

INSTALLATIEVOORSCHRIFTEN EN GEBRUIKSAANWIJZING
INSTALLATION INSTRUCTIONS AND OPERATING MANUAL
INSTALLATION ET MODE D'EMPLOI
EINBAUANLEITUNG UND GEBRAUCHSANWEISUNG
INSTRUCCIONES DE INSTALACIÓN Y USO
REQUISITI PER L'INSTALLAZIONE E ISTRUZIONI PER L'USO
MONTERINGS- OG BRUKSANVISNING

HOUTKACHEL
WOOD STOVE
POELE A BOIS
HOLZ-FEUERSTÄTTE
ESTUFA DE LEÑA
STUFA A LEGNA
ILDSTED



Sense 100



Sense 103/113



Sense 200



Sense 203



Sense 300



Sense 303



Sense 400



Sense 403

Sense



Table of contents

Introduction	3
Performance declaration	4
Performance declaration	6
Performance declaration	8
Safety	10
Installation requirements	10
General	10
Flue	10
Room ventilation	11
Floor and walls	11
Product description	12
Installation	13
General preparation	13
Preparing the connection to the flue	14
Preparing the outside air connection	15
Installing and connecting	15
Use	16
First use	16
Fuel	16
Lighting	17
Burning wood	17
Controlling combustion air	18
Extinguishing the fire	19
Removing ash	19
Fog and mist	19
Resolving problems	19
Maintenance	20
Flue	20
Cleaning and other regularly maintenance	20
Sense spare parts	22
Appendix 1: Technical data	24
Appendix 2: Dimensions	25
Appendix 3: Distance from combustible material	34
Appendix 4: Diagnosis diagram	39
Index	40



Introduction

Dear user,

By purchasing this heating appliance from DOVRE you have selected a quality product. This product is part of a new generation of energy-efficient and environmentally-friendly heating appliances. These appliances make optimal use of convection heat as well as thermal radiation (radiant heat).

- ▶ Your DOVRE appliance has been manufactured with state-of-the-art production equipment. In the unlikely event of a malfunction, you can always rely on DOVRE for support and service.
- ▶ The appliance should not be modified; please always use original parts.
- ▶ The appliance is intended for use in a living room. It must be hermetically connected to a properly working flue.
- ▶ We advise you have the appliance installed by an authorized and competent installer.
- ▶ DOVRE cannot be held liable for any problems or damage resulting from incorrect installation.
- ▶ Observe the following safety regulations when installing and using the appliance.

In this manual, you can read how the DOVRE heating appliance can be installed, used and maintained safely. Should you require additional information or technical data, or should you experience an installation problem, please first contact your supplier.

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Performance declaration

In accordance with construction products regulation 305/2011

No. 033-CPR-2013

1. Unique identification code of the product type:

Sense 100 - 200 / 4.9 kW

2. Type, batch or serial number or other form of identification for the construction product, as prescribed in article 11, subsection 4:

Unique serial number.

3. Intended use for the construction product, in accordance with the applicable harmonised technical specification, as specified by the producer:

Stove for solid fuel without production of warm water in accordance with EN 13240.

4. Name, registered trade name or registered trademark and contact address of the producer, as prescribed in article 11, subsection 5:

Dovre N.V. Nijverheidsstraat 18 2381 Weelde Belgium.

5. If applicable, name and contact address for the authorised whose mandate covers the tasks specified in article 12, subsection 2:

-

6. The system or systems for the assessment and verification of the performance durability of the construction product, specified in appendix V:

System 3

7. If the performance declaration refers to a construction product that falls under a harmonised standard:

The appointed agency ARGB/KVBG, registered under the number 2013, has performed a type test under system 3 and has issued the test report no. H20130113.

8. If the performance declaration concerns a construction product for which a European technical assessment is issued:

-



9. Declared performance:

The harmonised norm	EN 13240:2001/A2 ;2004/AC :2007
Essential characteristics	Performance Wood
Fire safety	
Fire resistance	A1
Distance from combustible material	Minimum distance in mm Rear: 300 Side: 500
Risk of glowing particles falling out	Conform
Emission of combustion products	CO: 0.18% (13%O ₂)
Surface temperature	Conform
Electrical safety	-
Ease of cleaning	Conform
Maximum operating pressure	-
Flue gas temperature at nominal output	247 °C
Mechanical resistance (carrying weight of chimney)	Not determined
Nominal output	4.9 kW
Efficiency	79.5%

10. The performance of the product described in points 1 and 2 conform with the performance reported in point 9.

This performance declaration is supplied under the exclusive responsibility of the producer specified in point 4:

T. Gehem



01/10/2013 Weelde

Tom Gehem
CEO

Due to continuous product improvement, the specifications of the appliance supplied can vary from the description in this brochure without prior notice.

DOVRE N.V.

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B-2381 Weelde Fax : +32 (0) 14 65 90 09

Belgium E-mail : info@dovre.be



Performance declaration

In accordance with construction products regulation 305/2011

No. 032-CPR-2013

1. Unique identification code of the product type:

Sense 100 - 200 / 7 kW

2. Type, batch or serial number or other form of identification for the construction product, as prescribed in article 11, subsection 4:

Unique serial number.

3. Intended use for the construction product, in accordance with the applicable harmonised technical specification, as specified by the producer:

Stove for solid fuel without production of warm water in accordance with EN 13240.

4. Name, registered trade name or registered trademark and contact address of the producer, as prescribed in article 11, subsection 5:

Dovre N.V. Nijverheidsstraat 18 2381 Weelde Belgium.

5. If applicable, name and contact address for the authorised whose mandate covers the tasks specified in article 12, subsection 2:

-

6. The system or systems for the assessment and verification of the performance durability of the construction product, specified in appendix V:

System 3

7. If the performance declaration concerns a construction product that falls under a harmonised norm:

The appointed KVBG instance, registered under the number 2013, has performed a type test under system 3 and has issued the test report no. H20130112.

8. If the performance declaration concerns a construction product for which a European technical assessment is issued:

-



9. Declared performance:

The harmonised norm	EN 13240:2001/A2 ;2004/AC :2007
Essential characteristics	Performance Wood
Fire safety	
Fire resistance	A1
Distance from combustible material	Minimum distance in mm Rear: 300 Side: 500
Risk of glowing particles falling out	Conform
Emission of combustion products	CO: 0.07% (13%O ₂)
Surface temperature	Conform
Electrical safety	-
Ease of cleaning	Conform
Maximum operating pressure	-
Flue gas temperature at nominal output	274 °C
Mechanical resistance (carrying weight of chimney)	Not determined
Nominal output	7 kW
Efficiency	80.0 %

10. The performance of the product described in points 1 and 2 conform with the performance reported in point 9.

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Performance declaration

In accordance with construction products regulation 305/2011

No. 041-CPR-2014

1. Unique identification number of the product type:

Sense 300 - 400 / 9 kW

2. Type, batch or serial number or other form of identification for the construction product, as prescribed in article 11, subsection 4:

Unique serial number.

3. Intended use for the construction product, in accordance with the applicable harmonised technical specification, as specified by the producer:

Stove for solid fuel without production of warm water in accordance with EN 13240.

4. Name, registered trade name or registered trademark and contact address of the producer, as prescribed in article 11, subsection 5:

Dovre N.V. Nijverheidsstraat 18 2381 Weelde Belgium.

5. If applicable, name and contact address for the authorised whose mandate covers the tasks specified in article 12, subsection 2:

-

6. The system or systems for the assessment and verification of the performance durability of the construction product, specified in appendix V:

System 3

7. If the performance declaration refers to a construction product that falls under a harmonised standard:

The appointed agency KVBG, registered under the number 2013, has performed a type test under system 3 and has issued the test report No. H20140117.

8. If the performance declaration concerns a construction product for which a European technical assessment is issued:

-



9. Declared performance:

The harmonised norm	EN 13240:2001/A2 ;2004/AC :2007
Essential characteristics	Performance Wood
Fire safety	
Fire resistance	A1
Distance from combustible material	Minimum distance in mm Rear: 400 Side: 500
Risk of glowing particles falling out	Conform
Emission of combustion products	CO: 0.08% (13%O ₂)
Surface temperature	Conform
Electrical safety	-
Ease of cleaning	Conform
Maximum operating pressure	-
Flue gas temperature at nominal output	216 °C
Mechanical resistance (carrying weight of chimney)	Not determined
Nominal output	9 kW
Efficiency	80 %

10. The performance of the product described in points 1 and 2 conform with the performance reported in point 9.

This performance declaration is supplied under the exclusive responsibility of the producer specified in point 4:

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Safety

-  Please note: All safety regulations must be complied with strictly.
-  Please read carefully the instructions supplied with the appliance for installation, use and maintenance before using the appliance.
-  The appliance must be installed in accordance with the legislation and requirements applicable in your country.
-  All local regulations and the regulations relating to national and European standards must be observed when installing the appliance.
-  The appliance should preferably be installed by an authorised installer. Installers will be aware of the applicable regulations and requirements.
-  The appliance is designed for heating purposes. All surfaces, including the glass and connecting tube, can become very hot (over 100°C)! When operating, use a so-called "cold hand" or an oven glove.
-  Ensure that the appliance is adequately guarded if young children, disabled people, the elderly or animals are present in the vicinity.
-  Safety distances from flammable materials must be strictly adhered to.
-  Do not place any curtains, clothes, laundry or other combustible materials on or near the appliance.
-  When in use, do not use flammable or explosive substances in the vicinity of the appliance.
-  Avoid chimney fires by having the chimney swept regularly. Never burn wood with the door open.
-  In the event of a chimney fire: close all the appliance's air inlets and alert the fire service.
-  If the glass in the appliance is broken or cracked, it must be replaced before the stove is used again.
-  Do not exert force on the door, do not allow children to pull on the opened door, never stand or

sit on the opened door and do not place heavy objects on the door.

-  Ensure that there is adequate ventilation in the room in which the appliance is installed. If ventilation is insufficient, combustion will be incomplete whereby toxic gases can spread through the room. See the chapter "Installation requirements" for more information on ventilation.


Installation requirements

General

- ▶ The appliance must be connected tightly to a well-functioning flue.
- ▶ For connection measurements: see "Technical data" appendix.
- ▶ Ask the fire service and/or your insurance company about any specific requirements and regulations.


Flue

The flue is needed for:

- ▶ Removal of combustion gases via natural draught.
 -  As the warm air in the flue or chimney is lighter than the outside air, it rises.
- ▶ Air intake, needed for the combustion of fuel in the appliance.

A poorly-functioning flue or chimney can cause smoke to escape into the room when the door is opened.

Damage caused by smoke emissions into the room is not covered by the warranty.

-  Do not connect multiple appliances (such as a boiler for central heating) to the same flue, unless local or national regulations allow this. In the event of two connections ensure that the difference in height between the connections is no less than 200 mm.

Ask your installer for advice regarding the flue. Refer to the European norm EN 13384 for a correct calculation for the flue.



The flue must satisfy the following **requirements**:

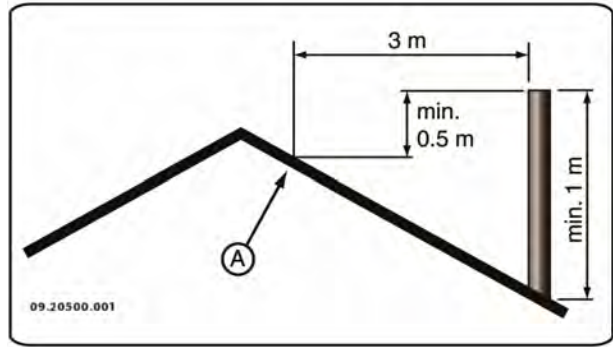
- ▶ The flue or chimney must be made of fire-resistant material, preferably ceramics or stainless steel.
- ▶ The flue or chimney must be airtight and well-cleaned and guarantee sufficient draught.

i A draught/vacuum of 15 - 20 Pa during normal operation is ideal.

- ▶ Starting from the flue spigot, the flue must run as vertically as possible. Changes in direction and horizontal pieces disrupt the outward flow of combustion gases and may cause soot deposits.
- ▶ To prevent combustion gases from cooling down too much, which reduces the draught, ensure that the interior diameter is not too big.
- ▶ The flue or chimney should ideally have the same diameter as the connection collar.

i For nominal diameter: see "Technical data" appendix. If the smoke channel is well insulated, the diameter may be slightly bigger (up to 2x the section of the connection collar).

- ▶ The section (area) of the smoke channel must be constant. Wider segments and (in particular) narrower segments disrupt the outward flow of combustion gases.
- ▶ In fitting a cover plate/exhaust cap to the flue: make sure that the cover does not restrict the flue outlet and that the cap does not impede the outward flow of combustion gases.
- ▶ The flue must end in a zone that is not affected by surrounding buildings, trees or other obstacles.
- ▶ The flue outside the house must be insulated.
- ▶ The flue should be at least 4 metres high.
- ▶ As a rule of thumb: 60 cm above the ridge of the roof.
- ▶ If the ridge of the roof is more than 3 metres from the flue: use the measurements given in the following figure. A = the highest point of the roof within a distance of 3 metres.



Room ventilation

For good combustion, the appliance needs air (oxygen). This air is supplied via adjustable air inlets from the area in which the appliance is installed.

⚠ If ventilation is insufficient, combustion will be incomplete, which may lead toxic gases to spread through the room.

As a rule of thumb, the air supply should be $5.5 \text{ cm}^2/\text{kW}$. Extra ventilation is needed when:

- ▶ The appliance is in a well-insulated area.
- ▶ There is mechanical ventilation, for example a central extraction system or an extraction hood in an open kitchen.

You can provide extra ventilation by having a ventilation louvre fitted on the outside wall.

Make sure that other air consuming appliances (such as tumble-driers, other heating appliances or a bathroom fan) have their own supply of outside air, or are switched off when you use the appliance.








i You can also connect the appliance to an outside air supply. A connection kit is supplied for this purpose. This makes additional ventilation unnecessary.

