

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

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



ZEN 100

ZEN 102



Table of contents

Introduction	3
Performance declaration	4
Safety	6
Installation requirements	6
General	6
Flue	6
Room ventilation	7
Floor and walls	8
Product description	8
Installation	9
General preparation	9
Prepareconnection to outside air	10
Building into a new hearth	10
Use	12
First use	12
Fuel	13
Lighting	13
Burning wood	13
Controlling combustion air	14
Extinguishing the fire	15
Removing ash	15
Fog and mist	15
Resolving problems	15
Maintenance	16
Flue	16
Cleaning and other regularly maintenance	16
Appendix 1: Technical data	18
Appendix 2: Dimensions	19
Appendix 3: Distance from combustible material	21
Appendix 4: Diagnosis diagram	23
Index	24



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 optimum 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.116-CPR-2014

1. Unique identification code of the following product type:

ZEN

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 13229

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, B-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 for which a harmonised norm is issued:

The appointed KVBG agency, registered under number 2013, has performed a type test under system 3 and has issued the test report no. H2014/0030.

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

-



9. Declared performance:

The harmonised norm	EN 13229:2001/A2 ;2004/AC :2007
Essential characteristics	Performance Wood
Fire safety	
Fire resistance	A1
Distance from combustible material	Minimum distance in mm Rear: 50 with insulation Side: 60 with insulation
Risk of glowing particles falling out	Conform
Emission of combustion products	CO: 0.09% (13%O ₂)
Surface temperature	Conform
Electrical safety	-
Ease of cleaning	Conform
Maximum operating pressure	-
Flue gas temperature at nominal output	175 °C
Mechachanical resistance (weight carry of chimney)	Not determined
Nominal output	4.75 kW
Efficiency	80.1 %

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



Tom Gehem
CEO

10/02/2014 Weelde














Due to continuous product improvement, the supplied appliance specifications may vary from the description in this brochure without prior notice having been given.

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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.
-  Make sure there is sufficient protection if young children, disabled persons or old people are in the vicinity of the appliance.
-  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 you can use the appliance again.



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 EN13384 for a correct calculation for the flue.



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

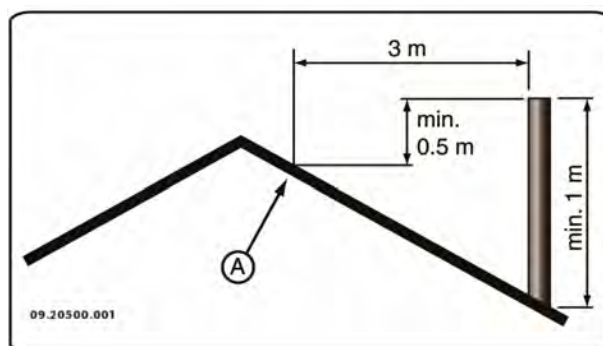
- ▶ The flue or chimney must be made of fire-resistant material, preferably ceramics or stainless steel.
- ▶ The flue or chimney must be airtight and well-cleaned and guarantee sufficient draught.

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.

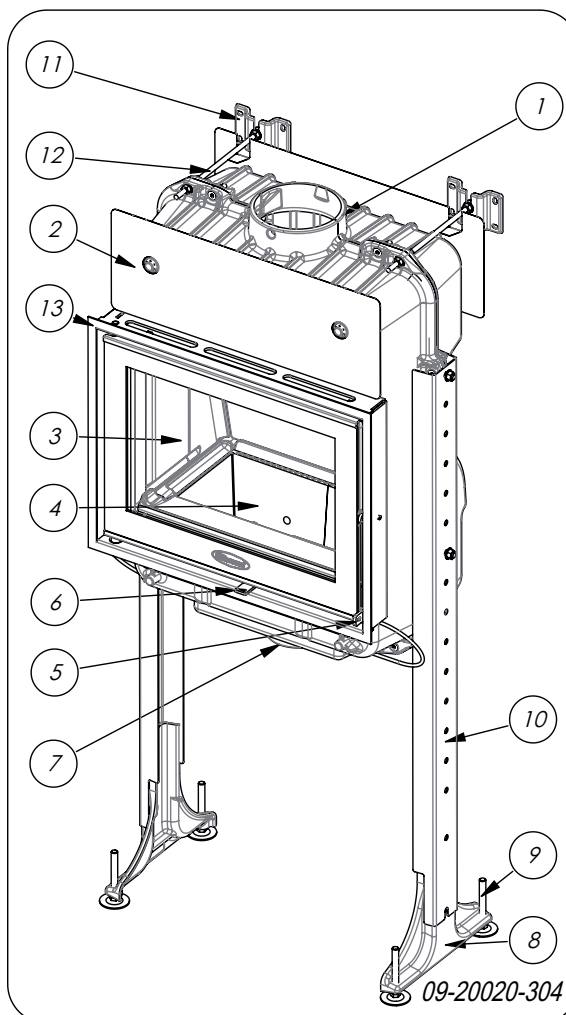


Floor and walls

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. heat shield
3. Door
4. Bottom of the fire compartment
5. Latch
6. Air slide
7. Connection to outside air
8. Support
9. Adjustable feet
10. Extension (optional)
11. Stays (optional)

12. Threaded rod M8 (optional)

13. Finishing cover

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 the detachable parts from the appliance before you begin its installation.



