
Ventili in fittingi za stavbe in naprave za varovanje pred onesnaženjem pitne vode zaradi povratnega toka - Deli iz polimerov in ohišja pod notranjim tlakom in brez zunanjih obremenitev

Valves and fittings for buildings and devices to prevent pollution by backflow of potable water - Polymer parts and housings under internal pressure and without external loads

Sicherungseinrichtungen zum Schutz des Trinkwassers gegen Verschmutzung durch Rückfließen - Kunststoffteile und -gehäuse unter Innendruck und ohne äußere Beanspruchungen

Robinets et raccords pour les bâtiments et dispositifs de protection contre la pollution par retour de l'eau potable - Éléments et corps en polymère sous pression interne et sans sollicitations externes

Ta slovenski standard je istoveten z: prEN 17962

ICS:

13.060.20	Pitna voda	Drinking water
23.040.45	Fittingi iz polimernih materialov	Plastics fittings
23.060.50	Blokirni ventili	Check valves
91.140.60	Sistemi za oskrbo z vodo	Water supply systems

oSIST prEN 17962:2023

en,fr,de

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN 17962

March 2023

ICS 91.140.60; 23.060.50; 23.040.45

English Version

**Valves and fittings for buildings and devices to prevent
pollution by backflow of potable water - Polymer parts and
 housings under internal pressure and without external
 loads**

Sicherungseinrichtungen zum Schutz des Trinkwassers
gegen Verschmutzung durch Rückfließen -
Kunststoffteile und -gehäuse unter Innendruck und
ohne äußere Beanspruchungen

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 164.

If this draft becomes a European Standard, 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.

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

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European foreword

This document (prEN 17962:2023) has been prepared by Technical Committee CEN/TC 164 “Water supply”, the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

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prEN 17962:2023 (E)**1 Scope**

This document specifies additional requirements to the product standards given in Annex A for valves, fittings and devices with polymer parts and housings under internal pressure and without external loads intended for installations and apparatus inside buildings conveying water for human consumption.

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 806-1, *Specifications for installations inside buildings conveying water for human consumption - Part 1: General*

EN 1213, *Building valves - Copper alloy stop valves for potable water supply in buildings - Tests and requirements*

EN 1487, *Building valves - Hydraulic safety groups - Tests and requirements*

EN 1488, *Building valves - Expansion groups - Tests and requirements*

EN 1489, *Building valves - Pressure safety valves - Tests and requirements*

EN 1490, *Building valves - Combined temperature and pressure relief valves - Tests and requirements*

EN 1491, *Building valves - Expansion valves - Tests and requirements*

EN 1567, *Building valves - Water pressure reducing valves and combination water pressure reducing valves - Requirements and tests*

EN 12729, *Devices to prevent pollution by backflow of potable water - Controllable backflow preventer with reduced pressure zone - Family B, Type A*

EN 13433, *Devices to prevent pollution by backflow of potable water - Mechanical disconnecter direct actuated - Family G, Type A*

EN 13434, *Devices to prevent pollution by backflow of potable water - Mechanical disconnecter flow actuated - Family G, Type B*

EN 13828, *Building valves - Manually operated copper alloy and stainless steel ball valves for potable water supply in buildings - Tests and requirements*

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

EN 14367¹, *Non controllable backflow preventer with different pressure zones - Family C, type A*

EN 14451, *Devices to prevent pollution by backflow of potable water - In-line anti-vacuum valves DN 10 to DN 50 inclusive - Family D, type A*

1 Except CA class "b" with polymer housing.

EN 14452, *Devices to prevent pollution by backflow of potable water - Pipe interrupter with atmospheric vent and moving element DN 10 to DN 20 - Family D, Type B*

EN 14453, *Devices to prevent pollution by backflow of potable water - Pipe interrupter with permanent atmospheric vent DN 10 to DN 20 - Family D, Type C*