Floor and walls

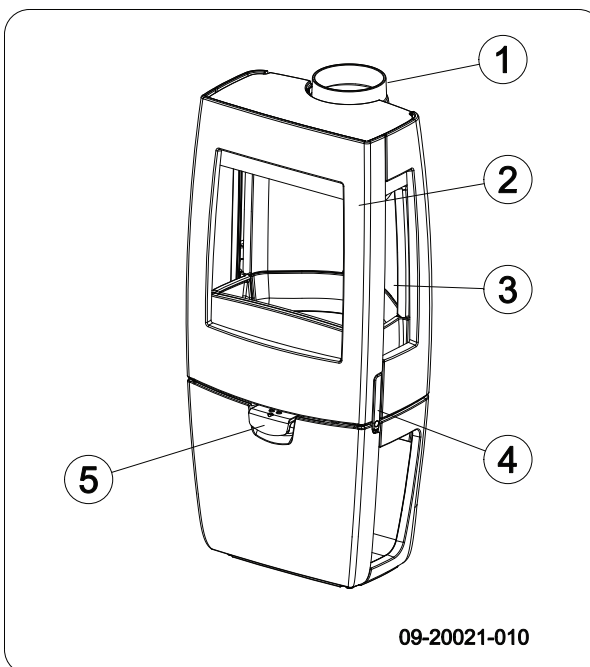
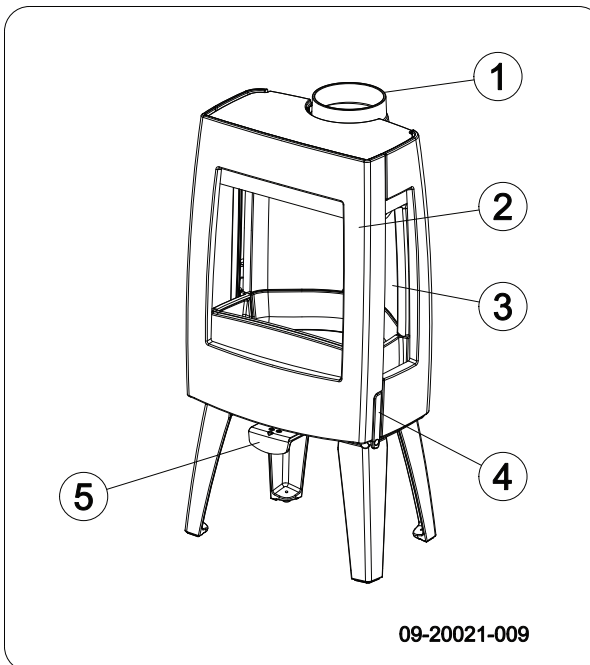
The floor on which the appliance is placed must have sufficient bearing capacity. The weight of the appliance is given in the appendix "Technical Data appendix".

⚠ Protect flammable flooring from heat radiation by means of a fireproof protective plate. See

the appendix "Distance from combustible material".

-  Remove combustible material such as linoleum, carpets/rugs and similar materials below the fireproof protective plate.
-  Keep sufficient distance between the appliance and combustible materials such as wooden walls and furniture.
-  The connecting tube also radiates heat. Ensure that there is sufficient distance or a shield between the connecting tube and combustible material.
The rule of thumb for a single-walled tube is a distance of 3x the diameter. If a lining shell is fitted around the tube, a distance of 1x the diameter is permissible.
-  Carpets and rugs must be at least 80 cm away from the fire.
-  Use a fireproof floor plate to protect a flammable floor from any ash which may fall in front of the stove. The floor plate must comply with national standards.
-  For the dimensions of the fireproof protective plate: see the appendix "Distance from combustible material".
-  For further requirements with respect to fire safety, see the appendix "Distance from combustible material".

Product description



1. Connection collar
2. Door
3. Side glass
4. Latch
5. Air slide

Door lock

The appliance is supplied with the latch button (4) installed. The door is opened by pressing in the latch button. As the latch button becomes warm during use, a glove has been supplied which you can use to protect your hand.

Installation

General preparation

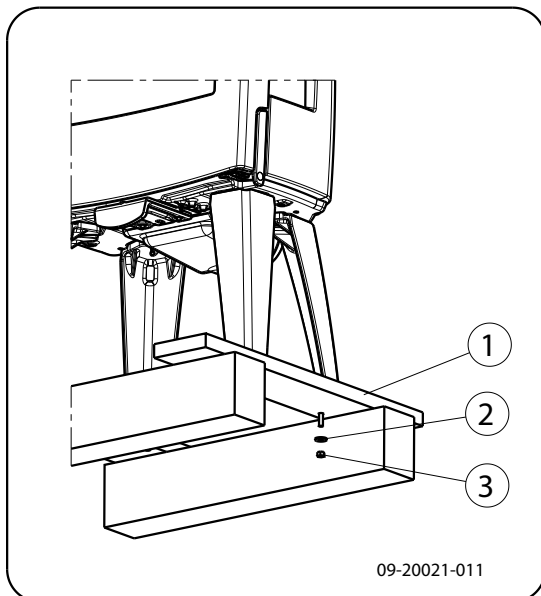
- ▶ Please check the appliance immediately after delivery for damage during transport or any other damage or defects. The appliance is attached to the pallet with screws at the bottom.

! If you detect transport damage or any other damage or defects, do not use the appliance and notify the supplier.

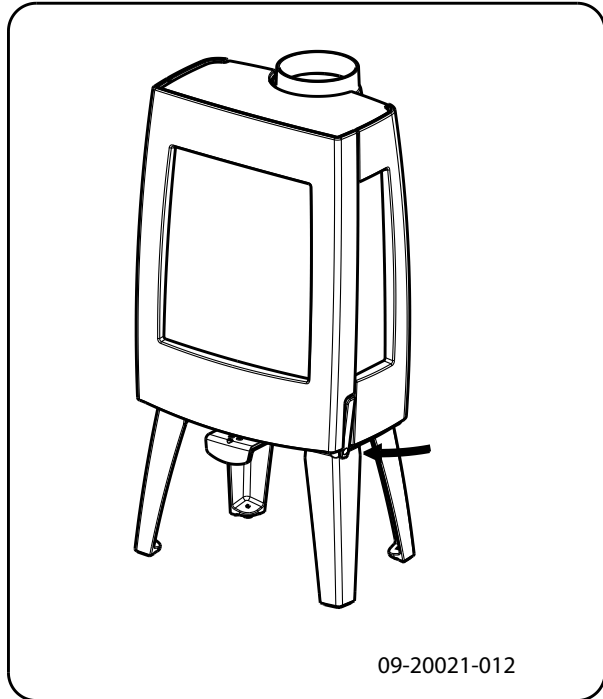
- ▶ Remove removable parts (fire-resistant inner plates, fire grate, top plate, ashtray) from the appliance before starting installation.

i It is easier to move the appliance and to avoid damage if the removable parts have been removed.

! Note the location of the removable parts, so that you can re-position the parts in the correct place later on.



1. Open the door; see the following figure:



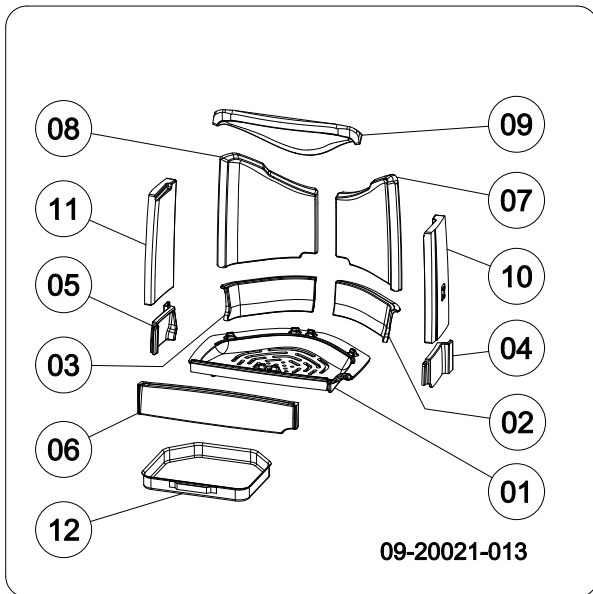
2. Remove the fire-resistant inner plates; see the following figure:

- a. First remove the baffle plate (09).

! The baffle plate is attached at the top with a metal clip. This is to avoid damage during transit.

- b. Remove the inner plates (10), (11), (07) and (08) at the side and at the back.
- c. Remove the fire basket at the rear (02) and (03) and at the front (04), (05) and (06).
- d. Remove the grate and the ash pan (01) and (12).

i Vermiculite inner plates are light and tend to be ochrous in colour on delivery. They insulate the combustion chamber to boost combustion.



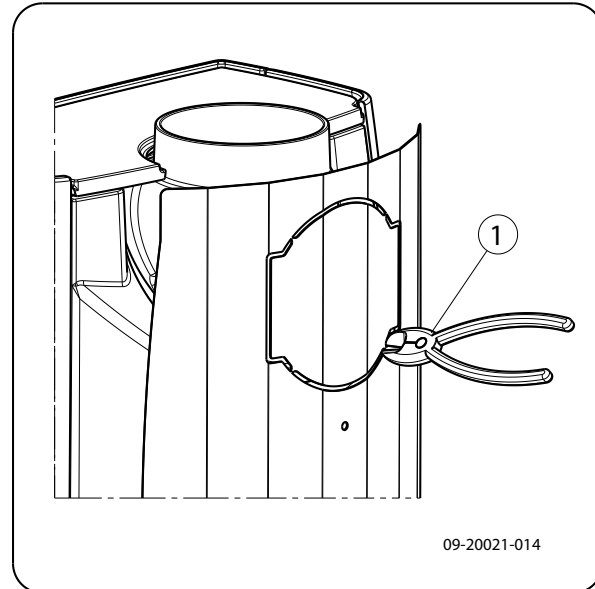
Removable internal parts

- 01 fire compartment base
- 02 fire basket right rear
- 03 fire basket left rear
- 04 fire basket right
- 05 fire basket left
- 06 fire basket
- 07 side inner plate right rear
- 08 side inner plate left rear
- 09 baffle plate inner plate
- 10 side inner plate right
- 11 side inner plate left
- 12 ash pan

Preparing the connection to the flue

When connecting the appliance to the flue, you can choose to connect to the **top** or to the **rear** of the appliance

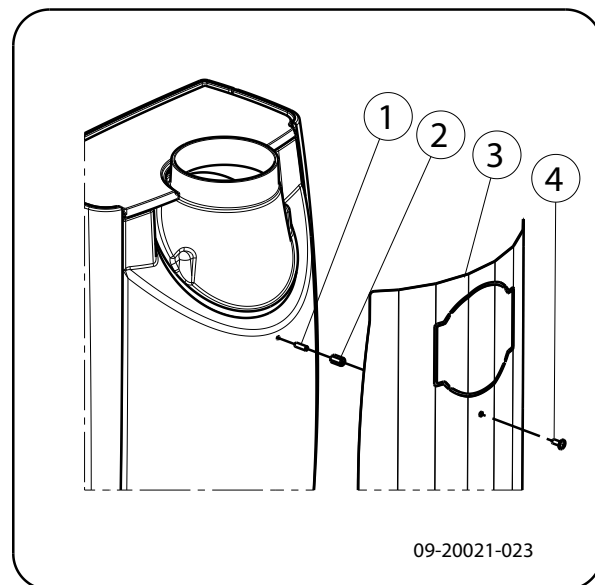
An optional heat shield is available. By using this heat shield you can reduce the distance to the combustible material. See appendix "Distance from combustible material". For a rear connection the escape plate needs to be removed. You can do this with the assistance of a screwdriver (1); see following figure.



Fitting the heat shield

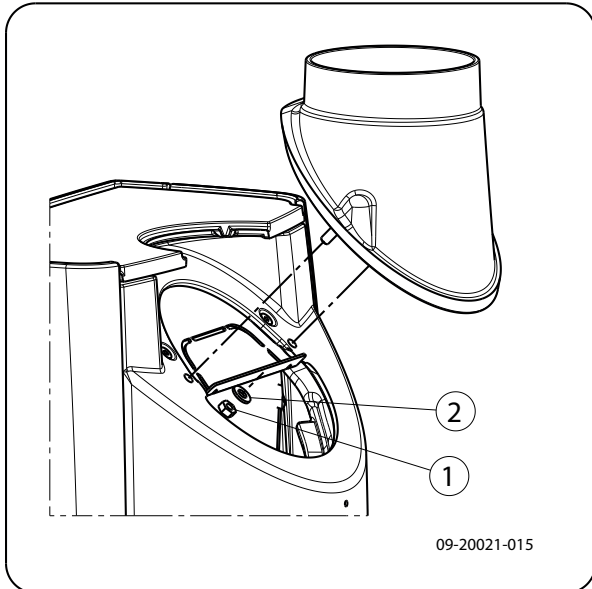
To fit the optional heat shield, proceed as follows:

1. Screw 2 M6 studs (1) with spacer (2) to the rear wall.
2. Place the heat shield (3) and screw into place with 2 M6 flanged cap screws (4), see following figure.



Connecting to the top


As standard, the appliance is delivered with the connection collar fitted for a connection at the top, see following figure.



