

# Wonderfire

## **AIRFLAME EXCEL MK.3 STANDARD CONVECTOR BOX**

FOR USE WITH :

<b>AC 16NV</b>	<b>9500296</b>
<b>AC 16XL</b>	<b>9500323</b>

Please leave these Instructions with the user

## **INSTALLATION INSTRUCTIONS**

Patent applied for

To be read in conjunction with the relevant installation instructions for the Wonderfire Airflame Excel mk.3 burner being installed. Must be installed in accordance with the rules in force.

This convector box is for use in the United Kingdom (GB) and the Republic of Ireland (IE) only.

9860332/04

# INTRODUCTION

The Standard Wonderfire Convector is designed to fit into 16" and 18" fireplace openings constructed in accordance with the requirements of BS1251. Any chairbrick will require removal. A masonry chimney with a minimum diameter of 175mm (7") free from any obstruction and with any damper or restrictor plate in the chimney removed or secured. A masonry chimney having a correctly installed flexible flue liner BS715 and with a minimum diameter of 125mm (5") is also acceptable for NV models only, providing both inner and outer convection box restrictor plates are removed.

Note: This appliance is fitted with a restrictor plate. If, after conducting a spillage test (see page 5) smoke is not positively drawn into the chimney, this plate must be removed and the spillage test repeated.

The installation of any fire other than the listed Wonderfire products will invalidate the approval status and guarantee.

This fireplace insert is unsuitable for use with solid fuel.

## RELATED DOCUMENTS

## Relevant Building Regulations

Gas Safety (installation and Use) Regulations 1994 (as amended).

BS 5440 Part 1 1990

BS 5440 Part 2 1989

Republic of Ireland. I.C.P. 3

BS 5871 Part 2 1990

Fireplace components conforming to BS1251 assembled in accordance with BS8303:1986

BS 6461 Part 1 1984

BS 6461 Part 2 1984

## VENTILATION

G.B. – For additional ventilation requirements see table below

WONDERFIRE MODEL NO.	HEAT INPUT (GROSS)	PURPOSE MADE VENTILATION SIZE
AC16NV	6.9kW	NONE
AC16XL	10.0kW	13.5cm <sup>2</sup>
AC16NVP**	6.2kW	NONE

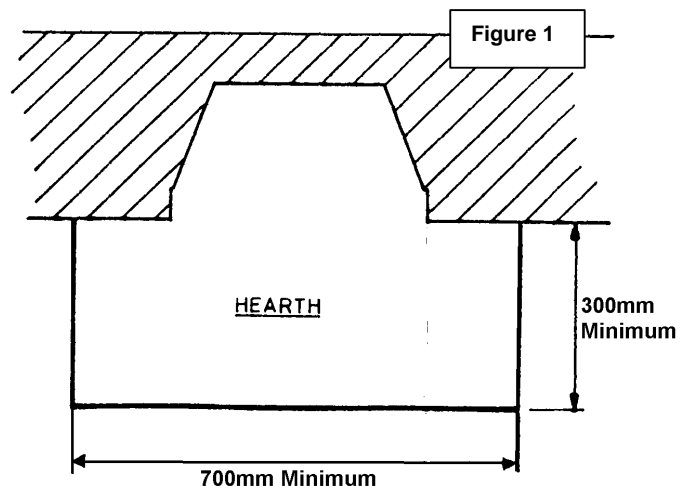
\*\* WHEN CONVERTED

I.E. – Ventilation must be in accordance with I.C.P. 3.

### INSTALLATION DETAILS

#### The Hearth

NOTE: Hearth requirements in Figure 1. The appliance must be mounted behind a non-combustible hearth (N.B. conglomerate marble hearths are considered as non-combustible). The appliance can be fitted to a purpose made proprietary class "O"-150°C surround. The hearth material must be at least 12mm thick. The periphery of the hearth



(or fender) should be at least 50mm above floor level to discourage the placing of carpets or rugs over it. The surface of the hearth must be sufficiently flat to enable the bottom of the front surround and the bottom front cover to be aligned horizontally. Any excessive unevenness (uneven tiles, Cotswold stone, etc.) should be rectified. The appliance must not stand on combustible materials or carpets.

**Shelf Clearances**

The minimum height from the top surface of the hearth to the underside of any shelf made from wood or other combustible materials is as follows:-

- For a shelf up to 150mm deep : Minimum height = 818mm.
- For a shelf deeper than 150mm : 818mm + 12.5mm for every 25mm depth over 150mm.

