



**EN**

**DIRECTIONS FOR INSTALLATION  
USE AND MAINTENANCE**



**BK 02F - TK 03F**

**CLOSED FIREPLACES  
WITH A SYSTEM OF NATURAL CONVECTION**


**THESE INSTRUCTIONS ARE INTEGRAL PART OF THE PRODUCT  
PLEASE READ CAREFULLY AND SAVE FOR FUTURE REFERENCE**

Serial number



## Foreword

- **Congratulations on your purchase of a Caminetti Montegrappa product, one of the best available on the market!**
- Before installing and operating your appliance, read this instruction manual carefully and save it for future reference.
- All installation, inspection, maintenance and repair work must be performed by authorized and qualified technicians only.
- It is recommended that the first-time lighting of your appliance should be done by the appliance installer who may check and ensure proper appliance operation and draught.
- The technician must present a certificate verifying proper installation.
- This appliance is not suitable for people (children included) with reduced physical, sensorial and mental capacities, or unpractised people, unless they are supervised and trained to use the appliance by someone who is responsible for their safety.
- Never let your appliance unattended in the presence of children. Do not let the children touch any hot surface areas of the appliance nor let them operate it.
- For any further information or requests always contact an authorized dealer who will be pleased to assist you.

 The appliance is delivered on a pallet, protected with sheets of aluminium and Styrofoam on the glass door. Unpack the product and check to ensure that no damage occurred during transport even to the elements inside the combustion chamber. For example, check that the grille, the ash pan, the refractory materials or baffles are not out of place. During movement, take particular care handling the glass and decorative elements.

## Symbols used in this manual

In the present instruction manual some indications are pointed out by the following symbols:



Safety precautions.



Prohibited operation.



Important information.

Caminetti Montegrappa assumes no responsibility for any incidental or consequential damage to people, things or pets resulting from the inobservance of the prescriptions given in this manual, particularly of those marked with following symbols.



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# 1 GENERAL INFORMATION

## 1.1 Warranty

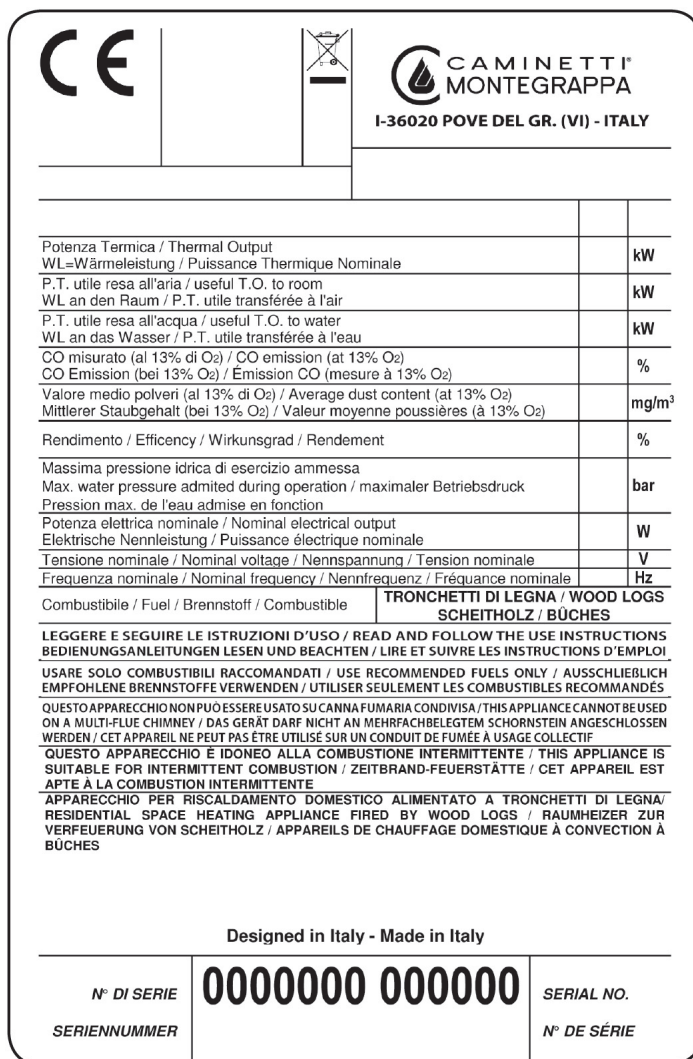
### 1.1.1 Warranty conditions

1. Caminetti Montegrappa s.p.a. acknowledges and adopts the "guarantee of conformity with the contract" of Directive 1999/44/CE.
2. As to benefit from the guarantee in compliance with the provisions of national law adopted in order to comply with Directive 1999/44/CE, the consumer shall refer to his dealer only (the seller).

### 1.1.2 CE label and product serial number

The serial number is printed on the cover of the appliance "installation, use and maintenance" manual. It is highly recommended that the serial number be quoted for any request.

This number is also printed at the bottom of the CE label located on the front of the appliance beneath the door.



Example of CE label with serial number

### 1.1.3 Remarks on materials

**i** The materials used to manufacture this product have been thoroughly checked and are guaranteed to be free from defects.

The components below are subject to common wear and tear (corrosion or progressive decay) that cannot constitute grounds for objection due to the type and features of the materials used in the construction of the parts and due to the product operational conditions.

- The internal movable or fix parts in steel or cast iron: are made of high temperature resistant materials but could distort and settle if using the wrong fuel or exceeding the fuel amount suggested in this manual. However they can eventually present rusty or oxidized parts.
- Gaskets: are necessary to make the firebox airtight and to hold the ceramic glass panel in place; their distortion absorbency and elasticity will be guaranteed only by following the instructions under section 4.1.2 regarding the ceramic glass cleaning; mind that if the glass detergent trickles down the glass, the gaskets could harden letting the glass panel loose.

Misuse of the following components could result in their breakage.

- The ceramic glass panels: are thoroughly factory-checked. Please note that with the techniques currently available, the manufacturing of glass ceramic panels totally free from any kind of defects cannot be guaranteed and therefore any irregularities that might be noticed have to be considered within the specifications of this material and are not prejudicial to its strength nor to the correct functioning of the firebox. Note: Please refer to section 4.1.2 for directions on cleaning.


**!** Ceramic glass thermal shock resistance 750°C. It is important not to light the fire close to the glass to avoid its damage (white residue) in the long run.

- 
- The refractory materials are designed to withstand very high temperatures and thermal shocks. Such high performance is made possible thanks to the thickness and physical structure, which may only become damaged in very exceptional cases (cracks and/or erosion) if subjected to high mechanical stress (impact and bumps). It is therefore highly recommended to load the wood logs into the combustion chamber with the utmost care, setting the logs down instead of throwing them inside or against the walls in refractory materials. The same care must be used while handling the refractory parts during maintenance operations. Also note that any fissures and cracks on the refractory lining surface do not compromise the efficiency of the material, nor do they have an impact on the correct operation and performance of the appliance.




## 1.2 Certifications and patents

### 1.2.1 CE marking information



**CAMINETTI®  
MONTEGRAPPA**

**CE-MARKING INFORMATION**

	
<p><b>CAMINETTI MONTEGRAPPA</b></p>	
<p><b>20</b></p>	
<p><b>EN 13229:2001 + A2:2004 + AC:2006</b></p>	
<p>Closed solid fuel fireplace <b>BK 02F</b></p>	
<p><b>Security minimum distance from inflammable material</b></p>	<p>: side 250 back 2000</p>
<p><b>CO-emission in combustion products (13% O<sub>2</sub>)</b></p>	<p>: 0,09 % nominal thermal output - % minimum output</p>
<p><b>Max. water pressure admitted during operation</b></p>	<p>: -bar</p>
<p><b>Flue gas temperature</b></p>	<p>: 254 °C nominal thermal output - °C minimum output</p>
<p><b>Nominal thermal output</b></p>	<p>: 11,0kW</p>
<p><b>Minimal thermal output</b></p>	<p>: -kW</p>
<p><b>Efficiency</b></p>	<p>: 84,4 % nominal thermal output - % minimum output</p>
<p><b>Type of fuel</b></p>	<p>: wood pellets</p>
<p><b>Nominal power</b></p>	<p>: -W</p>
<p><b>Nominal voltage</b></p>	<p>: -V</p>
<p><b>Nominal frequency</b></p>	<p>: -Hz</p>

Caminetti Montegrappa SPA  
con Socio Unico  
President  
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## CE-MARKING INFORMATION

CAMINETTI MONTEGRAPPA

20

EN 13229:2001 + A2:2004 + AC:2006

Closed solid fuel fireplace

TK 03F

<b>Security minimum distance from inflammable material</b>	:	side 2000 back 250
<b>CO-emission in combustion products (13% O<sub>2</sub>)</b>	:	0,09% nominal thermal output -% minimum output
<b>Max. water pressure admitted during operation</b>	:	-bar
<b>Flue gas temperature</b>	:	221°C nominal thermal output -°C minimum output
<b>Nominal thermal output</b>	:	7,5kW
<b>Minimal thermal output</b>	:	-kW
<b>Efficiency</b>	:	85,2% nominal thermal output -% minimum output
<b>Type of fuel</b>	:	wood pellets

<b>Nominal power</b>	:	-W
----------------------	---	----

<b>Nominal voltage</b>	:	-V
------------------------	---	----

<b>Nominal frequency</b>	:	-Hz
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Caminetti Montegrappa SPA  
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## 1.2.2 Further certifications and patents

We declare that the appliances

**BK 02F - TK 03F**

comply with legislative provisions that implement the following directives and regulations:

- **Directive 2011/65/EU (RoHS Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment).**
- **Regulation (UE) 305/2011 (Building Products).**

meet the requirements of the

**15a B-VG**

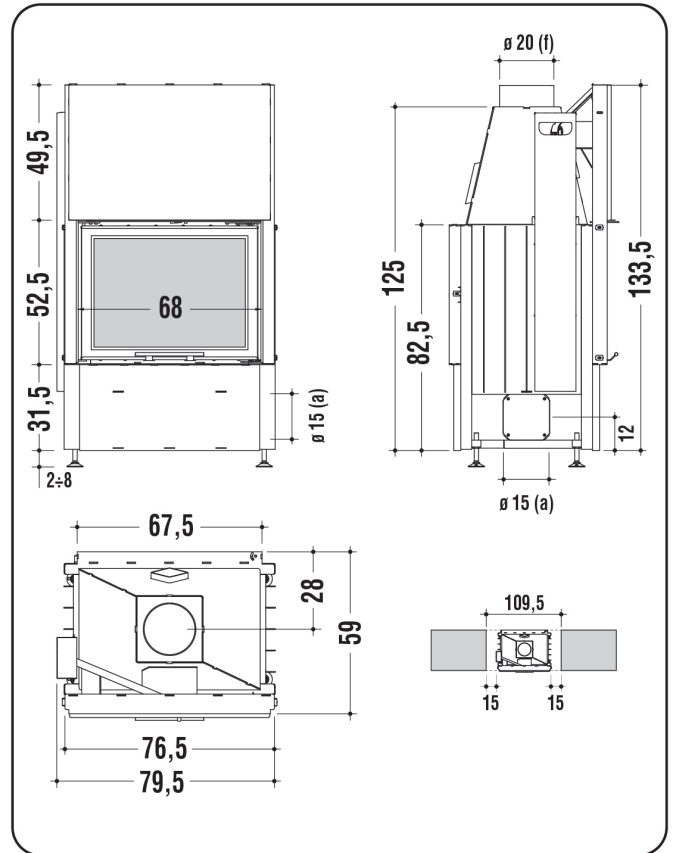
(strict Austrian local regulation)

 **The Declaration of Performance and the Declaration of Conformity CE can be downloaded from our website [www.caminettimontegrappa.it](http://www.caminettimontegrappa.it).**