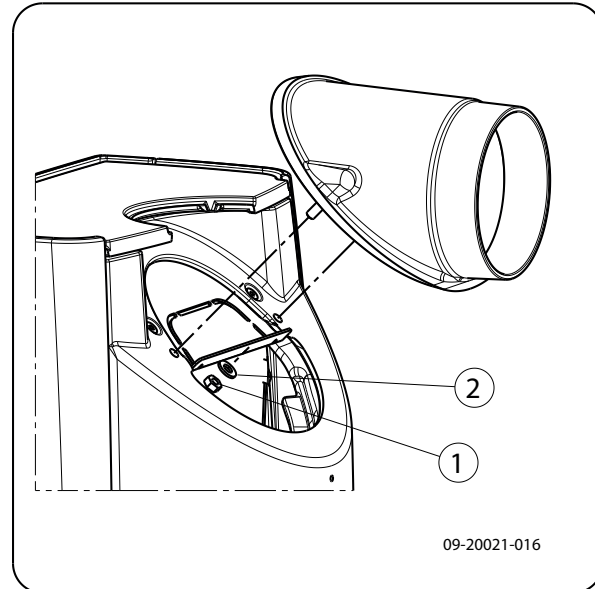
Connecting to the rear

For a connection to the rear, the position of the connection collar needs to be changed. The connection collar is attached with 2 M8 nuts (key 13). Proceed as follows:

1. First remove the baffle plate.
2. Unscrew the nuts and remove the connection collar.

 Check that the sealing tape on the contact surface is not damaged. Replace the sealing tape if it is damaged.

3. Place the connection collar turned 180° with respect to its original position; see next figure.



4. Fit the connection collar with the 2 M8 nuts.
5. Replace the baffle plate.

Preparing the outside air connection

If the appliance is installed in a room with insufficient ventilation, you can install the outside air connecting kit to the appliance.

The air supply tube is 100 mm in diameter. If the tube is smooth, it may be no longer than 12 metres. If accessories such as bends are used, the maximum length (12 m) must be reduced by 1 m for each accessory used.

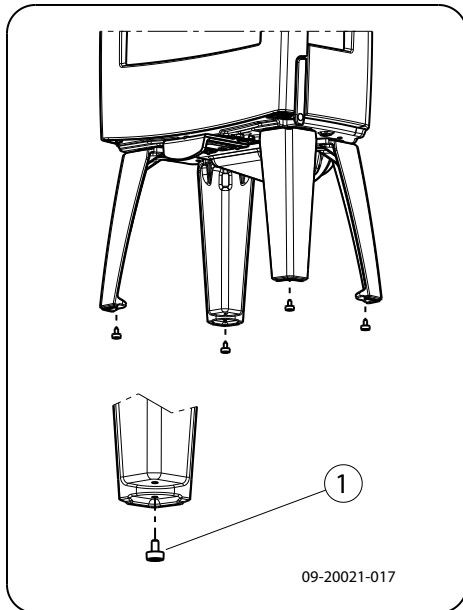
Outside air connection via the wall

1. Make an opening in the wall (see the appendix, "Measurements", for the correct position of the opening).
2. Close the air connection hermetically to the wall.

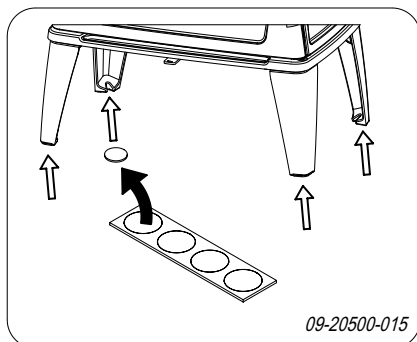
Installing and connecting

1. Position the appliance in the correct place, and make sure it is level. The appliance is designed with adjustable feet, which may already be mounted on the appliance or be included. Use these adjustable feet so that the appliance can be placed perfectly level.





- If the appliance is to be placed on a smooth floor, the four anti-slip pads can be placed beneath the adjustable feet to prevent the appliance from moving, see next image.



- Connect the appliance to the flue hermetically.
- For outside air supply connection: connect the outside air supply to the connection kit which is fitted to the appliance.
- Re-position all removed parts to the correct places in the appliance.

⚠ Never use the appliance without the fire-resistant inner plates.

The appliance is now ready for use.

Use

First use

When you use the appliance for the first time, make an intense fire and keep it going for a good few hours. This will cure the heat-resistant paint finish. This may result in some smoke and odours. You could open windows and doors for a while in the area in which the appliance is located.

Fuel

This appliance is only suitable for burning natural wood; sawn and chopped wood that is sufficiently dry.

Do not use other fuels, as they can cause serious damage to the appliance.

The following fuels may not be used as they pollute the environment, and because they heavily pollute the appliance and flue, which may lead to a chimney fire:

- ▶ Treated wood, such as scrap wood, painted wood, impregnated wood, preserved wood, plywood and chipboard.
- ▶ Plastics, scrap paper and domestic waste.

Wood

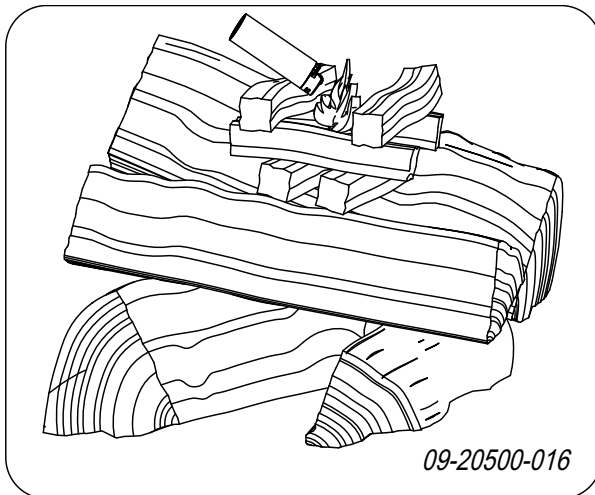
- ▶ Hardwood, such as oak, beech, birch and fruit tree wood is the ideal fuel for your stove. This type of wood burns slowly with calm flames. Softwood contains more resins, burns faster and sparks more.
- ▶ Use seasoned wood that contains no more than 20% moisture. The wood should have been seasoned for at least 2 years. Wood with a moisture content of 20% provides 4.2 kWh per kg wood. Wood with a moisture content of 15% provides 4.4 kWh per kg wood. Freshly felled wood has a moisture content of 60% and only provides 1.6 kWh per kg wood.
- ▶ Saw the wood to size and split it while it is still fresh. Fresh wood is easier to split, and split wood dries more easily. Store the wood under a roof where the wind has free access.
- ▶ Do not use damp wood. Damp logs do not produce heat as all the energy is used in the evaporation of moisture. This will result in a lot of smoke and soot deposits on the appliance door and in the flue. The

water vapour will condense in the appliance and can leak away through chinks in the stove, causing black stains on the floor. It may also condense in the chimney and form creosote. Creosote is a highly flammable compound and may cause a chimney fire.

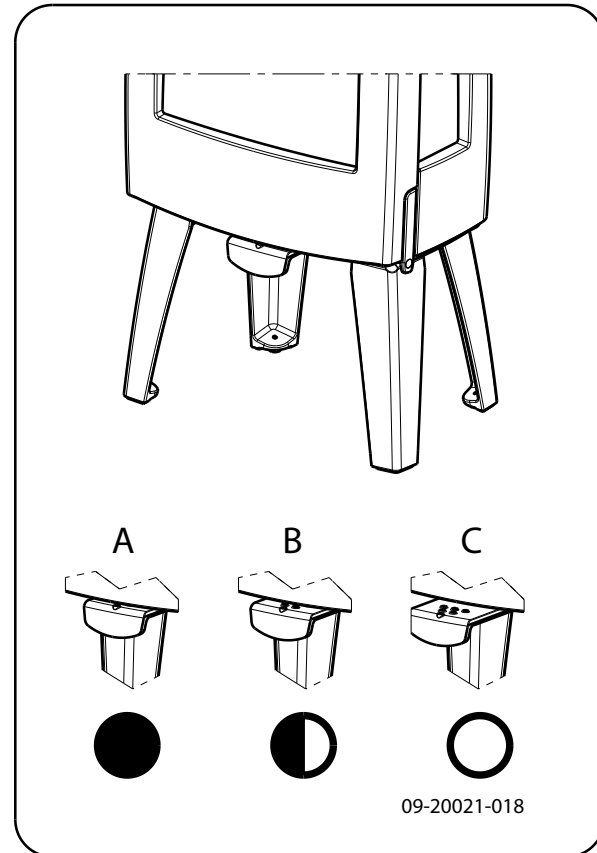
Lighting

You can check whether the flue has sufficient draught by lighting a ball of paper above the baffle plate. A cold flue often has insufficient draught and consequently, some smoke may escape into the room instead of up the chimney. You can avoid this problem by lighting the fire as described below.

1. Stack two layers of medium sized logs crosswise.
2. Stack two to three layers of kindling crosswise on top of the logs.
3. Place a firelighter between the bottom layer of kindling and light the firelighter according to the instructions on the packaging.



4. Close the appliance door and open the primary and secondary air inlets; see the following figure.
5. Allow the fire develop into a good blaze until there is a glowing bed of charcoal. You can then add fuel and adjust the appliance, see the chapter "Stoking with wood".



C:

- o o Primary air open (when lighting the stove)
- o o Secondary air open (glass wash)
- o Air for post-combustion open

B:

- o o Secondary air open (glass wash)
- o Air for post-combustion open

A:

- o Air for post-combustion open
(never close entirely for proper combustion)

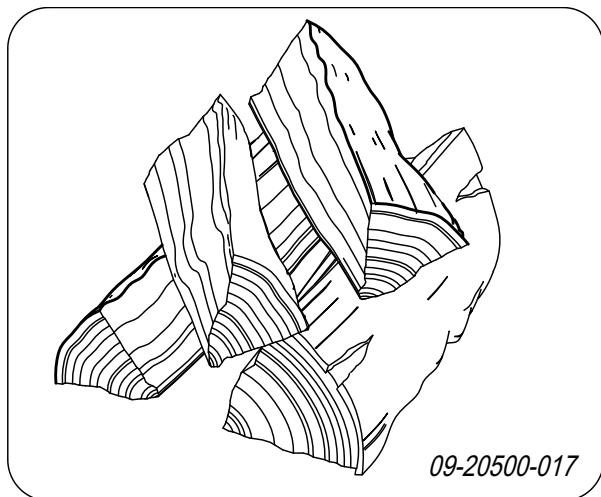
Burning wood

After you have followed the instructions for lighting:

1. Slowly open the door of the appliance.
2. Spread the charcoal evenly across the bottom of the stove base.
3. Stack a few logs on the charcoal.

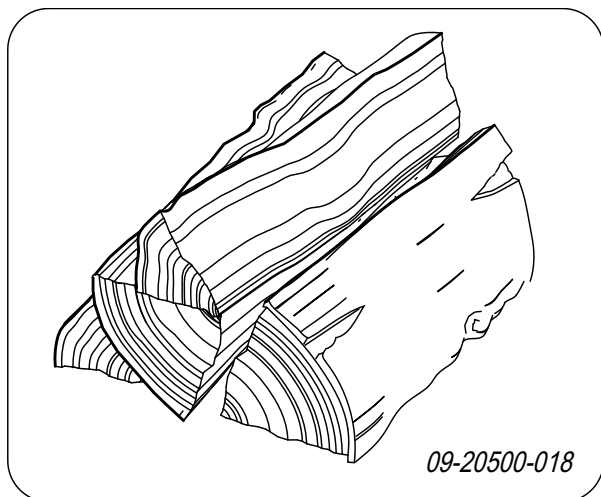


Open stacking



If the logs are stacked openly, the wood will burn quickly as the oxygen can reach each log easily. If you want to use the stove for a short while, make an open stack.

Compact stacking



If the logs are stacked tightly, the wood will burn more slowly as the oxygen can only reach some logs easily. If you want to burn wood for a longer period, make a compact stack.

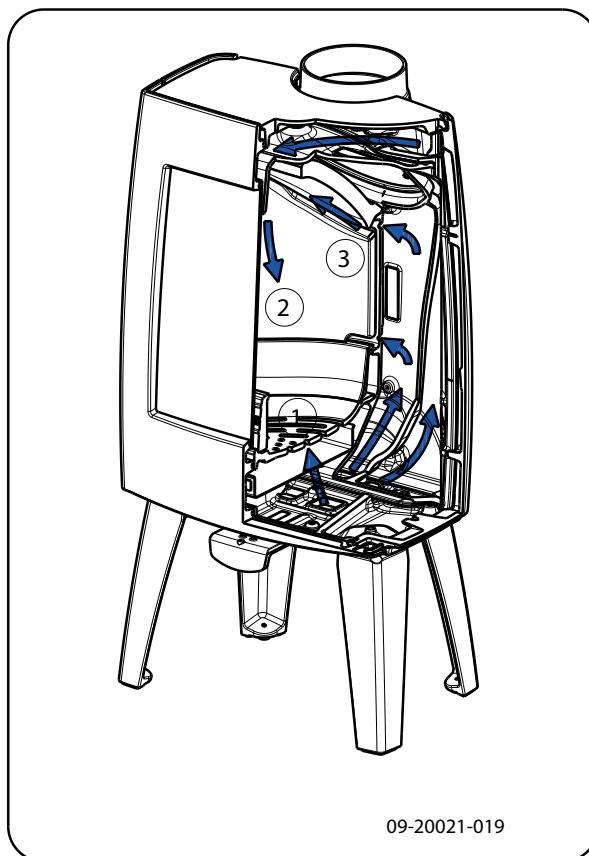
4. Close the door of the appliance.
5. Close the primary air inlet and leave the secondary air inlet open.

 Do not fill the appliance by more than a third.

Controlling combustion air

The appliance has various features for air control; see next figure.

The appliance has one air slide that regulates both the primary air and the secondary air inlet. If the air slide is completely pulled out, the primary and the secondary air inlet is open. As the air slide is pushed in, the primary air inlet and then the secondary air inlet is closed. If the air slide is completely closed, a small air vent remains open to allow for the post-combustion under the baffle plate.



The primary air inlet regulates the air under the grate (1).

The secondary air inlet regulates the air for the glass (air wash) (2).

The back wall has permanent vents (3) below the baffle plate that allow for post-combustion.

Advice



Never burn wood with an open door.



Regularly burn wood with intense roaring fires.

If you burn at a low setting frequently, tar and creosote may be deposited in the flue. Tar and creosote are highly combustible substances. Thicker layers of these substances may catch fire if the temperature in the flue increases suddenly. By allowing the fire to burn very intensely regularly, layers of tar and creosote will disappear.

