

morsø



By appointment to The Royal Danish Court

morsø

The Morsø S100 Series

- UK Instructions for use 1-22
- UK Fitting Instructions 23-49



MORE THAN 160 YEARS

of special moments

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1. Introduction

•You have chosen a high-quality Morsø insert - thank you for trusting us. Using and maintaining your fireplace correctly (by following these instructions) will ensure your fireplace functions without problem for a long time to come. Please read these instructions carefully.

2. Insert types

These instructions describe the function of the fireplace inserts listed below:

/ONE-SIDED

Morsø S100-12

Width (inbuilt)	1196 mm
Height (inbuilt)	1168-1368 mm
Depth (inbuilt)	573 mm
Weight	267 kg
Output	12 kW
Flue pipe	Ø180 mm
Fresh air pipe	Ø150 mm



2 Morsø heating grilles of 455 mm are used
- one in the top and one in the base.
Adapter fitting Ø180-Ø150 mm

Optional accessories:

Stainless decorative frame
Heat storage side/back + top

/ONE-SIDED

Morsø S101-11

Width (inbuilt)	795 mm
Height (inbuilt)	1305-1505 mm
Depth (inbuilt)	537 mm
Weight	135 kg
Output	10 kW
Flue pipe	Ø180 mm
Fresh air pipe	Ø125 mm



2 Morsø heating grilles of 455 mm are used
- one in the top and one in the base.
Adapter fitting Ø180-Ø150 mm

Optional accessories:

Stainless decorative frame
Heat storage side/back + top
Grille + Ash pan

/ONE-SIDED

Morsø S101-12

Width (inbuilt)	805 mm
Height (inbuilt)	1339-1539 mm
Depth (inbuilt)	602 mm
Weight	156 kg
Output	10 kW
Flue pipe	Ø180 mm
Fresh air pipe	Ø125 mm



2 Morsø heating grilles of 455 mm are used
- one in the top and one in the base.
Adapter fitting Ø180-Ø150 mm

Optional accessories:

Stainless decorative frame
Heat storage side/back + top
Grille + Ash pan

/TWO-SIDED

Morsø S120-21

Width (inbuilt)	773 mm
Height (inbuilt)	1124-1324 mm
Depth (inbuilt)	511 mm
Weight	130 kg
Output	10 kW
Flue pipe	Ø180 mm
Fresh air pipe	Ø125 mm



3 Morsø heating grilles of 455 mm are used
- two in the top and one in the base.
Adapter fitting Ø180-Ø150 mm

Optional accessories:

Stainless decorative frame
Heat storage top
Grille + Ash pan

/TWO-SIDED

Morsø S120-22

Bredde (indbyg.)	800 mm
Width (inbuilt)	800 mm
Height (inbuilt)	1125-1325 mm
Depth (inbuilt)	537 mm
Weight	129 kg
Output	10 kW
Flue pipe	Ø180 mm
Fresh air pipe	Ø125 mm



3 Morsø heating grilles of 455 mm are used
- two in the top and one in the base.
Adapter fitting Ø180-Ø150 mm

Optional accessories:
Stainless decorative frame
Heat storage top
Grille + Ash pan

/TWO-SIDED

Morsø S122-22

Width (inbuilt)	963 mm
Height (inbuilt)	1358-1558 mm
Depth (inbuilt)	543 mm
Weight	264 kg
Output	10 kW
Flue pipe	Ø180 mm
Fresh air pipe	Ø150 mm



3 Morsø heating grilles of 455 mm are used
- two in the top and one in the base.
Adapter fitting Ø180-Ø150 mm

Optional accessories:

Stainless decorative frame
Heat storage top

/CORNER

Morsø S140-41

Width (inbuilt)	613 mm
Height (inbuilt)	1290-1490 mm
Depth (inbuilt)	613 mm
Weight	109 kg
Output	7 kW
Flue pipe	Ø180 mm
Fresh air pipe	Ø125 mm



3 Morsø heating grilles of 455 mm are used
- two in the top and one in the base.
Adapter fitting Ø180-Ø150 mm

Optional accessories:

Stainless decorative frame
Heat storage sides + top
Grille + Ash pan

/CORNER

Morsø S140-42

Width (inbuilt)	674 mm
Height (inbuilt)	1290-1490 mm
Depth (inbuilt)	674 mm
Weight	157 kg
Output	7 kW
Flue pipe	Ø180 mm
Fresh air pipe	Ø125 mm



3 Morsø heating grilles of 455 mm are used
- two in the top and one in the base.
Adapter fitting Ø180-Ø150 mm

Optional accessories:

Stainless decorative frame
Heat storage sides + top

/THREE-SIDED

Morsø S160-32

Width (inbuilt)	550 mm
Height (inbuilt)	1395-1525 mm
Depth (inbuilt)	912 mm
Weight	258 kg
Output	12.6 kW
Flue pipe	Ø180 mm
Fresh air pipe	Ø150 mm



2 Morsø heating grilles of 455 mm are used
- one in the top and one in the base.
Adapter fitting Ø180-Ø150 mm

Optional accessories:

Support stand
Stainless decorative frame
Heat storage top
Grille + Ash pan

/THREE-SIDED

Morsø S161-32

Width (inbuilt)	550 mm
Height (inbuilt)	1395-1525 mm
Depth (inbuilt)	700 mm
Weight	217 kg
Output	10 kW
Flue pipe	Ø180 mm
Fresh air pipe	Ø150 mm



2 Morsø heating grilles of 455 mm are used
- one in the top and one in the base.
Adapter fitting Ø180-Ø150 mm

Optional accessories:

Support stand
Stainless decorative frame
Heat storage top
Grille + Ash pan

3. Functional elements

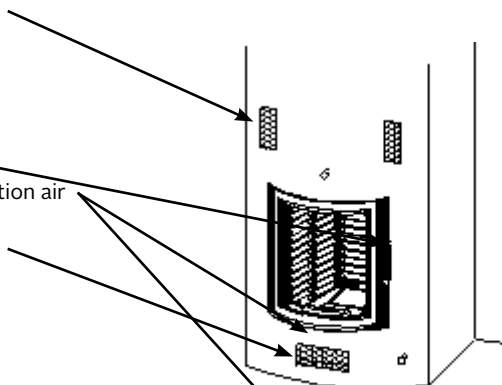
The S100 series is known for being extremely easy to use.

Grill to convection air top

Door handle

Operating handle for combustion air

Grill to convection air base



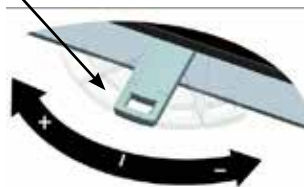
4. Symbols for operating handle / operating

• Operating handle for combustion air

+ = maximum air supply for rapid stoking

l = medium heat output.

- = low heat output.



• Closing mechanism for folding door

- push the handle outwards:

The door frame is released and the door can be opened.

- "let go":

When the door is open, let go the handle/door (at an angle of $> 20^\circ$) and the door will close and "lock" by itself. The fireplace inset is now ready for use.



• Closing mechanism for sliding door

- Push up = the door opens

- Push down = the door closes



5. Fuel - Wood

- Permitted fuel

Dry, well-stored untreated wood (preferably hardwood), wood briquettes.

- Clean combustion

The wood must be dry (relative moisture content < 15%) and untreated. In addition, the correct amount of wood must be burnt to achieve clean combustion with low emissions.

- Damp wood produces a low heat value and the surfaces inside the fireplace inset will quickly become sooted over. A light layer of soot after 2-3 times of use is however normal.

- **The guarantee is no longer valid if the incorrect fuel is used!**

6. Special instructions

- Please note that the surfaces of the fireplace inset can become very hot during use.

We recommend wearing protective gloves when operating the fireplace insert. Please make children aware of the dangers and keep them away from the fireplace inset when in use.

- To stop the fireplace insert from overheating, do not close the air grates when stoking.

- A maximum amount of wood has been calculated for each fireplace insert. Larger amounts than those stated can lead to overheating, which can damage the fireplace insert!

