


**GB**



**BRUGERMANUAL  
BEDIENUNGSANLEITUNG  
USER MANUAL  
MANUEL D'UTILISATEUR  
BRUKERVEILEDNING  
BRUKSANVISNING  
KÄYTTÖOHJE  
GEBRUIKERSHANDLEIDING**

**RAIS 2:1**

**attika®**  
FEUERKULTUR

**RAIS®**  
ART  OF FIRE

## FIRE ENVIRONMENTALLY FRIENDLY!

5 Eco-friendly advices for sensible heating

- common sense both environmentally and economically.

1. Effective lighting. Use small pieces of wood (fir tree) and a suitable fire lighter, for example paraffined wood wool/saw-dust. Open the air damper, so plenty of air is fed to the stove and the gases from the heated wood can burn rapidly.
2. Light the fire with only little wood at a time - this gives the best combustion. Remember plenty of air for every time new wood is added.
3. When the flames are diminished, adjust the air damper so that the air supply is reduced.
4. When only glowing embers remain, air flow can be reduced further, so heating demand is just covered. With a lower air supply the charcoal will burn slower and the heat loss through the chimney is reduced.
5. Use only dry wood - ie. wood with a humidity of 15 to 20%.

### RECYCLING:

The oven is wrapped in packaging that is recyclable. This must be disposed of according to national rules regarding the disposal of waste.

The glass can not be reused.

The glass should be discarded along with the residual waste from ceramics and porcelain.

Pyrex glass has a higher melting temperature and therefore can not be reused.

If discarded you make an important positive contribution to the environment.

We cannot be held responsible for any misprints.

**Rais 2:1**

Revision: 6  
Date : 12-12-2019

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## Introduction

Congratulation with your new wood burning stove.

This stove is more than a heat source. it also shows that you care about design and quality in your home.

To make the most of your wood burning stove it is important that you read the manual thoroughly, before installing and using it.

In the case of warranty coverage, and for general queries regarding your wood burning stove, it is important that you know the stove's production number. We therefore recommend that you note down the number in the table below.  
the production number can be found in the upper left corner behind the door.

**Production number:**

**Produced by:**

**RAIS A/S**

**9900 Frederikshavn, DK**

Dato:

Forhandler:



## WARRANTY

RAIS/attika – wood-burning stoves are tested repeatedly in terms of safety, as well as material and manufacturing quality. We grant warranty on all models, starting with the date of installation.

The warranty refers to:

- documented malfunctions due to faulty manufacture
- documented material defects

The warranty does not cover:

- door and glass seals
- ceramic glass
- chamber lining
- appearance of the surface structure or natural stone texture
- appearance or changes of colour of the stainless steel or patina surfaces
- expansion noise

The warranty is invalidated in case of:

- damages, caused by overfiring
- damages, caused by external influence and the use of unsuitable fuels
- non-observance of statutory or recommended installation guidelines, and modifications to the wood-burning stove
- non-observance of service and care provisions

Please contact your retailer in the event of damage. We determine the way to repair the damage, in case of warranty claims. In the event of repair, we ensure proper and professional execution.

Warranty claims submitted for additionally delivered or repaired parts are subject to national/EU laws and regulations in terms of renewed warranty periods.

Please contact RAIS A/S for the applicable warranty provisions.

## Specifications

<i>DTI ref.: 300-ELAB-1275-EN / 300-ELAB-1275-NS</i>	RAIS 2:1
Rated power (KW)	6,3
Min. / Max. output (kW):	3 - 9
Heating area	approx. 45 - 135
Stove: width/depth/height (mm):	807 - 458/480 - 914
Combustion chamber: width/depth/height (mm):	500 - 244 - 374
Recommended amount of wood when fuelling(kg): (Distributed between 2-3 logs of wood of approximately 25cm)	2,1
Min. Uptake (Pascal):	-12
Weight (kg):	140
Efficiency (%):	79
CO emissions attributed at 13% O <sub>2</sub> (%)	0,08
NOx emissions attributed at 13% O <sub>2</sub> (mg/ Nm <sup>3</sup> ):	87
Particles emission acc. to NS3058/3059 (g/kg):	3,7
Dust measuring acc. to Din+ (mg/Nm <sup>3</sup> ):	15
Flue gas mass flow (g/s):	5,1
Flue gas temperature (°C):	297
Calculated flue gas temperature (° C) at flue collar:	356
Intermittent operation:	Refuelling should be done within 69 minutes

DTI  
 Danish Technological Institute  
 Teknologiparken Kongsvang Allé 29, DK-8000 Aarhus C  
 Denmark  
[www.dti.dk](http://www.dti.dk)  
 Phone: +45 72 20 20 00  
 Fax: +45 72 20 10 19

## CE Label for RAIS 2:1



Produced at:

**RAIS A/S, Industrivej 20, 9900 Frederikshavn, Danmark**EN 13229:2001+A2:2004  
EC.NO: 910**18**  
**RAIS 2-1**Raumheizer für feste Brennstoffe  
Appliance fired by wood  
Poêle pour combustibles solides**Anordningen må kun installeres i forbindelse med ubrændbart materiale.**AFSTAND TIL BRÆNDBART, BAGVÆG  
ABSTAND ZU BRENNBAREN BAUTEILEN, HINTEN  
DISTANCE TO COMBUSTIBLE BACK WALL  
DIST. ENTRE COMPOSANTS COMBUSTIBLES, ARRIÈREAFSTAND TIL BRÆNDBART, SIDEVÆG  
ABSTAND ZU BRENNBAREN BAUTEILEN, SEITE  
DISTANCE TO COMBUSTIBLE SIDE WALL  
DISTANCE ENTRE COMPOSANTS COMBUSTIBLES, COTÉAFSTAND TIL BRÆNDBART, MØBLERING  
ABSTAND VORNE ZU BRENNBAREN MÖBELN  
DISTANCE TO FURNITURE AT THE FRONT  
DISTANCE ENTRE COMPOSANTS COMBUSTIBLES, DEVANTCO EMISSION  
CO EMISSION IN DEN VERBRENNUNGSPRODUKTEN  
EMISSION OF CO IN COMBUSTION PRODUCTS  
EMISSION CO DANS LES PRODUITS COMBUSTIBLESSTØV / STAUB /  
DUST / POUSSIÈRES:RØGGASTEMPERATUR / ABGASTEMPERATUR /  
FLUE GAS TEMPERATURE / TEMPÉRATURE DES GAZ DE FUMÉE:NOMINEL EFFEKT / HEIZLEISTUNG /  
THERMAL OUTPUT / PUISSANCE CALORIFIQUE:VIRKNINGSGRAD / ENERGIEEFFIZIENZ /  
ENERGY EFFICIENCY / EFFICACITÉ ÉNERGÉTIQUE:DK: Brug kun anbefalede brændsler. Følg instrukserne i brugermanualen.  
Anordningen er egnet til røggassamledning og intervalfyring.DE: Lesen und befolgen Sie die Bedienungsanleitung.  
Zeitbrandfeuerstätte. Nur empfohlene Brennstoffe einsetzen.UK: Fuel types (only recommended) Follow the installation and  
operating instruction manual. Intermittent operation.F: Remarque: Veillez lire et observer les instructions du mode d'emploi.  
Foyer à durée de combustion limitée, homologué pour cheminée à  
connexions multiples. Utiliser seulement les combustibles recommandés.**Hergestell für /Produced for:****ATTIKA FEUER AG, Brunnmatt 16, CH-6330 Cham / RAIS A/S, Industrivej 20, DK-9900 Frederikshavn**DK: SE BRUGERVEJLEDNING  
DE: SIEHE BEDIENUNGSANLEITUNG  
UK: SEE USER MANUAL  
FR: CONSULTEZ LE GUIDE DE L'UTILISATEURDK: SE BRUGERVEJLEDNING  
DE: SIEHE BEDIENUNGSANLEITUNG  
UK: SEE USER MANUAL  
FR: CONSULTEZ LE GUIDE DE L'UTILISATEURDK:600 mm/SE BRUGERVEJLEDNING  
DE:600 mm/SIEHE BEDIENUNGSANLEITUNG  
UK:600 mm/SEE USER MANUAL  
FR:600 mm/CONSULTEZ LE GUIDE DE L'UTILISATEURDK: 0,08%  
DE: 0,08% / 950 mg/nm<sup>3</sup>  
UK: 0,08%  
FR: 0,08%DK: 15 mg/Nm<sup>3</sup> / DE: 15 mg/Nm<sup>3</sup>  
UK: 15 mg/Nm<sup>3</sup> / FR: 15 mg/Nm<sup>3</sup>DK: 297°C / DE: 297°C  
UK: 297°C / FR: 297°CDK: 6,3 kW / DE: 6,3 kW  
UK: 6,3 kW / FR: 6,3 kWDK: 79% / DE: 79%  
UK: 79% / FR: 79%

