



EN

**DIRECTIONS FOR INSTALLATION
USE AND MAINTENANCE**



TECH 3

**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, water and electrical connection, 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.

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 (an alphanumeric code) 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 cover plate of the air intake compartment of the air to be heated (under the fireplace hearth).

					
N° DOP: 0257		15a B-VG		I-36020 POVE DEL GR. (VI) - ITALY	
EN 13229:2001 + A2:2004 + AC:2006 Notified Laboratory: 1881		TECH 3			
CN = a Convezione Naturale / with a system of natural convection mit natürlicher Konvektion / à convection naturelle			CN		
Potenza Termica / Thermal Output WL=Wärmeleistung / Puissance Thermique Nominale			13,0	kW	
P.T. utile resa all'aria / useful T.O. to room WL an den Raum / P.T. utile transférée à l'air			-	kW	
P.T. utile resa all'acqua / useful T.O. to water WL an das Wasser / P.T. utile transférée à l'eau			-	kW	
CO misurato (al 13% di O ₂) / CO emission (at 13% O ₂) CO Emission (bei 13% O ₂) / Émission CO (mesure à 13% O ₂)			≤ 0,10	%	
Valore medio polveri (al 13% di O ₂) / Average dust content (at 13% O ₂) Mittlerer Staubgehalt (bei 13% O ₂) / Valeur moyenne poussières (à 13% O ₂)			28	mg/m ³	
Rendimento / Efficiency / Wirkungsgrad / Rendement			≥ 80,0	%	
Massima pressione idrica di esercizio ammessa Max. water pressure admitted during operation / maximaler Betriebsdruck Pression max. de l'eau admise en fonction			-	bar	
Potenza elettrica nominale / Nominal electrical output Elektrische Nennleistung / Puissance électrique nominale			-	W	
Tensione nominale / Nominal voltage / Nennspannung / Tension nominale			-	V	
Frequenza nominale / Nominal frequency / Nennfrequenz / Fréquence nominale			-	Hz	
Combustibile / Fuel / Brennstoff / Combustible		TRONCHETTI DI LEGNA / WOOD LOGS SCHEITHOLZ / BÜCHES			
LEGGERE E SEGUIRE LE ISTRUZIONI D'USO / READ AND FOLLOW THE USE INSTRUCTIONS BEDIENUNGSANLEITUNGEN LESEN UND BEACHTEN / LIRE ET SUIVRE LES INSTRUCTIONS D'EMPLOI USARE SOLO COMBUSTIBILI RACCOMANDATI / USE RECOMMENDED FUELS ONLY / AUSSCHLIEßLICH EMPFOHLENE BRENNSTOFFE VERWENDEN / UTILISER SEULEMENT LES COMBUSTIBLES RECOMMANDÉS QUESTO APPARECCHIO NON PUÒ ESSERE USATO SU CANNA FUMARIA CONDIVISA / THIS APPLIANCE CANNOT BE USED ON A MULTI-FLUE CHIMNEY / DAS GERÄT DARF NICHT AN MEHRFACHBELEGTEM SCHORNSTEIN ANGESCHLOSSEN WERDEN / CET APPAREIL NE PEUT PAS ÊTRE UTILISÉ SUR UN CONDUIT DE FUMÉE À USAGE COLLECTIF QUESTO APPARECCHIO È IDONEO ALLA COMBUSTIONE INTERMITTENTE / THIS APPLIANCE IS SUITABLE FOR INTERMITTENT COMBUSTION / ZEITBRAND-FEUERSTÄTTE / CET APPAREIL EST APTE À LA COMBUSTION INTERMITTENTE					
N° DI SERIE		000000 000000		SERIAL NO.	
SERIENNUMMER				N° DE SÉRIE	

Example of CE label with serial number

1.1.3 Remarks on materials

 **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.
- Electric and electronic components: are all tried in place when assembling the product. The use over a long period of time of an unsuitable fuel, or of an amount of fuel exceeding that indicated in this manual may cause overheating of the above components, which may result in a higher sound level of the fan or breakage of the temperature sensor and the electronic control.
- 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.

- CMtech®: is an exclusive mixture of refractory materials and is designed to withstand very high temperatures and thermal shocks. Such a high performance is made possible thanks to the thickness and physical structure of the CMtech® material, which may only become damaged in very exceptional cases (cracks and/or erosion) if subjected to high impact stress. It is therefore highly recommended to load the wood logs into the combustion chamber with the utmost care, leaning the logs instead of throwing them against the walls in CMtech®. The same care must be used while handling the CMtech® parts during the maintenance works. Also note that any fissures and crackles on the CMtech® lining surface do not negatively affect the efficiency of the material and are not prejudicial to the performance and correct functioning of the appliance.

1.2 Certifications and patents

1.2.1 CE marking information

	
CE-MARKING INFORMATION	
	
CAMINETTI MONTEGRAPPA	
12	
EN 13229:2001 + A2:2004 + AC:2006 Closed solid fuel fireplace TECH 3 appliance with natural convection	
Security minimum distance from inflammable material	: side 220 back 220 (see instructions)
CO-emission in combustion products	: ≤ 0,10% nominal thermal output
Max. water pressure admitted during operation	: bar
Flue gas temperature	: 262 °C nominal thermal output
Nominal thermal output	: 13,0 kW
Efficiency	: ≥ 80,0% nominal thermal output
Type of fuel	: wood logs
Nominal power	: W
Nominal voltage	: V
Nominal frequency	: Hz
Caminetti Montegrappa SPA con Socio Unico Direttore Generale Ing. Paolo Gai	
<small> CAMINETTI MONTEGRAPPA S.p.A. con Socio Unico - soggetta a direzione e coordinamento di INVIFLAM SAS - 102 Boulevard de Sébastopol 75003 Paris - France Via Annibale da Bassano 7/9 - 36020 Pove del Grappa (VI) Italy - Tel. +390424800500 - Fax +390424800590 www.caminettimontegrappa.it - info@caminettimontegrappa.it - R.L., C.F. e P.IVA 00494610249 - Cap. Soc. € 2.800.000 i. v. </small>	

1.2.2 Further certifications and patents

We declare that the appliance
TECH 3

complies 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).**
- **Directive 2014/30/EU (EMCD Electromagnetic Compatibility) and subsequent amendments.**
- **Directive 2014/35/EU (LVD Low Voltage) and subsequent amendments.**
- **Regulation (UE) 305/2011 (Building Products).**

meets the requirements of the

15a B-VG

(strict Austrian local regulation)

is type-approved in Switzerland by VKF



 **The Declaration of Performance and the Declaration of Conformity CE can be downloaded from our website www.caminettimontegrappa.it.**

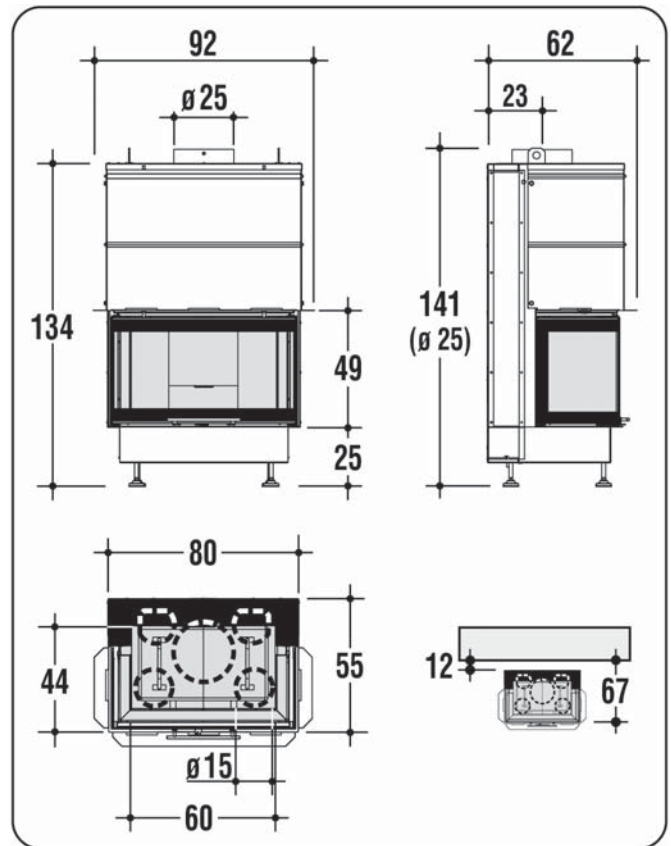
CMtech®

CMtech® is a material resulting from research activities of Caminetti Montegrappa to obtain the best performance from your appliance; it is a refractory mix of material that withstands very high temperatures and thermal shocks and can absorb and store heat, radiating it for hours after the fire has gone out. The material turns a light colour at the working temperature, giving the hearth a clean and pleasant appearance.

1.3 Technical dimensions and features

1.3.1 Technical drawings

TECH 3



1.3.2 Technical features

Readings in accordance with standard EN 13229:2001 + A2:2004 + AC:2006	Tech 3	
CN = appliance with natural convection	CN	
max. Output - min. Output	16,9 - 8,4	kW
Thermal Output nominal	13,0	kW
CO emission at 13% oxygen	≤ 0,10	%
efficiency	≥ 80,0	%
nominal electrical power	-	W
nominal voltage	-	V
nominal frequency	-	Hz
fuel	firewood logs	
fuel consumption per hour	3,7	kg/h
total capacity of flue gases	12,1	g/s
flue gas temperature	262	°C
flue draught pressure	12,0	Pa
flue gases outlet	Ø 250	mm
interior section of chimney flue	Ø 25	cm
minimum height of chimney flue (from connecting joint)	4	m
outside air inlet ducts	2 x Ø 15	cm
height of hearth	25	cm
net weight	232	kg
weight with packaging	257	kg
.		

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 CO₂"), since the CO₂ 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.

This appliance has a fumes baffle at the top of the hearth, which ensures a higher and steadier temperature inside the combustion chamber, which maximizes combustion and reduces wood consumption and the release of pollutant emissions.









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 the electrical components in it, and in order to prevent any possibility of causing serious injury, the instructions given in this manual must always be followed.
-  **CAUTION:** The installation, electrical connection, 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.
-  **CAUTION:** All local, national and European Norms must be met during installation and use of 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 CMtech® parts, you are recommended to strictly follow the indications given for first-time starting.
-  **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 case of a model with forced convection (that is, fan-assisted) disconnect the bipolar switch (to provide on site).
-  **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.

-  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

Warnings for correct appliance disposal in accordance with European Directive 2002/96/EC.

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

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.



WARNING: The installation of a "bipolar switch" is mandatory when providing the electrical connection of the fan-assisted version; the bipolar switch acts as a safety device when the appliance is not operated or during maintenance works as it enables to break the circuit and totally disconnect the appliance.



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, that is, no less than 15-20 sq.m.

The natural admission of air must be provided directly through two permanent openings made on the exterior walls of the room of installation (for the section minimum dimension see section 2.3.5); the openings must be made in such a way they can never be obstructed (check regularly).

Air entering the room where the appliance is installed from contiguous room(s) is permitted provided it is admitted from a space which is aired directly from outside, a space which is not used as a bedroom or a bathroom and where fire ignition could never occur, as in a garage or in a combustible warehouse, in compliance with the requirements under the local standards currently in force.

80 cu.m/h of air is required in order to ensure proper fuel combustion.
(This pertains to operation with door closed).



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.



