
Varnostne in nadzorne naprave za plinske gorilnike in plinske aparate - Filtri plina za najvišji delovni tlak do vključno 600 kPa

Safety and control devices for gas burners and gas burning appliances - Gas filters having a maximum working pressure up to and including 600 kPa

Sicherheits- und Regeleinrichtungen für Gasbrenner und Gasbrennstoffgeräte - Gasfilter für einen Betriebsdruck bis einschließlich 600 kPa

Équipements auxiliaires pour brûleurs à gaz et appareils à gaz - Filtres à gaz ayant une pression de service maximale inférieure ou égale à 600 kPa

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**Safety and control devices for gas burners and gas burning
appliances - Gas filters having a maximum working
pressure up to and including 600 kPa**

Équipements auxiliaires pour brûleurs à gaz et
appareils à gaz - Filtres à gaz ayant une pression de
service maximale inférieure ou égale à 600 kPa

Sicherheits- und Regeleinrichtungen für Gasbrenner
und Gasbrennstoffgeräte - Gasfilter für einen
Betriebsdruck bis einschließlich 600 kPa

This European Standard was approved by CEN on 1 August 2022.

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COMITÉ EUROPÉEN DE NORMALISATION
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EN 16898:2022 (E)**European foreword**

This document (EN 16898:2022) 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of an identical text or by endorsement, at the latest by April 2023, and conflicting national standards shall be withdrawn at the latest by October 2025.

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

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) / Regulation(s).

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

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

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Introduction

This document is intended to be used in conjunction with EN 13611:2019.

EN 13611:2019 recognizes the safety level specified by CEN/TC 58 and is regarded as a horizontal standard dealing with the safety, construction, performance and testing of controls for burners and appliances burning gaseous and/or liquid fuels.

The general requirements for controls are given in EN 13611:2019, and methods for classification and assessment for new controls and control functions are given in EN 14459:2021 (see Figure 1). EN 126:2012 (see Figure 1) specifies multifunctional controls combining two or more controls and Application Control Functions, one of which is a mechanical control function. The requirements for controls and Application Control Functions are given in the specific control standard (see Figure 1, control functions).

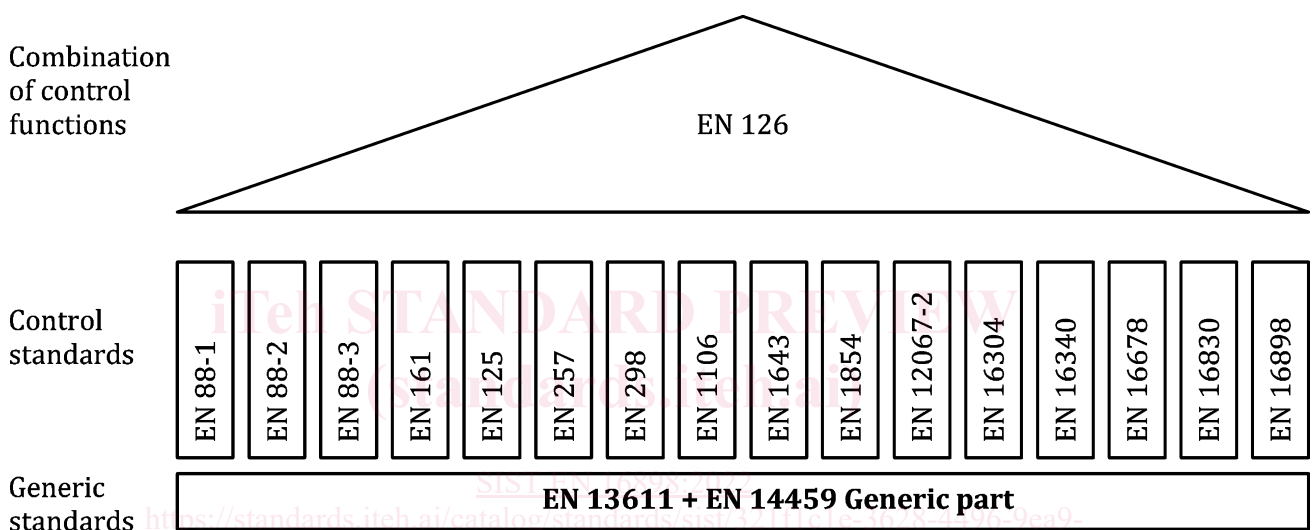


Figure 1 — Interrelation of control standards

EN 13611:2019 should be used in conjunction with the specific standard for a specific type of control (e.g. EN 88-1:2022, EN 88-2:2022, EN 88-3:2022, EN 125:2022, EN 126:2012, EN 161:2022, EN 257:2022, EN 298:2022, EN 1106:2022, EN 1643:2022, EN 1854:—¹, EN 12067-2:2022, EN 16304:2022, EN 16340:2014, EN 16678:2022 and EN 16898:2022), or for controls for specific applications.