DK: BRÆNDE

DE: HOLZ

UK: WOOD

FR: BOIS

**15a B-VG**  
VKF-NR:  
XXXXX  
Bauart: 2

## Convection

RAIS/attika stoves are convection stoves. Therefore the external stove panels is a lot cooler than the inner body. Convection means that the air is circulated in the room so that heat is evenly distributed.

The **cold** air is drawn in at the base of the stove, and up through the convection channel and flows along the stove's combustion chamber.

The **heated** air flows out of the oven top, and ensures warm air circulation in the room.

Please note that you must use extreme care as all exterior surfaces become hot during the stove's use.

The stove is equipped with "cold" door handle - a specialty from RAIS - which means that you are able to operate your stove almost without gloves. Please note, that all outer surfaces become hot during the stove's use - you need to take extreme care.

## Chimney

The chimney is the driving force to get the wood burning stove to function. Remember that even the best stoves do not burn optimally without the necessary and proper draught in the chimney.

The chimney must be high enough - a minimum of 3 metres and updraught apertures allowing between -12 to -25 pascal. If the chimney draught is lower than recommended, there may be problems of smoke leaking into the room when the stove is lit.

Note that there are often national and local regulations concerning houses with thatched roofs.

Please also note the draught conditions in the chimney with 2 cores.

The stove is suitable for connection with the flue, but we recommend that fuel is placed so there is a minimum of 250 mm ground clearance difference between these.

The flue pipe is 150 mm in diameter.

If the draught is too strong, it is recommended to provide the chimney or flue pipe with a damper. In which case, it is important to ensure that there is a free flow-through area of minimum 20 cm<sup>2</sup> when the regulating damper is shut. Otherwise, the fuel energy may not be used optimally. If you are in doubt about the condition of the chimney, contact a chimney sweep.

Remember, there must be free access to the cleaning latch.

Make sure that there is access for cleaning the fireplace, flue collar and flue.

## Installation

It is important that the stove is installed properly for the sake of both the environment and safety.

When installing the stove, all local rules and regulations, including those referring to national and European standards must be respected. Local authorities and a chimney specialist should be consulted before installation.

The stove may only be installed by a qualified/competent RAIS dealer/installer or the warranty will be invalid.

Do not make unauthorised changes to the stove.

### CAUTION:

Before the stove is used, the local chimney sweep must be notified.

There should be an ample supply of fresh air in the installation room to ensure good combustion- if necessary through an airbox connection . Note that any mechanical exhaust ventilation e.g. an extraction hood may reduce the air supply. Any air vents must be placed in such a manner, that the air supply is not blocked. The stove is equipped with two convection exit points in the top, which can possibly be connected with suitable air ducts to other rooms in the home.

The stove has an air consumption of 10-20m<sup>3</sup>/h.

The floor construction must support the weight of the stove as well as a possible chimney. If the existing floor construction doesn't meet this requirement, suitable adjustments (e.g. load distributing plate) should be made in order to achieve it. Consult with a construction expert.

The stove is to be placed on the fire-resistant material.

It must be ensured that flammable objects (eg. furniture) are not placed closer than the distances indicated in the following sections concerning installation (fire risk).

When you choose where to set up your RAIS wood burning stove, you should consider the heat distribution to the other rooms. So you get the maximum pleasure from your stove.

The stove should be set-up at a safe distance from flammable materials.

See the manufacturer's plate on the stove.  
Upon receiving, the stove should be inspected for defects.

**N.B.!!**

The stove may only be installed by a qualified/competent RAIS dealer/installer.

See [www.rais.com](http://www.rais.com) for list of dealers .

## Assembly instructions

Installation of stove:

### NOTE:

- Decisions must be made concerning the positioning of the inlets and outlets of the convection system. It must be ensured that area requirements are respected.
- There may be discolouration of the wall above the stove doors and the exhaust apertures of the convection system. This is due to rising hot air.
- RAIS accepts no responsibility for installation or consequential damages.

Remove the stove from the pallet and position the stove in the desired location on a suitable surface. If you wish the stove in a higher position use adjustable legs (accessories can be purchased from your RAIS dealer).

The stove can be aligned using screws, so that the glass on the upper side of the door is horizontal in the closed position and the glass surface is vertical in the closed position.

Remove the covers and doors from the packaging. Take care of the glass on the doors as they are easily damaged by knocks and impacts. Leave the protective tape on the stainless steel damper handle. Protect the painted surfaces of the stove against cement and paint spray.

Attach the non-insulated part of the chimney to the flue collar in the convection chamber.

**It is important that there is no leakage between flues and stove. Therefore it is recommended to seal with a washer during the assembly.**

Install the insulated part of the chimney and connect to a brick chimney, if possible.

Mount the fresh air connection to the spigot at the bottom of the stove, if this is to be connected.

If you choose to install pipes to the convection system outlet flue spigots, it would be useful to do this before installation.

The stove may either be installed in a fireproof wall panel or brick wall.

After the wall is completely established and painted, the cover panels and doors are to be attached, if required.

The covers are adjusted to the maximum wall thickness from the factory.

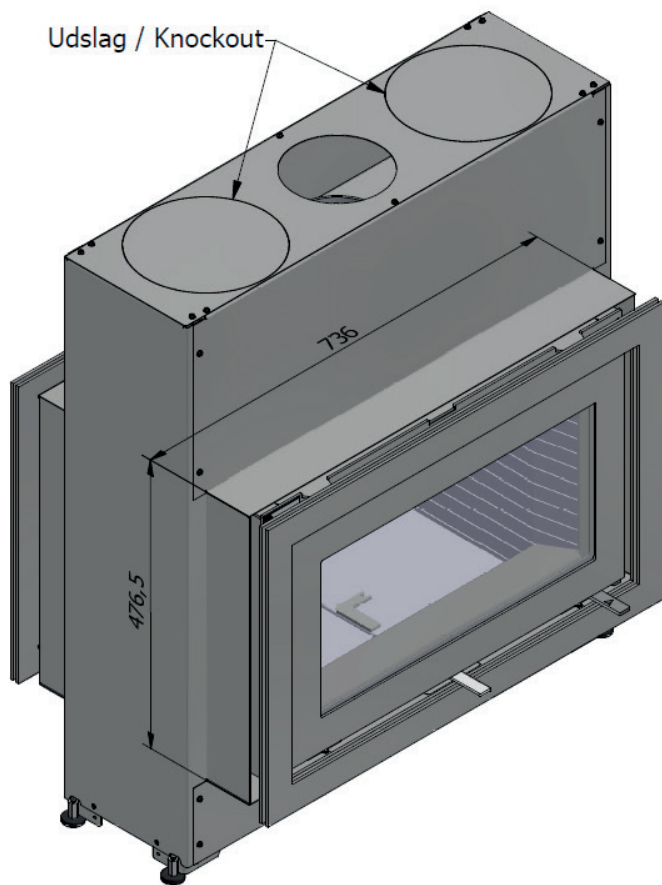
The screws in the top and bottom are to be slackened.

