

INSTRUCTIONS MANUAL FOR USE AND MAINTENANCE

Carbel models:

- **C-60 *Plus***
- **C-70 *Plus***
- **C-80 *Plus***
- **C-100 *Plus***
- **C-70 *Plus* Double-sided**
- **C-80 *Plus* Double-sided**
- **C-100 *Plus* Double-sided**



NOTE FROM THE MANUFACTURER

Thank you for choosing one of our models. Please read this manual carefully. It has been written to give you tips on installation, use and maintenance. If you need further clarification, please contact your dealer or the manufacturer directly.

Our models are designed to improve the performance of any conventional fireplace. Two fans circulate the air inside the convection chamber that surrounds the fireplace. Air enters through the bottom of the front and comes out hot at the top. Optionally, the hot air can also be blown to the top of the hood and to other surrounding rooms.

The fireplace interior is made of high quality steel and, depending on the model, can be covered with pieces of refractory material, steel panels or thick plates. These parts are easily removable; first remove the baseboard from the fireplace and then the side pieces.

The fan cover is located under the front and there is a simple electrical installation inside. To access it, simply remove the two bolts at the ends.

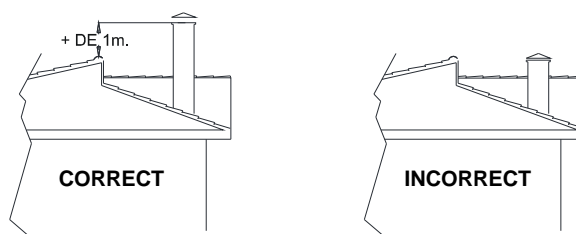
INSTALLATION

All our models are designed and manufactured for optimal performance. However the operation and performance you get will depend largely on the installation.

Instructions for the chimney

Correct operation depends on the chimney draught. Tips for optimal performance:

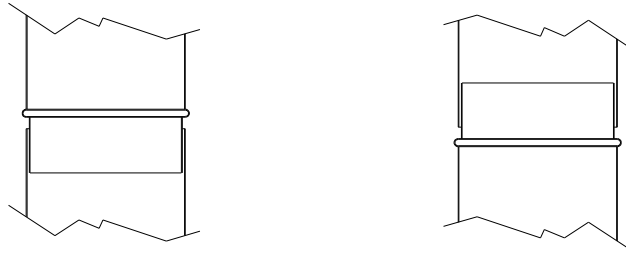
- The woodburner must be connected to a flue that guarantees sufficient chimney draught.
- The flue must have sufficient height (not less than 4 m) and should extend at least one metre beyond the maximum height of the building and other surrounding buildings, trees and other obstacles in a minimum radius of 10 m.



- The diameter of the flue of the appliance is ideal for keeping a good draught; do not reduce said diameter if at all possible.
- Do not connect several appliances to the same chimney.
- The chimney should run through the interior of the building. Install insulated double-walled pipes when the chimney flue runs outside the building.
- For the fireplace flue to work correctly, the room must have an air inlet that is at least sufficient to replenish the volume of air that comes out of the chimney flue. In well-insulated houses with airtight joinery, an air inlet must be made from the exterior. When air inlet vents are installed, they must be located in such a way that they cannot be blocked.
- **Note.-** Extraction fans (e.g. kitchen extractors) can cause problematic reverse chimney draughts. When the extractor motor is turned on, make sure there is an air inlet in the same room to avoid outside air being sucked in through the woodburner flue.
- When the flue has to have angles or bends, avoid horizontal or downward sections. You must plan for the cleaning of the flue and, if necessary, install pipes with access holes or cleaning hatches in sections that are not easily accessed.

- When a metal chimney is fitted inside a brick chimney, it must exceed the height of the latter and protrude a few centimetres at the top.
- The installation of the pipe and cap must **strictly prevent water from getting into the appliance on rainy days**. Water causes more damage to woodburners than the high combustion temperatures for which they are prepared.

When the pipes run through the inside of the home or a brick chimney, they should be mounted as shown in Figure 1 to prevent liquids produced by the condensation of the gases flowing through the joints and out of the pipes. If a pipe section runs outside the building it must be mounted in the direction shown in Figure 2 to prevent rainwater draining down the pipe and entering into the pipe interior through the joints.



Exterior air inlet

For the fireplace draught to work correctly, the room must have an outside air inlet that is at least sufficient to replenish the volume of air that comes out of the chimney flue.

