

norm

NEN-EN 1854

Drukvoelers voor met gas gestookte branders en toestellen

Pressure sensing devices for gas burners and gas burning appliances

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ICS 23.060.40; 27.060.20

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VOORBEELD
Preview

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Voor de in deze norm vermelde normatieve verwijzingen bestaan in Nederland de volgende equivalenten:

| <u>Vermelde norm</u> | <u>Nederlandse norm</u> | <u>Titel</u> |
|----------------------|-------------------------|--|
| EN 298:1993 | NEN-EN 298:1994 | Branderautomaten voor met gas gestookte atmosferische branders en ventilator branders |
| EN 549:1994 | NEN-EN 549:1995 | Rubber voor afdichtingen en membranen voor gasverbruikstoestellen en gasapparatuur |
| ENV 1954:1996 | NEN-ENV 1954:1996 | Foutgedrag van elektronische veiligheidsonderdelen van gasverbruikstoestellen onder invloed van in- en uitwendige storingen |
| EN 60529:1991 | NEN 10529:1992 | Beschermingsgraden van omhulsels van elektrisch materieel (IP-codering) |
| EN 60730-1:1995 | NEN-EN 60730-1:1995 | Automatische elektrische regelaars voor huishoudelijk en soortgelijk gebruik - Deel 1: Algemene eisen |
| EN 60730-2-6:1995 | NEN 10730-2-6:1995 | Automatische elektrische regelaars voor huishoudelijk en soortgelijk gebruik - Deel 2-6: Bijzondere eisen voor elektrische drukgevoelige regelaars inclusief mechanische eisen |
| EN 61058 | - | - |
| ISO 7-1:1994 | - | - |
| ISO 65:1981 | NEN-EN 10255:1996 Ontw. | Buizen van niet-gelegeerd staal geschikt voor lassen en draadsnijden |
| ISO 75:1993 | - | - |
| ISO 228-1:1994 | - | - |
| ISO 262:1973 | - | - |
| ISO 301:1981 | - | - |
| IEC 60536:1992 | - | - |
| ISO 1817:1985 | NEN-ISO 1817:1990 | Gevulcaniseerde rubber - Methoden voor de bepaling van de weerstand tegen vloeistoffen |
| ISO 7005 | - | - |

ICS 23.060.40; 27.060.20

Descriptors: gas appliances, burners, pressure, inspection devices, safety devices, definitions, classifications, equipment specifications, materials, performance evaluation, leaktightness, specifications, durability, tests, testing conditions

English version

Pressure sensing devices for gas burners and gas burning appliances

Dispositifs de surveillance de pression pour brûleurs à gaz et appareils à gaz

Druckwächter für Gasbrenner und Gasgeräte

Preview

This European Standard was approved by CEN on 1997-07-24. CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a 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.

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Comité Européen de Normalisation
Europäisches Komitee für Normung

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

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 58 "Safety and control devices for gas-burners and gas-burning appliances", 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 February 1998, and conflicting national standards shall be withdrawn at the latest by February 1998.

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

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.

Preview

1 Scope

This European Standard specifies requirements and test methods for pressure sensing devices (referred to as psds) for the control of combustible gases of the first, second and third families, air, combustion products and mixtures thereof for pressures up to 4 bar. It covers all types of psd including electronic, differential and inferential types.

The requirements for 'S' class psd are intended to meet the requirements for increased reliability for steam boilers.

The methods of test given in this standard are intended for product type testing. Tests intended for production testing are not specifically included.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

- | | |
|--------------------|---|
| EN 298: 1993 | Automatic gas burner control systems for gas burners and gas burning appliances with or without fans. |
| EN 549: 1994 | Specification for rubber materials for seals and diaphragms for gas appliances and gas equipment |
| ENV 1954: 1996 | Internal and external fault behaviour of safety related electronic parts of gas appliances |
| EN 60529: 1991 | Classification of degrees of protection provided by enclosures (IP code) |
| EN 60730-1: 1995 | Automatic electrical controls for household and similar use Part 1: General requirements |
| EN 60730-2-6: 1995 | Automatic electrical controls for household and similar use Part 2: Particular requirements for automatic electrical pressure sensing controls including mechanical requirements |
| EN 61058 | Switches for appliances |

