

Manual of use installation & operation









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## A.caminetti - People's Fireplace

The passion and love for the wood fire inspired us to create the unique fireplaces A.caminetti. A modern fireplace with a magnificent and cozy fire that will fill your spirit with inspiration and will relax your mind. Our philosophy is different and our vision is positive. Starting from Gladys Taber quote, a house with no fireplace is a house with no heart, we believe that every family deserve a fireplace in their home, we simply do our best for that. The price, quality and fire performance will make you a satisfied client.

Each material in our fireplaces are strictly choosen, we are proud for our partners.

Partner companies: Senotherm / Schock metall / Schott ROBAX / Culimeta / Skamol

Insert coat made of quality steel, in accordance with EN 13229 Insert components manufactured using modern cnc machines (2D Laser and press brakes)Insert welded with MAG, guaranteed high quality.Steel door made of a special profile, guaranteeing rigidity and high-temperature resistance.Heat resistant ceramic glass with working temperatures of up to 800°C.

Acaminetti company completes all the costumer requirements, we have a new vision, to realise the fantasy of costumer with the Individual sizes. . A.caminetti produce each model with individual sizes

Your fantasy turn into reality

Your faith to our company, for us is precious, we appreciate it maximally and do our best to make you a satisfied client

High Efficency > 80%

**Eco Friendly Product** 

Lovely Performance

Premium Design

# **CONTENTS**

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1.1 Risk of burning04 1.2 Safe distance
1.2Safe distance
1.4 Open operation
1.5 Fire in the chimney
1.6 Supply of combustion air06
1.7 Unauthorized technical modifications
2. FUEL
2.1 Forbidden fuel
2.2 Permitted fuel
2.3 Types of wood06
2.4 Storage of wood fuel07
2.5 Recommended dose of fuel
3. DESCRIPTION OF CONTROL ELEMENTS
3.1 Description of control elements08
3.2 Options for closing the door
4. OPERATION OF FREPLACE INSERTS
4.1 Commissioning, burning phase and regulation of air supply09
4.2 Operation in the transient period
5. CLEANING AND MAINTENANCE
5.1 Cleaning the glass
5.2 Removing ash5.3 Regular specialist maintenance
3.3 Negulai specialist ilialitterialite
6. WHAT TO DO IN THE CASE OF A DEFECT12

## 7. GENERAL WARRANTY TERMS

7.2 7.3 7.4 7.5	Important information	14
8.	INTRODUCTION	14
9.	PRODUCTS	15
10.	CHECKING THE PRODUCT	16
11.	CORRECT POSITIONING OF THE FIREPLACE	
12.	TRANSPORT	17
13.	POSITIONING THE FIREPLACE INSERT	18
14.	REMOVING THE TRANSPORT SECURING	19
15.	GAS OUTLET VARIANTS	20
16.	CONNECTION TO THE CHIMNEY	21
17.	AIR SUPPLY FOR BURNING	
18.	CONDRAWEIGHT PLACEMENT	22
19.	DEFLECTOR	23
20.	LIFTDOOR MODELS	24
21.	INSTALLING THE FIREPLACE INSERT	25-27
20.	PERMITTED INSULATING MATERIALS	28

## 1. SAFETY

#### 1.1. Safety instructions

Carefully read these instructions for using the fireplace insert and keep the manual in a safe place. A.caminetti fireplace inserts are certifed according to European standard EN 13229 and carry the CE indication. When assembling the fireplace insert, you must comply with local regulations and instructions applicable to national and European standards. To ensure that your freplace operates correctly, the fireplace must be builded by a specialized company.

### 1.2. Risk of burning

All the surfaces of fireplace insert are very hot when in operation. For servicing, use the attached glove and:

- Always close the door even when fireplace is cold and only open it when starting fre, adding wood or cleaning the insert.
- The door, handle and glass are hot when in operation there is risk of burning! Do not leave children near the fireplace insert unsupervised.

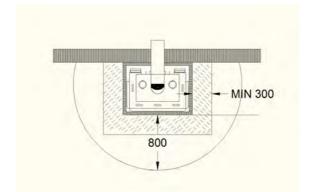
#### 1.3. Safe distance

In the area where the fire is visible there is direct heat radiating, the minimum distance of  $80\,$ 

cm from flammable items must be kept (flammable parts of the construction, wood, furniture, decorative textile, carpets, curtains, etc.). Outside the area of visibility of the fire, there must be a minimum distance of 20 cm from fammable materials (flammable parts of the construction, wood, furniture, decorative textile, carpets, curtains, etc.). The distance is measured from the glass in the fireplace insert (Fig. 1).