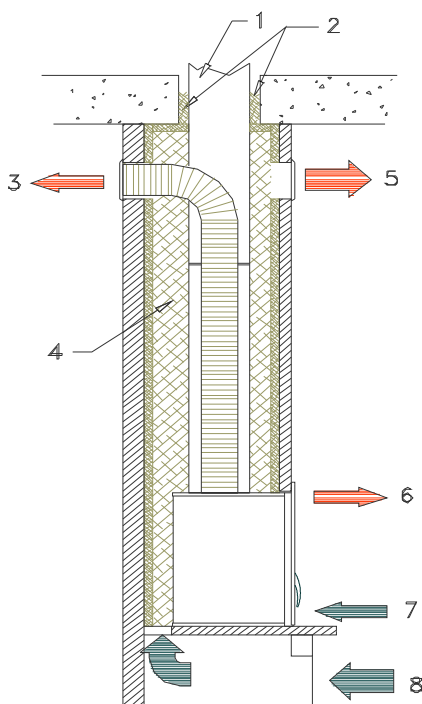
An air inlet must be fitted through the outer wall and if a vent is installed, it must not be adjustable and must be fitted in such a way that it cannot be blocked.

Warning. In homes without the appropriate outside air inlet, extraction fans (e.g. kitchen extractors) can cause problematic reverse chimney draughts.

General installation instructions

The installation of the appliance must comply with all local regulations, including those that refer to national and European standards.

Although the following describes an example installation to ensure good performance, it may not be ideal for your circumstances. In any case, it is always better to have a professional do the installation. If you are determined to do your own installation, consult a professional.



- 1- Fumes exhaust pipe Ø 200 or 150, according to model.
- 2- Seal of the chimney hollow with rock wool.
- 3- Optional outlet for hot air to other rooms, blown by fans.
- 4- Facing the interior walls of the hood with rock wool.
- 5- Hot air outlet of the chimney chamber by natural convection.
- 6- Hot air outlet at the top of the front blown by fans.
- 7- Entry of cold air into the insert convection chamber sucked in by fans.
- 8- Entry of cold air into the chimney chamber by natural convection.

The building work must be finished in such a way that the woodburner can expand during operation: the brickwork must never be supported on or against the sides of the appliance. Leave a minimum expansion joint of 0.5 cm on each side and at least 1 cm the top of the front.



OPERATION

Fans

Fans at the bottom of the fireplace are operated by the switch or *automatically by means of a **safety thermostat** only if the temperature reaches 50 °C* at the bottom of the fireplace.

You can vary the fan speed at any time. At a slower speed, operation will be quieter and the room will be heated more gradually. When operating with a strong fire, it is advisable to adjust the fans to a faster speed to cool the woodburner more and heat the room faster.

NOTE. To avoid overheating, the woodburner must be connected to the mains if there is a fire burning in it.

COMBUSTION

To achieve a good, clean, green (CO-free) combustion, when the wood is well lit and a high temperature has been reached, close the primary air inlet (via the ash box) almost completely. In this way, the combustion air (preheated in the upper section of the fireplace) enters through the top of the fireplace near the glass, resulting in better gas combustion. You will notice this in an increase in flames and temperature.

Woodburners and inserts are intermittent combustion appliances. This means that they should be lit, loaded with an approximate weight of fuel as recommended by the manufacturer for each model, followed by a full combustion cycle and fuel reloads after each combustion cycle.

Good combustion is necessary for optimum performance and a better view of the flames through the glass. Guidelines:

- Maintain a high and constant temperature in the fireplace. Accordingly, the fireplace door must be closed at all times and opened only to load firewood, which must be done as quickly as possible
- Do not take a long time when loading firewood and wait for the end of the combustion cycle, when the flames of the previous load disappear.

A full combustion cycle comprises the following:

1. A short period after reloading when the wood begins to heat up without flames. The time until the flame lights is an indication of the fireplace temperature. If you wait too long to reload firewood, the temperature falls too low and the new load of firewood does not light well. This has a negative effect on combustion and dirties the glass.
2. The temperature of the firewood increases rapidly and it begins to break up, emitting gas that ignites if the fireplace temperature is appropriate. The fireplace temperature begins to increase as the fuel emits more gas and the flames increase.

3. After a certain period of time, which varies depending on the type of firewood, the maximum temperature value is reached and the gases emitted from the firewood decrease slowly along with the volume of the flames.

When the firewood gas emission is complete, the flame goes out and the firewood turns to burning embers.

- The fuel load should have the approximate weight recommended by the manufacturer for each model. Preferably in one or two pieces.

