

FOR INSTALLATION ENGINEERS



installation instructions [en]  
Stûv 21

03-2019 – SN 132150 > ...

*This Stuv stove has been designed to offer you maximum comfort and safety. It has been manufactured with the greatest of care. If however you should find the slightest dissatisfaction with it, please contact your supplier.*

*We recommend that you read these instructions prior to installation.*

*Some configurations might have an impact on the sequence of operations to be performed.*

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## PRESENTATION OF THE PRODUCT

### Standards, certification and technical characteristics

The Stûv 21 stoves (for intermittent operation) comply with the requirements of EN European Standards in terms of efficiency, gas emissions, safety etc....

Data provided in this notice are supplied by a certified laboratory.

**Test results according to EN 13229: 2001 and 13229-A2: 2004 standards (built-in stoves)**



**Concept & Forme sa  
B-5170 Bois-de-Villers (Belgium)**

14 QA 141322914  
EN 13229: 2001 / A2: 2004

Wood insert **Stûv 65C SF**

Minimum insulation thickness with regard to potentially combustible materials (conductivity of the insulating material used at 400°C = 0.11 W/mK):

- behind: 17 cm
- on the sides: 12 cm
- below: 2 cm
- above: 17 cm

Recommended fuel: wood logs only

CO emissions: 0.08%

Average smoke temperature at rated power: 298°C

Nominal heat power: 7 kW

Efficiency: 76%

Particle emissions: 65 mg/Nm<sup>3</sup>

Please read the installation instructions and directions for use!



**Concept & Forme sa  
B-5170 Bois-de-Villers (Belgium)**

10 QA 101322907  
EN 13229: 2001 / A2: 2004

Wood insert **Stûv 65H SF**

Minimum insulation thickness with regard to potentially combustible materials (conductivity of the insulating material used at 400°C = 0.11 W/mK):

- behind: 12 cm
- on the sides: 12 cm
- below: 0 cm
- above: 8 cm

Recommended fuel: wood logs only

CO emissions: 0.06%

Average smoke temperature at rated power: 329°C

Nominal heat power: 12 kW

Efficiency: 78%

Particle emissions: 13 mg/Nm<sup>3</sup>

Please read the installation instructions and directions for use!



**Concept & Forme sa  
B-5170 Bois-de-Villers (Belgium)**

10 QA 101322908  
EN 13229: 2001 / A2: 2004

Wood insert **Stûv 21/75 SF**

Minimum insulation thickness with regard to potentially combustible materials (conductivity of the insulating material used at 400°C = 0.11 W/mK):

- behind: 13 cm
- on the sides: 13 cm
- below: 0 cm
- above: 9 cm

Recommended fuel: wood logs only

CO emissions: 0,07%

Average smoke temperature at rated power: 283°C

Nominal heat power: 10 kW

Efficiency: 80%

Particle emissions: 26 mg/Nm<sup>3</sup>

Please read the installation instructions and directions for use!



**Concept & Forme sa**  
**B-5170 Bois-de-Villers (Belgium)**

10 QA 101322908  
 EN 13229: 2001 / A2: 2004

Wood insert **Stüv 21/85 SF**

Minimum insulation thickness with regard to potentially combustible materials (conductibility of the insulating material used at 400°C = 0.11 W/mK):

- behind: 13 cm
- on the sides: 13 cm
- below: 0 cm
- above: 11 cm

Recommended fuel: wood logs only

CO emissions: 0,08%

Average smoke temperature at rated power: 293°C

Nominal heat power: 13 kW

Efficiency: 78%

Particle emissions: 22 mg/Nm<sup>3</sup>

Please read the installation instructions and directions for use!



**Concept & Forme sa**  
**B-5170 Bois-de-Villers (Belgium)**

10 QA 101322908  
 EN 13229: 2001 / A2: 2004

Wood insert **Stüv 21/95 SF**

Minimum insulation thickness with regard to potentially combustible materials (conductibility of the insulating material used at 400°C = 0.11 W/mK):

- behind: 9 cm
- on the sides: 13 cm
- below: 0 cm
- above: 11 cm

Recommended fuel: wood logs only

CO emissions: 0,09%

Average smoke temperature at rated power: 304°C

Nominal heat power: 15 kW

Efficiency: 76%

Particle emissions: 18 mg/Nm<sup>3</sup>

Please read the installation instructions and directions for use!



**Concept & Forme sa**  
**B-5170 Bois-de-Villers (Belgium)**

10 QA 101322907  
 EN 13229: 2001 / A2: 2004

Wood insert **Stüv 21/105 SF**

Minimum insulation thickness with regard to potentially combustible materials (conductibility of the insulating material used at 400°C = 0.11 W/mK):

- behind: 14 cm
- on the sides: 15 cm
- below: 1 cm
- above: 18 cm

Recommended fuel: wood logs only

CO emissions: 0,09%

Average smoke temperature at rated power: 242°C

Nominal heat power: 19 kW

Efficiency: 84%

Particle emissions: 15 mg/Nm<sup>3</sup>

Please read the installation instructions and directions for use!



**Concept & Forme sa  
B-5170 Bois-de-Villers (Belgium)**

12 QA 121322912  
EN 13229: 2001 / A2: 2004

**Wood insert Stüv 21/125 SF**

Minimum insulation thickness with regard to potentially combustible materials (conductivity of the insulating material used at 400°C = 0.11 W/mK):

- behind: 11 cm
- on the sides: 15 cm
- below: 0 cm
- above: 10 cm

Recommended fuel: wood logs only

CO emissions: < 0.12%

Average smoke temperature at rated power: 323°C

Nominal heat power: 21 kW

Efficiency: 76%

Particle emissions: 22 mg/Nm<sup>3</sup>

Please read the installation instructions and directions for use!



**Concept & Forme sa  
B-5170 Bois-de-Villers (Belgium)**

12 QA 121322912  
EN 13229: 2001 / A2: 2004

**Wood insert Stüv 21/75 DF**

Minimum insulation thickness with regard to potentially combustible materials (conductivity of the insulating material used at 400°C = 0.11 W/mK):

- on the sides: 15 cm
- below: 0 cm
- above: 11 cm

Recommended fuel: wood logs only

CO emissions: 0.08 %

Average smoke temperature at rated power: 344°C

Nominal heat power: 19 kW

Efficiency: 75%

Particle emissions: 30 mg/Nm<sup>3</sup>

Please read the installation instructions and directions for use!



**Concept & Forme sa  
B-5170 Bois-de-Villers (Belgium)**

10 QA 101322907  
EN 13229: 2001 / A2: 2004

**Wood insert Stüv 21/85 DF**

Minimum insulation thickness with regard to potentially combustible materials (conductivity of the insulating material used at 400°C = 0.11 W/mK):

- on the sides: 15 cm
- below: 0 cm
- above: 11 cm

Recommended fuel: wood logs only

CO emissions: 0.06 %

Average smoke temperature at rated power: 368°C

Nominal heat power: 22 kW

Efficiency: 75%

Particle emissions: 15 mg/Nm<sup>3</sup>

Please read the installation instructions and directions for use!



**Concept & Forme sa  
B-5170 Bois-de-Villers (Belgium)**

14 QA 141322914  
EN 13229 : 2001 / A2 : 2004

**Wood insert Stûv 21/95 DF**

Minimum insulation thickness with regard to potentially combustible materials (conductibility of the insulating material used at 400°C = 0.11 W/mK):

- on the sides: 15 cm
- below: 0 cm
- above: 11 cm

Recommended fuel: wood logs only

CO emissions: 0.05 %

Average smoke temperature at rated power: 375°C

Nominal heat power: 22 kW

Efficiency: 76%

Particle emissions: 31 mg/Nm<sup>3</sup>

Please read the installation instructions and directions for use!



**Concept & Forme sa  
B-5170 Bois-de-Villers (Belgium)**

07 QA 071322904  
EN 13229 : 2001 / A2 : 2004

**Wood insert Stûv 21/125 DF**

Minimum insulation thickness with regard to potentially combustible materials (conductibility of the insulating material used at 400°C = 0.11 W/mK):

- on the sides: 13 cm
- below: 1 cm
- above: 13 cm

Recommended fuel: wood logs only

CO emissions: < 0.30%

Average smoke temperature at rated power: 251°C

Nominal heat power: 27 kW

Efficiency: 72%

Particle emissions: 31 mg/Nm<sup>3</sup>

Please read the installation instructions and directions for use!

**Other technical characteristics**

	21/65CSF	21/65HSF	21/75SF	21/85SF	21/95SF	21/105SF	21/125 SF
Minimum draught needed to obtain the rated calorific output	12 Pa	12 Pa	12 Pa	12 Pa	12 Pa	12.4 Pa	12 Pa
Weight-flow ratio of smokes	11,3 g/s	g/s	g/s	10.3 g/s	g/s	12.6 g/s	18,2 g/s
Average smoke temperature at rated power	298 °C	329 °C	283 °C	293°C	304 °C	242°C	384°C
Minimum diameter of the duct for the intake of outside combustion air	100 cm <sup>2</sup>	100 cm <sup>2</sup>	100 cm <sup>2</sup>	100 cm <sup>2</sup>	100 cm <sup>2</sup>	100 cm <sup>2</sup>	200 cm <sup>2</sup>
Optimum output range for usage	5-12 kW	8-13 kW	8-11 kW	8- 14 kW	10-18 kW	7- 19 kW	11- 23 kW
Range of wood consumption per hour recommended at 12% humidity	1.5-3.5 kg	2.3-3.7 kg	2.2-3.1 kg	2.3- 4 kg	2.9-5.3 kg	1.9- 5.1 kg	3,2- 6,6 kg
Maximum limit for consumption of wood per hour to avoid overheating the system	5.2 kg/h	5.5 kg/h	4.6 kg/h	5.8 kg/h	6.5 kg/h	6.4 kg/h	8,3 kg/h
Maximum length of logs in vertical position	33 cm	50 cm	50 cm	50 cm	50 cm	33 cm	50 cm
Maximum length of logs in horizontal position	33 cm	33 cm	50 cm	60 cm	70 cm	80 cm	100 cm
System mass	155 kg	197 kg	182 kg	234 kg	292 kg	224 kg	305 kg

	21/75DF	21/85DF	21/95DF	21/125 DF
Minimum draught needed to obtain the rated calorific output	12 Pa	12 Pa	12 Pa	10,9 Pa
Weight-flow ratio of smokes	16,4 g/s	17,2 g/s	20,9 g/s	33,2 g/s
Average smoke temperature at rated power	344 °C	368°C	375°C	375°C
Minimum diameter of the duct for the intake of outside combustion air	200 cm <sup>2</sup>	200 cm <sup>2</sup>	200 cm <sup>2</sup>	200 cm <sup>2</sup>
Optimum output range for usage	9-19 kW	11-21 kW	12-27 kW	14- 27 kW
Range of wood consumption per hour recommended at 12% humidity	2,8-6,1 kg	3,3-6,3 kg	3,6-8,0 kg	4,3- 8,3 kg
Maximum limit for consumption of wood per hour to avoid overheating the system	6,8 kg/h	8,3 kg/h	9,9 kg/h	10,1 kg/h
Maximum length of logs in vertical position	- cm	- cm	- cm	-
Maximum length of logs in horizontal position	50 cm	60 cm	70 cm	100 cm
System mass	236 kg	297 kg	310 kg	310 kg



## Recommandations

We strongly recommend you entrust the installation of this Stûv to a qualified professional who is able to ensure that the characteristics of the smoke flue correspond to the stove installed.

