SLOVENSKI STANDARD
SIST EN 61770:2009/oprAA:2021

01-marec-2021

Električne naprave, priključene na vodovod - Preprečevanje povratnega vodnega udara in odpovedi cevnega sestava - Dopolnilo AA

Electric appliances connected to the water mains - Avoidance of backsiphonage and failure of hose-sets

Elektrische Geräte zum Anschluss an die Wasserversorgungsanlage - Vermeidung von Rücksaugung und des Versagens von Schlauchsätzen

Appareils électriques raccordés au réseau d'alimentation en eau - Exigences pour éviter le retour d'eau par siphonnage et la défaillance des ensembles de raccordement

Ta slovenski standard je istoveten z: **EN 61770:2009/prAA:2020**

ICS:

91.140.60	Sistemi za oskrbo z vodo	Water supply systems
97.030	Električni aparati za dom na splošno	Domestic electrical appliances in general

SIST EN 61770:2009/oprAA:2021 **en,fr**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
EN 61770:2009

prAA

January 2021

ICS 91.140.60; 97.030

English Version

Electric appliances connected to the water mains - Avoidance of backsiphonage and failure of hose-sets

Appareils électriques raccordés au réseau d'alimentation en eau - Exigences pour éviter le retour d'eau par siphonnage et la défaillance des ensembles de raccordement

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This draft amendment prAA, if approved, will modify the European Standard EN 61770:2009; it is submitted to CENELEC members for enquiry.
Deadline for CENELEC: 2021-04-09.

It has been drawn up by CLC/TC 61.

If this draft becomes an amendment, CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

This draft amendment was established by CENELEC in three official versions (English, French, German).
A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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

European foreword

This document (EN 61770:2009/prAA:2020) has been prepared by CLC/TC 61 “Safety of household and similar electrical appliances” in collaboration with CEN/TC 164 “water supply”.

This document is currently submitted to the CENELEC Enquiry.

The following dates are proposed:

• latest date by which the existence of this document has to be announced at national level	(doa)	dor + 6 months
• latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	dor + 6 months
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	Dor+36 months

Secretary Note: *The Notified bodies and laboratories requested the reducing the timing of DOW for aligning the implementation of AM12 with A11 because the AM12 shall clarify some requirements of A11*

This amendment supplements or modifies the corresponding clauses of:

— EN 61770:2009+A11:2018+A1:2019

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

Secretary note: *to be consistent with IEC text, the words unrestricted overflow has been changed with unobstructed overflow.*

Text of prAA:2020 of EN 61770:2009

1 Modification to clause 3 "Terms and definitions"

3.4 airgaps

3.4.Z1 airgap (general)

Add the following note at the end of the clause:

NOTE 1 to entry: distance is considered to be unobstructed if the air flow into the feed pipe under vacuum conditions is not restricted by the construction of the appliance.

Secretary note: the note has been inserted using the text of the note in the Clause 3.5 of IEC 61770 A1 uncorrected deleted by A11 because clarify what does mean the word “unobstructed”.

3.Z6 diameter of feed pipe (bore D)

Replace the definition of diameter of feed pipe with the following:

Internal diameter size of the outlet feed orifice (or calculated from the equivalent cross sectional area)

NOTE 1 to entry: The dimension of the diameter “D” is in mm

Add Note 2 to entry:

NOTE 2 to entry: If a water valve is used for calculations, then the internal diameter of the outlet connection shall be used or the minimum feed orifice diameter.

Add new definition:

3.Z9 Connection arrangement

Entirely water-bearing components, located between the water tap and the backflow-prevention device incorporated in or fixed to the electrical appliance according to 4.2.

NOTE 1 to entry: Hose-sets and inlet-valves are typical components of the connection arrangement

NOTE 2 to entry: For further information, see Figure Z17 - P (intermediate) = f (P upstream) reverse flow rate constant = QN

2 Modification to clause 4 "General requirements"

4.Z1

*Modify “*NOTE*” with “*NOTE Z1*”*

Add the following new notes at the end of the clause:

NOTE Z2 If components of the connection arrangement are not suitable for contact with water intended for human consumption but risk analysis does not show specific hazards and if their total volume is equal or smaller then 1l they shall be considered as risk category 2 and be protected against backflow / backsiphonage accordingly.

NOTE Z3: The backflow prevention device can be installed in front of the first component of the connection arrangement downstream that is not explicitly suitable for drinking water.

3 Modification to clause 6 "Air gaps"

Modify the subclauses as follow:

6.Z2 Overflow arrangements

Add the following text at the end of the clause:

The air break to drain shall not restrict the overflow.

An overflow is to be regarded as unobstructed if during the investigation of the assembly in each possible functional position the critical level h is not increased.

