

**LIVING FIRE**  
by SPARTHERM®



ASSEMBLY AND OPERATING MANUAL  
**STOVES PASSO**

STATUS 05.2024

Fire love. For a lifetime.

# Document information

Assembly and operating manual for stoves:

- Passo XS
- Passo XS rotatable
- Passo XS style
- Passo XS tripod
- Passo S
- Passo S rotatable
- Passo L
- Passo L rotatable

The descriptions are identical for all above-mentioned models. Any differences will be addressed explicitly. The images show the stove Passo XS.

These instructions refer to the stove as the "unit". The full system including the stove, thermal storage medium, pipes and chimney is referred to as the "stove system".

## Safety information

### **⚠ DANGER!**

Information marked with the word DANGER indicates a dangerous situation that will lead to severe injuries or death.

### **⚠ WARNING!**

Information marked with the word WARNING indicates a dangerous situation that may lead to severe injuries or death.

### **⚠ CAUTION!**

Information marked with the word CAUTION indicates a situation that may lead to minor to medium injuries.

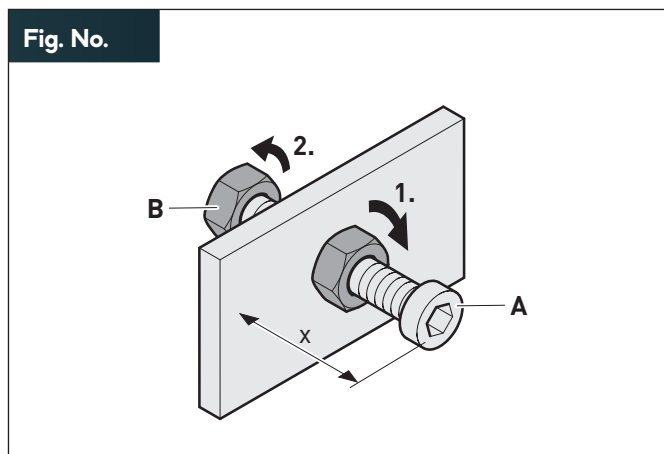
### **⚠ ATTENTION!**

Information marked with the word ATTENTION indicates a situation that may lead to property or environmental damage.

## Symbol explanation for text

- ▶ Action prompt
- List
- ✓ Check
- 💡 Advice or recommendation
- § Indication of standards or directives
- ➡ Reference to other sections of this document
- 📄 Reference to other sources to be taken into account

## Symbol explanation for images



- Highlighting of sections requiring action
- 1. Numbered action steps
- A Component designation or dimensions
- x Dimensions in mm
- ↻ Movement and direction arrows

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# Safety information

## 1. Safety information

### 1.1 Intended use

The unit is designed to heat the air in a room by burning suitable types of fuel and is exclusively intended for use in private households.

The unit is designed as a time-limited fireplace, the burning time of which can be extended by refuelling it.

§ Time-limited fireplace according to DIN EN 13240, category 1 a.

The following conditions apply to using the unit:

- Only the appropriately authorised target group may install or use the unit or perform other activities on the unit.
- The unit must be installed in a dry living space in an enclosed building.
- Prior to start-up, acceptance by the responsible authorities is required (in German e.g. the district chimney sweep).
- The unit is exclusively fuelled by natural, air-dried logs (remaining humidity max. 20 %) or compressed wood pieces.
  - § Compressed wood pieces approved according to DIN EN ISO 17225-3.
- Extending the combustion period ("permanent fire") by fuelling the unit with larger quantities of wood or by extracting the combustion air is not permissible.
- Operation only with closed firebox door. Only open the door for heating, refuelling and cleaning.
- The national and regional regulations and directives are observed.
  - ➔ "10.3 Standards and regulations" (page 51).
- The requirements and safety information in these instructions are observed.

Any other use is regarded as unintended use.

The manufacturer is not liable for damage caused by unintended use.

### 1.2 Authorised target groups

Authorised target groups are divided into groups of persons with different levels of authorisation.

#### 1.2.1 Manufacturer

The manufacturer and the manufacturer's agents have the following tasks:

- Delivery of a ready-for-installation unit.
- Setting the unit to its factory settings.
- Instructing the owner in the intended use of the unit.

#### 1.2.2 Owner

The owner is responsible for the building in which the unit is used.

The owner has the following tasks:

- Meeting the requirements for the installation site.
- Ensuring that the unit is always in perfect technical condition.
- Adhering to cleaning and maintenance requirements.
- Instructing the users.
- Providing and adhering to these instructions.

#### 1.2.3 Qualified personnel

Qualified personnel is responsible for installation, commissioning, maintenance, disassembly and disposal.

Requirements for qualified personnel:

- Practical professional experience or professional training regarding gas, water and heating systems.
- Experience in installing and maintaining stove systems.
- Experience in the use of electrical and mechanical tools.
- Familiarity with occupational health and safety regulations.
- Knowledge of how to read technical drawings.
- Familiarity with these instructions.
- Documentation of the work performed.

Electrical work may only be performed by qualified electricians.

§ DIN VDE 0100

Requirements for qualified electricians:

- Familiarity with the basics of electrical engineering.
- Familiarity with country-specific regulations and standards.
- Familiarity with the relevant safety regulations.
- Familiarity with these instructions.