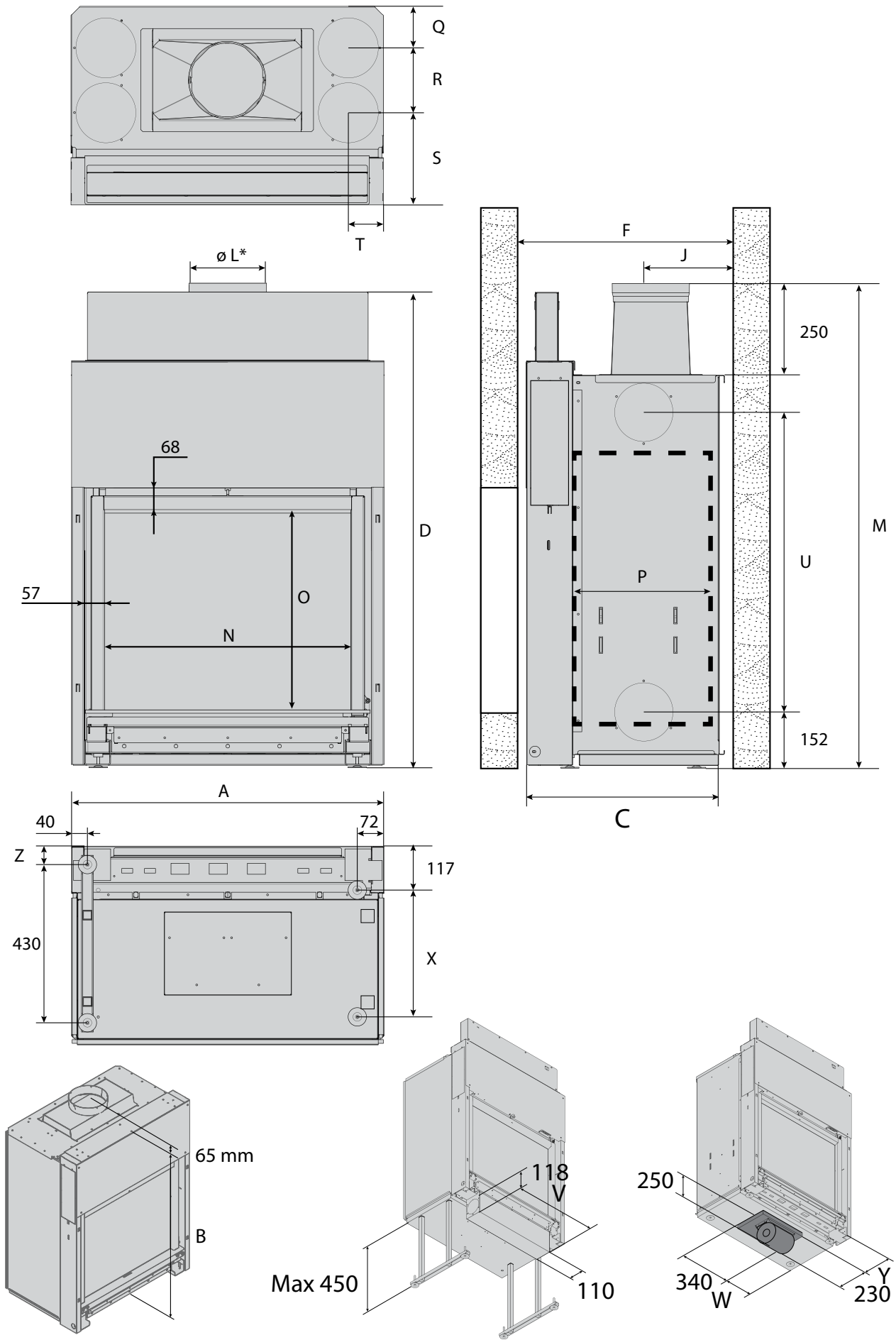
The installation of the stove, its accessories and surrounding materials must adhere to all regulations (local and national) and all standards (national and European).

Some national and local regulations require the installation of an access flap in the connection between the stove and the smoke flue.

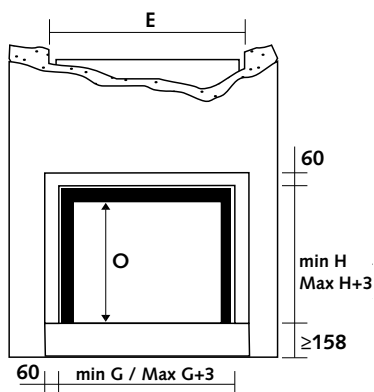
The stove has to be installed in such a way as to facilitate access to sweep the stove, the connection duct and the smoke flue.

Any modification made to the system may be dangerous and will invalidate the guarantee.

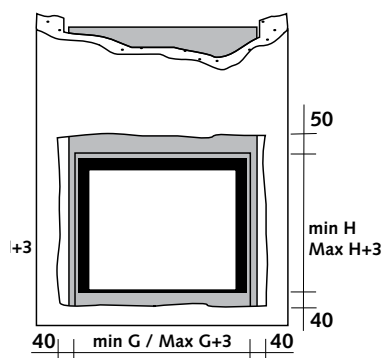
# Dimensions



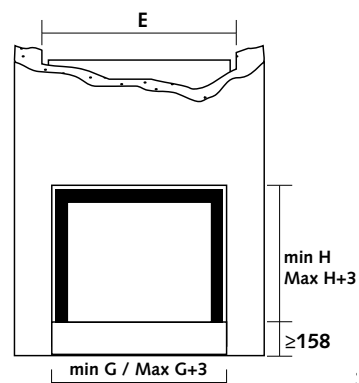
## Dimensions (continuation)



Finish with Stûv frame



Opening to be left in the brickwork for a Stûv frame and counter-frame. The frame will conceal the imperfections of the opening.



Opening to be left in the brickwork for a finish without a Stûv frame

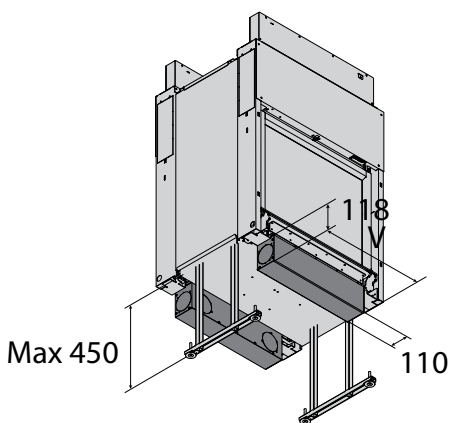
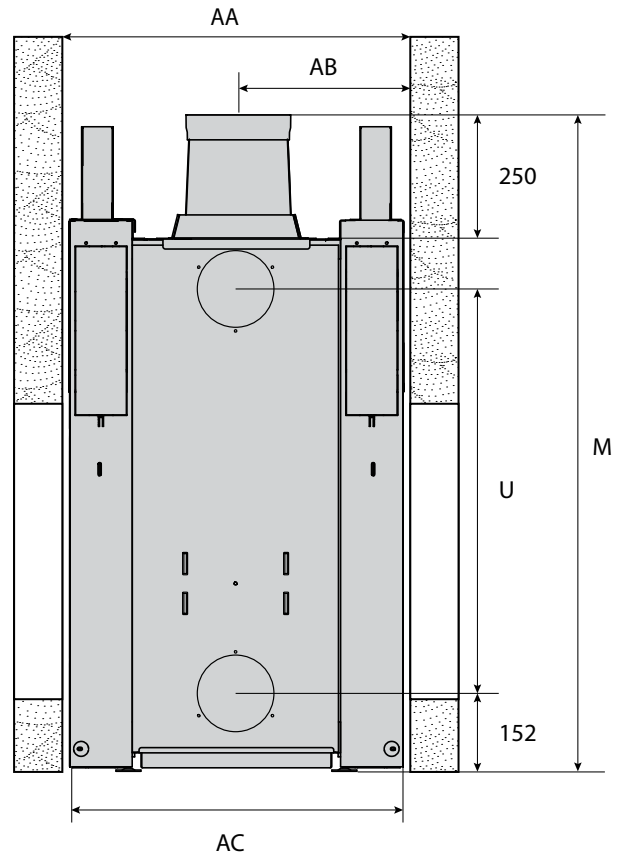
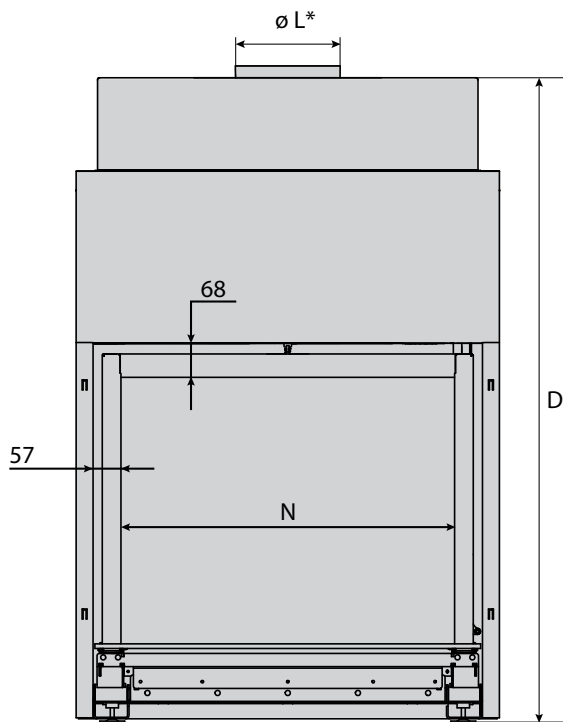
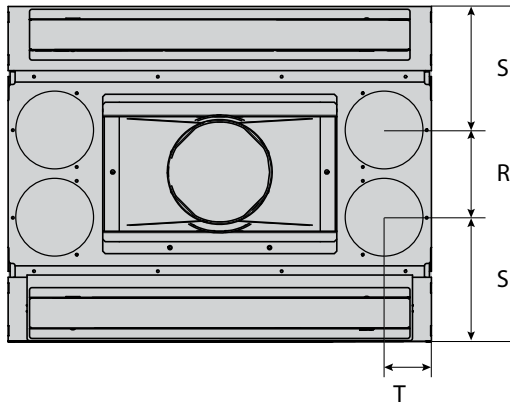
	A	B	C	D	E	F	G	H	J	L*	M	N	O	P	Q	R
<b>Single-sided stoves</b>																
Stûv 21/65C	650	1010	440	1165	660	460	584	539	171	180	1215	470	470	231	111	-
Stûv 21/65H	650	1225	490	1455	660	510	584	683	196	200	1430	470	615	281	83	170
Stûv 21/75	750	1005	490	1137	760	510	684	524	186	180	1211	570	456	281	83	170
Stûv 21/85	850	1115	540	1295	860	560	784	603	201	200	1320	670	535	331	113	176
Stûv 21/95	950	1225	590	1455	960	610	884	683	221	250	1430	770	615	381	130	176
Stûv 21/105**	1050	-	496	1040	1060	515	984	469	201	200	1245	870	400	288	83	171
Stûv 21/125	1250	1115	563	1295	1260	585	1184	603	221	300	1320	1070	535	354	83	171

	S	T	U	V	W	X	Y	Z
<b>Single-sided stoves</b>								
Stûv 21/65C	329	95	711	402	172	245	162	25
Stûv 21/65H	237	95	926	402	138	295	162	35
Stûv 21/75	237	95	707	502	202	295	162	35
Stûv 21/85	252	95	816	602	238	345	177	50
Stûv 21/95	281	95	926	702	302	395	202	75
Stûv 21/105**	242	125	742	750	352	300	165	35
Stûv 21/125	242	125	742	750	352	300	165	35

\*  $L$  = diameter of the standard outlet. Other diameters are available; please consult your distributor.

\*\* The Stûv 21/105 are only available with full-raise of glass door.

## Dimensions (continuation)



	AA	AB	AC
<b>Double-face fireplaces</b>			
Stûv 21/75	690	345	670
Stûv 21/85	690	335	670
Stûv 21/95	690	335	670
Stûv 21/125	690	335	670

## The different configurations

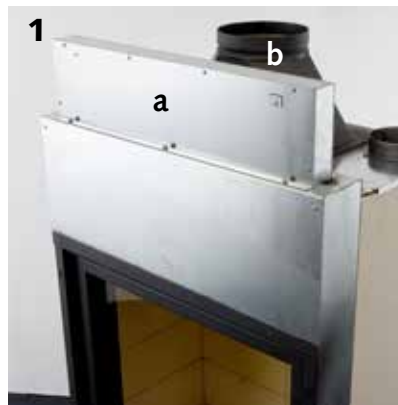
### 4 possible configurations

- [photo 1] extension [a] for full opening + upper outlet [b].
- [photo 2] cover plate [c] for partial opening + upper outlet [b]: recommended when the chimney does not provide sufficient draught.
- [photo 3] extension [a] for full opening + lower outlet [d]: for example, to integrate the stove into a former fireplace containing a lintel.
- [photo 4] Cover plate [c] for partial opening + lower outlet [d]: to integrate the stove into a low space with a flue.

The choice of smoke outlet (high or low) and level of opening (full or partial) depends on architectural criteria (whether brickwork already exists or needs to be built) and on the draught conditions. Generally speaking, a high outlet is more complicated, but ensures better draught than a low outlet. Full opening is also more difficult but enables the glass door to be opened fully, whereas partial opening stops it at mid-height but restricts the risk of backdraught.

### Please note:

No partial opening with the 21/105 SF.



## Combustion air inlet

The stove requires air for combustion.

A sufficient air inlet (see table) should ideally be created under the stove, at the front.

This air inlet comes from a ventilated empty space, a ventilated room (cellar) or from outside (mandatory regulation in some countries) [diagram 1].

The figures given in the table below are for information purposes only. Please take account of applicable local and national standards and regulations.

Stûv 21/65c	min. 1 dm <sup>2</sup>
Stûv 21/65H	min. 1 dm <sup>2</sup>
Stûv 21/75	min. 1 dm <sup>2</sup>
Stûv 21/85	min. 1 dm <sup>2</sup>
Stûv 21/95	min. 2 dm <sup>2</sup>
Stûv 21/105	min. 1 dm <sup>2</sup>
Stûv 21/125	min. 2 dm <sup>2</sup>
Stûv 21/75 DF	min. 2 dm <sup>2</sup>
Stûv 21/85 DF	min. 2 dm <sup>2</sup>
Stûv 21/95 DF	min. 2 dm <sup>2</sup>
Stûv 21/125 DF	min. 2 dm <sup>2</sup>

### The duct carrying this air...

... will be protected on the outside by a grill the free passage section of which is at least equivalent to the section of the air inlet. Please note that the infiltration of water and the effect of the wind can damage the system.