6.Z2.1 AB air gaps overflow

Add the following text after the first paragraph:

The overflow arrangements at the receiving vessel shall be of non-circular design. After the receiving vessel, the geometry of the water pathway may change as long as it is unrestricted.

Overflow extensions are permitted. These can be either connected to waste water system or can end into atmosphere.

Unrestricted is given, if the distance A between feed orifice and critical water level (h) according to Clause 6.Z4.1 is met.

Verification of the dimensions of the overflow arrangement shall be based upon the largest possible single rectangular that can be accommodated within the non-circular overflow.

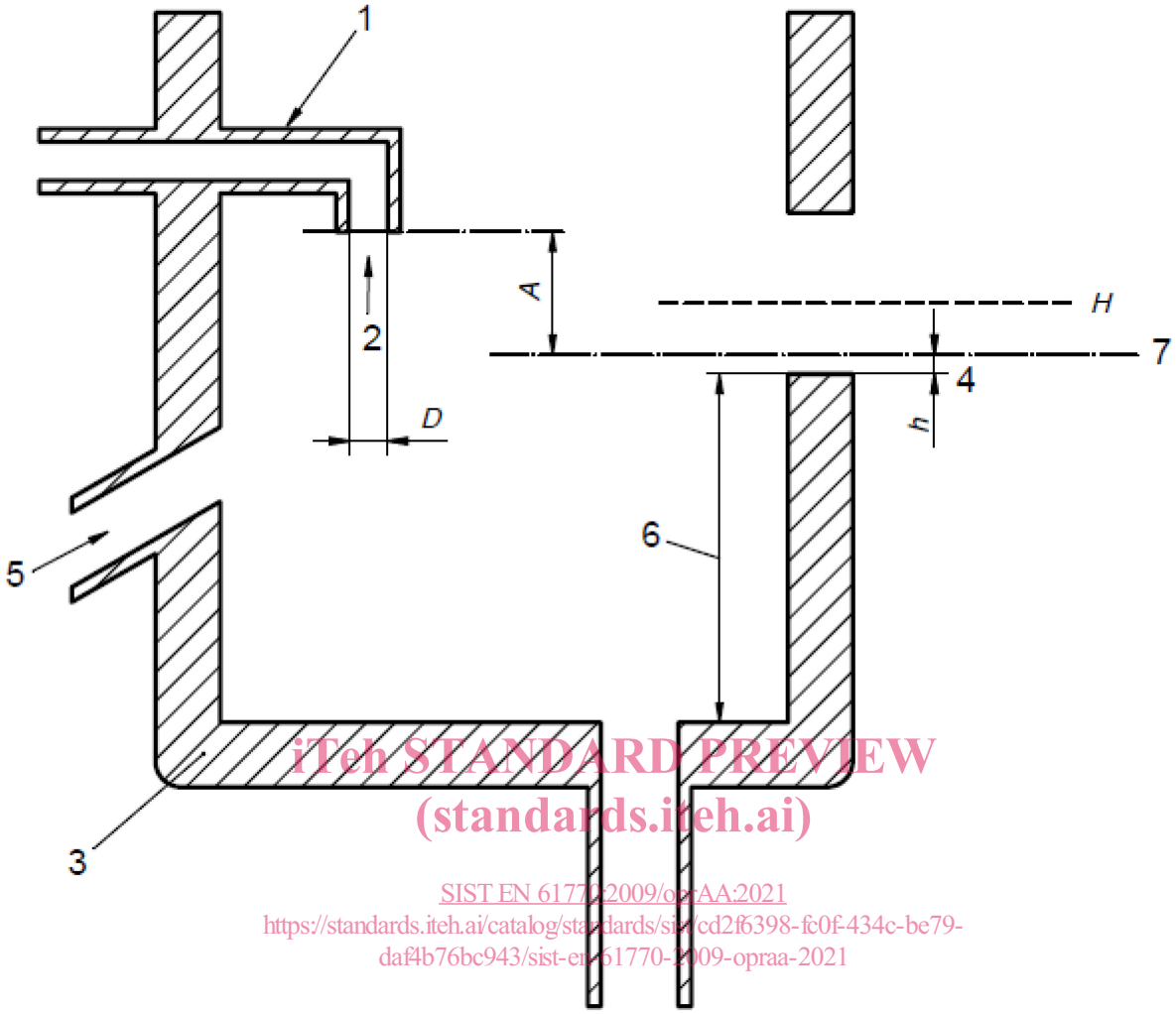
6.Z3.2 Backflow/back pressure

Add the following note at the end of the clause:

NOTE to entry: If between the multiple water inlets a 2D clearance is not present in addition to the air gap validation a vacuum test in accordance with Annex A1 shall be undertaken.