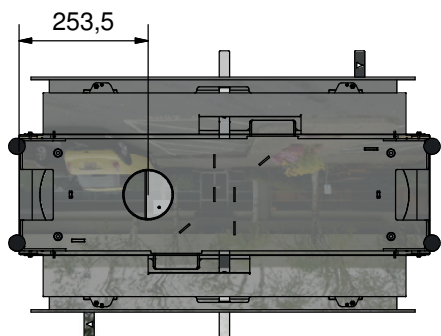
The covers are to be pushed against the wall.

Check if the cover is parallel to the wall and the door glass when closed - if necessary, adjust the cover.

Covers in individual measurements may also be delivered, if required. Contact your RAIS dealer. This may be ordered with the stove.







### Stove with steel doors.

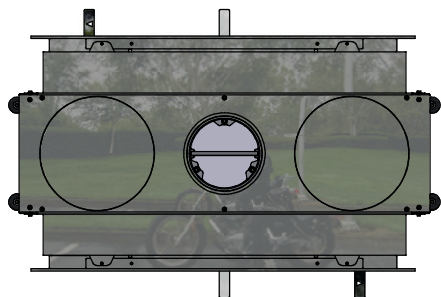
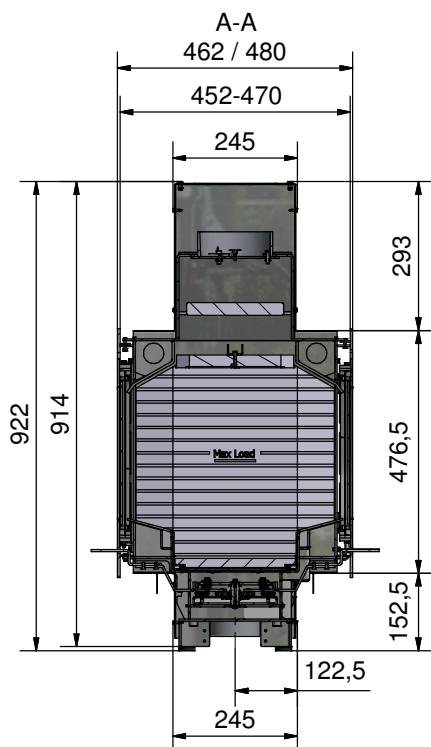
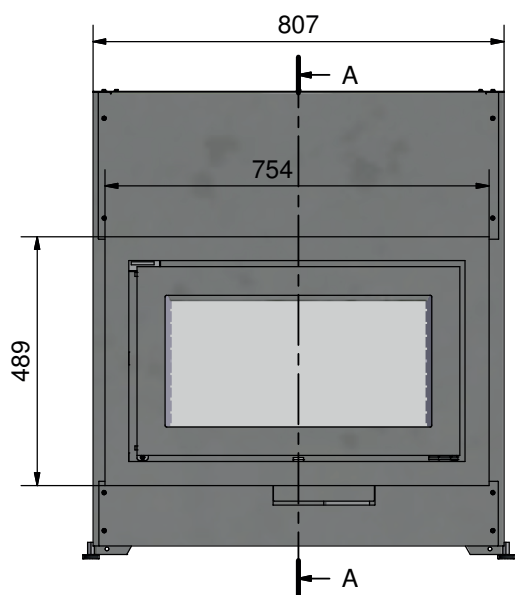
External dimensions from door to door:  
462mm

### Stove with glass doors.

External dimensions from door to door:  
474mm

### Masking frame

Inner dimensions from frame to frame,  
can be adjusted from 452 to 470mm



## Installation distance with non-flammable wall panel

(Insulation as Aqua Outdoor panel (thermal conductivity 0.35 W/ mk) or better)

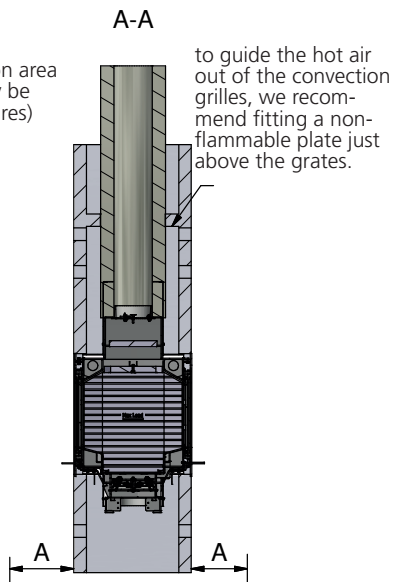
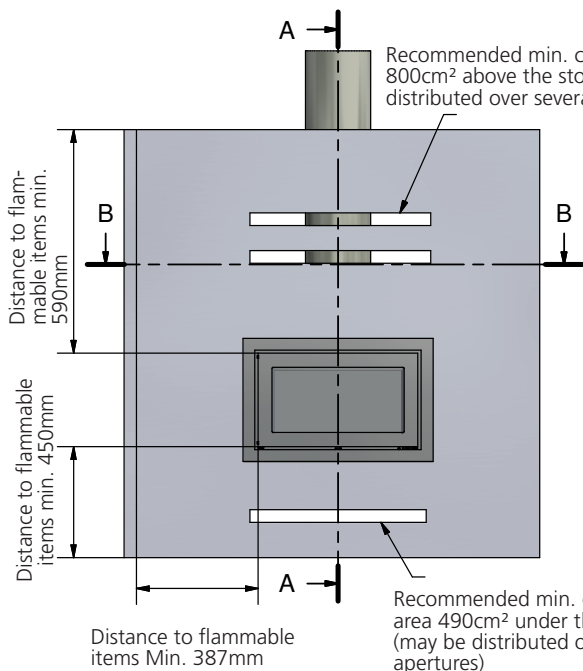
Note: Insulated flue pipe.

## Installation distance with non-flammable wall panel

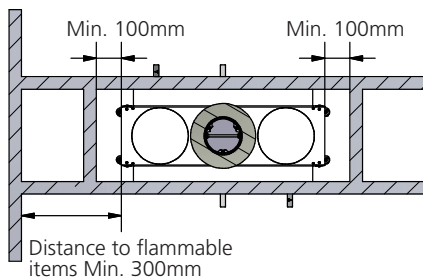
(Insulation as Aqua Outdoor panel (thermal conductivity 0.35 W/ mk) or better).

Mark: Insulated flue pipe.

