

## **Sanitary tapware - Low pressure thermostatic mixing valves - General technical specifications**

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valves - General technical specifications

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 1287:2001 sisaldab Euroopa standardi EN 1287:1999 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 18.06.2001 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 1287:2001 consists of the English text of the European standard EN 1287:1999.</p> <p>This document is endorsed on 18.06.2001 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b></p> <p>This European standard specifies requirements for "low hydraulic resistance" thermostatic mixing valves suitable for use in low pressure water supply systems as described in informative annex C. This European Standard specifies:</p> <ul style="list-style-type: none"><li>- the dimensional, leaktightness, mechanical and hydraulic performance and mechanical endurance characteristics with which low pressure thermostatic mixing valves shall comply;</li><li>- the procedures for testing these characteristics.</li></ul> <p>It is applicable:</p> <ul style="list-style-type: none"><li>- to low pressure thermostatic mixing valves intended for use on sanitary appliances in washrooms (toilets, bathrooms etc.) and in kitchens;</li><li>- to low pressure thermostatic mixing valves used under the pressure and temperature conditions given in table 1.</li></ul> <p>This standard allows for the use of low pressure thermostatic mixing valves to supply a single outlet or a small number of outlets in a "domestic" application (e.g. one valve, controlling a shower, bath, basin, bidet). But excludes valves specifically designed for supplying a large number of outlets (e.g. for institutional use).</p>	<p><b>Scope:</b></p> <p>This European standard specifies requirements for "low hydraulic resistance" thermostatic mixing valves suitable for use in low pressure water supply systems as described in informative annex C. This European Standard specifies:</p> <ul style="list-style-type: none"><li>- the dimensional, leaktightness, mechanical and hydraulic performance and mechanical endurance characteristics with which low pressure thermostatic mixing valves shall comply;</li><li>- the procedures for testing these characteristics.</li></ul> <p>It is applicable:</p> <ul style="list-style-type: none"><li>- to low pressure thermostatic mixing valves intended for use on sanitary appliances in washrooms (toilets, bathrooms etc.) and in kitchens;</li><li>- to low pressure thermostatic mixing valves used under the pressure and temperature conditions given in table 1.</li></ul> <p>This standard allows for the use of low pressure thermostatic mixing valves to supply a single outlet or a small number of outlets in a "domestic" application (e.g. one valve, controlling a shower, bath, basin, bidet). But excludes valves specifically designed for supplying a large number of outlets (e.g. for institutional use).</p>
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**Võttesõnad:** low pressure, mechanical, mixing valves, sanitary tapware, technical specification, thermostatic

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**English version**

Sanitary tapware

**Low pressure thermostatic mixing valves**

General technical specifications

Robinetterie sanitaire – Mitigeurs  
thermostatiques basse pression –  
Spécifications techniques générales

Sanitärarmaturen – Thermostatische  
Mischer für die Anwendung im  
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This European Standard was approved by CEN on 1999-04-01.

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**CEN**

European Committee for Standardization  
Comité Européen de Normalisation  
Europäisches Komitee für Normung

**Central Secretariat: rue de Stassart 36, B-1050 Brussels**

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## Foreword

This European Standard 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 October 1999, and conflicting national standards shall be withdrawn at the latest by October 1999.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

## Introduction

In respect of potential adverse effects on the quality of water intended for human consumption, caused by the product covered by this standard :

- 1) This standard provides no information as to whether the product may be used without restriction in any of the Member states of the EU or EFTA ;
- 2) It should be noted that, while awaiting the adoption of verifiable European criteria, existing national regulations concerning the use and/or the characteristics of this product remain in force.

## 1 Scope

This European Standard specifies requirements for "low hydraulic resistance" thermostatic mixing valves suitable for use in low pressure water supply systems as described in informative annex C.

This European Standard specifies :

- the dimensional, leaktightness, mechanical and hydraulic performance and mechanical endurance characteristics with which low pressure thermostatic mixing valves shall comply ;
- the procedures for testing these characteristics.

