
**Oprema za profesionalne kuhinje - Sestavni deli za prezračevanje kuhinj - 6. del:
Izločevalniki aerosolov - Projektiranje in varnostne zahteve**

Equipment for commercial kitchens - Components for ventilation in commercial kitchens -
Part 6: Aerosol separators - Design and safety requirements

Einrichtungen in gewerblichen Küchen - Elemente zur Be- und Entlüftung - Teil 6:
Aerosolabscheider - Gestaltungs- und Sicherheitsanforderungen

Équipement pour cuisines professionnelles - Éléments de ventilation pour cuisines
professionnelles - Partie 6 : Séparateurs d'aérosols - Conception et exigences de
sécurité

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Equipment for commercial kitchens - Components for ventilation in commercial kitchens - Part 6: Aerosol separators; Design and safety requirements

Équipement pour cuisines professionnelles - Éléments de ventilation pour cuisines professionnelles - Partie 6 : Séparateurs d'aérosols; Conception et exigences de sécurité

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This European Standard was approved by CEN on 26 August 2019.

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

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European foreword

This document (EN 16282-6:2020) has been prepared by Technical Committee CEN/TC 156 "Ventilation for buildings", 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of an identical text or by endorsement, at the latest by July 2020, and conflicting national standards shall be withdrawn at the latest by July 2020.

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.

The activities of CEN/TC 156/WG 14, cover the calculation of the air volume and the design and testing of major components of ventilation equipment for commercial kitchens.

The structure of the standard series is as follows:

EN 16282 *Equipment for commercial kitchens – Components for ventilation in commercial kitchens*

- *Part 1: General requirements including calculation method*
- *Part 2: Kitchen ventilation hoods; Design and safety requirements*
- *Part 3: Kitchen ventilation ceilings; Design and safety requirements*
- *Part 4: Air inlets and outlets; Design and safety requirements*
- *Part 5: Air duct; Design and dimensioning*
- *Part 6: Aerosol separators; Design and safety requirements*
- *Part 7: Installation and use of fixed fire suppression systems*
- *Part 8: Installations for treatment of cooking fumes; Requirements and testing*

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, Turkey and the United Kingdom.

EN 16282-6:2020 (E)**1 Scope**

This document specifies requirements covering the design, construction, installation and operation of aerosol separators to be used in ventilation systems, including technical safety, ergonomic and hygienic features.

This document is applicable to ventilation systems in commercial kitchens, associated areas and other installations processing foodstuffs intended for commercial use. Kitchens and associated areas are special rooms in which meals are prepared, where tableware and equipment is washed, cleaned and where food is stored and food waste areas.

This document is applicable to aerosol separator except for those used in domestic kitchens.

A method of verification of each requirement is also specified.

Unless otherwise specified, it is expected that the requirements of this standard will be checked by way of inspection and/or measurement.

NOTE Additional or alternative national regulations on installation, appliance requirements and inspection, maintenance and operation could exist.

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 10088-1, *Stainless steels — Part 1: List of stainless steels*

EN 16282-2, *Equipment for commercial kitchens — Components for ventilation in commercial kitchens — Part 2: Kitchen ventilation hoods; design and safety requirements*

EN 16282-3, *Equipment for commercial kitchens — Components for ventilation in commercial kitchens — Part 3: Kitchen ventilation ceilings; design and safety requirements*

EN 16282-4, *Equipment for commercial kitchens — Components for ventilation in commercial kitchens — Part 4: Air inlets and outlets; design and safety requirements*

EN ISO 3274, *Geometrical product specifications (GPS) — Surface texture: Profile method — Nominal characteristics of contact (stylus) instruments (ISO 3274)*

EN ISO 4287, *Geometrical product specifications (GPS) — Surface texture: Profile method — Terms, definitions and surface texture parameters (ISO 4287)*

EN ISO 4288, *Geometrical product specifications (GPS) — Surface texture: Profile method — Rules and procedures for the assessment of surface texture (ISO 4288)*

EN ISO 13565-1, *Geometrical product specifications (GPS) — Surface texture: Profile method; surfaces having stratified functional properties — Part 1: Filtering and general measurement conditions (ISO 13565-1)*

EN ISO 13565-2, *Geometrical product specifications (GPS) — Surface texture: Profile method; surfaces having stratified functional properties — Part 2: Height characterization using the linear material ratio curve (ISO 13565-2)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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>

3.1

kitchen

part of a building where cooking processes are carried out, their connecting floors and distribution corridors, ancillary rooms such as food stores, cold rooms, food preparation areas and appliances are being cleaned

3.2

separator

device for the efficient separation of airborne solid or liquid particles, based on the effect of mechanical forces that deflect the particles out of the airflow

3.3

filter

specific design of storage separators comprising an ordered and/or unordered structure of a number of individual fibres, wire mesh or porous surfaces/bodies

EXAMPLE An example of fibres/wires filter is fabric filters and an example of porous surfaces/bodies is activated carbon.