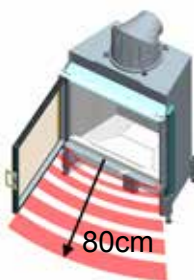
Maximum amount of wood:

Morsø S100-12	3.4 kg/hour
Morsø S101-11 and S101-12	3.2 kg/hour
Morsø S120-21 and S120-22	3.2 kg/hour
Morsø S121-21	1.7 kg/hour
Morsø S122-22	3.2 kg/hour
Morsø S140-41 and S140-42	1.9 kg/hour
Morsø S160-32 and S161-32	3.4 kg/hour

The second stoking should be done approx. 45 min. after the fireplace insert is first filled. Adding additional fuel is therefore often not necessary. However, if you want to stoke the fire more, extend the time between filling and reduce the amount of wood (0.5 – 1 kg).

- The guarantee is no longer valid if the manufacturer's specifications for determining the convection air and the chimney's dimension are not followed or if these are later changed.

- No inflammable objects must be placed inside 80 cm of the radiation area of the fireplace inset, measured from the edge of the combustion chamber's opening

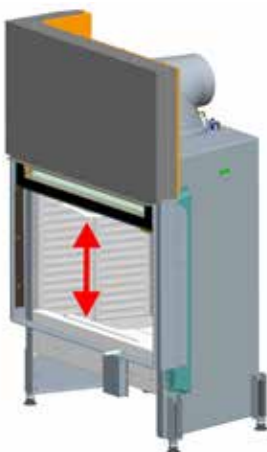


- Inserts with sliding doors are supplied with an extra set of counterweights, the door is self-closing on delivery, but in all other countries can/must be delivered so the door stays open when filling.

Note that the door must be kept shut when stoking. (Instructions on how to fit extra weights can be found in the assembly instructions).

- Only spare parts expressly approved by the manufacturer may be used.
- If necessary, please contact your dealer.

- **No structural changes must be made to the inserts!**



7. Air supply in the installation room

The insert only functions properly when there is sufficient combustion air in the installation room. Please check that there is sufficient combustion air before lighting. Set the handle for the combustion air supply to maximum (+) and leave it in this position throughout the lighting stage. Do not change any equipment on the fireplace insert that controls or adds combustion air.

8. Using for the first time

- Remove documents and accessories from the insert.
- Carefully read the instructions for use.
- Allow 4 weeks to pass before using your insert for the first time to make sure that all casing and frame elements are completely dry.
- When lighting the fire for the first time, it should be kept at a low level for the first hour to allow the cast chamotte stone inside the fireplace to slowly harden, after which more wood can be added. Under no circumstances the maximum amount of wood specified should be exceeded, not even at a later date.
- When the fire is lit for the first few times, there will be a slight smell from the fireplace inset, which is completely normal. The smell occurs when the varnish on the insert heats up and some of the components evaporate. The smell is not toxic but can be a little unpleasant. We therefore recommend that you thoroughly air the room when you light the fire the first few times.

9. Lighting the fire

For correct and safe use of your insert, make sure that the chimney has sufficient draught. This is particularly important to check when using for the first time (in the stoking period) and in the "transition time" (e.g. in strong winds, fog etc.).

Hold a lit match in front of the open door. If the flame is not drawn into the chamber's opening, a draught in the chimney needs to be made with an intense development of heat (e.g. with paper or kindling). If this doesn't work, avoid using the fireplace insert until the conditions are right!

- Push the handle for controlling the combustion air to the left to the "+" position.
- If an air damper is fitted, open it completely.
- Place the larger pieces of wood at the bottom (1), 2-3 pieces (beech, oak, birch) and then lay the finely split kindling (2) on the top. Place fire lighters on the top as it is important that the fire starts top-down. It has been shown that particles become smaller when starting a fire this way. (3). Never use petrol, alcohol or suchlike when lighting the fire.



- After approx. 5 - 10 minutes (when the wood has caught properly) the handle for the combustion air supply can be moved to the middle position.



10. Stoking

- When stoking, the handle for the combustion air supply must be no more than 50% open (i.e. in the middle position), otherwise the added wood will burn too quickly and the temperature in the fireplace insert may become too high.
- All air grates should be open.
- After approx. 45 to 60 minutes, add more wood.

11. Adding wood

- Open the door slowly to prevent turbulence/underpressure and smoke being drawn out into the room. The correct time to add new fuel is when the wood in the combustion chamber has burnt down to embers.
- Add the fuel and close the door.

12. Stoking in the transition time

In the transition time, i.e. in high temperatures outdoors, a sudden rise in the temperature can disrupt the draught in the chimney, such that the smoke is not drawn out optimally. Therefore, stoke the fireplace insert with a smaller amount of wood and with the handle for setting the combustion air further over in the (+) position, so that the wood burns faster (with the development of flames), which will stabilise the draught in the chimney. In these conditions you may need to remove the ash a little more often.

13. Stoking with an open door (sliding door)

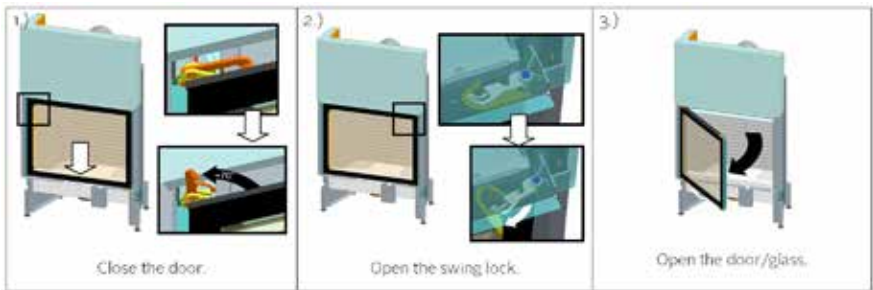
Stoking with an open door is not permitted

Reason: Poorer combustion, development of smoke and fire risk!

14. Cleaning

- Remove the ash from the combustion chamber at the right time and at regular intervals and empty the ash box (can be purchased for most models). If you don't use an ash box, the middle stone must be taken out and the ash underneath removed regularly (about every 4 weeks). If this is not done, the pipe for supplying the combustion air may become covered with ash, reducing the function of the insert.
- The inset must only be cleaned when it is cold.
- The insert and flue pipe (if one is fitted) must be cleaned at least once a year or, according to need, to ensure the insert functions properly. Ceramic and or metal chimneys are cleaned through the cleanout door. All necessary work must be done by a chimney sweep.
- The chimney must also be cleaned regularly by a local chimney sweep. The chimney sweep can advise you on the necessary intervals for cleaning and checks.

• Cleaning the glass:



- 1.) + 2.) Open the swing locks to the left and right above the door frame. For inserts with folding doors, push the door handle outwards.
- 3.) The door/glass can be opened.
- Make sure you cover any hearth seat and the floor before cleaning.
- Apply glass cleaner and allow to work for a few minutes.
- Dry the glass with paper/kitchen roll.
- Finally, close the door and the two swing locks.

15. What to do in the event of a chimney fire

A chimney fire can break out if the wrong or wet fuel is used due to the deposits in the chimney.

What to do in the event of a chimney fire:

- Call the fire service and the local chimney sweep.
- Shut off the combustion air!
- Clear access to cleaning openings (e.g. in the cellar or loft)!
- Remove all inflammable materials on or around the chimney. Before using the fire-place insert again, the chimney sweep must check the chimney for damage.

16. Heat-resistant stones

The heat-resistant stones in the combustion chamber are made from chamotte - a high-quality material with special combustion properties and an attractive appearance. During or after stoking, small hairline cracks can appear in the stones, this does not impair the stones' function. Replacing the stones is not necessary.

17. Sliding door - ball bearing guide

The ball bearing guide must be lubricated at least once a year. Push the door up into its topmost position and apply the heat-resistance grease to the rails in a thin layer (see arrows). "Fin Grease" can be used and other greases that can withstand the following temperature range: -30 °C to 220 °C (if necessary ask your dealer).



18. What to do if...?

... the fire is barely going or goes out by itself?

- Check that the air damper is open (if one is fitted on the chimney).
- Check that the combustion air handle is open (+).
- Is your wood dry enough?
- Check whether the outdoor temperature is too high (>15°C)?

... the room doesn't get warm enough?

- Check that the convection air grates are open.
- Check whether the draught in the chimney is too strong.

... the fire is too strong and combustion uncontrollable?