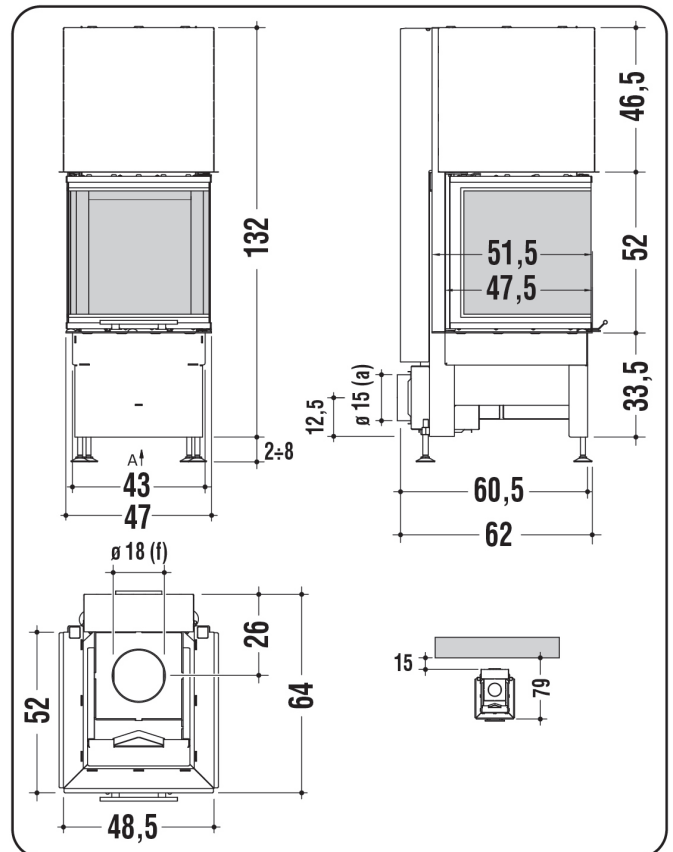
## 1.3 Technical dimensions and features

### 1.3.1 Technical drawings

#### BK 02F



#### TK 03F



### 1.3.2 Technical features

Readings in accordance with standard EN 13229:2001 + A2:2004 + AC:2006	BK 02F	TK 03F	
CN = appliance with natural convection	CN	CN	
max. Output - min. Output	14,3 ÷ 7,1	9,7 ÷ 4,8	kW
Thermal Output nominal	11,0	7,5	kW
CO emission at 13% oxygen	0,09	0,09	%
efficiency	84,4	85,2	%
nominal electrical power	-		W
nominal voltage	-		V
nominal frequency	-		Hz
fuel	firewood logs		
fuel consumption per hour	3,7	2,7	kg/h
total capacity of flue gases	8,2	7	g/s
flue gas temperature	254	221	°C
flue gas temperature downstream of the flue spigot/socket	305	266	°C
flue draught pressure	11	11	Pa
flue gases outlet	Ø 200	Ø 180	mm
interior section of chimney flue	Ø 20	Ø 18	cm
minimum height of chimney flue (from connecting joint)	4,5	4,5	m
outside air inlet ducts	1 x Ø 15		cm
height of hearth	33,5 ÷ 39,5	35,5 ÷ 41,5	cm
minimum distance from flammable materials	side: 250 back: 2000 front: 2000	side: 2000 back: 250 front: 2000	mm
heatable area at certified power (*)	126	86	m <sup>2</sup>
net weight	269	214	kg
weight with packaging	289	234	kg

\* The value indicated for heatable area (referred to areas with 2,70 m height with heating requirement between 32 and 33 W/m<sup>3</sup>) is merely indicative and it is calculated on the basis of perfectly insulated rooms and with the appliance installed in the best position to ensure an even distribution of the thermal flow. Given the countless different installation situations that can be found, Caminetti Montegrappa does not guarantee the matching of the indicated values in all contexts.

## 1.4 Firewood

The following paragraphs provide technical and practical information regarding the fuel used, so that the user will understand the importance that Caminetti Montegrappa gives to the selection and preparation of the fuel, and the correct use of the appliance, which will have a significant impact on proper functioning as well as minimizing fuel consumption and pollution.

**i** Wood is the only source of energy that is:

- Renewable, coming from trees and plants, which grow under the action of sun light.
- Organic, being produced by living organisms.
- Neutral as regards carbon dioxide released into the atmosphere ("neutral CO<sub>2</sub>"), since the CO<sub>2</sub> produced after the combustion is that absorbed during photosynthesis.
- Clean since burning wood efficiently and completely produces only natural substances that are abundantly present everywhere in our environment in non-toxic concentrations for the living organisms.

### 1.4.1 Characteristics of firewood

Firewood is usually classified into softwood (poor or fair quality) and hardwood (good quality) depending upon its specific weight; hardwood, which weighs more than softwood, allows to reduce the amount of wood needed.

Softwood weighs about 300-350 kg/cu.m (with 15/20% moisture content):

it is easy to ignite, it burns rapidly and provides a lively fire.

Softwood includes the following species: fir, ailanthus, locust, chestnut, cypress, cornelian cherry, mulberry, larch, alder, pine, poplar, willow, elder and lime.

**i** **Softwood produces more creosote with consequential need for more frequent cleaning of your chimney flue.**

Hardwood weighs about 350-400 kg/cu.m (with 15/20% moisture content):

it has a higher density and is less resinous than softwood, it burns slowly and keeps a low flame (suitable for home heating).

Hardwood includes the following species: maple, white birch, hornbeam, bitter oak, cherry, beech, ash, holm-oak, walnut, olive, elm, pear, plane, oak and false acacia (those highlighted are among the best wood types).

As seen above, firewood for heating has different features according to the tree species it comes from. There are different types of wood and their properties in terms of heat value vary from species to species. The heating value of wood fuel (kcal/kg) is the quantity of heat produced after the complete combustion of 1 kg of wood.

The heating value of the different wood types is not only affected by the density, but also by their moisture content; as a consequence the output and the efficiency of the appliance is strictly dependent upon the type of wood burned (normally the heating value of a well seasoned wood is 3200 kcal/kg).

Here find some comparative data:

- SOFTWOOD = kcal/kg 2800 - 3400.
- HARDWOOD = kcal/kg 3400 - 3900.
- WOOD BRIQUETTES = kcal/kg 3850 - 4200.
- WOOD PELLET = kcal/kg 4200 - 4600.

**i** **The only fuel admitted for the appliance use is firewood and its by-products.**

**⊘** **The use of any other type of solid fuel (e.g. coal) is FORBIDDEN.**

**Firewood is:**

- Corticated timber at a natural state, in pieces or not (logs, or briquettes free of any binders or additives, kindling, shavings from processing trees), deadwood like branches and pine cones.
- Wood residues created by the furniture manufacturing or the construction industry, provided they are not painted or treated.

**Firewood is not:**

- Any wood scrap coming from house demolition, restoration or renovation, or coming from packing material (pallets), wooden furniture, Formica, even if mixed with natural wood.
- Any other wood material such as painted, varnished and treated wood scraps even if mixed with natural firewood.

**i** **If possible, avoid the use of resinous wood as it can produce obstructions, which damage the inner parts of the appliance firebox and the chimney flue.**

## 1.4.2 Preparing firewood

The firewood manufacturing processes vary greatly depending upon the final type of fuel to produce: wood pieces, briquettes or pellets.

Wood pellets or briquettes are produced only in big sawmills that have large quantities of shavings and sawdust at disposal, which become valuable products for an appealing market.

Individuals who are landowners can easily obtain the amount of wood that will be needed for their home heating.

Those who are not landowners can address dealers experienced in firewood combustion, who can advise about quality and wood species locally available.

The most important steps in producing firewood are the following:

- Cutting of trees or suckers (usually on waning moon or in winter).
- Trimming of the smaller branches from the trunk (usually when they are less than 4 cm in diameter).
- Cutting of trunks and branches into 1 m long logs.
- Cutting of the bigger logs in half along their length (quartering).
- Piling of the sawn logs in a dry, ventilated location favouring preliminary wood drying.
- Covering the upper part of wood piles with clothes as shelf from the rain.
- Cutting of the wood logs into small pieces whose length will vary to suit the user's needs. Final wood stacking in a dry, ventilated location away from rain and humidity.
- Air-drying for at least:
  - 2 years (outdoor).
  - 1 year (indoor, in an adequate place).

**i** "Deadwood" does not necessarily mean "dry wood": the dryness of wood is greatly determined by the time it takes to dry but also by the place where wood is stored for seasoning. Should the wood be stacked for a long amount of time without providing any protection or be kept in a humid, insufficiently aerated place, it will rot and decay easily under the action of mildew with consequential lost of its heating value.

## 1.4.3 Purchasing firewood

The units of measurement commonly used in selling firewood are mainly three:

- Cubic metre (cu.m): unit of measurement referring to any type of wood and corresponding to 1 cu m of solid wood (the weight of 1 cu m of wood varies greatly depending upon species and humidity).
- Stere (metre) (sm): unit of measurement referring to the stacked wood pieces and corresponding to 1 cu.m including the air space between the pieces of stacked wood. The amount of wood contained in a space of 1 stere depends upon species, relative moisture content, diameter and shape of the wood pieces, and the way in which they have been stacked (one stere of wood logs 1 m long corresponds to approximately 0,7 cu.m of wood).
- Quintal (q): officially suppressed, this unit of measurement (100 kg; 0,1 t) is still the most widely used in selling firewood.

**i** Knowing the type of firewood and its moisture content, if it is sold on a space basis, allows you to get an idea of its heating value, whereas it is not necessary to know the species of wood if it is sold on a weight basis as with an equal moisture content the heat value differs slightly.

**i** The heating value of wood varies greatly depending upon its moisture content, thus when you buy wood as a source of energy it would be better knowing its moisture content.

If we compare as a way of example a piece of beech having a moisture content of 30% with a well seasoned piece of the same wood type having a moisture content of 15%, the latter will release 25% more heat. When the moisture content is 50% the heat value is reduced by the half.

**i** Purchase of green, damp or wet wood, could mean that you are also buying the water inside. To be sure the firewood you have purchased has been seasoned for about one year, you should always buy your firewood in the summertime (June-July) since trees are mostly cut in autumn.

**i** Be careful with any painted or treated wood whose combustion can give off harmful fumes, and whose use is only allowed in authorized combustion plants.

## 1.4.4 Combustion

When wood burns there are three stages of combustion:

- **DRYING:** Moisture in wood is removed by evaporation by means of the surrounding fire. Any type of wood contains a percentage of moisture. Since part of the heat produced by the fire is used for evaporation, it is more convenient and less polluting to burn well-seasoned wood (max. 20% moisture) rather than green wood freshly cut (with 50% moisture or more). This stage is over when the wood temperature reaches 100°C (water boiling point).
- **PYROLYSIS:** At a higher temperature wood breaks down chemically and volatile gases and char are formed. When temperature is between 260°C and 315°C this char and a small amount of these gases break into flames and wood burns. Most of these gases will then be expelled through the chimney unless the temperature of the appliance is high enough to burn them. As soon as these gases pass through the chimney they will mix with moisture to form creosote.
- **GASIFICATION AND COMBUSTION:** Gases (smoke) and charcoal (wood residues) burn. Charcoal start burning and releases heat between 540°C and 705°C, then become ash. Most of the usable heat is produced during this stage. Volatile gases, when mixed with the proper amount of oxygen, ignite when temperature is between 600°C and 650°C. But gases rarely reach the above temperature, unless they are conveyed towards flames or towards an area inside the firebox where this temperature has been reached.

In practice the three stages are interwoven in a complex way during the combustion of every single piece of wood.

The incomplete combustion of wood results in toxic emissions. Note that the worst is the emission level the lower the heat produced by the combustion process (e.g.: the use of big wood pieces results in slow combustion and low temperatures within the fireplace, which affects negatively both the appliance and the chimney; the use of green, damp wood, which cannot burn completely, results in soot and creosote formation collecting rapidly on the chimney walls).

On the contrary, in case of complete combustion (with well-seasoned wood and pieces of appropriate size) we reach a higher temperature thus reducing the overall amount of the wood needed.

To ensure complete combustion and high efficiency the following conditions must be met:

- The wood used must be dry and well-seasoned (with about 15/20% moisture content).
- Your wood-burning appliance must be designed in such a way as to ensure that:
  - High temperatures are reached into the firebox.
  - Gases emitted in the combustion process are kept at very high temperatures for long time.
  - There is a sufficient amount of oxygen the gases emitted in the combustion process.













Compared with the past, new wood-burning appliances have been ameliorated with the aim of reducing emissions and increasing efficiency.

On the fire bed remain the ashes, which are organic residues that may be used in gardening as soil fertilizer (about 2-3 litres once a year every 10 sq.m).