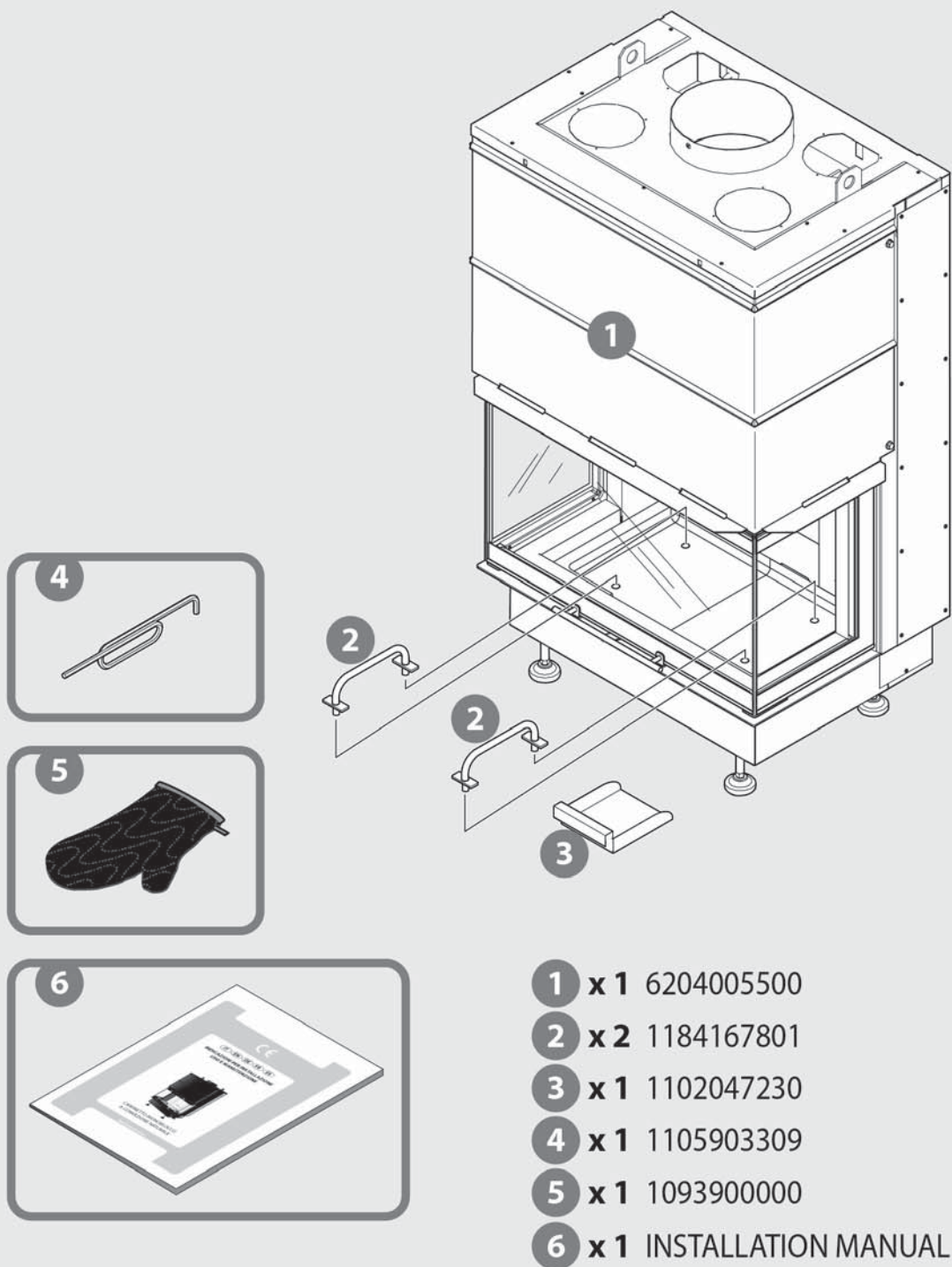
The minimum clearance to combustible side walls is 80 cm; a 150 cm clearance must be maintained to any objects or pieces of furniture in front of the unit.

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.

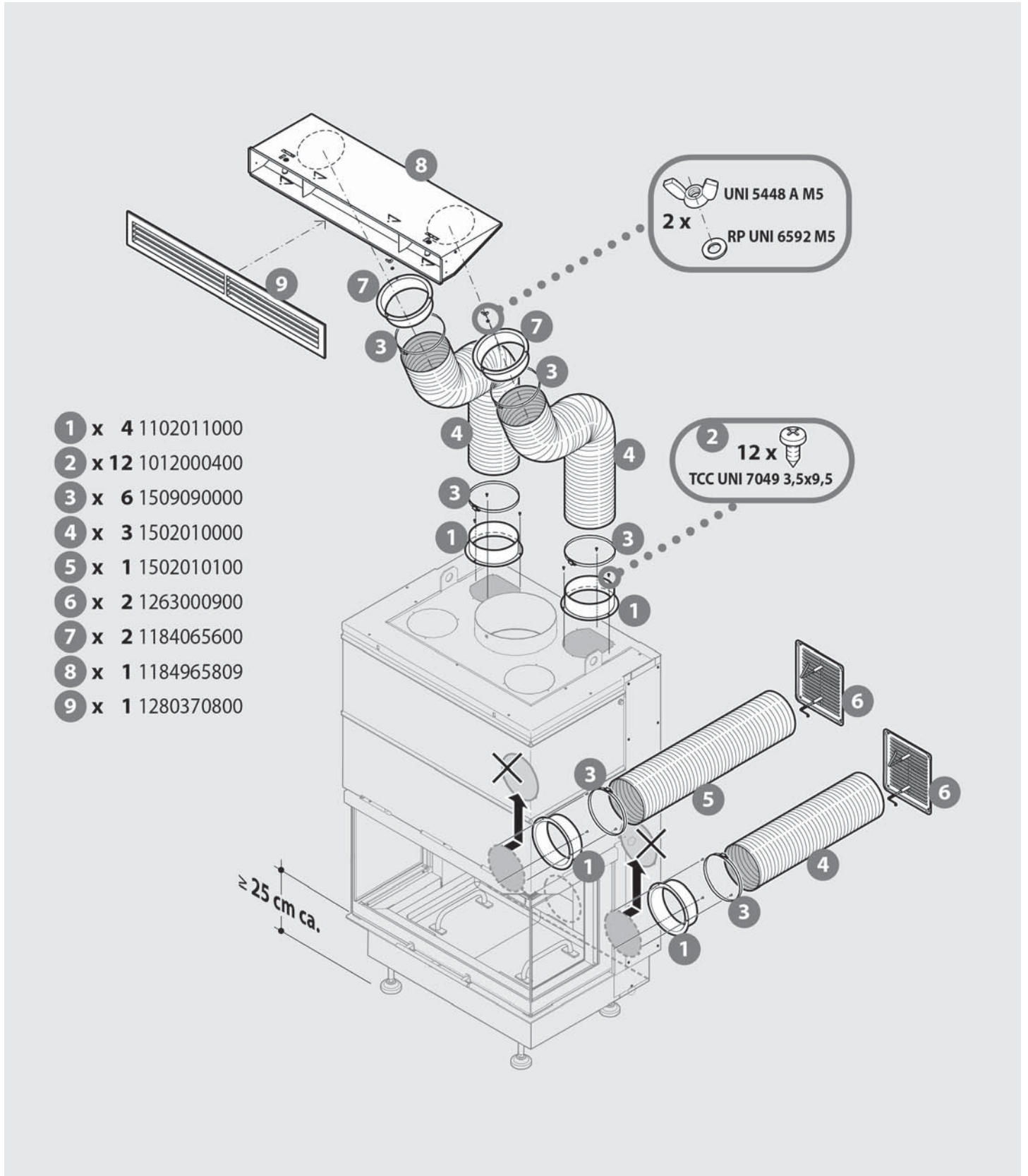
1.8 Equipment

1.8.1 Checking of the accessories included



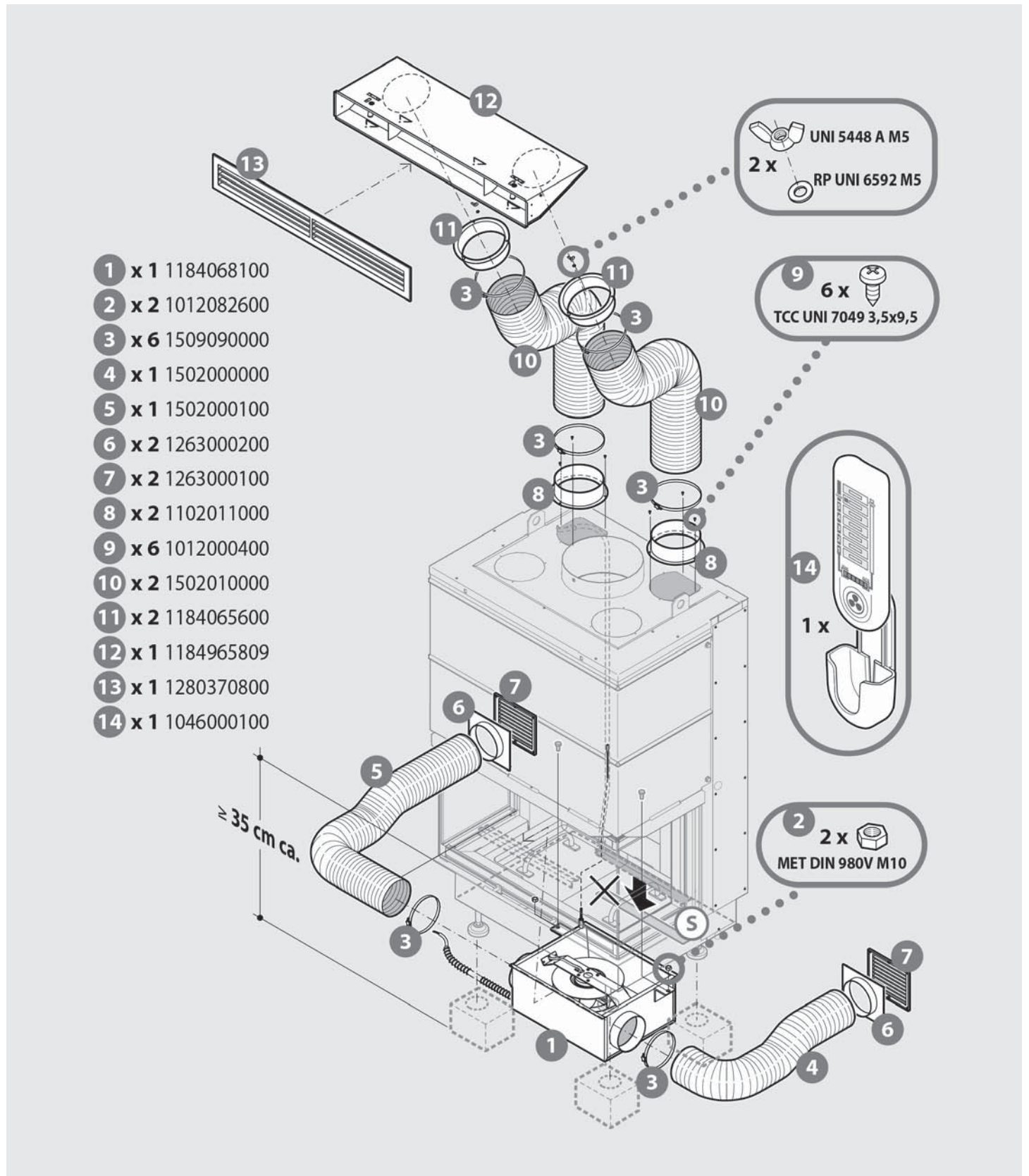
1.8.2 Natural air convection channelling kit

(code 1530200100 OPTIONAL AVAILABLE ON PRICE LIST)