Low intensity fires can also cause tar deposits on the stove window and door.

When the outside temperature is mild, it is better to burn wood intensely for a few hours instead of having a low intensity fire for a long period of time.

- ▶ Control the air supply using the air vent.



The air inlet not only supplies air to the fire but to the glass as well, so that it does not quickly become dirty.

- ▶ Open the primary air inlet for the time being if the air supply by the secondary air inlet is inadequate or if you want to fan the fire.
- ▶ Topping up with a few logs regularly is better than adding many logs in one go.

Extinguishing the fire

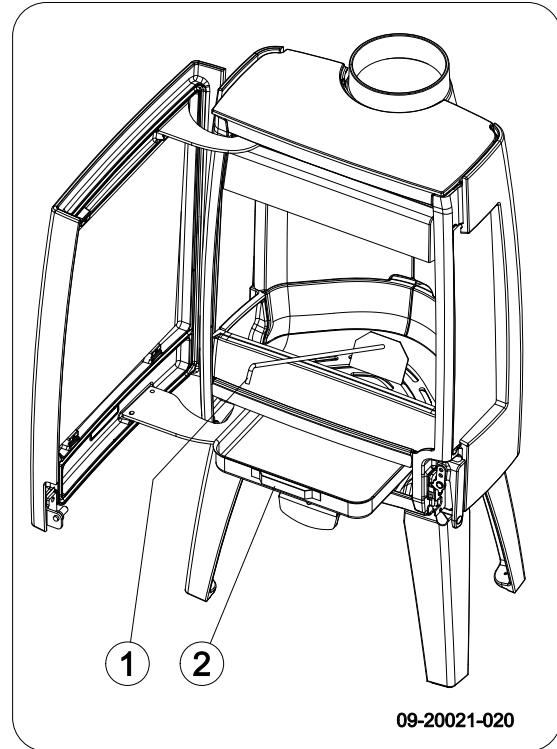
Do not add fuel and just let the fire go out. If a fire is damped down by reducing the air supply, harmful substances will be released. For this reason, the fire should be allowed to go out naturally. Keep an eye on the fire until it has gone out. All air inlets can be closed once the fire has died completely.

Removing ash

After wood has been burnt, a relatively small amount of ash remains. This ash bed is a good insulating layer for the stove base plate and improves combustion. It is a good idea to leave a thin layer of ash on the stove base plate.

The flow of air through the fire plate must not be obstructed, however, and no ash may be allowed to

accumulate behind a cast-iron inner plate. Remove the excess ash regularly.



1. Open the door of the appliance.
2. Use the scraper supplied to sweep the excess ash into the ash pan.
3. Using the glove supplied, remove the ash pan and empty it.
4. Replace the ash pan and close the door of the appliance.

Fog and mist

Fog and mist hinder the flow of flue gases through the flue. Smoke can blow back and cause a stench. If it is not strictly necessary, it is better not to use the stove in foggy and misty weather.

Resolving problems

Refer to the appendix "Diagnostic diagram" to resolve any problems in using the appliance.



Maintenance


Follow the maintenance instructions in this chapter to keep the appliance in good condition.

Flue

In many countries, you are required by law to have your chimney checked and maintained.

- ▶ At the start of the heating season: have the chimney swept by a recognised chimney sweep.
- ▶ During the heating season and after the chimney has not been used for a long time: have the chimney checked for soot.
- ▶ At the end of the heating season: close off the chimney and plug with newspaper.

Cleaning and other regularly maintenance

 Do not clean the appliance when it is still warm.

- ▶ Clean the exterior of the appliance with a dry lint-free cloth.


You can clean the appliance interior thoroughly at the end of the heating season:


- ▶ If necessary, first remove the fire-resistant inner plates. See the chapter "Installation" for instructions on removing and installing the inner plates.
- ▶ If necessary, clean the air supply ducts.
- ▶ Remove the baffle plate at the top of the appliance and clean it.


Checking fire-resistant inner plates

The fire-resistant inner plates are consumables that are subject to wear and tear. Vermiculite inner plates are fragile. Do not knock the inner plates with logs. Check the fire-resistant inner plates frequently and replace them when necessary.

- ▶ See the chapter "Installation" for instructions on removing and installing the inner plates.

 The insulating vermiculite or chamotte inner plates may develop hairline cracks, but this does not affect their performance adversely.


 Cast-iron inner plates last a long time if you remove frequently the ash that can accumulate behind them. If accumulated ash behind the cast-iron plate is not removed, the plate will no longer be able to dissipate the heat to the surroundings and this may cause the plate to warp or crack.


 Never use the appliance without the fire-resistant inner plates.

Cleaning the glass

Dirt clings less easily to well-cleaned glass. Proceed as follows:

1. Remove dust and loose soot with a dry cloth.
 2. Clean the glass with stove glass cleaner:
 - a. Apply stove glass cleaner to a kitchen sponge, rub down the entire glass surface and give the cleaning agent time to react.
 - b. Remove the dirt with a moist cloth or kitchen tissue.
 3. Clean the glass again with a normal glass cleaning product.
 4. Rub the glass clean with a dry cloth or kitchen tissue.
- ▶ Do not use abrasive or aggressive products to clean the glass.
 - ▶ Wear household gloves to protect your hands.

 If the glass in the appliance is broken or cracked, it must be replaced before you can use appliance again.

 Ensure that no stove glass cleaner runs between the glass and the cast-iron door.

Enamelled stove maintenance

Never clean the appliance while it is still hot. The most effective way to clean the enamelled surface of the stove is with a mild green soap and lukewarm water. Use as little water as possible, rub the surface dry and prevent the formation of rust. Wire wool or other abrasives should never be used. Never place a



kettle directly onto an enamelled stove; use a stand to prevent damage. Attention: Do not allow aggressive acidic products to get onto enamelled components.

Lubrication

Although cast-iron is slightly self-lubricating, you will still need to lubricate moving parts frequently.

- ▶ Lubricate the moving parts (such as guide systems, hinge pins, latches and air slides) with heat resistant grease that is available in the specialist trade.

Touching up damaged paint

Small areas of damaged paint finish can be touched-up with a spray can of special heat-resistant paint, available from your supplier.

Touching up the enamelled surface

Enamelling is a process carried out by traditional methods, meaning that it is possible that small colour differences and damage may occur. The appliances undergo a visual inspection in the factory, that is to say, the inspector looks at the surface for a period of 10 seconds from a distance of 1 metre.

Any damage that does not stand out is regarded as OK. A special heat-resistant paint is supplied with the appliance to touch up any minor damage caused during transport.

Apply the heat-resistant paint in thin layers and leave to dry well before using the appliance.

- ▶ Some enamel colours are temperature-sensitive. It can happen that the colour changes during use. The original colour will return after the appliance has cooled down.
- ▶ If enamelled surfaces become very hot, hairline cracks can occur. This is a normal phenomenon and has no impact on the functioning of the stove.

- ⚠ Ensure that the stove is not overburdened. If it does become overburdened then the surface gets very hot possibly resulting in lasting damage to the enamel.

Checking the seal

- ▶ Check whether the door sealing rope is still in good condition and works well. The sealing rope is

subject to wear and will need to be replaced over time.

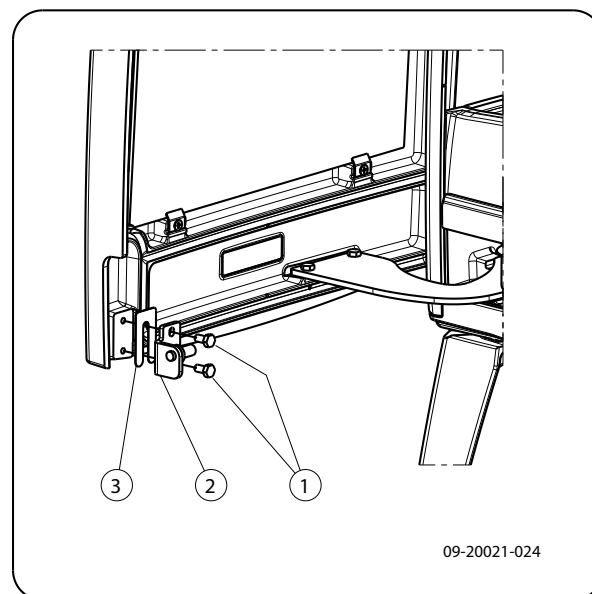
- ▶ Check the appliance for air leaks. Close any chinks with stove sealant.

- ⚠ Allow the sealant to harden fully before lighting the appliance, as any moisture in the sealant will form bubbles, resulting in a new air leak.

Adjust door closing

Check if the door closes properly. If required, the closing of the door can be set looser or tighter by adjusting the distance between the locking cam and the door. Proceed as follows:

1. Open the door. The locking cam (2) is now freely accessible; see next figure.
2. Unscrew the two screws (1) with which the locking cam is attached.
3. By removing the packing plate (3) behind the locking cam (2), the door closes more tightly. If the door closes too tightly then insert an additional packing plate behind the locking cam.
4. Tighten the two screws and check the closing of the door once again.



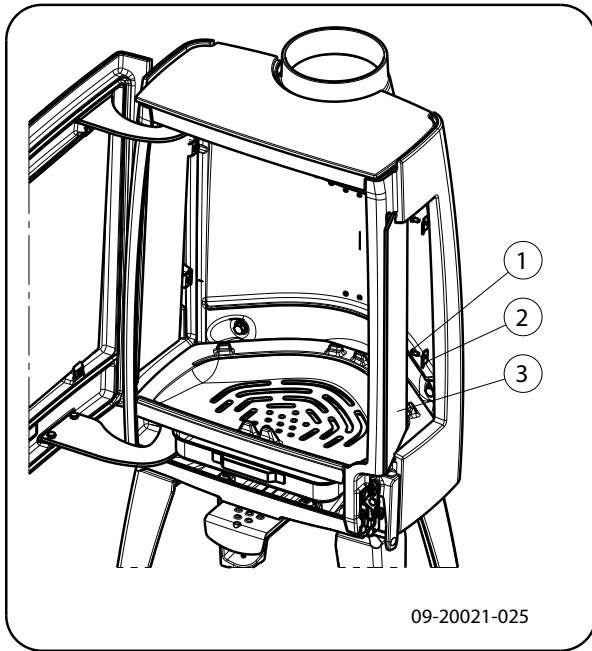
Replacing the glass

- ⚠ If the glass in the appliance is broken or cracked, it must be replaced before the stove

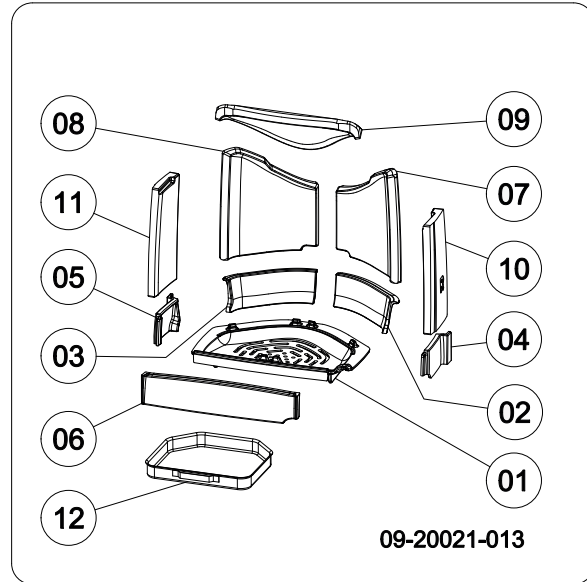
is used again.

In order to replace the side glass, all the inner panels and the air guide must first be removed. The air guide is attached with a M8 nut in the middle at the top of the appliance. Proceed as follows:

1. Unscrew the two glass fixings with parts (1) and (2) and remove the glass (3), see following figure.
2. Check the glass seal and, if necessary, fit a new sealing rope.
3. Place the new glass in the groove and tighten the glass fixings.