... will be as short as possible to prevent pressure loss and to prevent making the house cold.

... will ideally be fitted with a closure valve [photo 2] to prevent the room from becoming cold when the stove is not in use. It should ideally be located as close as possible to the outside wall. It can be controlled from inside if it is not too far away from the stove (cable length = 120 cm).

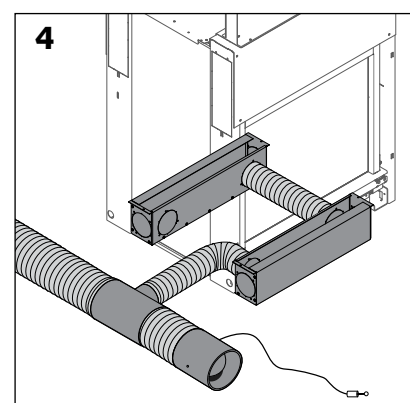
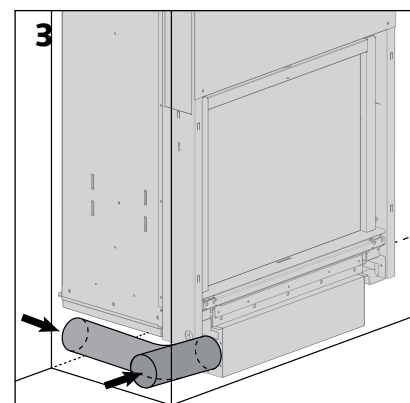
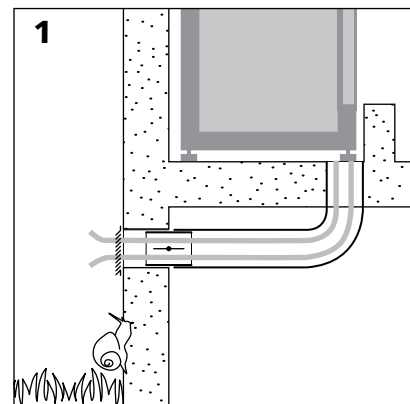
### If it is not possible to bring in outside air near the stove (most unfavourable case)...

... ensure there is sufficient replenishment of air in the room when the stove is in use.

### Please note

1) Be careful with air extraction systems (kitchen hoods, air conditioning, mechanically-controlled ventilation, other stoves) in operation in the same space or in an adjacent room. They also use lots of air and can cause a depression in the room and prevent the stove from operating correctly (risk of draughtback). They can affect the operation of the stove even if it is connected to an outside air inlet.

2) If a forced convection system is installed, it is strongly advised that air is drawn in from the outside or from the room (in all circumstances, outside the fireplace mantel) [diagram 3].



Ensure the flue's dimensions meet local regulations and the applicable installation standards in line with good practice.

### Basic information

For good draught, the stove must be suited to the flue (or vice versa).

An oversized flue is as detrimental to the smooth operation of the stove as an undersized flue. At [www.stuv.com](http://www.stuv.com) > **Info & Services** > **Practical questions** > **Which fireplace fits your Stûv?** you will find a simplified method to determine the specifications of the flue depending on the type of stove.

The flue should be as straight as possible and insulated to encourage the draught and prevent condensation.

The ideal solution is a flue built inside the building and thermally insulated. An outside flue without any insulation must be avoided.

The stove must never be connected to a smoke flue serving several systems.

### Take care to avoid heat loss!

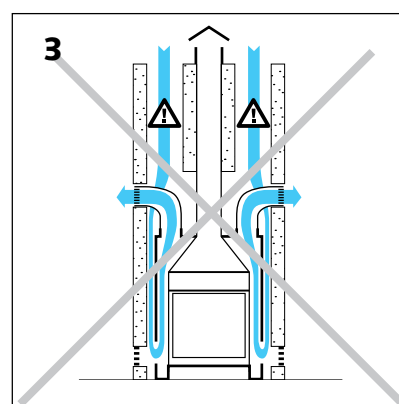
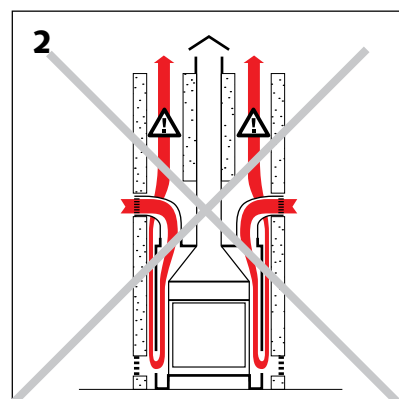
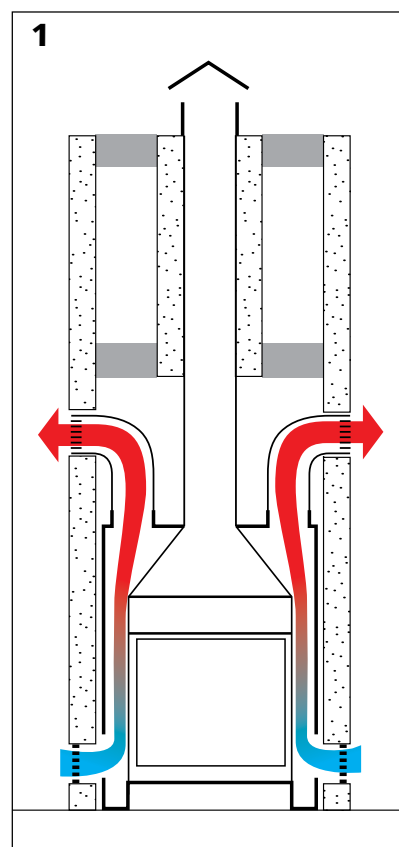
If several flues are available: only use one of them. Block up the unused flues at the top and bottom and, generally speaking, ensure that the top of the recess where the stove is fitted is air-tight [diagram 1].

### Standard outlet diameter

Stûv 21/65C	Ø180
Stûv 21/65H	Ø 200
Stûv 21/75	Ø 180
Stûv 21/85	Ø 200
Stûv 21/95	Ø 250
Stûv 21/105	Ø 200
<hr/>	
Stûv 21/75 DF	Ø 250
Stûv 21/85 DF	Ø 250
Stûv 21/95 DF	Ø 250

Some flue configurations may require a different diameter than that provided as standard. Should this be the case, please consult your retailer.

*Unused flues or ventilated spaces between walls can generate undesirable counter-draughts (the hot air escapes) [diagram 2], or cause the entry of cold air from outside [diagram 3].*



## The stove's surroundings and decoration

### The recess

Check the dimensions of the recess and leave sufficient space around the fan (if you have chosen this option).

The stove must be able to expand freely. The brickwork or decorative materials must not enter into contact with the stove under any circumstances; leave a gap of at least 5 mm.

This recess and/or the space around the stove must be ventilated to prevent "heat traps" [see below].

If necessary, insert insulating material of the thickness required between the stove and inflammable materials [see pages 3-6].

### Please note

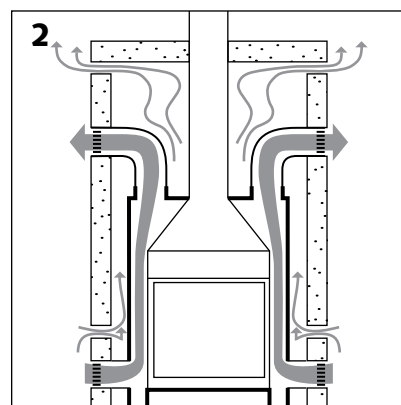
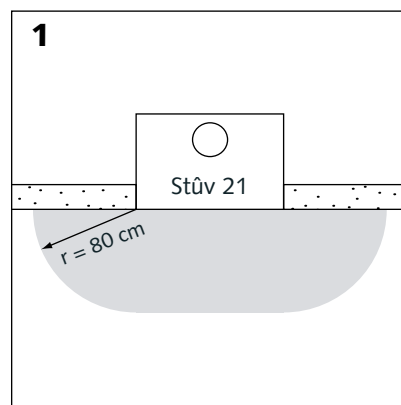
You can only use lateral fans or a separate fan (type EXT...) for the Stûv 21/65C model.

### Radiated heat

Significant heat may be radiated through the glass door. Ensure the materials exposed to this radiated heat are resistant to high temperatures [diagram 1].

### Prevent "heat traps" in the cladding, recess and hood

Any closed or contained space constitutes a heat trap which causes the walls to heat up. Circulation of air can be ensured by having an air inlet in the base of the cladding (hood or recess) and an outlet in the upper part [diagram 2].



## Holding capacity of the structure

Ensure that the resistance of the floor is sufficiently strong to support the stove and the construction of the cladding. If in any doubt, please consult a specialist.



### Natural or forced convection ?

Natural convection is sufficient in most cases [diagram 1].

This configuration obviously allows easier (no electrical connection) and less expensive installation and ensures completely silent operation.

However, a fan unit:

- enables the amount of air to be increased and for it to be distributed further: this is vital if you set up an air circuit with long lengths of ducting,
- allows the temperature to be made constant more quickly in the space to be heated,
- enables the air temperature to be reduced in the outlet vents (therefore preventing combustion of the ash and the depositing of ash on the surrounding plasterwork).

### Air passage

Hot air has more volume than cold air. Care must be taken to ensure it is evacuated without generating a depression in the stove recess (a deterioration in draught).

Observe the 2/3 relationship with a minimum of 300 cm<sup>2</sup>. Therefore, if you open 2 air intake orifices in the bottom of the stove, you must open 2 or 3 orifices at the outlet.

### Configuration of the ducts

If you do not install a fan, ducts are not mandatory. However, please note that a fibrous insulating material inserted in the recess can give off volatile particles. In this case, thanks to the ducts, any contact between the convection air and these materials can be avoided.

Whether you install a fan or not, the ducts must rise in a gradual gradient (min 2%) towards the outlet to prevent heat traps [diagram 3].

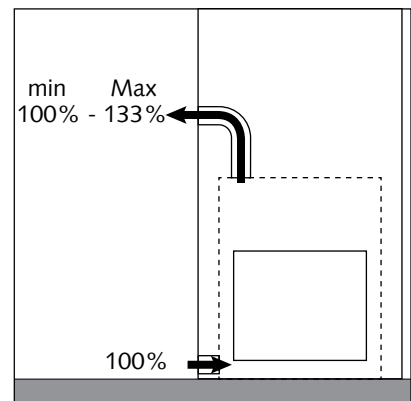
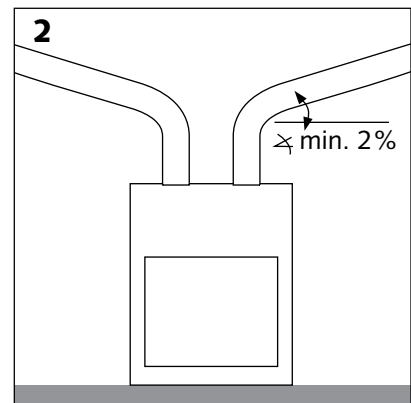
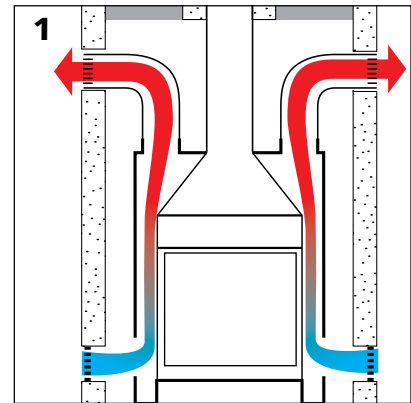
To ensure balanced air flow, the duct system has to be configured symmetrically (number of ducts, their height, the number of bends, their degree of insulation). This factor is even more important with natural convection than forced convection.

### In practice...

The ducts are 15 cm in diameter and therefore have a section of approx. 180 cm<sup>2</sup>.

The air inlets and outlets have to be set up so they cannot be obstructed.

If you install grills on the air inlets/outlets, ensure that the passage of useful air in these grills (surface of the openings) is at least equivalent to the section of the air inlets/outlets to prevent pressure loss.



## Forced convection

### Types of ventilation unit

Stûv provides the option of three different ventilation kits:

- 600 m<sup>3</sup>/h ventilation unit to be installed under the stove from inside the combustion chamber [photos 1 & 2]  
Please note that this accessory is not compatible with the models 21/45 and 21/65C,
- 2 fans to be installed laterally or at the back (2 x 200 m<sup>3</sup>/h) [photo 3],
- Independent ventilation unit placed at a distance (600 m<sup>3</sup>/h) [photo 4].