**The Flue**

A flue with a minimum diameter of 7", a minimum effective height of 3 metres, with a good upward draught is required for fires operating within standard fireplace openings.

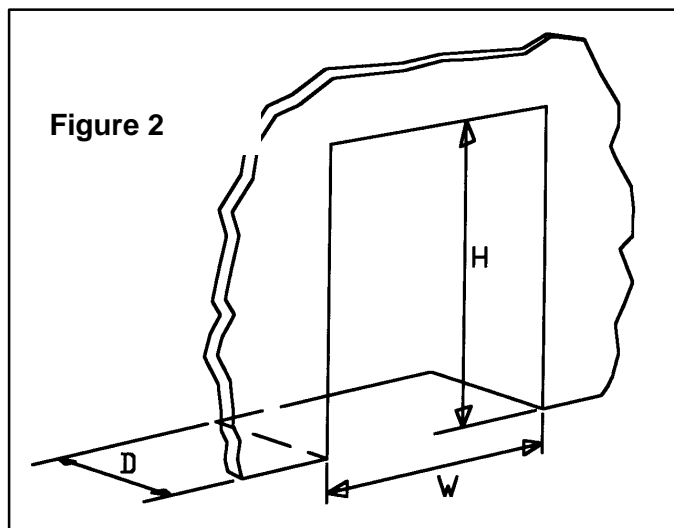
Any flue restrictor/damper should be removed and discarded.

The chimney must be thoroughly swept to remove soot and other debris. Examine the general condition of the chimney and repair if necessary. Do not proceed with installation if the chimney is in poor condition.

If there is a possibility of birds nesting in the area an approved cowl suitable for solid fuel should be fitted.

**Fireplace opening**

Remove any firebrick back and existing heating appliance. Examine the general condition of the builders opening and repair if necessary. Check dimensions of builders opening and if necessary, modify to those shown in Fig 1a.



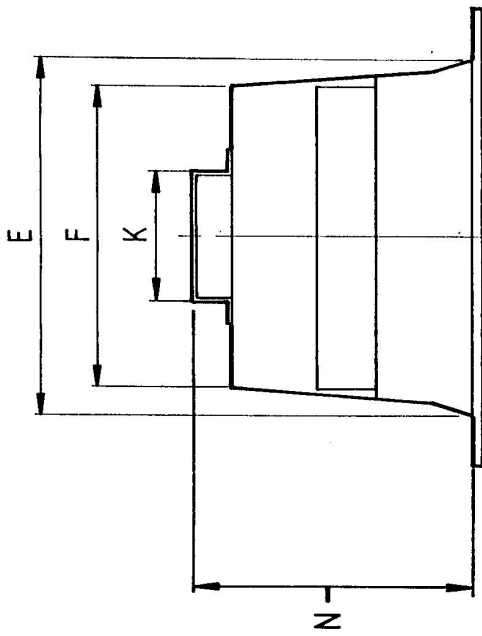
<b>Min. opening sizes</b>	<b>W= 415mm (16½")</b>	<b>H= 560mm (22¼")</b>	<b>D= 295mm (12")</b>
<b>Max. opening sizes</b>	<b>W= 495mm (19½")</b>	<b>H= 585mm (23")</b>	<b>D= NONE</b>

**Burner unit**

Remove the burner unit from the convector box by removing the fixing screw in the front leg of the fire and place safely to one side.