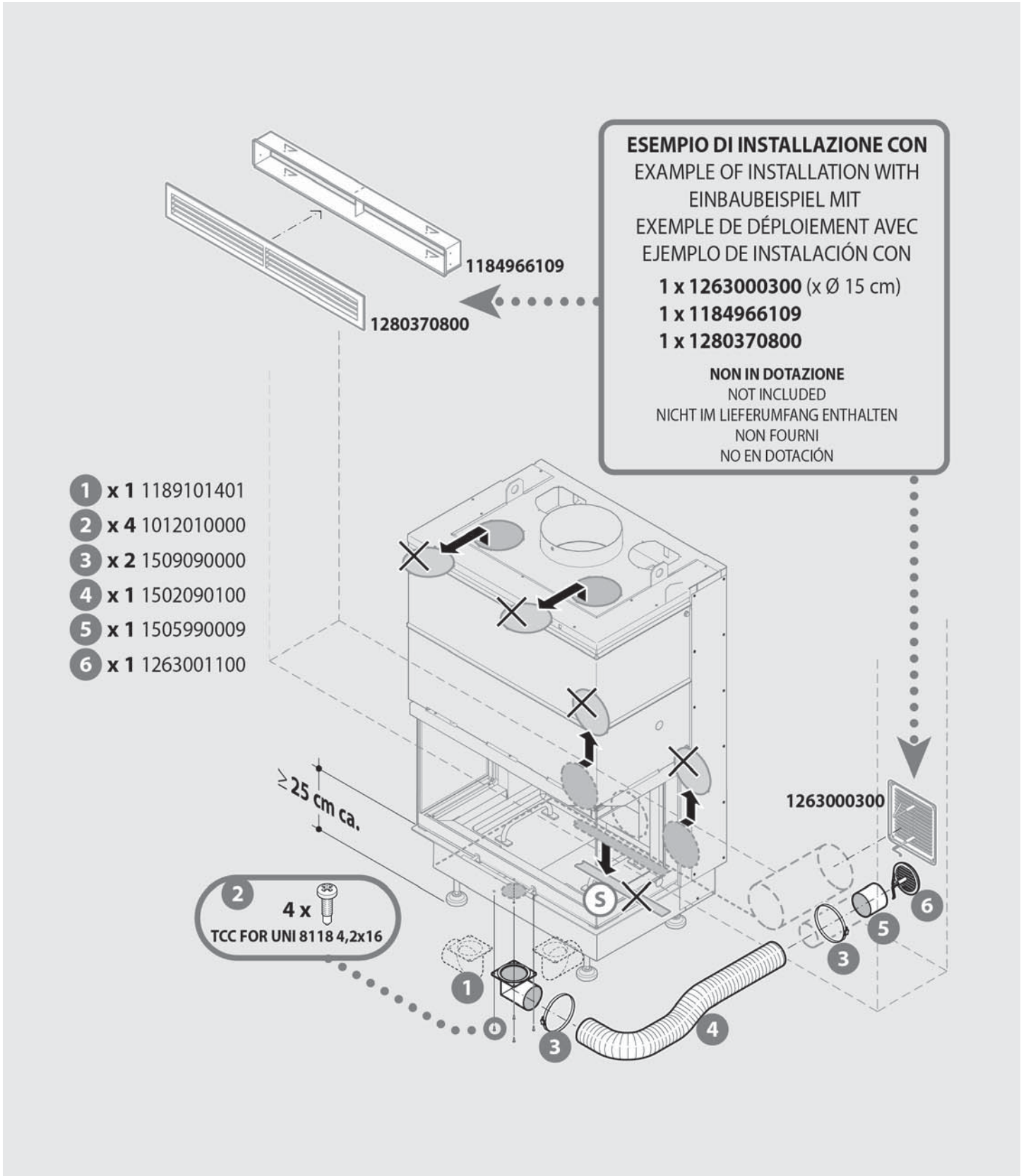
1.8.3 Forced air convection channelling kit

(code 1530100200 OPTIONAL AVAILABLE ON PRICE LIST)



1.8.4 Primary air channelling kit

(code 1530200200 OPTIONAL AVAILABLE ON PRICE LIST)



X = PARTS TO BE REMOVED AND ELIMINATED

1.9 Functioning principle

This appliance has been designed to achieve maximum heat output while minimizing fuel consumption.

The shape and the CMtech® lining of the combustion chamber allow to reach and retain high temperatures inside of it, thus maximizing the combustion phases with consequential reduction in the amount of the fuel needed.

After passing through the fumes baffle, the fumes are conveyed through slowdown and thermal exchanging channels, which provide hot air for heating, reducing the temperature of the fumes outlet.

Warm air is then distributed into the room through flexible pipes positioned inside the finishing flare of the appliance cladding.

The heat exchangers surrounding the combustion chamber and inside the appliance flare are air-tight thanks to line weldings, which prevent any gas exchange with the air to be heated.

Our appliances are offered with two functioning systems:

- **a system of natural convection:**

the heat released is partly radiated and mostly diffused by natural convection (air natural convection movement): an air flow enters from the outside, heats up when passing through heat exchangers positioned inside the appliance flare, it is channelled and emitted from the unit's top into the room to be heated.

- **fan-assisted:**

the heat released is partly radiated and mostly fan-distributed with a system of forced convection (artificial air motion produced by an integrated fan): an airflow (induced by the fan) is drawn in from outdoors and heated by passing it through heat exchanger air cavities located inside the appliance's hood, then channeled and finally released from the unit's top portion into the room that is to be heated, or into adjacent rooms, through appropriately insulated ducts.

i For the forced convection solution, the "forced air channelling kit" is available on the price list, which is to be installed before positioning the appliance permanently.

i In both cases 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).
- 230 V~ 50 Hz line voltage. (*)
- Electrical system complying with the directives in force. (*)

* Only for forced convection models.

- 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.

2.3 Appliance installation



IMPORTANT: All installation work for your appliance (insulation, electrical connections, 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 our factory-built appliance cladding.

Caminetti Montegrappa assumes no responsibility for any incidental or consequential damage of any kind to persons, pets or things resulting from the installation of a cladding that is not of our own production, or from the inobservance of the prescriptions given in this manual.

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 through stairways), it is possible to lighten the appliance by removing the CMtech® parts and the flame distributor-catalyzer in vermiculite.

This operation will reduce the overall weight for easier movement (see disassembly sequence in section 4.2.1).

Be sure to carefully and correctly put each CMtech® element back in place and also the flame distributor-catalyzer in vermiculite.

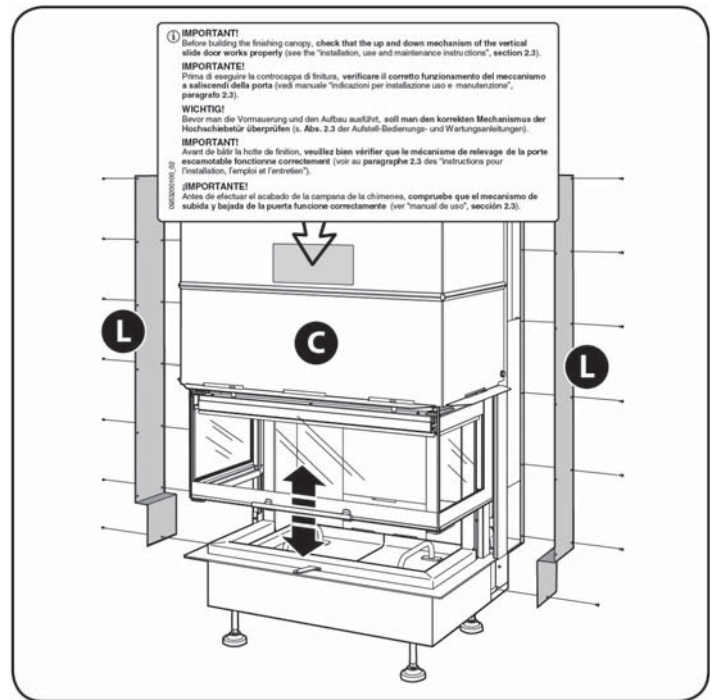
2.3.2 Vertical sliding door check

As indicated on the sticker applied to the door protection guard [C], check that the up-and-down motion of the vertical sliding door is correct by removing the 2 side closing plates [L] (see the following figure) from guard [C] and ensure that the sliding open-and-close mechanism is correct.

After checking, screw back into place the side closing plates [L] on the door protection guard [C].



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.



2.3.3 Appliance Positioning

- First try your appliance in place in order to determine where to make the connection between the appliance and the chimney flue.
- Determine the position of the outside air intakes and provide the insulation on the adjacent walls.
- Remove the appliance from the location before making the necessary openings on the exterior wall.
- Put the appliance back into place and make all the connections (see examples under sections 2.3.5, 2.3.6 e 2.3.10).



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



IMPORTANT: The correct installation of the unit must always meet the following requirements both in case the cladding is of our own production or not:

- The angle of the connecting flue pipes with the chimney flue must not exceed 45°.
- The connection to an external air intake using the corresponding kits available in the price list (open vase kit Ø 10 cm and closed vase kit Ø 8 cm).
- 4+5 cm minimum clearance between the wall and the appliance back: 4 cm of insulating material (see section 2.4.8) 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).



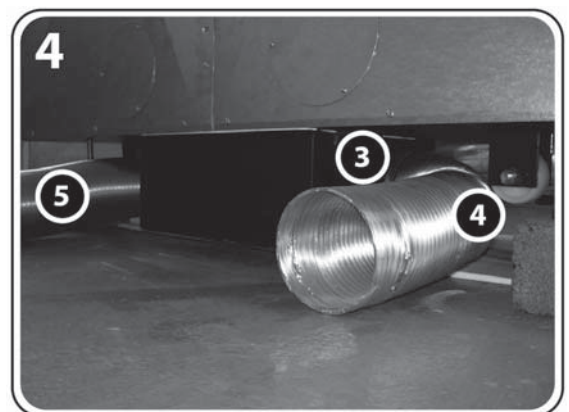
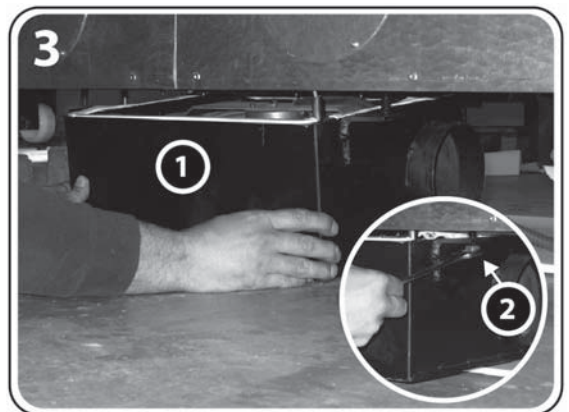
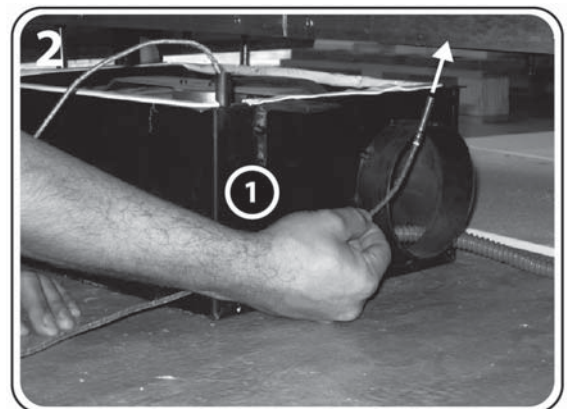
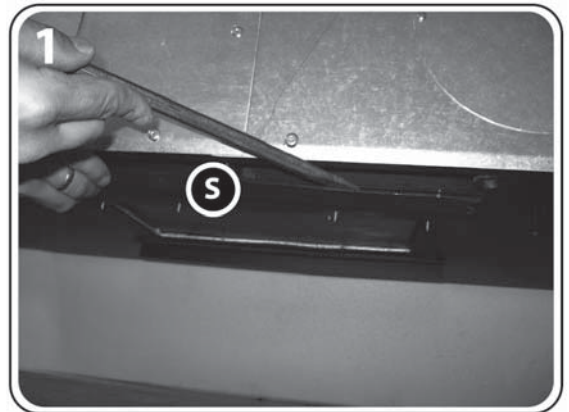
Position the appliance while fully conforming to all the specifications and recommendations already indicated in sections 15, 1.6, 1.7 e 2.2.

2.3.4 Force convection pre-arrangement

i Consult the pictures in section 1.8.3 carefully.

! **ATTENTION:** Fix the fan box near the place of installation, considering that you need to work at the back of the appliance already lifted with a height of the hearth of at least 35 cm. Make sure to work in safety, raising the appliance on 4 building elements of approved solidity and guaranteed durability over time.

1. Once the appliance has been raised, working from the back, use a chisel to remove the plate section from underneath [S] for the forced air flow of the fan.
 2. Position the fan box [1] under the appliance and feed the temperature probe right into the hole on the right-hand side.
 3. Tilt the fan box [1] and insert its upper edge on the flange arranged further forwards at the front of the appliance; raise the rear part until the two threaded pins fit into the holes of the side brackets, then secure firmly with the two nuts [2].
 4. Connect the two flexible aluminium pipes \varnothing 12 [4] and [5] to the openings of the fan box and secure them with two pipe collars [3].
- Lower the appliance down off the building elements and continue assembly, observing the subsequent phases.



2.3.5 Outside air intakes

i Consult the pictures in sections 1.8.2, 1.8.3 and 1.8.4 carefully.

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.

For this appliance to function as a warm air generator with the "Natural Convection" or "Forced convection" system and at the same time to reinstate the oxygen burnt during combustion, it has 3 (use just 2) 15 cm Ø external air intakes (for natural convection, see figure 1) located at the back of the appliance and 2 intakes 12 cm Ø (for forced convection, see figure 2), one on the right and one on the left side of the fan box.