## 1.5 Recommendations


### 1.5.1 Safety precautions


-  **IMPORTANT!!!** For the proper and safe operation of this appliance and in order to prevent any possibility of causing serious injury, the instructions given in this manual must always be followed.
-  **CAUTION:** The installation, operation control, repair and maintenance works, must be executed by qualified staff only.
-  **CAUTION:** If there has been a fire in the flue it is necessary to turn the appliance off and call the fire department and check whether the chimney stack and flue pipe have been visibly damaged. Make any repairs before any further use of the combustion system.
-  **ATTENTION:** this appliance **CAN NOT** be installed using a shared chimney flue.
-  **CAUTION:** All national and local regulations and European Standards shall be complied with when installing the appliance.
-  **CAUTION:** All national and local regulations and European Standards shall be complied with when operating the appliance.
-  **CAUTION:** The accident-prevention and safety requirements stated in this manual must be followed carefully.
-  **CAUTION:** This manual must be read and understood in every part, and the use of the controls must be clear before operating the appliance or executing any works on it.
-  **WARNING:** Do not modify or replace any parts in the unit by yourself; not-authorized works may cause injuries and will relieve Caminetti Montegrappa of any public or criminal liability.
-  **WARNING:** During operation, some of the appliance surface areas may become very hot; we highly recommend not to leave the unit unattended in the presence of children, elderly and disabled people.
-  **ATTENTION:** To avoid yielding and breakages (or feasible bursting or explosion in exceptional cases) of the refractory parts, always strictly follow the all the instructions for first-time ignition.
-  **WARNING:** Never use flammable liquids (alcohol or petrol) to speed up the lighting of a wood fire: it is extremely dangerous. Alcohol and petrol release highly flammable vapours, which could provoke the risk of burns.


### 1.5.2 General recommendations


-  **CAUTION:** This appliance is intended for the use it has been designed and manufactured for only.
-  **CAUTION:** This appliance is not intended to be used as a cooker so as to avoid that vapours and grease cause incrustations on the combustion chamber's components and in the exhaust venting system.
-  **ATTENTION:** Don't use the appliance as an incinerator.
-  **WARNING:** Do not use the appliance in case of breakdown or malfunction.
-  **In order to avoid releasing smoke in the room, it is FORBIDDEN to operate the appliance with the door open, without the glass panel or with broken glass.**
-  Always open the door slowly, first holding it open only slightly for a few seconds before opening it completely. Should some smoke blow back, there is no danger, just aerate the room temporarily.


 **Ceramic glass thermal shock resistance 750°C. It is important not to light the fire close to the glass to avoid its damage (white residue) in the long run.**

 Inspect and clean the exhaust venting system periodically.


 The appliance must be placed and used only in closed environments (a high humidity level can damage the paint on the cladding and cause the appliance's steel components to corrode).


 Do NOT spray the appliance with water to clean any of its parts.


 For repairing, refer to authorized professionals and ask for original replacement parts only.


 Keep this instruction manual as an integral part of the product for future reference. It must be supplied together with the unit if this is resold or moved to another place, so as to allow the next user and installer to get acquainted with its operating instructions and requirements. Should the manual be lost or become unreadable, call Caminetti Montegrappa for a new copy.


### 1.5.3 Warnings for correct appliance disposal


 Responsibility for the demolition and the disposal of the appliance lies exclusively with the owner who will have to act in compliance with the regulations in force in his own Country regarding safety, respect and protection of the environment.

 At the end of his useful life the appliance cannot be disposed of together with urban refuse. It can be taken to special waste collection centers provided by local government, or to a dealer providing this service.

 The separate disposal of the appliance (taking it to authorized recycling centres) avoids the possible negative consequences for the environment and human health resulting from inappropriate disposal and allows to recover the materials it is made of, in order to obtain significant energy and resources savings.

 For more information about how to collect electric and electronic equipment and appliances, batteries and accumulators, please contact your local Council or Public Authority competent to issue the relevant permits.

 The abandonment of the appliance in accessible areas is a serious danger to humans and animals. The responsibility for any damage to people and animals always lies with the owner.

 Upon demolition, CE marking, this manual, the declaration of disposal, the manual for installation and other documents relating to this appliance must be preserved. Remember that any registration with the regional land registry should be annulled.

 **WARNING: Improper disposal of the appliance by the user implies the application of administrative sanctions provided by law.**

## 1.6 Safety requirements and devices

The appliance is provided with the following safety devices:

- Snap closure: the snap closure of the door folding into the frame when it stops and the special gaskets the door incorporates make the firebox totally air-tight if compared to one without this device.



**It is FORBIDDEN to disconnect the safety devices.**



**Note: This section has been drawn up considering the appliance as being operated in accordance with the requirements and directions on the appliance use indicated under section 3.**

**Since Caminetti Montegrappa has no control over the conditions in which the appliance is being operated we assume no responsibility for any injury or damage to people, properties or pets resulting from the non-observance of these instructions and of the following recommendations:**

- A) During any maintenance, adjusting, cleaning and servicing works, the appliance must not be left unattended in order to avoid incidental starting by third party.**
- B) Do not mishandle and/or remove any safety devices in the appliance.**
- C) Provide an efficient connection to the exhaust venting system.**
- D) Check that the room where the appliance is installed is aerated as prescribed.**

## 1.7 Environment requirements



**IMPORTANT:** To ensure its proper operation, the appliance shall be located in a ventilated room where an air flow allowing the complete combustion of wood can be admitted according to the installation requirements under the local standards currently in force.

The air supply must be sufficient for both proper combustion and to provide ventilation of the room, which we recommend be no less than 15-20 m<sup>2</sup> of floorspace.

The natural admission of air must be provided directly through two permanent openings made on the external walls of the room to be ventilated (for the minimum dimension see section 2.3.4); the openings must be made in such a way so that they cannot be obstructed (check periodically).

Indirect ventilation through air intake from adjacent rooms is also permitted, as long as these rooms have direct ventilation, and are not spaces used as bedrooms or bathrooms, or where there is no danger of fire, such as storage rooms, garages or combustible materials warehouses, in strict compliance with the requirements under the prevailing local standards.



**Do NOT install the appliance in a bedroom or a bathroom, or in any other room where an existing heating appliance (fireplace, stove, etc.) is not provided with its own outside air source.**



**It is FORBIDDEN to install the appliance near objects made of combustible materials (curtains, pieces of furniture, carpets,...).**



**The appliance is not designed to be operated in environments where materials may explode. Therefore, it is FORBIDDEN the use of the appliance in an explosive atmosphere or in a space where materials or machineries may produce gas or dust emissions in such a quantity they may cause an explosion.**



The minimum clearance to combustible side walls or to any objects or pieces of furniture must be maintained as indicated in section 1.3.2.

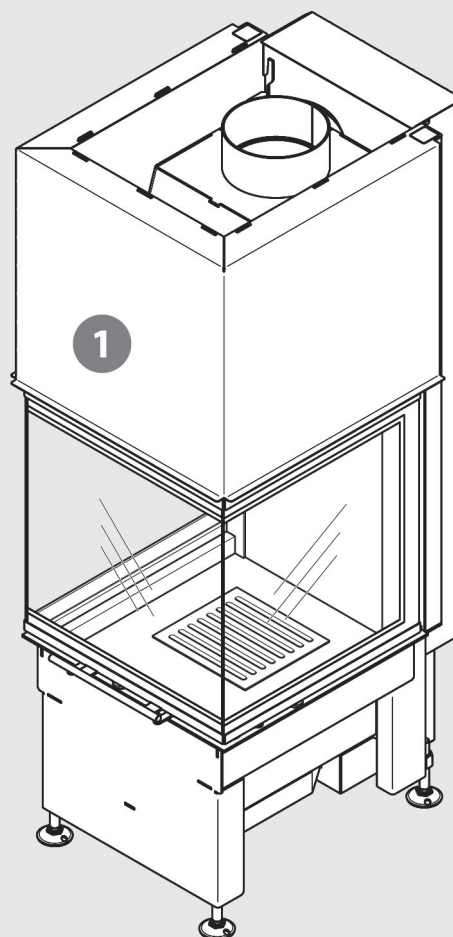
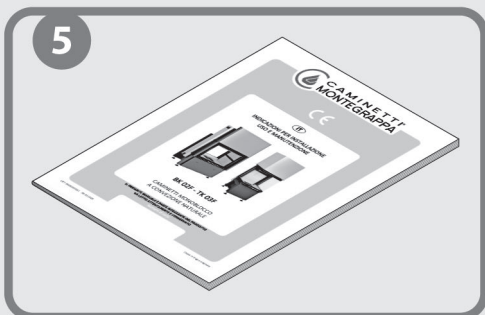
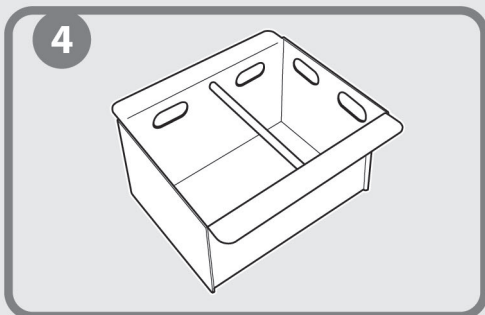
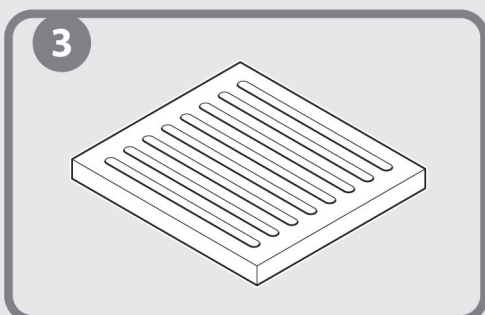
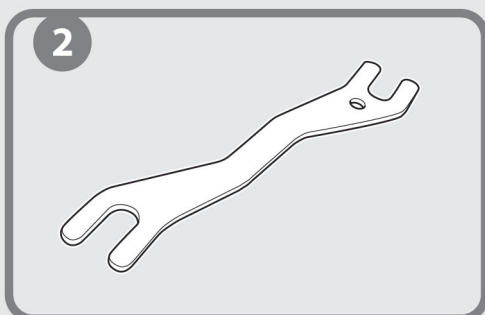
It is recommended that particularly delicate objects or pieces of furniture be installed at higher distances than those previously recommended, if you assume they could be damaged by the changes in temperature produced during the appliance operation.

The positioning of the appliance must be implemented in scrupulous compliance with the directions found in sections 2.3.

## 1.8 Equipment

### 1.8.1 Checking of the accessories included

Example of TK 03F



- 1 x 1
- 2 x 1 COLD HANDLE
- 3 x 1 CAST IRON GRATE
- 4 x 1 ASHPAN
- 5 x 1 INSTALLATION MANUAL

## 1.9 Functioning principle

The shape and the refractory lining of the combustion chamber allow high temperatures to be reached and maintained inside it, thereby optimising the combustion phases, resulting in a significant reduction in the amount of fuel needed.

The flue gases are conveyed through slowdown channels, which allow warm air to be obtained for heating, thereby reducing the temperature of the exhaust flue gases.

The warm air is then transferred into the room through an opening on the finishing mantle of the appliance cladding.

In these natural convection appliances, the heat produced is distributed in a very small part by radiation. It is mostly distributed by natural convection (natural air convection movement): an air flow enters from the outside, heats up when passing through heat exchangers positioned inside the appliance hood, and then it is channelled and emitted from the top of the unit into the room being heated.



**The choice to take fresh clean air from outside and distribute warm air from above has been made for:**

- **Keeping steady the room moisture content and admitting fresh air into the room.**
- **Reducing the circulation of dust, which may be present on the room's floor.**
- **Conforming to and exploiting the natural air motion (warm air upward flow, cold air downward flow).**

## 2 INSTALLATION

### 2.1 Packaging dismantling and disposal

Consisting of non-toxic and not noxious materials, the packaging does not need any special disposal procedure; the user is in charge of stocking, disposing of, or recycling the wastes of the packaging according to the regulations in force in the country where the product has been purchased.



**WARNING: Keep plastic coverings out of the children's reach as they could represent a danger.**

### 2.2 Installation requirements

The appliance must be installed in a space which allows to operate it and perform routine maintenance works easily. The room chosen for the installation of the appliance must therefore feature:

- Proper environment conditions and permanent outside air source as indicated under section 1.7 "Environment requirements".
- A floor with proportionate load capacity (see appliance weight in section 1.3.2 of the manual).
- A system of exhaust gases complying with the standards in force aiming at guaranteeing:
  - Adequate draught for the correct and safe appliance operation.
  - Adequate resistance to high temperatures.
  - Adequate resistance to corrosion due to combustion products.
  - Easy access for periodic checks and maintenance.
  - Adequate insulation from inflammable materials.
- The room must also comply also with further standards in force in the country where the appliance is installed.

#### 2.2.1 Guidelines for safe installation

To prevent fire hazards, the appliances must be installed in compliance with the prevailing construction and fire safety standards, specifically concerning the installation of exhaust gas suction and chimneys, as well as in compliance with the technical guidelines in this installation manual.