| | |
|-----------------|---|
| ISO 7-1: 1994 | Pipe threads where pressure-tight joints are made on the threads Part 1: Dimensions, tolerances and designation. |
| ISO 65: 1981 | Carbon steel tubes suitable for screwing in accordance with ISO 7-1 |
| ISO 75: 1993 | Plastics - Determination of temperature of deflection under load |
| ISO 228-1: 1994 | Pipe threads where pressure-tight joints are not made on the threads - Part 1: Dimensions, tolerances and designation. |
| ISO 262: 1973 | ISO general purpose metric screw threads - Selected sizes for screws, bolts and nuts |
| ISO 301: 1981 | Zinc alloy ingots intended for casting |
| IEC 536: 1992 | Classification of electrical and electronic equipment with regard to protection against electric shock |
| ISO 1817: 1985 | Rubber, vulcanized - Determination of the effect of liquids |
| ISO 7005: | Metallic flanges |

3 Definitions

For the purposes of this Standard, the following definitions apply:

- 3.1 pressure sensing device (psd):** Device which senses pressure and provides a signal.
- 3.2 maximum working pressures (p_{max}):** The maximum pressure, positive or negative, the psd can sustain without damage as declared by the manufacturer.
- 3.3 operating pressure:** The pressure at which the psd operates or switches
- 3.4 highest set point:** The highest declared pressure to which the psd can be adjusted.
- 3.5 lowest set point:** The lowest declared pressure to which the psd can be adjusted.

3.6 operating pressure range (set point range): Range of adjustment of the psd between the highest and lowest set points.

3.7 upper operating pressure: The pressure at which the psd operates or switches during an increase in pressure.

3.8 lower operating pressure: The pressure at which the psd operates or switches during a decrease in pressure.

3.9 operating differential: The difference between the upper and lower operating pressures.

3.10 deviation: The difference between the declared or indicated operating pressure and the actual pressure measured before the endurance test expressed as a percentage of the declared or indicated operating pressure.

3.11 drift: The difference between the measured values of the operating pressure before and after the endurance test expressed as a percentage of the operating pressure before the endurance test.

3.12 standard conditions: The standard conditions for air and gas are 15 °C, 1013 mbar, dry.

4 Classification

The psd shall be classified by the following classes:

- a) sensed medium, e.g. air, combustible gas, combustion products;
- b) class of electrical protection to IEC 536: 1992 (Class I, II or III);
- c) software class to EN 60730-1: 1995 (A, B, C);
- d) IP class to EN 60529: 1991;
- e) vibration resistance if applicable (see 7.5.6);
- f) class 'S' if applicable (see 7.5.5).

5 Units

5.1 All dimensions are expressed in millimetres.

5.2 All pressures are static pressures relative to atmospheric pressure and are expressed in millibars or bars.¹⁾

5.3 Torques are expressed in Newton metres.

6 Construction requirements

6.1 General

6.1.1 The psd shall be designed, manufactured and assembled so that it functions correctly when installed and used according to the manufacturer's instructions.

6.1.2 The psd shall be free from sharp edges and corners which might cause damage, injury or incorrect operation.

6.1.3 The psd shall be designed such that access to internal parts requires the use of tools.

6.1.4 Parts that require dismantling (e.g. for servicing) shall be capable of being dismantled and reassembled with commonly available tools and shall be so constructed or marked that incorrect assembly is impossible following the manufacturer's instructions.

6.1.5 The function of moving parts (e.g. diaphragms, bellows) shall not be impaired by other parts.

6.1.6 Sealing caps of adjusters, if used, shall only be capable of removal and replacement with commonly available tools and shall be capable of being sealed e.g. by lacquer. A sealing cap shall not hinder adjustment within the whole range declared by the manufacturer.

6.1.7 Blockage of auxiliary canals and orifices shall not lead to an unsafe situation or these shall be protected against blockage by suitable means.

6.1.8 The internal diameter of apertures of all compartments used for pressure transmission shall not be less than 0,7 mm, except in cases where a smaller aperture is protected against fouling and clogging by suitable measures, e.g. filters which may be external (see 9.2).

¹⁾ 1 mbar = 100 N/m² = 100 Pa.

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