#### 1.2.4 Users

Instructed users perform work during use, cleaning and service work.

Requirements for instructed users:

- The users have been instructed in the safe and intended use of the unit.
- The users have been instructed with regard to their work by the owner.
- Familiarity with these instructions.

Special requirements apply to the following users:

- Children age 8 and over.
- Persons with decreased physical, sensory or mental capabilities.
- Persons with a lack of experience and knowledge.



These users may only use the unit under the following conditions:

- The users are supervised.
- The users have been instructed in the safe use of the unit.
- The users understand the dangers of handling the unit.
- Children may not play with the unit.

Children and pets must be supervised at all times and must be kept away from the unit.

- 🔔 We recommend attaching a fixture to protect this group (e.g. in front of hot unit components).

### 1.3 Behaviour in emergencies

- ▶ Never put yourself at risk of death.

If it is possible without endangering yourself:

- ▶ Warn others.
- ▶ Instruct others to leave the building.
- ▶ Deactivate the unit.

### 1.4 Chimney fire

The chimney requires regular cleaning (e.g. in Germany by the district chimney sweep) to prevent formation of a layer of soot in the chimney.

Burning wood may generate sparks that can enter the chimney where they may ignite the layer of soot.

Signs of a burning chimney:

- Flames emerge from the mouth of the chimney.
- A large amount of flying sparks.
- Smoke and unpleasant odours.
- Chimney sides grow very hot.

In the event of a chimney fire:

- ▶ Alert the fire brigade by calling the emergency services number.
- ▶ Remove flammable objects from the vicinity of the chimney. Never attempt to extinguish the fire with water!

High temperatures will generate extreme amounts of steam even from a small amount of water. The resulting pressure can be a danger to people and can damage buildings or the stove system.

## 1.5 General safety information

### WARNING!

#### **Danger due to non-observance of the operating and assembly instructions!**

These instructions contain important information on how to safely handle the unit. Potential dangers are pointed out explicitly. Non-observance can lead to severe injuries or death.

- ▶ Carefully read these instructions.
- ▶ Adhere to the safety information in these instructions.
- ▶ Keep the instructions in an accessible place.

The unit may not be used in the following cases:

- If the responsible authorities have not given their approval.
- If the unit or individual components are damaged.
- If unauthorised modifications or changes have been made to the unit.
- After improper repairs.
- If safety devices are missing or not functional.
- In garages, stairwells or hallways accessible by the general public.
- In areas at risk of explosion.

In the following cases, the manufacturer shall not accept any liability for damage:

- If these instructions are not adhered to.
- In the event of unintended use.
- In the event of improper handling.
- If the unit is used by unauthorised target groups.
- If the unit is installed or repaired by unauthorised experts.
- In the event of unauthorised conversions.
- If spare parts are used which were not manufactured or approved by the manufacturer.
- If the protective devices of the unit are bypassed.
- If maintenance and cleaning intervals are not adhered to.

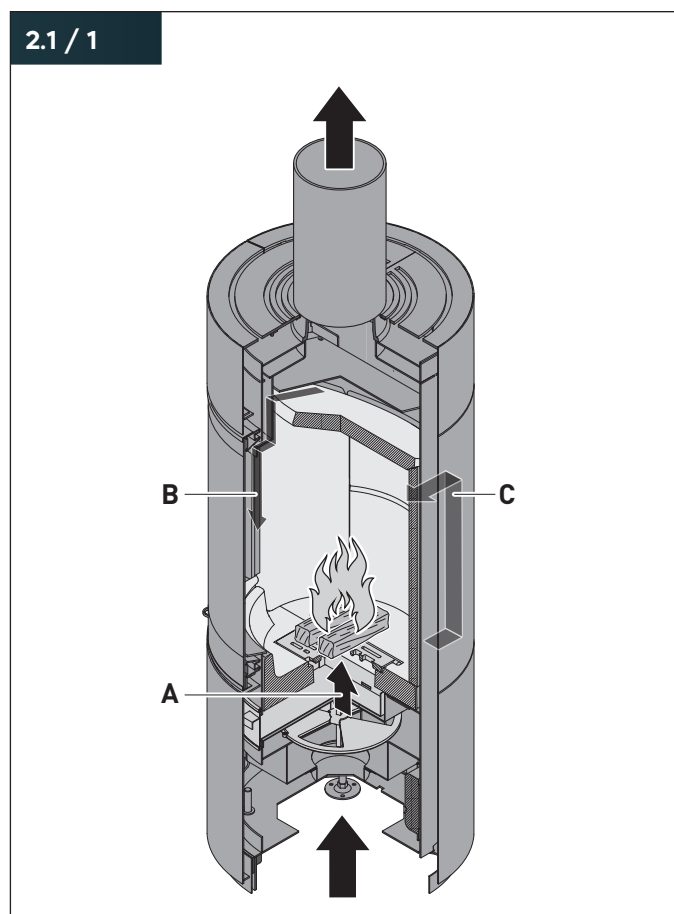
Depending on the work, always adhere to additional relevant safety instructions. The safety instructions can be found in the corresponding chapter of these instructions.

- "4.1 Safety information for assembly" (page 16).
- "5.1 Safety information for use" (page 34).
- "6.1 Safety information for cleaning" (page 41).
- "7.1 Safety information for service work" (page 44).
- "8.1 Safety information for disassembly" (page 49).