- Avoid overloading with firewood that is too thin as this can cause poor combustion. The firewood emits an excessive amount of gas very quickly and the air supply is insufficient. Although there is a large volume of flames, combustion it is not good and the glass tends to get dirty. There is a danger of reaching excessive temperatures that threaten the integrity of the woodburner and user safety.

- Select the firewood to achieve the desired type of operation. Thin firewood should be used to get higher thermal power, use it after lighting the fire for a faster response as you need more heat.

Use larger-size, thick wood for a slower combustion when you have less need for heat or for overnight maintenance, always preceded by a cycle of more power with thinner firewood, when the appliance temperature is already high. If necessary, when starting the fire, burn a combination of thin and thick firewood.

When the woodburner is in operation, the door should always be closed. When you open the door to reload, do so slowly to avoid the smoke inside the fireplace from blowing out into the room.

Warning.- In woodburners and inserts, prolonged and continuous use at a very low rate of combustion or with very wet wood can cause highly flammable creosote to build up in the flue.



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In woodburners and inserts, prolonged and continuous use at a very low rate of combustion or with very wet wood can cause highly flammable creosote to build up in the flue.

When lighting the fire for the very first time, smoke and smells may be produced due to evaporation of the solvent from the paint. Therefore, ventilate the room adequately.

FUEL

Woodburner performance also depends greatly on the fuel used. The wood must be dry to get more heat. It will also be easier to regulate heat and keep the woodburner and flue in better condition. Store firewood in a dry, ventilated place protected from the rain for at least two years.

- You can also use compressed-wood logs, such as briquettes.

- Avoid softwoods, such as pine, because they produce a lot of smoke and soot that dirty the glass.

- Do not use flammable liquids to light the fire; always keep them away from the woodburner.

- Do not use the woodburner as an incinerator, never burn plastics, waste, garbage or rubbish.

- Remove the ashes when the woodburner is off and place them in a metal container as there may be burning embers hidden in the ashes.



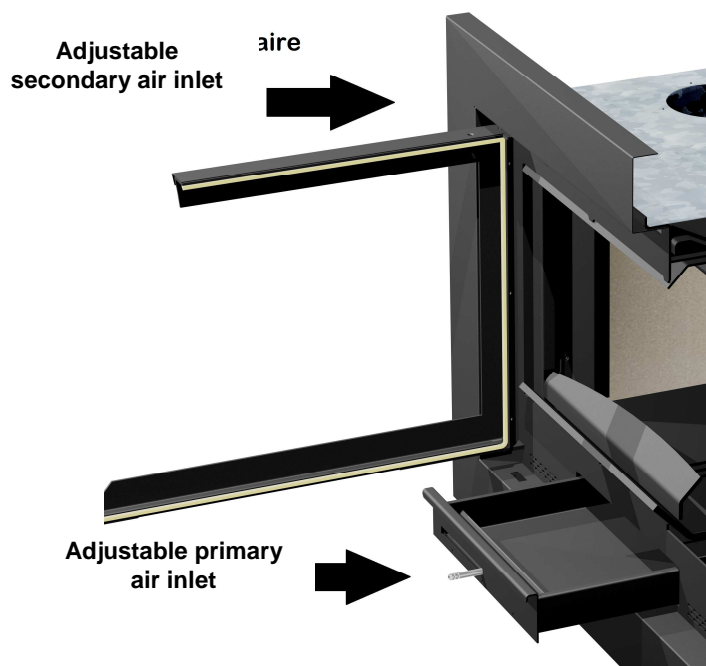
Overloading the appliance with firewood decreases performance, reduces energy efficiency and accelerates the wear and tear of the appliance.

It is essential to respect the maximum loads of firewood for the rated power described at the end of the manual.

Overloading the appliance voids all the manufacturer's warranties.

Adjusting primary and secondary air inlets

You have purchased an insert model that offers maximum efficiency and performance. Therefore, control of the primary air inlet, located in the ashtray, and the secondary air inlet, located on the left of the front of the appliance, are essential to achieve optimum combustion levels.



- Primary air inlet

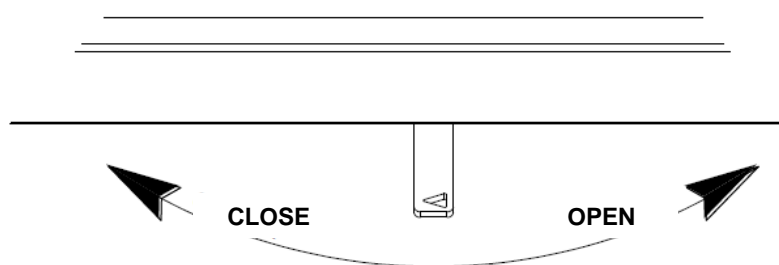
It is essential to open to maximum position when lighting the fire and to leave the door ajar to avoid the condensation of fumes on the glass, closing it again once the appliance has warmed up.