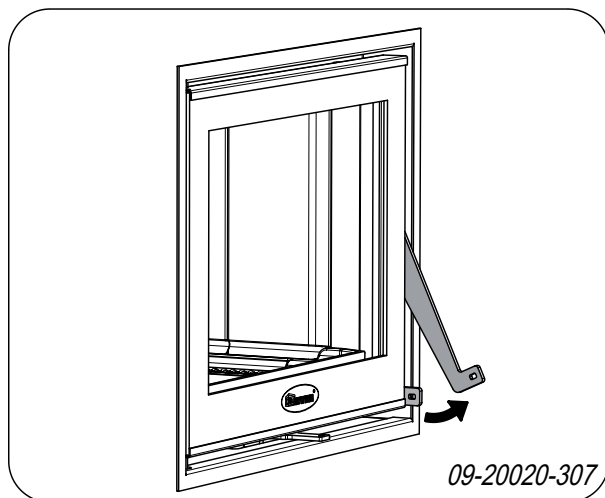
It is easier to move the appliance and to avoid damage if the removable parts have been removed.



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

Open door

Open the door by pulling the handle forward and unlocking the door; see next figure.

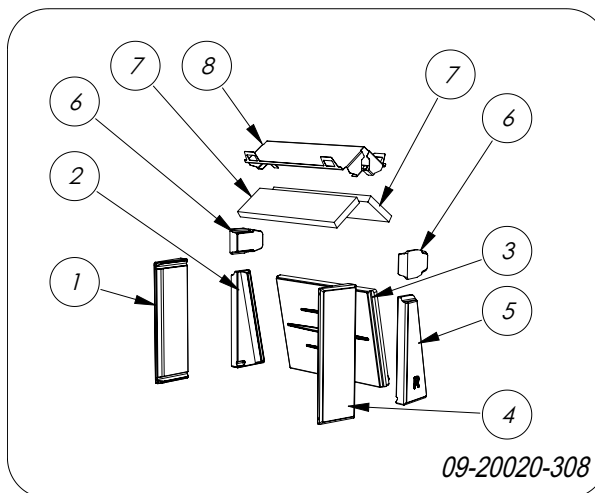


As the latch button becomes warm during use of the appliance, a glove has been supplied which you can use to protect your hand.

Remove fire-resistant inner plates



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



Pos. Description

- | | |
|---|-------------------------|
| 1 | inner plate front left |
| 2 | inner plate left rear |
| 3 | inner plate at rear |
| 4 | inner plate front right |
| 5 | inner plate right rear |
| 6 | inner plate top |
| 7 | baffle plate |
| 8 | baffle plate holder |

To remove the inner plates, follow the instructions below; see previous figure.

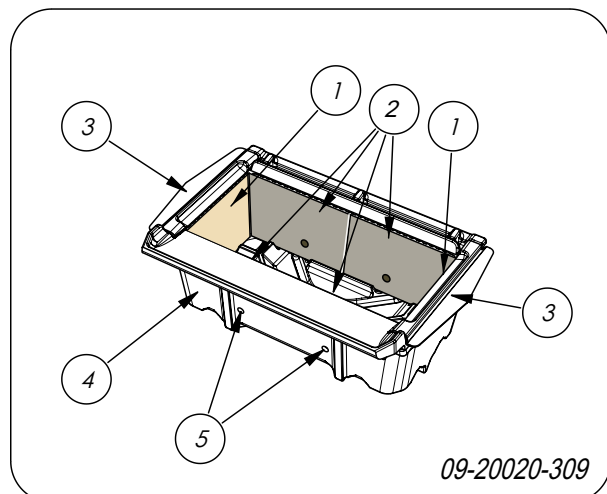
1. First remove the inner plates on the side (1),(2),(4) and (5) by lifting these up and out of the appliance via the door opening.
2. Remove both inner plates (6).
3. Remove the inner plate (3).
4. Remove both baffle plates (7) from the baffle plate holder (8).
5. Remove the baffle plate holder (8).

Remove stove base

The stove base is protected by fire-resistant inner plates. Remove these inner plates first and then remove the stove base from the appliance.



Chamotte inner plates are ochrous on delivery. They insulate the combustion chamber to boost combustion.



Pos. Description

- | | |
|---|----------------------------|
| 1 | side inner plate |
| 2 | inner plate front and rear |
| 3 | air guide |
| 4 | stove base |
| 5 | vents |

To remove the inner plates and the stove base, follow the instructions below; see previous figure.

1. Remove the air guides (3) on the left and right sides.
2. First remove both inner plates (1) on the sides by tipping them forwards and removing them from the appliance via the door opening.
3. Remove the inner plates (2) at the front and rear.
4. Remove the stove base (4).



When reassembling the stove base, make sure the two vents (5) are facing forward.

Prepare connection to outside air

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 intake duct through the wall or the floor and the connection collar

1. Make a hole in the wall or the floor (refer to Appendix 2, "Dimensions" for a suitable position of the hole).
2. Close the air connection tube hermetically on the wall.

Building into a new hearth

The fireplace insert is installed in two stages:

- Placing and connecting the fireplace
- Building up the hearth around the fireplace.

Placing and connecting the fireplace insert

1. Place the appliance at the right height, flat and level.



You may wish to use the optional legs and stays.

2. Make sure there is sufficient space between the existing walls (insulated as per instructions) and the rear of the appliance.
3. Connect the appliance to the flue hermetically.
4. Check the draught in the flue and the seal of the connection on the flue gas duct by making a small, intense trial fire with newspaper and dry, small kindling.