## 2. Product information

### 2.1 Functional principle

The combustion air flows through the combustion air connection into the air connection box. From there, the air is guided to the firebox and combustion. The volume of combustion air can be controlled using a combustion air slider.



There are three types of combustion air:

- A** Primary air  
Oxygen-rich, non-preheated fresh air guided toward the fuel from the bottom. Primary air is primarily used for light-up.
- B** Secondary air  
Pre-heated, variable air flow guided into the firebox from above to ensure even, efficient combustion.
- C** Tertiary air (Passo S and Passo L only)  
Heated, oxygen-rich fresh air, which flows into the firebox from the rear in addition to the secondary air and reduces emission generation by fanning the flames.

### 2.2 Operating modes

The unit can be used in two different operating modes:

- Room air sealed operation – only for RLU stoves.  
The unit is supplied with combustion air from the outside or from other rooms (e.g. cellar) through a combustion air line connected to the rear or bottom of the unit.  
§ The unit meets the requirements for approval by DIBt (German institute for construction technology) for room air sealed fireplaces and solid fuels according to DIN 18897-1.
- Room air dependent operation – for RLA and RLU stoves.  
The unit is supplied with combustion air from the installation room. The combustion air is supplied to the unit through the air openings. A combustion air line is not required but permissible (e.g. for operation together with controlled ventilation and venting systems). Rotatable models and the model Passo XS tripod can only be operated in room air dependent mode.

### 2.3 Material

The unit consists of a steel body, which meets the requirements for fireplaces.

§ The unit has been tested according to DIN EN 13240.

The firebox lining contains built-in components or cover panels made of fireclay, ceramics, vermiculite or refractory concrete. Cracks may form in these components as a result of e.g.:

- Physical and production-related residual moisture in the components escaping during the heating process.
- High temperature differences.

Surface cracks do not affect combustion. If wide cracks form or pieces break out uncovering the unit structure, the firebox lining must be replaced.

On some models the ceramic glass pane of the unit has an IR coating. This coating increases the temperature of the firebox, reducing emissions, soot adhesions and radiation distances. Depending on your viewing angle and the lighting the ceramic glass pane may be slightly discoloured or reflective.