Mount the two relevant sections of flexible aluminium pipes [A] in these intakes and secure them with 2 pipe collars.

Make two holes in the wall communicating with the outdoors (or with a sufficiently aerated room) suitable for feeding the relevant flexible aluminium pipes (see figures 1 and 2).

Move the appliance, lifting or pushing it and sliding it on the base of the fan box over suitable floor protection.

i Since the appliance is very heavy, take due precautions if moving on wood floor.

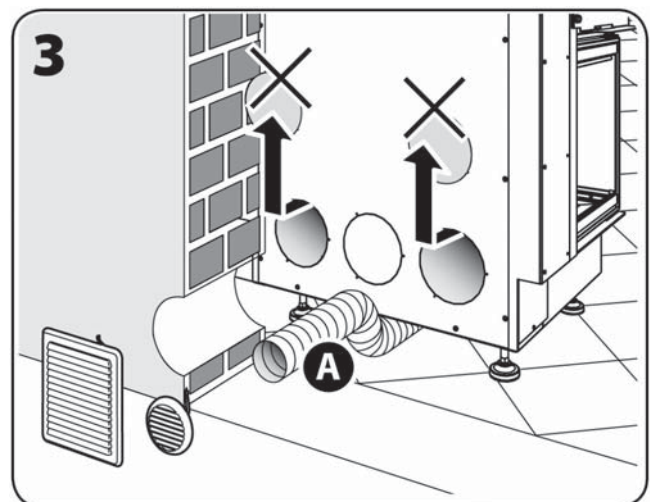
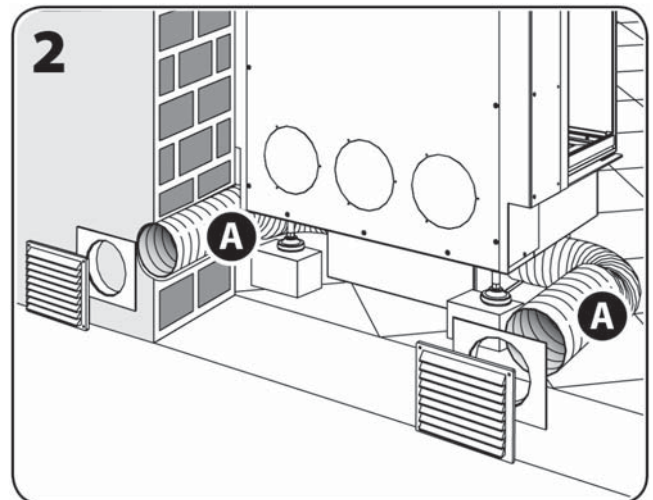
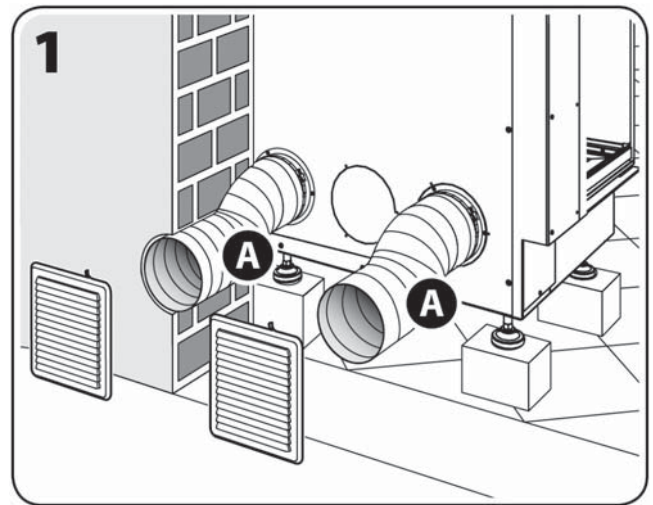
Place the appliance 12 cm away from the wall (or from the protection masonry in case the walls are made of combustible materials) and in the definitive position (check the dimensions of the cladding to install in order to determine the exact position).

Lift the appliance back on the raising elements once and for all and adjust its height and the levels by turning the adjustable feet (using 10-mm spanner); the feet can also be accessed from inside the appliance from under the hearth.

Insert the 2 aluminium lengths of flexible pipe [A] into the holes previously made and cut them in line with the outside wall.

Mount the 2 PVC protection louvers on the afore-mentioned pipes; safe operation and high performance are ensured by using the air intakes supplied with the appliance.

! **IMPORTANT: Check regularly that the air intakes are not obstructed (a flow of air of 170 cm² should always be guaranteed through each louver, for natural convection appliances, and 100 cm² for forced convection appliances).**



The appliance, to intake air from outdoors, can also be installed simply with just the primary air channelling. Apply the intake under the appliance and insert the section of flexible aluminium pipe [A] Ø 8 cm in it and secure with a pipe collar.

Make two holes in the wall communicating with the outdoors (or with a sufficiently aerated room) suitable for feeding the relevant flexible aluminium pipe Ø 8 cm and another of Ø 15 cm inside the drywall panel (see figure 3).

Once the appliance has been positioned correctly as just described, insert the collector into the section of flexible aluminium pipe [A] and fix it with the collar, then insert the piep section into the hole made previously. Now mount the 2 PVC louvers, one on the flexible pipe Ø 8 cm and the other on the Ø 15 cm hole.

2.3.6 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.

 **It is FORBIDDEN to install any manually-operated draught controls along the connection to the chimney flue.**

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.**


2.3.7 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 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).

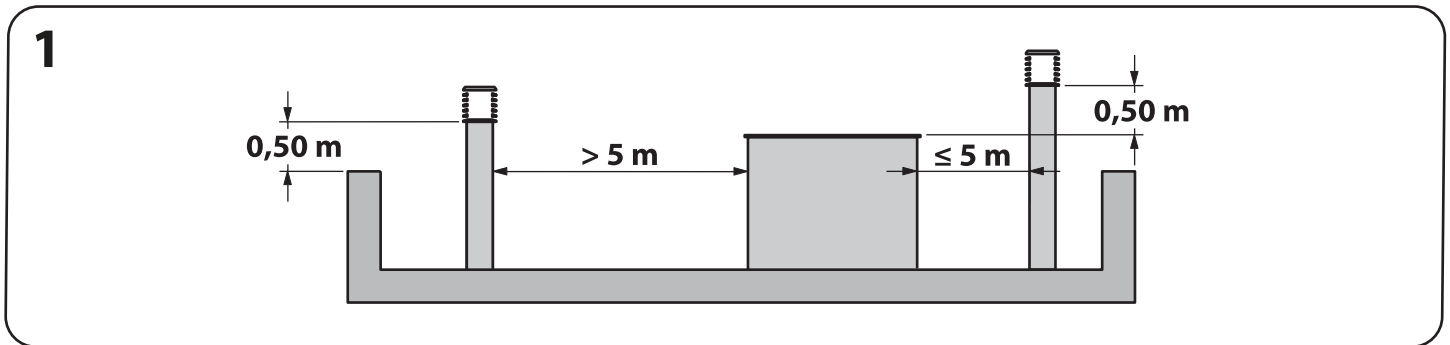
 **Caminetti Montegrappa assumes no responsibility over the appliance malfunction resulting from a bad designed chimney flue and/or a chimney flue which has not been installed in compliance with the given requirements.**

 **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.**

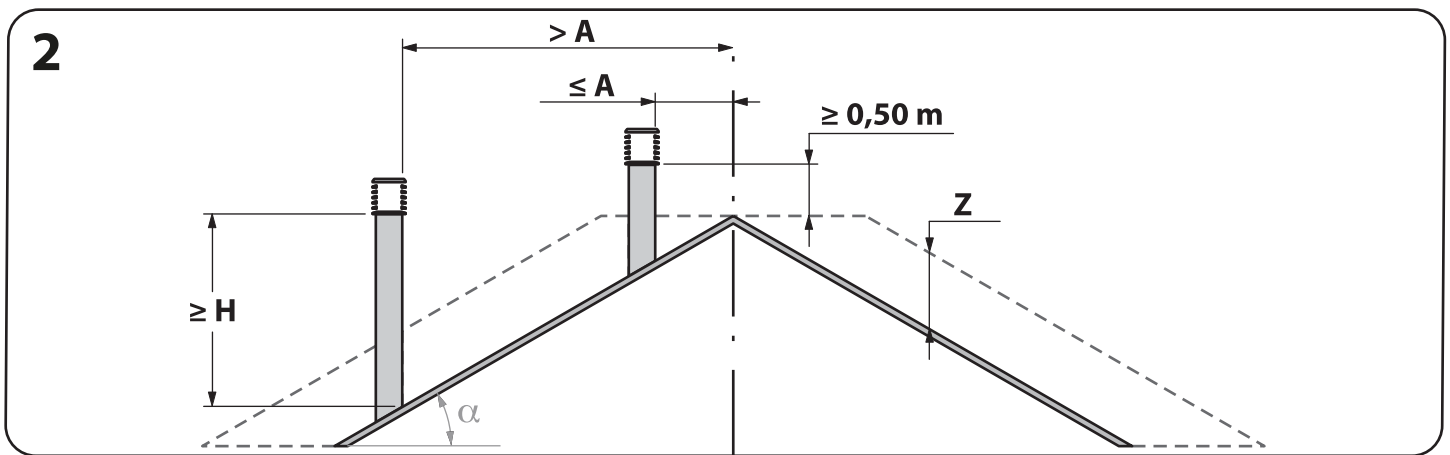
2.3.8 Chimney cap

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 α 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

2.3.9 Insulation

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

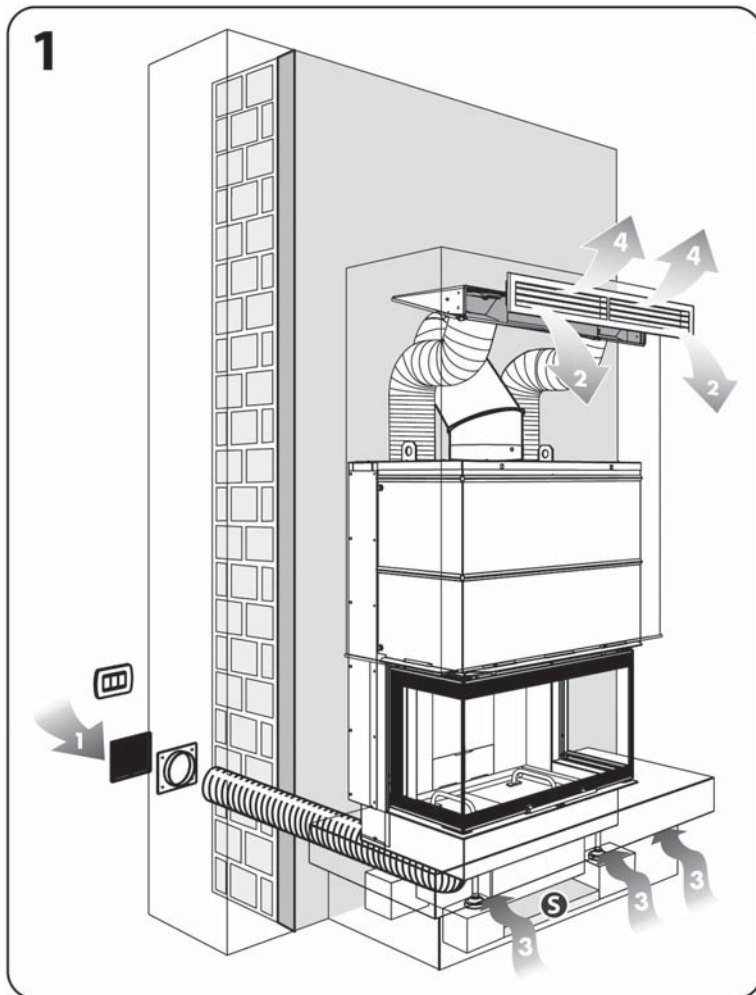
- Type: Rock wool.
- Thickness: 10 cm.
- Density: 80 kg/cu.m.
- Fire resistant.