The duct should ideally come out opposite the fan's inlet. Leave sufficient space (minimum 10 cm) to facilitate air circulation.

### Please note!

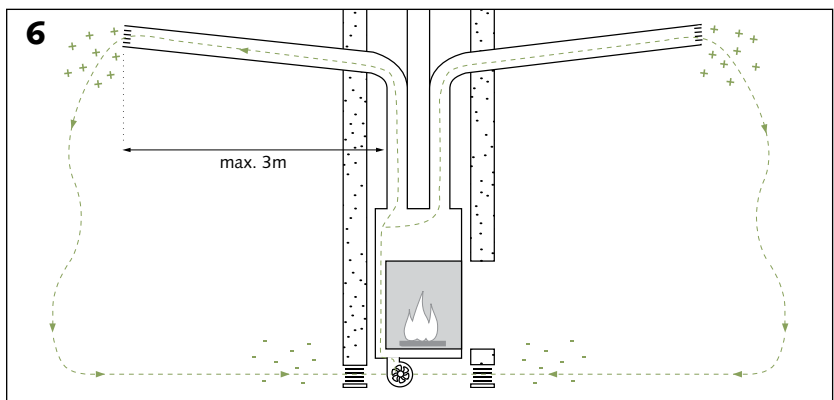
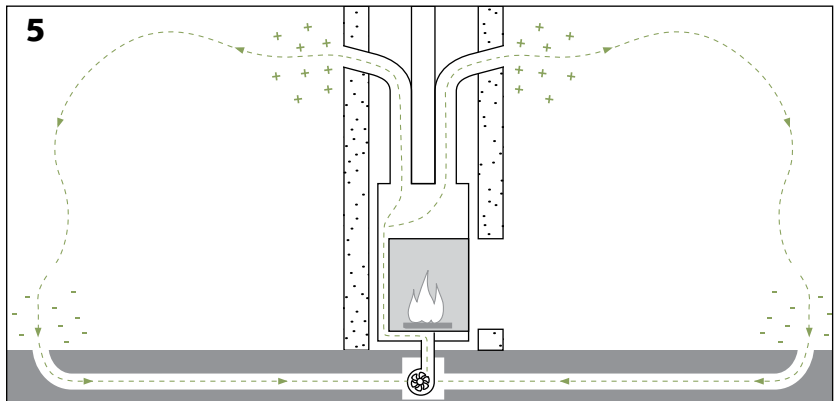
The fans supplied by Stûv are designed to direct room air and not to be installed in the hot air circuit at the stove's outlet.

### 2 ways of creating an air circuit:

- install ducts in the stove's inlet to draw in room air distant from the stove [diagram 5] or even from another room in the house. For this configuration, it is imperative to use a fan in a water-tight case [VENT21600EXT – photo 4].
- install the ducts in the stove's outlet to carry hot air further (max. 3 m) even to an adjacent room [diagram 6].

In the both cases, a circulation of air is created: the air reheated by the stove moves towards the areas from where the room air was drawn (depression zone), ensuring a constant temperature.

Whatever the air circuit planned around the stove, please note the local and national regulations in force for this kind of installation.



### The advantages and disadvantages of these 2 types of installation

Outlet ducts	Inlet ducts
<ul style="list-style-type: none"> <li>- depression near the stove that risks affecting the drawing of air.</li> </ul>	<ul style="list-style-type: none"> <li>+ excess pressure close to the system (encourages the drawing of air).</li> </ul>
<ul style="list-style-type: none"> <li>- geometry of the layout restricted : the ducts must always rise in a slight gradient without any obstructions in the route to prevent the hot air from stagnating.</li> </ul>	<ul style="list-style-type: none"> <li>+ bends can be used in the ducts, reverse gradient,... (no air stagnation).</li> </ul>
<ul style="list-style-type: none"> <li>- significant drop in the air temperature along its route (maximum 3 m).</li> </ul>	<ul style="list-style-type: none"> <li>+ no variation in room air temperature on its route which means it can be obtained from further away with better direction and greater temperature consistency in the room.</li> </ul>
<ul style="list-style-type: none"> <li>+ easier to implement if not planned for in the architecture or in the case of renovation.</li> </ul>	<ul style="list-style-type: none"> <li>- difficult to implement if not planned in the architecture or construction site.</li> </ul>

#### Air return

If you plan to have a room air inlet or outlet in another room (distribution across several rooms), do not forget to create air passages of sufficient section (at least the same) for the return : The air which has been drawn from or directed to a room must be able to return there.

The abstraction of air must be offset by a return to prevent depressions in the room where the stove is situated as this involves the risk of draughtback.

#### In practice...

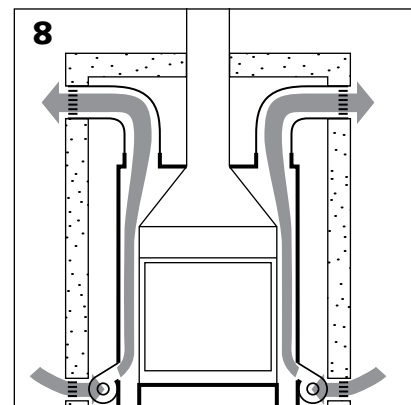
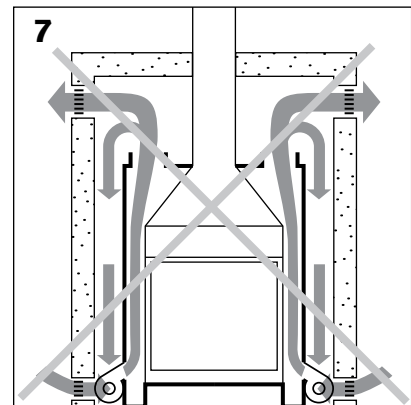
The use of ducts is mandatory to ensure the air which comes out of the stove does not go straight back into the fan (short circuit - the inside of the cladding).

Setting up the power supply (2 conductors + ground) and the fan controls; the connection has to be protected by a bipolar fuse.

Please also see the notes in the previous section.

#### Please note

To prevent the fan from affecting combustion, do not put the combustion air inlet and the convection air inlet too close to one another [diagram 7].



## Insulating the fireplace: pros & cons

### Safety

Take the necessary precautions to prevent excessive heating of the recess walls and construction materials close to the stove (e.g. wooden beams) and insulate these materials according to industry regulations and the applicable standards depending on their flammability.

### Improvement of performance

Thermal insulating materials can also be placed against the stove to improve its performance.

Stûv offers the option of rigid, prefabricated, 10 mm thick panels, which insert perfectly into the runners designed for this purpose [photo 1].

They are not designed to protect inflammable materials from excessive heating.

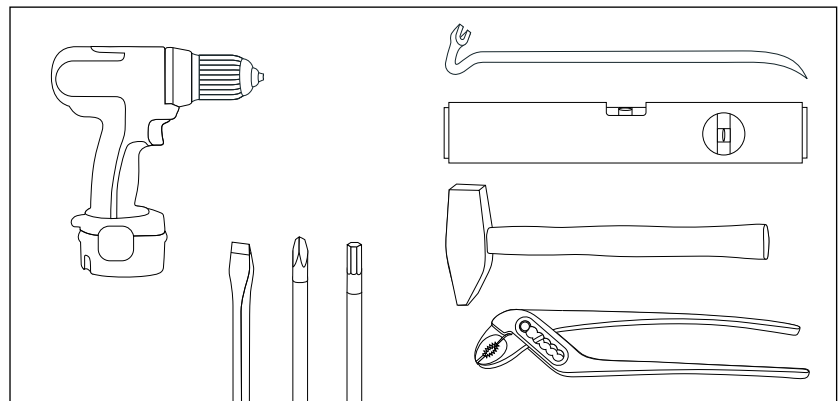
The advantage: reduction of heat loss: this applies in particular if the stove is against an external wall; if this is not the case, heat will not be lost: it will dissipate into the brickwork and then into adjacent rooms.

The disadvantages: when using a fibre insulator (mineral wool), a sealed recess has to be built and ducts installed for the convection circuit to prevent insulation particles being suspended in the convection air or in the room where the stove is installed.



## Tools

- a screw driving machine (10mm socket & cruciform bits)
- a claw
- a spirit level
- a pair of pliers
- a hammer
- a standard screwdriver
- a Phillips screwdriver
- 3 mm & 5 mm Allen keys



## INSTALLATION

### On taking delivery of the equipment

Remove the cardboard from the front of the stove [photos 1 & 2].

#### Please note!

Upon receipt of this stove, please ensure that the glass door has not been damaged during delivery. The guarantee only covers damage due to transport if it is reported within 48 hours of delivery and it is indicated on the delivery slip.

#### Complaints

In case of complaints please state our manufacturer's serial number which is visible on the upper right section of the opening [photo 3].



### Unpacking

#### Please note!

The paint is not oven baked and is therefore relatively fragile but will harden after being heated a few times. Handle the system with care when installing.

For transport, the window is secured in its intermediate position.

Remove protective strip from window [photo 1].

Remove vertical front slats with claw [photo 2].



## Unpacking (continuation)

Unscrew and remove top section of packaging [photo 3].



## Checking the contents

The combustion chamber of the single-sided stoves [photo 1] and the combustion chamber of double-sided stoves [photo 2] contain :

- 1 spray paint canister for touch-ups,
- 1 cold grip to handle the door and the valve (2 for double-sided stoves),
- The items as shown in the table below.

If accessories have been ordered (frame, top extension, base, ventilator...) they are placed around the fireplace or its packaging. Please ensure due reception of all accessories ordered.



	refractor plates	dimensions l x w x d	seal	screws for top extension or closing lid	locking pieces for refractors [photo 3]	stainless steel items for upper baffle kit	stainless steel items for lower baffle kit	vermiculate for lower baffle kit	back refractory keys
21/65C	22	244 x 119 x 29.5	1.5 m	6	-	2	3	2	
21/65H	10	244 x 119 x 29.5	1.5 m	6	-	2	3	2	
	16	294 x 119 x 29.5							
21/75	18	294 x 144 x 29.5	1.5 m	6	-	2	3	2	
21/85	18	344 x 169 x 29.5	1.5 m	6	-	2	3	2	
21/95	18	394 x 194 x 29.5	2 m	8	-	2	3	2	
21/105	20	294 x 144 x 29.5	1.5 m	6	4	2	3	3	2
	3	304 x 144 x 29.5							
21/75 DF	12	439 x 144 x 29.5	1.5 m	12	-	2	6	4	
21/85 DF	12	439 x 169 x 29.5	1.5 m	12	-	2	6	4	
21/95 DF	13	439 x 144 x 29.5	2 m	16	-	2	6	4	
	2	439 x 169 x 29.5							

## Moving

You can move the fireplace with :

- a forklift: leave it on its pallet ;
- a two-wheel hand trolley: tilt the fireplace backwards and leave the pallet;
- the handles designed for this purpose: they are reversible [photo 1].

We recommend that you remove all items from within the combustion chamber to make the stove lighter and easier to move.



## Positioning of the stove

The fireplace will rest :

### > on the floor or a masonry base :

Level the fireplace with the four adjustable struts accessed from inside the combustion chamber. Use the 5 mm Allen key to set height at the 4 corners [photo 1].



### > on the optional Stûv base :

Remove the M10x40 screws fitted to each leg [photo 2].

Tilt the fireplace to lay on its back, then remove the adjustable struts [photo 3] and screw them on the base at full thread without locking them.



Caution: To prevent any unwanted air flow inside the hearth, seal the threads that held the adjustable struts with the surplus M10x40 screws. [photo 4].

Remove the four caps by levering them off [photo 5].



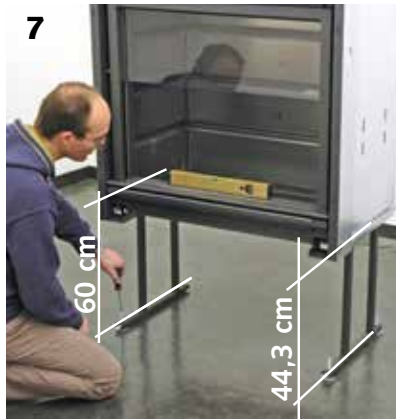
Recut the base elements, if necessary, so that the stove can be raised to the desired height. Insert them into the square holes [photo 6]. The base elements are not symmetrical so place the longer sides towards the front of the stove.

If not cut they will raise the stove by 44.3 cm; the opening of the stove is then 60 cm above floor level [photo 7]. If a fan is to be positioned under the stove, allow at least 25 cm in height under the stove to accommodate it.



## Positioning of the stove (continuation)

7



### To calculate the re-cut:

Opening of fireplace before re-cut minus required fireplace opening height. If you wish to have the fireplace opening at a height of 45 cm :  $60 \text{ cm} - 45 \text{ cm} = 15 \text{ cm}$  re-cut.

Right the fireplace, position it in its final location and set it level with the 5 mm Allen key [photo 7].