In order to avoid burns, always use the glove supplied with the appliance when adjusting the primary air inlet and opening the door.

- Secondary air inlet

It must always be in open position when lighting the fire.

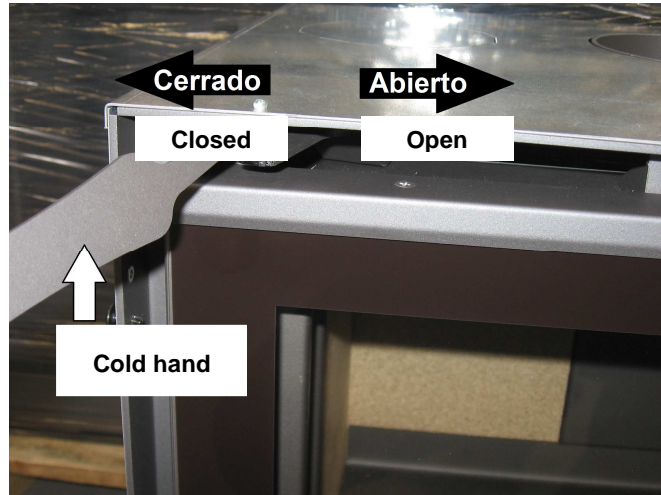


You can adjust the secondary air inlet when the appliance is warm enough and there is a sufficient amount of flames.

Secondary air regulation will provide greater control of combustion, slowing down combustion and making the most of every load of firewood.



In order to avoid burns, always use the adjustment tool supplied with the appliance to adjust the secondary air inlet.



LIGHTING A FIRE

1. Load a generous amount of firewood, placing a layer of wood chips or thin firewood and another layer of thicker wood on top.
2. Light the first layer of wood chips or thin wood using fire-lighters or special lighting products, if necessary.
3. Leave the door ajar, with an opening of 1-5 cm, so that enough air can enter for the fire to light quickly.
4. After a few minutes, once the wood is well-lit, close the door and adjust the air inlet. If you see that the volume of flames decreases or tends to go out and the amount of smoke in the fireplace increases, open the air inlet or repeat step 3.

When you reload with more wood, if there are not enough flames or embers to light the new load of wood, repeat steps 3 and 4.

Select the firewood to achieve the desired type of operation. Thin firewood should be used to get higher thermal power, use it after lighting the fire for a faster response as you need more heat.

Use larger-size, thick wood for a slower combustion when you have less need for heat or for overnight maintenance, always preceded by a cycle of more power with thinner firewood, when the appliance temperature is already high. If necessary, when starting the fire, burn a combination of thin and thick firewood.

When the woodburner is in operation, if you have to open the door, do so slowly to avoid the smoke inside the fireplace from blowing out into the room.

Warning.- In woodburners, prolonged and continuous use at a very low rate of combustion or with very wet wood can cause highly flammable creosote to build up in the flue.

MAINTENANCE



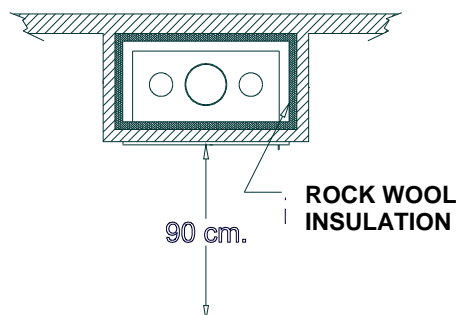
To clean the glass, be careful to spray the cleaning product on a cloth and clean only the glass, without wetting the rest of the door. Window-cleaners and special products often contain chemicals that attack the paint and the ceramic fibre seals and cause oxidation of the metal parts.

It is very important not to wet the woodburner with window-cleaner, water or special cleaning products. Heatproof paint is not waterproof.

Clean the paintwork with a feather duster or a soft, dry cloth. If over time you want to repaint the insert, the manufacturer makes a spray paint available from your dealer.

TIPS AND SAFETY STANDARDS

- You should check the chimney regularly and keep it clean and in good condition. Creosote build-up in the chimney could cause it to catch fire.
- Warn children of the danger of burns.
- Do not modify the appliance without authorisation and use only original spare parts.
- The appliance must be installed on floors with sufficient bearing capacity.
- Observe the minimum safety distances from nearby combustible materials.