Sense spare parts



Sense 100/103/113/200/203

Pos.	Part number	Description	Quantity
01	03.66544.002	base plate	1
02	03.77429.002	fire basket right rear	1
03	03.77428.000	fire basket left rear	1
04	03.77425.002	fire basket right	1
05	03.77424.002	fire basket left	1
06	03.77423.002	fire basket	1
07	03.77523.000	side inner plate right rear	1
08	03.77522.000	side inner plate left rear	1
09	03.76181.000	baffle plate inner plate	1
10	03.77525.000	side inner plate right	1
11	03.77524.002	side inner plate left	1
12	03.05216.000	ash pan	1

Sense 300/303/400/403

Pos.	Part number	Description	Quantity
01	03.66549.002	stove base	1
02	03.77444.002	fire basket right rear	1
03	03.77443.000	fire basket left rear	1
04	03.77442.002	fire basket right	1
05	03.77441.002	fire basket left	1



06	03.77440.002	fire basket	1
07	03.77548.000	side inner plate right rear	1
08	03.77547.000	side inner plate left rear	1
09	03.76188.000	baffle plate inner plate	1
10	03.77550.000	side inner plate right	1
11	03.77549.002	side inner plate left	1
12	03.05216.000	ash pan	1

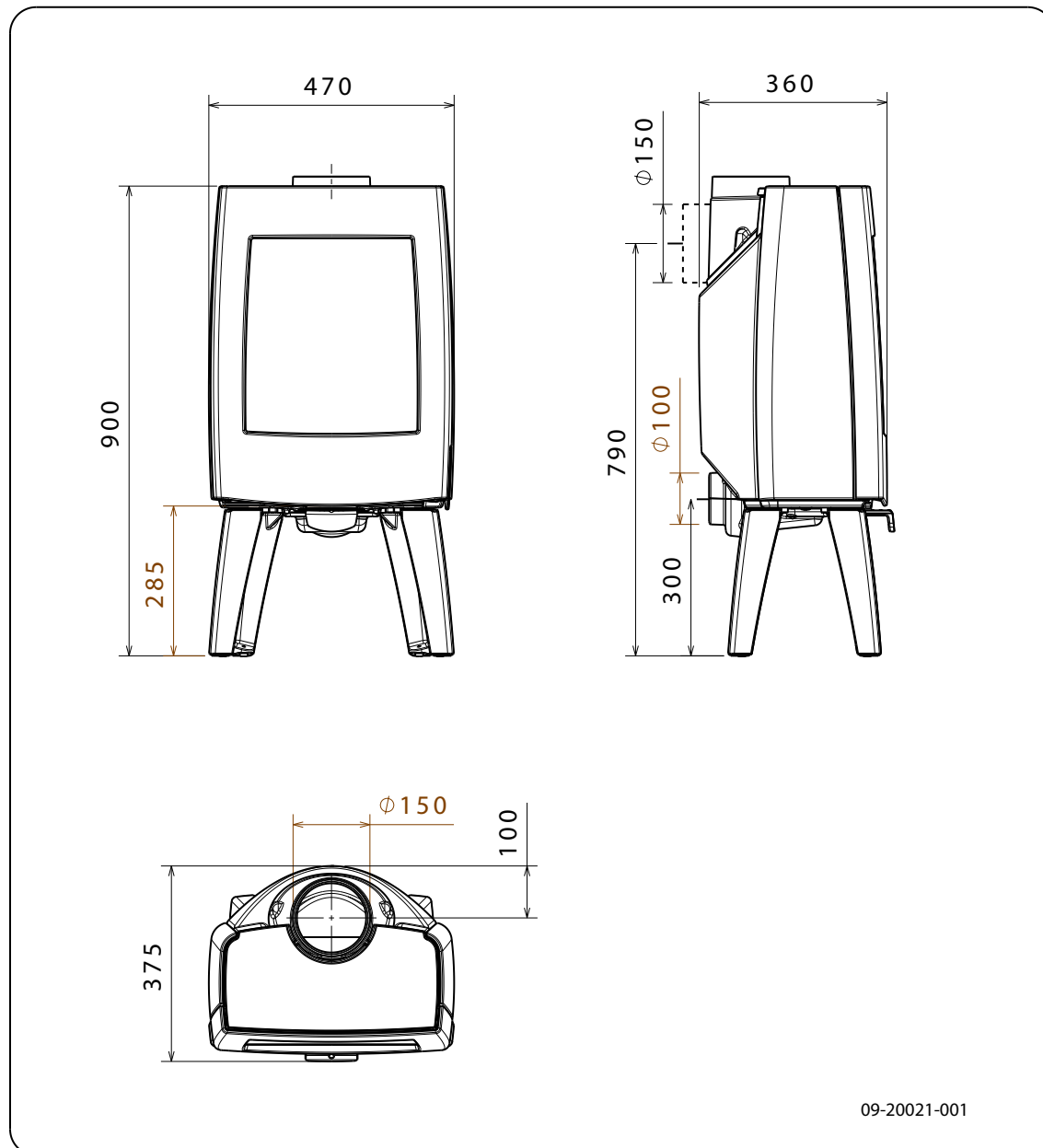


Appendix 1: Technical data

Model	Sense 100/103/113/ 200/203	Sense 100/103/113/ 200/203	Sense 300/303/ 400/403
Nominal output	4.9 kW	7.0 kW	9.0 kW
Flue connection (diameter)	150 mm	150 mm	150 mm
Weight	105 kg - 125 kg	105 kg - 125 kg	150 kg - 180 kg
Recommended fuel	Wood	Wood	Wood
Fuel property, max. length	33 cm	33 cm	40 cm
Mass flow of flue gasses	4.5 g/s	5.1 g/s	7.3 g/s
Flue gas temperature measured in the measurement section	247 °C	274 °C	274 °C
Temperature measured at appliance exit	317 °C	351 °C	352 °C
Minimum draught	12 Pa	12 Pa	12 Pa
CO emission (13%O ₂)	0.18 %	0.07 %	0.08 %
NOx emission (13% O ₂)	81 mg/Nm ³	89 mg/Nm ³	75 mg/Nm ³
CnHm emission (13%O ₂)	173 mg/Nm ³	76 mg/Nm ³	69 mg/Nm ³
Particulate emission	27 mg/Nm ³	25 mg/Nm ³	-
Particulate emission in accordance with NS3058-NS3059	2.87 g/kg	2.87 g/kg	-
Efficiency	79.5%	80 %	80 %