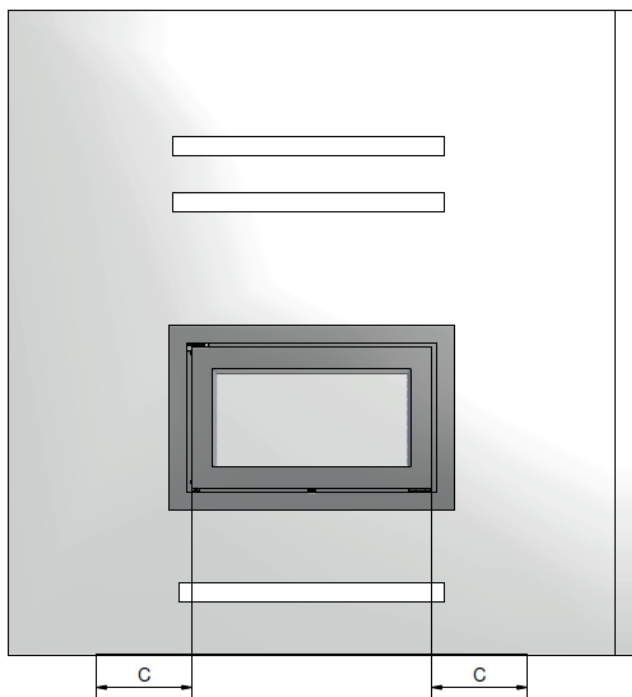
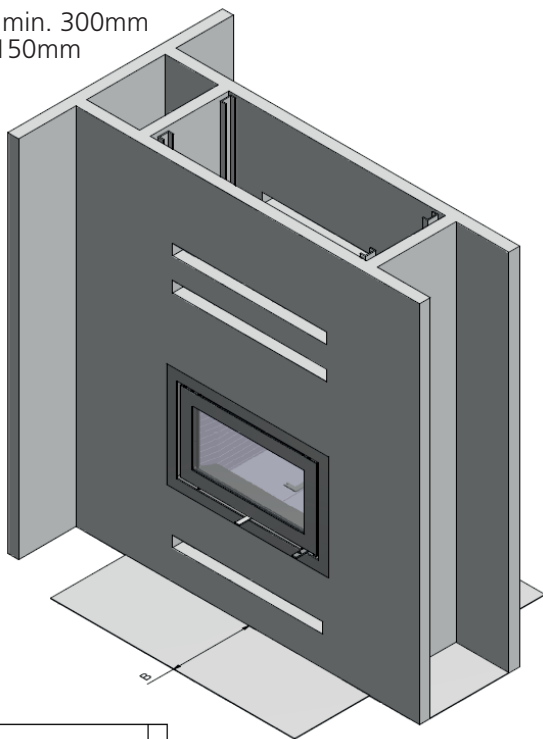
### Distance to furniture (A): min. 600mm



### B-B



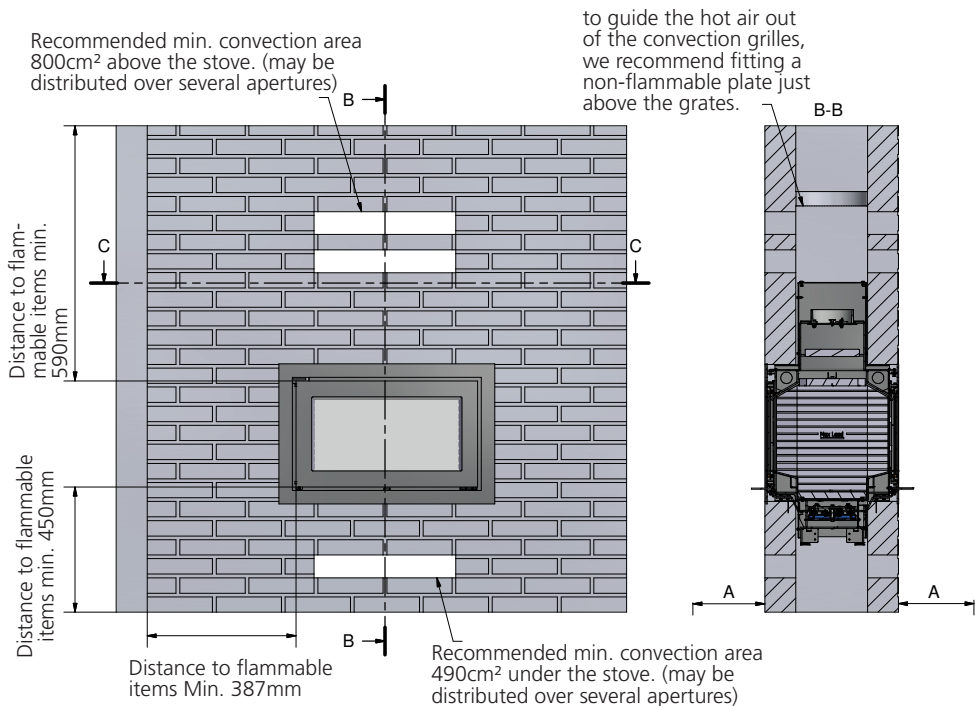
Distance to flammable floor in front of (B) min. 300mm  
Distance to flammable floor side (C) min. 150mm



## Installation distance with brick / firewall

(Norwegian firewall is for example a 100 mm thick brick wall or 50 mm thick firewall plate against a flammable wall).

### Distance to furniture (A): min. 600mm



If insufficient convection is created, damage may be caused to the brick walls.

## Fuel

The stove has been tested in accordance with DS/EN 13229:2001, DS/EN 13229:2001/A1:2003, DS/EN 13229:2001/A2:2004 and NS 3058/3059 for the stoking of split dry birch and approved for hardwood/softwood. The wood should have a moisture content of 15-20%, and a max. length of the combustion chamber width minus 50-60 mm.

Lighting a fire with wood emits soot, environmental pollution and poor fuel economy. Freshly cut wood contains approx. 60-70% water, and is completely unsuitable for stoking.

You should allow for newly cut wood to be stacked for drying for 2 years.

Wood with a diameter of more than 100 mm should be split. Regardless of the size of the wood, it should always have at least one surface area without bark.

**It is not permissible to burn lacquered, laminated or impregnated wood, wood with a synthetic surface, painted refuse wood, chipboard, plywood, domestic waste, paper briquettes and pit coal, because it could cause malodorous fumes that may be poisonous.**

The burning of the above and of amounts larger than those recommended, subjects the stove to a larger amount of heat, resulting in a higher chimney temperature and lower efficiency. This could cause damage to the stove and chimney and make the warranty void.

The calorific value of the wood is very much connected to the moisture content of the wood. Moist firewood has a low calorific value. The more water the wood contains, the more energy is used to evaporate it and this energy is wasted.

## ONLY USE RECOMMENDED FUELS

The following table shows the calorific value of different types of wood which have been stored for 2 years and have a residual moisture content of 15-17%.

### **Wood type / Kg dry wood / wood per. m<sup>3</sup> Compared to beech/oak**

Hornbeam	640	110%
Beech and oak	580	100%
Ash	570	98%
Maple	540	93%
Birch	510	88%
Pine	480	83%
Fir	390	67%
Poplar	380	65%

1 kg of wood yields the same thermal energy irrespective of wood type.

1 kg beech merely takes up less space than 1 kg of fir.



## Drying and storage

Drying wood takes time.

Proper air-drying takes approx. 2 years.

Here are some tips:

- Store the wood sawn, split and stacked in an airy, sunny place, which is protected from rain (the south side of the house is particularly suitable).
- Store firewood stacks at a hand's breadth apart, as this ensures that the air flowing through takes the moisture with it.
- Avoid covering the firewood stacks with plastic, as this prevents the moisture from escaping.
- It is a good idea to bring the firewood into the house 2-3 days before you need it.