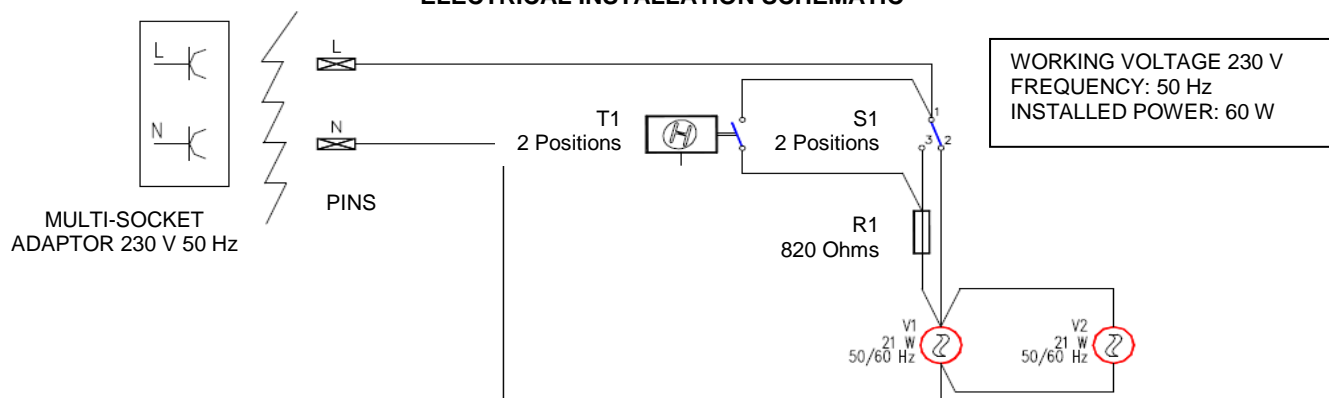


In front of the appliance: minimum 90 cm.

Combustible materials must not be installed on the appliance or inside the brickwork.

- On days with adverse draught conditions (very low atmospheric pressure, heavy frosts), or when the flue is very cold, or in chimneys with a poor draught, you can help the draught to start before lighting the fire by heating the flue:
1. Prepare the wood for lighting inside the woodburner.
 2. Place a firelighter or a sheet of newspaper on the deflector at the start of the flue and set fire to it.
 3. After a few seconds, when the chimney draught starts, light the wood as instructed.