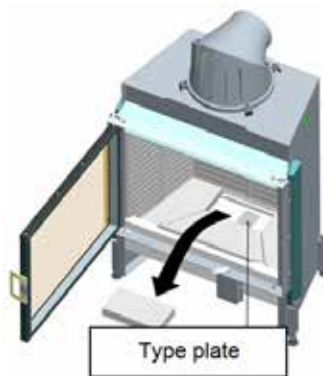
- Check that the combustion air handle is in the correct position (+ / -).
- Check that the sealing cords on the inside of the door frame/glass are OK and not damaged.
- Check that the door is closed properly.
- Check whether the draught in the chimney is too strong.

... the glass soots over too quickly?

- A small amount of soot on the glass after stoking for 8-10 hours is normal.
- Have you used dry and clean wood?
- Was the fireplace insert lit properly before turning down the combustion air?

19. What information does your installer/dealer need?

- If your fireplace inset develops a fault, your installer will need the following data:
 - Identity number and model name
 - Original invoice (date of sale)
- You can find the type plate under the stone/cast-iron grille/ash box in the combustion chamber.



20. Guarantee

The guarantee is only valid if the assembly and handing over of the unit is undertaken by a specialist dealer and all applicable building regulations have been complied with. For your Austroflamm fireplace inset we guarantee perfect function of the body for 6 years, and 2 years for all other steel and cast-iron parts from the date of first purchase. Steel and cast-iron parts that show material or processing faults within the guarantee period will be replaced with new parts.

Our guarantee does not cover wear parts (e.g. chamotte stones, sealing strips/cord, base grille/ash grille), surface treatment, varnish and glass. Our guarantee includes cost-free delivery of new parts. Labour time and transport time are not covered by the guarantee. Invalid guarantee claims will be returned to sender and charged.

In the event of a guarantee claim, please cut out the form, fill it out and take it to your Morsø dealer.

GUARANTEE

Forhandlerstempel / Dealer's Stamp

Date of purchase

Name of model

Installeret af / Installed by

Serial no.

See manufacturer's plate

Kunde / Customer

Til / to

Manufacturer:
Morsø Jernstøberi A/S
Furvej 1
DK-7900 Nykøbing Mors
Denmark



The Morsø S100 series

UK Fitting Instructions



MORE THAN 160 YEARS
of special moments

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1. General

1.1. Rules to be followed

(Basic requirements)

- o Installation standard DIN 18895
- o Installation standard DIN 18896
- o DIN EN 13384 part 1 and part 2
- o DIN 18160-1
- o National building regulations
- o Regulations for fireplaces
- o Professional rules for the stove and air source heating trade

It is important to choose the right size inset, taking into account the situation regarding heat requirements, the conditions and needs of the operator, to ensure the good and economic operation of the inset. Therefore, it can be a good idea to calculate the heat load (heat requirement).

Please read the fitting instructions carefully before you start. All liability and guarantee claims are invalid in the event of damage caused by not complying with these fitting instructions.

Reference is also made to the other instructions in this manual.

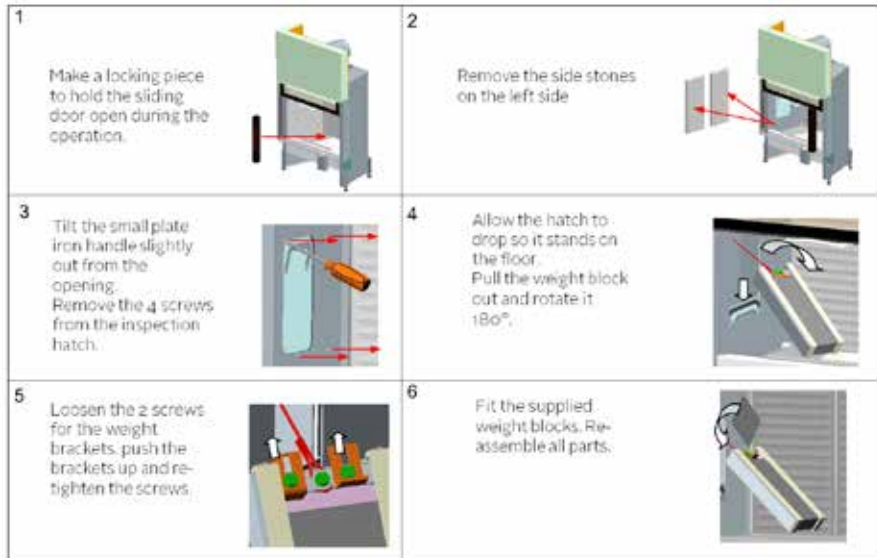
Installation of the fireplace inset and connection to the chimney must be agreed with the local chimney sweep.

1.2. Pre-fitting checks

- Check immediately that none of the delivered items are damaged and that the order is complete.
- Before fitting the equipment, check that all moving parts work. In principle, any faults should be reported before installation.
- Remember to keep hold of the enclosed user manual and hand it over to the customer personally, when giving a stoking demonstration for example.

1.3. Sliding door

o Converting from a self-closing sliding door to a non-self-closing.

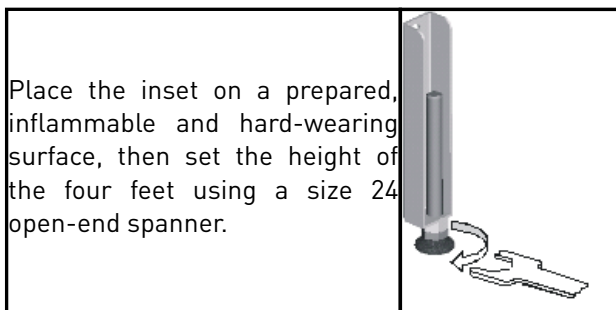


1.4. Setting up the insert

Warning!

Please read the fire safety guidelines, for example heat insulation and air grate size. If too much fuel is used in the insert, there is a risk that the chimney will overheat as well as surrounding parts and furniture. **This is a fire risk!**

1.5. Positioning the insert



1.6. Connection to flue

- Preparing the flue pipe:

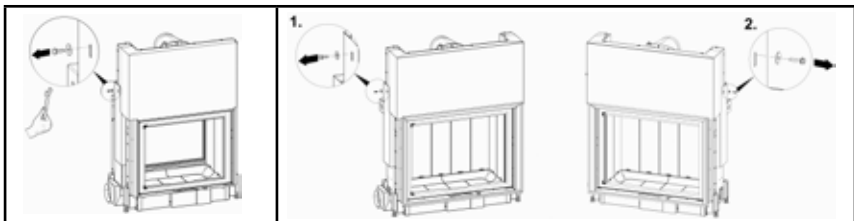
- You can turn the bottom part of the flue pipe up to 360 ° to lock it in the required position. Then tighten the screws.
- You can turn the top part of the flue pipe up to 360 ° to lock it in the required angle.
- All the necessary gaskets are already glued in place in the cast-iron parts.



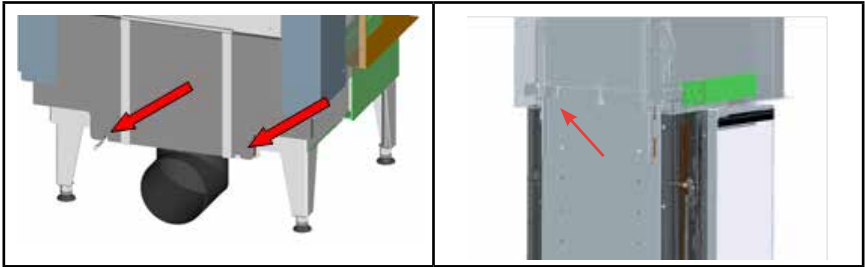
1.7. Securing during transport

<p>The door's counterweight is secured with a screw on each side of the inset.</p> <p>Warning: These screws MUST be removed before the inset is installed!</p>	A 3D diagram of a stove door assembly. A green rectangular inset is being attached to the top of the door. A black arrow points to a hole in the inset where a screw is being inserted to secure the counterweight.
<p>If the product is to be transported further, these screws must be re-fitted so that the counterweight is fixed securely again.</p>	A close-up diagram showing a green screw being inserted into a hole in a grey metal component. Two black arrows indicate the direction of the screw's rotation.

