
Ventili v stavbah - Varnostni hidravlični bloki - Preskusi in zahteve

Building valves - Hydraulic safety groups - Tests and requirements

Gebäudearmaturen - Hydraulische Sicherheitsgruppen - Prüfungen und Anforderungen

Robinetterie de bâtiment - Groupes de sécurité - Essais et exigences

Ta slovenski standard je istoveten z: prEN 1487

ICS:

23.060.01	Ventili na splošno	Valves in general
91.140.60	Sistemi za oskrbo z vodo	Water supply systems

oSIST prEN 1487:2026**en,fr,de**

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EUROPEAN STANDARD
NORME EUROPÉENNE
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DRAFT
prEN 1487

September 2026

ICS 91.140.60

Will supersede EN 1487:2014

English Version

Building valves - Hydraulic safety groups - Tests and requirements

Robinetterie de bâtiment - Groupes de sécurité
hydraulique - Essais et exigences

Gebäudearmaturen - Hydraulische Sicherheitsgruppen
- Prüfungen und Anforderungen

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Ref. No. prEN 1487:2026 E

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European foreword

This document (prEN 1487:2026) 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.

This document will supersede EN 1487:2014.

prEN 1487:2026 includes the following significant technical changes with respect to EN 1487:2014:

- chapter on materials was completely revised;
- testing with disinfectant was introduced;
- coating test procedure was revised;
- normative references were updated;
- editorial changes have been made throughout the entire document.

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Introduction

With regard to potential adverse effect on the quality of water intended for human consumption, caused by the product covered by this document:

- a) This document provides no information as to whether the product may be used without restriction in any of the Member States of the EU or EFTA.
- b) It should be noted that, whilst awaiting the adoption of verifiable European criteria, existing national regulations concerning the use and or the characteristics of this product remain in force.

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1 Scope

This document specifies dimensions, materials and performance requirements, including methods of test, for hydraulic safety groups, of nominal sizes from DN 15 to DN 25, having working pressures¹ from 0,1 MPa (1 bar) to 1,0 MPa (10 bar).

Hydraulic safety groups are intended for fitting to the potable water supply of storage water heaters, having a maximum storage temperature of 95 °C.

Hydraulic safety groups limit the pressure in hot water heaters, prevent the backflow of water into the main circuit and prevent the discharged water to get into contact with the water in the water heater.

Hydraulic safety groups do not control the temperature. They ensure the hydraulic safety of water heaters if the mechanical resistance of the water heater remains at least equal to the rating pressure.

NOTE The use of the device specified in this document does not override the need to use controls (e.g. thermostats and cut-outs) which act directly on the power sources of water heaters (for more information see Annex A).

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 806-5, *Specifications for installations inside buildings conveying water for human consumption — Part 5: Operation and maintenance*

EN 1254-2, *Copper and copper alloys - Plumbing fittings - Part 2: Compression fittings for use with copper tubes*

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

EN 10226-1, *Pipe threads where pressure tight joints are made on the threads - Part 1: Taper external threads and parallel internal threads - Dimensions, tolerances and designation*

EN 13959:2004, *Anti-pollution check valves - DN 6 to DN 250 inclusive family E, type A, B, C and D*

EN ISO 228-1, *Pipe threads where pressure-tight joints are not made on the threads - Part 1: Dimensions, tolerances and designation (ISO 228-1:2000)*

EN ISO 6509-1, *Corrosion of metals and alloys - Determination of dezincification resistance of copper alloys with zinc - Part 1: Test method (ISO 6509-1)*

EN ISO 9227, *Corrosion tests in artificial atmospheres - Salt spray tests (ISO 9227:2022)*

ISO 691, *Assembly tools for screws and nuts — Wrench and socket openings — Tolerances for general use*

3 Terms and definitions

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

¹ All pressures are gauge unless otherwise stated.

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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**hydraulic safety group**

safety device that limits the pressure in hot water heaters, prevents the backflow of water into the main circuit, prevents the discharged water from coming into contact with the water in the water heater, allows the function of the backflow prevention to be controlled and isolates and drains the water heater for maintenance services

Note 1 to entry: A hydraulic safety group comprises at least the following items in a single unit, in an upstream to downstream order, as shown in Table 1.

Note 2 to entry: For the purposes of this document, the hydraulic safety group is hereafter referred to as ‘the device’.

Note 3 to entry: It also incorporates the safety group’s valve seat.