Wait until new masonry has dried sufficiently.

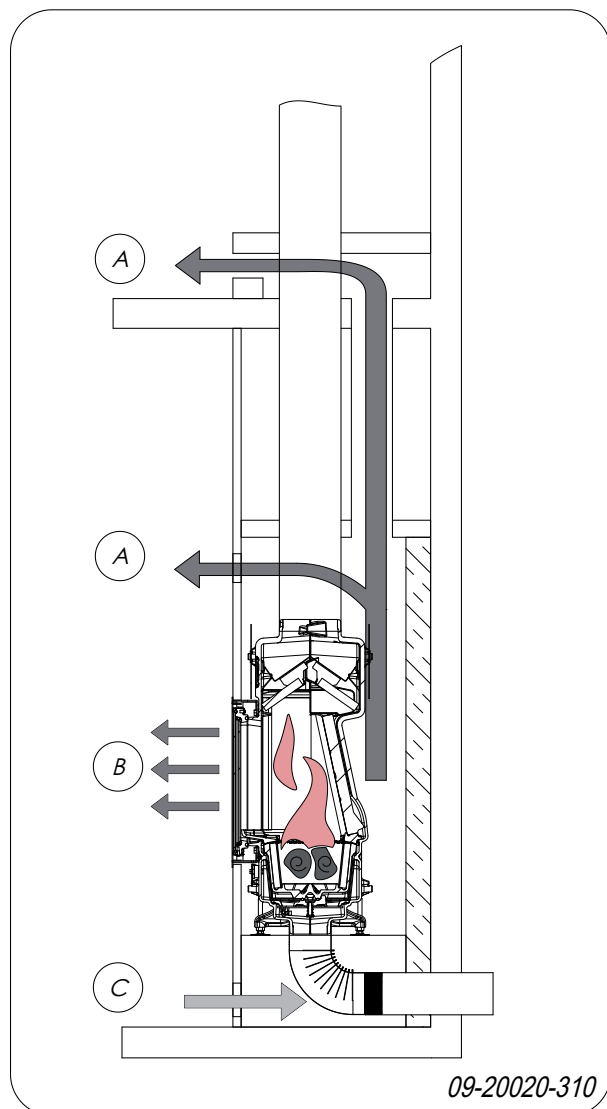
5. For outside air supply connection: connect the outside air supply to the connection kit you fitted to the appliance.

Building the fireplace

Inside the hearth you provide space for convection. In this space the air must be able to move freely. It must be possible for air to be drawn in for combustion purposes, and the air heated by the built-in fireplace (the



convection air) must be able to flow freely within the space to be heated; see following figure.



- A Convection air current
- B Radiated heat
- C Air supply from the room to be heated

When building the hearth, follow these instructions for the convection space:

- The top of the convection space must be closed air-tight using a cover plate of non-flammable and heat-resistant material.
- The cover plate must be level and placed at least 30 cm below the flue opening in the ceiling.
- Air inlet grates must be fitted at the bottom of the

hearth to allow for ambient air intake. The minimum air inlet opening is 250 cm². If the space is not sufficiently ventilated, you must provide for outside air to be allowed in by means of the outside air connection kit or an optional adjustable damper.

- Air outlet grates must be installed at the top of the hearth just below the cover plate. The minimum air outlet opening is 500 cm².

i The inlet and outlet grates are available as options.

! Do not use combustible material in the convection space, and avoid the effect of thermal bridging when using materials that conduct heat.

Follow the instruction below when building the hearth:

1. Build the base of the hearth and fit the air inlet grates into the masonry.

! You can place the air inlet grates on all sides of the base.

! Make sure the door of the appliance can swing freely over the hearth floor.

2. Build the hearth up to the smoke dome.

! Ensure that a clearance of 2 mm is maintained between the built-in fireplace and the masonry to accommodate the thermal expansion of the fireplace.

3. The inside of the convection space may, if desired, be clad with reflective, insulating material.

i Additional cladding of the convection space prevents unnecessary thermal radiation towards outer walls and/or adjacent rooms. It also prevents damage to the hearth wall insulation.

4. Build the rest of the hearth up to the flue opening hole in the ceiling.

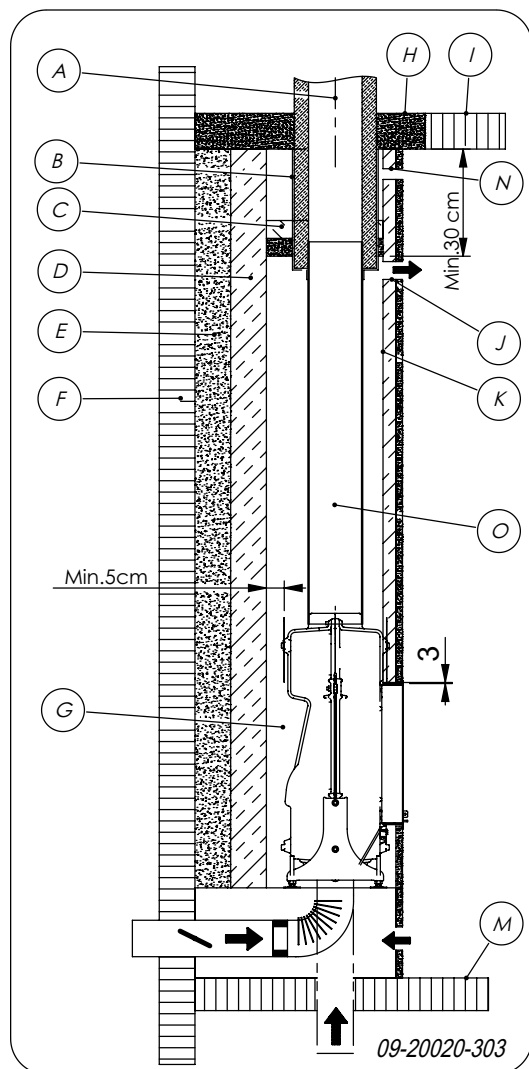
! The masonry should not rest on the fireplace. Use a support such as a steel beam. Leave a clearance of at least 3 mm between the support and the appliance.

