

Methods for

Testing and rating air terminal devices for air distribution systems —

Part 2: Acoustic testing

[ISO title: Acoustics — Determination of sound power levels of noise from air terminal devices, high/low velocity/pressure assemblies, dampers and valves by measurement in a reverberation room]

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Environment and Pollution Standards Policy Committee (EPC/-) to Technical Committee EPC/1, upon which the following bodies were represented:

- Association of Consulting Engineers
- British Broadcasting Corporation
- British Occupational Hygiene Society
- British Telecommunications plc
- Department of Health and Social Security
- Department of the Environment (Building Research Establishment)
- Department of Trade and Industry (Air Division)
- Department of Trade and Industry (National Physical Laboratory)
- Engineering Equipment and Materials Users Association
- Health and Safety Executive
- Incorporated Association of Architects and Surveyors
- Institute of Acoustics
- Institute of Occupational Hygienists
- Institute of Physics
- Institute of Sound and Vibration Research
- Institution of Civil Engineers
- Institution of Electronic and Radio Engineers
- Royal Institute of British Architects
- Society of Environmental Engineers
- Transmission and Distribution Association (BEAMA Ltd.)

The following bodies were also represented in the drafting of the standard, through subcommittees and panels:

- AFRC Institute of Engineering Research
- Advanced Manufacturing Technology Research Institute
- Agricultural Engineers' Association
- British Cement Association
- British Compressed Air Society
- British Hydromechanics Research Association
- British Steel Corporation
- Business Equipment and Information Technology Association
- Construction Industry Research and Information Association
- Department of Trade and Industry (National Engineering Laboratory)
- Federation of Associations of Specialists and Sub-contractors
- Federation of Manufacturers of Construction Equipment and Cranes
- Federation of Piling Specialists
- Hevac Association
- Institution of Mechanical Engineers
- Institution of Production Engineers
- Rotating Electrical Machines Association (BEAMA Ltd.)
- Society of Motor Manufacturers and Traders Ltd.

This British Standard, having been prepared under the direction of the Environment and Pollution Standards Policy Committee, was published under the authority of the Board of BSI and comes into effect on 29 September 1989

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Contents

	Page
Committees responsible	Inside front cover
National foreword	ii
Foreword	2
0 Introduction	3
1 Scope and field of application	3
2 References	3
3 Definitions	3
4 Acoustical test facilities and procedures	3
5 Installation and operation of equipment to be tested	4
6 Auxiliary facilities	5
7 Measurements and calculations	5
8 Information to be reported	5
Figure 1 — Location of equipment in test room	6
Figure 2 — Mounting detail for air terminal device installed on or against a surface	7
Figure 3 — Mounting detail for equipment installed at intersection of two surfaces	8
Figure 4 — Mounting detail for air terminal device installed away from surface	9
Figure 5 — Mounting detail for air control device installed outside room boundary	10
Figure 6 — Mounting detail for air control device to determine casing radiated sound	11
Figure 7 a) — Examples of L_W and L_{WA} plotted against $\lg q_v$ for an assembly with constant total pressure loss coefficient	12
Figure 7 b) — Examples of L_W and L_{WA} plotted against $\lg \Delta p_t$ for an assembly with constant flow rate	12
Publications referred to	Inside back cover

National foreword

This Part of BS 4773 has been prepared under the direction of the Environment and Pollution Standards Policy Committee. It is identical with ISO 5135:1984 “Acoustics — Determination of sound power levels of noise from air terminal devices, high/low velocity/pressure assemblies, dampers and valves by measurement in a reverberation room” published by the International Organization for Standardization (ISO). ISO 5135 was prepared by Subcommittee 1, Noise, of ISO Technical Committee 43, Acoustics, with the active participation and approval of the UK. BS 4773 at present comprises the following Parts, which have been published:

- Part 1: Aerodynamic testing;
- Part 2: Acoustic testing.

In 1991 the European Committee for Standardization (CEN) accepted ISO 5135:1984 as European Standard EN 25135:1991.

It is intended that this Part of BS 4773 be used in conjunction with either BS 4773-1, BS 4979 “Methods for aerodynamic testing of constant and variable dual or single duct boxes, single duct units and induction boxes for air distribution systems” of BS 6821 “Methods for the aerodynamic testing of dampers and valves”, depending on the equipment under test.