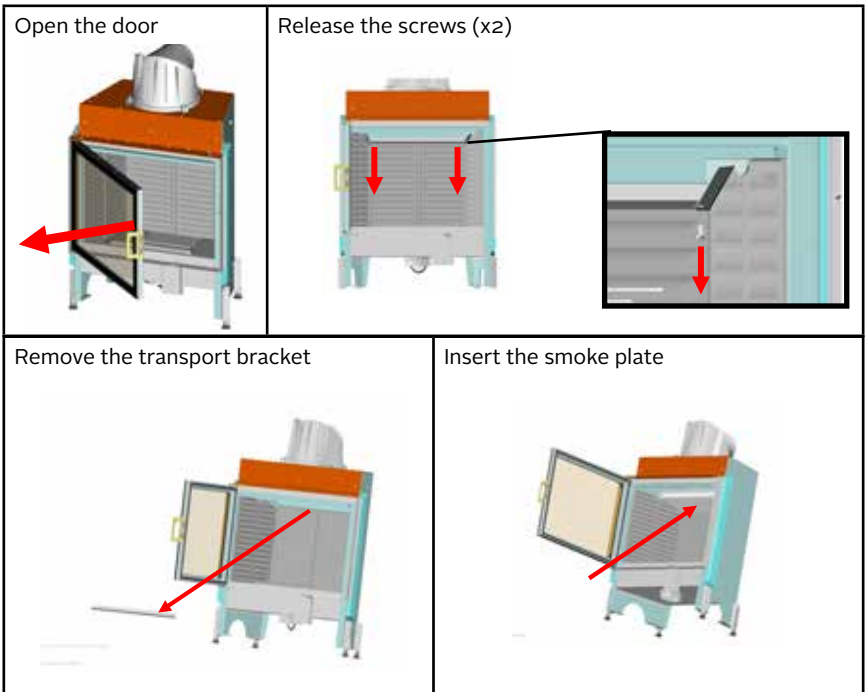
For the S100-12 and S122-22, there is a transport securing screw on both sides. The procedure is as above.



For the S160-32 and S161-32, there are 2 transport securing screws fitted towards the back.





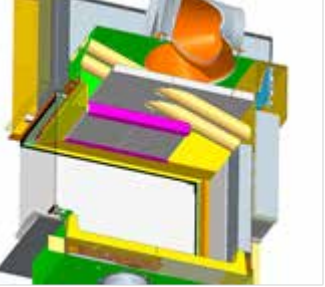
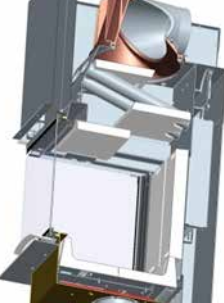
1.8 Removing the chamotte securing device and fitting the smoke plate on the S101-11, S101-12, S140-41 and S140-42



1.9 Fitting the smoke plates in Morsø inserts

All inserts are supplied with chamotte smoke plates which are packed separately and must be fitted in the inserts. See the fitting instructions in the tables below.

<p>Morsø S120-21 and S120-22</p> <p>Position the top two smoke plates first, push the plates together so there is no gap. Then position the bottom smoke plates as shown below.</p>	<p>Morsø S121-21</p> <p>Position the top three smoke plates first, push the plates together so there is no gap. Then position the bottom smoke plates as shown below.</p>
	

<p>Morsø S160-32</p> <p>Position the smoke plates as shown in the illustration below.</p>	<p>Morsø S161-32</p> <p>Position the smoke plates as shown in the illustration below.</p>
	

Morsø S122-22

Position the smoke plates as shown in the illustration below.



Morsø S100-12

Position the smoke plates as shown in the illustration below.



2. Requirements regarding the room, chimney and fresh air connection for the insert

The insert must not be placed in

- rooms where the necessary combustion air is insufficient/not available,
- publicly accessible areas (such as escape routes),
- rooms that are publicly accessible. Stairs in residential properties, where there are no more than 2 apartments, are not considered publicly accessible rooms,
- rooms where flammable or explosive materials or compounds are handled, stored or produced,
- rooms or residences where the air is extracted by means of vents, such as air or hot air units, ventilation units, tumble driers, unless the function of the insert is ensured.

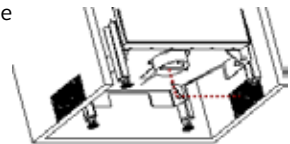
The following must be ensured if a ventilation unit has been installed

- the systems in question use only circulating air from the room,
- the systems in question have safety devices that automatically and reliably prevent a vacuum in the unit,
- simultaneous operation of the fireplace and extraction system is prevented by the safety equipment,
- the flue guide is monitored by special safety devices,
- the flow of combustion air to the inset and the flow rate in the ventilation unit in the room do not exceed an underpressure if more than 0.04 mbar. This must be maintained when adjusting or removing easily accessible operating equipment on the ventilation system.

Morsø inserts draw their combustion air solely through an air nozzle located on the underside of the insert. When installing, therefore, a safe and functioning supply of air must be ensured to the whole of the fireplace structure. You, therefore, need to observe the correct dimensions for the pipes/air grates supplying the combustion air. Placing the air grates in the fireplace correctly is very important. If this is not done, the fireplace may not get sufficient air. To ensure an adequate supply of combustion air, we recommend using a closed air pipe/supply between the air nozzle under the stove from the pipes or grates that supply the air from the room to the fireplace.

Important!

The air nozzle for the combustion air must always be connected, otherwise air cannot be supplied to the combustion chamber



2.1 Supplying combustion air from outside/externally

The combustion air can also be supplied from outside through a pipe led directly in the fireplace.

We recommend contacting the chimney sweep to measure the pipework correctly.

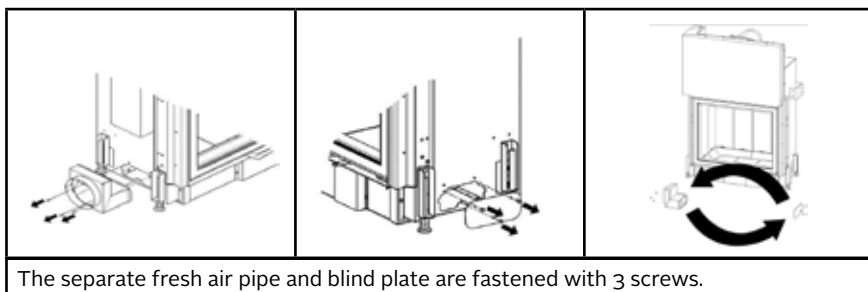
2.2 Combustion air pipe

The combustion pipe/supply must be made from inflammable, rigid material and must be sealed and available for inspection and cleaning. Condensation can form as a result of the dew point, which can be treated and prevented with suitable insulation.

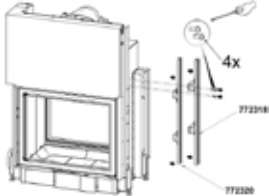
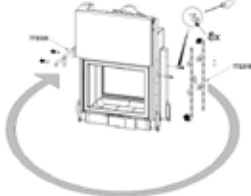
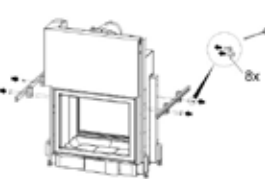
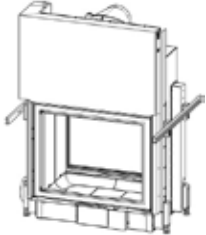
In the case of combustion air ducts in buildings comprising more than 2 floors and combustion air pipes that traverse firewalls, the pipes/ducts must be designed so that fire or smoke cannot travel to other floors or areas.

Models S100-12 and S122-22 only

The fresh air pipe can be fitted on both the right and left side.



2.3 Support arms for the Morsø S122-22

Remove the screws for the support arms	Remove the fixing screws and rotate the support arms so they are horizontal.	Fit the support arms with the fixing screws.
		
The S122-22 fitted with support arms		
	<p>The insert can now be moved.</p> <p>Note: When removing the support arms, the screws must be re-fitted in the insert. This is to prevent leaks in the combustion chamber</p>	

2.4 Chimney requirements

Before setting up or installing a Morsø inset, the dimensions and quality of the chimney must be checked against existing local/national regulations. The mathematical proof for the correct function of the chimney is stated in accordance with DIN EN 13384. The calculation takes into account that even the very large volume of air that will occur with an open door (when adding firewood) can be removed safely.

