BS EN 12541:2026



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Sanitary tapware — Pressure flushing valves and automatic closing urinal valves PN 10

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National foreword

This British Standard is the UK implementation of EN 12541:2026. It supersedes BS EN 12541:2002, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee B/504/-/8, Sanitary tapware.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Published by BSI Standards Limited 2026

ISBN 978 0 539 31341 3

ICS 91.140.70

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 April 2026.

Amendments/corrigenda issued since publication

Date	Text affected

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 12541

April 2026

ICS 91.140.70

Supersedes EN 12541:2002

English Version

Sanitary tapware - Pressure flushing valves and automatic closing urinal valves PN 10

Robinetterie sanitaire - Robinets de chasse d'eau et d'urinoirs à fermeture hydraulique automatique PN 10

Sanitärarmaturen - WC- und Urinaldruckspüler mit selbsttätigem Abschluss PN 10

This European Standard was approved by CEN on 2 March 2026.

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European foreword

This document (EN 12541:2026) 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of an identical text or by endorsement, at the latest by October 2026, and conflicting national standards shall be withdrawn at the latest by October 2026.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 supersedes EN 12541:2002.

EN 12541:2026 includes the following significant technical changes with respect to EN 12541:2002:

— the document has been technically updated;

— the classifications for flushing and urinal valves have been updated;

— the 4 l flow rate was introduced.

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.

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Introduction

As for possible unfavourable effects of the product to which this document applies on the quality of water for human consumption, no information is provided by this document on possible use restrictions of the product in any of the member states of the EU or the EFTA.

NOTE While awaiting the adoption of verifiable European criteria, attention is also drawn to existing national regulation that can apply.

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1 Scope

This document is applicable to flushing valves for WCs and valves for urinals, with automatic hydraulic closure, intended for:

— WC pans EN 997;

— single flush urinals EN 13407;

— siphon acting urinals EN 13407.

It does not apply to no-contact detection valves.

It is intended to specify:

— marking and identification, physico-chemical, dimensional, leaktightness, pressure behaviour, hydraulic, mechanical endurance and acoustic characteristics of flushing valves for WCs and urinals with automatic closure;

— test methods used to verify these characteristics;

— and to determine requirements for the atmospheric interrupter which shall be an integral part of the WC flushing valve.

It is applicable in the following pressure and temperature conditions (see Table 1):

Table 1 — Conditions of use for tapware

Recommended dynamic pressure (*P*) range	Urinals WC DN15 WC DN20	0,1 MPa ≤ *P* ≤ 0,5 MPa (1 bar ≤ *P* ≤ 5 bar)
	WC DN25	0,08 MPa ≤ *P* ≤ 0,25 MPa (0,8 bar ≤ *P* ≤ 2,5 bar)
	WC DN32	0,08 MPa ≤ *P* ≤ 0,25 MPa (0,8 bar ≤ *P* ≤ 2,5 bar)
Maximum static pressure		1 MPa (10 bar)
Water temperature		≤ 25 °C

NOTE Although this document limits the pressure for WC DN25 and WC DN32 valves till 0,25 MPa (2,5 bar), some European countries have legislation and recommendations for higher pressures.

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

EN 997, *WC pans and WC suites with integral trap*

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EN 13407, *Wall-hung urinals — Functional requirements and test methods*

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)*

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 3822-4)*

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

3 Terms and definitions and abbreviated terms

3.1 Terms and definitions

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

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/

3.1.1
automatic closing valve
tapware whose opening is operated by a mechanical action on the control device, and whose closure happens automatically after a period of adjustable or non-adjustable duration

3.1.2
WC flushing valve
automatic closing valve intended to be used with WC pans and comprising an atmospheric interrupter

Note 1 to entry: This shall be in accordance with EN 997.

3.1.2.1
stop valve
<WC flushing valve> valve used to stop water flow upstream of the flushing valve

Note 1 to entry: It may be integrated into the flushing valve or separate from it.

3.1.2.2
flow control equipment
manual or automatic equipment controlling the flush flow and which is an integral part of the flushing valve or of the stop valve

Note 1 to entry: If it is part of the stop valve, this latter shall not be linked to the flushing valve by an ISO 228-1 thread.