## Regulating combustion air

All RAIS stoves are equipped with a one-handed operating lever for regulating the damper. The stove-specific regulation may be seen in the diagrams in the next section.

Primary air is combustion air that is added to the primary combustion zone, i.e., glowing embers. This cold air is only used at the lighting stage.

Secondary air is the air that is added in the gas combustion zone, i.e. air that contributes to the combustion of the pyrolysis gasses (preheated air observed through the glass and combustion). This air is sucked through the damper under the combustion chamber and is preheated through the side channels and then emitted as hot scavenging air onto the glass. This hot air rinses the glass and keeps it free of soot.

Setting the interval between position 1 and 2 ensures optimal use of the energy content of the wood, as there is oxygen for combustion and for the burning of the pyrolysis gases. The damper is set correctly when the flames appear clear yellow. Finding the correct position comes with time after regular use of the stove.

This pilot light, located at the bottom of the combustion chamber in the front, helps to ensure that there is always oxygen and high temperature within the embers. This provides a quick start with refilling and reduces the risk of the fire going out.

We do not recommend turning down the damper completely, because you are thinking that it gets too hot. Too little air supply provides poor combustion, which can cause high and dangerous flue gases, emissions and poor efficiency.

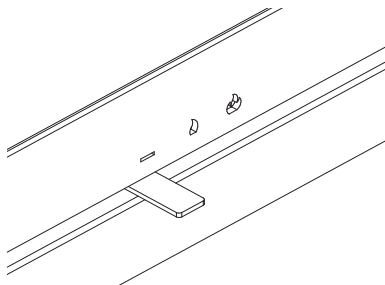
This results in dark smoke emanating from the chimney, and the calorific value of the wood is not used to its fullest.

## Use of the stove

When lighting the RAIS 2:1, it is important that the amount of firewood does not exceed the marking "MAX LOAD" (marked on the Skamol plate in the combustion chamber - approx. 19 cm in height) which corresponds to the maximum height of filling.

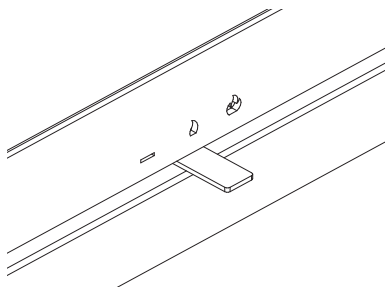
### Setting the air damper

There are three positions for the damper.



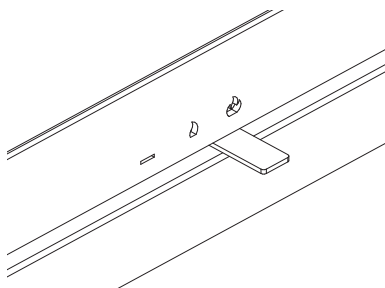
#### Position 1

The damper is closed, which means minimal air supply.



#### Position 2

Push the handle until it clicks in the middle position. This position provides full secondary air. During ordinary combustion the handle is to be set in the range between 1 and 2. When the flames are clear and yellow, the damper is set correctly - resulting in a slow/optimal combustion.



#### Position 3

Pull the lever to the right until it stops. The air damper is fully open and provides full primary and secondary air. This position is for the lighting and refuelling stages and is not used during normal operation.

## Control

Check the stove for signs of correct burning:

- ashes appear white
- the walls of the combustion chamber are free of soot

Conclusion:  
the wood is sufficiently dry.

## First use

A careful start pays off. Start with a small fire, so that the wood burning stove can get accustomed to the high temperature. This provides the best start and prevents any damage.

Be aware that a strange but harmless odour, as well as smoke from the surface may appear the first time you fire up. This is because the paint and materials need to harden, but the smell disappears quickly - check for good ventilation and draught, if possible.

During this process you must be careful not to touch the exposed surfaces/glass (very hot!), and it is recommended that you regularly open and close the door to prevent the door seal from sticking.

In addition, the stove can produce "clicking noises" during heating and cooling. This is due to the large temperature differences to which the material is exposed.

Never use any type of liquid fuel for kindling or maintaining the fire. There is a risk of explosion.

If the stove has not been used for a while, follow the steps as if you were using it for the first time.

## Lighting and fuelling

Sample images



N.B.:

If the air system is connected, the valve must remain open.

To ignite the stove use fuel tablets, etc., and approx. 2 kg wood, split for kindling. The damper is set so that it is fully open.



TIPS before firing up:

Open a door or window close to the stove.

If there is "wind" in the stove coming from the chimney, it is advantageous to place a crumpled newspaper between the upper baffle plate and the chimney, set fire to the newspaper, wait for it to "fume up" in the chimney - so you are sure there is a draught in a chimney and you avoid getting smoke in the room.



The fire is lit and the door is closed, so that there is a gap of about 10-15 mm.





When the flames are clear - after approx. 5-10 min. - Close the door.  
Damper - see adjustment of air damper.



After approx. 10-20 min. - when you have a good layer of embers - add 2-3 pieces of wood.  
Leave the door ajar until the fire has caught.  
Door is closed.  
Damper - see adjustment of air damper.



After approx. 5 min - or until there are clear and stable flames - close the damper gradually.

It is advantageous to have a layer of ash about 20 mm, as it has an insulating effect.



N.B.!

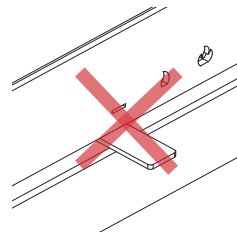
When the fire is lit, the door must be kept closed.



## Warning!!

If the firewood is only burning slowly without flames or smoking, and too little air is added, unburnt exhaust gases develop. Exhaust gases may ignite and explode. This may cause damage to equipment and possible human injury.

**Never** fully close the air supply when lighting the stove.

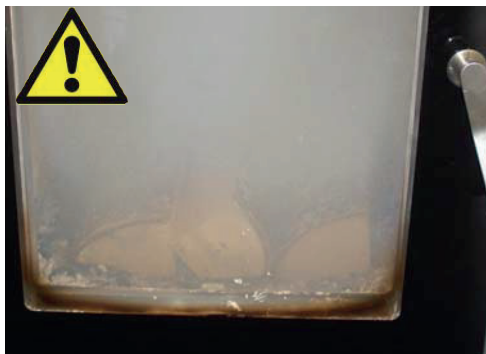


**If there are only a few embers remaining, you must rekindle the fire.**

If you simply add firewood, the fire will not be lit, instead, unburnt exhaust gasses will develop.



Firewood has been added to an inadequately large layer of embers and the air supply is insufficient - smoke is produced.



**Avoid heavy smoke emission - danger of exhaust gas explosion.**

In case of very heavy smoke, open the damper fully, open any doors ajar, or light the fire again.



## Cleaning and care

The wood burning stove and chimney must be inspected by a chimney sweep annually. The stove must be cold during cleaning and maintenance.

If the glass is sooty:

Clean the glass regularly and only when the stove is cold, otherwise the soot will burn solid.

- Dampen a piece of paper or newspaper, dip it in the ashes and rub the sooty glass.
- Rub with a piece of paper and the glass becomes clean.
- Alternatively use glass polish, which you can buy from you RAIS distributor.

External cleaning (cold stove) is done with a soft dry cloth or soft brush.

Cleaning the combustion chamber

The ash is scraped/shovelled out and stored in a non-flammable container until it has cooled. You may dispose of ash together with your regular household waste.