The correct function of the inset depends on correct the chimney conditions.

It is important to ensure that all openings that lead to the same chimney, e.g. the clean-out door, are closed.

Several connections to the same chimney:

All Morsø's insets in these instructions have been tested to DIN EN 13 229 with self-closing door (labelled A1) and approved. These units can be connected to a chimney with several connections (apart from chimneys with balanced ventilation). The calculation has been done in accordance with DIN EN 13384 part 2.

2.5 Connection pieces/Flue

The connection pieces/flue must be dimensioned to DIN EN 13384.

They must be steel pipe with a min. thickness of 2 mm. Austenitic, stainless steel needs to be only 1 mm thick.

The connection piece is connected directly to the chimney.

The connection piece inside the fireplace structure must be min. 3 cm thick, rigid and made from non-flammable insulation material of class A1 in accordance with DIN 4102 and covered with an insulating layer.

This does not apply to connection pieces used for heating convection air and where the risk of fire is otherwise excluded.

3. Technical data

Type	S100	S101	S120	S121	S122	S140	S160/S161
Test to DIN EN 13229	CE-labeling						
Nominal output [kW]	12	10	10	8	10	7	12
max. output [kW]	16	15	15	8	15	9	16
max. firewood length [cm]	33						
Permitted amount of firewood [kg]	3,4	3,2	3,2	1,7	3,2	1,9	3,4
Firewood consumption [kg/h]	2,56	2,85	2,85	1,7	2,13	2,0	2,34
Area convection grille top [cm ²]	700	700	700	700	1000	700	700
Area convection grille bottom [cm ²]	700	700	700	700	1000	700	700
Emission limit values							
CO at 13% O ₂ max. [mg/m ³]	1250	1250	1250	1250	1250	625	1250
Dust at 13% O ₂ max. [mg/m ³]	26	40	26	27	21	23	26,3
CO ₂ H ₂ at 13% O ₂ max. [mg/m ³]	58	111	111	95	49	50	66
NO _x at 13% O ₂ max. [mg/m ³]	120	109	109	104	117	112	100
Efficiency [min/w]	80,1	80,9	80,9	80,8	80,4	78,9	80,0
Required draught min. [Pa]	12	12	12	12	12	14	12
Distances							
From fireplace inset to internal wall of fireplace structure [cm]	6						
Specifications for fire and heat protection (specified in mm mineral wool insulation to AGI-Q 132)							
Insulation thickness (Promast 950 KS)							
To the floor [mm]	30	60	20	60	40	0	30
Side/back [mm]	100	120	130	90	120	60	60
To the ceiling [mm]	To national or local standards						
Thickness of front wall/firewall where the wall is to be protected [mm]	100	100	100	100	100	100	100
Combustion air pipe [mm]	Ø150	Ø125	Ø125	Ø125	Ø150	Ø125	Ø150
Combustion air requirements with closed door (A1) [m ³ /h]	44	19,5	17	12	40	22	48

4. Chimney and fireplace measurement data

Too much draught in the chimney must be restricted.

The dealer or chimney sweep must ensure/test for the correct draught.

For draughts of more than 18 Pa, we recommend installing a regulating damper (available as an accessory) in the flue outlet!

4.1. Minimum diameters

Model	Minimum pipe diameters	Minimum diameters of air pipes from the outside (Operation with closed door)	
		Up to 3 m in length - <u>max.</u> 1 bend	Up to 6 m in length - <u>max.</u> 2 bends
S121	Ø 160 mm □ 160/160 mm	120 cm ² Pipe Ø 125 mm	175 cm ² Pipe Ø 150 mm
S140	Ø 160 mm □ 160/160 mm	120 cm ² Pipe Ø 125 mm	175 cm ² Pipe Ø 150 mm
S101 and S120	Ø 180 mm □ 180/180 mm	120 cm ² Pipe Ø 125 mm	175 cm ² Pipe Ø 150 mm
S140 and S160	Ø 180 mm □ 180/180 mm	120 cm ² Pipe Ø 125 mm	175 cm ² Pipe Ø 150 mm

- For the diameters of air pipes from the outside, the following must be taken into account:
- No kinks in the pipe since this reduces the diameter
 - Maintain a constant diameter
 - The free air passage through the air grate must not be less than the recommended diameter/dimension.
 - Underpressure must not be allowed to occur at the entrance to the air duct in high winds.

4.2 Heat insulation

Insulation must comprise heat insulation plates/elements of class A1 in accordance with DIN 4102 part 1 with a utility temperature limit of 700 °C and a density of more than 80 kg / m³. The insulation must be labelled in accordance with the relevant insulation code AGI Q 132.

Only the insulation materials given in the table below may be used. If other insulating materials are used, they must be approved by the relevant supervisory bodies (e.g.: Promat calcium silicate insulation plate "Promasil 950 KS", Wolfshöher insulation plate "Prowolf" Wolfshöher insulation plate "Vermilite 2000", Thermax insulation plate "Thermax SN 400").

For protection of the building's external walls and ceilings with a U-value of below 0.4 W / m², extra ventilation (see technical rules for stove and air source heating building regulations) is required.

Insulation		Quality		Heat conductivity		Maximum utility temperature limit		Density	
Group	Type	Group	Supplied as	Group	Supplied as	Group	m ° C	Group	in kg m ³
10	Mineral fibre	01	Tracks	01	Mat size 1	20	-200	02	20
11	Fibre glass	02	Fibre, loose	02	Mat size 2	25	-250	03	30
12	Rock fibre/wo	03	Fibre, granula			30	-300	04	40
13	Slag fibre	04	Felt			35	-350	05	50
		05	Lamina mat			40	-400	06	60
		06	Mat			45	-450	07	70
		07	Plates			50	-500	08	80
		08	Flakes			55	-550	09	90
		09	Segments			60	-600	10	100
		10	Braided	10	Flakes size 1	65	-650	11	110
				11	Flakes size 2	70	-700	12	120
						75	-750	13	130
						80	-800	14	140
						85	-850	15	150
				20	Plates size 1	90	-900	16	160
				21	Plates size 2			17	170
								18	180
								19	190
								20	200
		99	Various	99	Simple instr.	99	*	99	*

*divergent test conditions

The thermal insulation layers must be laid free of moisture and overlapping. If the thermal insulating materials are to be used on fireplace inserts without a convection box, they must be wear-resistant and must not be covered with reflective material (e.g. with black plate, steel plate or galvanised steel). It is essential that the heat insulation has sufficient temperature resistance (at least 700 °C), otherwise this can result in unpleasant odours in the fireplace/insert.

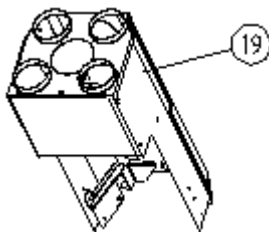
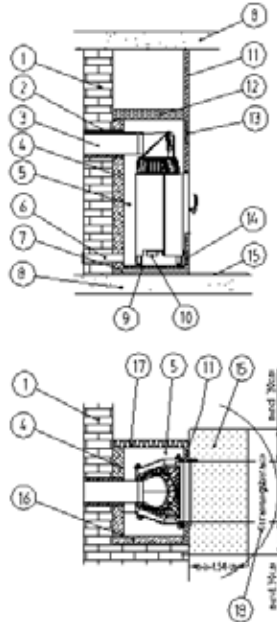
5. Installation requirements

IMPORTANT:

The fireplace inset must not be in contact with the cabinet (min. distance 3 mm), as this can damage the unit!