Table 1 — Components of hydraulic safety groups

Component	Quantity
isolating valve	1
test port for monitoring the check valve	1
antipollution check valve ^b	1
isolating valve ^a	1
additional outlet connection ^a	1
pressure safety valve	1
drain device or drain function ^a	1
air break to drain	1
pressure tapping	1
^a optional	
^b replaceable or non-replaceable	

3.2**isolating valve**

valve that allows the water heater to be isolated from the potable water supply

Note 1 to entry: If a second valve is fitted, it is placed between the check valve and safety valve.

3.3**antipollution check valve**

device which allows water to flow just in one direction and prevent water to return back

Note 1 to entry: Anti-pollution check valve is usually called check valve in a short-term.

3.4**additional outlet connection**

outlet connection that allows cold potable water to be supplied to an additional device

Note 1 to entry: For example, inline hot water supply tempering valves etc.

3.5**pressure safety valve**

valve that limits the pressure of the water in the water heater to a predetermined value by discharging water to the drain and in case of temperature control failure, discharging the energy stored as water or steam

3.6**drain device or drain function**

device that allows the water heater to be drained without removing the hydraulic safety group and the outlet connection which is also used to discharge water or steam from the pressure safety valve

3.7**air break to drain**

vertical distance realised by air inlets or full disconnection between the lowest point of the outlet and the spill-over level of the atmospheric drain overflow

3.8**pressure tapping**

tapping that allows pressure measuring equipment to be connected

3.9**nominal set pressure**

P_{nr}

pressure of the pressure safety valve which is set on production

Note 1 to entry: The “nominal set pressure” (P_{nr}) is often called “set pressure”.

3.10**water tightness pressure**

P_e

pressure up to which the pressure safety valve is closed

Note 1 to entry: See Figure 1.

3.11**initial opening pressure**

$P_{dc, water}$

<water> pressure at which the pressure safety valve opens for the first time, as indicated by the first droplet of water at the outlet of the safety group, after a period of storage

Note 1 to entry: See Figure 1.

3.12**initial opening pressure**

$P_{dc, steam}$

<steam> pressure at which the pressure safety valve opens for the first time, as indicated by the first appearance of steam at the outlet of the safety group, after a period of storage

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Note 1 to entry: See Figure 1.

3.13**opening pressure**

$P_{o, \text{water}}$

<water> pressure at which the pressure safety valve opens as indicated by the appearance of water at the discharge connection of the hydraulic safety group

Note 1 to entry: See Figure 1.

3.14**opening pressure**

$P_{o, \text{steam}}$

<steam> pressure at which the pressure safety valve opens as indicated by the appearance of steam at the discharge connection of the hydraulic safety group

3.15**rating pressure**

P_{dn}

pressure at which the discharged flow is above the limit given in Table 9 and Table 10

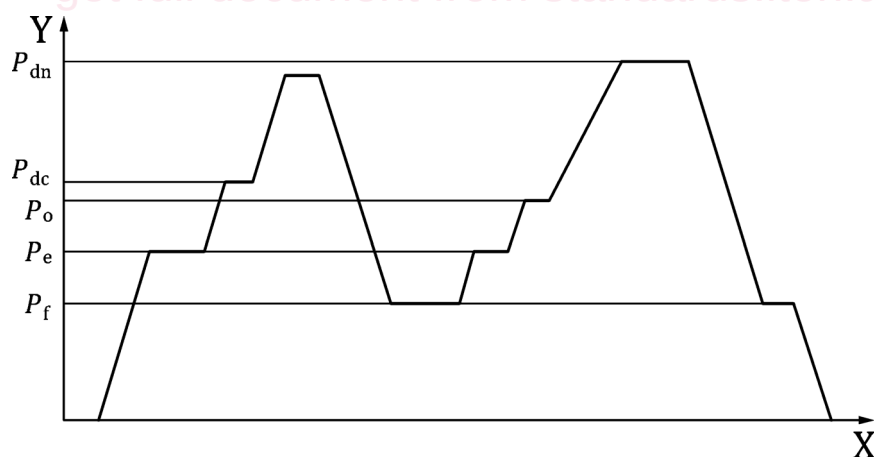
Note 1 to entry: See Figure 1.

3.16**closing pressure**

P_f

pressure at which the pressure safety valve closes after having reached the rating pressure

Note 1 to entry: See Figure 1.

**Key**

Y pressure
X time

Figure 1 — Pressures