6.Z4.2 Air gap AB

Replace Figure Z2 by the following:



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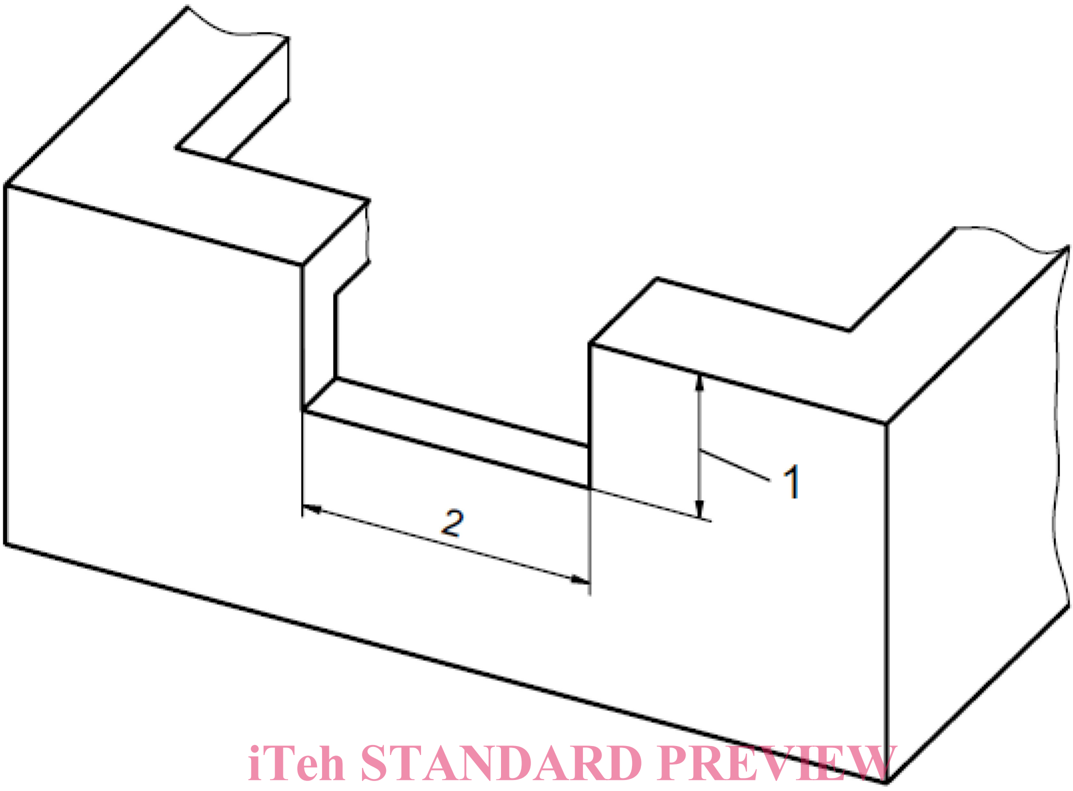
71 **Key**

A Air gap (distance)
D Internal diameter of feed pipe (bore)
H Maximum level
1 Feed pipe
2 Feed orifice
3 Receiving vessel
4 Spillover level
5 Optional warning pipe
6 *Uw* ≥ 5h
7 Critical water level (distance *h*)