##### Fire safety requirements:

- The room where the appliance is to be installed must have the cubic capacity resulting from the index of  $4 \text{ m}^3 \times 1 \text{ kW}$  of the appliance's rated power, but no less than  $30 \text{ m}^3$ .
- The appliance must be positioned on a non-flammable surface.
- The area of the floor in front of the fireplace door must be protected with a strip of non-flammable material (see section 2.3.8, figures 2 and 3).
- The steel elements of the appliance, as well as the connection and exhaust gas suction ducts must be installed at a distance of at least 80 cm from the unprotected and flammable structural components of the building and at least 30 cm away from elements with 25 mm plaster coating or an equivalent coating.
- The exhaust gas suction ducts must be constructed with non-flammable materials.
- The housing of the exhaust gas suction ducts must have a fire resistance of at least 60 minutes.

### 2.3 Appliance installation



**IMPORTANT: All installation work for your appliance (insulation, input to chimney or flue, installation of the accessories supplied with the unit, as well as any temporary removal and reinstallation of appropriate component parts) must be performed only by qualified technicians or comparably experienced and knowledgeable persons. The same applies to the installation of appliance cladding.**

**Caminetti Montegrappa will not be held liable for any damage, direct or indirect, of any kind to persons, pets or things resulting from cladding that is not of our own production, or from an installation that is not carried out at the highest trade standards.**



**Failure to observe the instructions in this manual may lead to malfunctions or damage to the appliance, as well as danger for the user. Installation and operation of the appliance carried out with methods different than the guidelines in this manual will void the warranty. Modifying the structure of the appliance in any way whatsoever is prohibited.**

### 2.3.1 Making appliance lighter in order to facilitate handling

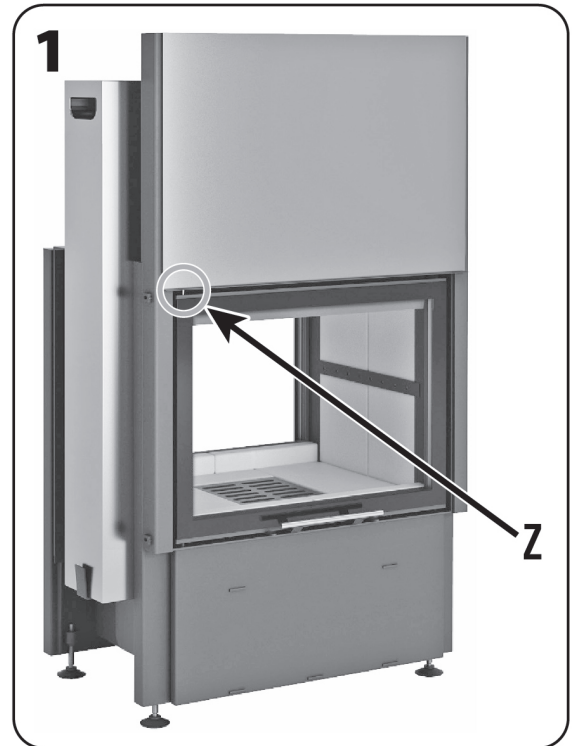
If the appliance needs to be installed in locations with limited access (for example, in upper floors or basements, and thus accessible only by using stairways), it can be lightened by removing the refractory parts and the door from the fireplace.

This operation will reduce the overall weight for easier movement.

**i** Should the elements in refractory material be removed, remember their exact positioning and how to re-install them. We recommend placing them in a suitable location in an orderly fashion.

To safely remove the door, rotate the tab [A] to lock the door (see section 4.1.2) and remove the split pin [Z] located on the top of the hinge pin (see figure 1). Then, open the door laterally and to disassemble it, lift it delicately until the lower pin comes out of the hole in the structure.

**i** We recommend positioning the dismantled door in such a way so as to protect it from any mechanical damage.



### 2.3.2 Vertical sliding door check

**!** **WARNING: In the event that the chain has slipped off the toothed wheel, and considering that the chain is equipped with a counterweight, pay attention to your hands when putting the chain back onto the toothed wheel.**

After placing the appliance in the installation location and before creating the housing it is important to verify that the sliding open-and-close mechanism works correctly as follows:

- Remove the counterweight safety guard (on the left side for BK 02F and on the back for TK 03F).
- Free the counterweight by removing the safety clamp.
- Ensure that the opening and closing sliding motion is regular.
- Once the check has been completed, correctly reassemble the counterweight safety guard.

**i** The doors made up of more than one glass element are protected during transport using sheets of paper between the glass. After placing the appliance in the installation location, remove the protective sheets and adjust the play between the edges of the glass, delicately tightening the adjustment screws with an Allen wrench.

Should it be necessary to move the appliance, to lock the vertical sliding door and the lifting mechanism, proceed as follows:

- Open the door until some resistance is felt. This will lower the mechanism's lifting counterweight (positioned on the left side of the BK 02F and on the back of the TK 03F).
- Block the counterweight using a safety clamp to secure the lower eyelet to the lower bracket (BK 02F) or the lower eyelet (TK 02F).

### 2.3.3 Appliance Positioning

- Read these installation, use and maintenance instructions before installing and connecting the appliance.
- Check to ensure that all the components of the kit are present (grille, ash pan, adjustment feet, draught adjustment wrench).
- First try your appliance in place in order to determine where to make the connection between the appliance and the chimney flue.
- Level the appliance using the adjustment feet.
- Determine the position of the external air intake and provide insulation on the adjacent walls.
- Remove the appliance and make the hole that has just been traced on the wall.
- Put the appliance back into place and make all the connections (see examples under sections 2.3.4 e 2.3.5).

 **IMPORTANT: When cutting a hole for the appliance exhaust pipe through a inflammable wall, provide the necessary insulation whose thickness may vary from a minimum of 3 up to a maximum of 10 cm.**

 **ATTENTION: Correct positioning of the unit, after verifying the measurements of any cladding, must always meet the following main requirements:**

- The angle of the connecting flue pipes with the chimney flue must not exceed 45°.
- Connection to an external air intake with the prescribed 15 cm Ø duct (air that will used to be heated and then distributed into the installation environment and also to replenish the oxygen burnt during combustion).
- 10+5 cm minimum clearance between the wall and the appliance back: 10 cm of insulating material (see section 2.3.8) and 5 cm of air (this clearance must be maintained to ensure an efficient air flow and to enable the natural expansion of materials).
- Height of hearth at the same level as the cladding to be installed (for this operation, the appliance has been equipped with adjustable feet).

 **Position the appliance while fully conforming to all the specifications and recommendations already indicated in sections 15, 1.6, 1.7 e 2.2.**

### 2.3.4 Outside air intakes

The standards currently in force require that all appliances be equipped with pipes of adequate dimensions to admit into the firebox an outside air flow ensuring an efficient and complete combustion of wood.

The appliances are fitted with an independent air supply duct to the brazier, therefore always install an external air supply connection (preferably with Ø 15 cm or using flat ducts with a similar cross section. The connection must be as short as possible). In the event of environments without separate air supply, an air feed duct with Ø ≥ 15 cm must be used. It is sufficient that the room where the appliance is installed is directly or indirectly connected to another room that has external air supply (e.g. cellar). Correct operation of the appliance depends on the quantity of air supplied. It is important to remember to supply enough external air even when the doors and windows are hermetically closed.

In the environment where the appliance is installed, a clean gravitational air flow must be provided toward the fireplace of at least 10 m<sup>3</sup>/h for each kW of its rated power.

The external air intake duct has a filter that prevents insects, leaves, etc. from entering. The surface of the grille must be large enough so that it does not reduce the air flow to the room.

Should the air supply duct be connected to more than one appliance, the air flow must be sufficient for each one.

 **ATTENTION: Periodically check to ensure that the air intake is not obstructed (a flow of air of 170 cm<sup>2</sup> should always be guaranteed through the grille).**

 **ATTENTION: Take care that the air supply duct is not obstructed and keep the air intake filter clean.**

 **ATTENTION: Insufficient ventilation can stop the combustion process and obstruct the draft which in turn, can lead to the emission of smoke into the room.**



### 2.3.5 Connection to the chimney flue

For the connection of the unit to the chimney flue, use only non-combustible elements suitable to resist to the combustion products and to the condensate (creosote) build-up.

 **The use of fibrocement and aluminium flexible pipes for connecting the appliance to the chimney flue is FORBIDDEN.**

The appliance works with negative pressure; to prevent creosote from building up and be conveyed to the appliance it is important that the connection to the chimney flue be sealed and airtight.

The connection to the chimney flue should ensure easy removal of soot and routine cleaning by means of a metal brush.

After having placed the appliance in the exact position as indicated under section 2.3.3, use rigid steel pipes with the same section as the "flue exit pipe" (see technical sheet, section 1.3.2) to carry out the connection to the chimney flue, and perfectly seal the connection. (Use CE certified products according to the standard EN 1856-2:2003).

 **It is FORBIDDEN to carry out any diameter reductions of the connecting pipe to the chimney flue.**

### 2.3.6 Chimney flue


The passageway for conveying flue gases from the appliance to the "chimney flue" (technically, chimney) is called "flue conduit". The flue conduit must be built in compliance with the standard EN 1856 parts 1-2.

The chimney flue or the vertical exhaust vent for the flue gases from a natural draught appliance must therefore meet the following requirements:

- Be flue gas- and water-tight, and properly insulated from combustible or flammable materials according to the usage conditions (EN 1443 and EN 13384 parts 1-2-3).
- Be made of materials resistant to usual mechanical shocks, heat, flue gases and possible condensate.
- Have all connections to the different elements of which the flue conduit is made of properly sealed and airtight.
- Be as much as possible vertical; any angle from its axis must not exceed 45°.
- Be installed at an adequate distance away from any combustible or flammable materials by means of an air flow or of an insulating material.
- Have an inner section preferably circular; we therefore recommend piping installed within square or rectangular chimneys (which otherwise must have a 1-to-1.5 internal sizes max. ratio and a radius of curvature of the interior angles of at least 20 mm).
- The interior section must be invariable, free from constrictions and independent.

A cleanout opening with a tight fitting lid under the connection between the exhaust pipe and the appliance should be provided for allowing access to the chimney flue for purposes of inspecting and removing solid materials and possible condensate.

 **The appliance must not be used as a support element for the flue.**

 **The draught value indicated among the technical features of the appliance refers to Technical Norms and testing, so as to guarantee the best thermal performances of the appliance (consumption, efficiency, emissions) in conformity with the technical data declared and certified by the Institute in charge of the certification. A higher draught value could provoke malfunctioning, high fuel consumption, overheating of the appliance body and cause annoying noises in the firebox.**

 **A chimney flue with an oversize section slows down the gas speed, makes unburnt by-products collect on its walls and reduces the gas temperature, which produces a concentration of creosote in the chimney flue resulting in wood start-up and combustion problems.**

**On the other hand, a chimney flue with an undersize section which does not allow the smoke to be easily carried out of the appliance, may choke the combustion (and so put out the fire).**

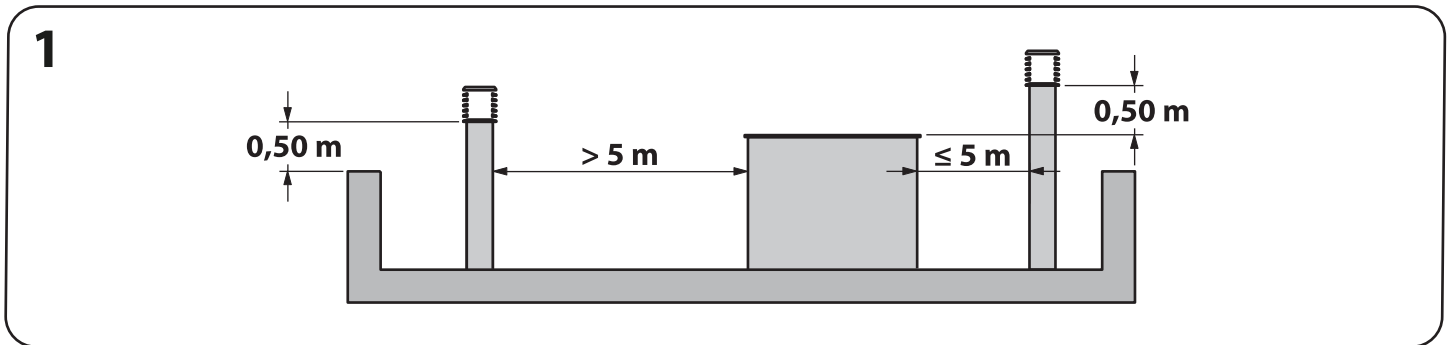
 **Caminetti Montegrappa assumes no responsibility over the appliance malfunction resulting from a bad designed chimney flue and/or a chimney flue which has not been installed in compliance with the given requirements.**

 **CAUTION: If there has been a fire in the flue it is necessary to turn the appliance off and call the fire department and check whether the chimney stack and flue pipe have been visibly damaged. Make any repairs before any further use of the combustion system.**