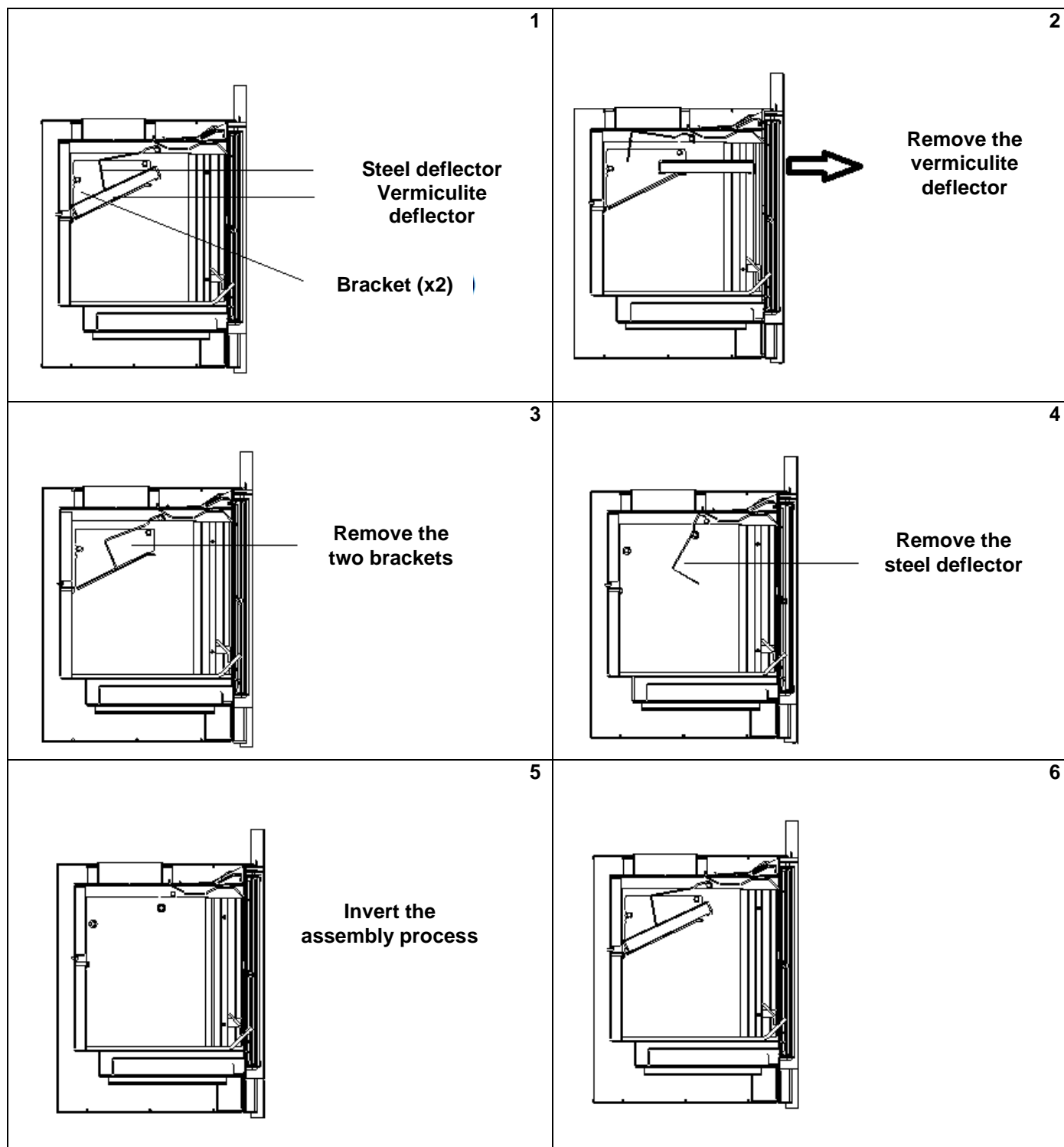
ELECTRICAL INSTALLATION SCHEMATIC



Note.- The power cable must be connected by a plug to a multi-socket adaptor and it must be accessible once the appliance has been installed. The power cable or electrical components must be changed or replaced only by qualified personnel to avoid hazards.

Removing the double baffle

Cross-section view of the insert



Note: the c-60 Plus model does not include brackets.

Adjusting the steel baffle

If there is no draught, you can adjust the steel deflector to evacuate fumes.

Note: opening the deflector will reduce the performance of the insert.

Baffle C-70 Plus, C-80 Plus, C-100 Plus



C-60 Plus Baffle

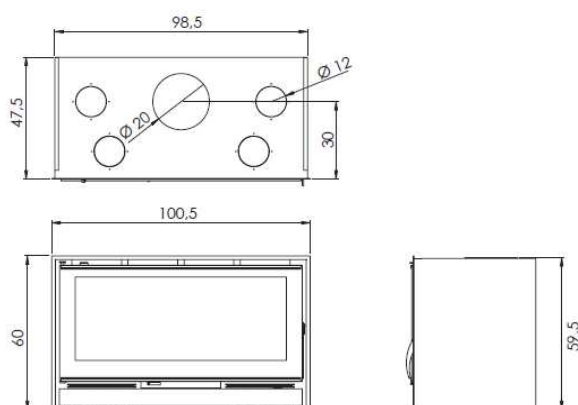


TECHNICAL SPECIFICATIONS

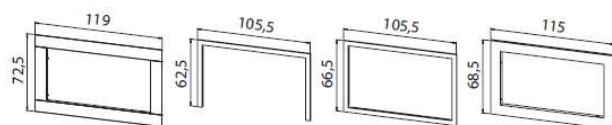
Model	Weight	Performance	Rated Power	Emissions of CO 13% O2	Firewood for Rated Power	Maximum Load	Reload interval for rated power	Draught required for chimney	Average temp. of fumes
Carbel C-60Plus	70 kg	80%	7.8 kW	0.12%	1.5 kg	2.5 kg	0.71 h	12 Pa	285 °C
Carbel C-70Plus	85 kg	79%	9.1 kW	0.14%	1.8 kg	3 kg	0.73 h	12 Pa	292 °C
Carbel C-80Plus	95 kg	78%	11.75 kW	0.14%	2 kg	3.7 kg	0.73 h	12 Pa	300 °C
Carbel C-100Plus	125 kg	78%	14.4 kW	0.14%	2.9 kg	5.2 kg	0.73 h	12 Pa	308 °C
Carbel C-70Plus Double-sided	110 kg	75.30%	8.6 kW	0.25%	2 kg	3.6 kg	0.75 h	12 Pa	331 °C
Carbel C-80Plus Double-sided	120 kg	74.70%	10.7 kW	0.27%	2.5 kg	4.2 kg	0.75 h	12 Pa	349 °C
Carbel C-100Plus Double-sided	150 kg	74.70%	12.8 kW	0.27%	3 kg	5.5 kg	0.75 h	12 Pa	349 °C
Carbel H-69 S	75 kg	79%	9.1 kW	0.14%	1.8 kg	3 kg	0.73 h	12 Pa	292 °C