## REMEMBER!!

- Never remove all the ash from the combustion chamber
- the fire burns best on a layer of ash approx. 20mm thick.

Prior to a new heating season, the chimney and smoke gas connector should always be checked for blockage.

Inspect the stove interior and exterior for damage, especially seals and the heat insulating plates (vermiculite).

## Maintenance/spare parts

Moving parts are especially worn down by frequent use. Door seals also become worn. Only use original spare parts. We recommend service performed by your dealer at the end of a period of warmth.

## Combustion chamber lining

The combustion chamber lining protects the wood burning stove body from the heat of the fire. Large temperature fluctuations may result in cracks in the plates of the combustion chamber lining, which however, do not affect the functional capacity of the stove. They do not need to be replaced unless long-term use causes them to crumble. The plates of the combustion chamber lining are only inserted into the stove, and may be easily replaced by your dealer or yourself.

## Moving parts

Door hinges and door lock should be lubricated when necessary. We recommend using only our lubricating spray, as the use of other products may lead to the formation of odours and residues. Contact your dealer to obtain the lubricant.

## Cleaning the flue



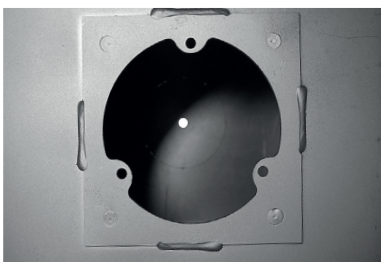
Lift the baffle plate up a bit and push it to one side.



Remove the smoke converter plate by tilting it to one side and rotate it a little. Pull the plate carefully out.

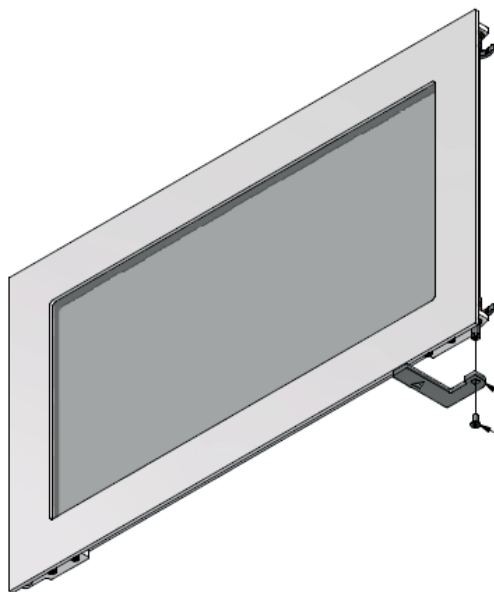


Then remove the smoke conductor by lifting it up and tilting it to one side and pull it down and forward. Lift the smoke conductor gently out.



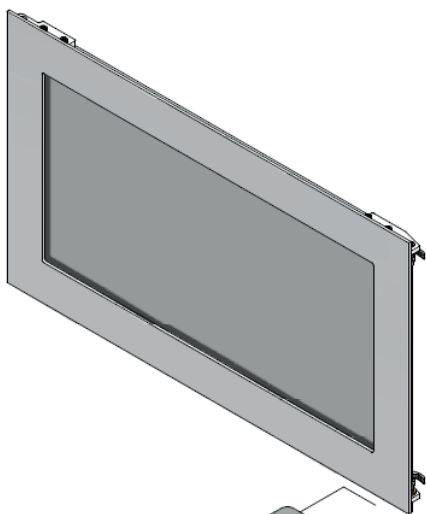
There is now a clear view of the smoke outlet. Remove dirt and dust and place back in reverse order.

## Blocked door



To lock the door, the handle must be removed. This is done by removing a M5 screw after which the handle can be removed.

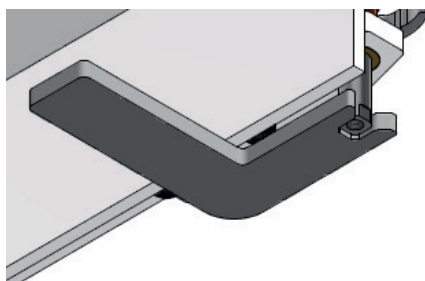
Door handles  
M5x10



The locked door can now be opened for cleaning with the Cold Hand.



Cold Hand (supplied)



## Interruption of operation

### Smoke formation around the door

This may be due to insufficient draft in the chimney <12Pa

- Check whether the flue or chimney is blocked
- Check whether the extraction hood is switched on and, if so, switch it off and open a window/door near the stove for a short period.

### Soot on glass

May be caused by

- excessively wet firewood
- the damper regulation is too low

Ensure the proper heating of the stove when firing up, prior to closing the door

### Stove is burning too strongly

Possible causes

- may be leaks around the door seal
- chimney draught too strong > 22 Pa, a draught control regulator should be installed.

### Stove is burning too weakly

Possible causes

- may be insufficient amount of wood
- insufficient air supply for room ventilation
- unclean smoke channels
- leaky chimney
- leakage between chimney and flue

### Weak draught in the chimney

Possible causes

- may be that the temperature difference is too too low, e.g. due to poorly insulated chimney
- outside temperature is high, e.g. in the summer
- no wind
- the chimney is too low and sheltered
- false draught in the chimney
- chimney and flue pipe are blocked
- the house is too dense (lack of fresh air intake).
- negative smoke extraction (poor draught conditions)

In the case of a cold chimney or difficult weather conditions you can compensate by adding more air to the stove than usual.

If your stove continues to malfunction, we recommend that you contact your RAIS distributor or chimney sweep.

## **WARNING!**

If the firewood is damp or used incorrectly, it can lead to excessive formation of soot in the chimney and cause a chimney fire:

- In this case, shut off all air supply to the stove if there is a valve installed as an air connection from the outside
- Contact the fire department
- **Never** use water to put out the fire!
- Afterwards, you should ask your chimney sweep to check the stove and chimney

## **IMPORTANT!**

- In order to ensure safe combustion, there must be clear yellow flames or clear embers
- the firewood should not be smouldering.

If the firewood is only burning slowly without flames or is smoking and too little air is added, unburnt fumes will develop.

Flue gasses may ignite and explode. This may cause damage to equipment and possible human injury.

**Never** fully close the air supply when lighting the stove.

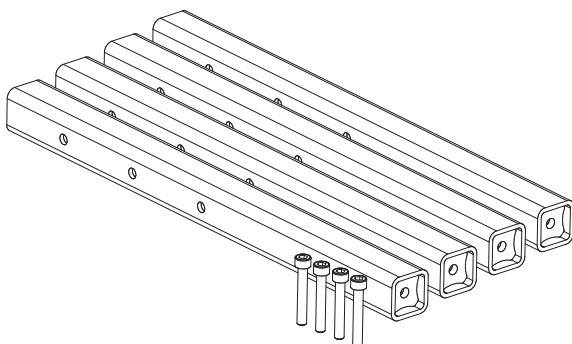
## Accessories and spare parts

The use of spare parts other than those recommended by RAIS results in the warranty becoming void.

