



SLOVENSKI STANDARD
oSIST prEN 16304:2020
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Samodejni varnostno izpustni ventili za plinske gorilnike in plinske aparate

Automatic vent valves for gas burners and gas burning appliances

Automatische Abblaseventile für Gasbrenner und Gasgerät

Robinets d'évent automatiques pour brûleurs à gaz et appareils à gaz

Ta slovenski standard je istoveten z: prEN 16304

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Automatic vent valves for gas burners and gas burning appliances

Robinetts d'évent automatiques pour brûleurs à gaz et appareils à gaz

Automatische Abblaseventile für Gasbrenner und Gasgerät

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 58.

If this draft becomes a European Standard, 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.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (prEN 16304:2020) 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 document is currently submitted to the CEN Enquiry.

This document will supersede EN 16304:2013.

This document has been prepared under a standardization request 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 and ZB, which are an integral part of this document.

This document is intended to be used in conjunction with EN 13611:2019. This document refers to clauses of EN 13611:2019 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 document adds clauses or sub clauses to the structure of EN 13611:2018 which are particular to this standard. Subclauses which are additional to those in EN 13611:2015 are numbered starting from 101. Additional Annexes are designed as Annex AA, BB, CC, etc.

Safety Integrity Level (SIL) classification according to EN 61508 (all parts) cannot be claimed based upon compliance with this standard. Vent valves with SIL classification do not meet automatically the requirements of this standard.

prEN 16304:2020 (E)**1 Scope**

This document specifies the safety, construction and performance requirements for automatic vent valves for use with gas burners, gas appliances and similar use, hereafter referred to as 'valves'.

This European document applicable to:

- valves with declared maximum inlet pressures up to and including 500 kPa (5 bar) of nominal connection sizes up to and including DN 100 for use with one or more fuel gases in accordance with EN 437:2003+A1:2009;
- electrically operated valves;
- valves actuated by fluids where the control valves for these fluids are actuated electrically, but not to any external electrical devices for switching the control signal or actuating energy;
- valves fitted with open position indicator switches.

NOTE Provisions for final product inspection and testing by the manufacturer are not specified.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 13611:2019, *Safety and control devices for gas burners and gas-burning appliances — General requirements*

[oSIST prEN 16304:2020](https://standards.iteh.ai/catalog/standards/sist/43adb493-f471-46c0-869c-)

<https://standards.iteh.ai/catalog/standards/sist/43adb493-f471-46c0-869c->

EN 13906-1, *Cylindrical helical springs made from round wire and bar — Calculation and design — Part 1: Compression springs*

EN 13906-2, *Cylindrical helical springs made from round wire and bar — Calculation and design — Part 2: Extension springs*

EN 60730-1:2011, *Automatic electrical controls for household and similar use — Part 1: General requirements (IEC 60730-1:2010, modified)*

EN 61058-1, *Switches for appliances — Part 1: General requirements (IEC 61058-1)*

EN 175301-803, *Detail Specification: Rectangular connectors — Flat contacts, 0,8 mm thickness, locking screw not detachable*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13611:2019 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.101

automatic vent valve

device which closes when energised and opens automatically when de-energised

3.102

actuating mechanism

part of the valve which moves the closure member

3.103

open position indicator switch

device fitted to a valve which indicates when the closure member is in the open position

3.104

actuating energy

required energy for the actuating mechanism to move the closure member to the closed position

Note 1 to entry: The actuating energy can have an external source (electrical, pneumatic or hydraulic) and can be transformed inside the valve.

3.105

opening force

force required to open the valve, independent of any force provided by fuel gas pressure

3.106

frictional force

largest force required to move the actuating mechanism and the closure member from the closed position to the open position with the opener spring removed, independent of any force provided by fuel gas pressure

3.107

actuating pressure

hydraulic or pneumatic pressure supplied to the actuating mechanism of the valve

3.108

opening time

time interval between de-energising the valve and the closure member attaining the open position

3.109

closing time

time interval between energising the valve and the closure member attaining the closed position

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prEN 16304:2020 (E)**3.110****delay time**

time interval between energising the valve and the start of the closure member moving to the closed position

3.111**control valve**

device which controls the fluid (e.g. compressed air) supplied to the actuating mechanism

3.112**rated voltage**

voltage as stated in the installation and operating instructions at which the valve may be operated

3.113**rated current**

current as stated in the installation and operating instructions at which the valve may be operated

4 Classification**4.1 Classes of control**

EN 13611:2019, 4.1 is not applicable.

4.2 Groups of control iTeh STANDARD PREVIEW

Shall be according to EN 13611:2019, 4.2. (standards.iteh.ai)

4.3 Classes of control functions [oSIST prEN 16304:2020](https://standards.iteh.ai/catalog/standards/sist/43adb493-f471-46c0-869c-7b7265d797/osist-pren-16304-2020)

Shall be according to EN 13611:2019, 4.3. <https://standards.iteh.ai/catalog/standards/sist/43adb493-f471-46c0-869c-7b7265d797/osist-pren-16304-2020>

4.4 Types of DC supplied controls

Shall be according to EN 13611:2019, 4.4.