As a protection against fying sparks on flammable types of floors (carpet, wooden floor, cork, etc.) there must be used a fire-proof layer (ceramics, stone, glass or metal) with minimum dimensions (see Fig. 1). The distance is measured from the glass in the fireplace insert.

FIG.1



#### 1.4. PUTTING INTO OPERATION

remove all attached documents and accessories from the fireplace. when first heating up the fireplace insert, the high temperature resistant paint will dry and harden. this drying and hardening is accompanied by a smell. the fumes are not toxic, but are unpleasant. follow those rules:

- Open doors and windows in the room so that the area is fully ventilated.
- The frst two batches of the fuel should correspond to the lower limit of the recommended batch for the product
- The paint is soft during burning so do not touch it.

#### 1.5. OPEN OPERATION

A.caminetti freplace inserts are not designed to be operated with an open door. The fireplace must always be closed with the exception of adding fuel so as to prevent burning wood falling out and combustion gases leaking into the room.

#### 1.6. FIRE IN THE CHIMNEY

When burning wood, sparks from the fireplace may get into the chimney and ignite the built up layer of soot. Therefore, the fireplace insert, smoke flue and the chimney must be regularly cleaned. If starting the heating after a long break in operation, then first check that the system is not blocked anywhere.

A fire in the chimney is indicated by flames coming from the mouth of the chimney with sparking and smoke and with a smell from the fireplace. In this case:

#### Call the fire brigade!

- Close the air supply of the fireplace insert.
- Remove all flammable items from nearby the chimney

Before the arrival of the fire brigade, do not try to extinguish the fire in the chimney with water. In the case of a chimney fire, the temperature can reach up to  $1,300\,^{\circ}$ C. In this case, the water will immediately turn into a huge quantity of steam and destroy the chimney.

- After the fire is gone, contact a chimney sweep who can assess the condition of the chimney.

#### 17. SUPPLY OF COMBUSTION AIR

The freplace insert is technically adapted for the combustion of air supplied from the exterior. If during assembly the freplace insert was not connected to this external air supply, it is necessary to ensure a suffcient quantity of combustion air in the room by ventilation. Do not use the freplace insert together with other heating equipment or a consumer appliance that may create under-pressure in a closed room. Components for controlling the air supply into the freplace insert must not be modifed.

#### 1.8. UNAUTHORIZED TECHNICAL MODIFICATIONS

It is forbidden to interfere with the construction of freplace insert. If any unauthorized technical modifications are made, the manufacturer will not bear any liability for safety during the operation of equipment and the warranty will be automatically invalidated. Only spare parts approved by the manufacturer must be used.

## 2. FUEL

#### 2.1 FORBIDDEN FUEL

In the fireplace insert it is forbidden to burn any other fuel than that designated for its purpose. It is also forbidden to burn liquid fuel and waste. Under no circumstances should petrol, alcohol, solvents, etc, be used for ignition! The use of any other fuel than that permitted will damage the fireplace insert and load the environment and will also automatically invalidate the warranty.

#### 2.2. PERMITTED FUEL

It is only permitted to burn only wood in natural condition with the humidity 18 % in A.caminetti fireplace inserts.

#### 2.3. TYPES OF WOOD

The volume of energy contained in one kilogram of wood is approximately the same for all types of wood. However, the individual types of wood differ by volume, i.e. density.

For ignition it is recommended to use wood with a lower density – soft wood (spruce, pine, poplar, fir)

For regular adding, wood with a higher density is recommended – hard wood (oak, beech, ash), that burns with calm flame and creates a steady heat.

#### 2.4. STORAGE OF WOOD FUEL

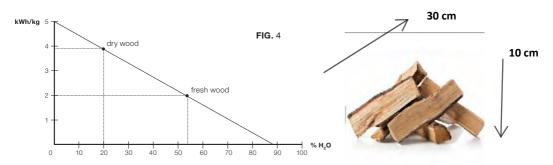
it is recommended to store wood for ideally 2 to 3 years in well ventilated and dry area. optimally, wood is recommended to be stored to the southern part of the house on a grid to provide a fow of air and good ventilation of wood. we recommend to cover the top of the wood to protect against rain (fig. 3). in this way, humidity of 15–18 % will be achieved.

