1.3](#).

3.3 flow regulator
device integrated in an aerator to regulate the flow rate

Note 1 to entry: The key function is to achieve a flow rate within specified limits, independent from the supply pressure.

4 Designation**4.1 Structure**

An aerator is designated by:

- its type (with/without air intake);
- its thread dimension;
- its acoustic group (where applicable);
- flow rate (either ISO classification (ISO 3822-4) or the nominal flow rate for aerators with integrated flow regulators or stand-alone flow regulators);
- reference to this document.

4.2 Examples of designation:

- a) Aerator, with female thread: **M22x1; I; A – EN 246**
- b) Aerator laminar, with male thread: **M24x1; I; A – EN 246**
- c) Aerator, with male thread: **M22x1; 6 l/min – EN 246**

5 Marking – Identification

Aerators complying with this document shall be marked (on the insert or the housing) by any means to allow for identification e.g. embossing, colour coding, number coding etc. Aerators should be marked with:

- the mark or name or trade name of the manufacturer;
- the acoustic group (if applicable);
- coding, number coding or any appropriate combination of methods etc.

6 Materials

6.1 Chemical and hygiene requirements

All materials coming into contact with water intended for human consumption shall present no risk to health.

They shall not cause any change of the drinking water in terms of quality, appearance, smell or taste.

6.2 Exposed surface conditions

Visible chromium plated surfaces and Ni-Cr coatings shall comply with the requirements of EN 248.

7 Dimensions

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7.1 Aerators with female thread

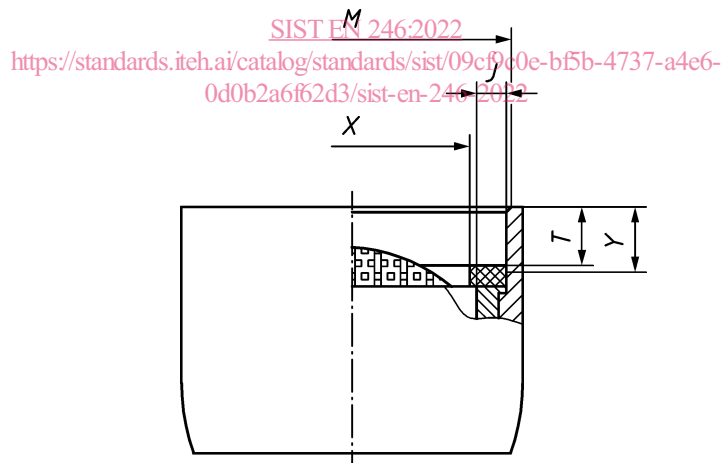


Figure 1 — Aerators with female thread

Table 2 — Dimensions for aerator with female thread

Symbol	Values (mm)
M	M22x1 – 6H
X	$14 \leq X \leq 17$
T	$3,5 \leq T \leq 4,3$
Y	$\geq 4,5$
J	$\geq 2,0$

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7.2 Aerators with male thread

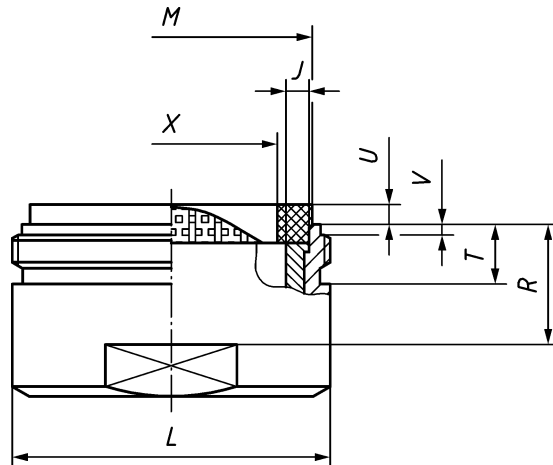


Figure 2 — Aerators with male thread

Table 3 — Dimensions for aerators with male thread

Symbol	Values (mm)	
M	<i>M24x1 - 6g</i>	<i>M28x1 - 6g</i>
X	$14 \leq X \leq 17$	$15 \leq X \leq 19$
T	$4,5 \pm 0,1$	$7 \pm 0,1$
R	≥ 9	≥ 14
U	$1,5 \pm 0,5$	$1,5 \pm 0,5$
L	$24_{-0,2}^0$	$28_{-0,2}^0$
V	$0,8 \pm 0,1$	$0,8 \pm 0,1$
J	≥ 2	$\geq 2,5$

7.3 Special cases

Aerators intentionally not complying with the dimensional specifications according to 7.1 and 7.2, shall comply with all other requirements of this document. Where this is the case, the manufacturer shall provide appropriate dimensional data. (For example, aerators without housing, or with metrics different to M22, M24 and M28.)

8 Test sequence

Aerators, depending on their type shall be tested in the following sequence:

NOTE 1 Tables below refer to the relevant subclauses for each test.

Table 4 — Aerators without flow regulation

	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5
Dimensions		7			
Hydraulic Performance	10.1	10.1	10.1	10.1	10.1
High temperature	10.2		10.2		10.2
Pressure resistance	12				

NOTE 2 Additional samples may be required to undertake acoustic testing – see [10.3](#).

Table 5 — Aerators with flow regulation

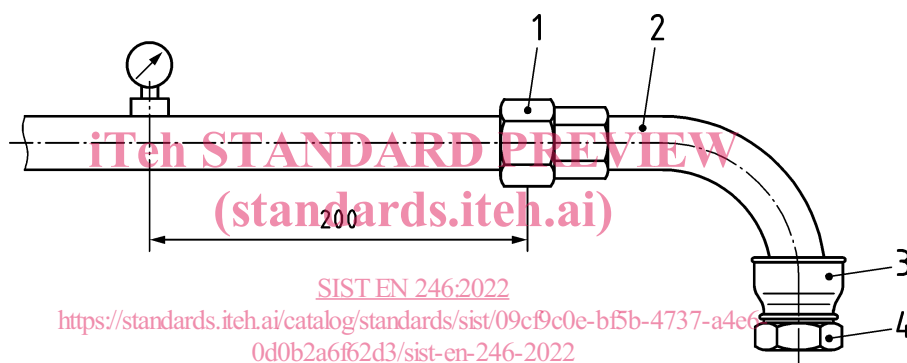
	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5
Dimensions		7			
Hydraulic Performance	11.1	11.1	11.1	11.1	11.1
Endurance	11.2		11.2		11.2
Hydraulic Performance	11.1		11.1		11.1
Pressure resistance	12				

9 Assembly

The aerators to be tested shall be connected to a test circuit as shown in [Figure 3](#).

NOTE Dimensions for the mounting of aerators on nozzle outlets of sanitary tapware can be found in [Annex A](#) (Table A.1 and [Figure A.1](#), Table A.2 and [Figure A.2](#)).

Dimensions in millimetres



Key

- 1 Galvanized union, taper seat 1, U11, in accordance with ISO 49
- 2 Galvanized male long swept bend 1, G8, in accordance with ISO 49
- 3 Galvanized socket, 1 × 3/4, M2, in accordance with ISO 49
- 4 Adapter in accordance with EN ISO 3822-4 (see [Figure 4](#) and [5](#))

Figure 3 — Test circuit

Adapters shall be of the following types: -see [Figure 4](#) and [Figure 5](#) and [Table 6](#) and [Table 7](#) (including tolerances and materials according to EN ISO 3822-4).

- a) Adapter with external thread (A₃) for controlling M22X1 aerators.