EN 14454, *Devices to prevent pollution by backflow of potable water - Hose union backflow preventer DN 15 to DN 32 - Family H, Type A*

EN 14455, *Devices to prevent pollution by backflow of potable water - Pressurised air inlet valves DN 15 to DN 50 - Family L, type A and type B*

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

EN 14622, *Devices to prevent pollution by backflow of potable water - Air gap with circular overflow (restricted) - Family A, Type F*

EN 14623, *Devices to prevent pollution by backflow of potable water - Air gaps with minimum circular overflow (verified by test or measurement) - Family A, type G*

EN 15092, *Building valves - Inline hot water supply tempering valves - Tests and requirements*

EN 15096, *Devices to prevent pollution by backflow of potable water - Hose union anti-vacuum valves - DN 15 to DN 25 inclusive Family H, Type B and Type D - General technical specification*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 806-1 and the following apply.

ISO and IEC maintain terminology 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

housing

parts of the device which are submitted to internal pressure and to e.g. temperatures, ambient conditions, mechanical loads

3.2

polymer material

material such as polyolefin, e.g. polypropylene or polyethylene, polyamide, pva and polyacryl

3.3

incorporated device

device integrated into appliances, e.g. cleaning apparatus, heating boilers

4 Materials

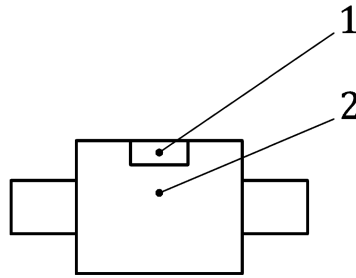
All materials coming into contact with water intended for human consumption shall present no health risk nor cause any change to the water in terms of quality, appearance, smell or taste.

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NOTE It should be noted that while awaiting the adoption of verifiable European criteria for testing materials in contact with water intended for human consumption, existing national regulations concerning the use and/or the characteristics of these products remain in force.

5 Design**5.1 Metallic housings with attached polymer parts**

Part of the housing which is built in the pipework connected to the installation shall be made of metal materials. The attached polymer parts are under internal pressure only. Example is given in Figure 1.

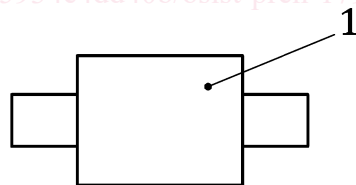
**Key**

- 1 polymer
- 2 metal

Figure 1 — Metallic housings with attached polymer parts

5.2 Full polymer housings

Housing is fully made of polymer material (Figure 2). Full polymer housings shall be used for incorporated devices only. The end connections may be in combination with metal parts.

**Key**

- 1 polymer

Figure 2 — Full polymer housing

6 Testing**6.1 General**

The device shall fulfil all the requirements of the corresponding product standards (see Annex A). In addition to the test of the product standards the following tests shall be performed with three samples (see Table 1).

Table 1 — sequence of tests

Clause/Test	Sample 1	Sample 2	Sample 3
6.3 and 6.6	X		
6.4 and 6.6		X	
6.5 and 6.6			X

For incorporated devices with full polymer housings according to Figure 2, tests of bending moments and/or torsional strength as described in the product standards (see Annex A) are not applicable. In this case the installation situation shall be verified by drawing check.

6.2 Tolerance of set parameters

In the absence of any particular specifications:

- flow rate and pressure: $\pm 2\%$ of the value specified;
- temperature: cold water $\pm 5\text{ °C}$ of the value specified; hot water $\pm 2\text{ °C}$ of the value specified; other values $\pm 2\text{ °C}$ of the value specified;
- time + 10 % of the value specified.