A 2 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:

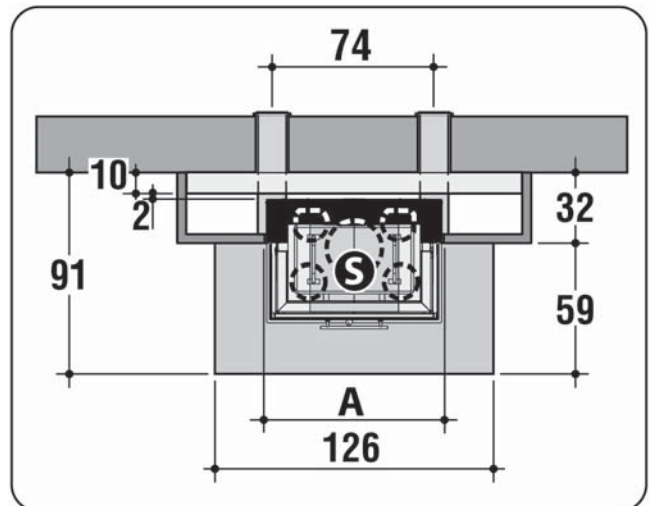
- Ensure that it is load bearing and made of non-combustible material.
- Always provide efficient protection of the surface area underneath the appliance by using a 2,5 cm thick insulating panel (of the same kind as that used to insulate the installation walls) measuring 40x40 cm (see the figure 1, ref. S).

! 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.

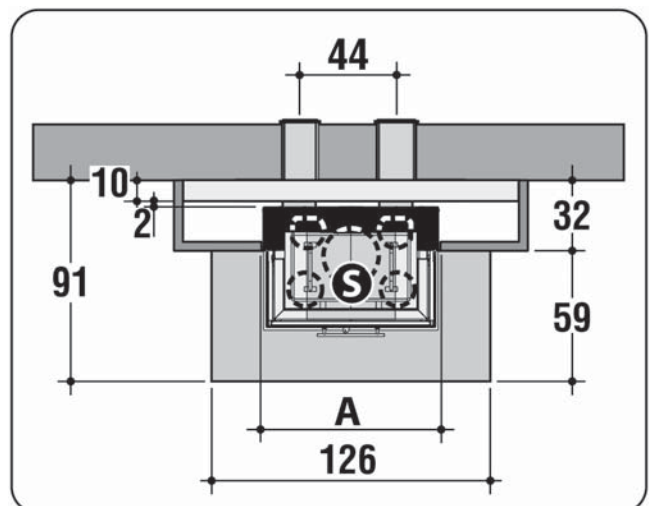


1. Outside air intake for heating
2. Heated air emission
3. Room air admission (room air entering through openings provided on our factory-built claddings)
4. Room air emission
5. Insulating panel - dim. 40x40 cm - min. thickness 2,5 cm

with forced air convection channelling kit
(2 outside air intakes 12 cm Ø)



with natural air convection channelling kit
(2 su 3 outside air intakes 15 cm Ø)



A. Measurement of hole to be made on the drywall panel (see instructions on our frames or claddings)

2.3.10 Electrical connection

i This section only regards the fan-assisted version.

Carry out the electrical connection by connecting the feeder [E] to the nearest 230 V connector block (see right for wiring diagram) and provide a bipolar switch [G] to ensure disconnection of the appliance when it is not operated.

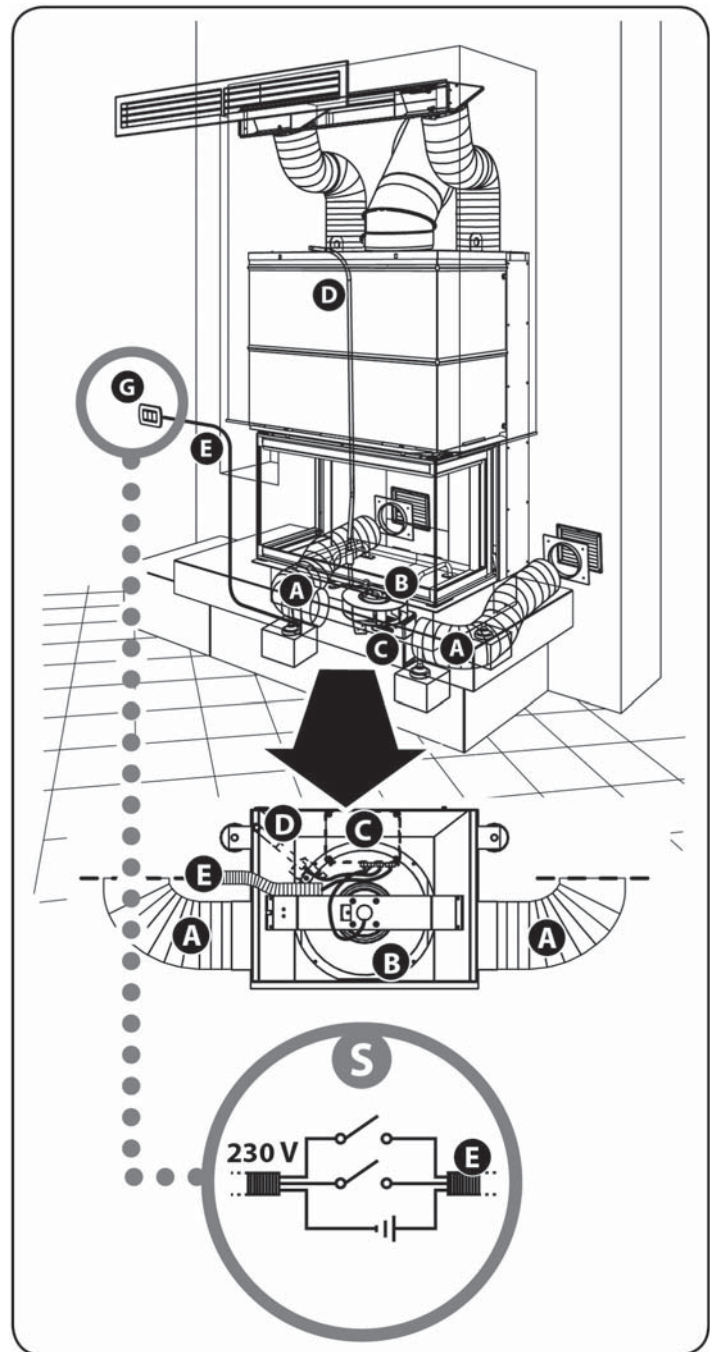
i The outside air suction fan [B] switches on automatically when the temperature of the heated air emitted from the outlets reaches about 40°C and it switches off when the air temperature drops down the aforementioned temperature; during the appliance operation the fan will start up and then stop repeatedly according to the temperature. The air temperature is sensed by a sensor [D], factory-mounted into the left-side 15 cm Ø warm air outlet.

The air temperature measured by sensor [D] during operation is transmitted to the electronic control unit [C] controlling the revolving speed of the fan [B] (the higher the temperature, the bigger the warm air flow emitted into the room).

! CAUTION: The feeder, though protected by a cover made of material withstanding high temperature, must never come into contact with the appliance surface areas.

! WARNING: The appliance must always be disconnected from electricity during all work after connecting chimney flue, such as installation of cladding and mounting the mantle surround trim (double-pole switch off).

S. SCHEMATIC FOR ELECTRICAL CONNECTION WITH DOUBLE POLE SWITCH - 230 V power cord



2.3.11 Cladding Installation

 **WARNING:** During the following mounting work for the cladding, the appliance must be disconnected from electrical power (double-pole switch off).

 **IMPORTANT:** If the cladding was not manufactured by Caminetti Montegrappa, but is instead prepared on site by the user, it is necessary to provide for a slit with an area of no less than 400 sq.cm under the base of the cladding in order to create an air inlet for proper combustion.

Level the appliance by working on its adjustable feet.

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

Begin the mounting of the cladding as per the instructions supplied with our product, and always in full compliance with the general guidelines specified under 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 2.3.12).

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.

2.3.12 Finishing mantle

 **WARNING:** When mounting the finishing mantle or drywall panel, the appliance must be disconnected from electrical power supply (electronic control unit switch in OFF position).

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.

If the ceiling is higher than 3 meters tall, install a third non-closable air vent on the finishing mantle or drywall panel with top edge approximately 30 cm from the ceiling; this vent, whose louvers cannot be shut, ensures the natural emission of the warm air stored inside the flare.

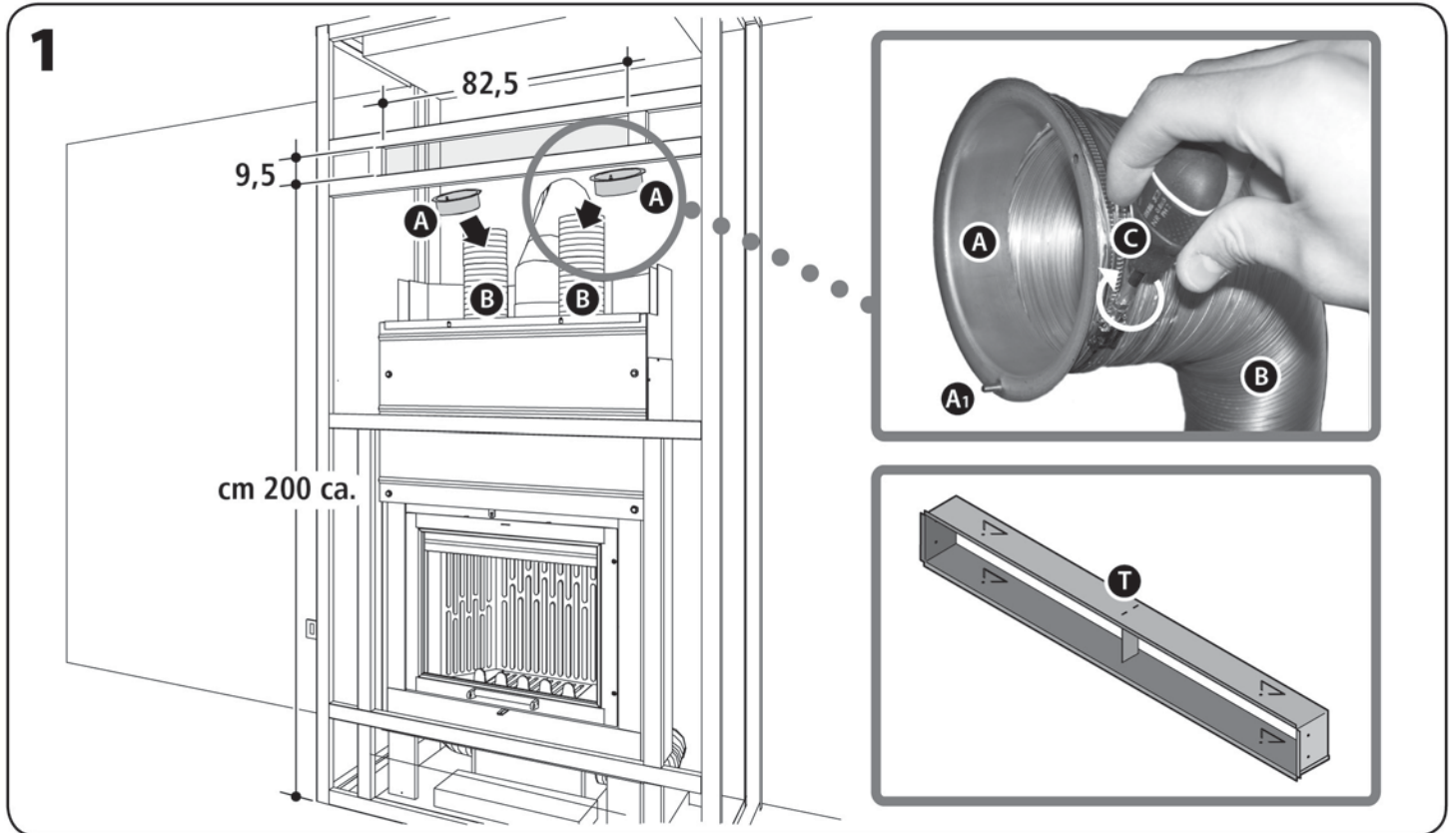
 **IMPORTANT:** Refer to section 2.4.8 for guidelines regarding the ceiling insulation supported and held into place by a plasterboard panel installed horizontally.