5. Close the convection space with the cover plate.
6. Put the air outlet grates under the cover plate.



7. Make an opening above the cover plate in order to prevent any pressure build-up.

The figure below provides an example of the placing of a built-in fireplace in a hearth constructed in accordance with the above instructions.

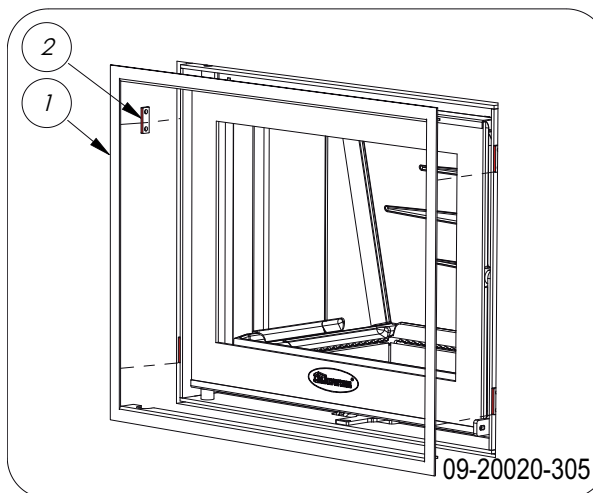


- A Flue
- B Seal
- C Cover plate
- D Insulation 10 cm
- E Fireproof wall, min 10cm (e.g. cellular concrete)
- F Combustible wall
- G Convection space
- H Fireproof ceiling
- I Combustible ceiling
- J Convection air outlet

- K Insulation
- M Combustible floor
- N Opening to prevent pressure build-up
- O Connection pipe

Place finishing cover

1. Place the four supplied magnets (2) on the side of the frame; see following figure.



2. Slide the supplied cover (1) into the frame.

Finishing

1. Re-position all removed parts in the correct places in the appliance.
2. Ensure that the newly built hearth is sufficiently dry before you start to use 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.

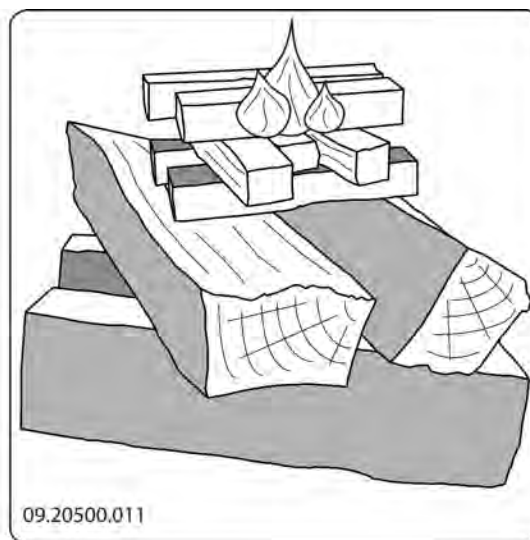
Wood

- ▶ 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.
- ▶ 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 layers of kindling crosswise on top of the logs.
3. Place a firelighter cube in the lower layer of kindling and light the cube according to the instructions on the packaging.



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

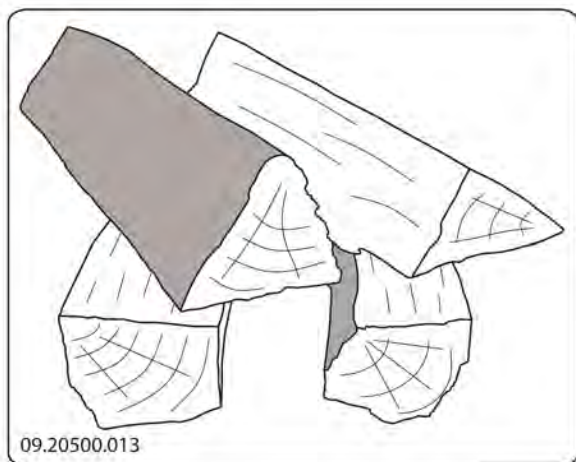
Burning wood

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.