Under no circumstances should you use fresh wood. Fresh wood has humidity of approximately 60 % and a caloric capacity less than 2 kW/h per 1 kg (Fig. 4). To create the same volume of heat energy would require twice the volume of fuel. Moreover, when using fresh wood, the fireplace insert does not achieve the optimal burning temperature, efficiency and low emissions of pollutants. Burning wood with high humidity excessively overloads the fileplace insert and rapidly shortens its service life. In the case of repeated burning of wet wood, the insert or parts of the insert can be damaged! This will also block the chimney and increase the risk of fire in the soot in the chimney.

#### 2.5. RECOMMENDED DOSE OF FUEL

Doses of wood fuel used in the fireplace insert must vary between the maximum and minimum stated value (see table). If adding another batch of fuel than that stated, the fireplace insert can be damaged, become less efficient and the emission values are increased. The fireplace insert is designed for short-term combustion operation. The interval for adding fuel should vary within the range 45-60 minutes.

Note: 1 kg hard wood with 18% humidity corresponds to one 30 cm long piece of wood with a diameter of 10 cm. During burning this quantity of wood releases approximately 4 kW/h of energy, therefore, adapt the doses to the energy demands of your house. Note: 1 kg hard wood with 18% humidity corresponds to one 30 cm long piece of wood with a diameter of 10 cm. During burning this quantity of wood releases approximately 4 kW/h of energy, therefore, adapt the doses to the energy demands of your house.



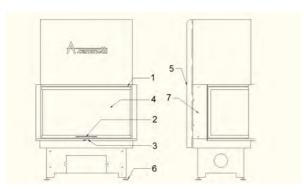
Graph of the dependence of the fuel and the calorific value

# 3. DESCRIPTION OF CONTROL ELEMENTS

#### 3.1 DESCRIPTION OF CONTROL ELEMENTS

A.caminetti fireplace inserts are produced in one basic versions for opening the door:

- liftdoor system (fig. 5a) (fig. 5b)



A CRAMINISTAL 1

FIG. 5A

FIG. 5B

- 1. handles for opening the door for cleaning
- 2. handle for opening the door
- 3.air control
- 4. ceramic glass

- 5. condra weight covering
- 6. fireplace leveling
- 7.lift door system covering

#### 3.2. OPTIONS FOR CLOSING THE DOOR

A.caminetti fireplace inserts enable two methods of closing the door:

- 1 automatic closing of the door
- 2 manual closing of the door

The door is set in production for manual closing

- 1. if you want the door to automatically close
- , inform your freplace builder before starting construction.

## 4. OPERATION OF FIREPLACE INSERTS

### 4.1. COMMISSIONING, BURNING PHASE AND REGULATION OF AIR SUPPLY

First check that there is no large quantity of ash in the burning chamber. This would cause hot particles to fall from the fireplace insert into the room when adding wood.

1. Set the handle for regulation of the air supply for burning to the maximum This ensure a sufficient supply of air for ignition.





- Open the door of the fireplace and on the bottom of the chamber place the dose of fuel recommended for your type of the fireplace insert against the rear wall. First place the larger pieces of wood, then smaller pieces (FIG. 7A).
- Place into the upper part of inserted wood (FIG. 7B), between the small pieces of wood, the stated ignition piece then ignite it.
- 4. Close the door and observe the fire until it is fully burning.
- 5. If the file is burned and the whole dose of fuel is burning, set the regulation of the air supply into the central position (Fig. 8) to achieve the optimal output .

  If the burning did not start, repeat the step No. 4.
- 6. If it is not necessary, do not open the door of the fireplace and do not interfere with the burning Leave the dose of the fuel to burn out. Add the next dose in the heat phase (active burning with flames terminated). Slowly open the door to prevent the escape of smoke into the room and add the dose of the fuel to your fireplace.



FIG. 7A



FIG. 7B

7. If you do not want to add more fuel and the dose has burnt out, set the regulation of air to the left to the minimum (*FIG. 9*). This will prevent burning air getting into the chamber and will prolong the heat phase. The coal will remain hot in the chamber longer and the heat will not escape through the chimney.









