

European scheme for the classification of gas appliances according to the method of evacuation of the products of combustion (types)

Committees responsible for this Published Document

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- British Combustion Equipment Manufacturers' Association
- British Gas plc
- Chartered Institution of Building Services Engineers
- Consumer Policy Committee of BSI
- Department of Trade and Industry (Consumer Safety Unit, CA Division)
- Health and Safety Executive
- Home Office
- LP Gas Association
- Society of British Gas Industries
- Coopted member

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National foreword

This Published Document has been prepared under the direction of the Engineering Sector Board and is the English language version of CR 1749 : 1995 *European scheme for the classification of gas appliances according to the method of evacuation of the products of combustion (types)* published by the European Committee for Standardization (CEN).

CR 1749 was produced as a result of international discussions in which the United Kingdom took an active part.

This publication is not to be regarded as a British Standard.

English version

European scheme for the classification of gas appliances according to the method of evacuation of the products of combustion (types)

Modèle européen pour la classification des
appareils utilisant les combustibles gazeux
selon la méthode de l'évacuation des produits
de combustion (types)

Europäisches Schema für die Einteilung von
Gasgeräten nach der Art der Abgasabführung
(Typen)

This CEN REPORT has been established under the aegis of CEN/PC 3, Gas,
and has been approved by CEN on 1993-10-28.

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Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy,
Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland,
United Kingdom.

CEN

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

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Foreword

This Technical Report has been prepared under the aegis of CEN/PC 3, Gas, to provide guidance to CEN Technical Committee who are preparing European Standards for appliances burning combustible gases.

It gives details of a general scheme for the classification of such appliances according to the method of evacuating the products of combustion. This form of appliance classification is widely used in the preparation of European Standards for gas appliances to identify the requirements and methods of test which are applicable to the various methods of evacuating the products of combustion. Appliances classified in this way are generally described as 'types' and this description has been retained for the purposes of this general scheme.

The main purpose of the scheme is to promote harmonization in the classification of appliance types. This should ensure that there is a clear understanding of the various appliance types and will avoid confusion arising from Technical Committees describing them in different ways. CEN Technical Committees are therefore requested to use this scheme in all circumstances in which it is appropriate. They should not deviate from it unless there are sound technical reasons for so doing.

In the preparation of this scheme it was noted that there were methods of evacuating products of combustion which were particular to a specific Technical Committee or to a particular gas appliance. These particular methods have not been included in the present scheme because the standards concerned were still under discussion and, as indicated above, the main purpose of the scheme is to promote harmonization across Technical Committees.

However, it is intended that this scheme should be reviewed from time to time in order to consider its extension to other, possibly new, methods of evacuating products of combustion. At that time, such specific methods of evacuating products of combustion may be included at the request of the Technical Committees concerned.

The following notes are given in explanation of the classification scheme.

NOTE 1. The general scheme classifies appliances as type A, B or C according to the basic principle for the evacuation of the products of combustion. A series of subscript numbers is used in addition to these letters to identify specific variations within these basic principles.

The last subscript number of each specific variation indicates the absence or presence of an integral fan for the supply of combustion air and/or the evacuation of products of combustion. Where such a fan is present, the numbers 2, 3 or 4 are given. These three numbers are used solely to identify the location of this fan. Diagrams have been given in annex A showing examples of the various appliance types. However, it should be noted that diagrams for type C₆ appliances have not been included. This is because such appliances are marketed without duct systems. When installed, such an appliance will have a configuration similar to one of the arrangements shown for types C₁ to types C₅.

NOTE 2. The supplementary classification codes for gas-fired boilers have been included at the request of CEN/TC 109 to inform other Technical Committees about this scheme. If other Technical Committees decide to adopt such a classification it is requested that a similar system is employed.

NOTE 3. The supplementary classification scheme for type A and type B appliances has been included to clarify the identification of such appliances when fitted with different safety devices. The subscript letters 'AS' (atmosphere safety) refer to an atmosphere sensing device and the subscript letters 'BS' (blocked safety) refer to a clearance monitoring device which reacts to blockage or restriction of the flue system.

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1 General scheme

The general classification scheme for type A, type B and type C appliances is given in 1.1, 1.2 and 1.3 respectively. Diagrams are also given in annex A to assist in the identification of the various appliance types.

1.1 Type A

An appliance not intended for connection to a flue or to a device for evacuating the products of combustion to the outside of the room in which the appliance is installed.

- Type A₁.** An appliance without a fan.
- Type A₂.** An appliance with a fan downstream of the combustion chamber/heat exchanger.
- Type A₃.** An appliance with a fan upstream of the combustion chamber/heat exchanger.

1.2 Type B

An appliance intended to be connected to a flue which evacuates the products of combustion to the outside of the room containing the appliance. The combustion air is drawn directly from the room.