C-100 Plus

MEDIDAS SIN MARCO / MEASURES WITHOUT FRAME

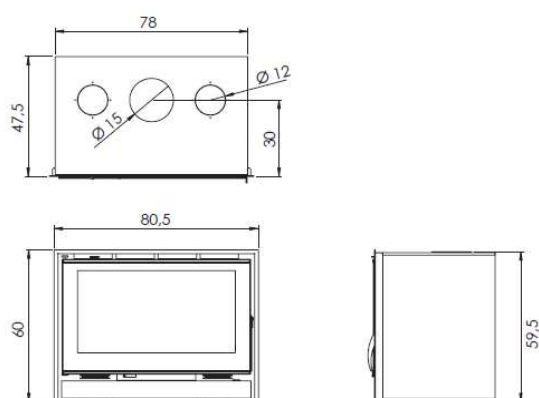


OPCIONES DE MARCO - FRAME OPTION

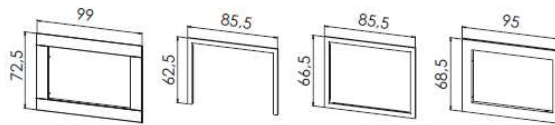


C-80 Plus

MEDIDAS SIN MARCO / MEASURES WITHOUT FRAME

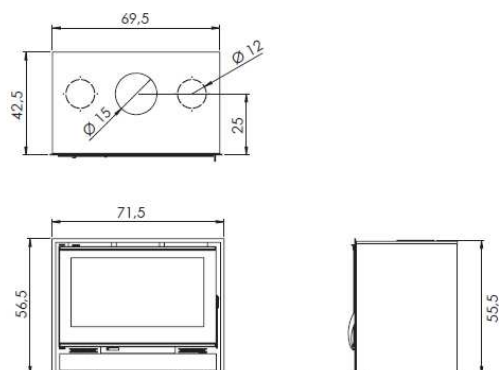


OPCIONES DE MARCO - FRAME OPTION

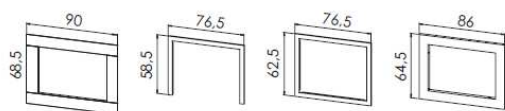


C-70 Plus

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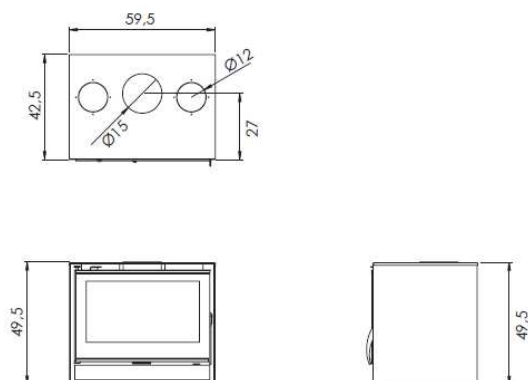


OPCIONES DE MARCO - FRAME OPTION

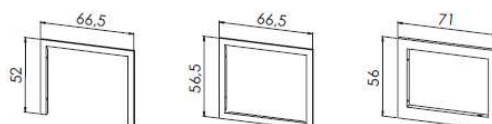


C-60 Plus

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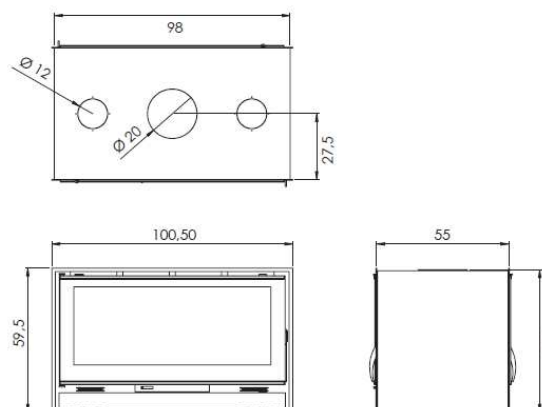