EN 13611:2019 can also be applied, so far as reasonable, to controls not mentioned in a specific standard and to controls designed on new principles, in which case additional requirements can be necessary. EN 14459:2021 provides methods for classification and assessment of new control principles.

Primarily in industrial applications it is common practice to rate the safety of a plant based on values describing the likelihood of a dangerous failure. These values are being used to determine Safety Integrity Levels or Performance Levels when the system is being assessed in its entirety.

CEN/TC 58 standards for safety relevant controls do go beyond this approach, because for a certain life time for which the product is specified, designed and tested a dangerous failure is not allowed at all. Failure modes are described and assessed in greater detail.

¹ Under preparation. Stage at the time of publication: FprEN 1854:2022.

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Measures to prevent from dangerous situations are defined. Field experience over many decades is reflected in the CEN/TC 58 standards. Requirements of EN 13611:2019 can be considered as proven in practice.

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 subclauses to the structure of EN 13611:2019 which are particular to this document. Subclauses which are additional to those in EN 13611:2019 are numbered starting from 101. Additional annexes are designated as Annex AA, Annex BB, Annex CC etc. It should be noted that these clauses, subclauses and annexes are not indicated as an addition.

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1 Scope

EN 13611:2019, Clause 1 applies with the following modification and addition:

Modification:

The 1st paragraph of EN 13611:2019, Clause 1 is replaced by:

This document specifies the safety, design, construction, and performance requirements and testing for gas filters for burners and appliances burning one or more gaseous fuels.

This document is applicable to gas filters with declared maximum inlet pressures up to and including 600 kPa and of nominal connection sizes up to and including DN 250.

Addition:

This document is not applicable to:

- gas filters that are connected directly to mains pipe-work or to a container that maintains a standard distribution pressure.

The 4th paragraph of EN 13611:2019, Clause 1 is removed.

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 ISO 16890-1:2016, *Air filters for general ventilation — Part 1: Technical specifications, requirements and classification system based upon particulate matter efficiency (ePM) (ISO 16890-1:2016)*

EN 13611:2019², *Safety and control devices for burners and appliances burning gaseous and/or liquid fuels — General requirements*

EN 60312-1:2017³, *Vacuum cleaners for household use — Part 1: Dry vacuum cleaners — Methods for measuring the performance (IEC 60312-1:2010, modified)*

ISO 12103-1:2016, *Road vehicles — Test contaminants for filter evaluation — Part 1: Arizona test dust*

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

² As impacted by EN 13611:2019/AC:2021.

³ As impacted by EN 60312-1:2017/A11:2022.

EN 16898:2022 (E)**3.1****gas filter**

device that segregates particles from the gas flow e.g. dust and rust

3.2**filter material**

part of the filter, which segregates particles

3.3**filter element**

filter material with support

3.4**filtration efficiency**

percentage ratio of filtered amount of dust to charged amount of dust

4 Classification**4.1 Classes of control**

EN 13611:2019, 4.1 is not applicable.

4.2 Groups of control

Shall be according to EN 13611:2019, 4.2.

4.3 Classes of control functions

EN 13611:2019, 4.3 is not applicable.

4.4 Types of DC supplied controls

EN 13611:2019, 4.4 is not applicable.

5 Test conditions and uncertainty of measurements

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

6 Design and construction**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

EN 13611:2019, 6.2.3 is replaced by the following:

Breather holes are not allowed.

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

EN 13611:2019, 6.2.6 is replaced by the following:

Moving parts are not allowed.

6.2.7 Sealing caps

Shall be according to EN 13611:2019, 6.2.7.

6.2.8 Dismantling and reassembly

Shall be according to EN 13611:2019, 6.2.8.

6.2.9 Auxiliary canals and orifices

EN 13611:2019, 6.2.9 is not applicable.

6.2.10 Presetting device

EN 13611:2019, 6.2.10 is not applicable.

6.2.101 Filter element replacement

The filter lid/ cover shall be removable with commonly available tools.

The filter insert shall be easily replaceable when following the instructions.

Non-metallic seals e.g. O-rings which provide the external leak tightness shall be enclosed.

6.2.102 Fixing of filter element

6.2.102.1 Requirement

The filter element shall remain fixed and in place after the test of 6.2.102.2.

6.2.102.2 Test

Block the filter element with a tape of less than 0,05 mm thickness covering the whole inlet side of the filter.

Then pressurize the inlet of the gas filter to 1,5 times of the maximum pressure difference of the filter element as stated in the instructions.

Repeat the test 5 times.

Check conformity to 6.2.102.1 after the test.

EN 16898:2022 (E)**6.3 Materials****6.3.1 General material requirements**

Shall be according to EN 13611:2019, 6.3.1 with the following addition:
Materials shall conform to EN 13611:2019, Annexes F to H, if applicable.

6.3.2 Housing

Shall be according to EN 13611:2019, 6.3.2.

6.3.3 Zinc alloys

EN 13611:2019, 6.3.3 is replaced by the following:
Zinc alloys shall not be used.

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

EN 13611:2019, 6.3.7 is not applicable.

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 13611:2019, 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.