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**Plinski kotli za centralno ogrevanje - Tipa B11 in B11BS z atmosferskimi gorilniki z imensko močjo do vključno 70 kW - Dopolnilo A6**

Gas-fired central heating boilers - Type B11 and B11BS boilers, fitted with atmospheric burners of nominal heat input not exceeding 70 kW

Heizkessel für gasförmige Brennstoffe - Heizkessel der Arten B11 und B11BS mit atmosphärischen Brennern, mit einer Nennwärmebelastung kleiner als oder gleich 70 kW

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Chaudières de chauffage central utilisant les combustibles gazeux - Chaudières des types B11 et B11BS équipées de brûleurs atmosphériques dont le débit calorifique nominal est inférieur ou égal à 70 kW

**Ta slovenski standard je istoveten z: EN 297:1994/A6:2003**

**ICS:**

|           |                               |                         |
|-----------|-------------------------------|-------------------------|
| 91.140.10 | Sistemi centralnega ogrevanja | Central heating systems |
| 97.100.20 | Plinski grelniki              | Gas heaters             |

**SIST EN 297:1997/A6:2004** en,fr,de

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 297:1994/A6**

March 2003

ICS 91.140.10

English version

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This amendment A6 modifies the European Standard EN 297:1994; it was approved by CEN on 6 December 2002.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

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

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

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

**Management Centre: rue de Stassart, 36 B-1050 Brussels**

**EN 297:1994/A6:2003 (E)****Foreword**

This document (EN 297:1994/A6:2003) has been prepared by Technical Committee CEN/TC 109 "Central heating boilers using gaseous fuels", the secretariat of which is held by NEN.

This Amendment to the European Standard EN 297:1994 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2003, and conflicting national standards shall be withdrawn at the latest by September 2003.

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

This Amendment 6 will extend the scope of EN 297 to boilers intended to be installed in a partially protected place.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

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## 1.1 Field of application

Add to the first list of indents

" — intended to be installed indoors and/or in a partially protected place"

## 1.3 Definitions

Add a new sub-clause including a note, as follows:

### "1.3.3.27 Frost protection system

System that actively protects the water in the boiler against freezing.

NOTE An anti-freeze solution is not considered as an active frost protection system."

Add a new sub-clause, as follows:

### "1.3.4.19 Boilers intended to be installed in a partially protected place

Boilers intended to be installed in the open air, not exposed to the direct action and infiltration of rain, snow or hail."

Add a footnote to 1.3.4.19

" If a boiler is sold with a casing intended to provide protection, this casing is an integral part of the boiler."

Add a new sub-clause, as follows:

### "1.3.4.20 Boilers intended to be installed indoors and/or in a partially protected place

Boilers intended to be installed:

- either only indoors;
- either only in a partially protected place;
- either indoors or in a partially protected place."

## 2.1.2.1 General

Add to the second paragraph, as follows:

" For boilers intended to be installed in a partially protected place, all materials employed in the construction, including seals, gaskets and sealing pastes, if any, shall function properly in the environmental conditions under which they are expected to operate.

The manufacturer shall declare in the technical instructions for the installer the minimum and maximum ambient temperatures at which the boiler is designed to operate (see 5.2.1)."

## EN 297:1994/A6:2003 (E)

**2.1.10 Electrical equipment**

Add at the end of Clause 2.1.10:

- " For boilers intended to be installed in a partially protected place,
  - the enclosure protection degree shall be at least IPX4D, in accordance with EN 60529;
  - the electrical and/or electronic equipment shall be applied within its specified temperature range."

**2.2.10 Combustion products discharge safety device**

Replace the first indent

- " — either in the open air"

by

- " — in the open air,
- or in a partially protected place,"

Add a new sub-clause, as follows:

- " **2.2.11 Protection against frost for boilers intended to be installed in a partially protected place**

If the minimum ambient temperature declared by the manufacturer is less than 0 °C, a boiler intended to operate in a partially protected place shall be protected from freezing by a frost protection system."

Add a new footnote to 2.2.11 as follows:

- " For combination boilers, the domestic hot water production circuit is also to be protected from damage caused by frost."

**3.4.2.2.1 Resistance to draught**

Replace the existing text by:

- " **3.4.2.2.1.1 Resistance to draught for boilers not intended to be installed in a partially protected place**

The flames shall be stable under the test conditions of 4.4.2.2.1.1.

**3.4.2.2.1.2 Resistance to draught for boilers intended to be installed in a partially protected place**

The flames shall be stable under the test conditions of 4.4.2.2.1.2."

### 3.5.1 General

Add the following text:

- " For boilers intended to be installed in a partially protected place, the devices shall operate correctly at the temperatures to which they are subjected in the boiler, that is in operation at the maximum and minimum ambient temperature declared by the manufacturer."

Add a new sub-clause, as follows:

- " **3.13 Frost protection system for boilers intended to be installed in a partially protected place**

Under the test conditions of 4.13 the frost protection system, if any, shall act.