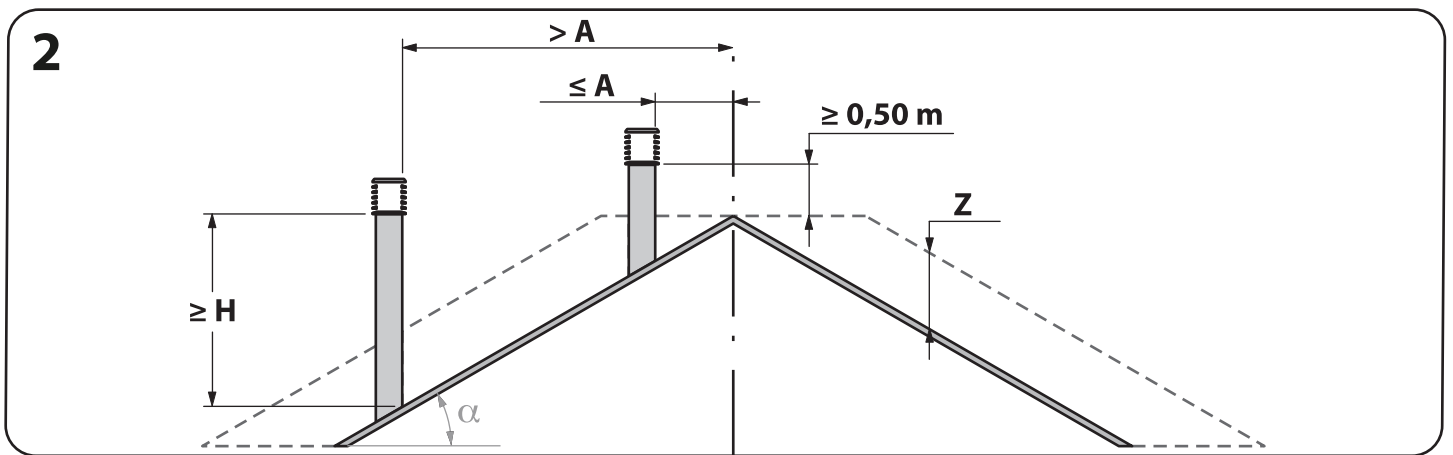
### 2.3.7 Chimney cap

The good draught of the chimney flue also depends on the type of terminal covering the top of the chimney, which must comply with the following requirements:

- Have the same inner section as that of the chimney flue.
- Its usable section at the outlet must not be less than the double of the inner section of the chimney flue.
- Be built or designed in such a way as to prevent the entry of rain, snow, foreign bodies, and to ensure the correct release of the combustion products even in case of air flows around the house (the use of wind-stop terminals is recommended).
- Be located so as to ensure the correct release and dilution of the products of combustion at a distance away from any area subject to downdraft, whose size depends on the angle of the roof; therefore it is necessary to comply with the required minimum heights in the figure below.
- In case there are two or more adjacent chimneys, the one which exhausts from a solid fuel appliance or which serves an upper floor must terminate at least 50 cm above the other/s to avoid draught problems.
- The distance from the chimney cap and any higher buildings, plants, trees, etc. must not be less than 8/10 m. In case the distance is less than the required, the cap must terminate at least 1 m above them.



FLAT ROOF



SLOPING ROOF

Angle of roof $\alpha$ expressed in degrees (°)	Clearance from axle of roof top to chimney A expressed in metres (m)	Min. height of outlet measured from the roof H expressed in metres (m)	Height of downdraft area Z expressed in metres (m)
15	1,85	1,00	0,50
30	1,50	1,30	0,80
45	1,30	2,00	1,50
60	1,20	2,60	2,10

## 2.3.8 Insulation

The appliance shall always be thermally insulated from adjacent walls and the ceiling using the following types of panels:

- Type: Rock wool.
- Thickness: 10 cm.
- Density: 80 kg/cu.m.
- Fire resistant.

During operation, the temperature inside the appliance's finishing mantle or drywall panel reaches 600°C. To prevent the appliance from overheating and, consequently, damage to the finishing mangle or drywall panel, a minimum expansion tolerance must always be left (see figure 1),

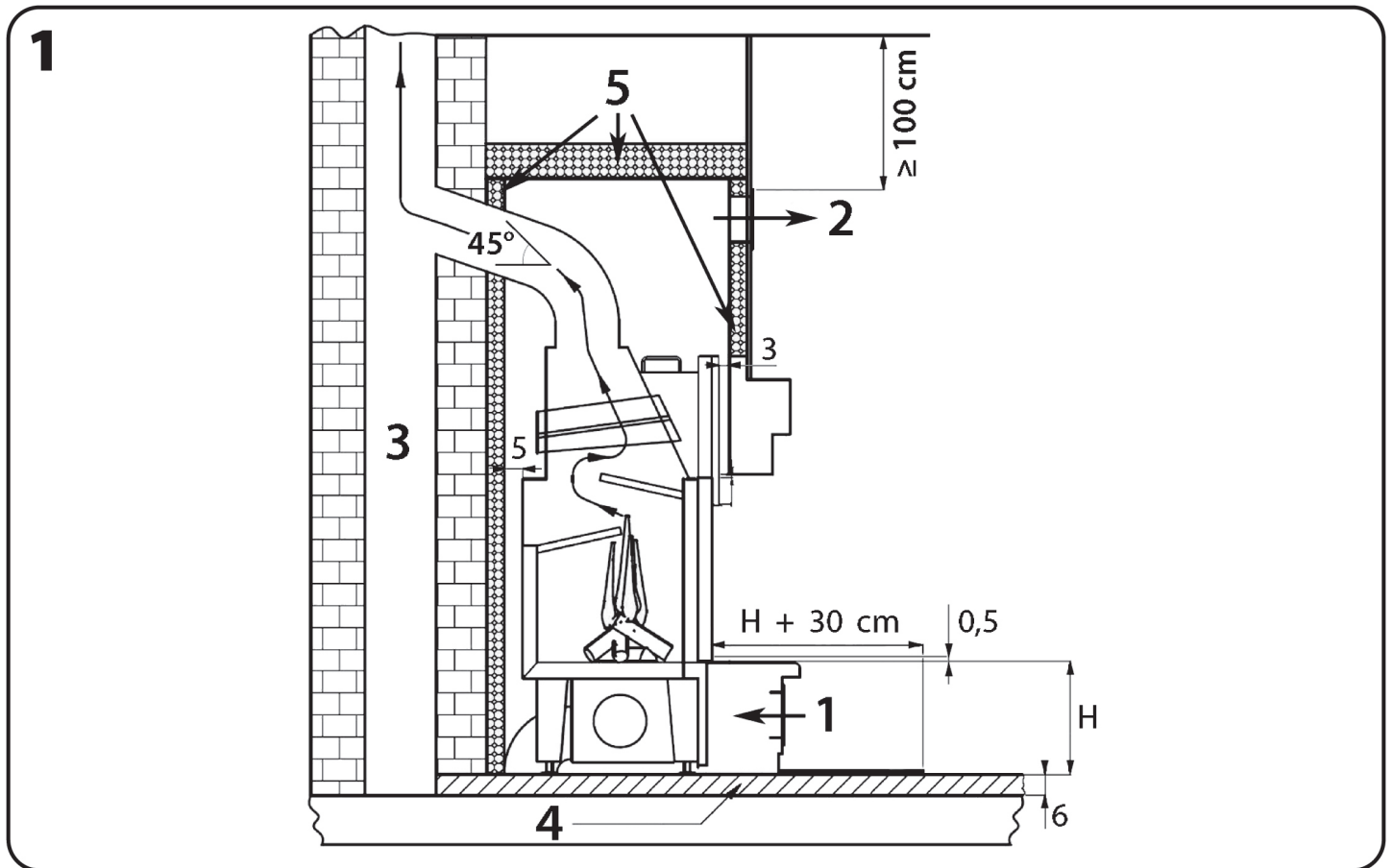
To insulate the appliance's finishing mantle or drywall panel, use only products fitted for this application, which are heat-resistant to min. 700°C and are of suitable thickness (depending on its density and the heat transfer properties) so that the external surface temperature does not exceeds 50°C.

A 5 cm minimum clearance must always be maintained between the external surface of the appliance and the adjacent surfaces, even if thermal insulation is provided (this clearance ensures an efficient air flow and the normal expansion of materials).

With reference to the floor, it is necessary to:

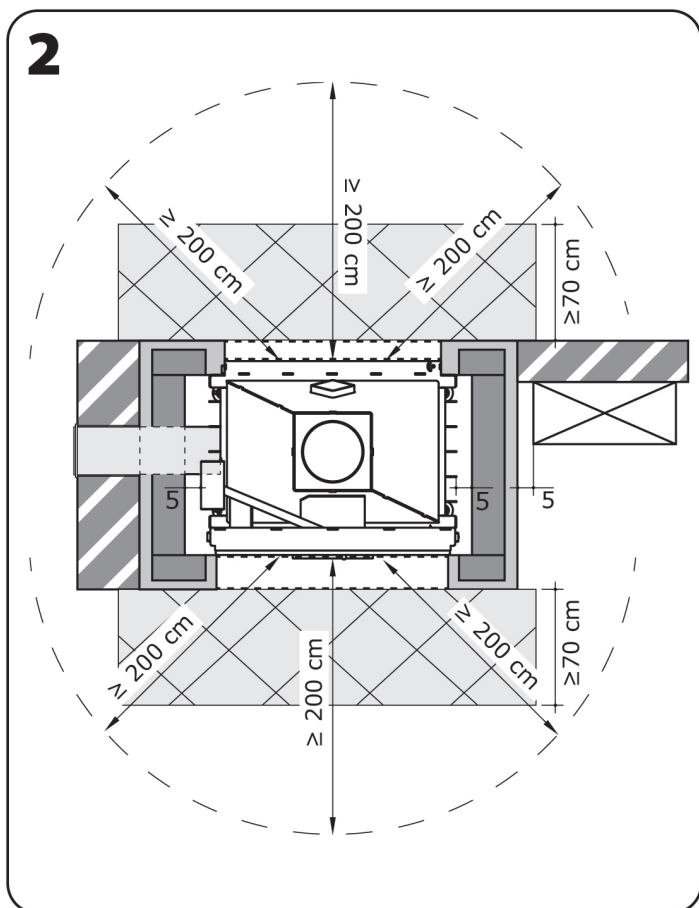
- Ensure that it is load bearing and made of non-combustible material.
- Protect the area in front of the appliance with fireproof flooring. The size of the fireproof flooring depends on the height of the fireplace and the size of the opening (see figures 2 and 3).

**! WARNING: In the case that adjacent walls are flammable or if they are load-bearing walls in reinforced concrete, build a 10 cm protective barrier between these types of walls and the appliance.**

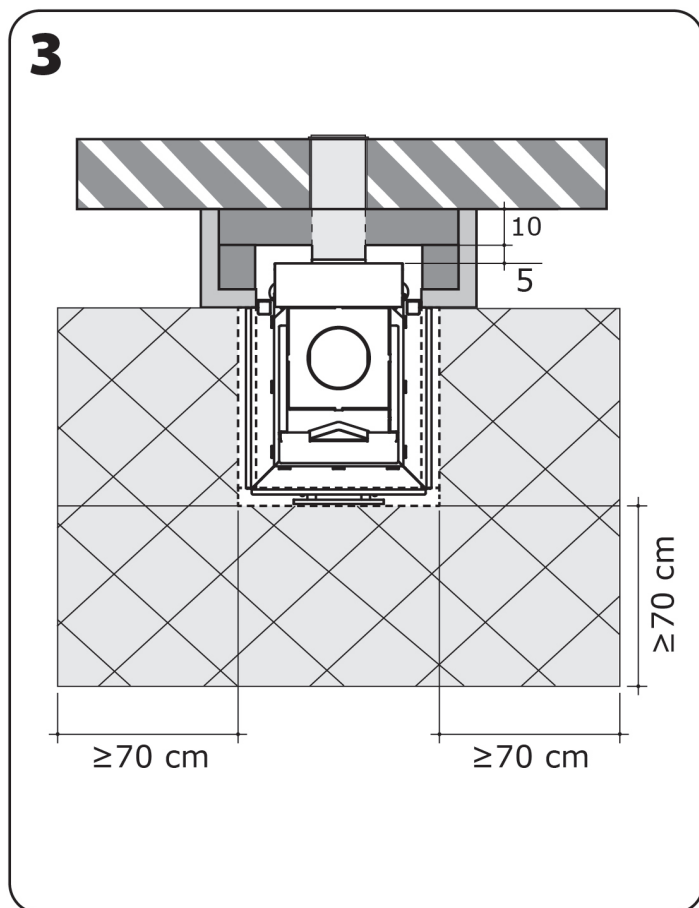


1. Intake air grille
2. Output air grille
3. Flue

4. Fireproof flooring
5. Insulation




**BK 02F**



**TK 03F**

Minimum dimensions of the protective flooring + Minimum distance from flammable materials

## 2.3.9 Cladding Installation

 **ATTENTION: Adequate intake and output grilles for the convection air. The size of the grilles depends on the thermal yield of the appliance and the grille mesh (see section 2.3.8, figure 1).**

The minimum dimension of a intake convection air grille is calculated considering a space of 50 cm<sup>2</sup> for each kW of thermal yield. The finishing mantle or drywall panel air output grille must be about 40% larger than the intake grille.