72 **Figure Z2 — Dimensions Air gap AB**

73 *Replace Figure Z3 by the following:*



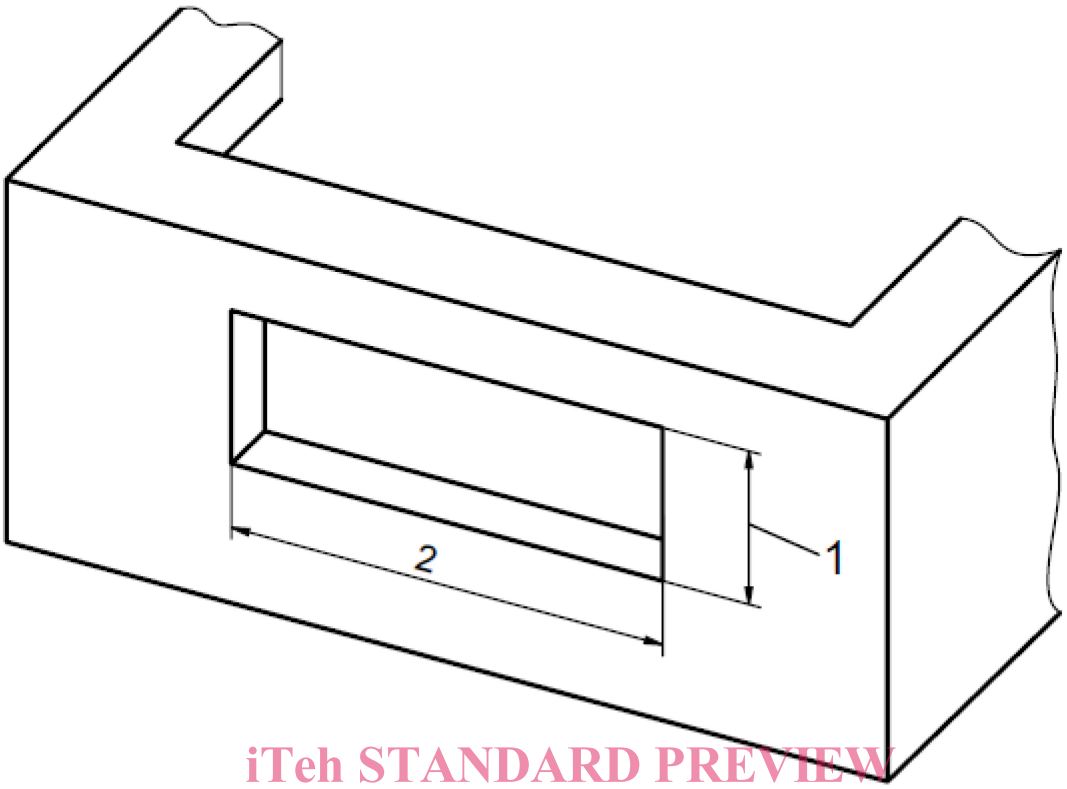
Key

1 *Ow* ≥ 2*D* + *h* and never less than 20 mm (single inlet)
Ow ≥ A + *h* and never less than 20 mm (multiple inlets)

2 *l* ≥ 10 *h*

Figure Z3— Rectangular overflow arrangement

Replace Figure Z4 by the following:



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79 **Key**

1 *Ow* ≥ 2*D* + *h* and never less than 20 mm (single inlet)
Ow ≥ A + *h* and never less than 20 mm (multiple inlets)

2 *l* ≥ 10 *h*

80 **Figure Z4 — Letterbox overflow arrangement**

81 **6.Z4.3 Air gap AD**

82 *Add after the first paragraph:*

83 The distance between the edge of the feed orifice and barriers or housings alongside the elongation of the
84 physical Air Gap shall be 2D and in any case at a minimum of 5mm.

85 It is allowed to connect the upstream orifice or the downstream orifice with housings. Proper function and
86 distance-requirements shall be provided at any time.

87 *Add the following note at the end of the clause:*

88 NOTE to entry: Water coming out of air break to drain can be discharged to receiving vessel.

89 **6.Z5.2 Air gap AD**

90 *Replace the word “Sequence” with “Sequence of test” (two times)*

4 Modification to clause 7 "Pipe interrupters"

Modify the subclauses as follow:

7.Z1 Pipe interrupter without movable parts

7.Z1.1

Add the following note after the first paragraph:

NOTE to entry: A closing element can be any element able to create static positive pressure.

*Replace in the fourth paragraph, second sentence, "*3mm*" by "*4mm*"*

7.Z1.4

Replace the 3rd sentence by:

It shall be at least equal to h + 20 mm and shall not interfere with the 150mm of distance as prescript in Clause 7.Z2.1

Delete the following sentence:

The critical water level in the hose connecting the pipe interrupter to a water softener downstream of a dynamic air inlet device is also checked

7.Z2.1 Pipe interrupters with movable parts

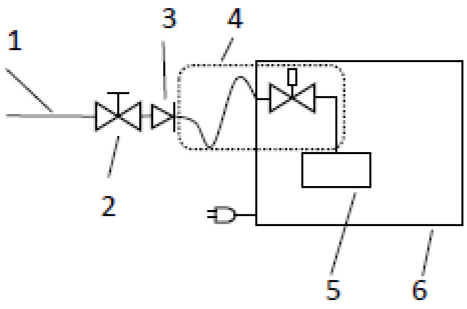
Replace the 4th sentence with the following:

Pipe interrupters with movable parts shall be installed at least at a height equal to h + 20 mm above the maximum water level. This distance shall not interfere on a 150mm distance from the maximum water level.

5 Modification to clause 9 "Hose-sets"

9.3 Hose-sets

Add the following Figure Z22 behind Figure Z16



Key:
1 Drinking Water Supply
2 Water Tap
3 Backflow Prevention Device Cat. 2
4 Connection Arrangement (Volume 1l. Max)
5 Backflow Prevention Device
incorporated in or affixed to the Electrical Appliance
6 Electrical Appliance

Figure Z22 – Connection Arrangement