 **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 2.3.13).**

2.3.13 Warm air distribution

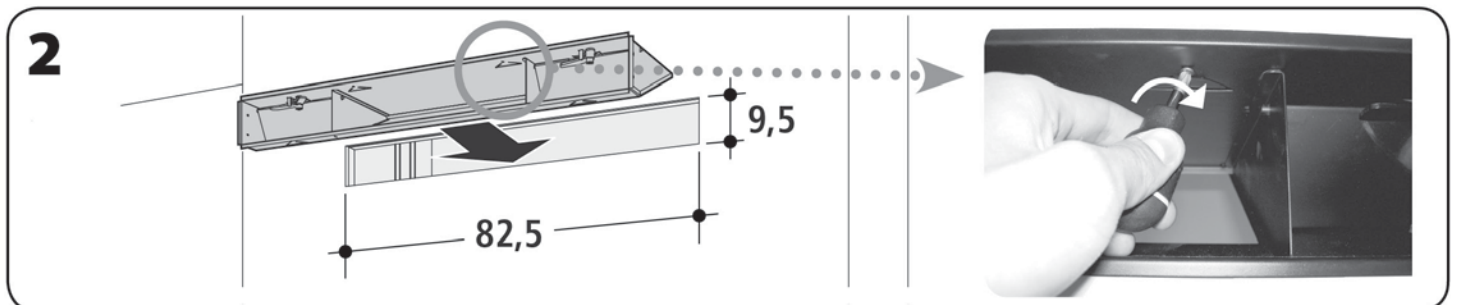
! **WARNING:** While installing the warm air distribution system, the appliance must remain disconnected from electrical power (double-pole switch off).

- When building the finishing mantle or drywall panel in plasterboard, make an opening of 82,5x9,5 cm, 200 cm off the floor. Insert the two unions [A] in the flexible aluminium pipes [B], already connected in advance on the rear openings of the appliance and secure them with pipe collars [C].

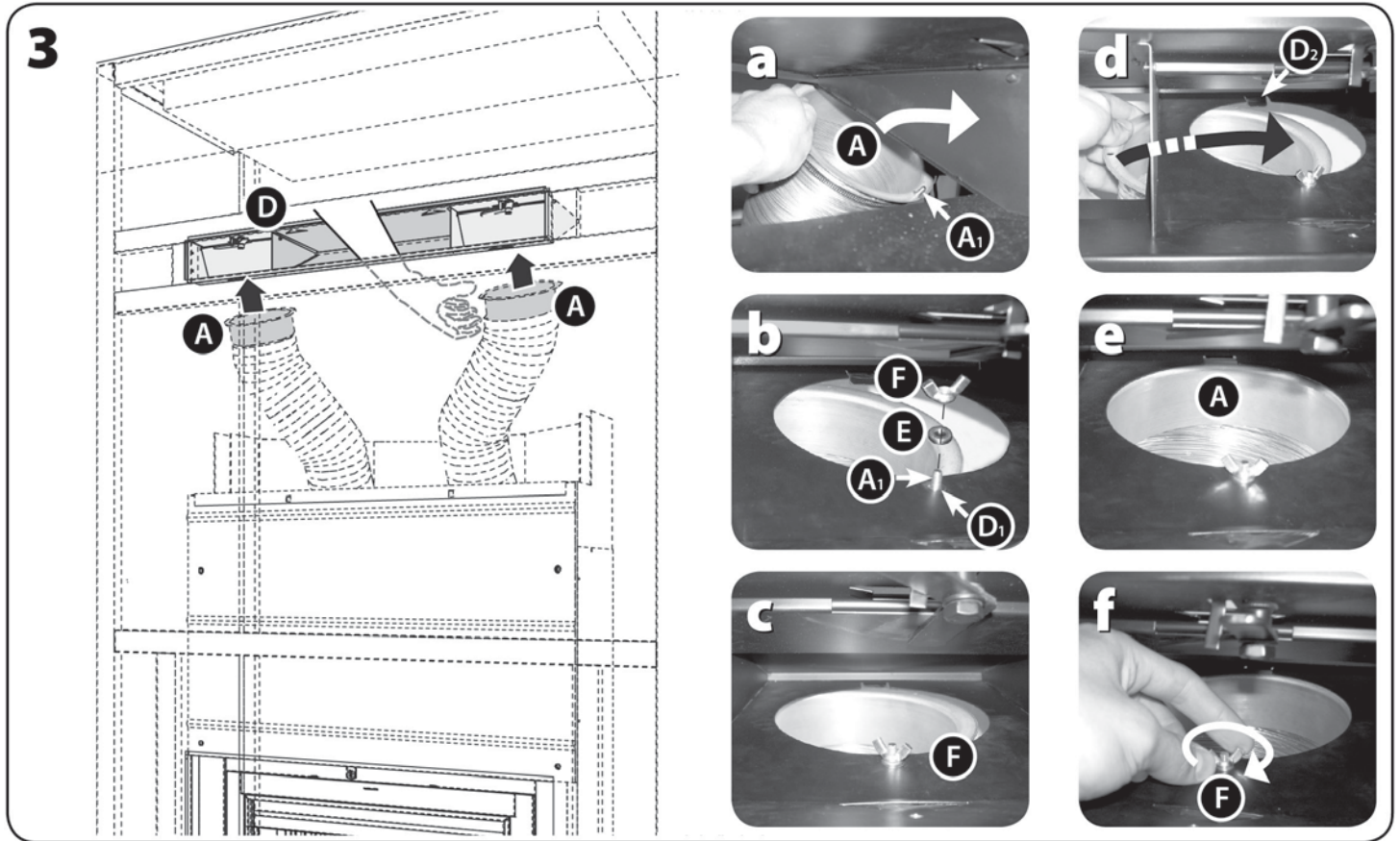


- i** Make the same opening also if the natural convection long hopper is installed and secure it to the metal structure as indicated in point 2.

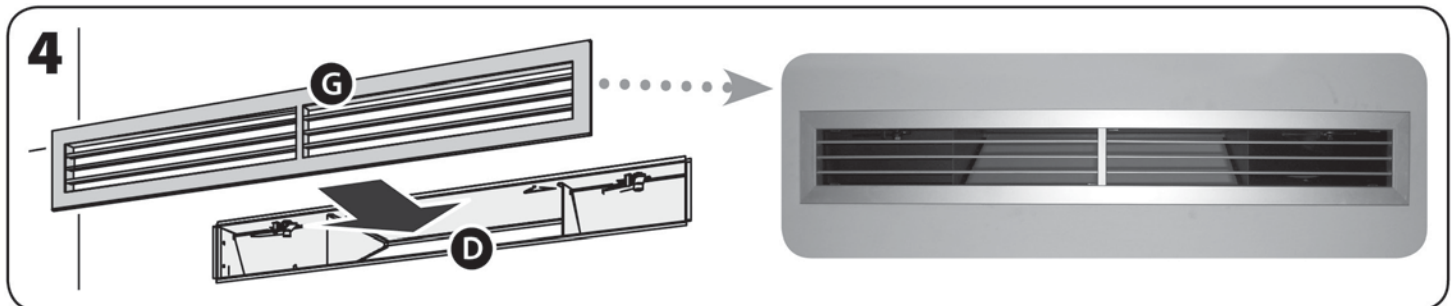
- Complete the finishing mantle or drywall panel with the plasterboard and insert the long hopper [D] in the hole, securing it with some screws to the metal structure.



3. Put a hand in the central part of the long hopper [D] and get hold of the two unions [A] and:
 - Insert the threaded pin [A1] of the union [A] in the hole of \varnothing 5 mm [D1] of the long hopper [D], then first insert the washer [E] and then screw the winged nut M5 slightly [F].
 - Turn the union [A] until the rear part fits into the support tab [D2], slightly opened in advance.
 - Centre the union [A] in the hole of \varnothing 150 mm of the hopper [D], then screw the winged nut M5 [F] permanently.



4. Complete the installation by inserting the vent of 85x12,5 cm [G] in the long hopper [D], pressing slightly so that it fits into place firmly.



Seeing as the appliance has 4 openings at the top, another two vents can be positioned also in adjacent rooms, provided the flexible pipe has a short run (no more than 4 m), as straight as possible and efficiently insulated in the run outside the finishing mantle or another "long hopper kit" can be positioned in an opposite room.

i Only with the Natural Convection unit version two of the warm air vents must be positioned in the room where the appliance is installed and two in the opposite room.

On the external sides of the long hopper you can control the flow of warm air, whereas the central part is always open to diffuse the warm air by natural convection from inside the fireplace surround, to stabilise the temperature (see figure 4).

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 CMtech® parts, you are recommended to strictly follow the indications given for first-time starting.**

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 time, a more lively fire can be built by gradually adding fuel until reaching the maximum amount suggested (see "hourly fuel consumption" in the chart under section 1.3.2) and once the fire is established, keep it for about 2 hours, maintaining the air damper open.

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


 **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).

On lighting the fire set the controls as follows:

- Combustion air damper fully open: using the adjustment handle, turn to the right to open and to the left to close (see figures 1 and 2).
- Warm air outlets with adjustable louvers open.
- Finally, check that the bipolar switch you have installed is set in "ON" position; the fan will switch on and off automatically according to the temperature of air sensed by the thermostatic sensor (only in fan-assisted models).

 **ATTENTION: To avoid yielding and breakages (or feasible bursting or explosion in exceptional cases) of the CMtech® parts, following a period of inactivity, it is a good rule to take the appliance gradually to the working 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).

 **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 for the fire to set-in properly (about one hour) then adjust the air flow by adjusting the combustion air control (see figures 1 and 2); it is very important that both the appliance and the chimney flue be sufficiently warm to keep a good draught and reach the critical temperature ensuring the proper combustion of wood.

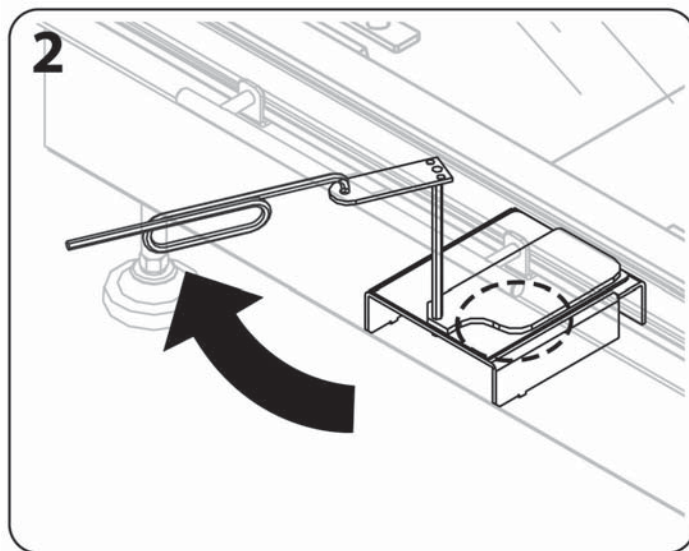
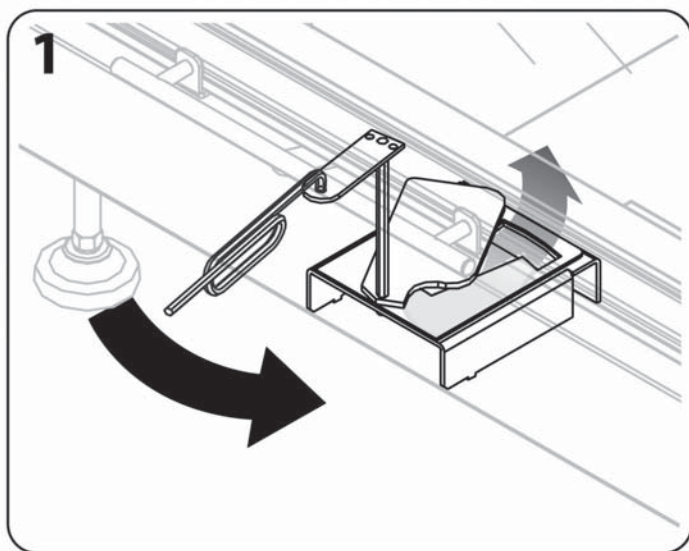
When the fire is well established, which is apparent when the CMtech® lining becomes light-coloured, the firebox may be reloaded

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 firebox, gently set the firewood pieces down on the hearth (Note: The wood is simply to be laid in the firebox and not thrown on it so as to avoid damaging or breaking the CMtech® 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.