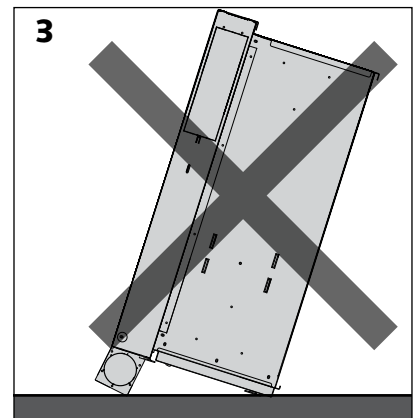
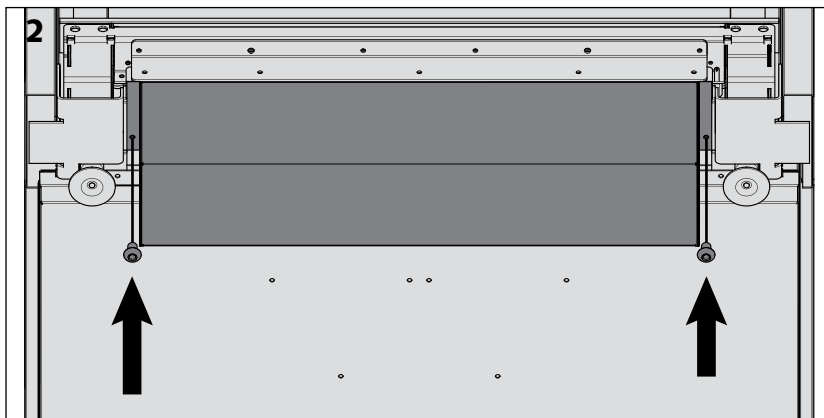
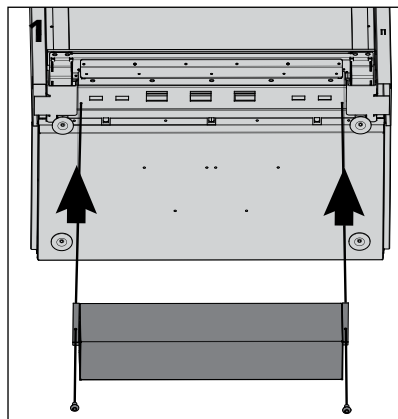
## Locating the external air intake option

### Locating the box:

Screw the box to the stove using two M5x8 torx screws.

### Warning!

The box cannot bear the weight of the stove. Take care not to damage the box or the stove when standing the device up.



## Checking glass movement

Once the fireplace has been brought close to its final location, please check that the counterweight cables run in the groove of the pulleys [photo 1].

Unlock the counterweights using the 3 mm Allen key [photo 2].

Do not forget to perform this operation before fitting the fireplace into masonry!

Make sure the window moves properly; then raise it to the full [photo 3].

Never tilt more than 90°.



## Locating the glass protection and smoke outlet

### Fitting the upper extension or the lid

Depending on the option selected, attach the extension (full opening) [photo 1] or the cover plate (partial opening) [photo 2] using the screws supplied with the stove.

### Fitting the smoke outlet

Screws are already in place when you receive the appliance.

Remove them [photo 3].

Position the seal supplied with the appliance, it ensures air-tightness between the smoke outlet and the hearth body [photo 4].



## Locating the glass protection and smoke outlet (continuation)

Fit the smoke outlet (high or low as suitable) [photo 5 ou 6].



## Positioning of the stove

### Caution!

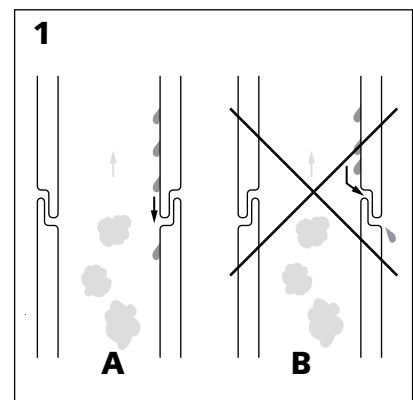
For perfectly smooth tilting of the door, masonry must be level with the base of the hearth opening [photo 1].



## Connection to the smoke flue

The fitting of the various flue parts must be air-tight to encourage the dispersal of condensation [diagram 1A] rather than that of the smoke [diagram 1B].

In the case of a connection duct for just one room, leave a gap of 2 mm/m lengthways to allow for expansion.

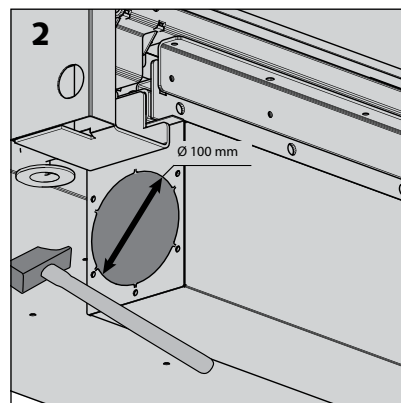
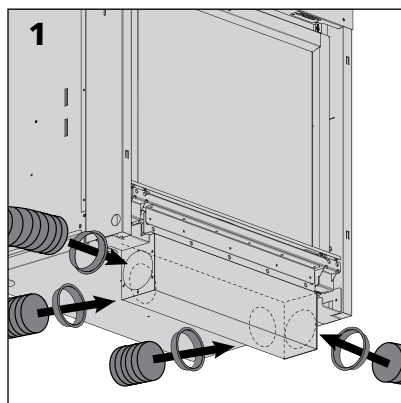


## External air intake connection

Fix a baffle as well as a 100-mm diameter hose to the external air intake box.

It is possible to connect this to the back (2 positions) or the side of the box (2 positions).

Break out the pre-cutout(s) using a hammer.



## Convection

### In general

In order to ensure optimal performance of your Stûv 21, we recommend using the maximum number of air inlets and outlets to encourage convection between the outer casing of the stove and the combustion chamber.

### Please note

Using a hammer, free at least 2 of the 6 pre-cut fresh air inlets in the bottom part of the stove (1 left & 1 right) and at least 2 of the 8 hot air outlets in its upper part [photo 1].

In double-face stoves, free at least 2 of the 4 inlets and 2 of the 6 outlets.

Observe the 2/3 relationship with a minimum of 300 cm<sup>2</sup>. Therefore, if you open 2 air intake orifices in the bottom of the stove, you must open 2 or 3 orifices at the outlet.

(See also the "Preparation of the Site" section > convection, page 11).

### Caution!

If you are installing a fan, do not open all of the lower air inlets but

only those which will be connected to the fan (see "Auxiliary Ventilation" below).

If you intend to install a fan later, initially only open the inlets where the fan(s) will be positioned. When you install the fan(s), the unused inlets have to remain blocked.

### Fitting ducts

Use the 10 mm socket driver to fix the optional nozzles [photo 2].

They provide a fixing base for a Ø150 mm flexible tube connection. This tubing will direct hot air straight from the hearth to an adjacent room without carrying any dust that could be in suspension between the masonry and the hearth.

### Please note

The air inlet and outlet grills have to be positioned in such a way that they cannot be obstructed.



## Auxiliary ventilation

If you intend to use auxiliary ventilation, the unused air inlets for convection in the bottom part of the system must remain closed!

### 600 m<sup>3</sup>/h ventilation unit fitted under stove [photo 1A]

Remove primary air outlet [photo 2].

Undo and remove stove bottom using 5 mm Allen key [photo 3].

Using a hammer, discard pre-cut plate to free opening for ventilator [photo 4].

Connect electrical supply (see below).

Insert and fix ventilator unit [photo 5].

Refit and fix stove bottom.

Refit primary air outlet.

Maintenance is carried out from inside the combustion chamber.

### Fans to be installed laterally or at the back (2 x 200 m<sup>3</sup>/h) [photo 1B]

Using a hammer, discard fresh air intakes on which ventilator units will be placed, one to the right and the other to the left (imperative) [photo 6].

Insert both lower fixing screws for the ventilator unit. Insert ventilator unit in hooks. Insert upper screw and tighten all three screws [photo 7].

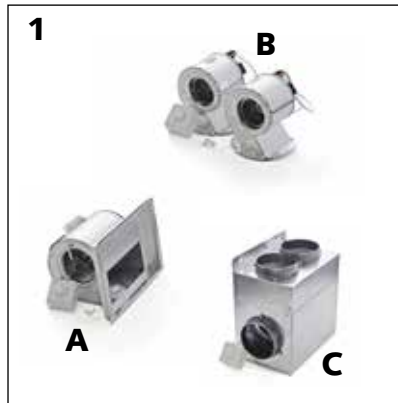
Ensure access for maintenance.

### Ventilation unit placed at a distance (600 m<sup>3</sup>/h) [photo 1C]

The unit structure can be positioned on the ground or suspended. It contains two convection air inlets [photo 8 A] and two outlets [photo 8 B] with a diameter of 150 mm.

Ensure access for maintenance.

Please note: convection air always has to be drawn from the rooms to be heated (not from a cellar or ventilated empty space, etc.)



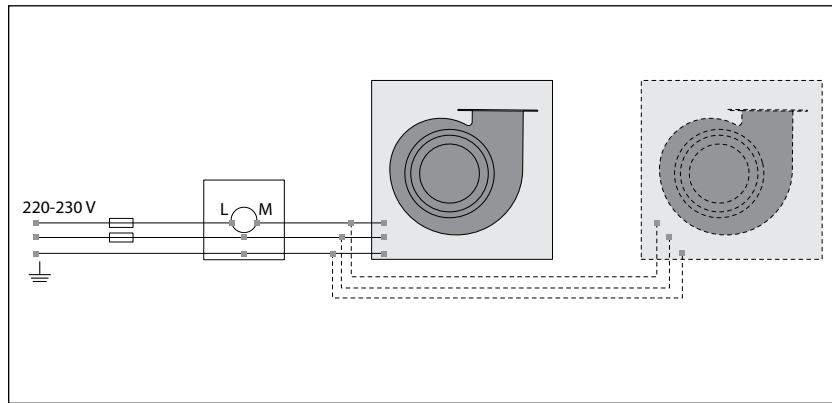
## Electrical connection

Check fuses are disconnected before any operation.

Connect the fan and the control and then the control and the fuses.

Do not forget earth cabling.

The fan's electricity supply (two conductors + earth) has to be protected by a bipolar fuse.



## Insulating the fireplace

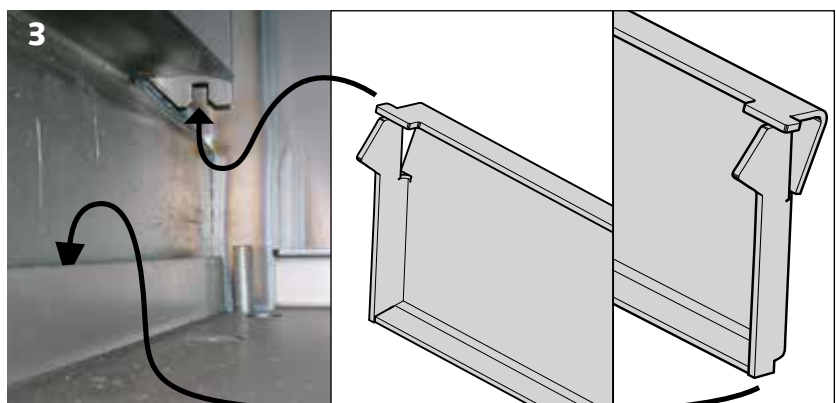
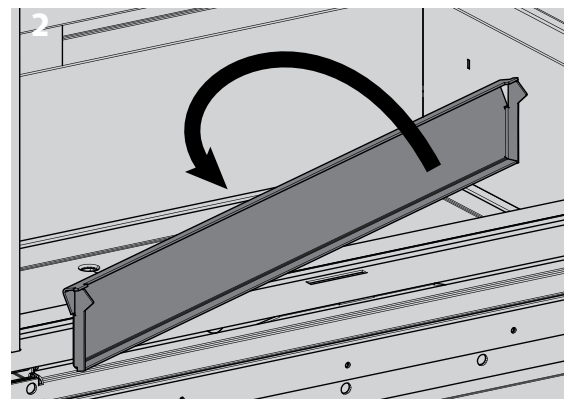
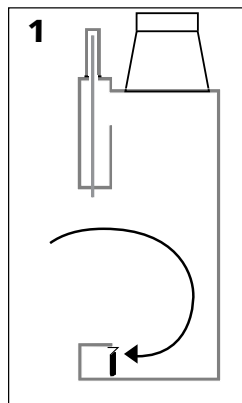
If you install insulating materials around the stove, cut the panel to avoid obstructing the stove's convection air inlets on the sides or at the back of the stove.



## Lining the combustion chamber

### The primary air circulator

Place the primary air diffuser or check its position (the diffuser's lugs fit into slots designed to receive them) before positioning the refractors [diagram and fotos 1, 2 & 3].