5 Test conditions and uncertainty of measurements

Shall be according to EN 13611:2019, Clause 5.

6 Construction requirements**6.1 General**

Shall be according to EN 13611:2019, 6.1.

6.2 Mechanical parts of the control**6.2.1 Appearance**

Shall be according to EN 13611:2019, 6.2.1.

6.2.2 Holes

Shall be according to EN 13611:2019, 6.2.2.

6.2.3 Breather holes

Shall be according to EN 13611:2019, 6.2.3.

6.2.4 Screwed fastenings

Shall be according to EN 13611:2019, 6.2.4.

6.2.5 Jointing

Shall be according to EN 13611:2019, 6.2.5.

6.2.6 Moving parts

Shall be according to EN 13611:2017, 6.2.6.

6.2.7 Sealing caps

Shall be according to EN 13611:2017, 6.2.7.

6.2.8 Dismantling and reassembly

Shall be according to EN 13611:2019, 6.2.8.

6.2.9 Auxiliary channels and orifices

Shall be according to EN 13611:2019, 6.2.9.

6.2.10 Pre-setting device

Shall be according to EN 13611:2019, 6.2.10.

6.2.101 Design

There shall be no exposed shafts or operating levers which could adversely affect the ability of valves to open.

6.2.102 Open position indicator switch

Open position indicator switches, where fitted, shall not impair the correct operation of valves. Adjusters shall be sealed to indicate interference. Any drift of the switch and actuating mechanism from its setting shall not impair correct valve operation.

6.2.103 Controls assembled to a valve

Other controls assembled to a valve shall not interfere with its opening function.

prEN 16304:2020 (E)**6.3 Materials****6.3.1 General material requirements**

Shall be according to EN 13611:2019, 6.3.1.

6.3.2 Housing

Shall be according to EN 13611:2019, 6.3.2.

6.3.3 Zinc alloys

Shall be according to EN 13611:2019, 6.3.3.

6.3.4 Springs

EN 13611:2019, 6.3.4 is not applicable.

6.3.5 Resistance to corrosion and surface protection

Shall be according to EN 13611:2019, 6.3.5.

6.3.6 Impregnation

Shall be according to EN 13611:2019, 6.3.6.

6.3.7 Seals for glands for moving parts

Shall be according to EN 13611:2019, 6.3.7.

6.3.101 Springs providing opening force

<https://standards.iteh.ai/catalog/standards/sist/43adb493-f471-46c0-869c-c27b7265d797/osist-pren-16304-2020>

Opening force shall be provided by spring action.

Springs providing the opening force for any closure member of the valve shall be designed for static and dynamic loading according to EN 13906-1 or EN 13906-2.

Springs with a diameter up to and including 2,5 mm shall be made from corrosion-resistant materials.

Springs with wire diameter above 2,5 mm shall be made either from corrosion-resistant materials or shall be protected against corrosion.

6.3.102 Closure members

Closure members shall either have a mechanical support (e.g. metallic) to carry the opening force or shall be made of metal.

6.4 Gas connections**6.4.1 Making connections**

Shall be according to EN 13611:2019, 6.4.1.

6.4.2 Connection sizes

Shall be according to EN 13611:2019, 6.4.2.

6.4.3 Threads

Shall be according to EN 13611:2018, 6.4.3.

6.4.4 Union joints

Shall be according to EN 13611:2019, 6.4.4.

6.4.5 Flanges

Shall be according to EN 13611:2019, 6.4.5.

6.4.6 Compression fittings

Shall be according to EN 13611:2019, 6.4.6.

6.4.7 Nipples for pressure test

Shall be according to EN 13611:2019, 6.4.7.

6.4.8 Strainers

Shall be according to EN 13611:2019, 6.4.8 with the following addition.

6.5 Electrical parts of controls

Shall be according to EN 13611:2019, 6.5.

6.6 Protection against internal faults for the purpose of functional safety

Shall be according to EN 13611:2019, 6.6.

6.101 Pneumatic and hydraulic actuating mechanisms

Pneumatically or hydraulically actuated valves shall be provided with protection to ensure that the blockage of an orifice in the control system does not adversely affect the performance requirements as given in Clause 7.

7 Performance

7.1 General

Shall be according to EN 13611:2019, 7.1 with the following addition.

Valves shall open automatically when de-energised or in the absence of actuating energy.

Valves with DC supplies shall fulfil the requirements of this European Standard from the minimum rated voltage to the maximum rated voltage, as stated in the installation and operating instructions.

The electrical control valve of pneumatic or hydraulic actuating mechanisms shall also meet these requirements.

The opening of pneumatically or hydraulically actuated valves shall be ensured over the range from 85 % to 110 % of the actuating pressure or pressure range as stated in the installation and operating instructions.