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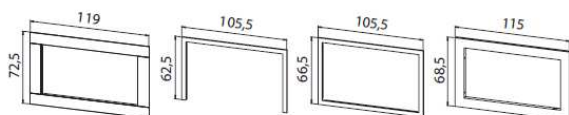


C-100 Plus Doble Cara C-100 Plus Two-sided

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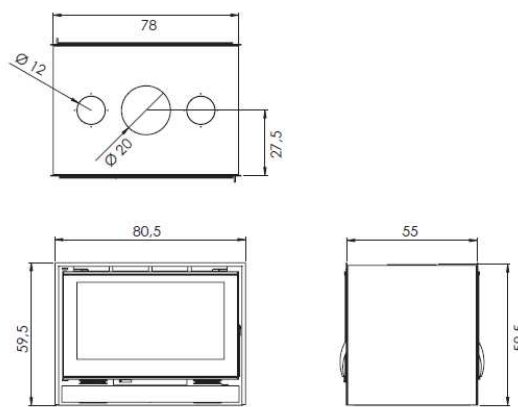


OPCIONES DE MARCO - FRAME OPTION

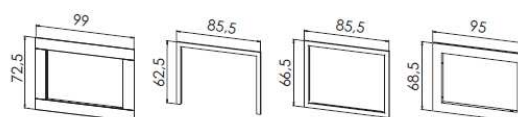


C-80 Plus Doble Cara C-80 Plus Two-sided

MEDIDAS SIN MARCO / MEASURES WITHOUT FRAME

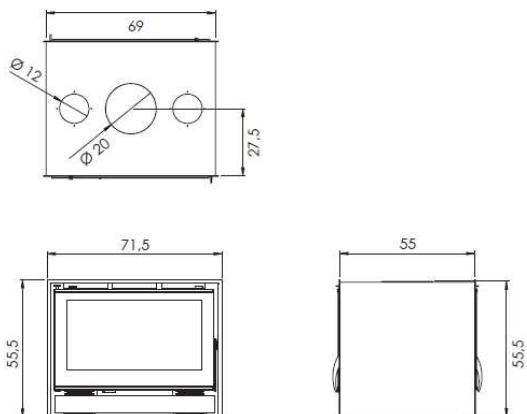


OPCIONES DE MARCO - FRAME OPTION

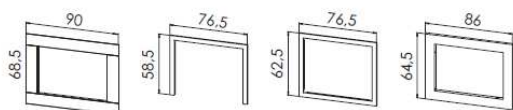


C-70 Plus Doble Cara **C-70 Plus Two-sided**

MEDIDAS SIN MARCO / MEASURES WITHOUT FRAME



OPCIONES DE MARCO - FRAME OPTION



Cocinas CARBEL, S.L.
C/ Ciudad de Cartagena, 22
46988 Polígono Industrial Fuente de Jarro (Paterna)
Valencia
Tel. 96 1340716 Fax: 96 1340449
E-mail: carbel@carbel.net



CERTIFICATE OF WARRANTY



NAME
TOWN/CITY
PROVINCE

ADDRESS
POSTCODE
TEL:

E-MAIL:

MATERIAL EXCLUDED FROM WARRANTY

*Baffle, paintwork, chromework
Vermiculite, glass, seals
and other moving parts*

ELECTRICAL COMPONENTS

2 YEARS

APPLIANCE FRAME

**5 YEARS Inserts
2 YEARS Woodburners**

This warranty covers the faulty part and shipping to your dealer.

This warranty covers faults in parts and manufacturing.

The warranty does not cover damage to the appliance caused by improper use or negligence.

The appliance must be installed by a professional fitter.

All appliances must be installed according to the instructions manual and current regulations in each country.

The manufacturer declines all liability for breach of the instructions manual.

For the warranty to take effect, the manufacturer must be sent a copy of this certificate and a copy of the customer invoice.

DEALER'S SIGNATURE AND STAMP

CUSTOMER'S COPY

Cocinas Carbel, S.L
C/ Ciudad de Cartagena, 22
Polígono Industrial Fuente del Jarro
46988 (Paterna) VALENCIA

CERTIFICATE OF WARRANTY

NAME
TOWN/CITY
PROVINCE

ADDRESS
POSTCODE
TEL:

E-MAIL:

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COPY FOR THE MANUFACTURER

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C/ Ciudad de Cartagena, 22
Polígono Industrial Fuente del Jarro
46988 (Paterna) VALENCIA