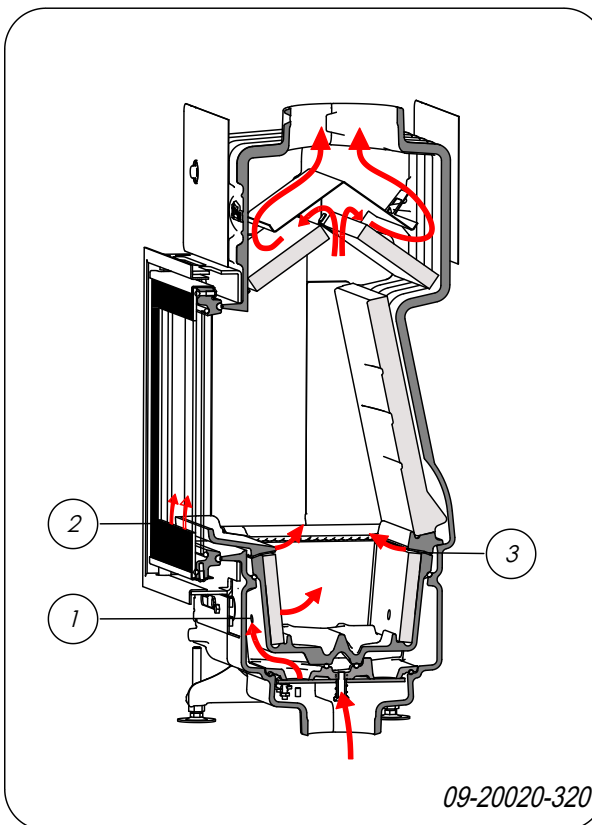
4. Close the door of the appliance.
5. Close the primary air inlet and leave the secondary air inlet open.



Do not fill the appliance by more than a third.

Controlling combustion air

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

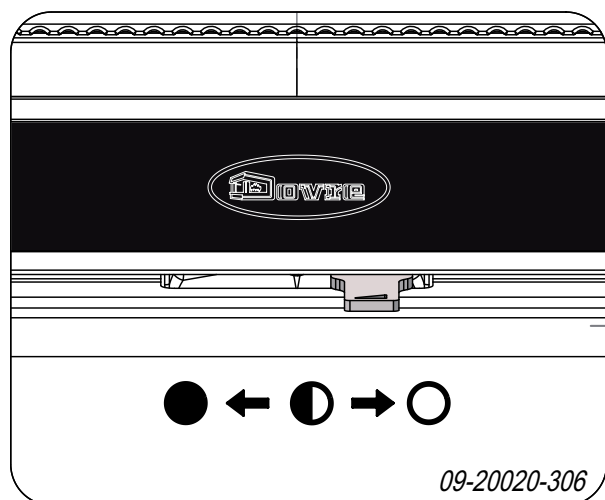


The primary air regulates the air under the stove base (1).

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

The secondary air has vents (3) above the grate that allow for afterburning.

The appliance has one air control system that regulates both the primary air and the secondary air. If the air control is fully to the right, the primary and the secondary air inlet are open. As the air slide is pushed more to the left, this closes off the primary air inlet and then the secondary air inlet. If the air slide is completely closed, a small air vent remains open to allow for the afterburning; see following figure.



Position Description

- Primary air open (when lighting the stove)
Secondary air open (afterburning)
Glass rinse open
- ◐ Secondary air open (afterburning)
Glass rinse open
- Minimum secondary air inlet open (afterburning)

Advice

- ⚠ Never burn wood with an open door.
- ⚠ Stoke the appliance regularly and thoroughly.

If you frequently burn at a low setting, 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 burning the fire at a high intensity on a regular basis, any layers of tar and creosote will disappear.

Burning at a low intensity can also cause tar to be deposited on the appliance 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 stove base plate must not be obstructed. Remove the excess ash regularly.

1. Open the door of the appliance.
2. Scoop the excess ash from the appliance or use a special ash vacuum cleaner to remove the excess ash.



Always use an ash vacuum cleaner; using an ordinary vacuum cleaner that has not been specially modified can cause serious damage to an ordinary vacuum cleaner.

3. 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.

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 the paint finish

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

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.