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 **To avoid any damages or cracks to the CMtech® lining never throw the wood pieces 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 (see section 3.2, figure 1).

i **To obtain a performance compliant with the data written on the technical data sheet of section 1.3.2, arrange a correct quantity of wood in the two limiters on the hearth. To clean the glass efficiently, you can arrange the wood lengthwise along the whole hearth (generally 3 pieces of 33 cm).**

In the fan-assisted fireplace version, the fan switches on automatically when the sensor detects that the temperature of the air from the outlets is about 40°C, and switches off when the temperature drops below the preset value.

⊘ **WARNING: Should the convection fan stops for technical problems for a long time, it is recommended that the fire be kept moderate until the problem is solved.**

⊘ **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 Radio control

The radio control cannot be used until its configuration is carried out, as described under section 3.4.2.

3.4.1 Description and use

For the description of the radio control see figure on the side:

DL "Display led", area where the switching-on of the led is displayed.

PA "Button AUTO" (automatic mode) by pressing this button the led in the right-hand side will turn on, followed by a long beep sound of confirmation.

The fan will activate once the set temperature is reached.

PM "Button MAN" (manual mode) by pressing this button the led in the left-hand side will turn on, followed by a short beep sound of confirmation. The fan is activated and the user can choose the speed desired.

VM "MAN speed", by pressing the buttons 1, 2, 3, 4 and 5 you can choose among five fan speeds.

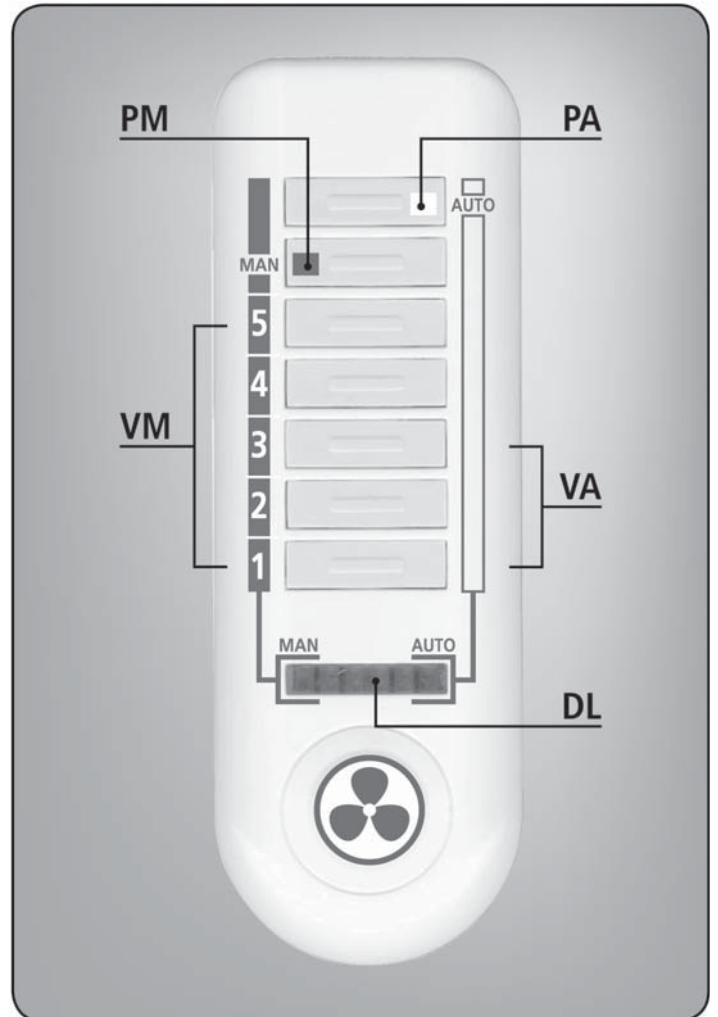
The sensor will restore the automatic mode when:

- the air temperature is higher than the set temperature, only at speed 1 or 2 (safety measure to avoid appliance overheating),
- the air temperature is cooling off and below the set temperature, at any speed selected (to prevent cool air from entering the room and the immediate stopping of the fan).

VA "AUTO speed", the control unit will automatically select speed 1, 2 or 3 according to the warm air temperature detected by the sensor (in this mode any selection of the three buttons is disabled).

i We suggest to select the AUTO mode if the appliance is left unguarded or if there is no intention to load the fire again thus making it quietly go out.

! **WARNING: Keep the radio control out of the reach of children in order to avoid any continuous resetting at short intervals, which could damage the electrical components.**



Use and description of the radio control:

- The radio control enables the user to set the fan speed manually (see PM and VM).
- The appliance must be connected to the electricity power source with the bipolar switch in the ON position.
- The radio control must be handled with care; avoid dropping it.
- The radio control must be kept out of direct sunlight and away from heat.

3.4.2 Configuration

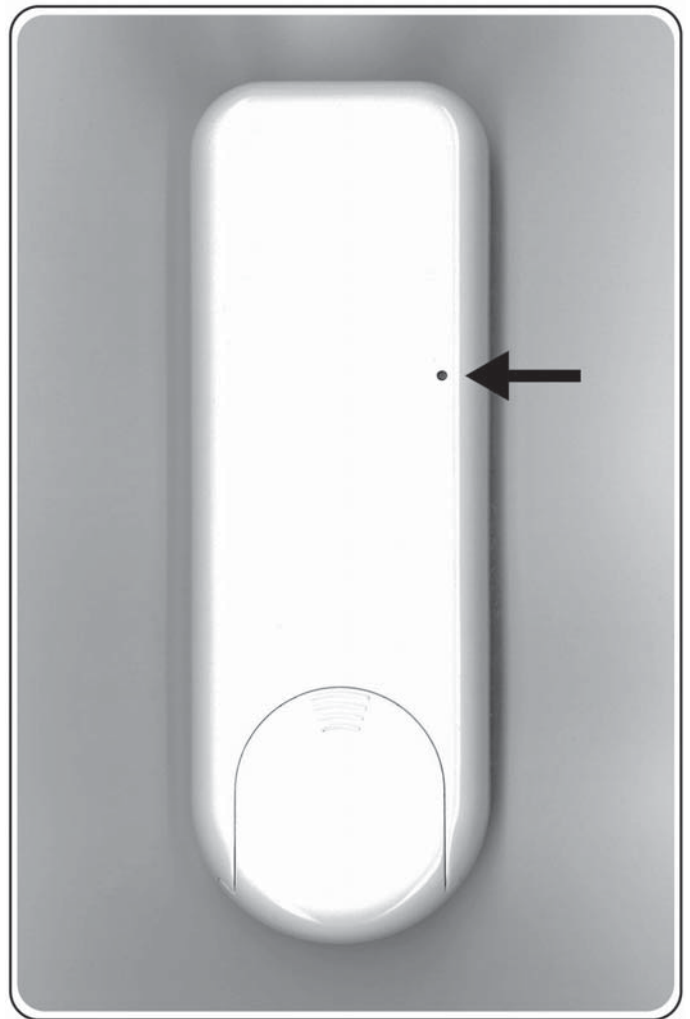
The radio control configuration to the control system located in the fan box must take place only the first time and before starting the fire (cold appliance).

Proceed as follows to set the radio control configuration:

- Find a "tool having a tip of the correct size" and hold the radio control, back side up, and directed towards the appliance.
- Connect the appliance to electrical power through a double pole switch (a switch installed during appliance installation, see section 2.3.10).
- Within 5 seconds of electrical power connection, insert the "tool having a tip of the correct size" into the small hole on the back of the radio control until the audible signal sounds, indicating that the configuration has been set (a long beep).

In order to check that configuration has been carried out correctly, when the appliance is cold, push the MAN button (short beep sound): the fan should run, and by pushing buttons 1, 2, 3, 4 and 5 (a short beep sound each) the different speeds should be activated.

i **Should the radio control no longer respond, although the battery is still efficient (i.e.: leds turn on without emitting any sound), configuration has to be repeated.**



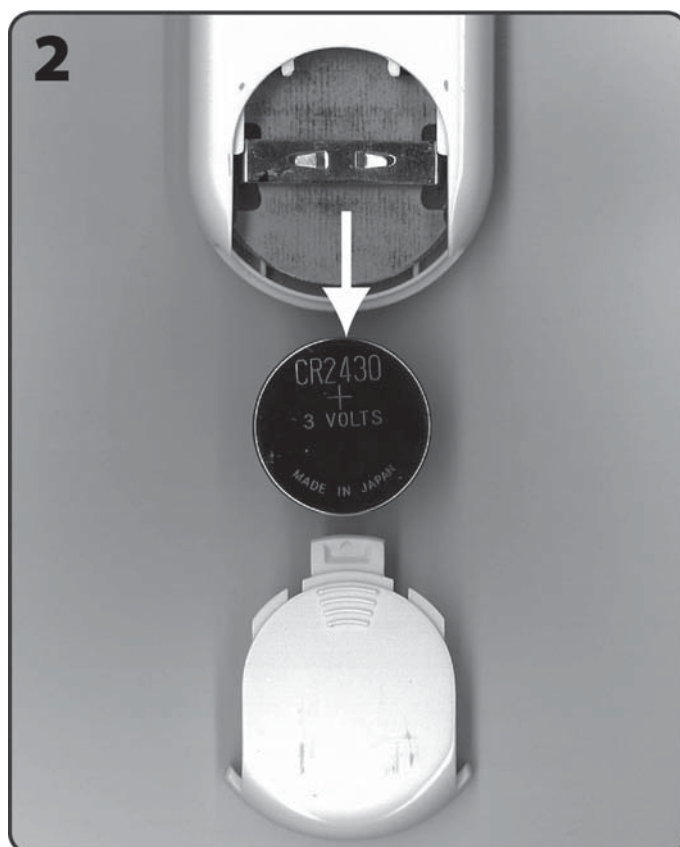
3.4.3 Battery replacement

The battery replacement is carried out as follows:

- Open the lid on the back of the radio control pushing it lightly downwards (see figure 1).
- With the finger pull the battery out (see figure 2).
- Place the new battery of the same type (CR2430 - 3 Volt) with the "+" side readable and towards the top.
- Close the lid again.

Even when the appliance is cold, the fan will run when the MAN button (short beep sound) is pushed, and the different speeds will activate if buttons 1, 2, 3, 4 and 5 are pushed (a short beep sound each).

i Dispose of the run out battery properly.



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 (electronic control unit switch in OFF position).**

4.1.1 Cleaning of metal parts

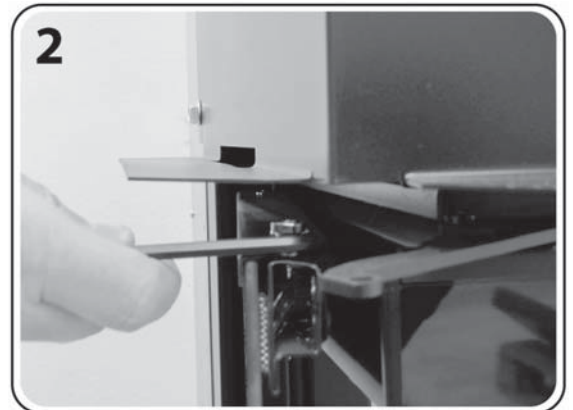
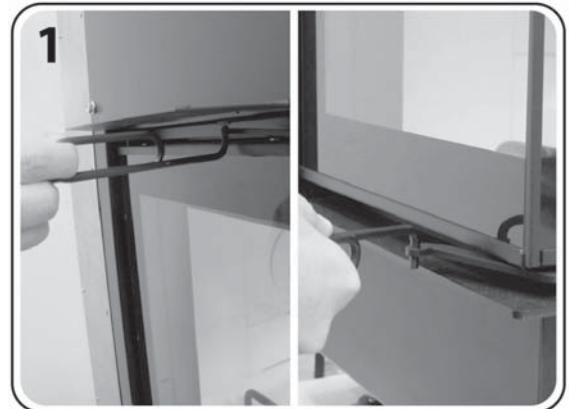
Clean with a dry, soft cloth; do not use any detergent or cleaning products.




4.1.2 Cleaning of ceramic glass


To perform if needed.

i **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.**


1. In order to carry out the cleaning operations the side glasses need to be opened using the allen key supplied. Pull out the two side latches placed in the upper and in the lower part.
2. Using the allen key hook the two pins in the upper and lower part of the door frame, then pull; thereafter proceed with the normal cleaning operations.
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.