If a mesh grille is installed, the output air grille dimension calculation must be doubled.

BK 02F:

- air intake grille = 11 kW x 50 cm<sup>2</sup> = 550 cm<sup>2</sup>.
- air output grille = 550 cm<sup>2</sup> x 1.4 = 770 cm<sup>2</sup>.
- air output grille with mesh grille = 770 cm<sup>2</sup> x 2 = 1,540 cm<sup>2</sup>.

TK 03F:

- air intake grille = 7.5 kW x 50 cm<sup>2</sup> = 375 cm<sup>2</sup>.
- air output grille = 375 cm<sup>2</sup> x 1.4 = 525 cm<sup>2</sup>.
- air output grille with mesh grille = 525 cm<sup>2</sup> x 2 = 1,050 cm<sup>2</sup>.

Level the appliance by acting on the adjustable feet.

Check the height of the hearth against the cladding that is to be installed.

Begin assembling the cladding observing the general instructions in section 1.5.

Note that the appliance must never be sealed to the cladding because the materials they are constructed from have a different thermal expansion. Therefore, it is highly recommended not to:

1. Seal the cladding to the appliance.
2. Lay the weight of the cladding and of the flare onto the appliance (we suggest the use of fire-resistant plasterboard for a quickly-built, lighter flare), and strictly avoid anchorage on any parts of the appliance (see section 2.3.10).

The mantelshelf and any other component in wood or combustible material must be out of the range of the heat radiation area, or must be duly insulated and be placed at least 1 cm away from the heater in order to let the air freely flow and prevent overheating.

## 2.3.10 Finishing mantle

We recommend the use of 13÷15 mm thick fireproof plasterboard panels for building the finishing mantle or drywall panel, supported by a skeleton of galvanised sections duly anchored to the walls, ceiling and cladding mantelshelf.

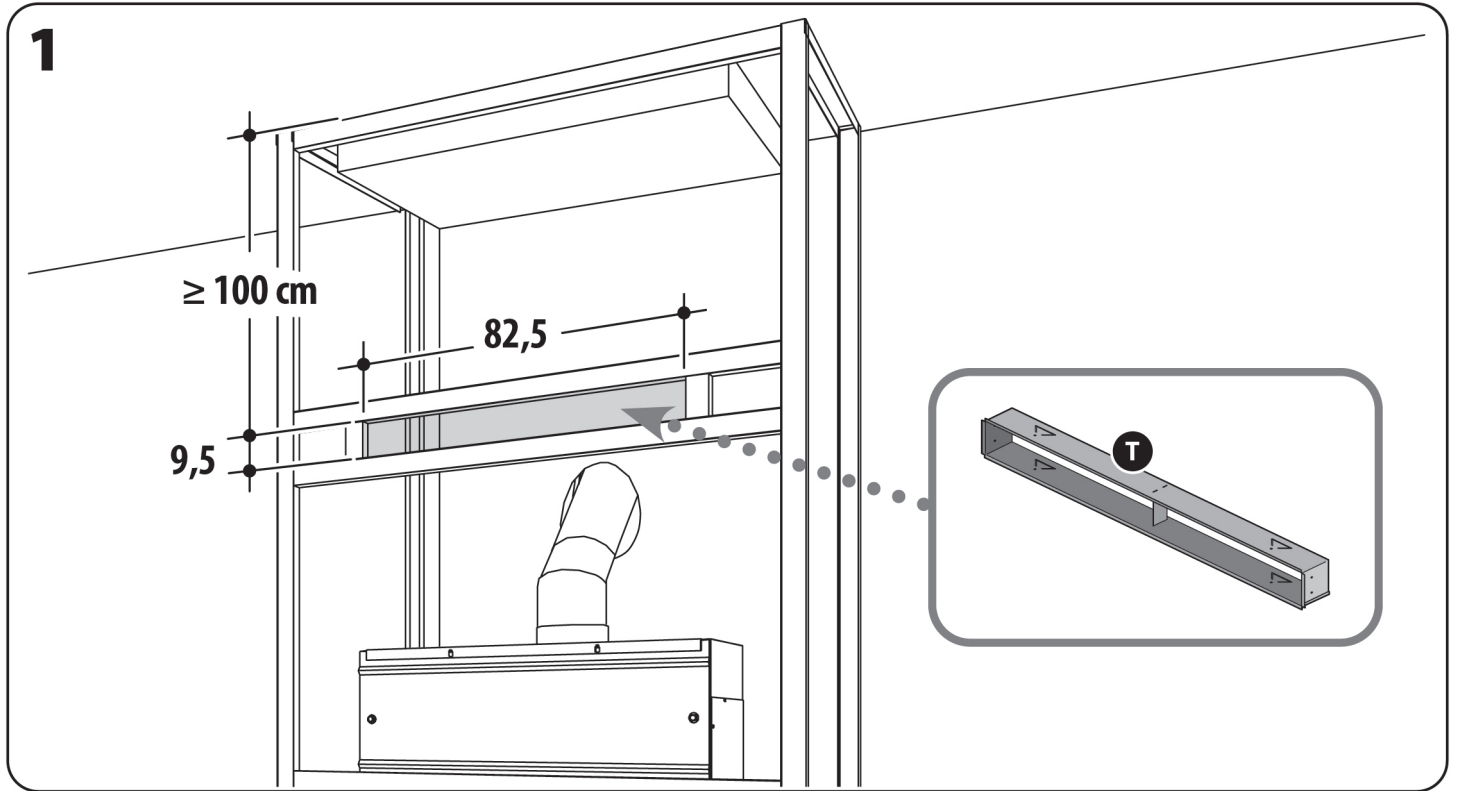
 **To prevent the transmission of thermal expansion, it is FORBIDDEN to anchor the finishing mantle or the drywall panel to any part of the appliance.**

With these galvanised sections always prepare framework to support and secure the warm air outlets to be positioned at 200÷210 cm off the floor.

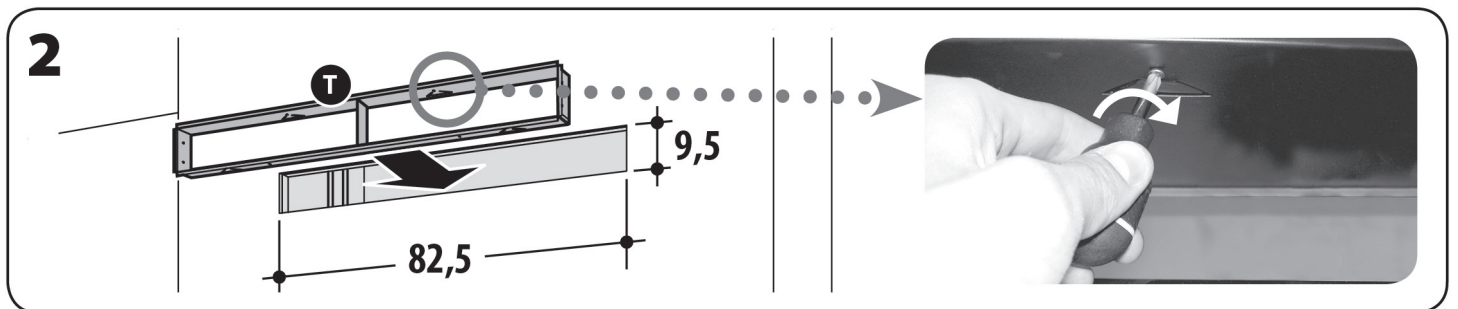
 **Install the aluminium flexible warm air distribution pipes before closing and completing the finishing mantle or the drywall panel with fireproof plasterboard panels (see section 2.3.11).**

### 2.3.11 Warm air distribution

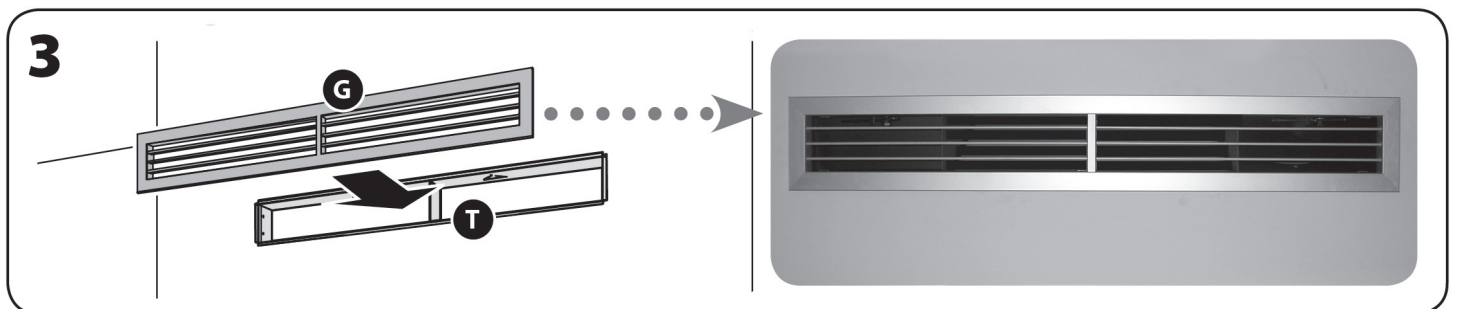
1. When building the finishing mantle or drywall panel in plasterboard, make an opening for hot air output (for the dimensions see section 2.3.9 - in the example, the measurements refer to the use of a natural long hopper [T]) at a distance from the ceiling of at least about 100 cm.



2. Complete the finishing mantle or drywall panel with plaster and insert the selected hopper in the hole (in the example, natural long hopper [T]), using screws to secure it to the metal structure.



3. Complete the installation by inserting the grille [G] in the natural long hopper [D], pressing slightly so that it fits into place firmly.



## 3 OPERATION

### 3.1 Pre- and first-lighting instructions

Before lighting the appliance for the first time the following must be done:

- Remove the sticker from the glass and any adhesive marks if necessary.
- Ensure that all safety requirements are met (see sections 1.5 and 1.6).

**! ATTENTION: To avoid yielding and breakages (or feasible bursting or explosion in exceptional cases) of the refractory parts, always strictly follow the all the instructions for first-time ignition.**

The first ignition must be carried out monitoring everything, at minimum temperature, with the doors slightly open to gradually adapt the materials to the high temperatures and to prevent the gaskets from sticking to the painted finish.

To start the fire for the first time, follow the technical instructions given at the beginning of section 3.2. Take particular care to keep the fire moderate for about 15/20 minutes, then let the fire go out and, to make sure all the humidity dries out, repeat the procedure 3/4 times, each time waiting for the refractory elements to cool down.

After this pre-heating time, combustion must be gradually increased by progressively adding fuel until reaching the maximum amount suggested (see "hourly fuel consumption" in the chart under section 1.3.2) and maintain this intensity for at least 2 hours, keeping the air dampers open.

**! CAUTION: Children must be supervised by an adult in order to prevent them from touching the appliance hot parts or modifying its functions.**

**i The metal component parts of the appliance are coated with a special high temperature paint that will reticulate, chemically stabilize and become fully heat resistant after the first few lightings. During this chemical reaction, the paint will smell bad and release vapours, thus it is recommended that the room be properly aerated. When this process is finished, no more bad smell and vapours will be released during the appliance normal operation.**

### 3.2 Following lightings

Before lighting the fire always clean the ceramic glass door if necessary (see section 4.1.2) and the firebox and empty the ash tray (see section 4.1.3).

Adjustment of the air supply to the appliance is carried out using the air dampers [A] and [B] (see figures 1 and 2) located under the doors and adjusted using the draught key.

On lighting the fire set the controls as follows:

- Damper [A] located on the left (used to adjust air supply to the fireplace) fully open: using the adjustment handle, turn to the right to open and to the left to close (see figures 1 and 2).
- Damper [B] located on the right (used to adjust the secondary air supply [B2], which flows around the glass, fully open: using the adjustment handle, turn to the right to open and to the left to close (see figures 1 and 2).

