

Ventilation for buildings — Sheet metal air ducts and fittings with circular cross section — Dimensions

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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 10, an inside back cover and a back cover.

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English version

Ventilation for buildings — Sheet metal air ducts and fittings with circular cross-section — Dimensions

Ventilation des bâtiments — Conduits en tôle et accessoires à section circulaire — Dimensions

Lüftung von Gebäuden — Luftleitungen und Formstücke aus Blech mit rundem Querschnitt — Maße

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CEN

European Committee for Standardization
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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 156, Ventilation for buildings, the Secretariat of which is held by BSI.

This standard is one of a series of standards for ductwork used for ventilation and air conditioning of buildings for human occupancy, and it has a parallel standard referring to dimensions of rectangular ducts.

The position of this standard in the field of mechanical building services is shown in Figure 1.

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of an identical text or by endorsement, at the latest by June 1998, and conflicting national standards shall be withdrawn at the latest by June 1998.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European

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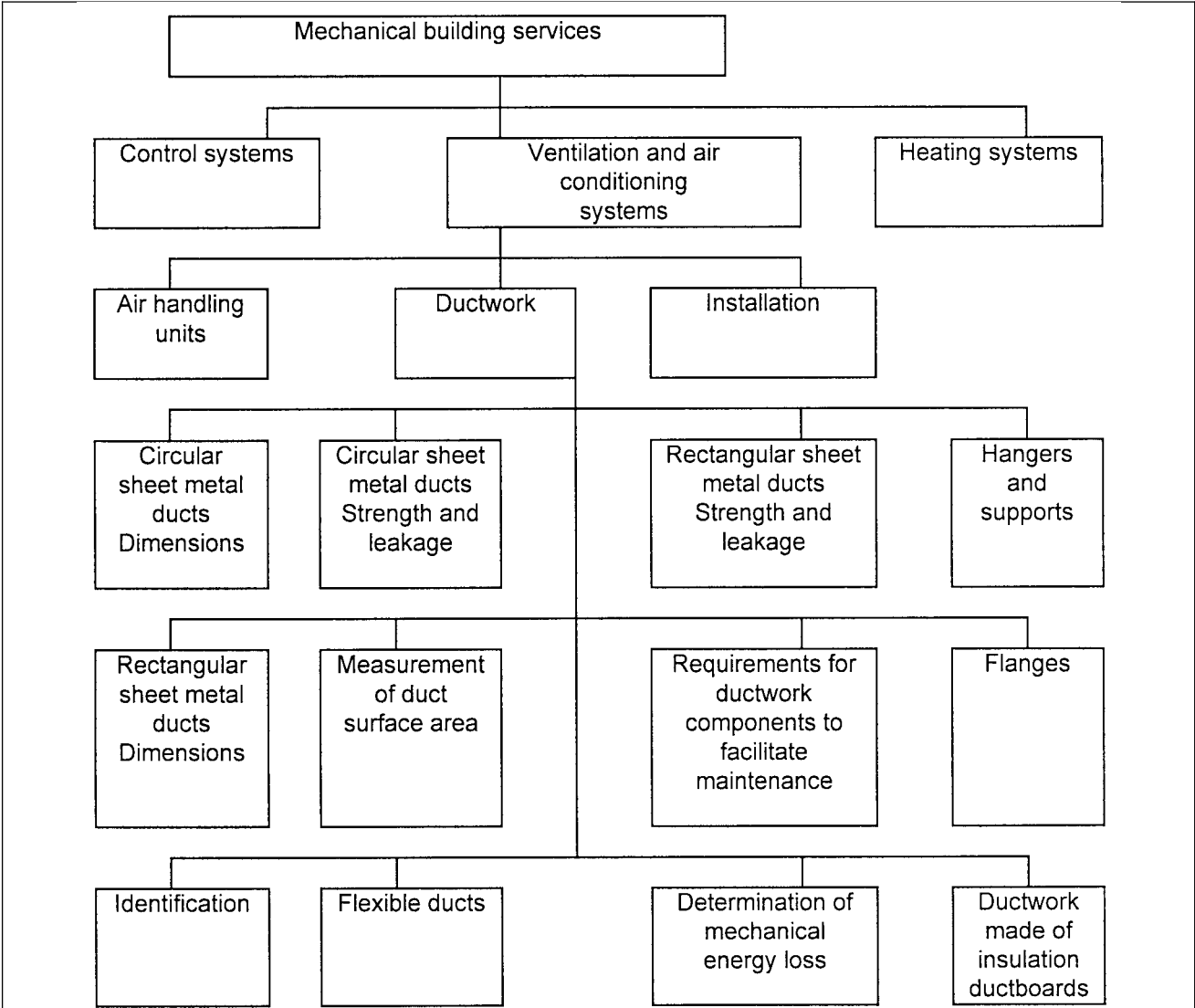