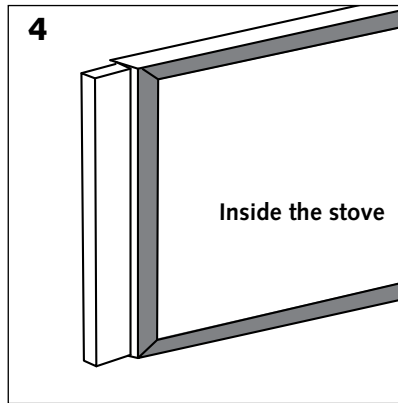


### Positioning the refractor panels

Make sure you always position chamfers towards the inside of the hearth [diagram 4].

Follow the sequence indicated, depending on the model of fireplace to be lined.

To fine-tune the alignment of the refractors, lever them with a flat screwdriver.



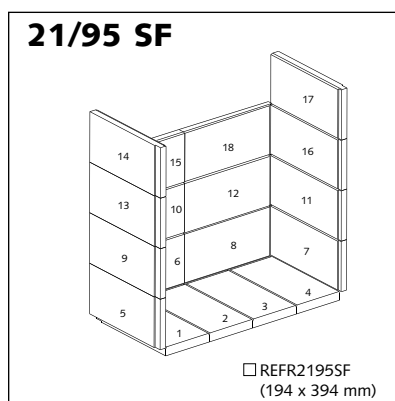
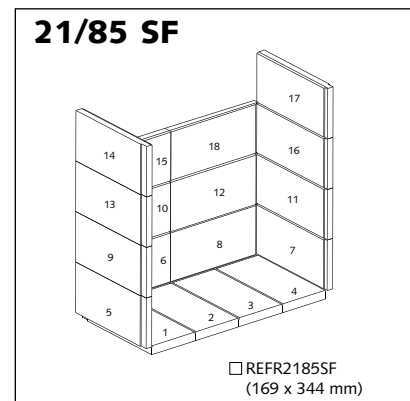
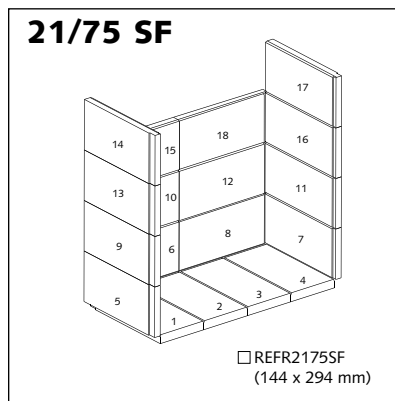
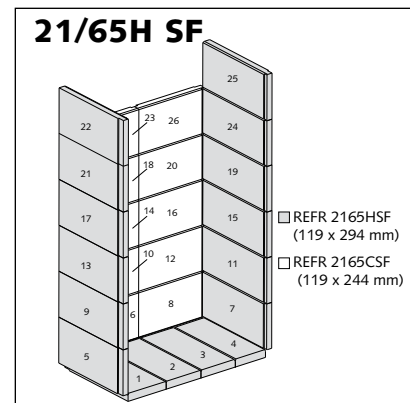
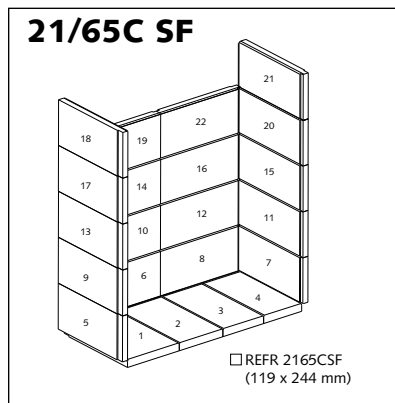
### Stûv 21/65C SF, 21/65H SF, 21/75 SF, 21/85 SF & 21/95 SF

Lining the bottom: place the rebated refractors to the far end (to receive the back wall refractors).

Place the side refractors as far forward as possible (with the rebate towards the front of the fireplace) so as to be able to fit the refractors lining the back wall.

Place the back wall refractors as far to the outside as possible then centre them.

Finally push the side refractors towards the back (to hold in place the refractors lining the back wall).



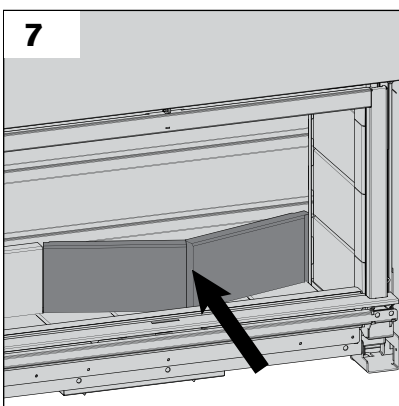
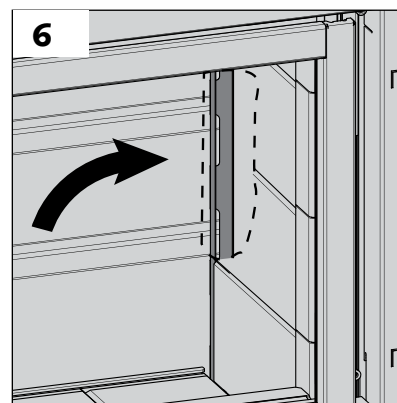
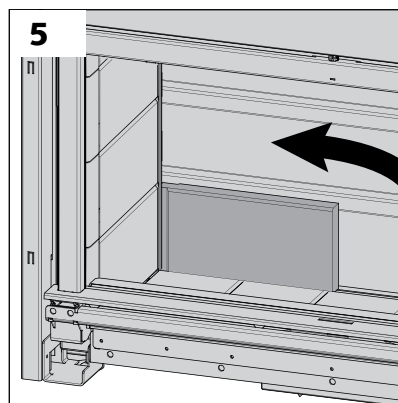
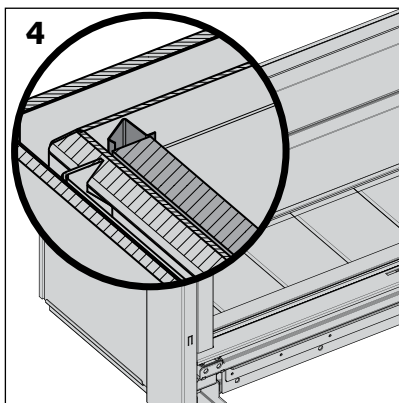
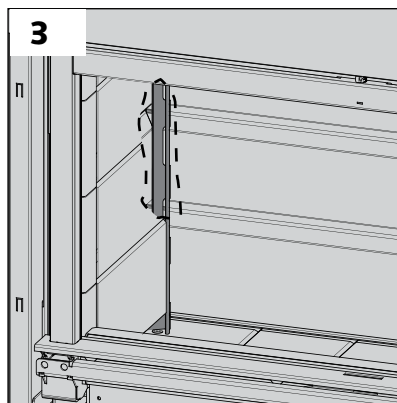
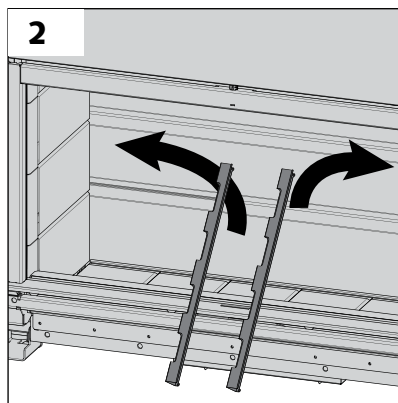
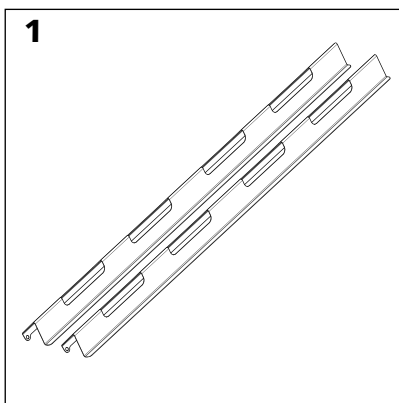
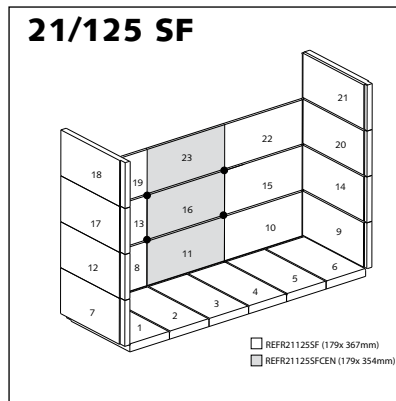
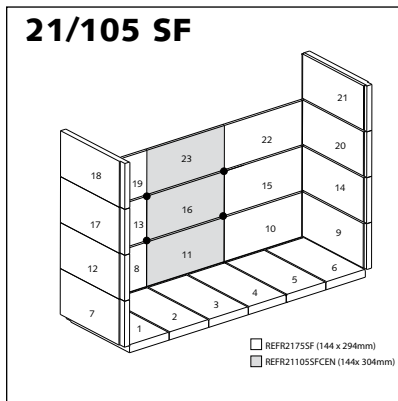
## Lining the combustion chamber (continuation)

### Stûv 21/105 SF, 21/125 SF

The basic procedure (order of steps) is identical to the other single-sided models but the refractory sections without spacers are placed in the centre of the back wall.

Use the stainless steel keys to carry out maintenance of the back refractory sections [diagrams 1 to 8].

Ensure these elements are positioned as illustrated in diagram 4.





## Lining the combustion chamber (continuation)

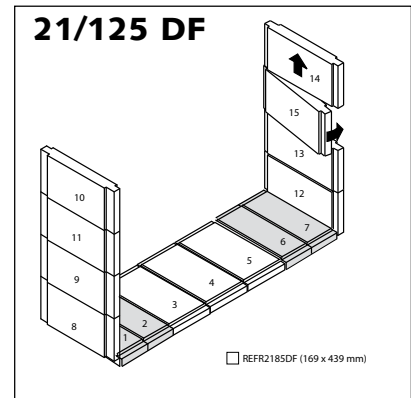
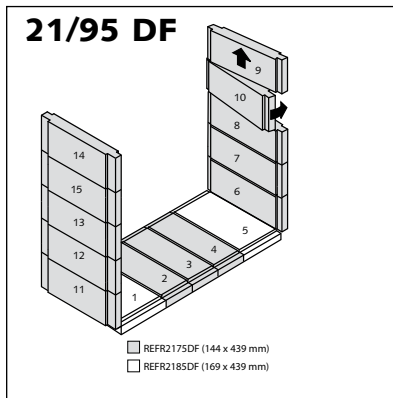
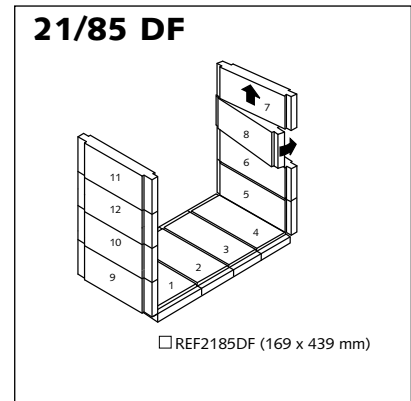
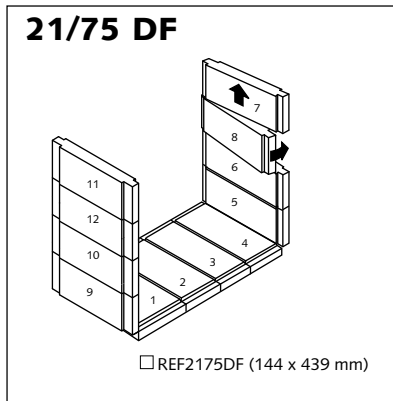
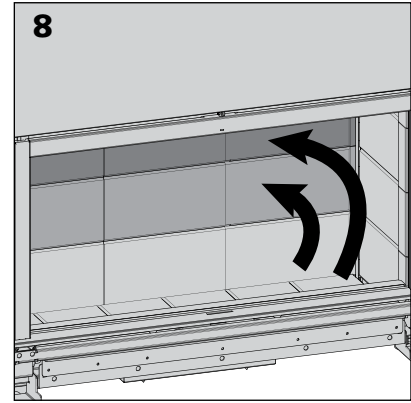
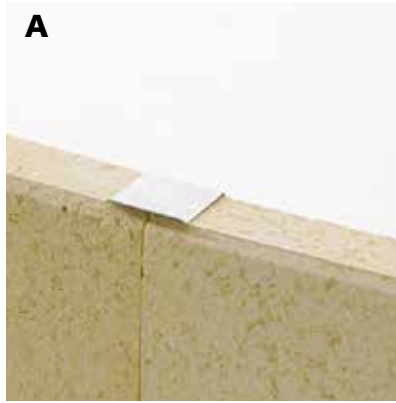
Position the spacer pieces (A) after layers 2 and 3.

### In all double-face models:

Position and centre all refractor plates on the back wall, then those on the side walls.