Notification: During active burning (visible fre), never close the air supply and do not smoother the fre! Air fowing into the burning chamber cools the ceramic glass. If closing the supply of air, it can be overheated and irreversible changes can occur in the crystalline structure of the glass. During burning with an insufficient air supply, an excessive amount of harmful carbon monoxide - CO will originate. In the case of opening the air supply too fast, there may be a rapid reaction of the collected gases with the oxygen.

Note!! In all the models the opening of air supply is when it is marked number 1,the closing of air supply is when it is marked number 0.

#### 4.2. OPERATION IN THE TRANSIENT PERIOD

For the correct function of the fireplace insert, a sufficient draught in the chimney is required, which depends on the outdoor temperature. In winter when the outdoor temperature is low, the chimney has the highest draught level. A problem with a sufficient draught may occur in the transient period (before and after winter). A higher outdoor temperature worsens the burning and increases the volume of the smoke. These undesirable phenomena can be prevented as follows:

- When starting, increase the first dose of the fuel by 30 %, to quickly achieve the requested draught in the chimney.
- Do not cut the wood into small pieces; this will result in heating the chimney too fast and stabilize the draught.
- Leave the lever for the air supply in maximum position.
- Only add well dried wood.

# 5. CLEANING AND MAINTENANCE

**Notification:** Before starting to clean the fireplace insert, make sure that is cold and has completely finished burning. The frequency of cleaning and the intensity of the maintenance (fireplace insert, smoke flue, chimney) depends on the quality of the burnt wood. If the fireplace insert was not in operation for a long time, then before heating, it is necessary to check that the chimney is not blocked.

#### 5.1. CLEANING THE GLASS

The door of the **A.caminetti** fireplace insert is produced from high-quality ceramic glass and is fitted with a self-cleaning ceramic glass system. Air supplied into the combustion chamber "rinses" the glass from the inside. Correct regulation of air and by burning dry wood will result in clear glass that won't need to be cleaned very often. To clean dirty glass in the fireplace insert with the liftdoor, first open all the handles along the perimeter **(FIG. 10A)**. Then open the door into the cleaning position



Only clean the glass with a wet paper cloth. If this is insufficient, apply a small amount of clean ash from the burning chamber of the fireplace insert. Then wash the glass again with a wet paper cloth and polish with a dry cloth.Do not use in any circumstances any aggressive cleaning detergents! These can damage the components in the door of the fireplace insert (sealing, polished areas, stainless bars, imprinting of glass, etc.).

#### 5.2. REMOVING ASH

**Notice:** Ash can contain hot coal for up to 24 hours. Always remove the ash when it is cold and extinguish the fireplace insert! Then place them for 24 hours into a non-flammable vessel out of the reach of children. Your A. caminetti fireplace insert uses the latest and the most effective grid-free method of burning. Remove the ash within regular intervals adapted to the intensity of the heating. When cleaning, leave a small quantity of ash to speed up the ignition.

#### 5.3. **REGULAR SPECIALIST MAINTENANCE**

Once a year, before starting the heating season, the fireplace insert should be inspected by an expert - fireplace technician. This maintenance should include:

checking and cleaning of the burning chamber

for hot-air fireplace insert:

- and burnt passages
- checking the regulation and air supply system

checking the sealing parts and mechanism for opening

the door of the fireplace insert

## 6. WHAT TO DO IN THE CASE OF A DEFECT

#### The glass is heavily smoked

Possible reasons:

- incorrect fuel is used
- regulation of the combustion air is not opened
- the line for the external air supply is blocked (contact your fireplace technician)
- the draught of the chimney is insufficient in the transient period.

#### The fire does not want to ignite and keeps on going out

Possible reasons:

- incorrect fuel is used
- regulation of the combustion air is not opened
- the line for the external air supply is blocked (contact your fireplace technician)
- the draught of the chimney is insufficient in the transient period.

#### Smoke escapes into the room when wood is added

Possible reasons:

- incorrect fuel is used
- the draught in the chimney is insufficient in the transient period
- the door was opened too fast
- fuel was not added in the correct phase of burning
- the door sealing is damaged (contact your fireplace technician

#### The wood burns too quickly or the consumption of the wood is too high

Possible reasons:

- incorrect fuel was used
- recommended dose of the fuel was not kept
- the air supply for burning did not reduce
- the door is not completely closed

#### The cooling loop often switches off

Possible reasons:

- the recommended dose of the fuel is not kept
- there is a high temperature of the accumulation tank stop and add wood
- the valve is damaged (contact your fireplace technician)
- there was an electricity breakdown stop to add wood

## If defects continue, contact your fireplace technician!!

## 7. GENERAL WARRANTY TERMS

#### 7.1. IMPORTANT INFORMATION

A.caminetti products are produced from high-quality materials with a long service life. The whole manufacturing process is the subject of regular inspection to prevent any defects.

