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**Oprema za profesionalne kuhinje - Sestavni deli za prezračevanje kuhinj - 8. del:  
Naprave za izločanje aerosolov - Zahteve in preskušanje**

Equipment for commercial kitchens - Components for ventilation in commercial kitchens -  
Part 8: Installations for treatment of aerosol - Requirements and testing

Großküchengeräte - Einrichtungen in gewerblichen Küchen - Elemente zur Be- und  
Entlüftung - Teil 8: Anlagen zur Aerosolnachbehandlung; Anforderungen und Prüfung

Équipement pour cuisines professionnelles - Éléments de ventilation pour cuisines  
professionnelles - Partie 8: Installation de traitement des fumées de cuisson - Exigences  
et essais

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EUROPEAN STANDARD

EN 16282-8

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## Equipment for commercial kitchens - Components for ventilation in commercial kitchens - Part 8: Installations for treatment of aerosol; Requirements and testing

Équipement pour cuisines professionnelles - Éléments de ventilation pour cuisines professionnelles - Partie 8: Installation de traitement des fumées de cuisson - Exigences et essais

Bauelemente in gewerblichen Küchen - Einrichtungen zur Be- und Entlüftung - Teil 8: Anlagen zur Aerosolnachbehandlung; Anforderungen und Prüfung

This European Standard was approved by CEN on 11 May 2017.

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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

**Contents**

Page

European foreword.....	4
<b>1 Scope.....</b>	<b>6</b>
<b>2 Normative references.....</b>	<b>6</b>
<b>3 Terms and definitions.....</b>	<b>7</b>
<b>4 Designations.....</b>	<b>7</b>
<b>5 Construction and function.....</b>	<b>8</b>
<b>5.1 General.....</b>	<b>8</b>
<b>5.2 Materials and surfaces.....</b>	<b>8</b>
<b>6 Technical safety requirements.....</b>	<b>8</b>
<b>6.1 General.....</b>	<b>8</b>
<b>6.2 Electrical equipment.....</b>	<b>9</b>
<b>7 Hygienic requirements.....</b>	<b>9</b>
<b>7.1 General.....</b>	<b>9</b>
<b>7.2 General hygienic requirements.....</b>	<b>9</b>
<b>8 Instructions.....</b>	<b>9</b>
<b>8.1 Installation instructions.....</b>	<b>9</b>
<b>8.2 Operating instructions.....</b>	<b>9</b>
<b>9 Markings.....</b>	<b>10</b>
<b>Annex A (normative) UV-Devices for the treatment of aerosol.....</b>	<b>11</b>
<b>A.1 Scope.....</b>	<b>11</b>
<b>A.2 Normative references.....</b>	<b>11</b>
<b>A.3 Terms and definitions.....</b>	<b>11</b>
<b>A.4 Designations.....</b>	<b>11</b>
<b>A.5 Construction and function.....</b>	<b>11</b>
<b>A.6 Technical safety requirements.....</b>	<b>12</b>
<b>A.7 Hygienic requirements.....</b>	<b>13</b>
<b>A.8 Instructions.....</b>	<b>13</b>
<b>A.9 Markings.....</b>	<b>14</b>
<b>Annex B (normative) Ozone generator for the treatment of aerosol.....</b>	<b>15</b>
<b>B.1 Scope.....</b>	<b>15</b>
<b>B.2 Normative references.....</b>	<b>15</b>
<b>B.3 Terms and definitions.....</b>	<b>15</b>
<b>B.4 Designations.....</b>	<b>15</b>
<b>B.5 Construction and function.....</b>	<b>15</b>