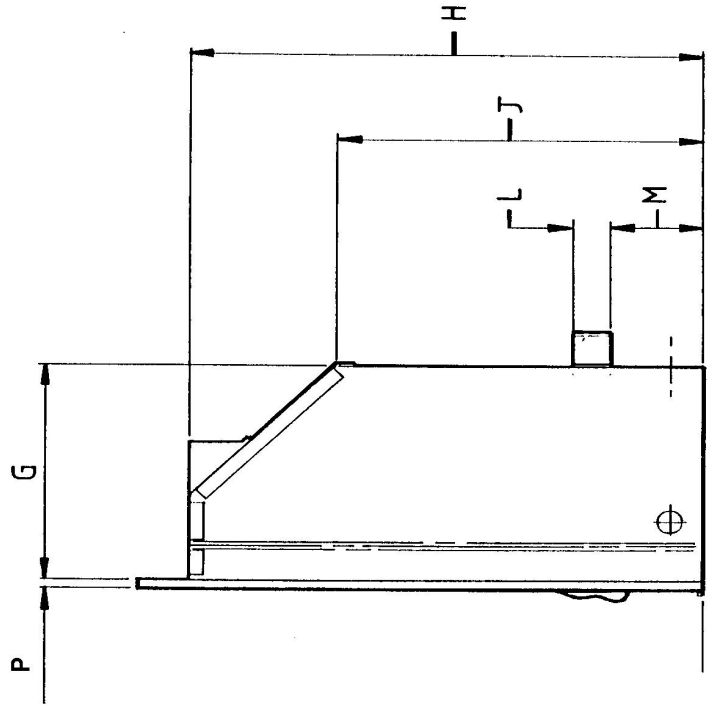
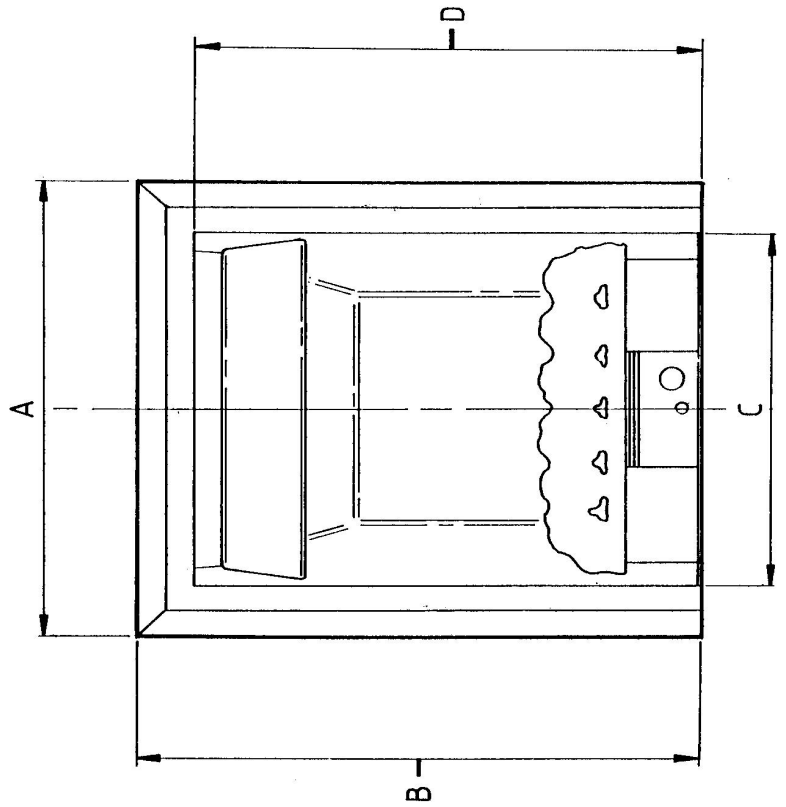
**Gas supply**

There are three gas inlet points located within the box, the rear access point is sized to accept a restrictor elbow.



A	530	—	20 <sup>7</sup> / <sub>8</sub> "
B	605	—	23 <sup>13</sup> / <sub>16</sub> "
C	410	—	16 <sup>1</sup> / <sub>8</sub> "
D	545	—	21 <sup>7</sup> / <sub>16</sub> "
E	405	—	15 <sup>15</sup> / <sub>16</sub> "
F	350	—	13 <sup>3</sup> / <sub>4</sub> "

G	255	—	10"
H	550	—	21 <sup>5</sup> / <sub>8</sub> "
J	395	—	15 <sup>9</sup> / <sub>16</sub> "
K	150	—	5 <sup>7</sup> / <sub>8</sub> "
L	40	—	1 <sup>9</sup> / <sub>16</sub> "
M	100	—	3 <sup>15</sup> / <sub>16</sub> "
N	295	—	11 <sup>5</sup> / <sub>8</sub> "
P	10 - <sup>3</sup> / <sub>8</sub> " With Trim		



## Fitting the convector box

### • Appliance dimensions

- fireplace for the eyebolt plugs using a no.12 masonry drill. The nominal position of the holes should be as shown in figure 5a. The holes should be equidistant each side of the centre line of the fireplace to ensure that the appliance finishes centrally in the opening when tension is applied to the cables.
- Insert a fibre plug into each hole. Use the rawlplugs supplied with this appliance - *Never use plastic plugs instead of the fibre plugs supplied.* Screw the eyebolts into the plugs. Make sure that the bolts are secure.
- Place the convection box unit close to the fireplace but allow sufficient access into the fireplace opening so that the cables can be threaded through the eyebolts and returned through the back of the convection box.
- If a concealed connection is being used, insert the gas supply pipe through a suitable gas inlet point.
- The convection box has two holes on each end of the debris deflector (see figure 5b) Insert one end of each cable (one cable each side) from the back through the lower of the two holes and return the end through the upper of the holes as shown in figure 5c. Give the cables a pull so that they grip against the debris deflector flanges.