The installation of this product requires professional knowledge and, therefore, must only be done by qualifed companies aware of the valid legal provisions.

Note: Damage which exceeds the financial framework of our delivered devices, will not be acknowledged unless stated by law otherwise.

#### 7.2. WARRANTY CONDITIONS

- The freplace insert may only be installed by a professional company in accordance with our manuals and local standards.
- It is forbidden to make any technical changes to the freplace.
- During operation of the freplace insert, the operator must follow the stated user manual.
- The warranty does not apply to damage originated during transport due to incorrect storage in a wet environment.
- The warranty does not apply to common wearing of the freplace insert
   The warranty does not apply to damage caused by overheating the freplace insert, i.e.
   excessive volume of fuel, i.e. adding excessive volume of fuel, or use of the forbidden fue.

#### 7.3. WARRANTY PERIOD

The warranty period starts from the day of sale to the end client. The warranty period for the body of the freplace insert is 5 years. The warranty period for all mechanical parts and parts in contact with fre is 2 years. The warranty does not apply to for common wearing parts.

#### 7.4. COMMON WEARING

Warranty conditions do not apply to parts which are the subject of common wearing, particular concerning:

Wearing of t he fireplace bed: Refractory / skamol plates are expanded or contracted during operation due to thermal loading. During these processes, micro cracks may originate. If refractory / skamol plates keep their form and are not broken, then they fulfil their function.

**Wearing of surface treatment:** colour change of the varnish surfaces due to thermal stressing or overheating.

**Wearing of sealing:** decreasing the tightness due to the affection of heat, mechanical wearing and hardening of sealing.

**Wearing of glass:** dirtying by soot or remainders of burn materials, colour or other changes by the affection of heat.

#### 7.5. REPAIR AND MAINTENANCE

During the warranty period, all defects will be repaired where the reasons are proven defects to material and manufacturing defects. Compensation for defects outside the boundaries of this damage is excluded. Maintenance of the device or the replacement of components will not extend the warranty period. For the replaceable parts, the warranty period stated by law is valid.

#### 7.6. MAKING A CLAIM

To make a warranty claim, contact your freplace technician and submit:

- warranty certifcate
- description and photo documentation of the defect

## **CONTACT YOUR FIREPLACE TECHNICIAN!!**

## 8. INTRODUCTION.

- Before starting work, carefully read this manual.
- We do not bear any liability for any damage that may occur as a result of complying with the instructions in this manual, which will also invalidate they warranty.
- Injury and damage to the materials may occur if the procedure is not followed correctly.
- Following this manual and ensuring professional installation will result in energy saving and ecological operation.
- When assembling the onsumer appliance, follow all local regulations and regulations regarding national and European standards.
- Keep this manual in a safe place.

# **PRODUCTS**

MODEL	POWER OUTPUT (KW)	DOSE OF CO (%)	LOAD OF WOOD (KG)	EFFICIENCY (%)
CRYSTAL 3D 50/60	14 KW	0.041%	2-3 kg/h	85%
CRYSTAL 3D 50	14 KW	0.041%	2-3 kg/h	85%
CRYSTAL 3D	15 KW	0.032%	3-4 kg/h	85%
CRYSTAL 3D MAX	17 KW	0.031%	3-4 kg/h	87%
CRYSTAL 80 MAX	13 KW	0.044%	2-3 kg/h	85%
CRYSTAL 90 MAX	17 KW	0.031%	3-4 kg/h	87%
CRYSTAL 110 MAX	18 KW	0.028%	3-4 kg/h	88%
QUATTRO 80 MAX	13 KW	0.036%	2-3 kg/h	89%
QUATTRO 90 MAX	14 KW	0.033%	2-3 kg/h	87%
QUATTRO 100 MAX	17 KW	0.045%	3-4 kg/h	85%
FLAT Premium 60x50	13 KW	0.075%	3-4 kg/h	88%
FLAT Premium 75x50	14 KW	0.076%	2-3 kg/h	87%
FLAT Premium 75x60	15 KW	0.077%	3-4 kg/h	86%
FLAT Premium 90x60	19 KW	0.082%	3-4 kg/h	83%
FLAT Premium 90x70	19 KW	0.082%	3-4 kg/h	83%
FLAT Premium120x50	21 KW	0.084%	3-4 kg/h	81%

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# 9. CHECKING THE PRODUCT.