It is applicable :

- to low pressure thermostatic mixing valves intended for use on sanitary appliances in washrooms (toilets, bathrooms etc.) and in kitchens ;
- to low pressure thermostatic mixing valves used under the pressure and temperature conditions given in table 1.

This standard allows for the use of low pressure thermostatic mixing valves to supply a single outlet or a small number of outlets in a "domestic" application (e.g. one valve, controlling a shower, bath, basin, bidet). But excludes valves specifically designed for supplying a large number of outlets (e.g. for institutional use).

**Table 1 - Conditions for the use of low pressure thermostatic mixing valves**

	Limits of use	Recommended limits for correct operation
Dynamic pressure	0,01 to 0,1 MPa (0,1 to 1 bar)	$0,02 \text{ MPa} \leq P \leq 0,1 \text{ MPa}$ (0,2 bar $\leq P \leq 1,0$ bar)
Hot water temperature	$T \leq 90 \text{ }^{\circ}\text{C}$	$55 \text{ }^{\circ}\text{C} \leq T \leq 65 \text{ }^{\circ}\text{C}$
Cold water temperature	$T \leq 25 \text{ }^{\circ}\text{C}$	$T \leq 25 \text{ }^{\circ}\text{C}$
Mechanical strength <sup>1)</sup>	static pressure = 1 MPa (10 bar)	
For Low Pressure thermostatic mixing valves complying with this table there are no acoustical requirements.		
Low Pressure thermostatic mixing valves complying with this standard may also be used with inlet supply pressures in the range from 0,1 MPa to 0,2 MPa (1,0 bar to 2,0 bar) on condition that acoustical performance is not a requirement of the installation.		
<sup>1)</sup> NOTE Low pressure thermostatic mixing valves are designed to provide sufficient mechanical strength for operation at 1 MPa (10 bar) static pressure.		

NOTE Thermostatic mixing valves intended for use at flow pressures in excess of those in table 1 are covered by a separate European Standard EN 1111.

## 2 Normative references

This European Standard incorporates by dated or undated references provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to the European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 31, Pedestal wash basins -Connecting dimensions.

EN 32, Wall hung wash basins - Connecting dimensions.

EN 35, Pedestal bidets over rim supply only - Connecting dimensions.

EN 36, Wall hung bidets over rim supply only - Connecting dimensions.

EN 111, Wall hung hand rinse basins - Connecting dimensions.

EN 200, Sanitary tapware – General technical specifications for single taps and mixer taps (Nominal size 1/2) PN 10 : Minimum flow pressure of 0,05 MPa (0,5 bar).

EN 232, Baths - Connecting dimensions.

EN 246, Sanitary tapware - General specifications for flow rate regulators.

EN 248, Sanitary taps - General technical specifications for electrodeposited nickel chrome coatings.

EN 695, Kitchen sinks - Connecting dimensions.

EN 1111, Sanitary tapware – Thermostatic mixing valves (PN 10) – General technical specification.

EN 1254-2, Copper and copper alloys - Plumbing fittings - Part 2 : Fittings with compression ends for use with copper tubes.

prEN 1717, Protection against pollution of potable water in drinking water installations and general requirements of devices to prevent pollution by backflow.

ISO 228-1, Pipe threads where pressure-tight joints are not made on the threads - Part 1 : Dimensions, tolerances and designation.

ISO 5167-1, Measurement of fluid flow by means of pressure differential devices - Part 1 : Orifice plates, nozzles and Venturi tubes inserted in circular cross-section conduits running full.

## 3 Definition

For the purpose of this standard the following definition applies :

### 3.1

#### **low pressure thermostatic mixing valve**

a valve, with one or more outlets, which mixes hot and cold water and automatically controls the mixed water to a user selected temperature. The flow rate between no flow and maximum flow conditions may be effected either by the same control device or a separate flow control device, where fitted.

## 4 Classification

This specification covers the following types of low pressure thermostatic mixing valves :

Type 1 - single control : Thermostatic mixing valves with a single control device for regulating flow rate and temperature ;