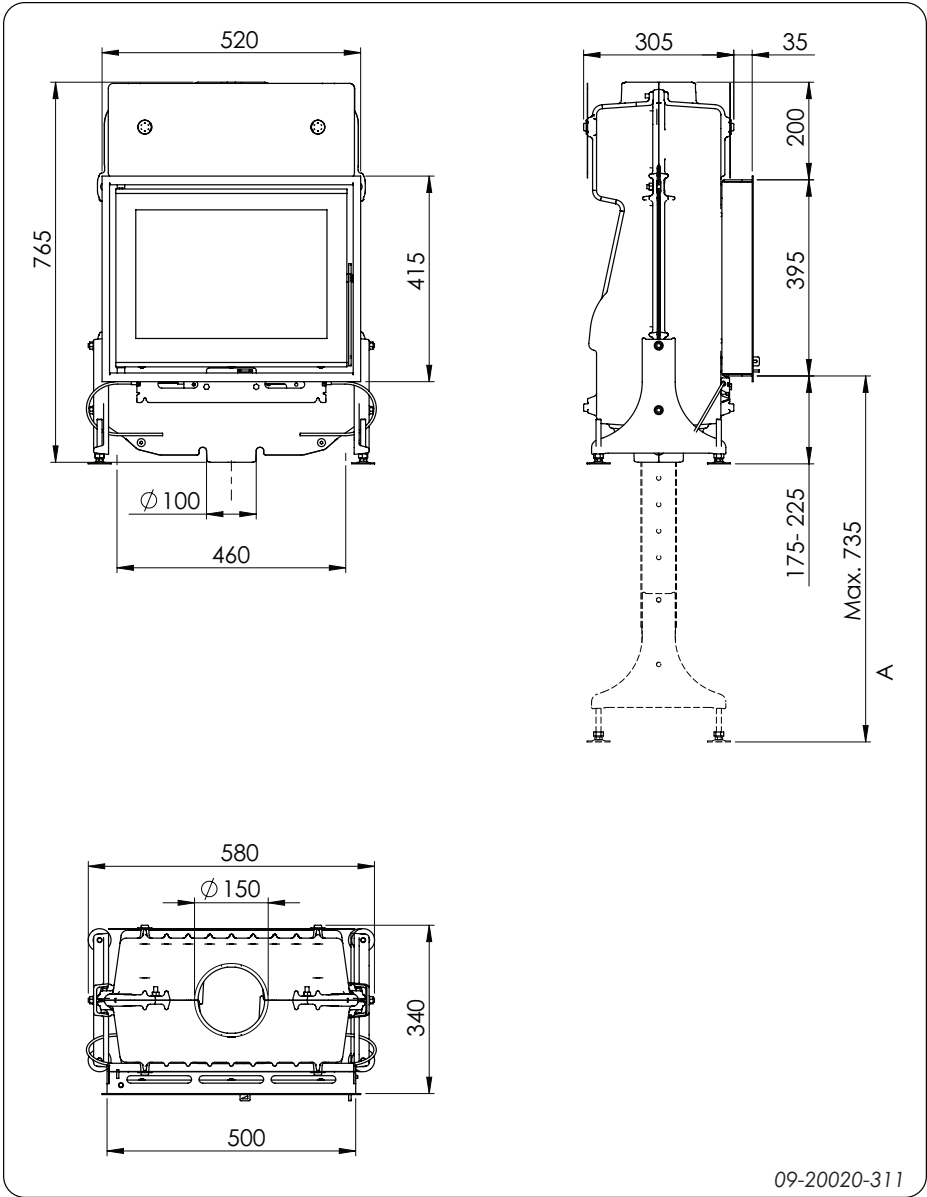


Appendix 1: Technical data

Model	ZEN
Nominal output	4.75 kW
Flue connection (diameter)	150 mm
Weight	100 -115 kg
Recommended fuel	Wood
Fuel property, max. length	30 cm
Mass flow of flue gasses	5.1 g/s
Flue gas temperature measured in the measurement section	198 °C
Temperature measured at appliance exit	247 °C
Minimum draught	12 Pa
CO emission (13%O ₂)	0.09 %
NOx emission (13% O ₂)	111 mg/Nm ³
CnHm emission (13%O ₂)	238 mg/Nm ³
Particulate emission	293 mg/Nm ³
Particulate emission in accordance with NS3058-NS3059	4.76 g/kg
Efficiency	80.1 %