Appendix 2: Dimensions

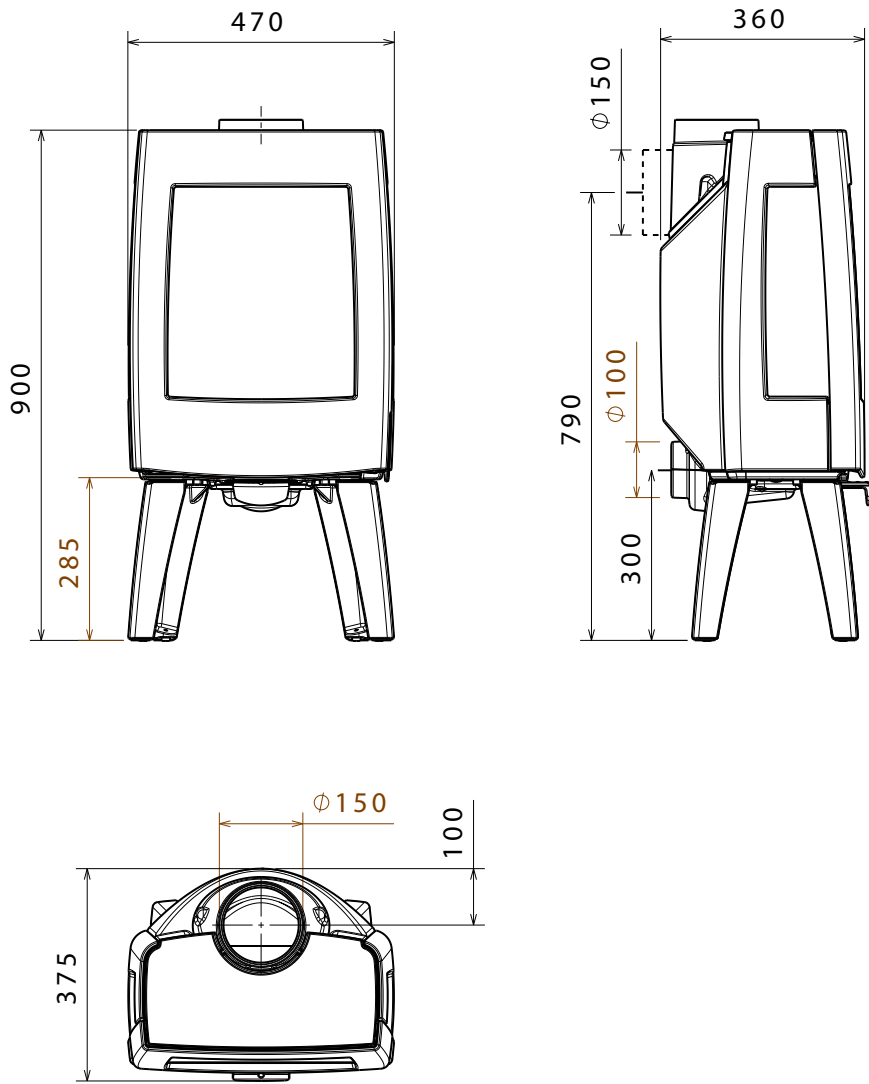
Sense 100



English



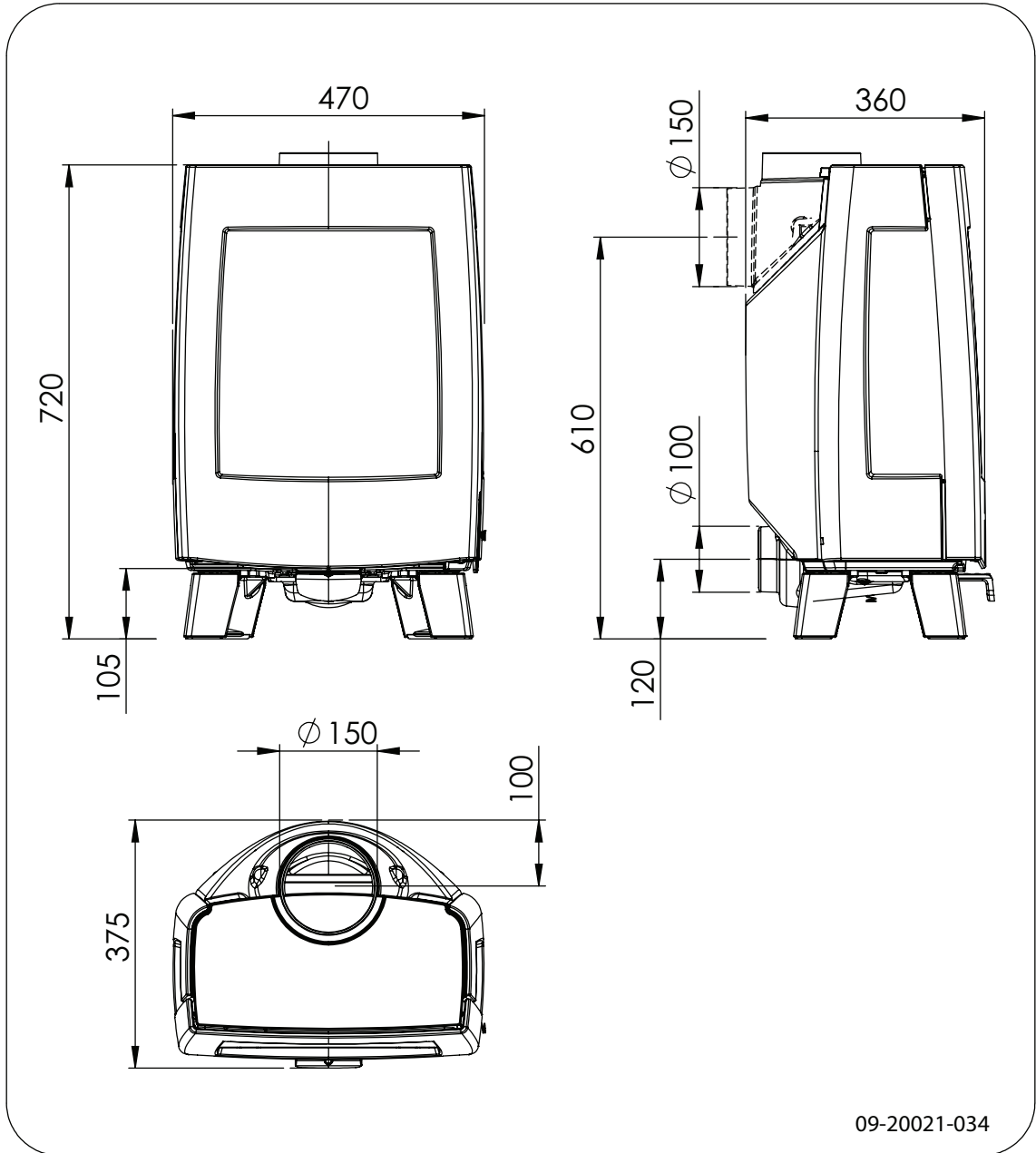
Sense 103



09-20021-002



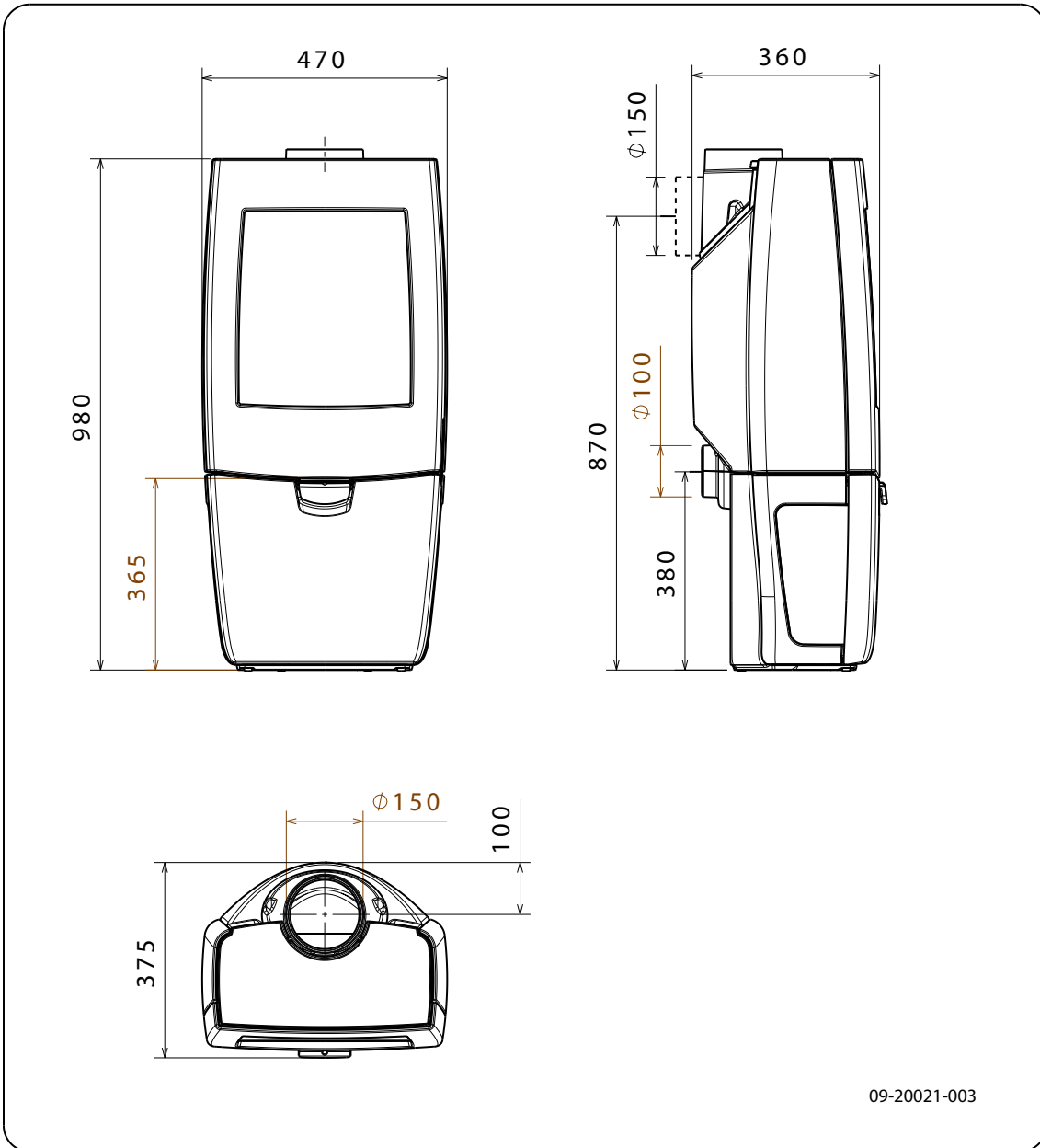
Sense 113



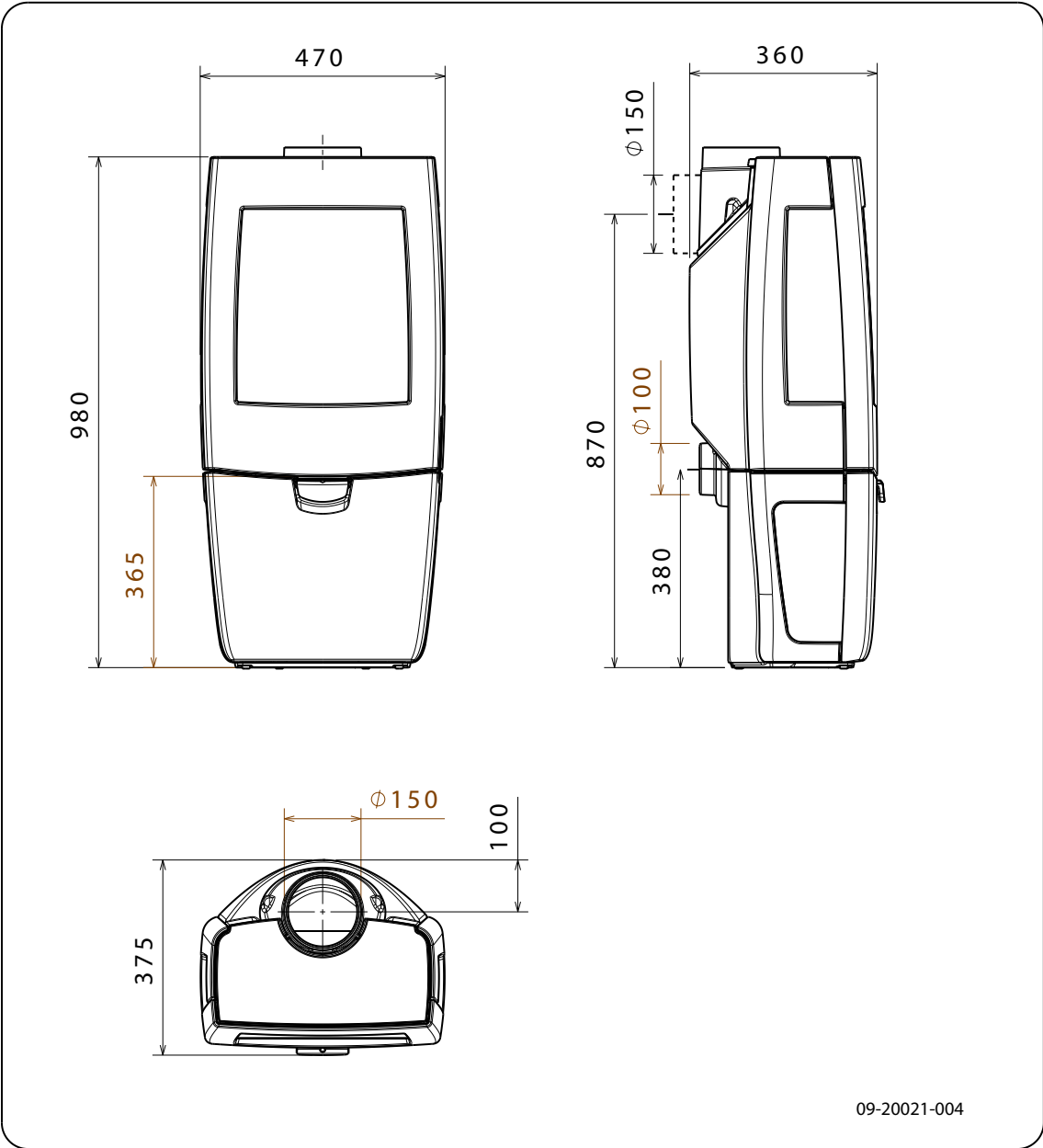
09-20021-034

English

Sense 200



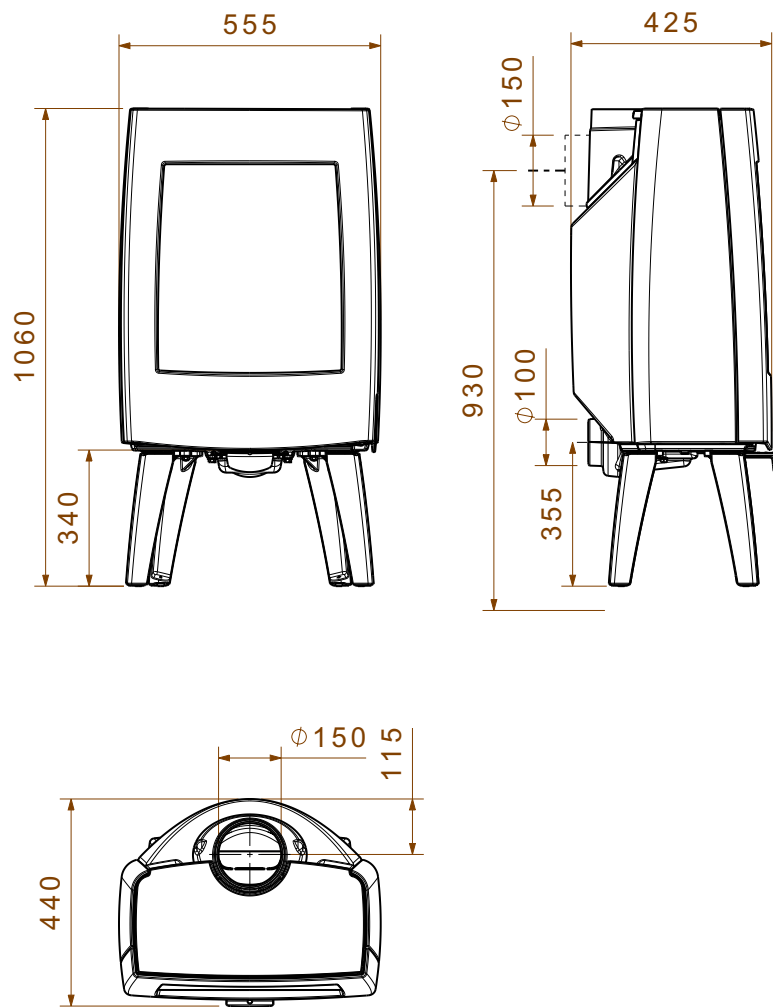
Sense 203



English



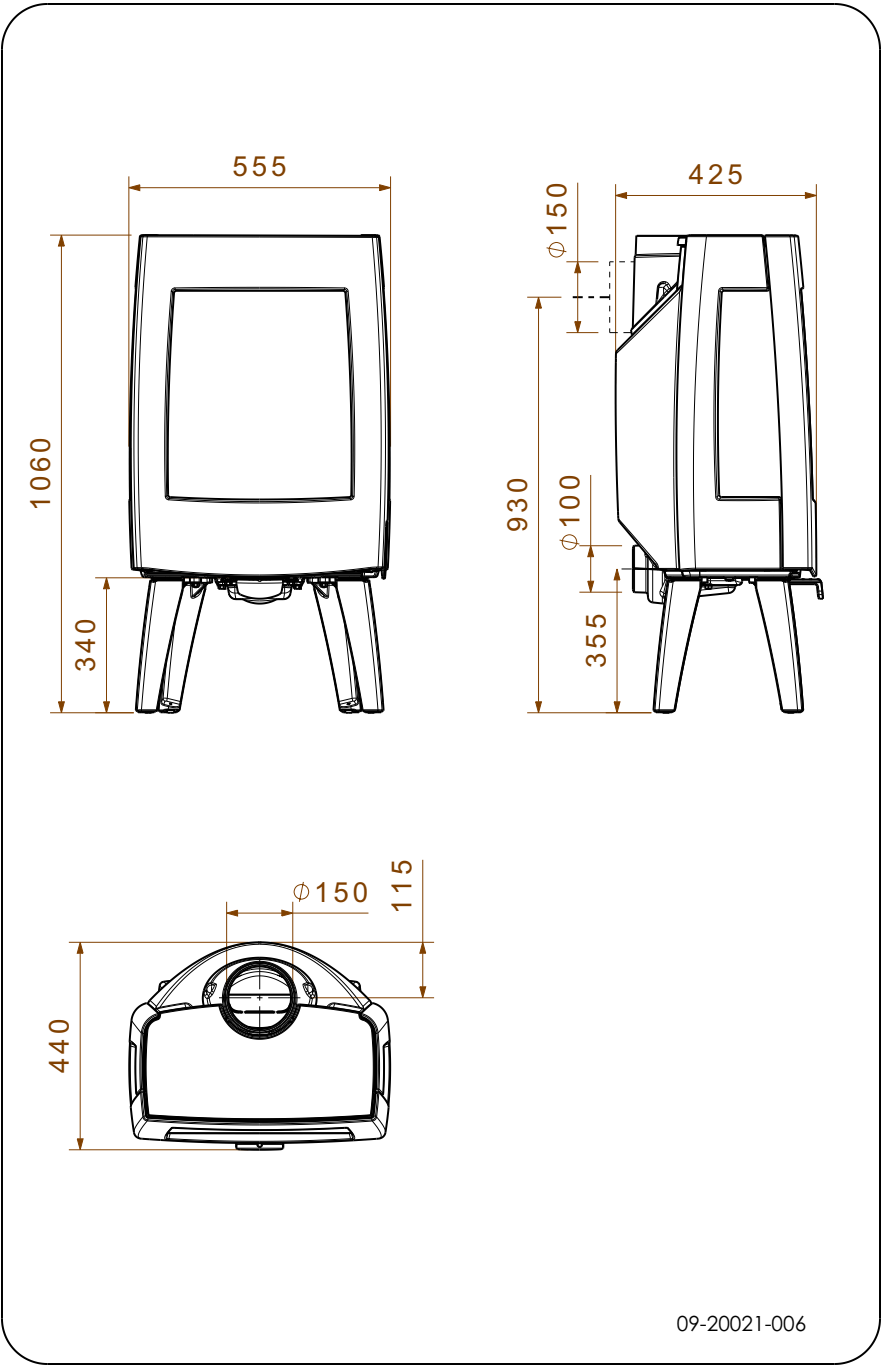
Sense 300



09-20021-005



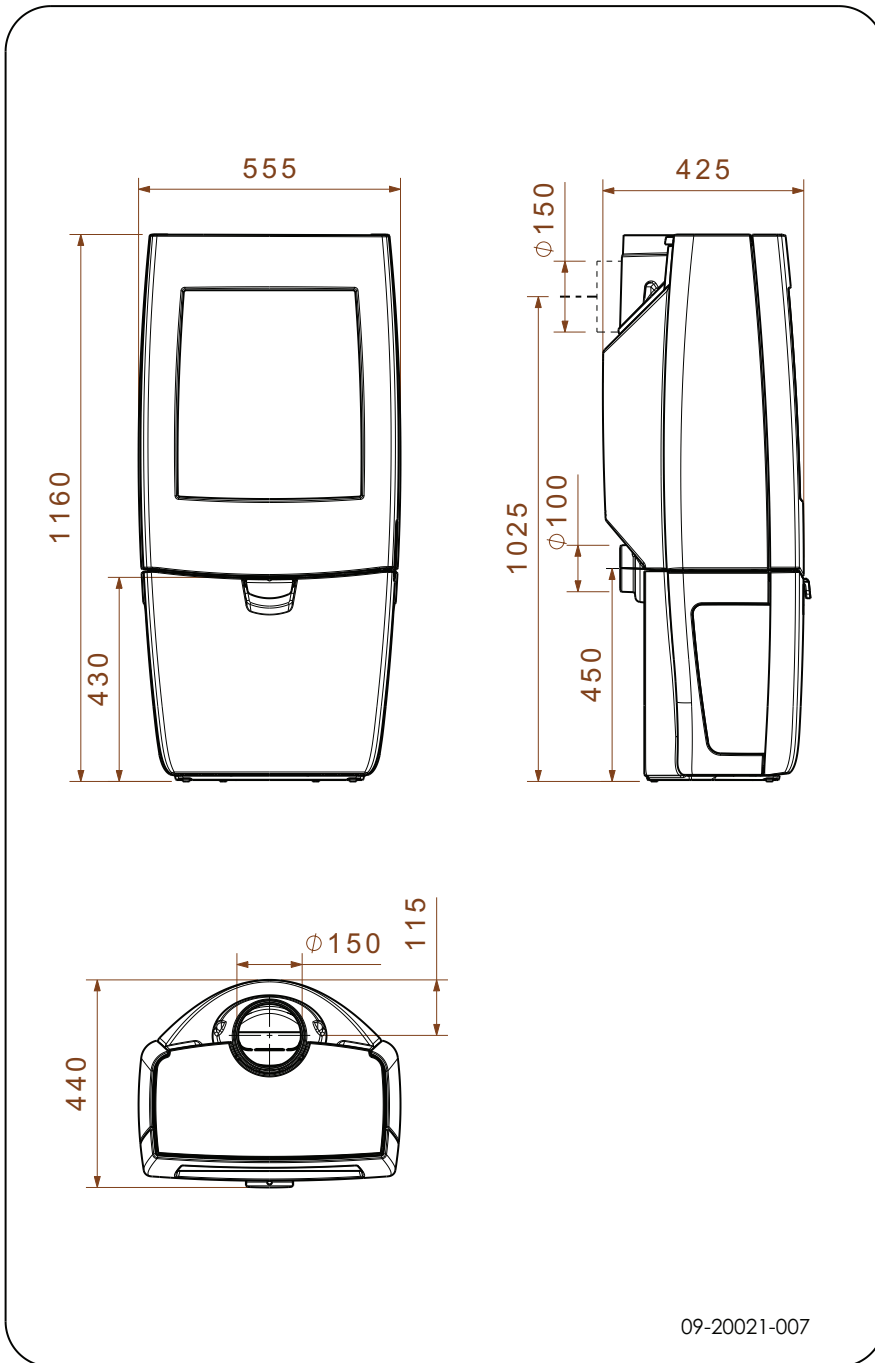
Sense 303



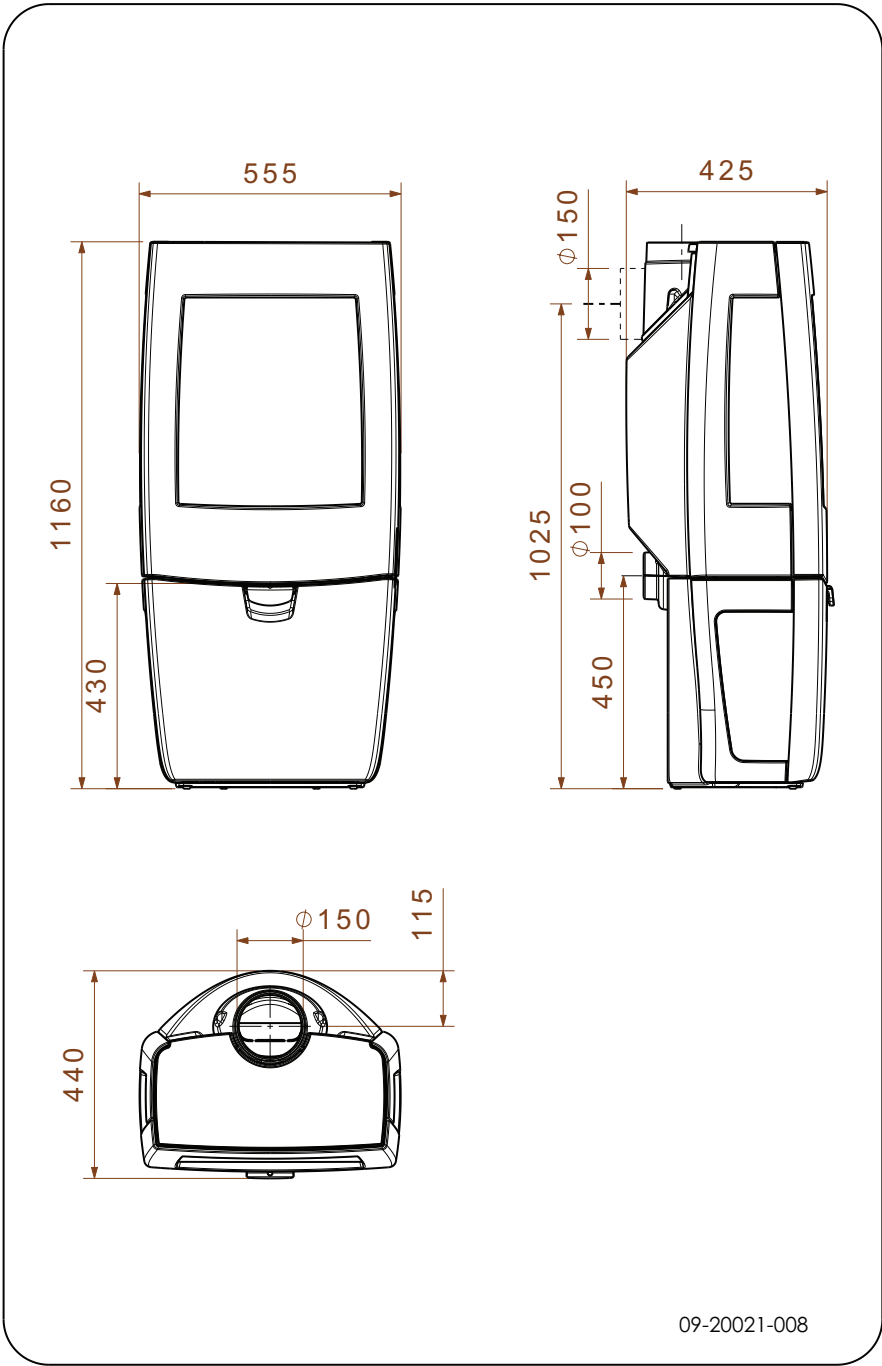
English



Sense 400

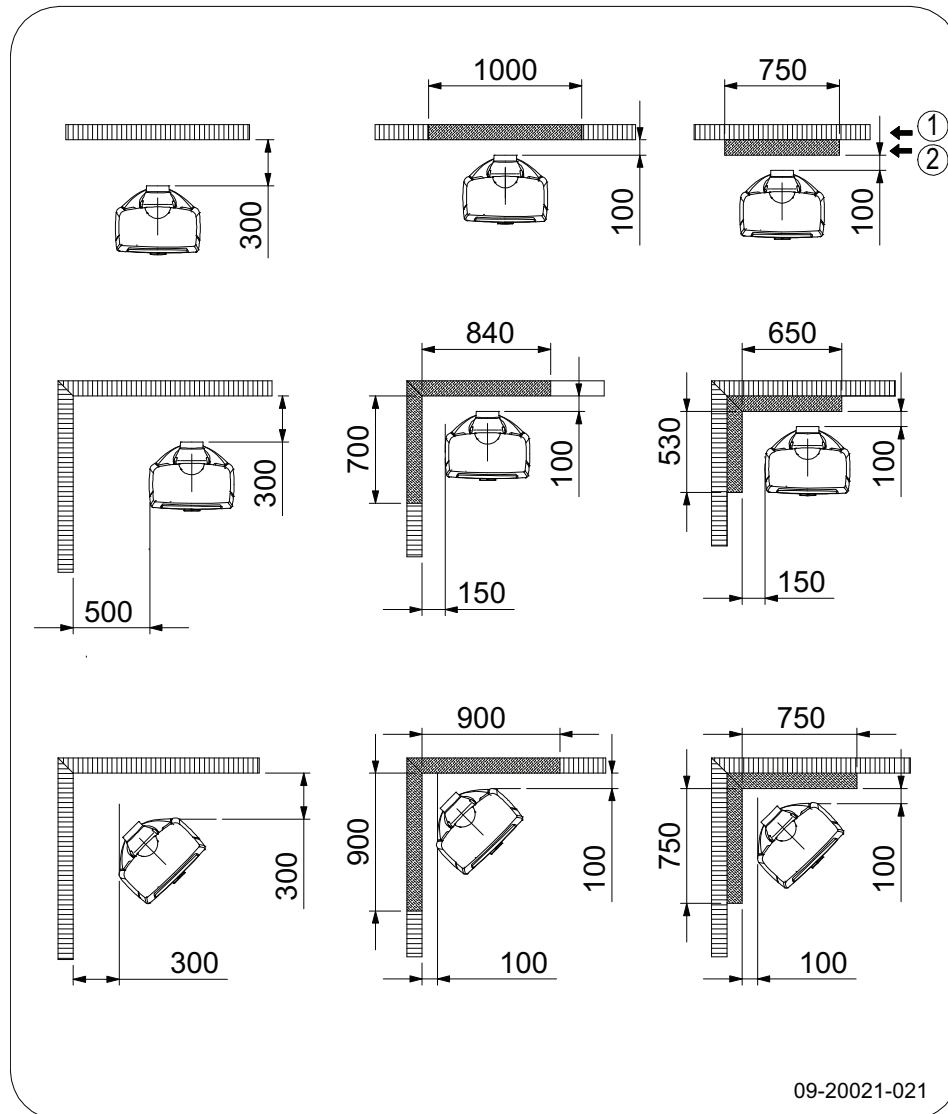