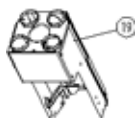
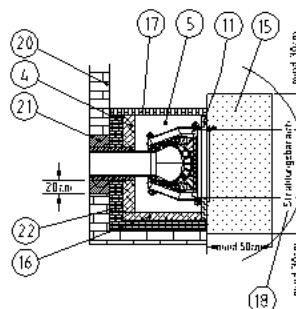
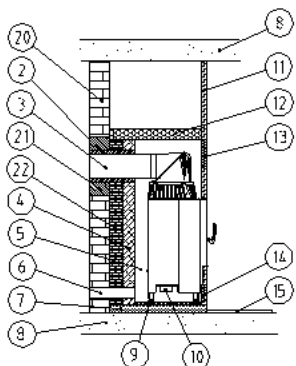
5.1. Installation in front of or to the side of a wall not to be protected

- 1 Second wall
- 2 Insulation layer (Flue)
- 3 Connection piece
- 4 Insulation layer (Back wall)
- 5 Convection space
- 6 Fresh air intake
- 7 Concrete plate min. 6 cm
(only when installing on a floor to be protected)
- 8 Ceiling
- 9 Insulation layer (Floor)
- 10 Combustion air pipe
- 11 Covering (Out towards the room)
- 12 Insulation layer (Ceiling)
- 13 Supply air grille
- 14 Circulation air grille
- 15 Protective shield for floors made of
non-flammable material
- 16 Insulation layer (Side wall)
- 17 Covering (Out towards the room)
- 18 80 cm radiation area
- 19 Convection box

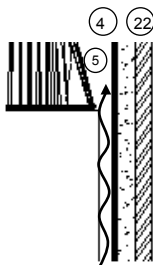


5.2. Installation in front of or to the side of a wall to be protected

- 2 Insulation layer (Flue)
- 3 Connection piece
- 4 Insulation layer (Back wall)
- 5 Convection space
- 6 Fresh air intake
- 7 Concrete plate min. 6 cm (only when installing on a floor to be protected)
- 8 Ceiling
- 9 Insulation layer (Floor)
- 10 Combustion air pipe
- 11 Covering (Out towards the room)
- 12 Insulation layer (Ceiling)
- 13 Supply air grille
- 14 Circulation air grille
- 15 Protective shield for floors made of non-flammable material
- 16 Insulation layer (Side wall)
- 17 Covering (Out towards the room)
- 18 80 cm radiation area
- 19 Convection air box
- 20 Wall to be protected
- 21 Fire protection at the flue lead-through
- 22 Front walling min. 10cm



5.3. Convection space



Without the convection box (accessory), there must be at least 6 cm between the fireplace inset and insulation (4,16) at the back wall and both sides.

- The convection areas (5) must have heat protection on all surfaces that are not a heat-emitting lining.
- The fireplace walls, floor and ceiling must be clean and resistant to wear (see professional rules for stove and air source heating technology). Otherwise, the insulation must be protected with a wear-resistant material (radiation plate / fireplace inset plate etc.).

Convection air supply with convection box

All convection air supplies must be made from rigid, non-flammable material.

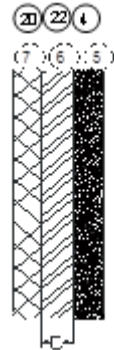
The hot air pipe must be secured to the supply air pipe and air grates (preferably with a metal pipe).

5.4. Heat insulation on the side and back wall
(All values in accordance with Promasil 950 KS)

- The front walling (22) and building's wall (20) must be protected with a layer of insulation (4,16) to the back and side of the fireplace. Thermal insulation, see point 3 technical data.
- The lining (11) must also be protected with a layer of insulation. The lining does not need to be protected when the fireplace is designed such that the temperature of the lining's free surfaces and niches for storing wood do not exceed max. 85° C. For surfaces made of mineral material, e.g. tiles, apart from where objects/things are to be stored/place, a max. temperature of 120 °C applies instead of 85 °C. The rise in the maximum permitted temperature from 85 °C to 120 °C applies only to more steep or vertical surfaces of linings made from mineral material. This enables the lining such as heat-emitting tile walls or similar to be extended.

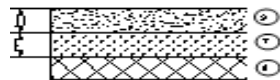
5.5. Front walling

- There must be a 10 cm-thick (measurement C) mineral front walling (22), e.g. Poroton stone, between the insulation (4) and wall (20). The front walling must extend at least 20 cm above the connection piece (3).
- Front walling (22) can be avoided if the wall (20) :
 - is at least 10 cm thick and
 - comprises non-flammable material and
 - is not a supporting concrete or steel structure



5.6. Protecting the floor

- Floors (8) made of flammable material must be protected as follows:
 - by a concrete plate (6) at least 6 cm (measurement E) thick, taking into account the floor's carrying capacity. An insulation layer (9) must be laid on top (measurement D). For insulation layers see point 3. - technical data.
 - Supporting concrete or steel floors (8) must be protected as follows:
- Heat insulation layer (9) - min. thickness, see point 3 - technical data.



5.7. Expansion seams

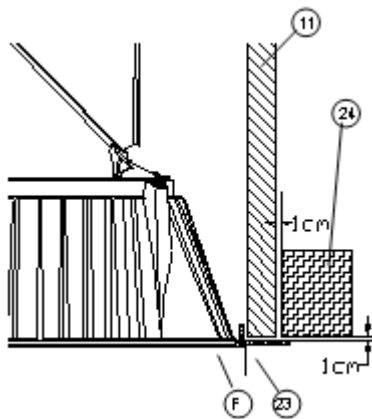
- There must be NO contact/connection between the inset and the lining (11)! Therefore, all places of contact between the inset and lining must be shielded with a sealing cord (Glass fibre).

The support frame (23) must not rest on the insert or be screwed or welded to it!

5.8. Wall lining

- The lining room-side (11) must be made from non-flammable material to building material class A1, for example brick, ceramic chips, metal and plaster.

5.9. Decorative beams



- Beams (24) in front of the lining (11) and support frame (23) next to the open fireplace are permitted at a distance of at least 1 cm, when:

- the beams are not part of the building
- the clearance to the lining (11) is open enough that heat does not accumulate
- the beams are not in the open fireplace's radiation area.
- Direct fastening with heat bridges is not permitted.

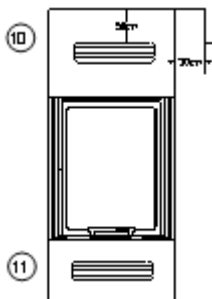
(F) Expansion joint
(23) Support frame

(24) Beam
(11) Lining

5.10. Chimney lining

- The chimney lining (11) must not be in direct contact with the fireplace insert. It must be self-supporting. The manufacturers offer various support frames for this purpose (23).

5.11. Convection air supply

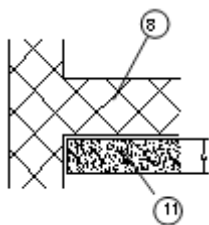


- The cross-section of the air inlet (14) and air outlet guide must each be at least 700 cm².

- It must not be possible to close off at least 200 cm² of the air inlet and air outlet opening.

- There must not be any flammable building material, e.g. wood ceiling or furniture, within a distance of 30 cm of the side of the air outlet and 50 cm above the air outlet (13).

5.12. Ceiling above the Insert



- If the cavity above the fireplace insert reaches up to the ceiling (8), it must be protected, if:
 - it consists of flammable material,
 - there is a supporting element in the building.

Insulation (G) must be installed to local/national requirements/standards (11).

5.13. Floor in front of the insert

- The floor in front of the insert must comprise a non-flammable material. The minimum dimension for the area is:

In front:

- the distance between the floor and lower edge of the combustion chamber plus 30 cm, however at least 50 cm.

To the sides:

- the distance between the floor and lower edge of the combustion chamber plus 30 cm, however at least 30 cm.

5.14. Fire safety in the radiation area

- There must be a safety distance to flammable material on each side of and above the inset's door of at least 80 cm. If ventilated radiation protection is present on each side, a distance of 40 cm is enough.

5.15. Fire safety outside the radiation area

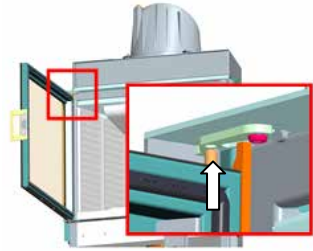
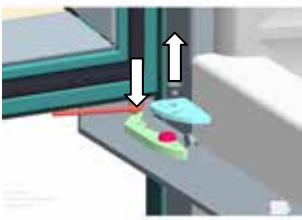
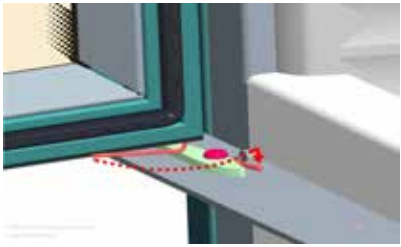
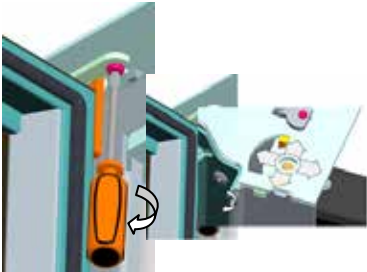
There must be a distance of at least 5 cm between the inset's outer wall and flammable material such as furniture or other flammable materials. There must be sufficient odour flow-through in this gap to prevent any unpleasant odours. Building materials that comprise only a small part of the inset's lining, such as floor, wall lining, and insulation on the ceiling/walls, can be fitted directly around the inset's lining.