The temperature of the water shall remain above 0,5 °C at any point in the boiler during the test of 4.13."

Add a footnote with the following text after the wording "... if any...":

- " Boilers with minimum installation temperatures greater than 0 °C do not need a frost protection system."

Make at the end of 3.13 a reference to the new footnote to 2.2.11:

- " See footnote added to 2.2.11."

Add a new sub-clause, as follows:

- " **3.14 Protection against the ingress of rain**

The boiler, including its protective casing if any, shall meet the requirements for the enclosure protection designated as IPX4D in accordance with EN 60529.

Immediately after the test for the protection against water in 14.2.4 of EN 60529, which is part of the test programme for the enclosure protection IPX4D, the boiler shall start. However, if the boiler does not come in to operation after this test, the boiler fitted with the minimum protection declared in the installation instructions shall start immediately after the tests of 4.14."

Add after the heading

- " **4.4.2.2.1 Resistance to draught**"

a new subheading, as follows:

- " **4.4.2.2.1.1 Resistance to draught for boilers not intended to be installed in a partially protected place**"

and replace in the last paragraph "3.4.2.2.1" by "3.4.2.2.1.1"

Add a new sub-clause, as follows:

- " **4.4.2.2.1.2 Resistance to draught for boilers intended to be installed in a partially protected place**

The boiler intended to be installed in a partially protected place is supplied with an appropriate reference gas or distributed gas both at nominal heat input and at the minimum heat input.

The boiler is subjected at the burner level to wind streams of:

- 12,5 m/s for horizontal and ascending winds ( $\alpha = 0^\circ$  respectively -  $30^\circ$ ) and
- 10 m/s for descending winds ( $\alpha = + 30^\circ$ )

## EN 297:1994/A6:2003 (E)

(see Figure 10).

For type B<sub>1BS</sub> boilers, the combustion products discharge safety device is put out of service.

It is checked that the requirement of 3.4.2.2.1.2 is met."

*Add a new sub-clause, as follows:*

" **4.13 Frost protection system for boilers intended to be installed in a partially protected place**

The boiler is placed in a climate chamber at ambient temperature. The boiler – in stand-by condition - is connected to a system containing not more than 100 l of water. The temperature of the climate chamber is reduced from ambient temperature to the minimum temperature declared by the manufacturer in not less than 1 h.

The test will last until a steady condition or a steady repetition of cycles has been reached.

It is checked that the requirements of 3.13 are met."

*Add a new sub-clause, as follows:*

" **4.14 Protection against the ingress of rain**

The boiler fitted with its minimum protection declared in the installation instructions is placed in a test room, which consists of a rain-making installation and a wind generator.

The rain-making installation is made up of parallel pipes in a horizontal plane. The tubes have small spray holes (placed vertically downwards). These spray holes are evenly distributed across an area of (4 900 × 1 800) mm. The water from the spray holes shall be distributed through a web of fine 1,3 mm wide wire mesh, after which the water will fall in the form of raindrops. The rain intensity is (1,6 ± 0,1) mm per minute and shall be measured with a pluviometer.

The wind generator supplies a horizontal air flow at a velocity of (4 ± 0,5) m/s and (12 ± 0,5) m/s. The dimensions of the wind generator outlet are (1 200 mm × 1 200) mm.

The boiler is placed in the middle of the test room with its front towards the wind generator in such a way that the centre of the boiler front is in line with the centre of the wind generator outlet opening.

The boiler is then exposed each time for 20 minutes to the rain under the following conditions:

- a) no wind;
- b) a horizontal air flow of 4 m/s;
- c) a horizontal air flow of 12 m/s.

After each of these three conditions it is checked that the last requirement of 3.14 is fulfilled."



### 5.1.2 Supplementary marking

*Add after the first paragraph:*

- " For boilers intended to be installed in a partially protected place the minimum and maximum ambient temperature between which the boiler is able to operate will be indicated. For example as follows: "This boiler is able to operate in a partially protected place, within the ambient temperatures [minimum ambient temperature] and [maximum ambient temperature]."

### 5.1.3 Warnings

*Replace the existing text by:*

- " The boiler shall carry information on the type of gas and the supply pressure for which the boiler is adjusted. One or more labels shall give at least the following warnings, such that they are visible and readable for the user:

— read the technical instructions before installing the boiler;

— read the user's instructions before lighting the boiler;

and, for boilers only intended for indoor installation:

— the boiler may only be installed in a room which complies with the appropriate ventilation requirements;

or, for boilers only intended to be installed in a partially protected place:

— the boiler may only be installed in a partially protected place;

or, for boilers intended to be installed both indoors and in a partially protected place, a label shall also contain the sentence:

— the boiler may be installed only in a room which complies with the appropriate ventilation requirements or in a partially protected place."

### 5.2.1 Technical instructions for the installer

*Replace the last but one indent*

- " — either in the open air;"

*by*

- " — in the open air,

— or in a partially protected place,"