SLOVENSKI STANDARD
SIST EN 50193-2-2:2017

01-februar-2017

Električni pretočni grelniki vode - 2-2. del: Zahtevane lastnosti - Električni pretočni grelniki vode za uporabo na enem mestu - Učinkovitost

Electric instantaneous water heaters - Part 2-2: Performance requirements - Single point of use electric instantaneous showers - Efficiency

Elektro-Durchfluss-Wassererwärmer - Teil 2-2: Anforderungen an die Gebrauchseigenschaften - Durchfluss-Wassererwärmer für eine einzelne Zapfstelle - Effizienz

Chauffe-eau électriques instantanés - Partie 2-2 : Exigences d'aptitude à la fonction - Chauffe-eau instantanés de douches à un seul point d'utilisation - Efficacité

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ICS:

91.140.65	Oprema za ogrevanje vode	Water heating equipment
97.100.10	Električni grelniki	Electric heaters

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EUROPEAN STANDARD
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ICS 91.140.65

English Version

Electric instantaneous water heaters - Part 2-2: Performance requirements - Single point of use electric instantaneous showers - Efficiency

Chauffe-eau électriques instantanés - Partie 2-2 : Exigences d'aptitude à la fonction - Chauffe-eau instantanés de douches à un seul point d'utilisation - Efficacité.

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CENELEC

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

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European foreword

This document (EN 50193-2-2) has been prepared by CLC/TC 59X “Performance of household and similar electrical appliances”.

The following dates are fixed:

· latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	[2017-10-10]
· latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	[2019-10-10]

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For the relationship with EU Directive(s) see informative Annexes ZZA and ZZB, which are an integral part of this document.

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).

1 Scope

This clause of part 1 is applicable except as follows.

Addition:

This standard applies to open outlet, single point of use, electric instantaneous water heaters intended for household or similar use, for showering purposes without downstream mixing.

This standard only specifies tests for the assessment of energy efficiency.

This standard does not apply to electrical instantaneous water heaters covered by other parts of this series of standards.

2 Normative references

This clause of Part 1 is applicable.

3 Terms and definitions

This clause of Part 1 is applicable.

4 General test conditions

This clause of Part 1 is applicable except as follows.

4.3 General conditions

Addition:

4.3.101 Pressure, temperature, flow and power conditions

Pressure, temperature and flow measurements should be maintained during testing to the tolerance detailed in Table 1. Any deviations from these tolerances will result an invalid test. All testing should be performed at the rated power for the appliance (based on a rating at 230V/400V as applicable).

4.4 Test Setup

Replacement:

The appliance shall be fixed in accordance with the installation instructions except that the shower hose shall not be connected. Products covered by this standard are only to be tested to the XS load pattern detailed in Annex A, Table A.1.

The measurement setup shall correspond to Annex B.

5 Energy efficiency

This clause of Part 1 is applicable except as follows.

5.1 Test method

5.1.1 General

Addition

It is allowable to decrease the time between draw offs in order to accelerate the load pattern detailed in Annex A, as long as it can be demonstrated that results are not affected.

Addition

5.1.1.101 Set Points

The appliance shall be set to achieve minimum flow (f) as specified in Annex A for all efficiency tests. This can be increased if the appliance is unable to operate continuously and the flow rate used recorded. This flow rate is used for all individual draw offs within the prescribed load pattern.

5.1.2 Static efficiency

Addition

The loss adjustment for semiconductor power switches of open outlet electronic instantaneous water heaters is not applicable for this type of appliance.

5.1.3 Start up losses

Replacement

The start up loss Q_{start_i} is the total energy in kWh that is consumed by the appliance between energizing the heating elements and the delivery of useable water temperature for each specific draw off *i*.

Q_{start_i} is measured using a Wh meter for the duration between the point at which the heater elements are energised and when the outlet water has achieved the minimum temperature for useable energy, T_m.

5.1.5 Determination of smart control compliance

Not applicable.

5.2.2 Daily energy demand

Modification:

smart= 0

Annex A
(normative)

Load pattern

This annex of part 1 is applicable except as follows.

Table A.1

Addition:

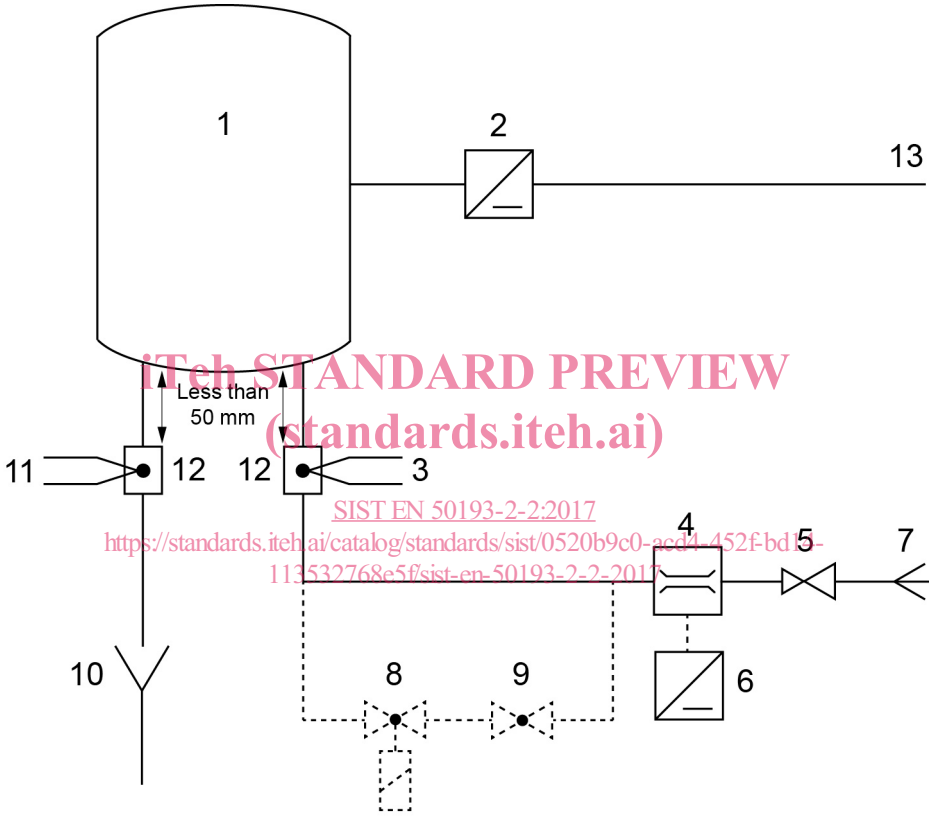
Only load pattern XS shall be used

Annex B
(normative)

Test Set Up

This annex of part 1 is applicable except as follows.

Replacement:



Key

1	Appliance under test (installed without outlet fittings)	8	On/Off Flow control (optional
2	Power meter	9	Flow control (optional)
3	Inlet temperature sensor	10	Open water outlet
4	Flow meter	11	Outlet temperature sensor
5	Pressure reducing / regulating device	12	Temperature sensor housing (see Figures 3 and 4)
6	Pressure measurement (optional)	13	Electrical power connection
7	Connection to the water distribution network		

Figure B.1 — Test setup for open-outlet instantaneous heater