Figure 1 — Position of EN 1506 in the field of mechanical building services

Introduction

This standard has been prepared by CEN/TC 156 to specify standardized dimensions and tolerances for ducts and duct fittings with circular cross-section, used in ventilation systems.

Dimensions and tolerances for straight ducts given in this standard are in accordance with ISO 7807:1983¹⁾ concerning recommended sizes.

It is intended that the additional sizes (A) which are in use in some countries will be phased out and may be removed from a future edition of the standard.

The dimensions given for duct fittings are based on document EUROVENT 2/4¹⁾.

1 Scope

This European Standard specifies dimensions of ducts and duct fittings with circular cross-section. It applies to ductwork used in ventilating and air conditioning systems in buildings, subject to human occupancy. The wall thickness of ducts and fittings is not specified in this standard; strength and leakage are dealt with in prEN 12237.

The corresponding standard for rectangular ducts is EN 1505.

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.

CR 12792 *Ventilation for buildings — Symbols and terminology*

EN 1505 *Ventilation for buildings — Sheet metal air ducts and fittings with rectangular cross-section — Dimensions*

prEN 12237 *Ventilation for buildings — Strength and leakage of sheet metal air ducts with circular cross-section — Requirements and testing*

3 Definitions and symbols

For the purposes of this standard, the definitions given in European Technical Report CR 12792, together with the following, apply:

3.1 nominal size (d , d_1 , d_2 , d_3 and d_4)

reference dimension used for designation, calculation and application of ducts and fittings:

d denotes the inner diameter of ducts and female ends;

d_1 , d_2 , d_3 and d_4 denote the inner diameters of male ends of fittings

3.2 effective length of a fitting (l , l_1 , and l_3)

length by which a fitting contributes to the overall length of the air distribution system

3.3 effective length of a straight duct (L)

length which a straight duct contributes to the overall length of the air distribution system

3.4 overlap (insertion) length (l_p)

length which a fitting overlaps the duct

3.5 cross-sectional area (A_c)

for ducts with circular cross-section the cross-sectional area A_c is equal to:

$$A_c = \frac{\pi d^2}{4}$$

3.6 straight duct surface area (A_i)

product of the internal perimeter and the duct length. For ducts with circular cross-section the duct surface area per metre length is:

$$A_i = \pi d$$

3.7 deviation, tolerance, clearance (see Figure 10)

3.7.1 upper deviation

algebraic difference between the maximum limit of size and the corresponding nominal size

3.7.2 lower deviation

algebraic difference between the minimum limit of size and the corresponding nominal size

3.7.3 tolerance

difference between the upper deviation and the lower deviation. The tolerance is an absolute value without sign

3.7.4 clearance

positive difference between the sizes of a female connector or duct and of a male connector

4 Dimensions and values for ducts

The nominal diameter d , cross-sectional area A_c and duct surface area A_i are given in Table 1. The nominal diameters also apply to fittings. Tolerances, deviations and clearances are given in clause 6.

¹⁾ See annex B.