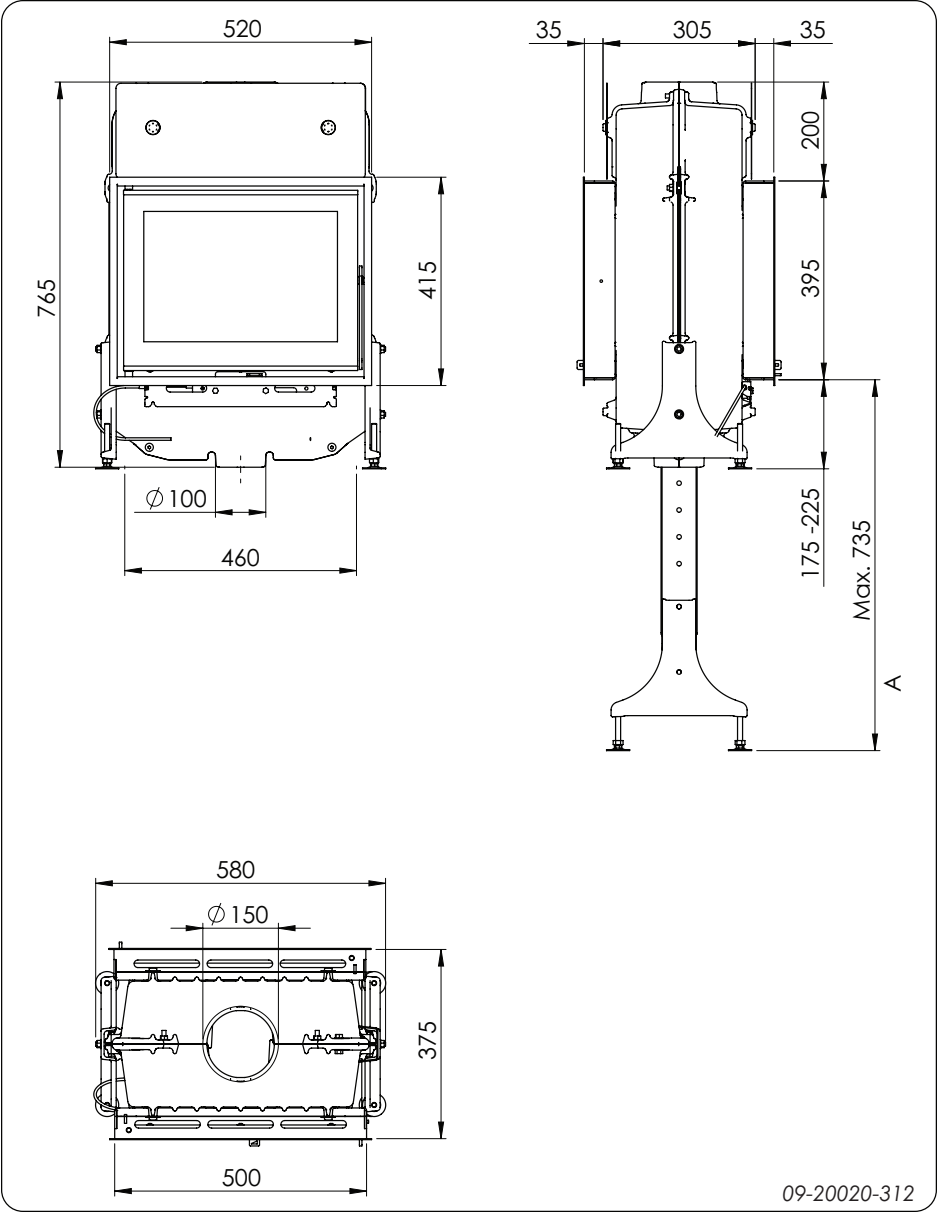
Appendix 2: Dimensions

ZEN 100



A	Optional extension
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ZEN 102

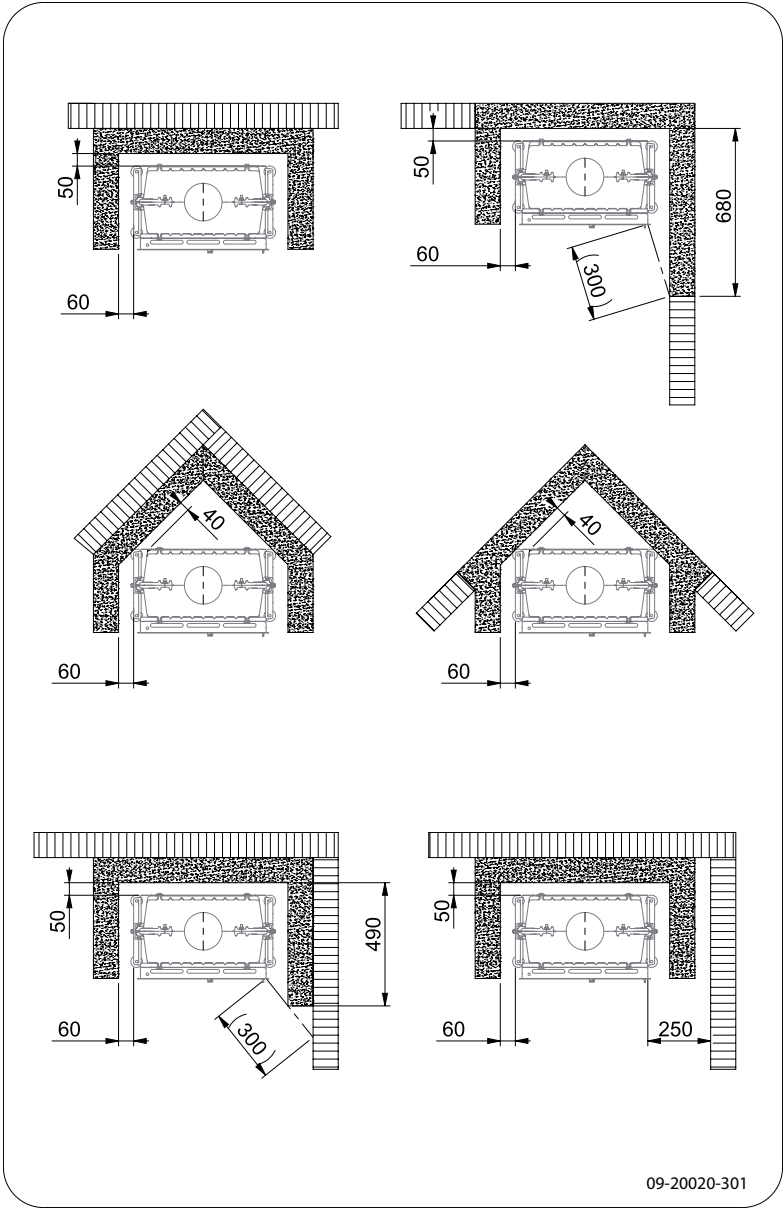




A	Optional extension
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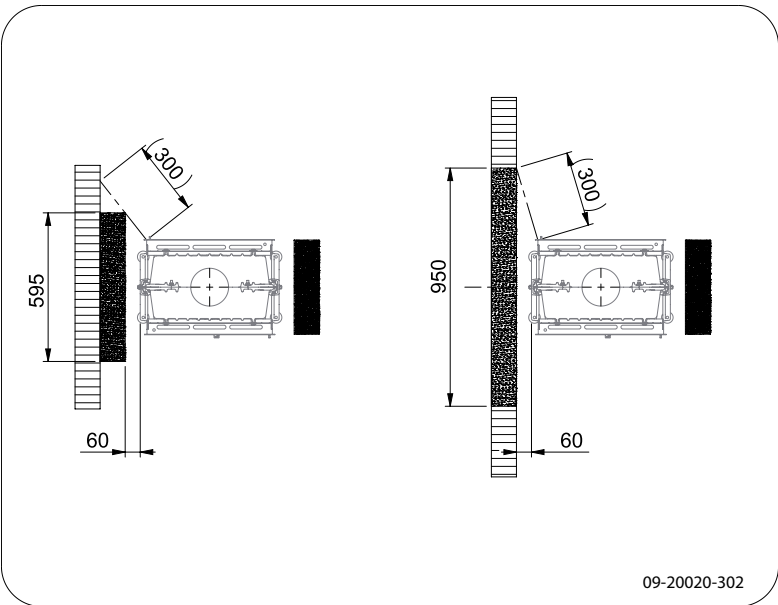
Appendix 3: Distance from combustible material