**! ATTENTION: To avoid yielding and breakages (or feasible bursting or explosion in exceptional cases) of the refractory parts, following a period of inactivity, it is good practice to take the appliance gradually to the operating temperature with a moderate fire, repeating the steps of section 3.1.**

It may seem easy to light a fire in a wood-burning appliance but it actually is not. You should not play with fire, you should take great precaution and follow the instructions given in this chapter very carefully.

To start the fire safely use the traditional "firelighter cubes" instead of grease-proof or printed paper, or other products available on the market specifically designed to make the lighting of the fire easy, and follow the instructions supplied.

Such products contain special substances and they keep the flame burning longer, giving the fire time to set well into the wood. Put a firelighter cube on the hearth, prepare a bed with small, thin pieces of dry wood (the smaller and dryer they are the better they will catch fire). Cross the wood pieces in a stack, so as to let air pass in between them: if the wood is piled too tightly, it will not burn properly.

When the fire is well established and a bed of embers has formed (after about 15 min.), put additional wood pieces of bigger dimensions, again in crossed position, but do not exceed the optimum amount of fuel (see "hourly fuel consumption" in the chart under section 1.3.2).

**i Check that the chimney draws well. Many chimneys in case of low pressure or when they are cold may present draught problems. If draught is good, you can light the fire from the bottom of the wood stack; if draught is poor, the stack must be built with highly combustible, very thin pieces of soft wood providing a lively fire, which should heat up the chimney flue rapidly and prevail over draught problems.**

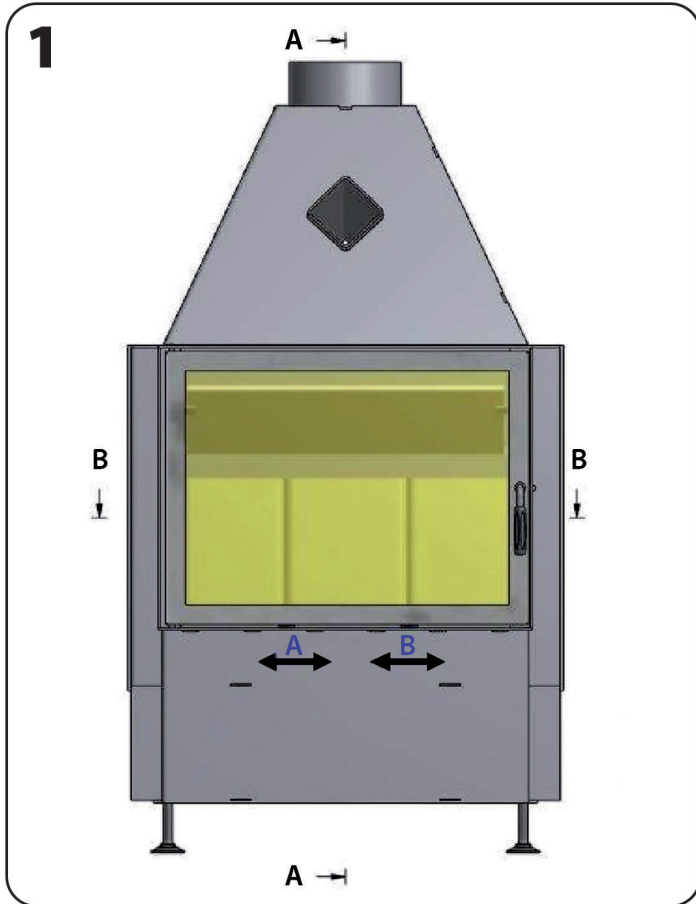
Wait until the fire is burning well (about one hour), and then regulate the air flow by adjusting the combustion air damper [B] (see figures 1 and 2); the appliance and the chimney flue must heat up sufficiently to maintain correct draught and reach the critical

temperature for proper combustion of the wood.

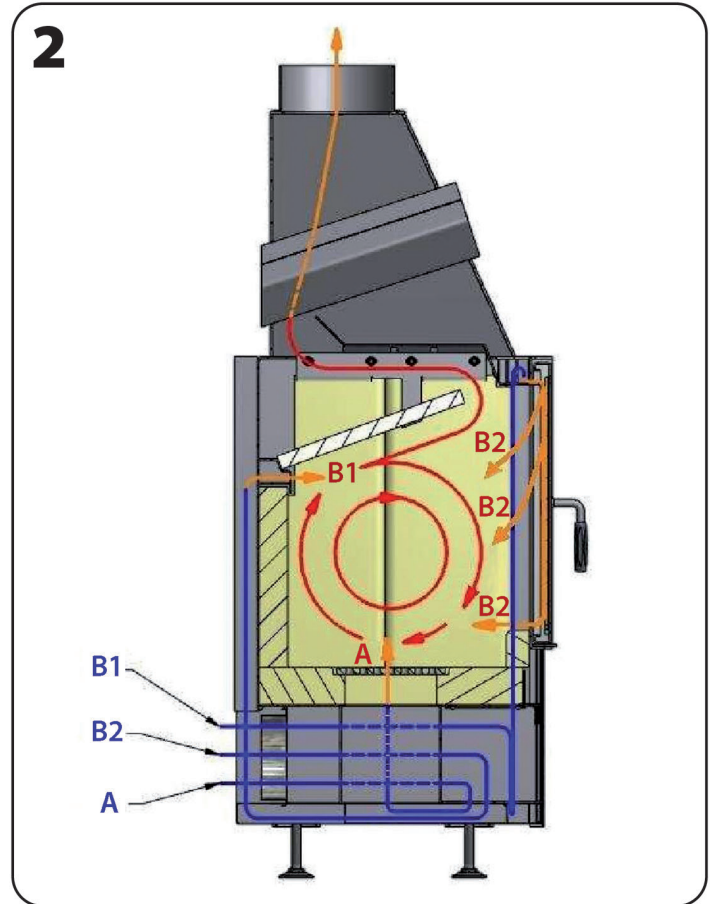
When the fire is well established, the firebox may be reloaded in accordance with the already recommended optimum amounts of fuel (wood logs not longer than 33 cm with 30/35 cm girth). With the amount of fuel indicated above, approximately, the appliance will achieve the heat efficiency declared with an ideal ratio of fuel consumption to heat output.

**i** The use of wood amounts much larger than those indicated will not only have a harmful effect on the consumption-to-output ratio, but may eventually reduce the durability of the structure. When loading, the firewood must be set gently down on the hearth (Note: The wood should be simply placed in the firebox and not thrown into it, in order to avoid damaging or breaking the refractory lining).

**!** **WARNING: Never use flammable liquids (alcohol or petrol) to speed up the lighting of a wood fire: it is extremely dangerous. Alcohol and petrol release highly flammable vapours, which could provoke the risk of burns.**



Air dampers [A] and [B]



Air circulation:  
[A]: air under the grille  
[B1]: secondary air - [B2]: air curtain



### 3.3 Combustion control and operation

Once the fire is lit, you should keep it efficient. For those who are not experienced and will use this appliance for the first time a period of adjustment will be needed. Here below find some tips for efficient lighting and burning:

- Only burn dry wood: wet or damp wood is hard to ignite, slow to burn, reduces the temperature inside the firebox and produces more smoke and less heat.
- A bed of live coals at the bottom of the fire keeps the firebox temperature high enough to ensure easy lighting of the new fuel and correct combustion; fill the firebox with additional fuel as soon as the firewood pieces turn into coals.
- Load the firebox with 3 or 4 wood pieces each time. In order to burn correctly wood needs a critical mass: flames develop only where the wood pieces touch one another, which means that a single piece of wood hardly burns. Never place the firewood pieces too close to one another in order to avoid starving the fire of oxygen.

**i** Subsequent quantities of wood can be placed on the layer of embers only in the final phase of a previous combustion cycle.

**i** To avoid any damage or cracks to the refractory lining, the wood should simply be placed and never thrown into the combustion chamber.

**i** Always open the door slowly, first holding it open only slightly for a few seconds before opening it completely. Should some smoke blow back, there is no danger, just aerate the room temporarily.

- Never overload your appliance by placing more wood than the required optimum quantity (see section 1.3.2). A small fire receives more oxygen, burns better and produces more heat than a bulk fire, which chokes the the firebox.
- Try to reload your appliance before the fire goes out; always keep within reach some kindling or small wood pieces to relight the fire if necessary.
- With the door closed you can achieve perfect control on the wood combustion by adjusting the combustion air control located at the base of the appliance with the result of saving a good deal of wood in comparison with traditional open fireplaces (Note: Even though the damper is set on the closed position, it slightly opens to ensure the normal operation of the heater).
- After reloading the firebox, in case it is necessary to relight the fire rapidly, it is recommended to fully open the combustion air control temporarily [B] (see section 3.2, figure 1).

**!** **ATTENTION: The wood placed on the embers emits high quantities of flammable gas. When this gas accumulates in the brazier, it can explode, causing the glass to break and injure people near the appliance. Closing the direct air supplies to the combustion chamber, the glass can explode following the reaction due to the semi-combustion of CO<sub>2</sub> to that transforms into CO.**

The combustion intensity is adjusted using the dampers [A] positioned on the left and [B] positioned on the right.

- When the damper [B] is all the way in the right-hand position, the secondary air flow is at the maximum setting ([B1] = 100%) and the air flow (called "air curtain") on the glass is at the maximum setting ([B2] = 100%).
- By moving the damper [B] on the left, toward the centre, the secondary air flow [B2] is reduced from 100% to 60%.
- By moving the damper [B] on the left, from the centre toward the left, the secondary air flow [B2] is reduced from 60% to 10%.
- By moving the damper [B] on the left, to the travel limit, the secondary air supply [B2] is partially closed at 10%.

Correct combustion takes place after lighting the fire and heating the combustion chamber. Before adjustment, ensure that the fuel burns well to prevent the fire being extinguished by reducing the air flow.

In the normal operating phase, close the air flow under the grille, moving the damper [A] all the way to the left and, at your own discretion, reduce the secondary air flow [B1].

Do not close the damper [B] fully during combustion. Optimising the combustion process reduces the combustion temperature, extends combustion times, reduces fuel consumption, optimises the product's energy use and prolongs the life of the appliance. In this phase, close the air flow [A] under the grille.

 The appliance can operate with a minimum thermal power and the embers can produce heat for several hours if large pieces of wood are used to fuel the fire and the air supply [A] is limited, the air supply [B] is interrupted and the draught setting is 5 Pa.

Reduction of the appliance's thermal efficiency to below the rated power is achieved reducing the air supply [B2] and reducing the chimney's draught setting to <10 Pa, as well as using round and large diameter broad-leaf wood (the larger the log diameter, the lower the thermal load).

Do not reduce the air flow in the combustion chamber during the lighting phase.

 The use of the appliance as incinerator is **FORBIDDEN**: household rubbish, coated paper, painted or treated timber (including pallets), plastic or other synthetic materials must never be thrown into the fire.

Failure to do so causes the release of dangerous and toxic pollutants, which are highly noxious for you, your neighbours and the environment. Besides, burning household rubbish produces corrosive acids, which may seriously damage the internal parts of the appliance and the chimney flue, with consequential risk of fire of the chimney flue itself.

### 3.4 Extinguishing

In the extinguishing phase, the fuel no longer produces flames. The layer of embers accumulated stores a lot of heat that can be retained in the combustion chamber, reducing the air supply (position of the dampers: [A] to the left and [B] at the centre).

 **ATTENTION:** In the event of a fault during operation, immediately extinguish safely as follows:

- Reduce the air supply to the fireplace, moving the dampers to the closed position.
- If necessary, carefully remove and transport excess wood in a metallic container outside the house to extinguish the embers.
- Contact customer support to eliminate the cause and possible effects of the fault.

## 4 CARE AND MAINTENANCE

### 4.1 Recurrent maintenance

*Do not forget that performing the following recurrent maintenance will ensure your appliance efficiency and proper operation for a long time.*



**WARNING: All cleaning of the various parts must be done when the appliance is completely cold and disconnected from the electrical power source.**

**Cleaning and maintenance operations to be carried out by the user cannot be done by unattended children.**

#### 4.1.1 Cleaning of metal parts

Clean with a dry, soft cloth; do not use any detergent or cleaning products.