Immediately after receipt of the consignment, check:

- that there is no visible damage
- that all movable parts and mechanisms are functional
- that the consignment is fully complete and contains:
  - Installation and User Manual
  - Warranty Certificate

IMMEDIATELY NOTIFY YOUR SUPPLIER OF ANY POTENTIAL DEFECTS AND DISCREPANCIES.

# 10. CORRECTPOSITIONING OF THE FIREPLACE INSERT.

When choosing the correct position for the fireplace insert, the following requirements should be taken into consideration:

- The position of the fireplace insert must be approved by the construction supervisor (chimney foreman).
- A sufficient air supply must be ensured in the room. Burning 1 kg of the wood requires approximately 12 m3 of air.
- There must not be any electric cables running through the wall or ceiling where the fireplace insert will be installed.
- The distances from walls and floors as well as distances from electricity cables and flammable materials in walls and ceilings, e.g. wooden beams, must also be taken into account.
- The consumer appliance must be positioned on a floor with the respective floor load capacity.

#### The fireplace must not be positioned in rooms:

- where there is no air supply for burning
- where flammable and explosive substances or mixtures are processed, stored or produced
- where by the exhaustion of air, the under-pressure originates towards outdoor environment (ventilators, fume hoods, ventilation and heating equipment, ventilation driers, etc.)

# 11. TRANSPORT

Handling the fireplace insert is made easier by using the transport handles which can be inserted into the on the body of the fireplace insert (*FIG. 1*).

Before transporting, make sure that both the ejection mechanism of the doors (applicable to fireplace inserts with liftdoors) and linning of the fireplace are secured.









## 12. POSITIONING THE FIREPLACE INSERT

- The fireplace insert must be positioned on a base with the respective load-bearing capacity.
- The fireplace insert must be positioned on the foundation plate, not on an unstable or movable surface.
- The distance of the fireplace insert from the floor can be regulated by turning the legs. Use the
  adjustable legs to balance out a height difference of up to 6 cm (only 1 cm for corner inserts).
   The fireplace insert must then be balanced horizontally.

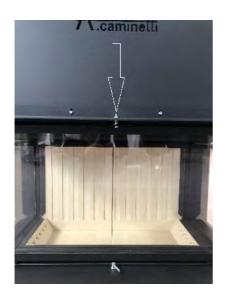






# 13. REMOVING THE TRANSPORT SECURINGS

- After positioning the fireplace insert, remove the transport securings that prevent damage to the lift-down door mechanism.
- After removing of the securings, check the movement of the door. If there are any defects, inform your supplier and stop the installation work.











## 14. GAS OUTLET VARIANTS

Extracting smoke from the fireplace depends on how the fireplace insert is combined with an -accumulating flue system. We supply the following versions:

Version with rear smoke extraction recommended for connection to the accumulating flue system or for direct connection to the chimney.

- the unused outlet (upper or lower) can be used as revision hole
- version with direct smoke extraction
- recommended for connection to the accumulating flue system or for direct connection to the chimney.



20

## 15. CONNECTION TO THE CHIMNEY

- Before connecting the freplace insert to the chimney, check the size and condition of the chimney (according to the dln 18160 directives and standards). The correct operation of the chimney according to dln En 13384 must be signed by legal authority. When making the chimney calculations, you must include the parameters of the freplace insert. When the door is open (when adding wood) a safer quantity of air and combustion gases are taken away than during normal operation.
- The fue channels must not be reduced to smaller diameters.
- More than one heat source may be connected to one chimney only if the heat source is equipped with self-closing door mechanism and is certifed according to En 13229 A1.
   Consequently, the calculation must be according to the standard dln En 13384, paragraph2.
- Follow standards En 73 4201, dln 18160, dln 18896 or the regulations for this type of consumer appliance in the country of installation.

#### Connection / chimney flue

The parts used for connections must be designed according to standard DIN EN 13384.

