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**BS EN 1751:2014**



**BSI Standards Publication**

# **Ventilation for buildings — Air terminal devices — Aerodynamic testing of damper and valves**

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This British Standard is the UK implementation of EN 1751:2014. It supersedes BS EN 1751:1999 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee RHE/2, Ventilation for buildings, heating and hot water services.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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English Version

## Ventilation for buildings - Air terminal devices - Aerodynamic testing of damper and valves

Ventilation des bâtiments - Bouches d'air - Essais  
aérodynamiques des registres et clapets

Lüftung von Gebäuden - Geräte des Luftverteilungssystems  
- Aerodynamische Prüfungen von Drossel- und  
Absperrelementen

This European Standard was approved by CEN on 9 November 2013.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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EUROPÄISCHES KOMITEE FÜR NORMUNG

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

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## Foreword

This document (EN 1751:2014) 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of an identical text or by endorsement, at the latest by July 2014, and conflicting national standards shall be withdrawn at the latest by July 2014.

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.

This document supersedes EN 1751:1998.

According to the CEN-CENELEC Internal Regulations, the national standards organizations 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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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## 1 Scope

This European Standard specifies methods for the testing and rating of dampers and valves used in air distribution systems with pressure differences up to 2 000 Pa.

The tests incorporated in this European Standard are:

- a) leakage past a closed damper or valve (for classification see Annex C);
- b) casing leakage (for classification see Annex C);
- c) flow rate/pressure requirement characteristics;
- d) torque: (see Annex A);
- e) thermal transmittance: (see Annex B).

The acoustic testing of dampers and valves is not included in this European Standard.

The tests specified above apply to the following:

- f) measurement of leakage past a closed damper or valve;
- g) measurement of casing leakage;
- h) determination of flow rate and pressure requirements;
- i) measurement of torque characteristics (see Annex A);
- j) measurement of thermal transfer characteristics to determine insulation properties (see Annex B).

**NOTE** Certain aspects of the dynamic performance of dampers or valves are dependent upon the air distribution system to which they are connected and are, therefore, difficult to measure in isolation. Such considerations have led to the omission of these aspects of the dynamic performance measurements from this European Standard. Also, in common with other air distribution components, the results from tests carried out in accordance with this European Standard may not be directly applicable if the damper or valve is situated in an area of non-uniform flow.

## 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 12792, *Ventilation for buildings - Symbols, terminology and graphical symbols*

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)*

EN ISO 5167-2, *Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full - Part 2: Orifice plates (ISO 5167-2)*

EN ISO 5167-3, *Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full - Part 3: Nozzles and Venturi nozzles (ISO 5167-3)*