ZEN 100 - Minimum distances in millimetres



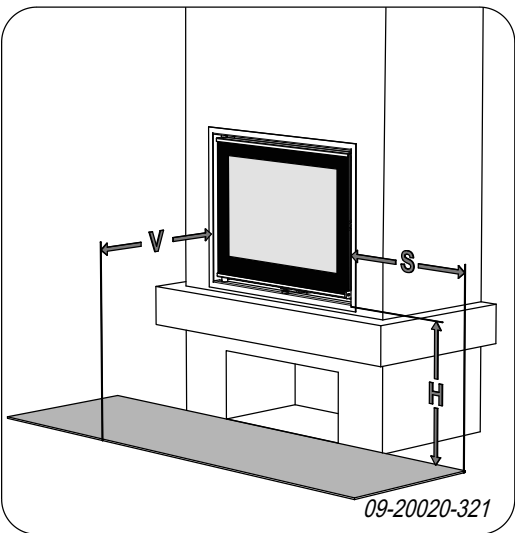
	Combustible material
	Incombustible material, thickness 100 mm

ZEN 102 - Minimum distances in millimetres



	Combustible material
	Incombustible material, thickness 100 mm

Dimensions of fireproof floor plate in centimetres



Minimum dimensions of fireproof floor plate

$$V > H + 30 > 60$$

$$S > H + 20 > 40$$



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 stove	23
Adverse weather conditions, do not burn wood	15
Aerating the fire	15
Air combustion control	14
Air control	14
air inlet grate	
requirements	11
Air inlet grate	
placement	11
Air leak	17
Air outlet grate	
placement	11
requirements	11
ash	15
Ashes	
remove	15

B

Bearing capacity of floor	8
Burning	13
adding fuel	13
appliance is hard to adjust	23
fire is too intense	23
insufficient heat	23
topping up fuel	15
Burning wood	
insufficient heat	15

C

Cap on the flue	7
Carpet	8
Chamotte	
fire-resistant	10
Chimney fire prevention	15
Chinks in appliance	17
Cleaning	
appliance	16
glass	16
Combustible material	
distance from	21
Connecting	
dimensions	19

Connecting outside air supply	10
Connection to outside air	10
Controlling air supply	15
Convection space	
cover plate	11
instructions	11
Cover plate	
convection space	11
Creosote	15

D

Damage	9
Damp wood	13
Dimensions	19
Door	
sealing rope	17
Draught	18
Drying wood	13

E

Efficiency	5, 18
External air supply	
connecting to	10
Extinguishing the fire	15

F

Fan	7
connecting outside air supply	10
rule of thumb	7
Fan louvre	7
Filling level of the appliance	14
Finishing coat, maintenance	17
Finishing cover	12
Fire	
extinguishing	15
kindle	
Lighting	13
Fire-resistant inner plates	
maintenance	16
Fire safety	
distance from combustible material	21
floor	8
furniture	8
walls	8



Fireproof inner plates	
warning	12

Floors	
bearing capacity	8
fire safety	8

Flue	
connecting to	10
connection diameter	18
height	7
maintenance	16
requirements	7

Flue cap	7
----------------	---

Flue gas	
temperature	5, 18

Flue gasses	
mass flow	18

Fog, do not burn wood	15
-----------------------------	----

Fuel	
adding	14
necessary amount	15
suitable	13
topping up	15
unsuitable	13
wood	13

G

Glass	
cleaning	16
deposit	23

H

Heat, insufficient	15, 23
--------------------------	--------

I

Inner plate	
chamotte	10
vermiculite	9

Inner plates	
remove	9

Inner plates, fire-resistant	9
------------------------------------	---

Installing	
dimensions	19

K

Kindling	23
----------------	----

L

Lighting fire	13
---------------------	----

Lubricant	16
Lubricate	16

M

Magnet	12
--------------	----

Maintenance	
Clean appliance	16
cleaning the glass	16
Fire-resistant inner plates	16
flue	16
lubrication	16
sealing	17

Mist, do not burn wood	15
------------------------------	----

N

Nominal output	15, 18
----------------------	--------

O

Open door	
glove	9
latch	9
Outside air supply	7, 10

P

Paint	
Smoke	
during first use	12

Particulate emission	18
----------------------------	----

Parts, removable	9
------------------------	---

R

Removable parts	9
Remove	
inner plates	9
stove base	9
Removing ash	15

S

Screens	
deposit	23
Sealing rope for door	17
Smoke emissions into the room	6
Smoking appliance	23
Softwood	13
Solving problems	15, 23
Stacking logs	14



Storing wood	13
Stove base	9
remove	9
Stove glass cleaner	16
Suitable fuel	13
Sweeping flue	16

T

Tar	15
Temperature	18
Topping up with fuel	15

U

Unsuitable fuel	13
-----------------------	----

V

Vermiculite	
fire-resistant	9

W

Walls	
fire safety	8
Warning	
chimney fire	13, 15
chimney fires	6
fireproof inner plates	12
flammable materials	6
glass broken or cracked	6, 16
hot surface	6
requirements	6
stove glass cleaner	16
terms and conditions for insurance	6
ventilation	6-7
Weight	18
Wood	13
damp	13
drying	13
right sort	13
storing	13
will not stay lit	23





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E & O E