- A steel tube (chimney flue) designed for connecting the fireplace insert to the chimney and containing a CE label can be used (the minimum thickness of the wall is 2 mm, for stainless steel, 1 mm).
- If the draught in the chimney during the operation of fireplace insert is too high (more than 20 Pa), it is recommended to install a chimney flap. In this case, make sure that:
- the flap is not automatically closed
- the flap has easy and clear control and the closed and open positions are marked
- the flap has holes in the net section of at least 3 % of the size of the total cross-section of the flap, however, a minimum of 20 cm<sup>2</sup>.

## 16. AIR SUPPLY FOR BURNING

- The fireplace insert must only be operated in rooms with a sufficient supply of air for burning. Equipment for extracting air (e.g. ventilation equipment, steam exhausting unit), which is operated with the fireplace insert in one room, may interfere with the air supply into the fireplace insert. In such an event, make sure that in the room no under-pressure occurs compared with the outdoor environment.
- To supply air, it is recommended to use the shortest possible route and to deviate from the direction of the line only if strictly necessary.
- Use work diagrams (see the professional regulations for fireplace specialists Tr-ol) and determine the cross-section of the air supply line.
- The air supply line must be from fireproofed form stable material.
- remove the insulation from the air supply line to prevent condensation.



air supply pipe from outside (fresh air)

# 17. CONDRAWEIGHT PLACEMENT

Please follow the steps in the photos below (FIG.7) for the condraweight placement

In the moment that you have take out the cover part in the front side of the fireplace which is marked the logo ( A.caminetti) , FIG 3,chapter 13, in the same time you have to take out the condraweight covering which are galvanised metal. Raise up the coverings and pull them

out. Check the cable in the rolling bearings, after that you have to put the condraweights.









FIG.7

## **FLAT LIFTDOOR MODELS**















**CRYSTAL MODELS** 



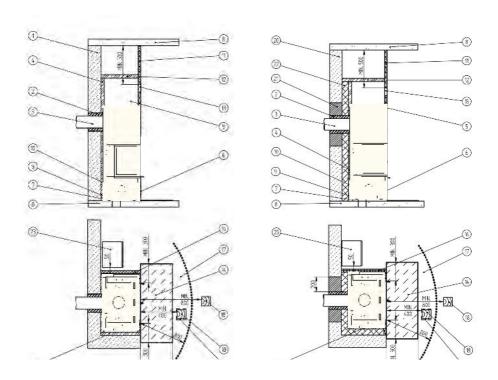


NOTE: THE DOOR OPENING IS THE SAME FOR ALL CRYSTAL MODELS.

## 18. NSTALLING THE FIREPLACE INSERT

- When assembling the consumer appliance, follow all local regulations and regulations related to national and European standards.
- During the construction, pay special attention to regulations concerning fire safety, options for using materials and the size of the ventilation grids.
- The construction must enable access for cleaning the consumer appliance, chimney flue and chimney.
- Figures 17A and 17B show individual safety elements and parts of the construction during the installation of the fireplace insert on a standard and protective wall.

FIG. 17A FIG. 17B



- 1. Wall
- 2. Insulation layer (chimney flue)
- 3. Connection / chimney flue
- 4. Insulation layer (rear wall)
- Convection area
- 6. Grid for the inflow of convection air
- 7. Concrete slab min. 6 cm (for installation a protective ceiling)
- 8. Ceiling
- 9. Insulation layer (floor)
- 10. Air supply to the fireplace
- 11. Surroundings (of the room)
- 12. Insulation layer (ceiling)
- 13. Grid for extraction of convection air

- Protective floor made from fireproof material
- 15. Insulation layer (sides)
- 16. Surroundings (of the room)
- 17. Radiation area
- 18. Flammable material
- 19. Ventilated radiation protection
- 20. Protective wall
- 21. Fire protection on the passage through the flue channel
- 22. Firewall from mineral material
- 23. Furniture for flammable materials at a distance of min 5 cm from the wall of the surroundings

#### Convection area

- If the hot-air jacket is not used, then between the fireplace insert and the insulation layer (4, 15) there must be a minimum gap of 6 cm on the rear and side areas.
- The convection area must be insulated from all walls with the exception of walls which form the heat-exchange area of the surroundings.
- The walls, floor and ceiling of the convection area must be clean and resistant to the abrasion.

#### Flow of convection air from the hot-air jacket

- All hot convectional piping must consist of form stable non-flammable materials.
- When installing a hot-air jacket, the hose for the flow of hot air must be firmly connected to the flange of the hot-air jacket and to the input grid.