<b>B.6</b>	<b>Technical safety requirements</b> .....	<b>16</b>
<b>B.7</b>	<b>Hygienic requirements</b> .....	<b>17</b>
<b>B.8</b>	<b>Instructions</b> .....	<b>17</b>
<b>B.9</b>	<b>Markings</b> .....	<b>17</b>
<b>Annex C (normative) Water spray device for the treatment of aerosol</b> .....		<b>18</b>
<b>C.1</b>	<b>Scope</b> .....	<b>18</b>
<b>C.2</b>	<b>Normative references</b> .....	<b>18</b>
<b>C.3</b>	<b>Terms and definitions</b> .....	<b>18</b>
<b>C.4</b>	<b>Description</b> .....	<b>18</b>
<b>C.5</b>	<b>Construction and function</b> .....	<b>18</b>
<b>C.6</b>	<b>Technical safety requirements - Electrical equipment</b> .....	<b>19</b>
<b>C.7</b>	<b>Hygienic requirements</b> .....	<b>19</b>
<b>C.8</b>	<b>Instructions</b> .....	<b>19</b>
<b>C.9</b>	<b>Markings</b> .....	<b>19</b>
<b>Annex D (normative) Microbiological treatment of aerosol</b> .....		<b>20</b>
<b>D.1</b>	<b>Scope</b> .....	<b>20</b>
<b>D.2</b>	<b>Normative references</b> .....	<b>20</b>
<b>D.3</b>	<b>Terms and definitions</b> .....	<b>20</b>
<b>D.4</b>	<b>Description</b> .....	<b>20</b>
<b>D.5</b>	<b>Construction and function</b> .....	<b>20</b>
<b>D.6</b>	<b>Technical safety requirements</b> .....	<b>20</b>
<b>D.7</b>	<b>Hygienic requirements</b> .....	<b>21</b>
<b>D.8</b>	<b>Instructions</b> .....	<b>21</b>
<b>D.9</b>	<b>Markings</b> .....	<b>21</b>
<b>Annex E (normative) Photo-Catalytic Oxidation device for the treatment of aerosol</b> .....		<b>22</b>
<b>E.1</b>	<b>Scope</b> .....	<b>22</b>
<b>E.2</b>	<b>Normative references</b> .....	<b>22</b>
<b>E.3</b>	<b>Terms and definitions</b> .....	<b>22</b>
<b>E.4</b>	<b>Description</b> .....	<b>22</b>
<b>E.5</b>	<b>Construction and function</b> .....	<b>22</b>
<b>E.6</b>	<b>Technical safety requirements</b> .....	<b>23</b>
<b>E.7</b>	<b>Hygienic requirements</b> .....	<b>24</b>
<b>E.8</b>	<b>Instructions</b> .....	<b>24</b>
<b>E.9</b>	<b>Markings</b> .....	<b>24</b>
<b>Bibliography</b> .....		<b>25</b>

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[SIST EN 16282-8:2017](https://standards.iteh.ai/catalog/standards/sist/c7d5cc69-1106-4e96-bd5d-6225dde1100f/sist-en-16282-8-2017)

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**EN 16282-8:2017 (E)****European foreword**

This document (EN 16282-8:2017) 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 January 2018, and conflicting national standards shall be withdrawn at the latest by January 2018.

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.

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 annexes are structured as an alteration or supplement to the individual clauses of the core standard.

EXAMPLE A.5.1 altered/supplemented, i.e. 5.1.

Specific installations for the treatment of aerosol are contained in individual annexes of this standard:

Annex A: UV-Devices for the treatment of aerosol

Annex B: Ozone generator for the treatment of aerosol

Annex C: Water spray device for the treatment of aerosol

Annex D: Microbiological treatment of aerosol

Annex E: Photo-catalytic oxidation device for the treatment of aerosol

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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**EN 16282-8:2017 (E)****1 Scope**

This European Standard specifies requirements for the design, construction and operation of installations designed for the treatment of aerosol in kitchens including technical safety, ergonomic and hygienic features.

This European Standard 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, food is stored and food waste areas.

This European Standard is applicable to ventilation systems except those used in domestic kitchens.

Unless otherwise specified, the requirements of this standard should be checked by way of inspection and/or measurement.

**NOTE** Please note the possible existence of additional or alternative local national regulations concerning installation, inspection, maintenance and operation.