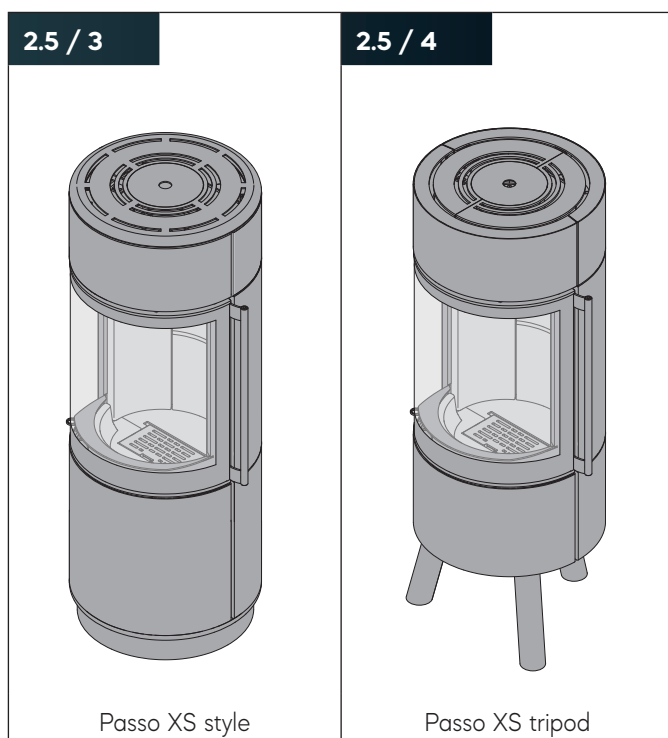
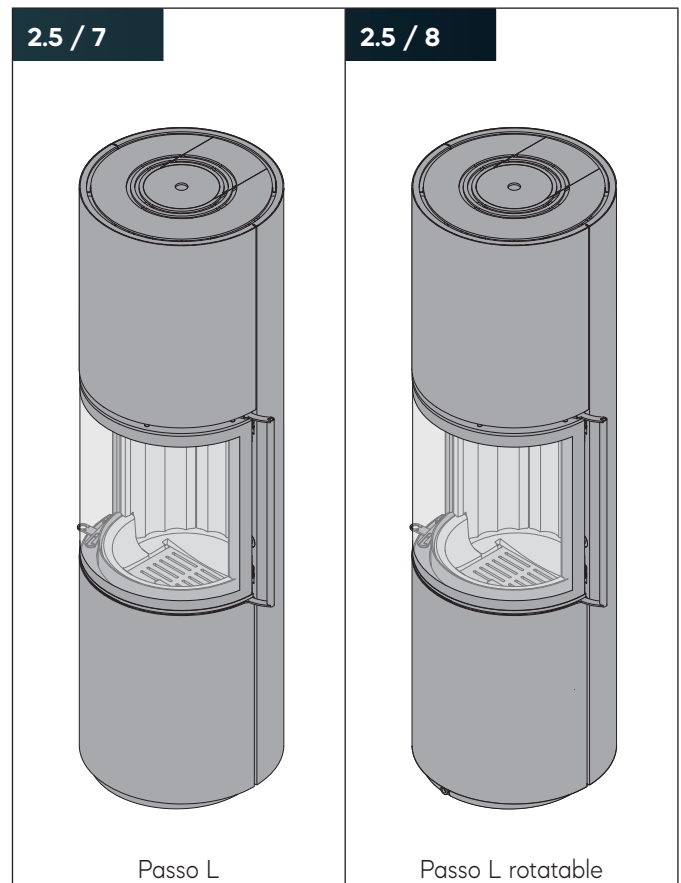
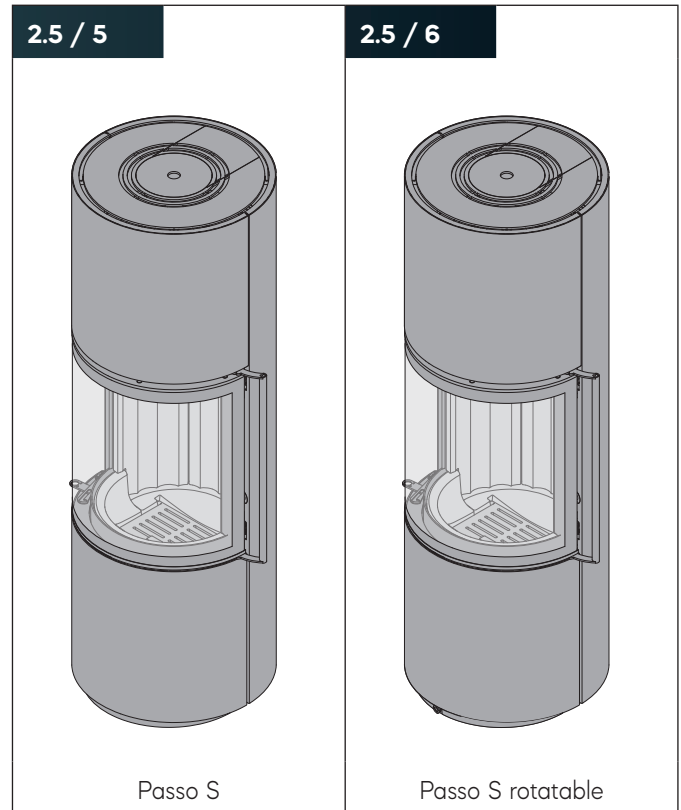
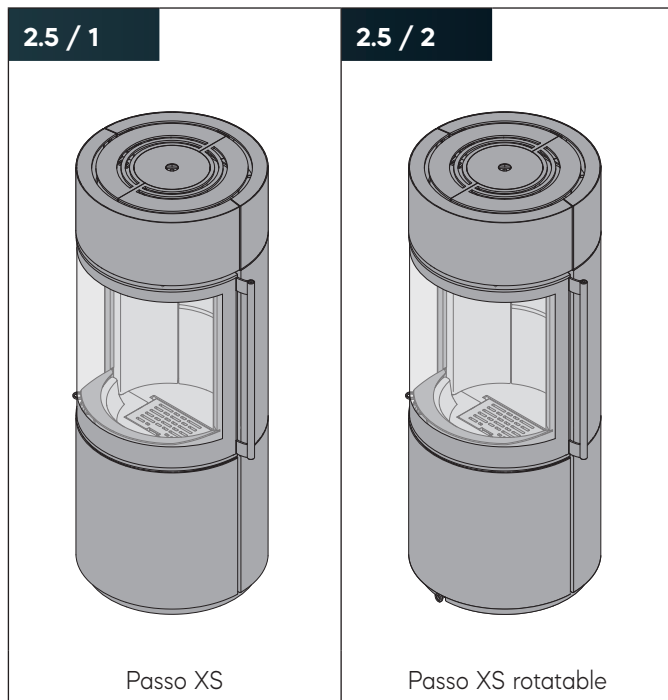
The firebox door of the unit is equipped with a seal to prevent air from entering and flue gases from escaping in an uncontrolled manner. When delivered, this seal and therefore the door protrude slightly. The seal will adapt to the unit during the first 5 – 10 heating processes. Only at this point will the firebox door reach its final position and tightness.

## 2.4 Protective devices

- Self-closing firebox door.
- High temperature resistant ceramic glass pane (with IR coating on some models).

## 2.5 Models

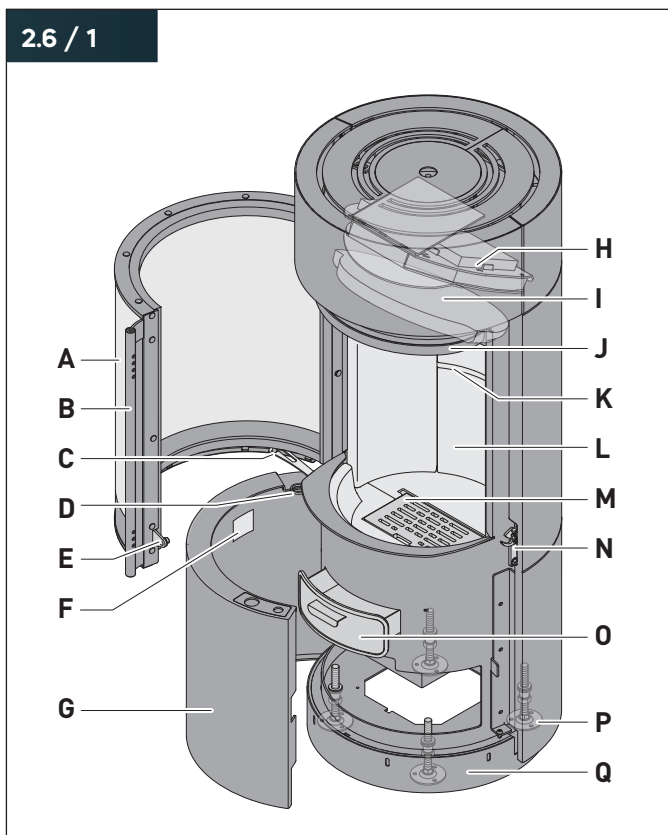
The product series Passo is available in different designs.