#### Operation of the air grid (hypocaust)

- The conventional air circulates in the closed shelling. The heat from the convectional area is transferred into the room through the heat-exchange areas of the surroundings.
- The heat load in the convectional area of the hypocaust is higher than that for the construction with air grids. This higher heat load must be taken into account for additional insulation of the conventional space.
- The size and the construction of the heat-exchange area of the surroundings must correspond to the heat output of the insert.

#### Forewall (protection of walls from flammable materials)

- This is used to protect the walls of the building (20) and consists of mineral material with a minimum thickness of 10 cm.
- The pre-wall may be terminated a minimum of 20 cm above the chimney flue (3).
- The forewall is not required to be built when the wall of the building:
  - is at least 10 cm thick
  - is constructed from non-flammable materials
  - is not a load-bearing concrete wall or a reinforced concrete wall

#### Insulating layers (protection of standard walls)

- The forewall (22) and the wall of the building (20) must be protected by an insulating layer (4, 16) with a minimum thickness of 9 cm.
- The surrounding (11) does not need to be protected by the insulating layer if the construction is protected so that the surface of the surroundings heats to a maximum of 85°C. For natural stone or ceramic surfaces where no items will be placed, the surface temperature may increase to a maximum of 120 °C (applies to large slopes or vertical areas of the surroundings heated tiled walls, etc.).

#### Protection of the floor

- Floors from flammable materials must be protected by the concrete plate (7) with a minimum thickness of 6 cm, which must have an insulating layer (9).
- Load-bearing floors and floors from reinforced concrete must be protected by an insulating layer (9).

#### **Surroundings**

- The walls of the surroundings distribute the heat into the room and must be from non-flammable class A1 materials.
- Natural stone or ceramic vertical areas in the room can reach a maximum temperature of 120°C.
- Horizontal areas where items may be placed can reach a maximum temperature of 85 °C.
- The surroundings must not be connected to the fireplace insert and must be self-bearing.
- Between the fireplace insert and the surroundings, as well as the bearing frame and the surroundings, sealing tape or insulating paper must be inserted to covers the difference in the heat expansion of the material.

#### Ventilation grids

- For the output ventilation grid, a minimum distance of 50 cm from the ceiling must be maintained and 30 cm from walls from flammable materials, load-bearing concrete walls and built-in furniture.
- Output ventilation grids must be positioned proportionally from the upper part of the surroundings so that there is no accumulation of heat in the surroundings. During the positioning of the grids, be aware of any potential problems with cleaning the grids.
- The value of the free cross-section of the grids depends on the material in the surroundings and the type of the fireplace insert (see technological sheets).
- Ventilation grids must be positioned so they cannot be blocked.

#### Insulation of the ceiling

 If the surroundings include the ceiling, this must be protected by the respective insulation according to local installation standards.

#### Floor in front of the fireplace insert

- The floor in front of the fireplace insert must be from non-flammable materials or protected by a sufficiently thick non-flammable board (e.g., foundation glass).
- Non-flammable area:
  - In the forward direction, it depends on the height of the bottom of the combustion chamber from the floor, it is necessary to add to this height 30 cm; the minimum value is 50 cm.

- In the forward direction, it depends on the height of the bottom of the combustion chamber from the floor, it is necessary to add to this height 20 cm; the minimum value is 30 cm.

#### Radiation area of the fireplace insert

- From the hole into the fireplace (forward, upward, downward and on the sides) a gap of at least 80 cm must be kept between the construction parts and the flammable material or a the flammable parts and the furniture.
- If special double-sided ventilation protection is used, this distance must be a minimum of 40 cm.

#### Area outside the radiation

- There must be a minimum gap of 5 cm between the wall of the surroundings and items from flammable materials. The semi-area to the surroundings must be open to prevent the accumulation of heat.
- Parts which only cover the areas of the surroundings, such as the floor, wall tiling and the insulation layer on the ceiling and walls may be connected to the surroundings without any gap.

# 19. PERMITTED INSULATING MATERIALS

- The insulation materials used must fulfil the following criteria according to AGI-Q 132:

Material:	group 3	stone and slag wool
Form:	group 06, 07, 08	mat, boards, cups
Heat flow	group 01-21	
Upper temperature for use	group 70 and higher	≥ 700 °C
Density:	group 08 - 18	80 – 180 kg/m <sup>3</sup>

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