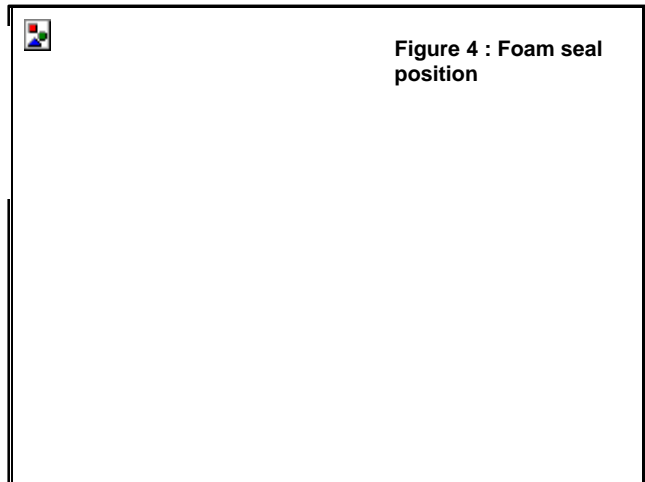


Figure 4 : Foam seal position

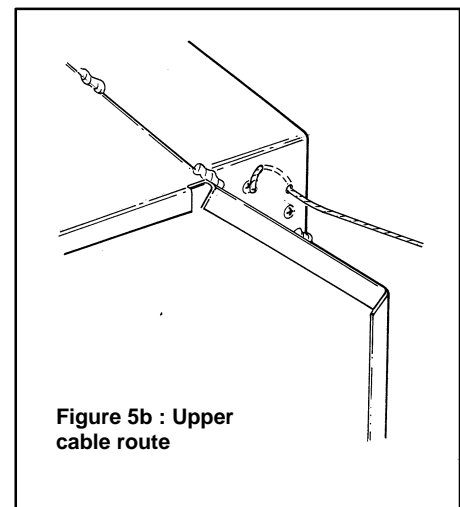


Figure 5b : Upper cable route

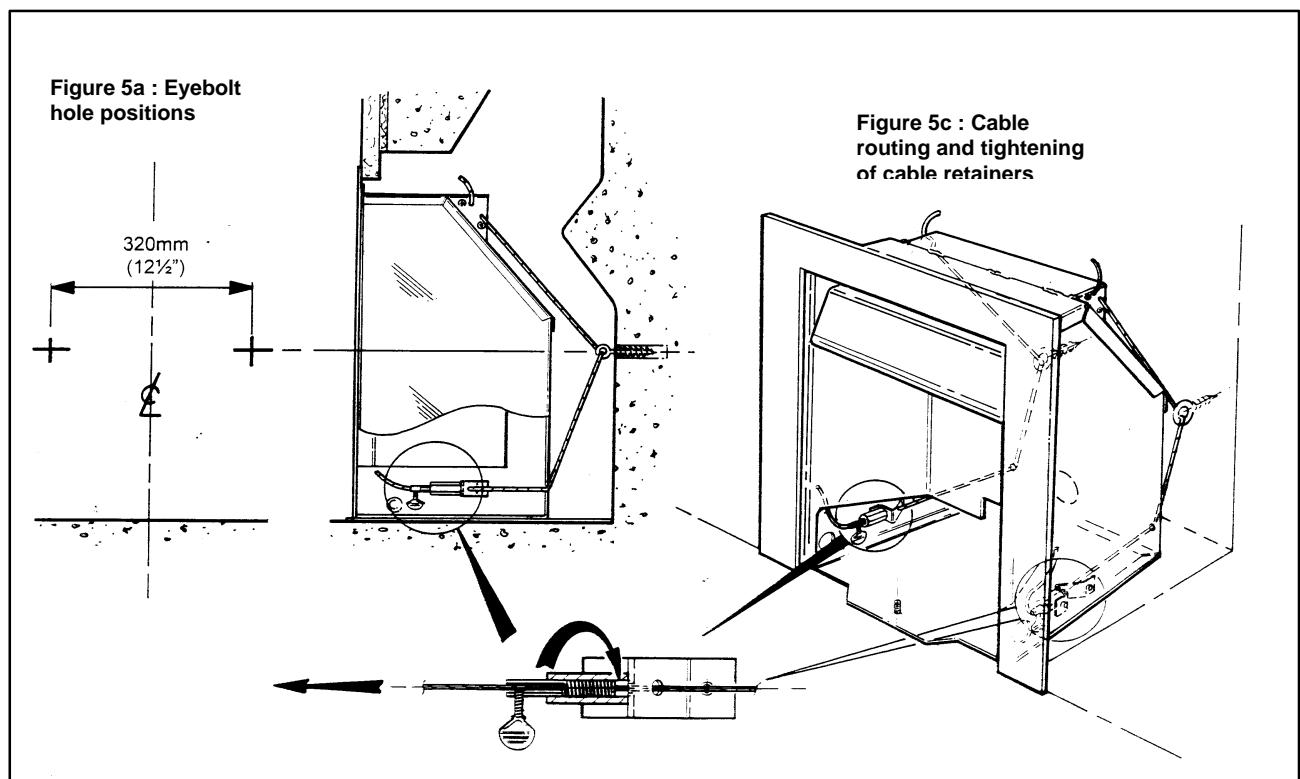


Figure 5a : Eyebolt hole positions

Figure 5c : Cable routing and tightening of cable retainers

Figure 3

### Fitting the convector box – continued

- Thread the cables through the eyebolts in the rear wall. Return the cables through the holes near the bottom of the convection box back panel and through the “V” shaped brackets near the bottom front sides of the convection box (see figure 5c).
- Place the convection box fully back into the fireplace opening so that it is sealed against the fireplace front surround.
- Fit a cable retainer over the bottom end of each cable.
- Pull each cable taut. Push the cable retainers hard up against the “V” brackets. Tighten the screws in the retainers so that they clamp the cables in position. Apply tension to the cables by turning the hexagonal adjusters by hand (see figure 5c).
- Inspect the fit of the convection box to the fireplace surround. If it is aligned squarely and the sealing is satisfactory, fully tighten the cable retainers.
- If the convection box is not correctly aligned, release the tension on the cables by slackening the screws and turning the hexagonal adjusters fully anticlockwise. The convection box should then automatically realign itself. Pull each cable taut again and push the cable retainers back against the “V” brackets. Again, tighten the screws in the retainers and apply tension to the cables by turning the hexagonal adjusters clockwise as far as possible.
