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Gas-fired storage water heaters for the production of domestic hot water

Gasbeheizte Vorrats-Wasserheizer zur Warmwasserbereitung für den häuslichen Gebrauch

Appareils de production d'eau chaude par accumulation pour usages sanitaires utilisant les combustibles gazeux

Ta slovenski standard je istoveten z: **EN 89:1999/A2:2000**

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91.140.65

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 89:1999/A2

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English version

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This amendment A2 modifies the European Standard EN 89:1999; it was approved by CEN on 20 April 2000.

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 Central Secretariat 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 Central Secretariat 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, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Ref. No. EN 89:1999/A2:2000 E

Foreword

This Amendment EN 89:1999/A2:2000 to EN 89:1999 has been prepared by Technical Committee CEN/TC 48 "Domestic gas-fired water heaters", the secretariat of which is held by AFNOR.

This Amendment to the European Standard EN 89:1999 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2001, and conflicting national standards shall be withdrawn at the latest by February 2001.

This Amendment to the European Standard EN 89:1999 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).

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, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

This amendment to the European standard EN 89:1999 modifies the standard by providing for the type testing of water heaters fitted or intended to be fitted with an electrically operated flue damper.

1 Scope

Add under the sixth indent of the second paragraph :

— fitted with electrically operated mechanical flue dampers that are positioned downstream of the heat exchanger and tested as an integral part of the water heater.

Delete the last indent of the third paragraph.

3 Definitions

Add the two following definitions :

3.7.8 electrically operated mechanical flue damper

A device having a closure member which virtually blocks the flue gas passage when the main burner is off. The closure member is opened automatically, actuated by an electrical signal.

3.7.9 total passage

The flue way's cross-sectional area that would be available to the flue gases if the closure member were removed.

5 Marking and instructions

Add the following subclause :

5.1.6 Additional marking for appliances with flue dampers

On the appliance data plate or on an alternative permanently fixed, readily visible plate, it shall be stated that the appliance :

— is fitted or

— may be fitted at a later date

with a flue damper.

Add the following subclauses :

5.2.1.6 Appliances with flue dampers

The installation instructions shall include all data needed for checking the appliance and the built-in flue damper for proper performance and for their maintenance.

The appliance may be delivered :

a) without a flue damper ;

b) with a flue damper ;

c) with the possibility of installing a flue damper.

If there is a possibility of installing a flue damper after the installation of the appliance the instructions shall state that :

1) the only damper permitted is that tested/certificated with the appliance ;

2) the damper is to be installed in accordance with the manufacturer's instructions.

5.2.2.5 Appliances with flue dampers

In the instructions for the user, it shall be stated that during maintenance of the appliance the functioning of the flue damper shall be checked for proper performance by a competent person.

6 Constructional requirements

Add the following subclauses :

6.2.14 Flue damper

6.2.14.1 General

If the appliance and flue damper are to be marketed separately they shall be so designed that they cannot be assembled incorrectly. The installation instructions shall refer to this means of assembly.

If the auxiliary energy is interrupted or if some part that is important for the operation of the flue damper fails, it shall not be possible for the main burner to remain alight with the flue damper closed.

The gas supply to the main burner of the appliance shall not be released before the closure member has gone through 90 % of its total passage to the open position.

The connections between the damper and the shaft of the electric motor shall be rigid.

The connection of the closure member to the switch actuating the gas supply to the main burner shall be such that it cannot work loose. The switch controlling the gas supply to the main burner shall be actuated directly by the valve position.Otherwise it shall be safeguarded in some other, at least equivalent way.

Limit switches shall be so constructed and connected that a false "open position" signal cannot occur.

The position of the flue damper switch shall be proved prior to the operation of the burner.

6.2.14.2 Visual indication

An indication of the position of the flue damper shall be readily visible to the user.

6.2.14.3 Safety shut-off valve

The flue damper shall actuate an automatic shut-off valve of class A, B or C.

6.2.14.4 Minimum passage

For appliances with permanent or semi-permanent ignition burner, the minimum passage of the flue damper in a closed position shall be such that satisfactory pilot performance is ensured and there is no condensation from the combustion products.

7 Operational requirements

Add the following subclauses :

7.9.8 Flue dampers

7.9.8.1 Resistance to high temperatures

7.9.8.1.1 Requirement

At the end of the resistance to high temperatures test, the operation of the flue damper shall remain unchanged.

7.9.8.1.2 Test

The appliance is supplied with the incomplete combustion gas at maximum pressure. After the main burner has been ignited the appliance is kept operating continuously for four hours. The water flow rate is so adjusted that the supply water temperature is about 60 °C.

7.9.8.2 Long-term performance

7.9.8.2.1 Requirement

At the end of the long-term performance test, the operation the flue damper shall remain unchanged.

7.9.8.2.2 Tests

This test is carried out at nominal input with one of the reference gases at normal supply pressure.

At operating temperature, 5 000 switching operations of the flue damper, from closed to open and back to the closed position, are carried out by on/off regulation of the main burner.

At ambient temperature, i.e. with the appliance turned off, 40 000 switching actions of the flue damper, from closed to open and back to the closed position, are carried out. This test is carried out at the nominal input with one of the reference gases at nominal supply pressure.

At operating temperature another 5 000 switching actions are carried out. After each switching action it is checked that the opening and closing times do not deviate by more than 50 % from the times measured at the beginning of this long term performance test.

Annex K (informative)

Replace the last paragraph by :

A-deviation for Switzerland :

For gas-fired storage water heaters for the production of domestic hot water, the limit values for the flue losses and for the emission of CO and NO_x of the Swiss law (Luftreinhalte - Verordnung, LRV) of 1985-12-16 (state from 1996-01-01) are applicable. In addition, the combustion products must be evacuated at roof level.