

## **Fume cupboards - Part 6: Variable air volume fume cupboards**

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## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 14175-6:2006 sisaldab Euroopa standardi EN 14175-6:2006 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 29.06.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 14175-6:2006 consists of the English text of the European standard EN 14175-6:2006.</p> <p>This document is endorsed on 29.06.2006 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b></p> <p>This document specifies requirements and type test methods for VAV systems. It also specifies additional requirements to those in EN 14175-2 and additional test methods to those in EN 14175-3 and EN 14175-4 for fume cupboards with VAV systems (VAV fume cupboards).</p>	<p><b>Scope:</b></p> <p>This document specifies requirements and type test methods for VAV systems. It also specifies additional requirements to those in EN 14175-2 and additional test methods to those in EN 14175-3 and EN 14175-4 for fume cupboards with VAV systems (VAV fume cupboards).</p>
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Võtmesõnad:

English Version

## Fume cupboards - Part 6: Variable air volume fume cupboards

Sorbonnes - Partie 6 : Sorbonnes à débit d'air variable

Abzüge - Teil 6: Abzüge mit variablem Luftstrom

This European Standard was approved by CEN on 3 April 2006.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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## Foreword

This document (EN 14175-6:2006) has been prepared by Technical Committee CEN/TC 332 "Laboratory Equipment", the secretariat of which is held by DIN.

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 November 2006, and conflicting national standards shall be withdrawn at the latest by November 2006.

EN 14175 consists of the following parts, under the general title *Fume cupboards*:

- *Part 1: Vocabulary*
- *Part 2: Safety and performance requirements*
- *Part 3: Type test methods*
- *Part 4: On-site test methods*
- *Part 6: Variable air volume fume cupboards*

Part 5 (*Recommendations for installation and maintenance*) is in preparation and will be published as a Technical Specification CEN/TS 14175-5.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

## Introduction

The purpose of a variable air volume (VAV) system is to control the extract volume flow rate of a fume cupboard at various sash openings.

The objective of this document is to specify test methods relevant to the assessment of the performance of variable air volume (VAV) fume cupboards (see definition in EN 14175-1, 3.5) either as a single VAV system or as a combination of fume cupboard plus VAV system.

The intention of this document is to enable a purchaser to choose his fume cupboard according to his demands and needs for containment, air exchange efficiency etc, as described in EN 14175-3. Afterwards, the purchaser can proceed with his selection of an appropriate VAV system.

## 1 Scope

This document specifies requirements and type test methods for VAV systems. It also specifies additional requirements to those in EN 14175-2 and additional test methods to those in EN 14175-3 and EN 14175-4 for fume cupboards with VAV systems (VAV fume cupboards).

For terms and definitions, EN 14175-1 applies. For safety and performance requirements of fume cupboards, EN 14175-2 applies. For type testing of fume cupboards with preset air volume flow, EN 14175-3 applies. For on-site test methods of fume cupboards already installed in a laboratory, EN 14175-4 applies.

## 2 Normative references

The following referenced documents are indispensable for the application 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 12589:2001, *Ventilation for buildings - Air terminal units - Aerodynamic testing and rating of constant and variable rate terminal units*.

EN 14175-1:2003, *Fume cupboards - Part 1: Vocabulary*.

EN 14175-2:2003, *Fume cupboards - Part 2: Safety and performance requirements*.

EN 14175-3:2003, *Fume cupboards - Part 3: Type test methods*.

EN 14175-4:2004, *Fume cupboards - Part 4: On-site test methods*.

EN ISO 5167-1, *Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full - Part 1: General principles and requirements (ISO 5167-1:2003)*.

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 14175-1:2003 and EN 14175-3:2003 and the following apply.

### 3.1

#### **VAV system**

modular components enabling the control of the extract volume flow rate of a fume cupboard at various sash openings

### 3.2

#### **response time**

time from a change of the set value, e.g. volume flow rate or face velocity, until the actual new set value reaches and maintains a specified percentage

## 4 Requirements

### 4.1 General

Variable air volume fume cupboards shall meet the requirements specified in EN 14175-2 for general purpose fume cupboards and the following requirements in this document.