

GENERAL VENTILATION PROVISIONS FOR DOMESTIC GAS-FIRED APPLIANCES

VENTILATION PROVISIONS FOR all types of gas-fired appliances needs to be in accordance with manufacturer's instructions and for appliances not exceeding 70 kW net, *BS 5440-2: Flueing and ventilation for gas appliances of rated input not exceeding 70 kW net (1st, 2nd and 3rd family gases) - Part 2: Specification for the installation and maintenance of ventilation provision for gas appliances.*

Note that gas appliances maximum heat input will be given as either a 'net' or 'gross' value. Where the figure is presented as a gross value this will require conversion to a net value by dividing the maximum heat input by 1.11.

Air vents

The openings in an air vent grille (louvre) shall be sized such that a 10 mm diameter ball will not pass through the openings but shall permit a 5 mm diameter ball to pass.

Where an air vent is installed through a cavity wall then this shall incorporate a grille inside and outside with a continuous duct across the cavity.

Grilles that are of the type that can be closed and vents that incorporate fly screens* shall not be used for gas appliances.

**This doesn't apply to caravans where the use of screens is permitted.*

Flueless appliances

Any air vent for flueless appliances shall be direct to outside air. In addition, flueless appliances will require an openable window or equivalent which communicates with outside air to allow for rapid dilution ventilation of an area.

The room volume needs to be taken into consideration as there are limitations on the maximum heat inputs for a given room volume.

Cooker and Water Heater

Appliance	Maximum heat input net (kW)	Room volume (m ³)	Air vent size (cm ²)
Domestic cooker (oven/hob/grill)*	None	< 5	100
		5 to 10	50**
		> 10	None Required
Instantaneous water heater	11	< 5	Not Permitted
		5 to 10	100
		> 10 to 20	50
		> 20	None Required

* Unless a single burner hotplate/boiling ring, not to be installed in a bed/sitting room of less than 20 m³.

** Where a door opens direct to the outside, no permanent opening is required.



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Space Heater			
Appliance	Maximum heat input net (kW)	Room volume (m ³)	Air vent size (cm ²)
Space heater in a room	45 W/m ³ of heated space		100 + 55 for every kW in excess of 2.7 kW
Space heater in an internal space	90 W/m ³ of heated space		100 + 27.5 for every kW in excess of 5.4 kW
LPG space heater in a room	50 W/m ³ of heated space	> 15	25 per kW with a minimum of 50 at high and low level
LPG space heater in an internal space	100 W/m ³ of heated space		

Open flued appliances installed in a room

Normally an allowance for adventitious ventilation will be made for open flued appliances installed in a room, this will be 35 cm² (equivalent to 7 kW) and therefore, when calculating the vent size for an appliance this will be based on 5 cm² for every kW in excess of 7 kW of the maximum rated net heat input.

However, adventitious ventilation should not be taken for granted due to factors such as double glazing, cavity and solid wall insulation, etc., as these may increase the air tightness of a dwelling. Where the air tightness of a dwelling has an impact on a gas appliance, additional ventilation above what is normally required will need to be installed.

Open Flued Appliances		
Appliance type	Maximum heat input net (kW)	Air vent size (cm ²)
Open flued (general)		5 for every kW in excess of 7 kW
Decorative fuel effect (DFE)	20	100 or as stated by manufacturer
Inset live fuel effect (ILFE)	15	5 for every kW in excess of 7 kW

Compartment ventilation

Appliances installed in a compartment can be ventilated either to an internal space, which in the case of an open flued appliance is itself ventilated to outside air or direct from the compartment to outside air.

Compartment Ventilation				
Appliance type	Vented to outside		Vented to inside	
	High level	Low level	High level	Low level
Open flued	5 cm ² /kW	10 cm ² /kW	10 cm ² /kW	20 cm ² /kW
Room sealed	5 cm ² /kW	5 cm ² /kW	10 cm ² /kW	10 cm ² /kW