3.1.2.3
volume control equipment
equipment used to control the volume of water delivered by a flushing valve

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3.1.3
urinal valve

3.1.3.1
single flush urinal valve
valve intended for flushing single flush urinals

Note 1 to entry: This shall be in accordance with EN 13407.

3.1.3.2
siphon action urinal valve
valve intended for flushing siphon acting urinals

Note 1 to entry: This shall be in accordance with EN 13407.

3.1.3.3
stop valve
<urinal valve> valve used to stop water supply

Note 1 to entry: It may be integrated in the urinal valve and may be used to control the flow.

3.2 Abbreviated terms

For the purposes of this document, the abbreviated terms in Table 2 apply.

Table 2 — Abbreviated terms

DESIGNATION	ABBREV.	UNIT	DEFINITION
Nominal size	DN	mm	Defines the hydraulic and dimensional values of the valve
Flow rate	Q	l/s	Volume of water supplied in the unit of time
Operating time	T	s	Time elapsing between the start of activation and the return to 0 of the flow rate
Volume of water	V	l	Volume of water supplied during the operating time
Static pressure	P_s	MPa (bar)	Pressure upstream of valve in absence of flow
Dynamic pressure	P_d	MPa (bar)	Pressure upstream of valve during flow
Water hammer	ΔP	MPa (bar)	Overpressure occurring upstream of valve at time of closure
Impact force	F	N	Force produced by jet at outlet of flushing pipe.

4 Classification and designation

4.1 Classification of flushing valves

Flushing valves are classified according to their volume class as shown in Table 3:

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Table 3 — Volume class of flushing valves

Class	Amount of delivered water (V)
4	4 l ≤ V < 6 l
6	6 l ≤ V < 9 l
9	9 l ≤ V < 10 l

4.2 Classification of urinal valves

Urinal valves are classified according to their "volume class" as shown in Table 4:

Table 4 — Volume class of urinal valves

Class	Amount of delivered water (V)
1	V ≤ 1 l
2	1 l < V ≤ 2 l
4	2 l < V ≤ 4 l
6	4 l < V ≤ 6 l

4.3 Designation

An automatic closing flushing or urinal valve is designated by:

— type of appliance for which it is intended (WC, siphon action urinal, single flush urinals…);

— volume class (e.g. class 6, class 9, etc);

— type of control (push-button, remote control...);

— mounting method (top-entry, side-entry, flush...);

— nominal size, DN;

— connecting dimension;

— presence of an incorporated stop valve;

— acoustic group (if classified).

EXAMPLE flushing valve / for WC / Class 6 / push-button / top-entry / DN20 / G3/4 B with incorporated stop valve / Group 1

5 Marking

Tapware complying with this document shall be marked indelibly and permanently on the appliance with the mark or name of the manufacturer and the acoustic group, if tested.

6 Coating of exposed surfaces

Coated visible surfaces shall comply with the requirements of EN 248.

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7 Dimensional characteristics

7.1 General comments on drawings

The design and construction of components without defined dimensions permits various design solutions to be adopted by the manufacturer.

7.2 WC flushing valve

7.2.1 General

Table 5 — Threads and outlet pipe (see Figure 1 and Figure 2)

Dimensions	Designation	DN15	DN20	DN25	DN32
A	Male thread (EN ISO 228-1)	G1/2B	G3/4B	G1B	G1 1/4B
D	Female thread (EN ISO 228-1)	G1/2	G1/2	G3/4	G1
G (+0/-0,5) mm	Diameter of pipe connection sleeve	20	26	26 or 30	30
H (+0,2/+0,5) mm	Diameter of valve outlet for connection to pipe by compression joint	22	28	28 or 32	32

Table 6 — Permitted thread lengths (see Figure 1 and Figure 2)

Dimension	Comment	G1/2B	G1/2	G3/4B	G3/4	G1B	G1	G1 1/4B
C min	Useful thread length (mm)	8	-	10	-	10	-	11
L min	Male thread (mm)	11	-	13	-	15	-	19
F min	Female thread (mm)	-	10	-	12	-	12	-

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