5.16. Electrical cables

The walls and ceiling near to the inset must not contain electrical wires!

6. Information on maintenance/repair

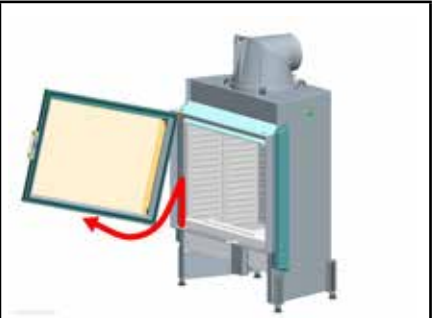
6.1. Folding door inset - Fitting the door

<p>1. Fit the door in the open position</p> <p>2. First hang the door in front of the stove push the top bolt into the opening.</p>	
<p>3. This allows the door's bottom pin slide into the bottom seat.</p> <p>4. Remove the box screw and plate.</p>	
<p>5. Finally tighten the spring until it clicks into place behind the hinge.</p>	
<p>6. Loosen the screw and push it to either side to adjust the angle of the door if it is going to hang. You can also adjust the pressure from the sealing strip. Finally re-tighten the screw.</p>	

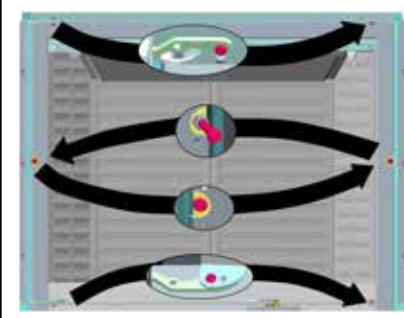
Converting the opening from right to left-sided



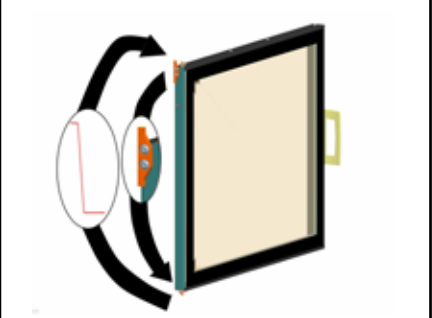
Remove the spring



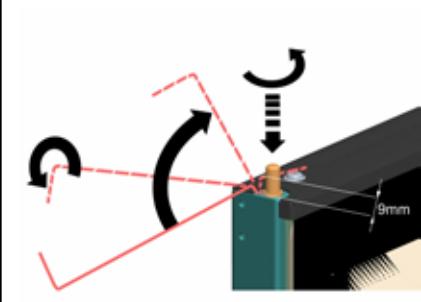
Lift off the door



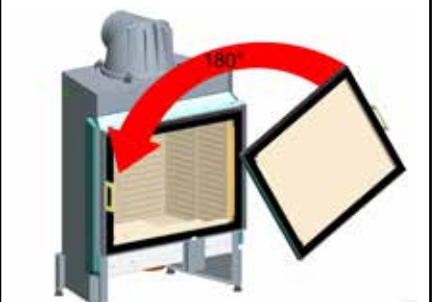
Swap over the screws and hinges etc.



Fit the spring and doorstop on the other side



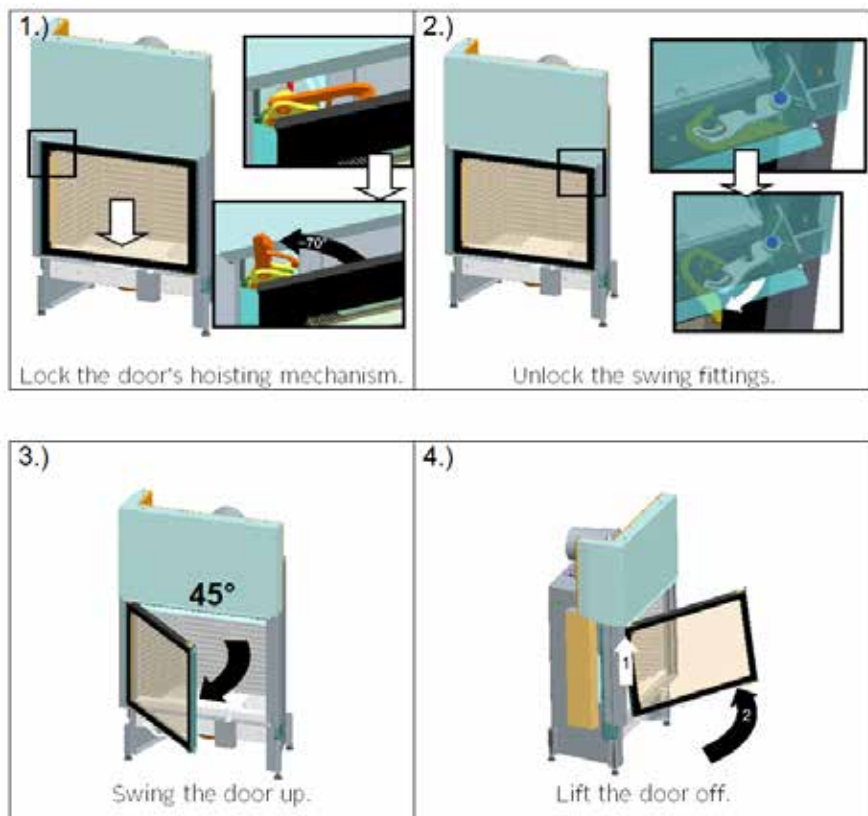
The spring clicks into place and the bolt can easily be re-tightened. There must be 9 mm clearance!



The door can now be rotated 180° and fitted.

6.2. Sliding door inserts - Fitting the door

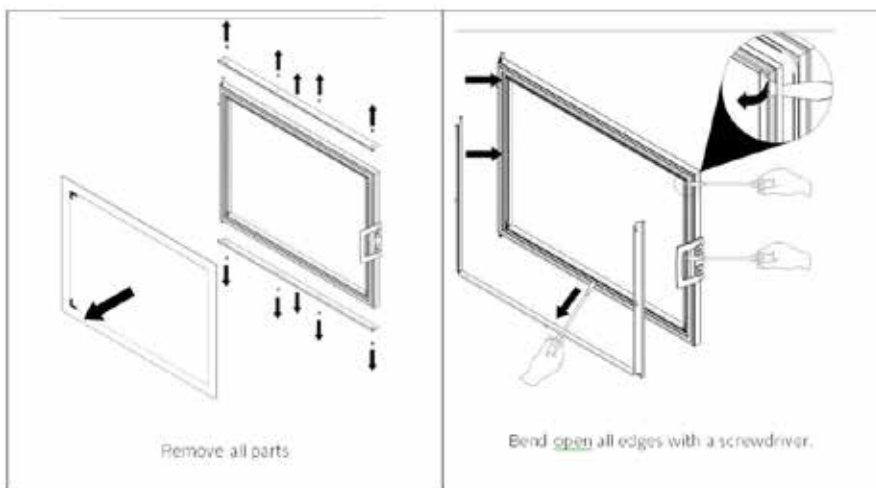
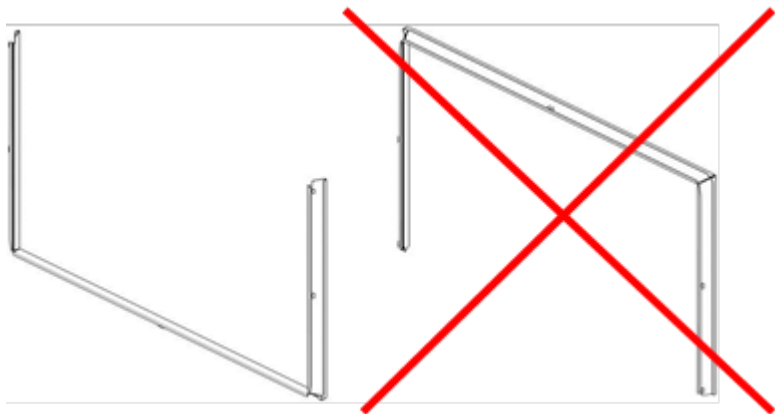
(Fitting the door in the reverse order)