#### 4.1.2 Cleaning of ceramic glass

*To perform if needed.*



**The quality and type of fuel as well as the way of use can determine the frequency of cleaning the ceramic glass. Minor soot may accumulate due to incorrect combustion (an insufficient combustion air, a poor draught or the use of wet firewood pieces); the glass panel may self-clean satisfactorily under the restored good operational conditions.**

To carry out the cleaning operation, the door must be opened in swing mode as follows:

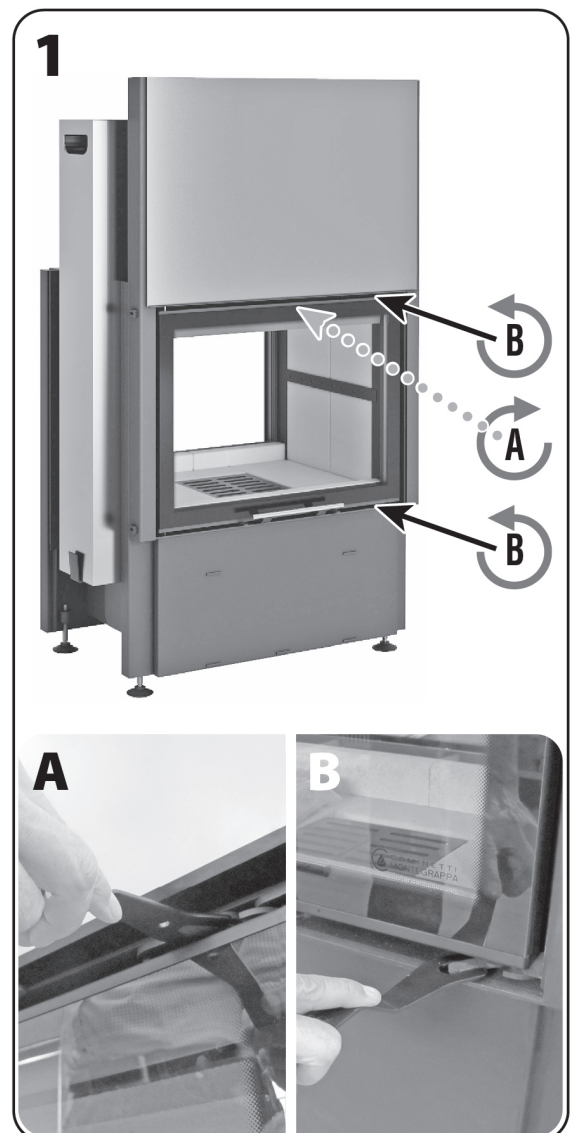
##### 1. BK 02F

###### Vertical sliding door:

- Close the door, pulling it downward until you feel resistance.
- Using the provided handle, rotate the tab [A] 90° toward yourself (clockwise). The tab locks the lifting mechanism. The tab is just above the upper edge of the door in the closed position (see figure 1 [A]).
- Using the provided handle, rotate the tab [B] 90° toward yourself (anticlockwise). The tab releases the door. The tab is on the right side of the lower and upper edge of the door (see figure 1, [B]).
- Open the door laterally.

###### Fixed door:

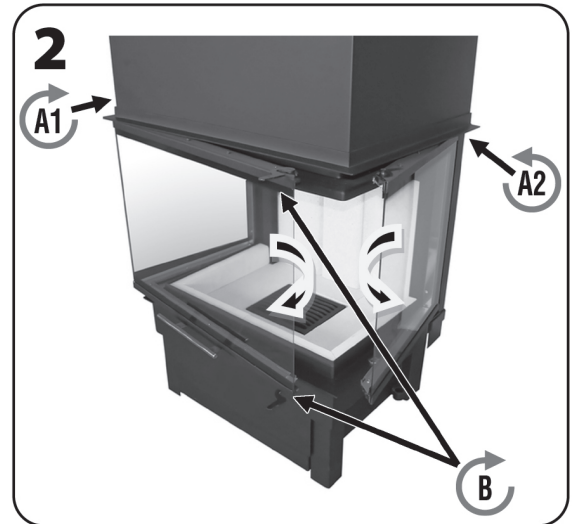
- Using the provided handle, rotate the tab 90° toward yourself. The tab releases the door. The tab is located centrally on the right side of the door in the closed position.
- Open the door laterally.



## 2. TK 03F

**Vertical sliding door:**

- Close the door, pulling it downward until you feel resistance.
- Using the provided handle, rotate the tab [A1] 90° toward yourself (clockwise) and the tab [A2] 90° toward yourself (anticlockwise). The tab locks the lifting mechanism. The tab is just above the upper edge of the door in the closed position (see figure 2, [A1] and [A2]).
- Using the provided handle, rotate the tab [B] 90° toward yourself (clockwise). The tab releases the door. The tab is at the right corner on the upper and lower edge of the door (see figure 2, [B]).
- Put the handle toward yourself to open the entire leaf to the left (glass in "L" position) and then rotate the right-hand glass to the right.



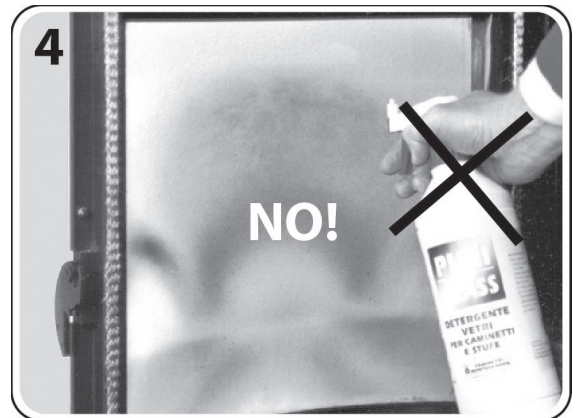
3. We recommend the use of our "Puliglass" glass cleaner for perfect cleaning; spray some cleaner on a soft cloth to remove any tar and soot stains from the glass.

**i** Never spray the ceramic glass with "Puliglass" or any other cleaner.

**⊘** The use of any abrasive sponges or similar for cleaning the ceramic glass panel is FORBIDDEN; failure to do so may result in permanent damage.

**!** **IMPORTANT:** Ensure that you lock the door correctly with the equipped tool after opening it sideways to perform the ceramic glass cleaning.

**i** In this type of appliance, the door guides also need to be cleaned because their condition influences the raising of the door. The guides are located on the sides of the door and are visible when the door is raised. An agent like WD40 can be used for maintenance. Do not use thick and viscous grease.



### 4.1.3 Ash removal

Clean the hearth once/twice a week, based on the wood used, just removing the ash and leaving the small cinders inside, which could remain lit for quite a long time; it is therefore a good rule never to remove cinders using a vacuum cleaner and to throw them in a metal container, where they can cool down completely before throwing them away for good.

To remove excess ash from the brazier, open the doors slightly and, using the provided handle [M], remove the grille [G] and empty the ash pan [C] located below (see figure 1).

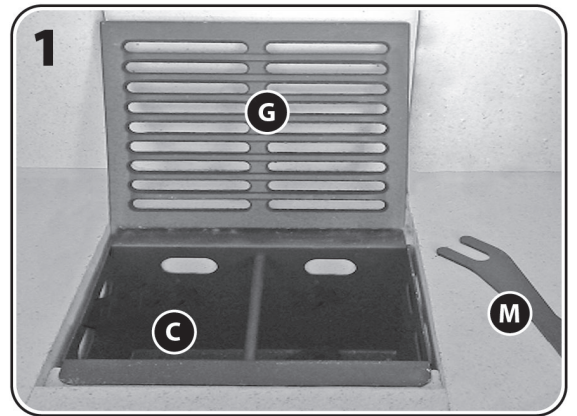
The ash pan should not be emptied before it is full: some ash on the bottom may improve the combustion by acting as a natural insulator and by keeping coals alive at the bottom of the fire.



**IMPORTANT: Disposed ashes contain small cinders which may flare up easily even after a long time; for this reason never remove ashes with a vacuum cleaner. Disposed ashes should always be temporarily placed in a closed metal container until all cinders have thoroughly cooled pending final disposal.**



**Remember to also vacuum under the ash collection pan. The ash particles that may be present below the collection pan can obstruct the air supply mechanism.**



## 4.2 Routine maintenance

*We recommend that the appliance and the chimney flue be thoroughly cleaned at least once a year. When the draught is too little, or when unsuitable wood is used, a more frequent cleaning may be needed.*



**WARNING: All cleaning and inspection work must be done when the appliance is completely cold.**

### 4.2.1 General cleaning

Before carrying out general cleaning operations, some internal elements of the appliance must be removed, taking great care in handling the refractory parts.

You can now proceed in cleaning the appliance inner parts with a metal brush and a vacuum cleaner; to ensure that the flow of flue gases is not obstructed, clean up to the smoke outlet and remove any ashes and soot accumulated on its walls during the burning process.



**In the end correctly assemble the component parts removed in reversed sequence.**

### 4.2.2 Gasket control

Check the integrity of the gaskets sealing the door regularly.

They should be replaced once every one or two or three years, depending on the type of appliance and mostly on the operation duration. In order to ensure an air-tight assembly the gaskets should maintain their characteristics of elasticity; as soon as they harden they need to be replaced.

If the air dampers are fully closed and the fire continues burning intensely, it probably means that there are leaks in the appliance's airtight seal, and that it is therefore time to replace the gaskets.

### 4.2.3 Cleaning of chimney flue

Even with the best appliances and chimneys the formation of creosote deposits is unavoidable. Therefore it is necessary to clean the chimney and the vertical venting pipes regularly in order to avoid or reduce them.

Cleaning is recommended at least once a year and even more often if the appliance is used daily and fuel with features different from those illustrated in section 1.4 is employed.

We recommend to let the cleaning process being realized by a professional chimney sweeper, ask the address to your dealer.

The sweeper's intervention may represent an effective and economic solution to protect the installation from corrosion and keep it in efficiency to grant those essential safety conditions that allow us to live with more serenity.

How soot and ash affect wood consumption: minor soot and ash are inevitably produced after the combustion (particularly after bad combustion); they do not convey any heat and tend to obstruct the pipes thus producing acid condensation and reducing the draught.

Regularly remove ash from the unit and clean the chimney flue.

A 2 mm thick deposit inside the heater can reduce the heat exchange by about 12%, which means that every 100 kg, 12 kg of wood are wasted!

Excessive soot may also cause fire in the chimney flue with unpredictable consequences.

**i** **Just before the beginning of the next season, particularly as regards unoccupied houses, we recommend checking the smoke channel and the chimney, in order to be sure that there is no clogging due to insects, birds or small mammals' nests.**

## 4.3 Failures/ Causes / Trouble-shooting

### There is smoke in the room:

- Check that the appliance door is perfectly closed.
- Check to see if the gaskets are in good condition.
- In the same room there could be another appliance working (stove, fireplace, wood cooker, suction hood) or not (open fireplace) whose draught may negatively affect that of your appliance or the reverse.
- Check to see if the exhaust system (pipe and chimney flue) is air-tight or needs to be cleaned out.
- Make sure that there is a good connection between the appliance and the chimney flue.
- The size of the chimney flue may not comply with the requirements in this manual (see technical sheet, section 1.3.2).
- The first times the appliance is operated, the paint on the metal surfaces releases some smells. Simply aerate the room as necessary.
- Check to see if any impediment (plants, buildings) exceeds the height of the chimney cap thus preventing the smoke discharge.
- The draught in the chimney flue may not be adequate.
- The wood used may not be of good quality (see section 1.4.1).
- If any air intake has been provided on the roof it may be close to the chimney flue opening.

### When opening the door, smoke enters the room:

- Inadequate fuel - humidity higher than 20%: Use only recommended fuel.
- Incorrect combustion technique: The next portion of wood must be placed on a layer of embers.
- Weak draught: Clean the chimney.

### The glass and the combustion chamber are very dirty:

- Inadequate fuel - humidity higher than 20%: Use only recommended fuel.
- Combustion temperature too low: Burn the recommended quantity of wood to obtain an adequate temperature of the water in the jacket.

### The fuel burns poorly or extinguishes:

- Inadequate fuel - humidity higher than 20%: Use only recommended fuel.
- Weak draught: Unfavourable atmospheric conditions.
- Air supply dampers closed: Set the combustion process in accordance with the manual.
- External air supply obstructed: Clean the grilles and the external air intake grille.
- Excessive layer of ash: Clean the ash pan.

### The fuel burns too much:

- Wood is too small: Use larger diameter wood.
- Dampers fully open: Set the combustion process in accordance with the manual.
- Excessive draught: Use a draught damper.
- Door gaskets worn: Replace the door gaskets.

### Breakage of elements in refractory material:

- Impact of the elements in refractory material when adding fuel or slippage of the wood: The breakage of the refractory material does not compromise the use of the appliance. Replacement is not necessary until the refractory materials erode.
- Damp wood: Use only recommended fuel.

**i** **If after checking the previous solutions suggested the problem persists, ask for your dealer assistance service.**

# 5 FOR THE AUTHORIZED SERVICE TECHNICIAN

## 5.1 Servicing record

1	3
2	

1	3
2	

1	3
2	

1	3
2	

1	3
2	

1. DATE
2. SIGNATURE OF SERVICING STAFF
3. SERVICING DESCRIPTION

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