# Product information

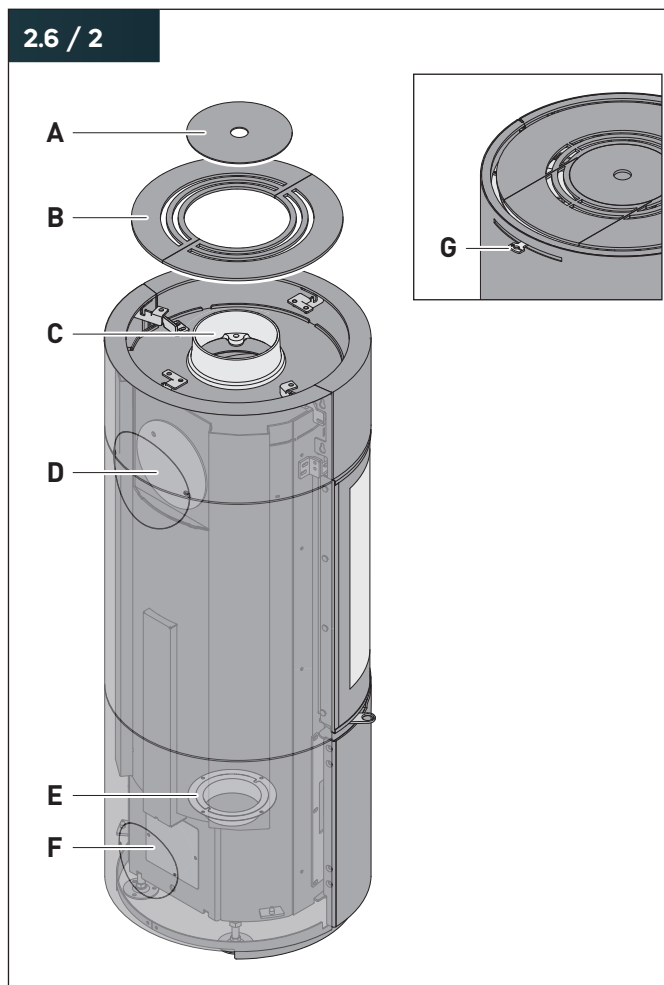
## 2.6 Product overview

### 2.6 / 1



- A** Firebox door with viewing window
- B** Door handle
- C** Door lock
- D** Combustion air slider
- E** SmartClose – Locking bolt
- F** Type plate
- G** Bottom cover panel door
- H** Deflection plate
- I** Baffle plate
- J** Air spoiler
- K** Air openings (tertiary air – Passo S and Passo L only)
- L** Firebox with firebox lining
- M** Ash grate
- N** SmartClose – Lock claw
- O** Ash box
- P** Adjustable legs
- Q** Foot screen

### 2.6 / 2

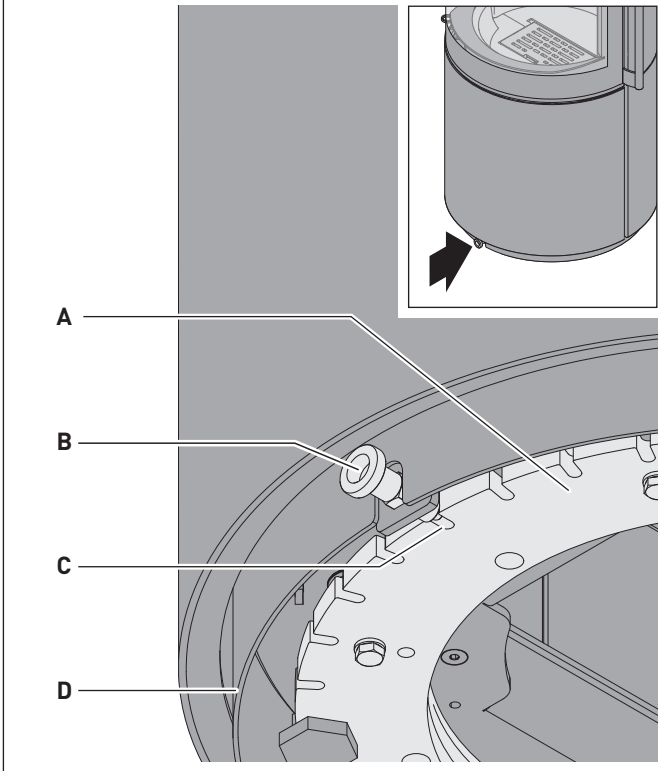


- A** Blind cover or cover plate
- B** Cover plate
- C** Flue gas connection
- D** Cladding lid with heat protection plate behind it – connection option for flue gas routing toward the rear
- E** Combustion air connector
- F** Cladding lid with blind behind it – connection option for combustion air supply from the rear
- G** Convection air regulator (Passo L only)

With room air sealed operation, it is possible for the combustion air connection to be factory-installed on the rear connection position.