- Type B₁.** A type B appliance incorporating a draught diverter.
- Type B₁₁.** A natural draught B₁ appliance.
- Type B₁₂.** A type B₁ appliance designed for a natural draught flue incorporating a fan downstream of the combustion chamber/heat exchanger and upstream of the draught diverter.
- Type B₁₃.** A type B₁ appliance designed for a natural draught flue incorporating a fan upstream of the combustion chamber/heat exchanger.
- Type B₁₄.** A type B₁ appliance having an integral fan downstream of both the combustion chamber/heat exchanger and the draught diverter.
- Type B₂.** A type B appliance without a draught diverter.
- Type B₂₁.¹⁾** A natural draught B₂ appliance.

Type B₂₂. A type B₂ appliance incorporating a fan downstream of the combustion chamber/heat exchanger.

Type B₂₃. A type B₂ appliance incorporating a fan upstream of the combustion chamber/heat exchanger.

1.3 Type C

An appliance in which the combustion circuit (air supply, combustion chamber, heat exchanger and evacuation of the combustion products) is sealed with respect to the room in which the appliance is installed.

Type C₁. A type C appliance which is designed for connection via ducts to a horizontal terminal which at the same time admits fresh air to the burner and discharges the products of combustion to the outside through orifices which are either concentric or close enough to come under similar wind conditions.

Type C₁₁. A natural draught type C₁ appliance.

Type C₁₂. A type C₁ appliance incorporating a fan downstream of the combustion chamber/heat exchanger.

Type C₁₃. A type C₁ appliance incorporating a fan upstream of the combustion chamber/heat exchanger.

Type C₂. A type C appliance connected via two ducts to a common duct system serving more than one appliance. This system consists of a single duct which supplies the combustion air and evacuates the combustion products.

Type C₂₁. A natural draught type C₂ appliance.

Type C₂₂. A type C₂ appliance incorporating a fan downstream of the combustion chamber/heat exchanger.

Type C₂₃. A type C₂ appliance incorporating a fan upstream of the combustion chamber/heat exchanger.

¹⁾ A type B₂₁ appliance will not generally be included in the scope of ENs for gas appliances. However, it may apply in special circumstances, e.g. gas-fired incinerators.

- Type C₃.** A type C appliance which is designed for connection via ducts to a vertical terminal which at the same time admits fresh air to the burner and discharges the products of combustion to the outside through orifices which are either concentric or close enough to come under similar wind conditions.
- Type C₃₁.** A natural draught type C₃ appliance.
- Type C₃₂.** A type C₃ appliance incorporating a fan downstream of the combustion chamber/heat exchanger.
- Type C₃₃.** A type C₃ appliance incorporating a fan upstream of the combustion chamber/heat exchanger.
- Type C₄.** A type C appliance connected via two ducts to a common duct system serving more than one appliance. This common duct system consists of two ducts, one of which supplies the combustion air and the other which evacuates the products of combustion.
- Type C₄₁.** A natural draught type C₄ appliance.
- Type C₄₂.** A type C₄ appliance incorporating a fan downstream of the combustion chamber/heat exchanger.
- Type C₄₃.** A type C₄ appliance incorporating a fan upstream of the combustion chamber/heat exchanger.
- Type C₅.** A type C appliance connected to separate ducts for the supply of combustion air and the evacuation of combustion products. These ducts may terminate in zones of different pressure.
- Type C₅₁.** A natural draught type C₅ appliance.
- Type C₅₂.** A type C₅ appliance incorporating a fan downstream of the combustion chamber/heat exchanger.

- Type C₅₃.** A type C₅ appliance incorporating a fan upstream of the combustion chamber/heat exchanger.
- Type C₆.** A type C appliance marketed without the terminal or the combustion air supply and combustion products evacuation ducts.
- Type C₆₁.** A natural draught type C₆ appliance.
- Type C₆₂.** A type C₆ appliance incorporating a fan downstream of the combustion chamber/heat exchanger.
- Type C₆₃.** A type C₆ appliance incorporating a fan upstream of the combustion chamber/heat exchanger.

2 Supplementary classification codes for gas-fired boilers

Type C boilers are classified according to the extent to which the combustion circuit is enclosed within the air supply circuit.

Code 'XX'

A type C boiler where the combustion chamber, heat exchanger and combustion products evacuation circuit are completely surrounded by the air supply.

Code 'XY'

A type C boiler where the combustion chamber and heat exchanger are completely surrounded by the air supply, but the combustion products evacuation circuit is not.

Code 'YX'

A type C boiler where the combustion chamber and heat exchanger are not completely surrounded by the air supply, and the combustion products evacuation circuit is completely surrounded by the air supply.

Code 'YY'

A type C boiler where the combustion chamber, heat exchanger and combustion products evacuation circuit are not completely surrounded by the air supply.