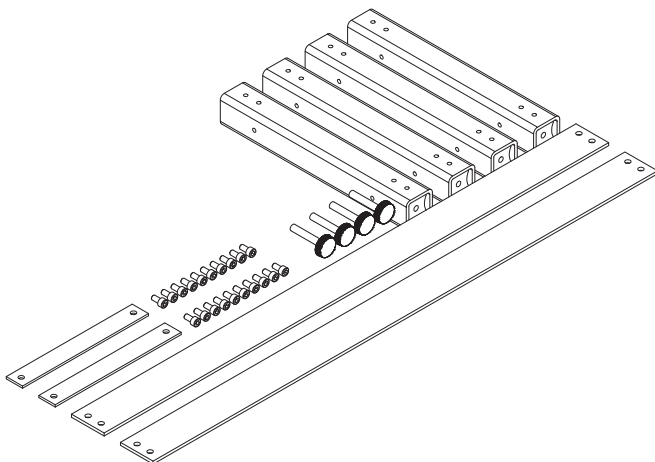
All replaceable parts may be bought as spare parts from your RAIS distributor.  
See the following spare parts drawing for the individual products.

### Accessories

910050190 Telescopic legs



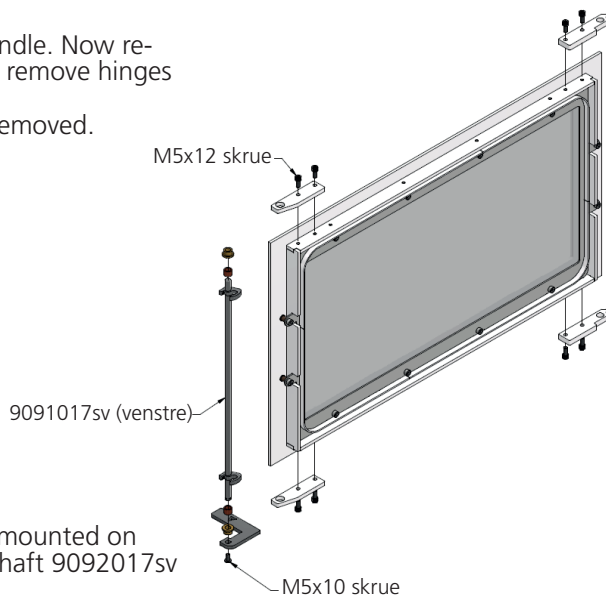
910050290 Leg



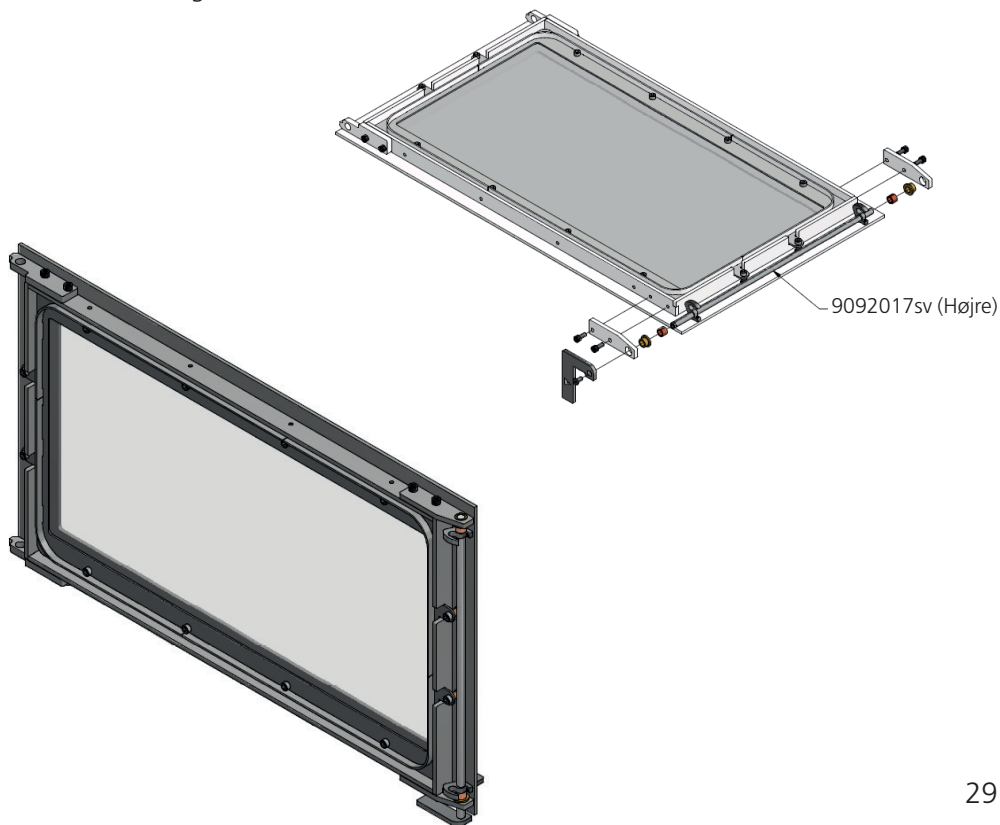


**REBUILDING FROM LEFT TO RIGHT HINGED DOOR**

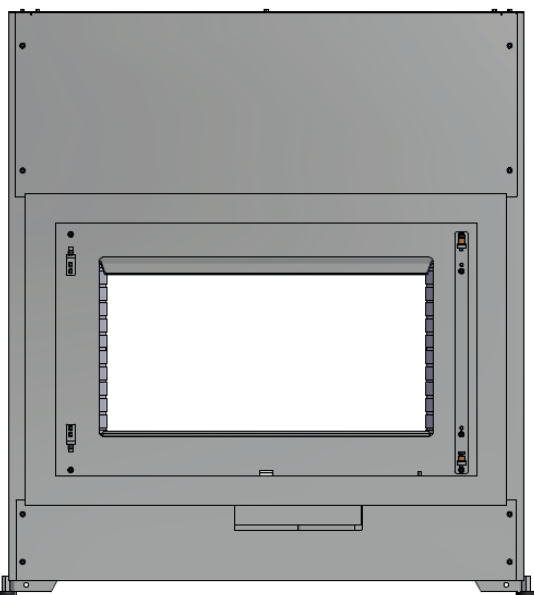
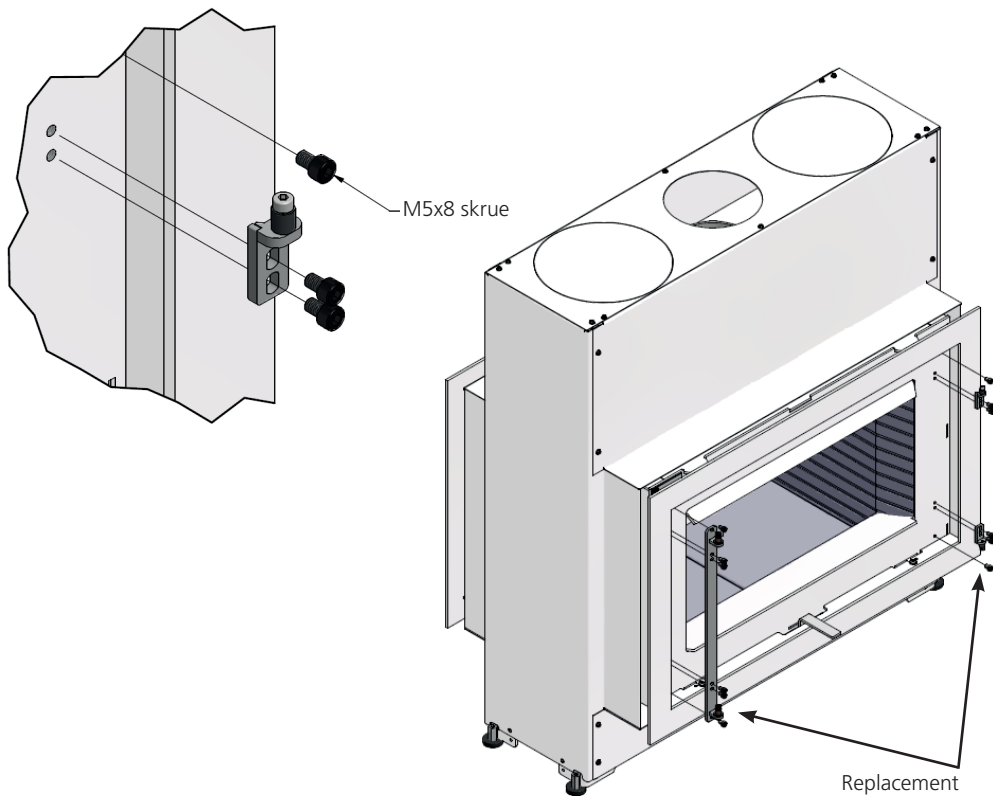
Remove M5x10 screw and handle. Now remove the 8. M5x12 screws to remove hinges and shaft holding.  
standard shaft 9091017sv is removed.