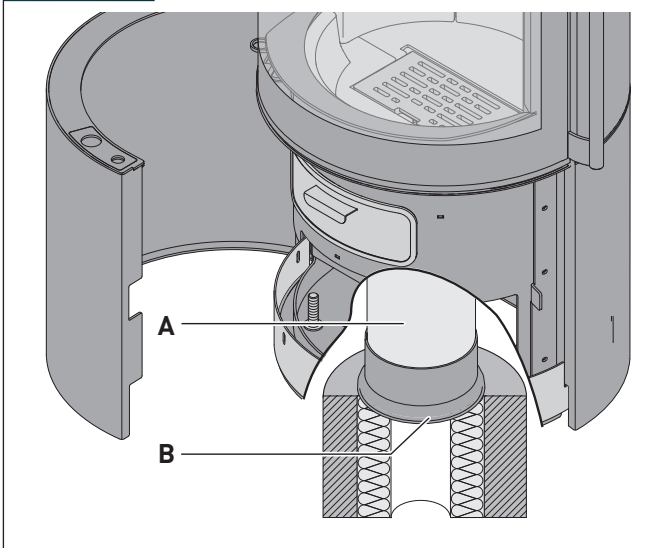
**2.6 / 3**



Only for rotatable models:

- A** Turntable
- B** Button
- C** Centre notch in the turntable (factory setting)
- D** Turntable cover

**2.6 / 4**

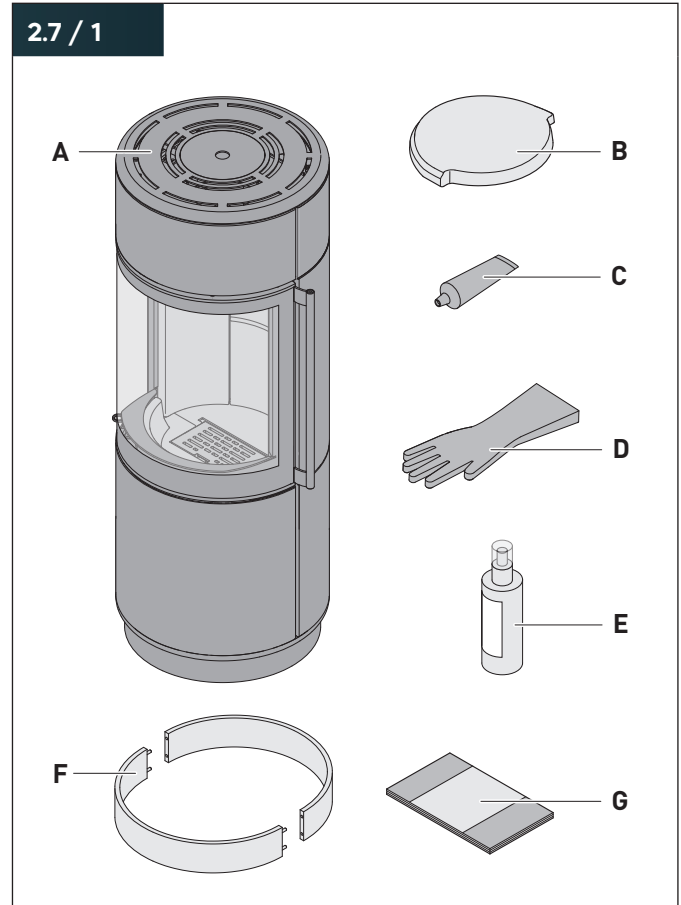


Only for models with SQC connection:

- A** SQC adapter
- B** Sealing lip

**2.7 Scope of delivery**

**2.7 / 1**



- A** Stove
- B** Baffle plate
- C** Copper paste
- D** Heat protection glove (in Blackbox)
- E** Glass cleaner (in Blackbox)
- F** Wooden base (Passo XS style only)
- G** Assembly and operating manual

Optional:

- Combustion control S-Thermatik NEO.
- Storage stones "on top" (only for Passo L).
- Flue gas connection bend set (suitable for any model).
- SQC connection, factory-installed (only for Passo XS, Passo S, Passo L).
- Side wood compartment (only for Passo XS).
- Glass cover plate.
- "10.1 Accessories" (page 51).

