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Naprave za nadzor plamena pri plinskih aparatih - Termoelektrična varovala

Flame supervision devices for gas burning appliances - Thermoelectric flame supervision devices

Flammenüberwachungseinrichtungen für Gasgeräte - Thermoelektrische Zündsicherungen

Dispositifs de surveillance de flamme pour appareils utilisant les combustibles gazeux - Dispositifs thermoélectriques de sécurité à l'allumage et à l'extinction

Ta slovenski standard je istoveten z: **EN 125:2010**

ICS:

27.060.20	Plinski gorilniki	Gas fuel burners

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English Version

Flame supervision devices for gas burning appliances - Thermoelectric flame supervision devices

Dispositifs de surveillance de flamme pour appareils brûlant du gaz - Dispositifs thermoélectriques de surveillance de flamme

Flammenüberwachungseinrichtungen für Gasgeräte - Thermoelektrische Zündsicherungen

This European Standard was approved by CEN on 22 April 2010.

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Foreword

This document (EN 125:2010) has been prepared by Technical Committee CEN/TC 58 “Safety and control devices for burners and appliances burning gaseous or liquid fuels”, the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by November 2010, and conflicting national standards shall be withdrawn at the latest by November 2010.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 125:1991.

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).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

This document is intended to be used in conjunction with EN 13611:2007. This document refers to clauses of EN 13611:2007 or adapts clauses by stating "with the following modification", "with the following addition", "is replaced by the following" or "is not applicable" in the corresponding clause. This European Standard adds clauses or subclauses to the structure of EN 13611:2007 which are particular to this standard. It should be noted that these clauses and subclauses are not indicated as an addition.

It should be noted that the following significant technical changes compared to the previous edition have been incorporated in this European Standard:

a) alignment with EN 13611:2007;

b) updating of Clause 2, Normative references;

c) new declaration of nominal diameter and maximum inlet pressure.

According to the CEN/CENELEC Internal Regulations, the national standards organizations 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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies the safety, construction and performance requirements for thermoelectric flame supervision devices, energized by a thermocouple intended for use with gas burners, gas appliances and similar use, hereafter referred to as "controls".

This European Standard is applicable to controls with declared maximum inlet pressures up to and including 500 kPa (5 bar) of nominal connection sizes up to and including DN 50 for use with one or more fuel gases in accordance with EN 437.

This European Standard is not applicable to:

a) the thermocouple;

b) controls which use auxiliary energy (e.g. electrical energy supplied externally).

2 Normative references

The following referenced documents are indispensable for the application 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 13611:2007, *Safety and control devices for gas burners and gas burning appliances — General requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13611:2007 and the following apply.

3.101
thermocouple
thermoelectric flame sensing element that responds to the temperature of the supervised flame, and in which the flame effect produces an electromotive force (e.m.f.)

3.102
flame supervision device
control which, in response to the e.m.f. produced by the thermocouple, maintains the gas way to the main burner or the main burner and the pilot burner open and which shuts off the gas way to the main burner at least, after extinction of the supervised flame

NOTE For further reference see Figure AA.1 and Figure AA.2.

3.103
ignition interlock
part which prevents the igniter from operating as long as the main gas way is open

3.104
re-start interlock
mechanism which prevents the re-opening of the gas way to the main burner or to the main burner and the pilot burner until the armature plate has separated from the magnetic element

NOTE For further reference see Figure AA.1 and Figure AA.2.

3.105
sealing force
force acting on the closure member when the closure member is in the closed position, independent of any force provided by fuel gas pressure

3.106
closed position
position of the closure member(s) in the absence of the thermoelectric energy

4 Classification

4.1 Classes of control

EN 13611:2007, 4.1 is replaced by the following:

Controls shall be classified A, B or C according to the number of operations as tested in 7.105.2.2.

4.2 Groups of control

Shall be according to EN 13611:2007, 4.2.

4.3 Classes of control functions

EN 13611:2007, 4.3 is not applicable.

5 Units of measurement and test conditions

Shall be according to EN 13611:2007, Clause 5.

6 Construction requirements

6.1 General

Shall be according to EN 13611:2007, 6.1 with the following addition:

Controls shall shut off the gas way to the burner automatically with at least the sealing force specified in 7.104 in case of failure in the thermoelectric current. Controls shall also be designed so that during ignition either the gas way to the main burner is open, if there is no pilot burner, or the gas way to the main burner is closed and that to the pilot burner is open.