Sense 403



Appendix 3: Distance from combustible material

Sense 100/103/113/200/203 4.9 kW - 7 kW - Minimum distances in millimetres for version without heat shield



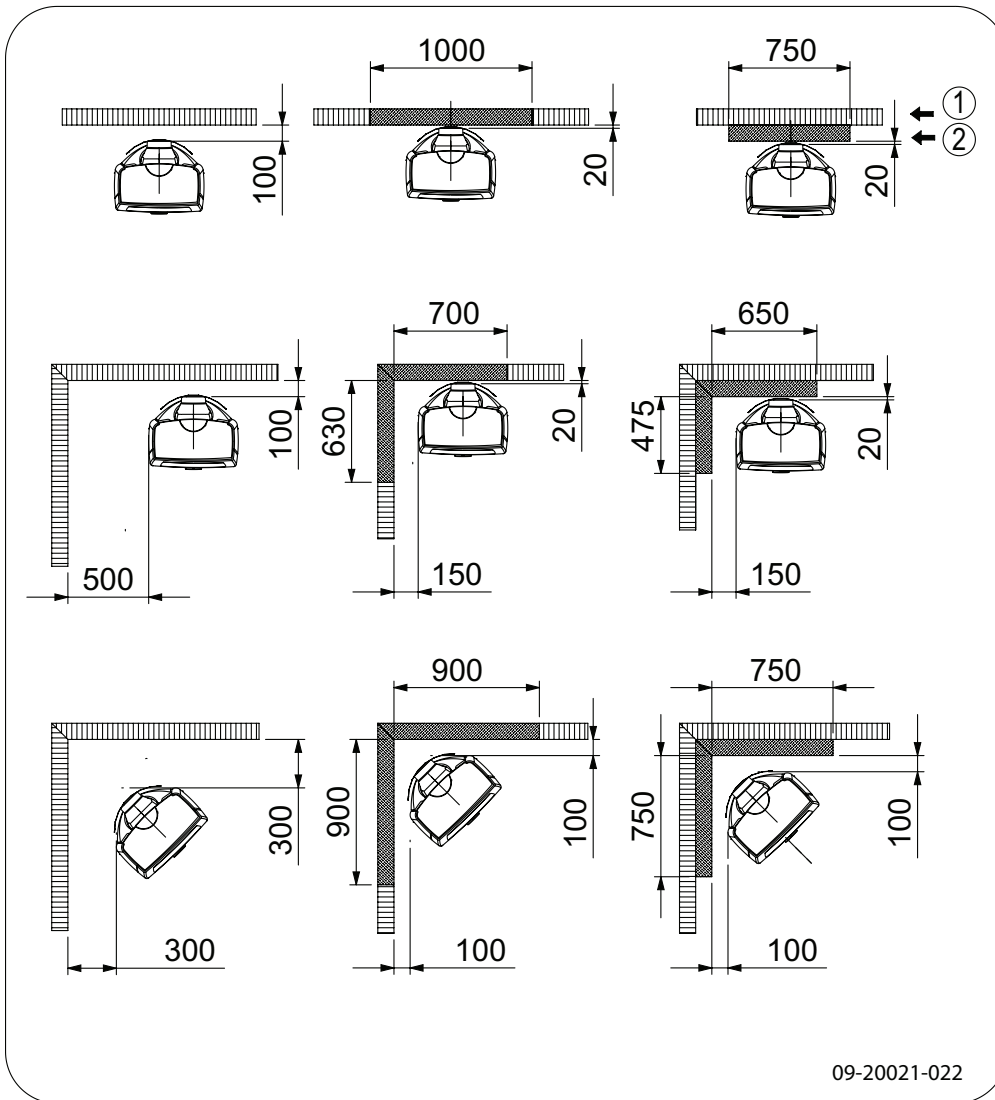
1	Combustible material
2	Incombustible material, thickness 100 mm



Please note: In order to guarantee the supply of combustion air when there is no outside air supply connection, the distance from the connection collar for the outside air to the wall must be at least 20 mm. If necessary, the connection collar can be removed.