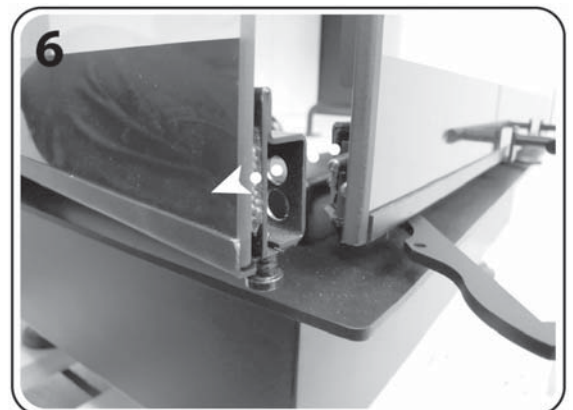


-  **Never spray the ceramic glass with "Puliglass" or any other cleaner.**
-  **While cleaning the frontal glass, keep the door handle so that operations can be carried out more efficiently (see picture 5).**
-  **The use of any abrasive sponges or similar for cleaning the ceramic glass panel is FORBIDDEN; failure to do so may result in permanent damage.**

 **CAUTION: When the door is tilted open, to clean the ceramic glass panel, do not lean on the door frame so as not to damage it.**


Once the cleaning has been carried out, close the lateral glasses paying attention that the pins placed laterally to the central glass are correctly inserted in the holes of the upper and lower part of the lateral glasses (see figure 6).

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



4.1.3 Hearth cleaning

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.

 **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.**

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 and disconnected from the electrical power source (electronic control unit switch in OFF position).**

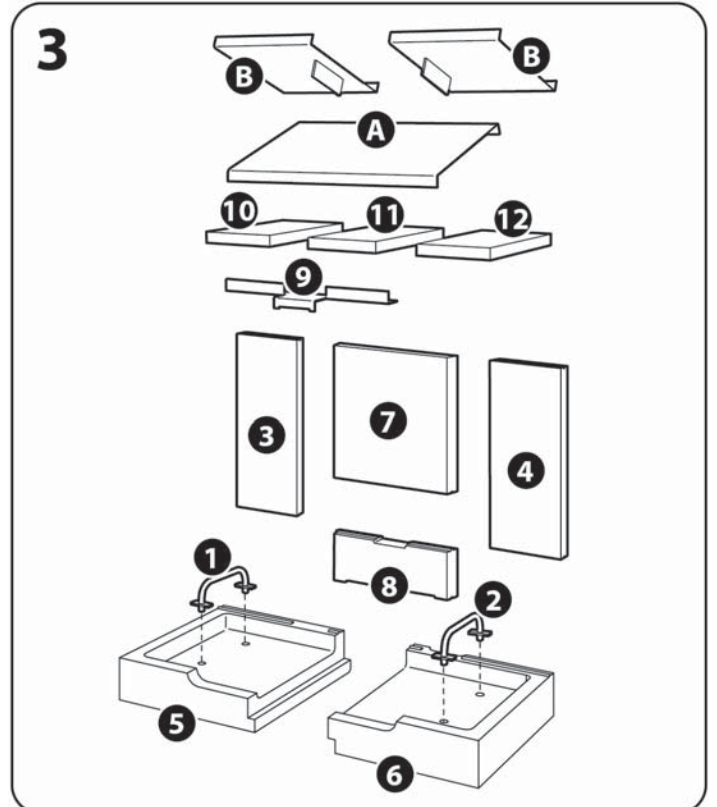
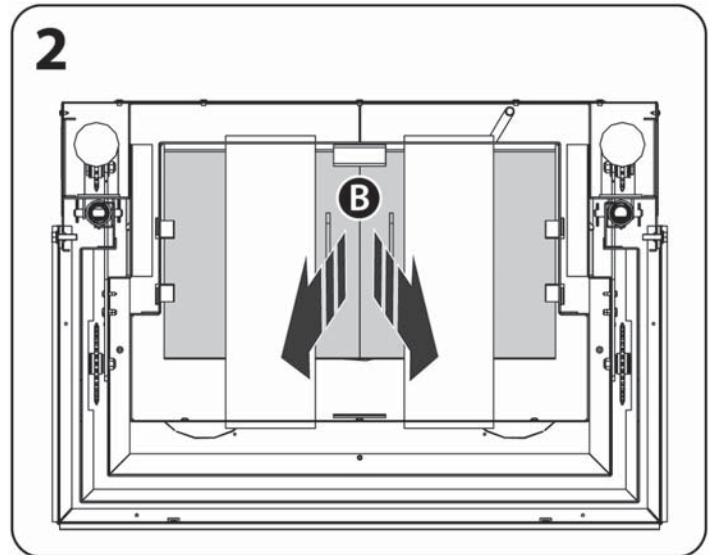
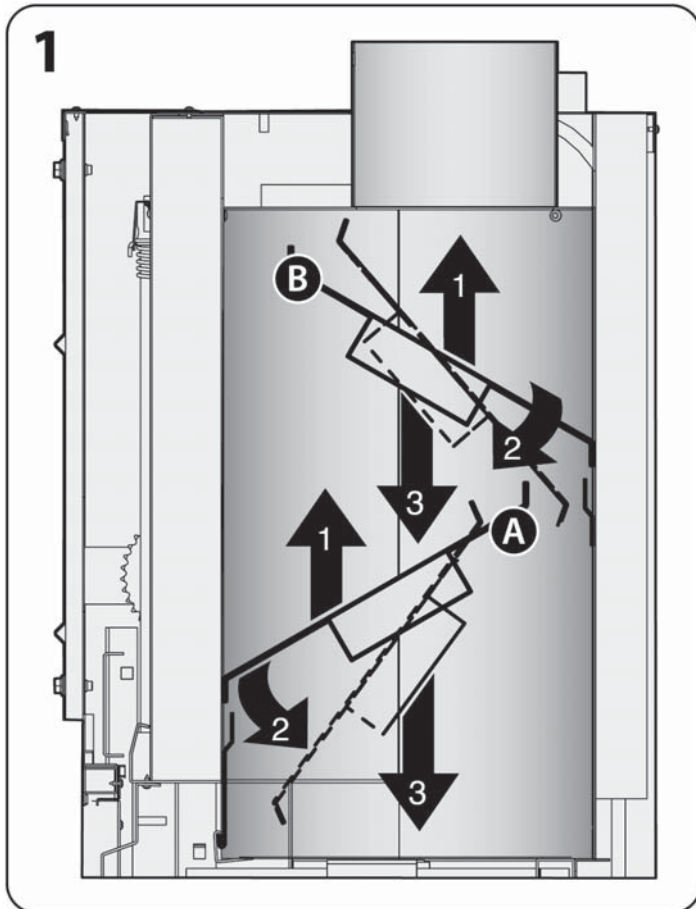
4.2.1 General cleaning

Before starting regular cleaning work, remove the indicated parts from the interior of the appliance, in the following numerical order, being sure to take particular care in handling the CMtech® panels (see figure 3).

For the steel elements [A] and, [B] make the movements illustrated in figures 1 and 2 (to remove the steel elements [B] lift the pieces laterally, bend towards the centre and remove).

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.

i 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 intake control has been set on the closed position and the fire still keeps burning briskly it may probably mean that the assembly is no longer sealed and airtight, and that 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.



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

The convection fan does not operate:


- There is no electricity.
- The bipolar switch could be in the OFF position.
- The outside air intake may be obstructed.
- There may be some impediments in the fan box preventing its correct operation (tree leaves, paper sheets, etc.).
- The amount of firewood utilized may not be in conformance with what is required in this manual (see technical sheet, section 1.3.2).
- The louvers of the warm air outlets may be shut.
- The thermostatic sensor could be burnt.
- The fan may be blown or blocked (have the service staff check the appliance).

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).
- The pipe ducting fresh air from the outside into the fan box may not be airtight.
- The cover on the fan casing may not be closed properly; in case of any doubts, seal the cover with high temperature silicone.
- If any air intake has been provided on the roof it may be close to the chimney flue opening.

Combustion is still lively with the air damper fully closed:

- There is probably a leakage in the airtight structure of the appliance; it is time to replace the gaskets.

 If after checking the previous solutions suggested the problem persists, ask for your dealer assistance service. In the meantime avoid using the appliance for long time in order to avoid any damages to the electrical components should the system of forced ventilation be out of order.

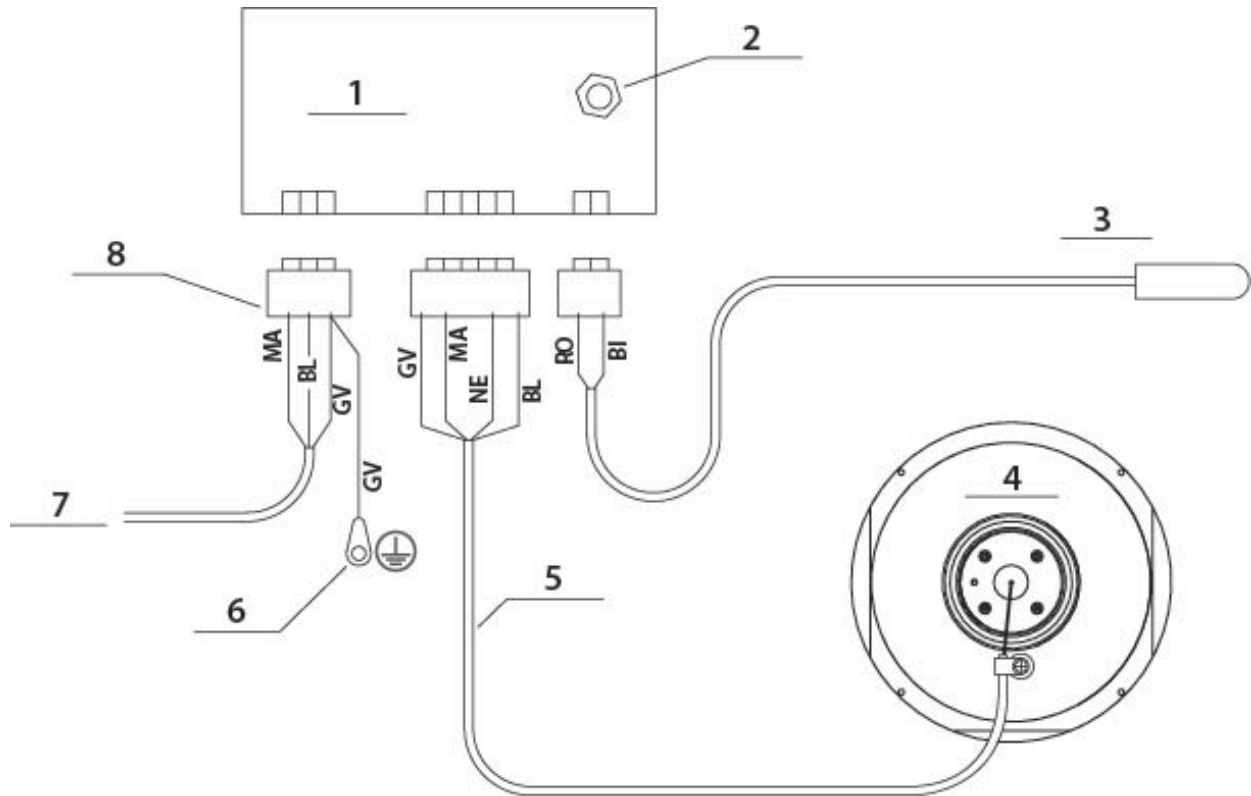
5 FOR THE AUTHORIZED SERVICE TECHNICIAN

5.1 Wiring-diagram



WARNING: Even after being switched off, the appliance is not disconnected from electrical power; therefore, before removing the cladding or the back panel and/or the screws holding the electronic control unit, always be sure to first unplug the power cord or turn off the circuit breaker.

PRACTICAL SCHEME LEGEND



3 poli = 3 poles: MA = brown - BL = blue - GV = yellow-green
 5 poli = 5 poles: GV = yellow-green - MA = brown - NE = black - BL = blue
 2 poli = 2 poles: RO = red - BI = white

1. Control unit
 2. Capacitor locking nut
 3. Sensor PT100
 L = 2150 mm

4. Fan
 5. 8 mm Ø boot
 L = standard length supplied (300 mm)
 6. Eyelet for grounding

7. Power supply cord
 Cord length = 3000 mm
 Sheath length = 2700 mm
 8. Connection terminal board

5.2 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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