This edition of BS 4773-2 differs from the previous edition in the following principal respects:

- a) the acoustic test procedures have been deleted and replaced by references to BS 4196-1 and BS 4196-2 which are implementations of International Standards not available when the previous edition was published;
- b) a wider range of flow control devices is covered;
- c) procedures are now included for the measurement of noise radiated from the casings of high/low velocity/pressure assemblies and from connecting ducts to such assemblies and to dampers and valves;
- d) the method for noise rating geometrically similar air terminal devices by extrapolation or interpolation has been deleted;
- e) definitions of sound pressure level and sound power level are now included.

This Part of BS 4773 supersedes BS 4773-2:1976 which is withdrawn.

Terminology and conventions. The text of the International Standard has been approved as suitable for publication as a British Standard without deviation. Some terminology and certain conventions are not identical with those used in British Standards; attention is drawn especially to the following.

The comma has been used as a decimal marker. In British Standards it is current practice to use a full point on the baseline as the decimal marker.

Wherever the words “International Standard” appear, referring to this standard, they should be read as “Part of BS 4773”.

It should be noted that the final sentence of 5.2.3 is merely informative, and in a British Standard would normally have been included in a note. Also, the final sentence of 5.4 paragraph 1 and the first sentence of paragraph 2 of 5.5.2 each introduce alternative procedures. In a British Standard these would normally have been worded accordingly.

Cross-references

International Standard	Corresponding British Standard
	BS 4196 <i>Sound power levels of noise sources</i>
ISO 3740:1980	Part 0:1981 <i>Guide for the use of basic standards and for the preparation of noise test codes</i> (Identical)

International Standard	Corresponding British Standard
ISO 3741:1975	Part 1:1981 <i>Precision methods for determination of sound power levels for broad-band sources in reverberation rooms</i> (Identical)
ISO 3742:1975	Part 2:1981 <i>Precision methods for determination of sound power levels for discrete-frequency and narrow-band sources in reverberation rooms</i> (Identical)

NOTE Since the publication of ISO 5135:1984, ISO 3741:1984 and ISO 3742:1975 have been revised in 1988. Revisions of BS 4961-1 and BS 4961-2 are currently in preparation to implement these revised ISO standards as identical British Standards.

The Technical Committee has reviewed the provisions of ISO 3258:1976, to which reference is made in clause 1, ISO 5219:1984, to which references are made in 5.1.2 and 5.5.5.1, and ISO 5220:1981, to which references are made in 5.1.2 and 5.4, and has decided that they are acceptable for use in conjunction with this standard.

The test installations in accordance with ISO 5220:1981, referred to in 5.1.2 and 5.4, are identical with those given in BS 4979:1986 *Methods for aerodynamic testing of constant and variable dual or single duct boxes, single duct units and induction boxes for air distribution systems*.

Textual errors. When adopting the text of the International Standard, the following textual errors were discovered. They have been marked in the text and have been reported to ISO in a proposal to amend the text of the International Standard.

In 5.1.1, line 5, “should” should be read as “shall”.

In 6.2.2, line 1, “should” should be read as “shall”.

In 6.2.3, line 2, “should” should be read as “shall”.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, the EN title page, pages 2 to 14, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

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Descriptors: Acoustics, pressure equipment, dampers, air terminal devices, valves, acoustic tests, acoustic measurements, noise: sound, sound power

English version

Acoustics — Determination of sound power levels of noise from air terminal devices, high/low velocity/pressure assemblies, dampers and valves by measurement in a reverberation room

(Identical with ISO 5135:1984)

Acoustique — Détermination des niveaux de puissance acoustique du bruit émis par les bouches d'air, les ensembles à haute/basse vitesse et à haute/basse pression, les registres et les clapets par mesurage en salle réverbérante (Identique à l'ISO 5135:1984)

Akustik — Bestimmung des Schalleistungspegels von Geräuschen von Luftdurchlässen, Volumenstromreglern, Drossel- und Absperrelementen durch Messungen im Hallraum (Identisch mit ISO 5135:1984)

This European Standard was approved by CEN on 7 October 1991 and is identical to the ISO standard as referred to.

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

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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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

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