**2 Normative references**

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 779:2012, *Particulate air filters for general ventilation — Determination of the filtration performance*

EN 1717, *Protection against pollution of (potable water in water installations and general requirements of devices to prevent pollution by backflow*

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

EN 60204-1, *Safety of machinery - Electrical equipment of machines - Part 1: General requirements*

EN 60335-1, *Household and similar electrical appliances — Safety — Part 1: General requirements (IEC 60335-1)*

EN 60529, *Degrees of protection provided by enclosures (IP Code)*

EN 61140, *Protection against electric shock — Common aspects for installation and equipment (IEC 61140)*

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)*

EN ISO 14119, *Safety of machinery - Interlocking devices associated with guards - Principles for design and selection (ISO 14119)*

### 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

#### 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

##### **collection area**

open bottomed area situated in front of the separator(s) serving to collect and buffer the rising vapour

#### 3.3

##### **extract air side**

space enclosed on top and laterally situated behind the separator(s) which is connected with the extract air duct

#### 3.4

##### **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

#### 3.5

##### **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.

#### 3.6

##### **aerosol**

separated grease/oil/water mixture

#### 3.7

##### **internal devices for the treatment of aerosol**

device for treatment of aerosols, installed in the extract air stream after the separator

#### 3.8

##### **external devices for the treatment of aerosol**

device for treatment of aerosols, installed outside of the air stream

### 4 Designations

Devices for treatment of aerosol and their designations are shown in Table 1.

**Table 1 — Designation for devices for treatment of aerosol**

Design	Standard designations		
	Location	EN number	Classification
UV device	Internal	EN 16282-8	-H1
Ozone generator	Internal	EN 16282-8	-H2
Ozone generator	External	EN 16282-8	-H3
Water spray device	Internal	EN 16282-8	-H4
Microbiological treatment	Internal	EN 16282-8	-H5
Photo-catalytic oxidation device	Internal	EN 16282-8	-H6

EXAMPLE For an external Ozone generator for treatment of aerosol

Components for ventilation EN 16282-8-H3

## 5 Construction and function

### 5.1 General

Unless otherwise specified, the requirements of this standard shall be checked by inspection and/or measurement.

### 5.2 Materials and surfaces

Materials of Table 2 shall be used.

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**Table 2 — Materials**

Component/part	Material	Surface
Fittings, mounts for the housing of the internal component for device	stainless steel steel plastic <sup>a</sup>	galvanized
<sup>a</sup> Materials shall be resistant to ozone and UV if exposed and self-extinguishing		

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

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.

## 6 Technical safety requirements

### 6.1 General

Unless otherwise specified, the requirements of this standard should be checked by way of inspection and/or measurement.

For technical safety reasons components in the air stream shall be designed to withstand a constant temperature of at least 60 °C.

## 6.2 Electrical equipment

The type of protection of the electrical components shall be at least IP54, preferably IP65 in accordance with EN 60529.

Electrical installations and equipment shall conform to the generally recognized electrical principles. These are deemed as observed if the following standards are fulfilled:

- EN 60335-1,
- EN 60204-1,
- EN 61140.

Openings for cleaning purposes as well as control cabinet doors are to be designed so that any risk emanating from electrical current in the high voltage field is excluded. This can be achieved, for example, by interlocking devices as per EN ISO 14119 and the utilization of controllers as per EN ISO 13849 category 2 or 3.

## 7 Hygienic requirements

### 7.1 General

Unless otherwise specified, the requirements of this standard should be checked by way of inspection and/or measurement.

### 7.2 General hygienic requirements

All materials coming into contact with foodstuff shall be free of contaminants.

The cooking fume treatment installation shall be easy to access for the purposes of maintenance and cleaning work.

The manual shall contain information on what cleaning procedures and detergents are suitable. Cleaning intervals shall be specified. The safety data sheet should be attached.

## 8 Instructions

### 8.1 Installation instructions

Installation instructions shall be in the national language of the country of the place of use and shall be enclosed for assembly with each device.

They shall be kept brief and contain all the necessary information for installation and maintenance in an easy-to-understand way. The installation instructions shall contain at least the following information:

- instructions as to how the supplied mounting elements are to be used as far as applicable;
- general instructions on the mounting elements to be used if these are not supplied already;
- instructions on aerosol tight connection of the housing of external components for ventilation.

### 8.2 Operating instructions

Operating instructions for the user in the national language shall be enclosed with each device.

They shall be kept brief and contain all the important information for operation and cleaning in an easy-to-understand way. The operating instructions shall at least contain the following information: