

Specification for

Installation in domestic premises of gas-fired ducted-air heaters of rated input not exceeding 60 kw

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Gas Standards Policy Committee (GSE/-) to Technical Committee GSE/30, upon which the following bodies were represented:

- British Flue and Chimney Manufacturers' Association
- British Gas plc
- Confederation for the Registration of Gas Installers
- Consumer Standards Advisory Committee of BSI
- Department of the Environment
- Department of Trade and Industry (Consumer Safety Unit, CA Division)
- Health and Safety Executive
- Institute of Domestic Heating and Environmental Engineers
- Institution of Gas Engineers
- Liquefied Petroleum Gas Industry Technical Association (UK)
- Society of British Gas Industries
- Trades Union Congress

The following body was also represented in the drafting of the standard, through subcommittees and panels:

- Chartered Institution of Building Services Engineers

This British Standard, having been prepared under the direction of the Gas 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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Foreword

This British Standard has been prepared under the direction of the Gas Standards Policy Committee. It is a revision of BS 5864:1980 which is withdrawn. In this revision the committee responsible for this standard considered that many of the operations for installation of 1st, 2nd and 3rd family gas appliances should be made requirements if a safe installation is to result. The opportunity therefore has been taken to present this revision in the form of a practice specification (see clause 6 of PD 6501-1:1982).

NOTE To comply with this specification, the user has to comply with all its requirements. He may depart from recommendations, but this would be on his own responsibility and he would be expected to have good reasons for doing so.

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. In particular, attention is drawn to the following.

- a) Statutory Instrument 1358:1984 The Gas Safety (Installation and Use) Regulations 1984.
- b) Statutory Instrument 1065:1985 (as amended): Building Regulations 1985.
- c) Statutory Instrument 1596:1981 (as amended): The Building Standards (Scotland) Regulations 1981.
- d) Statutory Instrument 149:1977 (as amended): Building Regulations (Northern Ireland) 1971.
- e) The Water Byelaws 1989.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 12, 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.

Section 1. General

1 Scope

This British Standard specifies the selection, installation, inspection and commissioning of flued gas-fired ducted-air heaters of rated input not exceeding 60 kW, burning 1st, 2nd or 3rd family gases, for heating one or more rooms, or internal spaces, simultaneously, and designed for domestic applications.

It applies to warm-air heaters which incorporate a fan to circulate the warm air, but includes appliances which distribute warm air by natural convection currents. Combined air heater/water heater installations are also covered.

NOTE 1 The detailed design and installation of heating systems are described in recognized design manuals, such as the CIBSE Guide and the British System Design Manual.

NOTE 2 The titles of the publications referred to in this standard are listed on the inside back cover.

2 Definitions

For the purposes of this British Standard, the definitions given in BS 1179:1967 and BS 1179-6 apply, together with the following.

2.1 air heater

an appliance for heating air to be used for space heating¹⁾

2.2 air vent

a non-adjustable purpose-made opening or duct which is designed to allow the passage of air at all times¹⁾

2.3 central heating system

a fixed system for warming a building from a single source of heat, with manual or automatic control of the operation of the whole system, and of the temperatures in the heated space¹⁾

2.4 compartment

an enclosure specially designed or adapted to house a gas appliance¹⁾

2.5 convection chamber

a purpose-designed compartment constructed of brick, block or prefabricated panels, in which low level air inlet grilles allow cold air to be drawn into the chamber, where it is warmed by the appliance heat exchanger and then discharged, by natural convection, through registers and/or grilles fitted at the top of the compartment

2.6 ducted air heater

an air heater using ducting to distribute the heated air. In domestic practice, the term is confined to flued appliances¹⁾

2.7 natural convection air heater

an air heater designed for location within a centrally-sited convection chamber

2.8 protected stairway

a stairway, including an exit passageway leading therefrom to its final exit, enclosed with (other than any part that is an external wall of a building) fire-resisting construction

2.9 slot-fit appliance/installation

a purpose-built appliance which is installed in a purpose-built recess in such a way that only the front of the appliance opens into a room or internal space

NOTE On such appliances, combustion air and air for dilution of the flue passes through the front of the appliance. Extra panels may be fitted to the top of the appliance to fill in the opening to ceiling level.

2.10 transfer grille

a non-adjustable fitment for location within a wall, door, or partition, to effect the transfer of air between adjacent rooms and/or spaces

3 Preliminary planning

NOTE Collaboration is essential between those concerned with the installation of the appliance and the design and installation of the system.

The following particular matters shall be considered during preliminary planning:

- a) the number of storeys in the building, which will determine the installation requirements (see clause 8);
- b) size, layout, and purpose of rooms and working areas;
- c) total heat requirements;
- d) availability of gas supplies;
- e) selection and location of the appliance and flue system;
- f) provision of adequate air for combustion and ventilation;
- g) electrical supplies;
- h) liaison with various trades carrying out the work;

¹⁾ Repeated from BS 1179-6.

- i) statutory regulations and any local and water bye-laws.

COMMENTARY AND RECOMMENDATIONS ON 3 b) to 3 e). *When the layout and disposition of the various areas to be heated are known, the size, type and location of the heater may be determined. The path of the flue system, and the ventilation requirements, may also affect the choice of location of the heater. Where applicable, the position of the domestic hot water storage should also be considered. Whenever reasonably practicable, a room-sealed appliance should be installed. The installation of ductwork and ancillary equipment for the system is dealt with in recognized design manuals.*

4 Materials and components used in installation

4.1 General

All materials and components used shall comply with the appropriate British Standards. Components containing asbestos shall not be used. Where no British Standard exists, the materials and components shall be appropriate to the application, and fit for the purposes for which they are intended to be used.

4.2 Ductwork

In addition to the requirements of 4.1, all ductwork, including joints, insulation, and linings, shall be of fire-resisting construction, and capable of maintaining its dimensional stability in terms of the cross-sectional area of the duct, up to an internal air temperature of 120 °C.

Where the spaces between joists are used as duct routes, they shall be fully lined with a fire-resisting material.

COMMENTARY AND RECOMMENDATIONS ON 4.2. *Only material of low heat capacity should be used in the construction of delivery ductwork, and for any added insulation.*

Joints and seams of ducts and fittings should be made as air-tight as possible by being securely fastened, and/or taped.