6.2 Mechanical parts of the control

6.2.1 Appearance

Shall be according to EN 13611:2007, 6.2.1.

6.2.2 Holes

Shall be according to EN 13611:2007, 6.2.2.

6.2.3 Breather holes

EN 13611:2007, 6.2.3 is not applicable.

6.2.4 Test for leakage of breather holes

EN 13611:2007, 6.2.4 is not applicable.

6.2.5 Screwed fastenings

Shall be according to EN 13611:2007, 6.2.5.

6.2.6 Jointing

Shall be according to EN 13611:2007, 6.2.6.

6.2.7 Moving parts

Shall be according to EN 13611:2007, 6.2.7.

6.2.8 Sealing caps

Shall be according to EN 13611:2007, 6.2.8.

6.2.9 Dismantling and reassembly

Shall be according to EN 13611:2007, 6.2.9.

6.3 Materials

6.3.1 General material requirements

Shall be according to EN 13611:2007, 6.3.1.

6.3.2 Housing

Shall be according to EN 13611:2007, 6.3.2.

6.3.3 Test for leakage of housing after removal of non-metallic parts

Shall be according to EN 13611:2007, 6.3.3 with the following addition:

The test shall be performed in accordance with 7.3.2.

6.3.4 Zinc alloys

Shall be according to EN 13611:2007, 6.3.4.

6.3.5 Springs providing closing and/or sealing force

Shall be according to EN 13611:2007, 6.3.5.

6.3.6 Resistance to corrosion and surface protection

Shall be according to EN 13611:2007, 6.3.6.

6.3.7 Impregnation

Shall be according to EN 13611:2007, 6.3.7.

6.3.8 Seals for glands for moving parts

Shall be according to EN 13611:2007, 6.3.8.

6.4 Gas connections

6.4.1 Making connections

Shall be according to EN 13611:2007, 6.4.1.

6.4.2 Connection sizes

Shall be according to EN 13611:2007, 6.4.2.

6.4.3 Threads

Shall be according to EN 13611:2007, 6.4.3.

6.4.4 Union joints

Shall be according to EN 13611:2007, 6.4.4.

6.4.5 Flanges

Shall be according to EN 13611:2007, 6.4.5.

6.4.6 Compression fittings

Shall be according to EN 13611:2007, 6.4.6.

6.4.7 Nipples for pressure test

Shall be according to EN 13611:2007, 6.4.7.

6.4.8 Strainers

Shall be according to EN 13611:2007, 6.4.8 with the following addition:

Strainers fitted to controls of DN 25 and above shall be accessible for cleaning or replacement without the need to remove the control body by dismantling threaded or welded pipe work.

6.5 Electronic parts of the control

EN 13611:2007, 6.5 is not applicable.

6.6 Protection against internal faults for the purpose of functional safety

EN 13611:2007, 6.6 is not applicable.

7 Performance

7.1 General

Shall be according to EN 13611:2007, 7.1 with the following addition:

Tests shall be conducted in the sequence shown in Table 1.

Table 1 — Sequence of testing

Clauses no.	Type of test
7.3	Test for leak-tightness
7.7	Test for rated flow rate
7.101.2	Test for operating torque and force
7.102.2	Test for interlocks
7.104.2	Test for sealing force
7.103.2	Test for closing current
7.5	Torsion and bending tests
7.105.2.1	Static endurance test
7.105.2.2	Dynamic endurance test
7.8	Durability
6.3.3	Test for leakage of housing after removal of non-metallic parts

7.2 Leak-tightness

EN 13611:2007, 7.2 is replaced by the following:

Controls shall be leak-tight in accordance with the leakage rates given in Table 2.

Table 2 — Maximum leakage rates

Gas connection nominal inlet size DN	Maximum leakage rates cm³/h of air			
	Internal leak tightness		External leak tightness	
	Closed (de-energized) position	Ignition position	Operating and closed (de-energized) position	Ignition position
DN < 10	20	5 000	20	170
10 ≤ DN ≤ 25	40		40	190
25 < DN ≤ 50	60		60	210

Closure parts shall remain leak-tight after dismantling and reassembly.