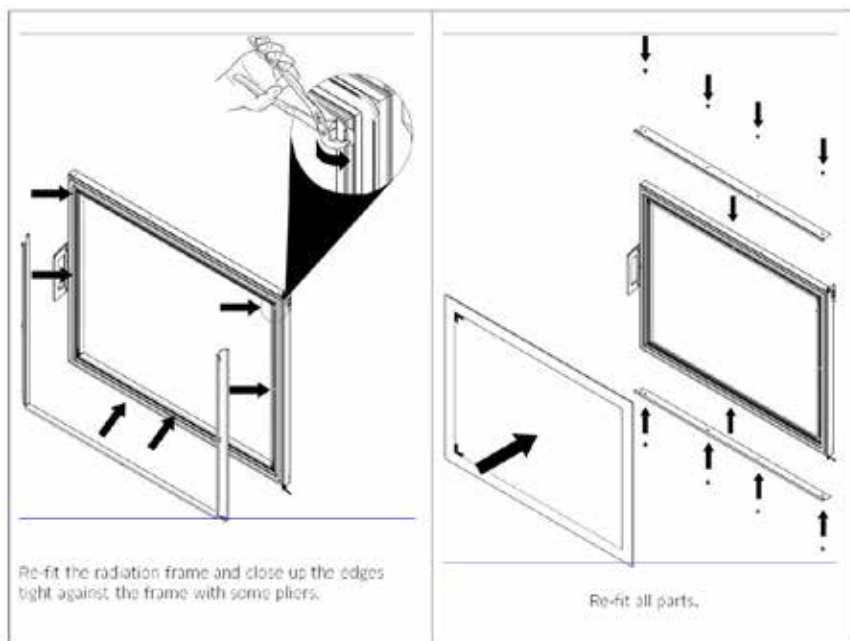


6.3 Converting the radiation frame to right opening of the door

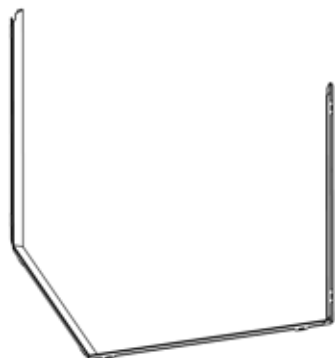
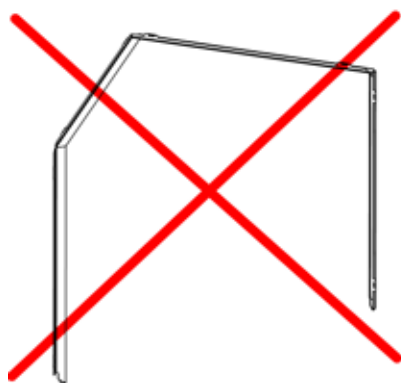
IMPORTANT: The radiation frame must be rotated 180° in the door (the horizontal part must always be at the bottom), otherwise this can affect the secondary air supply, which impairs combustion and can cause soot to form on the glass

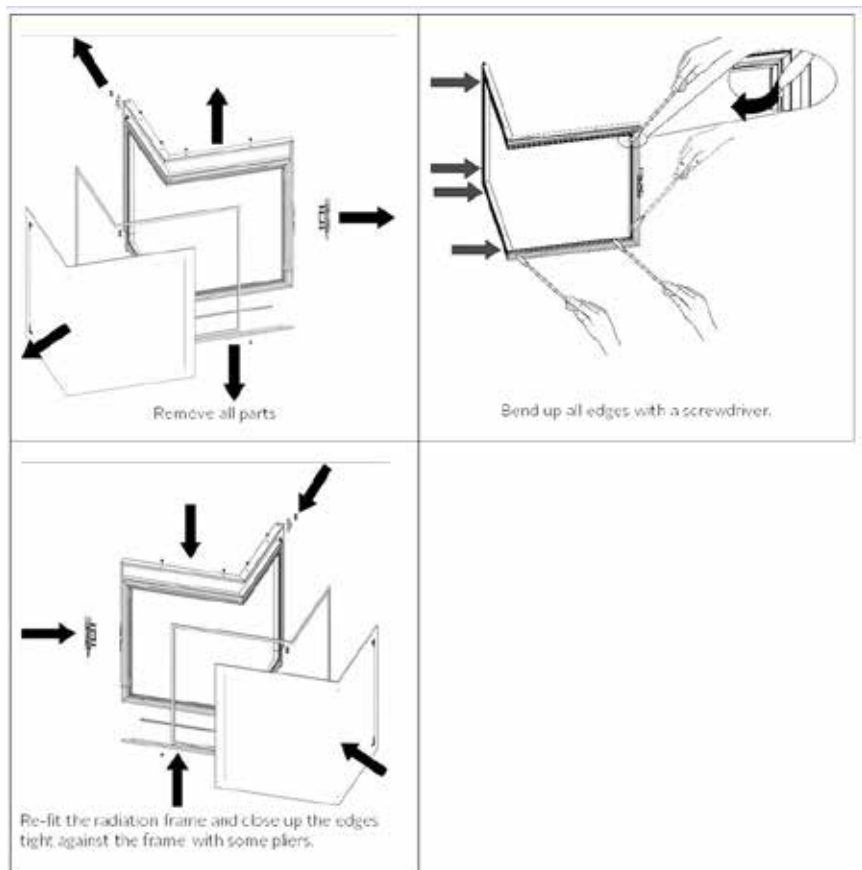
For fireplace insets S100, S101, S120, S121 and S122





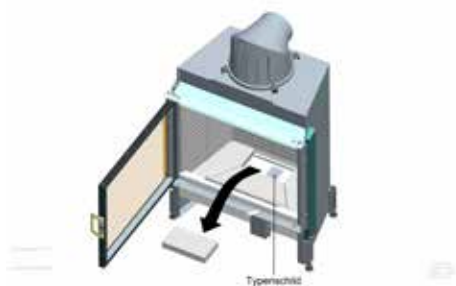
For insert Morsø S140





6.3. Type plate location

The type plate can be found under the middle stone in the base of the stove (or under the ash drawer).



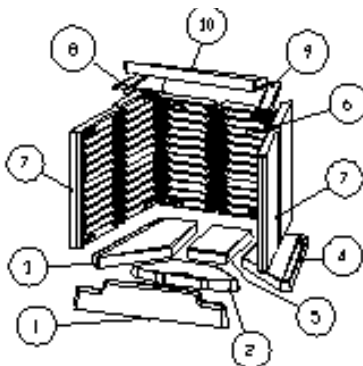
6.4. Combustion

Place the chamotte parts without mortar in the order illustrated

For models:

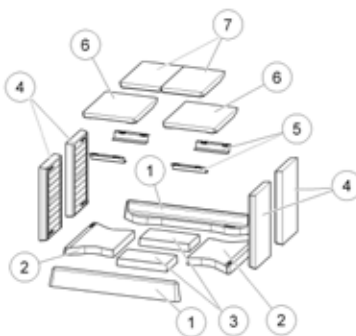
S100 and S101

1. Log catch
2. Base front
3. Base left
4. Base right
5. Intermediate plate
6. Back wall
7. Side wall
8. Z-plate left
9. Z-plate right
10. Flue plate



S120, S121 and S122

1. Log catch
2. Base
3. Intermediate plate
4. Side wall
5. Support angle
6. Flue plate (245)
7. Flue plate (195)



S140

8. Log catch left
9. Log catch right
10. Base left
11. Base right
12. Base back
13. Intermediate plate
14. Side wall
15. Z-plate left
16. Z-plate right
17. Flue plate