- Push the free length of the cables inside the convection box so that they are available to allow easy removal and refitting of the appliance during subsequent service calls.
- Fit the burner into the convector box, and retain using the fixing screw and nut provided.

### Operation of the burner

- Refer to the relevant installation manual for instructions on fitting the burner and its correct operation.

### Clearance test

- Warm up the appliance on MAX for 10 minutes. Insert a smoke match as shown in figure 6, 30mm from either end of the fireplace opening.
- Smoke should draw positively into the chimney.
- If in doubt repeat the procedure after 15 minutes.
- **NV models only:** If the smoke is still not positively drawn into the appliance, turn the appliance off, allow to cool, remove the internal restrictor plate, and repeat the test.
- If smoke is still not positively drawn into the appliance isolate the gas supply and seek expert advice.

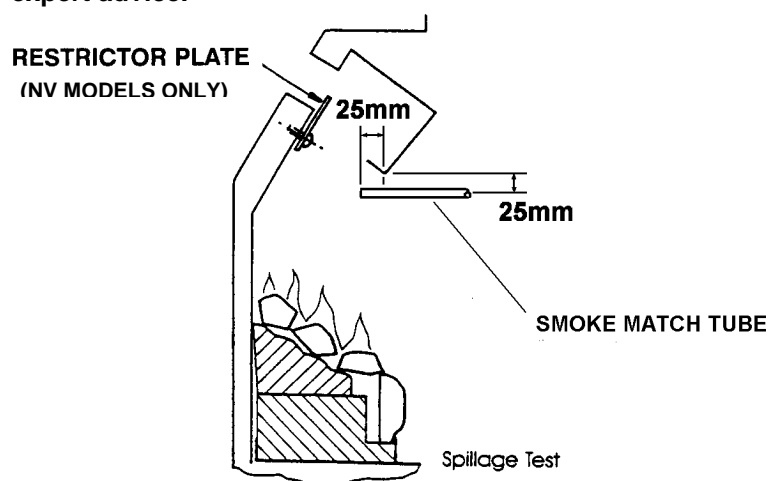


Figure 6 :  
Spillage test

For servicing procedures, refer to the relevant installation manual for the installed burner.

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As our policy is one of continuous development, some details given in this manual may be subject to change.