# Product information

## 2.8 Technical data

| Passo XS /<br>Passo XS rotatable                                |                           | without<br>S-Thermatik NEO<br>(standard) | with S-Thermatik<br>NEO (optional) |
|---|---------------------------|--|------------------------------------|
| Nominal heat output   |                           | 5.9 kW                                   | 5.9 kW                             |
| Heat output direct / indirect                                   |                           | 5.9 / - kW                               | 5.9 / - kW                         |
| Heat output range   |                           | 4.5 –<br>7.7 kW                          | 4.5 –<br>7.7 kW                    |
| Energy efficiency class   |                           | A  | A+                                 |
| Exhaust mass flow   |                           | 6.1 g/s                                  | 5.9 g/s                            |
| Exhaust gas temperature   |                           | 291 °C                                   | 286 °C                             |
| Average CO <sub>2</sub> content                                 |                           | 8.5 %                                    | 8.7 %                              |
| Room heater annual use efficiency                               |                           | 70.0 %                                   | 70.8 %                             |
| Room heater<br>emissions at<br>nominal heat<br>output           | Dust                      | < 40<br>mg/m <sup>3</sup>                | < 40<br>mg/m <sup>3</sup>          |
|   | CO                        | < 1250<br>mg/m <sup>3</sup>              | < 1250<br>mg/m <sup>3</sup>        |
|   | NOx                       | < 200<br>mg/m <sup>3</sup>               | < 200<br>mg/m <sup>3</sup>         |
|   | OGC                       | < 120<br>mg/m <sup>3</sup>               | < 120<br>mg/m <sup>3</sup>         |
| Auxiliary power<br>consumption<br>S-Thermatik<br>NEO (optional) | at nominal<br>heat output | –  | 0.004 kW                           |
|   | at minimum<br>heat output | –  | 0.004 kW                           |
|   | in stand-<br>by           | –  | 0.003 kW                           |
| Max. input volume of hard wood                                  |                           | 2.3 kg/h                                 | 2.3 kg/h                           |
| Max. input volume of compressed<br>wood                         |                           | 1.9 kg/h                                 | 1.9 kg/h                           |
| Efficiency  |                           | 80.0 %                                   | > 80.0 %                           |
| Combustion air requirement for<br>room air dependent operation  |                           | 21.3 m <sup>3</sup> /h                   | 20.5 m <sup>3</sup> /h             |
| Delivery pressure at<br>nominal heat output                     |                           | 12.0 Pa                                  | 12.0 Pa                            |
| Rotating angles<br>(only for Passo XS rotatable)                |                           | 2x 45°<br>(left /<br>right)              | 2x 45°<br>(left /<br>right)        |
| Weight  |                           | 125 kg                                   | 126 kg                             |

| Passo XS style  |                           | without<br>S-Thermatik NEO<br>(standard) | with S-Thermatik<br>NEO (optional) |
|---|---------------------------|--|------------------------------------|
| Nominal heat output   |                           | 5.9 kW                                   | 5.9 kW                             |
| Heat output direct / indirect                                   |                           | 5.9 / - kW                               | 5.9 / - kW                         |
| Heat output range   |                           | 4.5 –<br>7.8 kW                          | 4.5 –<br>7.8 kW                    |
| Energy efficiency class   |                           | A  | A+                                 |
| Exhaust mass flow   |                           | 6.1 g/s                                  | 5.9 g/s                            |
| Exhaust gas temperature   |                           | 291 °C                                   | 286 °C                             |
| Average CO <sub>2</sub> content                                 |                           | 8.5 %                                    | 8.7 %                              |
| Room heater annual use efficiency                               |                           | 70.0 %                                   | 70.8 %                             |
| Room heater<br>emissions at<br>nominal heat<br>output           | Dust                      | < 40<br>mg/m <sup>3</sup>                | < 40<br>mg/m <sup>3</sup>          |
|   | CO                        | < 1250<br>mg/m <sup>3</sup>              | < 1250<br>mg/m <sup>3</sup>        |
|   | NOx                       | < 200<br>mg/m <sup>3</sup>               | < 200<br>mg/m <sup>3</sup>         |
|   | OGC                       | < 120<br>mg/m <sup>3</sup>               | < 120<br>mg/m <sup>3</sup>         |
| Auxiliary power<br>consumption<br>S-Thermatik<br>NEO (optional) | at nominal<br>heat output | –  | 0.004 kW                           |
|   | at minimum<br>heat output | –  | 0.004 kW                           |
|   | in stand-<br>by           | –  | 0.003 kW                           |
| Max. input volume of hard wood                                  |                           | 2.3 kg/h                                 | 2.3 kg/h                           |
| Max. input volume of compressed<br>wood                         |                           | 1.9 kg/h                                 | 1.9 kg/h                           |
| Efficiency  |                           | 80.0 %                                   | > 80.0 %                           |
| Combustion air requirement for<br>room air dependent operation  |                           | 21.3 m <sup>3</sup> /h                   | 20.5 m <sup>3</sup> /h             |
| Delivery pressure at<br>nominal heat output                     |                           | 12.0 Pa                                  | 12.0 Pa                            |
| Weight  |                           | 130 kg                                   | 131 kg                             |

| <b>Passo XS tripod</b>   |      |                             |
|--|------|-----------------------------|
| Nominal heat output  |      | 5.9 kW                      |
| Heat output direct / indirect                                  |      | 5.9 / – kW                  |
| Heat output range  |      | 4.5 –<br>7.9 kW             |
| Energy efficiency class  |      | A                           |
| Exhaust mass flow  |      | 6.1 g/s                     |
| Exhaust gas temperature  |      | 291 °C                      |
| Average CO <sub>2</sub> content                                |      | 8.5 %                       |
| Room heater annual use efficiency                              |      | 70.0 %                      |
| Room heater emissions<br>at nominal heat output                | Dust | < 40<br>mg/m <sup>3</sup>   |
|  | CO   | < 1250<br>mg/m <sup>3</sup> |
|  | NOx  | < 200<br>mg/m <sup>3</sup>  |
|  | OGC  | < 120<br>mg/m <sup>3</sup>  |
| Max. input volume of hard wood                                 |      | 2.3 kg/h                    |
| Max. input volume of compressed wood                           |      | 1.9 kg/h                    |
| Efficiency   |      | 80.0 %                      |
| Combustion air requirement for room air<br>dependent operation |      | 21.3 m <sup>3</sup> /h      |
| Delivery pressure at<br>nominal heat output                    |      | 12.0 Pa                     |
| Weight   |      | 130 kg                      |