Hinges and shaft holding are mounted on the opposite side with Right shaft 9092017sv (Accessories)  
attach handle again with M5x10 screw.



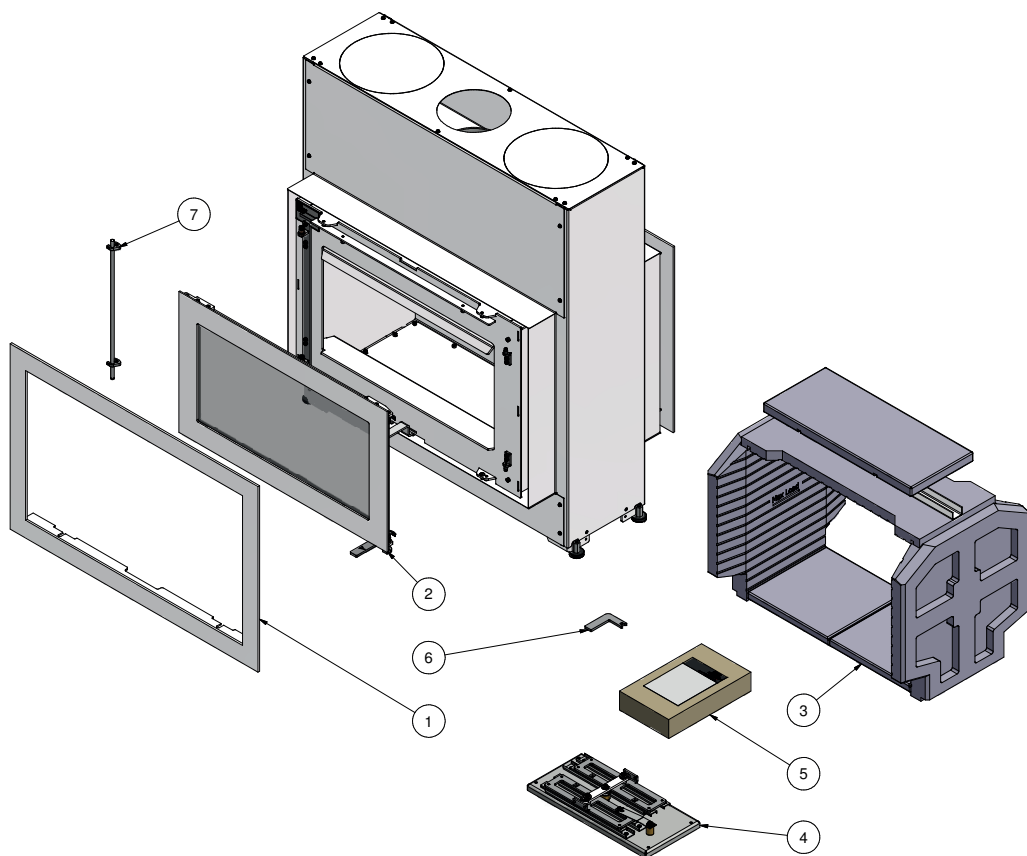
Hinge and handle for the hook need to be switched from left to right on the stove body. This is done by removing the 12 M5x8 screws and switching the parts around and reattaching them again with the same screws.



Here is the stove fitted with a right-hinged door with the hinge on the right and the handle on the left side.

## Spare parts RAIS 2:1

Pos.	Quantity	Part no.	Description
1	2	9091411 BLACK	Complete front frame
2	2	9091090	Glass door - Left-hinged
	-	9092090	Steel Door - Left-hinged
3	1	9102200	Skamol set
4	1	9090990	Air system
5	1	9095500	Gaskets / sets
6	1	9092409	Cold Hand
7	1	9092017SV	Axle for closing system right





TEST Reg.nr. 300

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Fax +45 72 20 10 19  
Info@teknologisk.dk

## TEKNOLOGISK INSTITUT

Akkrediteret prøvningsorgan, DANAK-akkreditering nr. 300  
Notificeret prøvningsorgan med ID-nr. 1235

## Prøvningsattest II

### Uddrag af rapport nr. 300-ELAB-1275-EN og 300-ELAB-1275-NS

**Emne:** Pejseindsats, Rais 2:1

**Rekvirent:** Rais A/S

Industrivej 20, 9900 Frederikshavn

CVR nr.: 25195612 P-nr.: 1001580195

**Procedure:**

<b>X</b>	Prøvnings efter DS/EN13229/A2:2004
<b>X</b>	Prøvnings efter NS3058-1 & -2 (partikelmåling)
<b>X</b>	Emissionsmåling efter CEN/TS 15883 (støv og OGC)

## Prøvningsresultater

Akkrediteret prøvning af brændeovn iht. EN 13229 er foretaget med brænde der på fyres manuelt, og følgende resultater blev opnået:

Nominal ydelse: 6,0 kW  
CO-emission: 0,13 % - henført til 13 % O<sub>2</sub>  
Virkningsgrad: 79 %  
Røggastemperatur: 297 °C  
Afstand til bagvæg: - se vejledning  
Afstand til sidevæg: - se vejledning

## Emissioner iht. NS 3058 og/eller CEN/TS 15883:

Partikler efter NS 3058: 3,68 g/kg (tørstof) middelværdi (krav 2015:5 / 2017:4)  
Partikler efter NS 3058: 4,93 g/kg (tørstof) maksimalt (krav 2015:10 / 2017:8)  
OGC efter CEN/TS 15883: 56 mgC/Nm<sup>3</sup> ved 13% O<sub>2</sub> (krav 2015:150 / 2017:120)  
Støv efter CEN/TS 15883: 10 mg/Nm<sup>3</sup> ved 13% O<sub>2</sub> (krav 2015:40 / 2017:30)

Bemærk venligst, at de oplyste værdier er et uddrag af prøvningsrapporten.  
For yderligere oplysninger henvises til prøvningsrapporten, se nummer ovenfor.

Aarhus, den 5. august 2015  Kim Sig Andersen Konsulent	Skorstensfejers tegning
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På baggrund af ovennævnte emissioner attesteres det hermed, at fyringsanlægget opfylder emissionskravene i bilag 1 til Bekendtgørelse nr. 46 af 22/01-2015 om regulering af luftforurening fra fyringsanlæg til fast brændsel under 1 MW, for så vidt:

Krav fra 2015 til januar 2017 opfyldt:	<b>X</b>	Krav efter januar 2017 opfyldt:	<b>X</b>
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