### Stûv 21/75 SF, 21/85 SF, 21/95 SF, 21/105 SF, 21/125 SF

The refractory bricks are available in a choice of two shades: light or dark.



## Fitting baffles

Upper and lower baffles are designed to regulate draught and to improve performance.

### Note

Depending on the draught, one could first move the lower adjustable baffle. Then influence the draught by modifying the pre-cut upper baffle (remembering that this modification is irreversible).

### Fitting upper baffle

The upper baffle is made of two stainless steel sections. One fits to the left and the other to the right [photo 1 and diagram 2].

These pieces are supplied pre-cut. If the draught of the chimney is insufficient, reduce the chicane by "breaking" it symmetrically and gradually along the pre-cut lines [photo 3].

If the chimney does not provide a good draught, do not insert the upper chicane.

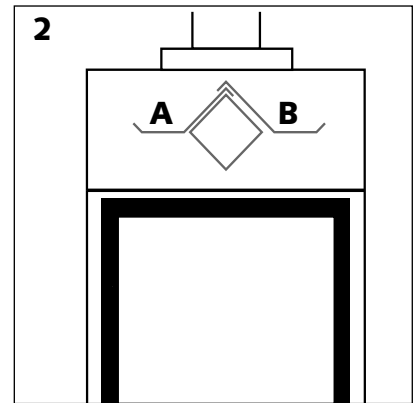
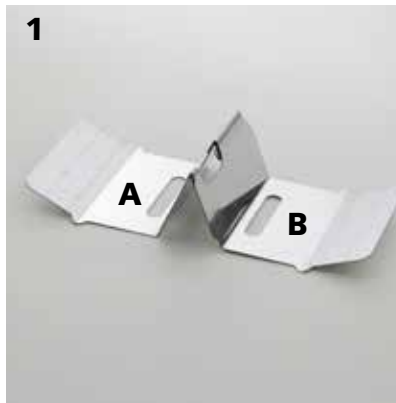
Place left-hand section first by running hand through cut-out [photo 4]. (For chimneys of at least six metres).

The upper lug of the baffle [photo 1 A] should rest on the top core of the deflector [diagram 2].

In the same way, place right-hand section to overlap left-hand section.

### Positioning of the lower chicane in the single-sided models [photo 5]

Note that R/H and L/H supports are different [photo 6]; the short 4 cm lug should be turned towards the inside of the hearth [photos 6 & 7].



## Fitting baffles (continuation)

These side supports should rest at the bottom of the hearth on the edge of the rearmost refractor plate and in the metal groove in front [photo 8].

These supports must run perfectly parallel to the side refractor plates [diagram 9].

Check that the tip of support is well lodged in the groove and that it is not stuck between the tip of the groove and the hearth wall.

Place the front crosspiece [photo 10]. Its lug should rest in the front notch of the side support [photos 11 & 12].

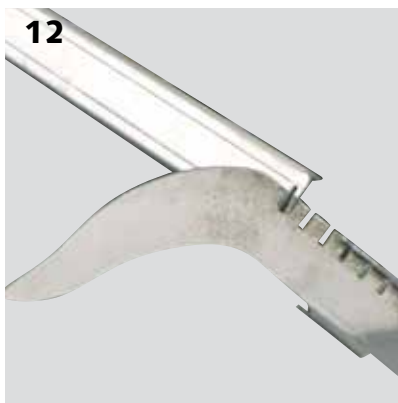
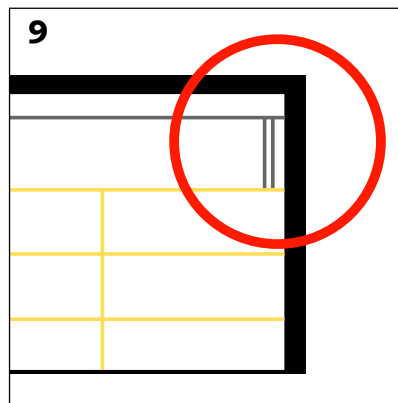
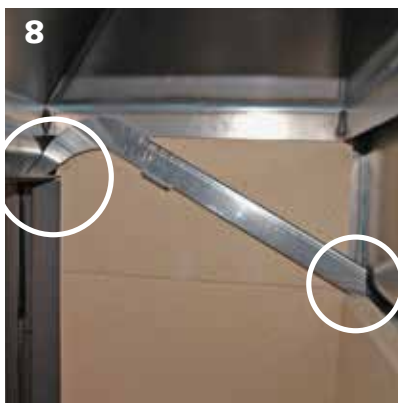
Fit 2, 3 or 4 vermiculate plates according to model [photo 13].

Secure and centre the whole assembly: stainless steel supports and vermiculate plates [photo 14].

If the draught is still inadequate, the front crosspiece should be moved towards the rear of the hearth. Insert the lugs into the corresponding notches [photo 12].

### Réglage de la chicane suivant le tirage

If the draught is still inadequate, the front crosspiece should be moved towards the rear of the hearth. Insert the lugs into the corresponding notches [photo 12].



**Positioning of the lower chicane in the double-sided models**

Fit side supports [diagram 15 A]; the short 4 cm lugs [photo 16 A] should be turned towards the inside of the hearth.

Tips of side supports lodge into grooves [photo 17].

Make sure that these supports run perfectly parallel to the side refractor plates.

Check that the tips of support are well lodged in the grooves and that they are not stuck between the tip of the groove and the hearth wall.

Fit the "front" crosspieces [photo 15 B] into the hearth's outermost notch.

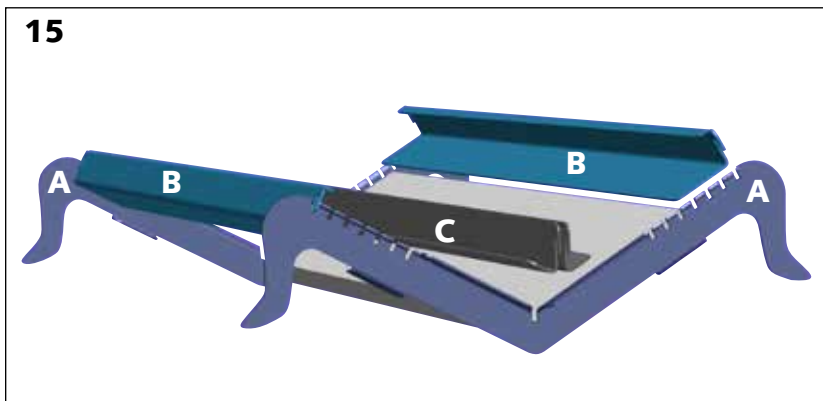
Position the central crosspiece [diagram 15 C] : it is made up of two pieces positioned back to back. Lodge the lugs into the central notches (dip of V) of side uprights.

Fit the 4 vermiculate plates: first rest towards the outside of the hearth on the front crosspiece then rest on the central crosspiece [photo 18].

**Adjusting the baffle according to draught**

If the draught is inadequate, move the front crosspiece towards the centre of the hearth. Insert the lugs into the corresponding notches [photo 19]. Run this operation in a symmetrical way on both faces of the hearth.

Secure and centre the elements [photo 20].



## Construction of cladding

When installing the cladding or the construction around the stove, follow the basic principles explained on page 14 (preparing the hearth area).

## Fitting the applied ornamental frame

As its name implies, this type of frame is applied in front of the masonry; it is secured by a counter-frame linking the hearth (behind the masonry) and the frame (in front of the masonry). An adequate-sized niche will have been planned (see page 9).

2 types of counter-frames are available from Stüv to fit various thicknesses of surrounding masonry: from 50 to 75 mm and from 75 to 125 mm

Using a small flat screwdriver, open the 4 brackets on the front uprights [photos 1 & 2].

Having bent the lug with the screwdriver, position the screwdriver behind the tongue piece to act as a wedge and then use the hammer. You will then achieve the final position depicted here.

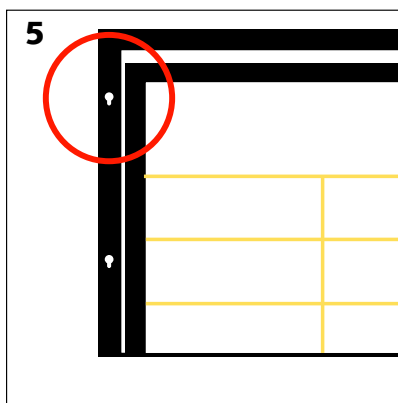
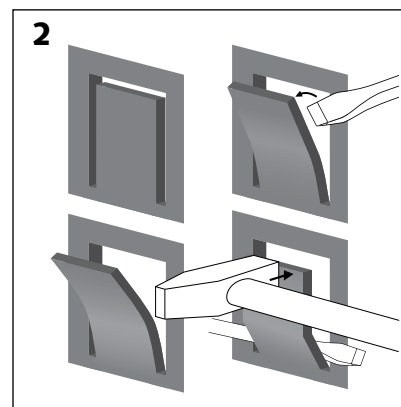
Measure the distance between the face plane of masonry and the front edge of the fireplace. This measurement defines the depth of the counter-frame [photo 3].

Using a 10mm socket, lock counter-frame at the required depth [photo 4]. Perform this in all 4 corners.

Hang on the counter-frame.

Pay attention not to fit upside-down [diagram 5]. Adjust height of counter-frame by bending the brackets as required on the fireplace uprights.

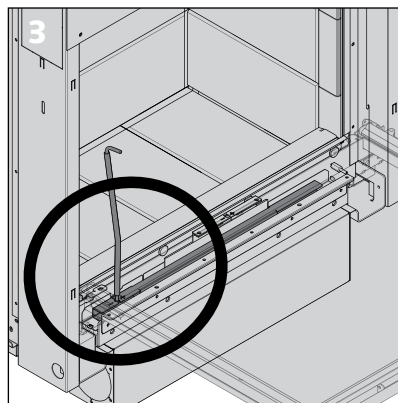
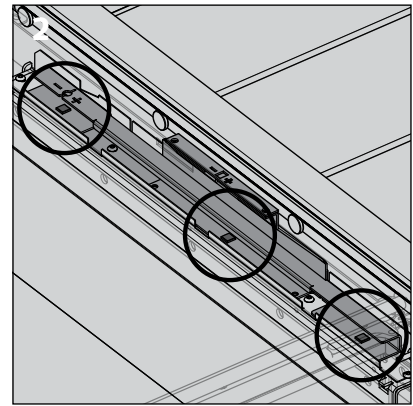
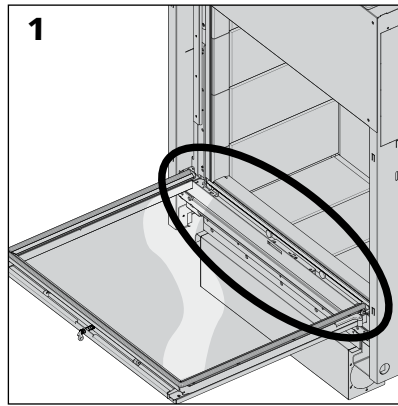
Fit the ornamental frame [photos 6 & 7]. Nuts and bolts are fixed on the frame and will position into the buttonholes (keyhole-shaped) of the counter-frame.



## Checking the damper

Check that the damper is working properly. To do this, make a visual check that both parts of the damper fit together properly [diagram 2]

Adjust the secondary air intake to half-open.