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3.4

combination separator

combination of aerosol separator (no storage) and filter (storage)

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3.5

aerosol

separated grease/oil/water mixture

3.6

flame penetration

penetration of flames through a separator

4 Designation for separators

Designation for separators is shown in Table 1.

Table 1 — Designation for separators

Design	Standard designation		
	Designation	EN number	Classification
Separator for ceilings/ hoods conforming to the flame penetration test ^a	separator	EN 16282-6	-F-1
Separator for ceilings/ hoods not conforming to the flame penetration test ^a	separator	EN 16282-6	-F-2
^a The flame penetration test is specified in 6.2.			

EXAMPLE Designation for a separator for ceilings/hoods conforming to flame penetration test: separator EN 16282-6-F-1

5 Construction and function

5.1 General

Unless otherwise specified the requirements shall be verified by way of inspection and/or subsequent measurement.

Filters are not permitted unless they are used in combination separators.

At least the first layer of a combination separator shall be designed as a separator.

Removable separators of different design and/or size shall be provided with a durable identification mark which ensures that after cleaning they can be put back in their intended place in the hood/ceiling. The marking shall be applied during commissioning of the hood/ceiling.

The separator shall be constructed in such a way as to ensure self-drainage of the aerosol. Aerosol shall not drip down onto areas located beneath the separator. If the separator needs to be installed at a certain angle to the horizontal in order to ensure the self-drainage effect, directions shall be included in the assembly and operating instructions.

Separators shall be designed in such a way as to ensure that aerosol does not remain in the area of aerosol separation, i.e. that the separator has no storing effect. Aerosol collecting devices may be integrated directly with the separator. However, the aerosol collecting devices shall not lead to a back draught of aerosol in the separator. If necessary, a suitable note shall be included in the installation instructions.

5.2 Materials

The materials used shall be in accordance with Table 2.

Table 2 — Materials

Component element/ Part	Material	Surface
Separators in hoods in accordance with EN 16282-2	stainless steel	-
Separators ^{a b} in ceilings in accordance with EN 16282-3	stainless steel aluminium	- anodized paint-coated
Separators in exhaust air passages in accordance with EN 16282-4	stainless steel	-
<p>^a in the dishwashing area, attention shall be paid to the increase of corrosion problems.</p> <p>^b in the thermal area of production kitchens, aluminium-anodized or paint-coated aluminium is not permitted, with exception of extruded profiles which, however, shall not be used as separator modules.</p>		

A grade of stainless steel that is in accordance with EN 10088-1 shall be used.

If filters are used in combination separators, these filters shall be made of stainless steel.

Visible stainless steel surfaces shall be polished or have a uniform finish with a roughness Ra of no greater than 1,1 µm in accordance with EN ISO 3274, EN ISO 4287, EN ISO 4288, EN ISO 13565-1 and EN ISO 13565-2. The surface shall be manufactured to produce a harmonized surface appearance.

6 Requirements of technical safety

6.1 General

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Ensure that the shape and dimensioning of the components and parts are of lasting safety and operative in their predetermined fitting position. Exposure to mechanical, chemical and thermal stress, when regularly maintained and cleaned shall not affect the predetermined fitting position.

The separator shall not have any sharp edges.

Removable separators which are to be taken out for cleaning purposes shall have handles so that they can be easily removed. Access shall be possible to all separators or to the system for the purpose of inspection of the status of contamination.

6.2 Flame penetration

Separators of classification Type F-1 shall pass the test described in 8.2. Separators failing or not tested in accordance with the test described in 8.2 are of classification Type F-2.

Separators of classification Type F-2 shall not be used above thermal appliances with elevated risk of fire.

The range of application for separators of classification Types F-1 and F-2 shall be in accordance with Table 3.