Sense 100/103/113/200/203 4.9 kW - 7 kW - Minimum distances in millimetres for version with heat shield

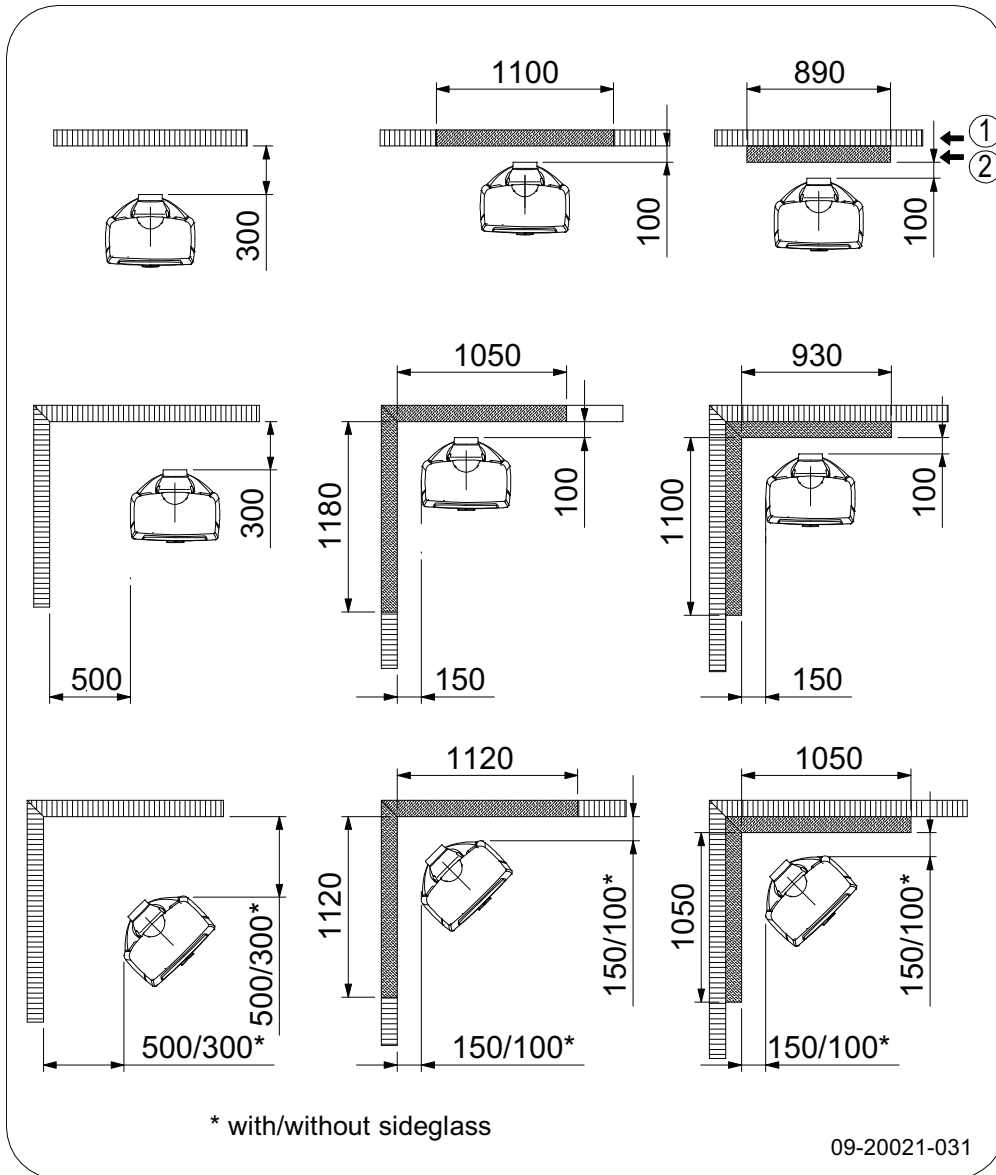


1	Combustible material
2	Incombustible material, thickness 100 mm

⚠ Please note: In order to guarantee the supply of combustion air when there is no outside air supply connection, the distance from the connection collar for the outside air to the wall must be at least 20 mm. If necessary, the connection collar can be removed.



Sense 300/303/400/403 - 9 kW - Minimum distances in millimetres for version without heat shield



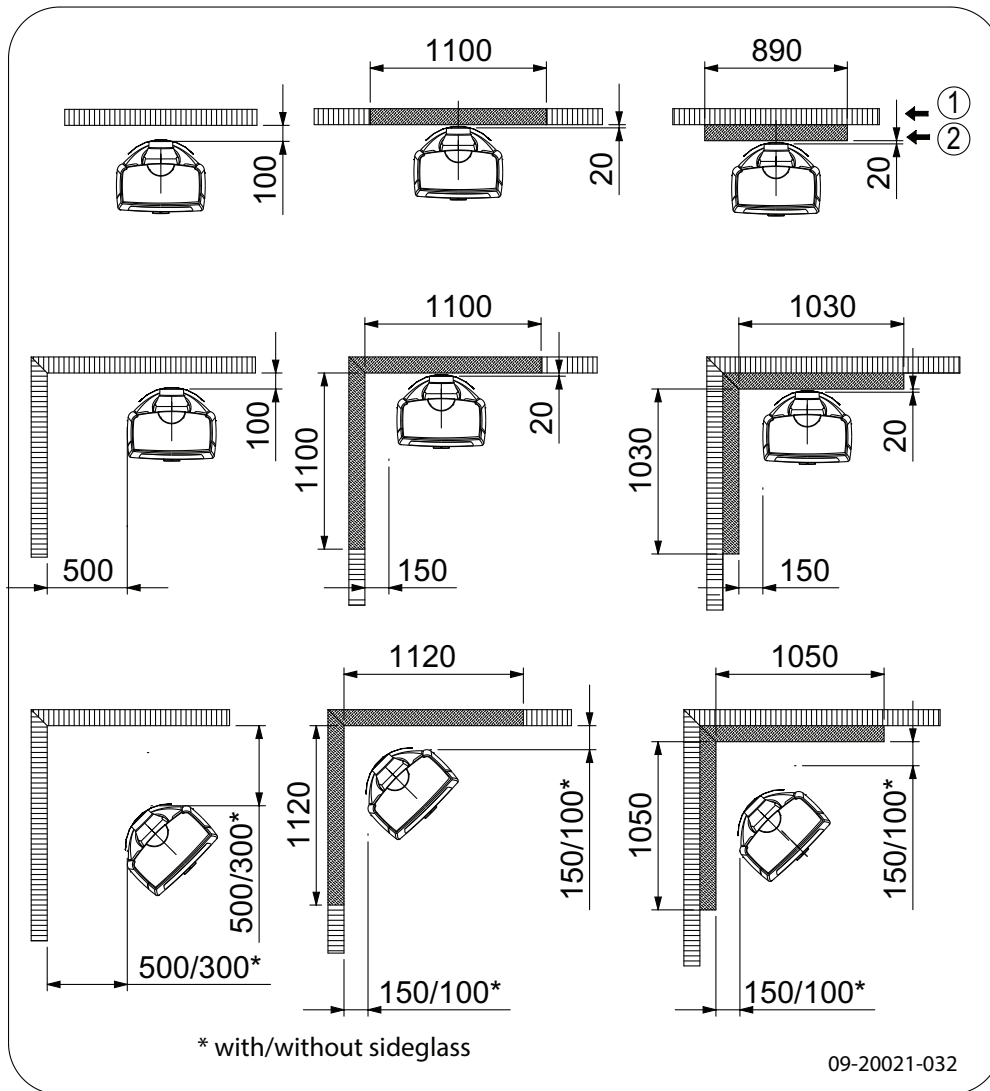
1	Combustible material
2	Incombustible material, thickness 100 mm



Please note: In order to guarantee the supply of combustion air when there is no outside air supply connection, the distance from the connection collar for the outside air to the wall must be at least 20 mm. If necessary, the connection collar can be removed.



Sense 300/303/400/403 - 9 kW - Minimum distances in millimetres for version with heat shield



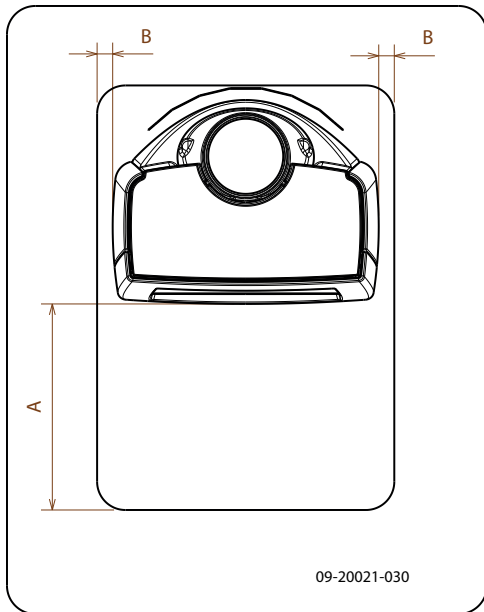
1	Combustible material
2	Incombustible material, thickness 100 mm



Please note: In order to guarantee the supply of combustion air when there is no outside air supply connection, the distance from the connection collar for the outside air to the wall must be at least 20 mm. If necessary, the connection collar can be removed.



Sense - Dimensions of fireproof floor plate



Minimum dimensions of fireproof floor plate

	A (mm)	B (mm)
Din 18891	500	300
Germany	500	300
Finland	400	100
Norway	300	5

Appendix 4: Diagnosis diagram

					Problem	
●					Wood will not stay lit	
	●				Gives off insufficient heat	
		●			Smoke emissions into the room when adding wood	
			●		Fire in appliance is too intense, is hard to adjust	
				●	Deposit on the glass	
					possible cause	possible solution
●	●	●		●	Insufficient draught	A cold flue usually fails to create sufficient draught. Follow the instructions for starting a fire in the 'Use' section; open a window.
●	●	●		●	Wood too damp	Use wood with no more than 20% moisture.
●	●	●		●	Logs too large	Use small pieces of kindling. Use split logs no larger than 30 cm in circumference.
●	●	●	●	●	Wood stacked incorrectly	Stack the logs in a way that allows adequate air flow between the logs (open stacking, see "Burning wood")
●	●	●		●	Flue does not work properly	Check whether the chimney meets the requirements: at least 4 metres high, correct diameter, well-insulated, smooth inside, not too many bends, no obstructions in chimney (bird's nest, too much soot deposit), hermetically tight (no chinks).
●	●	●		●	Chimney stack incorrect	Sufficiently high above the roof, no obstacles in the vicinity
●	●	●	●	●	Air inlets set incorrectly	Open the air inlets completely.
●	●	●		●	Appliance connected to the flue incorrectly	Connection should be hermetically tight.
●	●	●		●	Vacuum in area in which the appliance is installed	Switch off extraction systems.
●	●	●		●	Insufficient supply of fresh air	Provide an adequate air supply; if necessary use outside air connection.
●	●	●		●	Bad weather ? Inversion (reversed air flow in chimney because of a high outside temperature), extreme wind speeds	We recommend you don't use the appliance in the case of inversion. If required, install an extra hood on the flue to increase the draught.
		●			Draught in the living room	Avoid draught in the living room, do not place the appliance near a door or heating air ducts.
				●	Flames touch the glass	Make sure the wood is not positioned too close to the glass. Slide the primary air inlet cover closer to the "Closed" position.
			●		Appliance is leaking air	Check the door seals and appliance joints.

Index

A	
Adding wood	
smoking appliance	39
Adverse weather conditions, do not burn wood	19
Aerating the fire	19
Air combustion control	18
Air control	18
Air inlets	17
Air leak	21
ash	19
Ash pan	
open	19
Ashes	
remove	19
B	
Bearing capacity of floor	11
Burning	17
adding fuel	17
appliance is hard to adjust	39
fire is too intense	39
insufficient heat	39
topping up fuel	19
Burning wood	
insufficient heat	19
C	
Cap on the flue	11
Carpet	11
Cast iron inner plates	13
Chinks in appliance	21
Cleaning	
appliance	20
glass	20
Combustible material	
distance from	34
Connecting	
dimensions	25
Connecting outside air supply	15
Connection collar for connection to chimney	14-15
Connection to chimney	
at the rear	15
at the top	14
rear	15

top	14
Controlling air supply	19
Creosote	19

D	
Damage	13
Damp wood	16
Dimensions	25
Door	
adjust	21
closing	21
Locking cam	
packing plate	21
opening	13
sealing rope	21
Draught	24
Drying wood	16

E	
Efficiency	5, 7, 9, 24
Email	
maintenance	20
External air supply	
connecting to	16
Extinguishing the fire	19

F	
Fan	11
connecting outside air supply	15
rule of thumb	11
Fan louvre	11
Filling level of the appliance	18
Finishing coat, maintenance	21
Fire	
extinguishing	19
kindle	
Lighting	17
Fire-resistant inner plates	
maintenance	20
remove	13
Fire safety	
distance from combustible material	34
floor	11
furniture	11
walls	11



Fireproof inner plates	
warning	16
fitting	14
Fitting	
heat shield	14
Floor	
smooth	16
Floors	
bearing capacity	11
fire safety	11
Flue	
connecting to	16
connection diameter	24
height	11
maintenance	20
requirements	11
Flue cap	11
Flue gas	
temperature	5, 7, 9, 24
Flue gasses	
mass flow	24
Fog, do not burn wood	19
Fuel	
adding	18
necessary amount	19
suitable	16
topping up	19
unsuitable	16
wood	16

G

Glass	
cleaning	20
cracked	21
deposit	39
replacing	21
Glass damaged	21

H

Heat shield	14
Heat, insufficient	19, 39
Hinge	
adjust	21

I

Inner plate	
vermiculite	13

Inner plates, fire-resistant	
remove	13
Installing	
dimensions	25

K

Kindling	39
----------------	----

L

Lighting fire	17
Lubricant	21
Lubricate	21

M

Maintenance	
Clean appliance	20
cleaning the glass	20
email	20
Fire-resistant inner plates	20
flue	20
lubrication	21
sealing	21
Mist, do not burn wood	19

N

Nominal output	19, 24
----------------------	--------

O

Open	
ash pan	19
Opening	
door	13
Outside air supply	11, 15

P

Paint	
Smoke	
during first use	16
Particulate emission	24
Parts, removable	13
Positioning	
anti-slip	16
Preventing chimney fire	19
Primary air inlet	17



R	
Removable parts	13
Remove	
fire-resistant inner plates	13
Removing ash	19
Replacing	
glass	21

S	
Screens	
deposit	39
Sealing rope for door	21
Secondary air inlet	17
Smoke emissions into the room	10
Smoking appliance	39
Smooth floor	16
Softwood	16
Solving problems	19, 39
Stacking logs	18
Storing wood	16
Stove glass cleaner	20
Suitable fuel	16
Sweeping flue	20

T	
Tar	19
Temperature	24
Topping up with fuel	19

U	
Unsuitable fuel	16

V	
Vermiculite	
fire-resistant	13
Vermiculite inner plates	13

W	
Walls	
fire safety	11
Warning	
chimney fire	16, 19
chimney fires	10
fireproof inner plates	16
flammable materials	10

glass broken or cracked	10, 20-21
hot surface	10
placing a load on door	10
requirements	10
stove glass cleaner	20
terms and conditions for insurance	10
ventilation	10-11
Weight	24
Wood	16
damp	16
drying	16
right sort	16
storing	16
will not stay lit	39





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