## When the installation of the stove is complete...

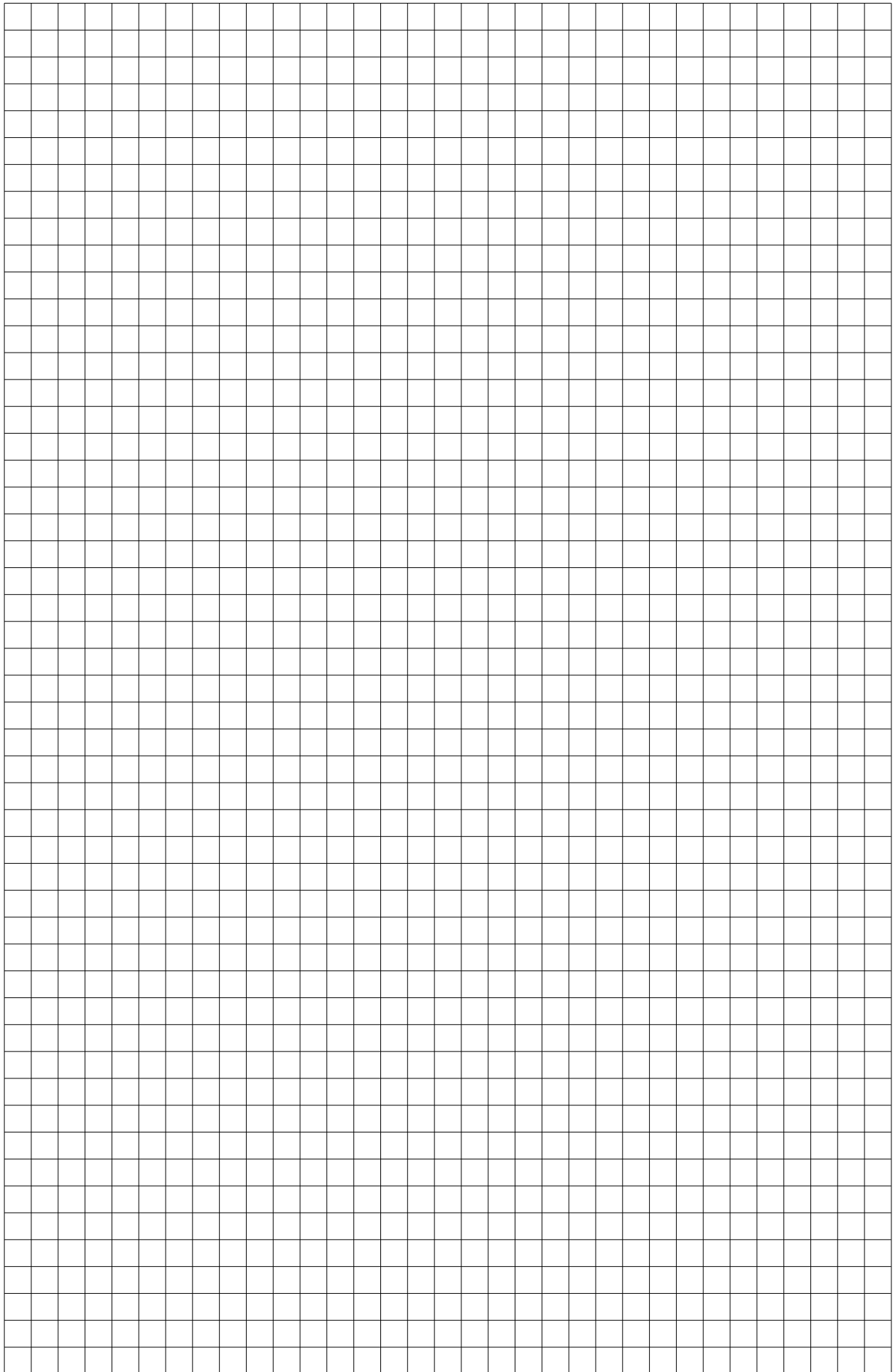
... Carry out a test to ensure it is working correctly.

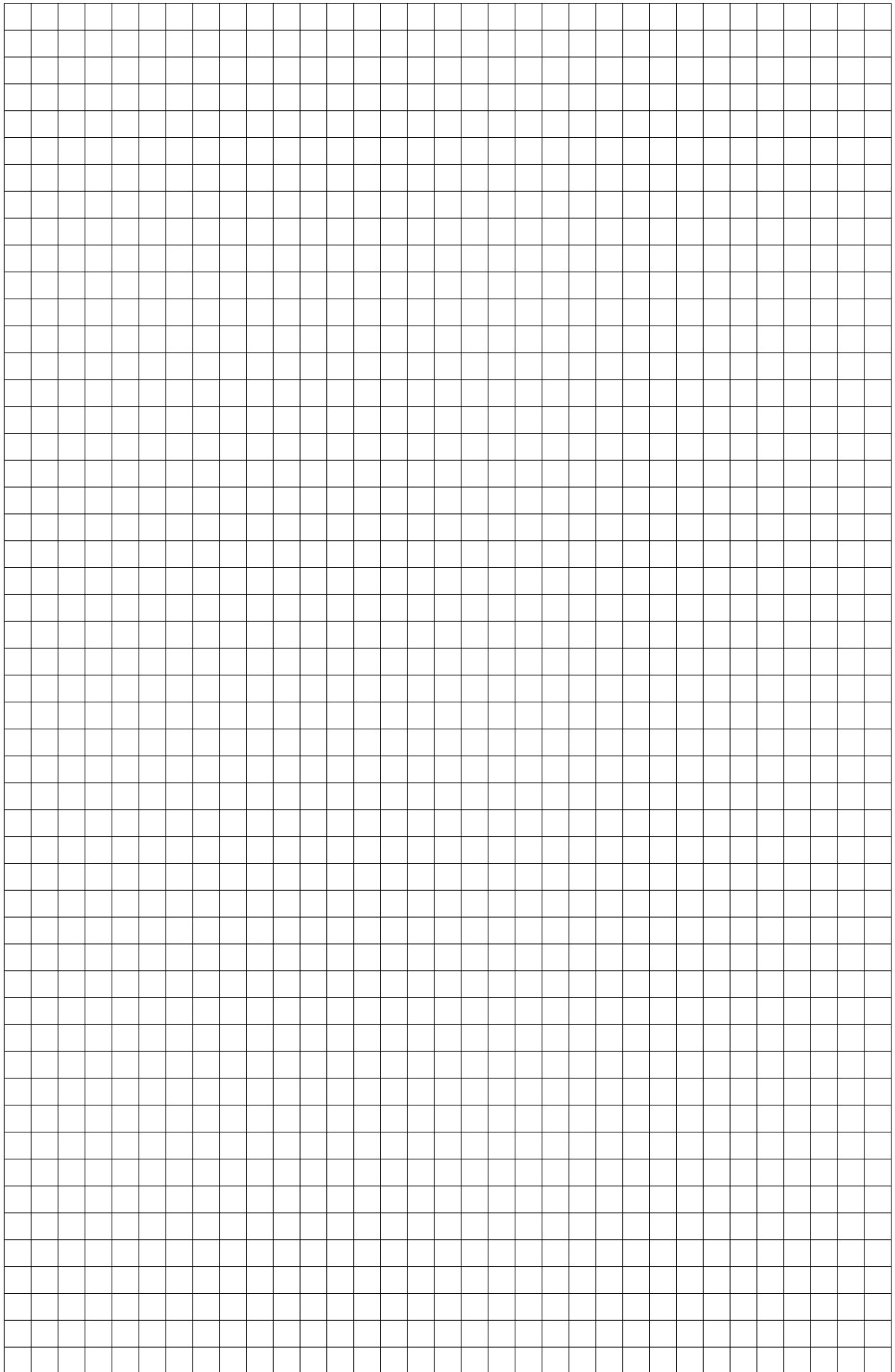
Before this test, ensure no items involved in installation have been left in the combustion chamber or in the bends (spray paint, tubes of grease, tools).

When the fire is first lit, some smoke or odours may be produced: Ventilate the room thoroughly.

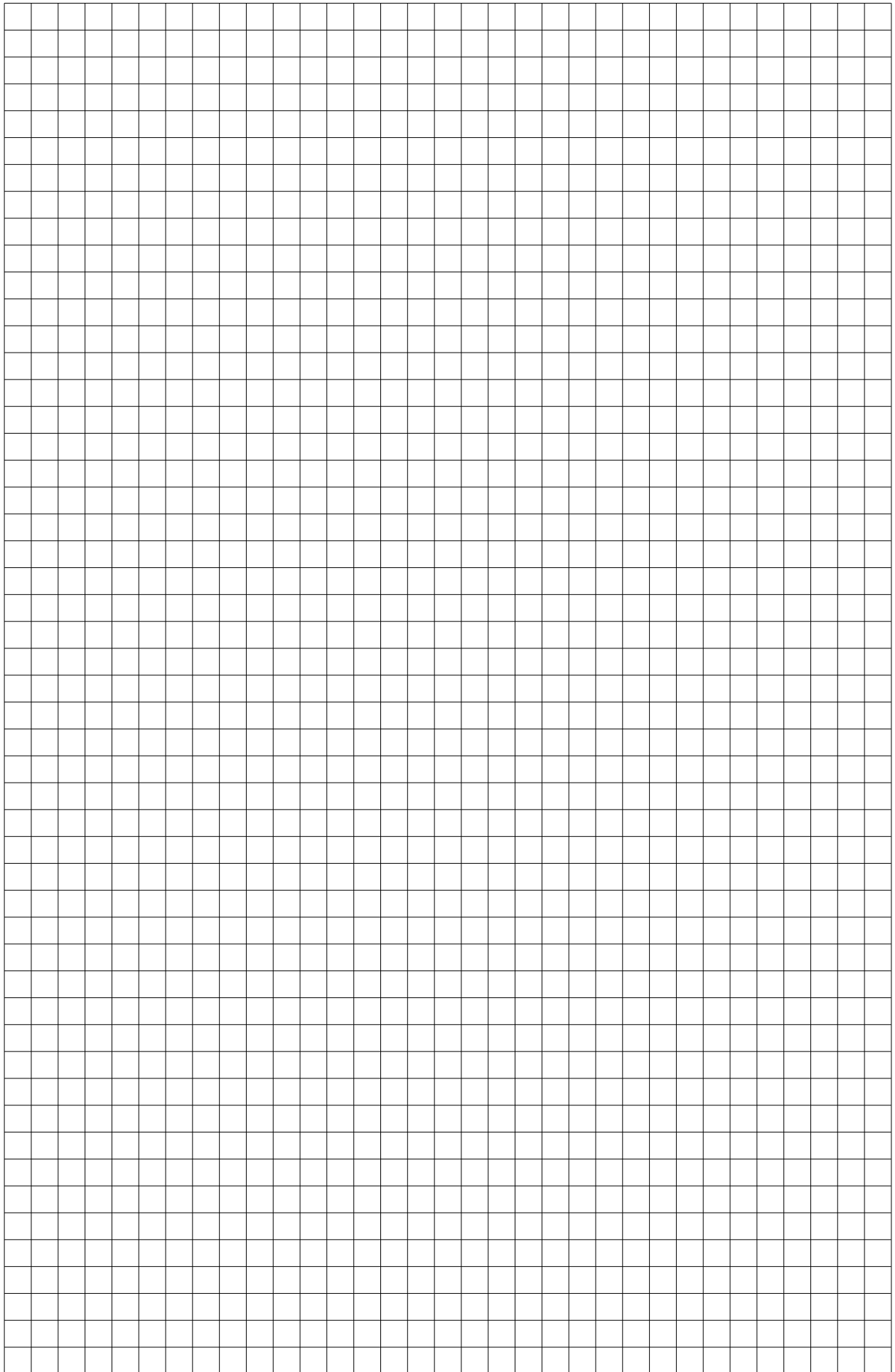
See directions for use.

Once installation is complete, return the directions for use to the user. Fill in the guarantee certificate with him (at the back of the directions for use) and advise him to return it to the manufacturer or importer.









PLEASE COMPLETE IN BLOCK CAPITALS.

### THE PURCHASER

SURNAME .....  
 FIRST NAME .....  
 ADDRESS WHERE WORKS WERE CARRIED OUT .....  
 POST CODE .....  
 TOWN/PLACE .....  
 COUNTRY .....

### INSTALLATION ENGINEER

COMPANY .....

### YOUR STÛV STOVE 21

SERIAL N° .....  
 DATE OF INSTALLATION .....

### FLUE CHARACTERISTICS

HEIGHT OF FLUE IN M .....  
 DIAMETER OF FLUE IN MM .....  
 TYPE OF FLUE .....

### CHECK OF SYSTEM'S SETTINGS

CHECK ON THE VACUITY OF THE FLUE .....  
 VALIDATION OF DRAUGHT .....  
 VERIFICATION OF AIR INLET SETTING  
 (OPEN/CLOSED) .....

CHECK OF THE HUMIDITY OF THE WOOD ..... HUMIDITY %  NO WOOD

COMMENTS .....  
 .....  
 .....

### SAFETY GUIDELINES

The use of this system has to comply with the installer's recommendations and the manufacturer's instructions which are set out in the directions for use issued to the customer with the invoice and this confirmation of acceptance.

The efficiency and longevity of the system depend directly on the quality of wood used: it is essential that wood with humidity of less than 18% (\*) or reconstituted wood briquettes are used. Green wood with drying-out time of less than 24 months cannot be used (more information in the "fuels" section on pages 8 and 9 of the directions for use).

THE INSTALLATION ENGINEER (name written out in full and signature).....

THE CUSTOMER (name written out in full and signature) .....

Directions for use of the system issued to customer /  Information sheet on lighting the stove issued to the customer

\* [www.nfboisdechauffage.org](http://www.nfboisdechauffage.org)

## CONTACTS

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info@stuv.com – www.stuv.com

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www.takkamaailma.com

### **Importer for Sweden**

Eldoform Sverige AB  
Slipgatan 2 – 117 39 Stockholm  
T 0707 883 53 – www.eldoform.se

### **Importer for Denmark**

Stove APS  
Aldershvilevej 84 – 2880 Bagsvaerd  
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T +372 56 249 004 - www.tulering.ee



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# installation instructions [en]

## Stûv 21

03-2019 – SN 132150 > ...

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Stûv reserves the right to make changes without prior notice.

These instructions have been produced with the greatest of care. However, we do not accept responsibility for any errors that may have been made.

Editor: Gérard Pitance – rue Jules Borbouse 4 – 5170 Bois-de-Villers – Belgium

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