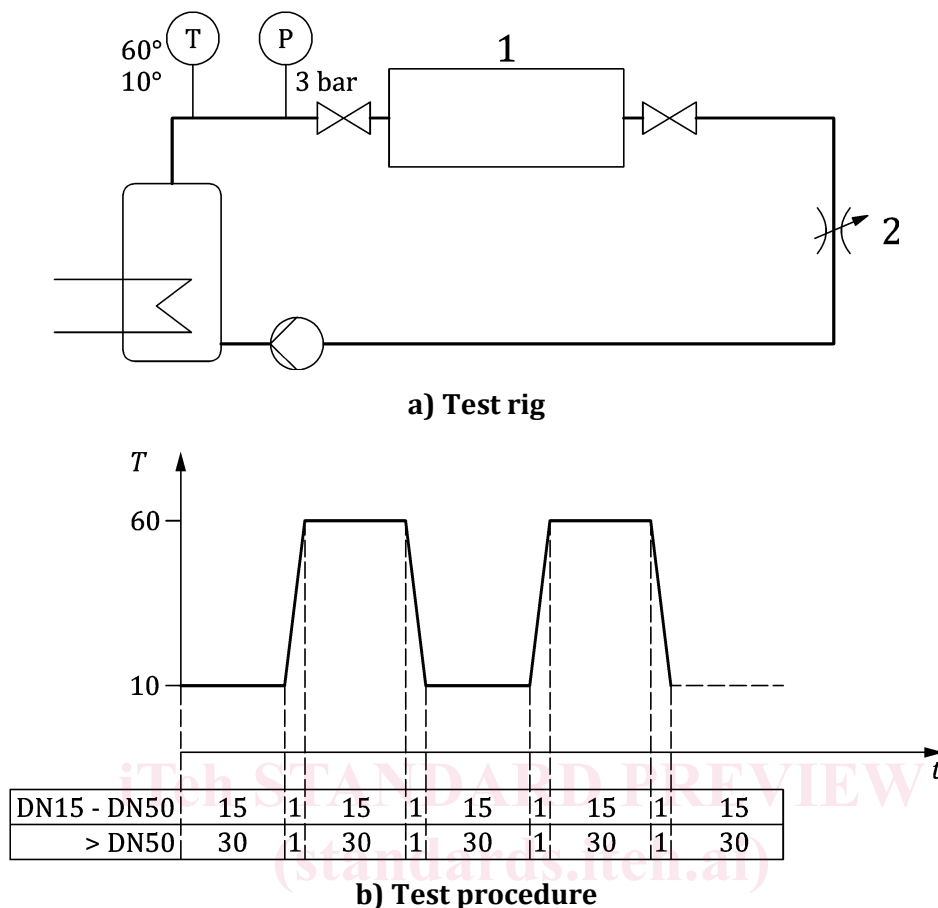
6.3 Resistance to thermal shocks

6.3.1 Requirement

No visual permanent deformation, no leakage, nor rupture of the body or the internal parts of the device shall occur.

6.3.2 Test procedure for devices in PWC installations

The unit is subjected to not less than 120 cycles at a static water pressure of 0,3 MPa (3 bar) \pm 0,05 MPa (0,5 bar) alternately at $(60 \pm 5)\text{ °C}$ for 15 min ($>DN\ 50 = 30\text{ min}$), then $(20 \pm 5)\text{ °C}$ for 15 min ($>DN\ 50 = 30\text{ min}$) with maximum temperature change according to Figure 3. The circulation flow rate shall be between 5 l/min and 10 l/min.

**Key**

- 1 device
- 2 throttling valve
- T temperature in °C
- t time in minutes

Figure 3 — Thermal shocks for testing polymer housings PWC

6.3.3 Test procedure for devices in PWH installations

The unit is subjected to not less than 120 cycles at a static water pressure of 0,3 MPa (3 bar) \pm 0,05 MPa (0,5 bar) alternately at $(80 \pm 5) ^\circ\text{C}$, for 15 min (>DN 50 = 30 min), then $(20 \pm 5) ^\circ\text{C}$ for 15 min (>DN 50 = 30 min) with maximum temperature change according to Figure 4. The circulation flow rate shall be between 5 l/min and 10 l/min.