| <b>Passo S /<br/>Passo S rotatable</b>                         | <b>Standard</b>             | <b>Export</b>               |                             |
|--|-----------------------------|-----------------------------|-----------------------------|
| Nominal heat output  | 6.1 kW                      | 10.0 kW                     |                             |
| Heat output direct / indirect                                  | 6.1 / – kW                  | 10.0 / – kW                 |                             |
| Heat output range  | 4.5 –<br>7.9 kW             | 7.0 –<br>13.0 kW            |                             |
| Energy efficiency class  | A                           | A                           |                             |
| Exhaust mass flow  | 5.8 g/s                     | 8.0 g/s                     |                             |
| Exhaust gas temperature  | 312 °C                      | 387 °C                      |                             |
| Average CO <sub>2</sub> content                                | 10.0 %                      | 11.3 %                      |                             |
| Room heater annual use efficiency                              | 70.0 %                      | 68.0 %                      |                             |
| Room heater<br>emissions at<br>nominal heat<br>output          | Dust                        | < 40<br>mg/m <sup>3</sup>   | < 40<br>mg/m <sup>3</sup>   |
|  | CO                          | < 1250<br>mg/m <sup>3</sup> | < 1250<br>mg/m <sup>3</sup> |
|  | NOx                         | < 200<br>mg/m <sup>3</sup>  | < 200<br>mg/m <sup>3</sup>  |
|  | OGC                         | < 120<br>mg/m <sup>3</sup>  | < 120<br>mg/m <sup>3</sup>  |
| Max. input volume of hard wood                                 | 2.4 kg/h                    | 4.0 kg/h                    |                             |
| Max. input volume of compressed<br>wood                        | 2.0 kg/h                    | 3.3 kg/h                    |                             |
| Efficiency   | 80.0 %                      | 78.0 %                      |                             |
| Combustion air requirement for<br>room air dependent operation | 18.6 m <sup>3</sup> /h      | 27.8 m <sup>3</sup> /h      |                             |
| Delivery pressure at<br>nominal heat output                    | 12.0 Pa                     | 12.0 Pa                     |                             |
| Rotating angles<br>(only for Passo S rotatable)                | 2x 45°<br>(left /<br>right) | 2x 45°<br>(left /<br>right) |                             |
| Weight   | 160 kg                      | 160 kg                      |                             |

# Product information

| Passo L /<br>Passo L rotatable                              |                 | Standard                 | Export                   |
|---|-----------------|--------------------------|--------------------------|
| Nominal heat output   |                 | 6.1 kW                   | 10.0 kW                  |
| Heat output direct / indirect                               |                 | 6.1 / – kW               | 10.0 / – kW              |
| Heat output range   |                 | 4.5 –<br>7.9 kW          | 7.0 –<br>13.0 kW         |
| Energy efficiency class                                     |                 | A                        | A                        |
| Exhaust mass flow   |                 | 5.8 g/s                  | 8.0 g/s                  |
| Exhaust gas temperature                                     |                 | 312 °C                   | 387 °C                   |
| Average CO <sub>2</sub> content                             |                 | 10.0 %                   | 11.3 %                   |
| Room heater annual use efficiency                           |                 | 70.0 %                   | 68.0 %                   |
| Room heater emissions at nominal heat output                | Dust            | < 40 mg/m <sup>3</sup>   | < 40 mg/m <sup>3</sup>   |
|   | CO              | < 1250 mg/m <sup>3</sup> | < 1250 mg/m <sup>3</sup> |
|   | NO <sub>x</sub> | < 200 mg/m <sup>3</sup>  | < 200 mg/m <sup>3</sup>  |
|   | OGC             | < 120 mg/m <sup>3</sup>  | < 120 mg/m <sup>3</sup>  |
| Max. input volume of hard wood                              |                 | 2.4 kg/h                 | 4.0 kg/h                 |
| Max. input volume of compressed wood                        |                 | 2.0 kg/h                 | 3.3 kg/h                 |
| Efficiency  |                 | 80.0 %                   | 78.0 %                   |
| Combustion air requirement for room air dependent operation |                 | 18.6 m <sup>3</sup> /h   | 27.8 m <sup>3</sup> /h   |
| Delivery pressure at nominal heat output                    |                 | 12.0 Pa                  | 12.0 Pa                  |
| Rotating angles (only for Passo L rotatable)                |                 | 2x 45° (left / right)    | 2x 45° (left / right)    |
| Weight  |                 | 165 kg                   | 165 kg                   |
| Weight, storage stones                                      |                 | 45 kg                    | 45 kg                    |

Information on the model (e.g. type, inspection number, year of manufacture) can be found on the type plate.

The type plate is required for regular inspection of the unit (e.g. in Germany by the chimney sweep).

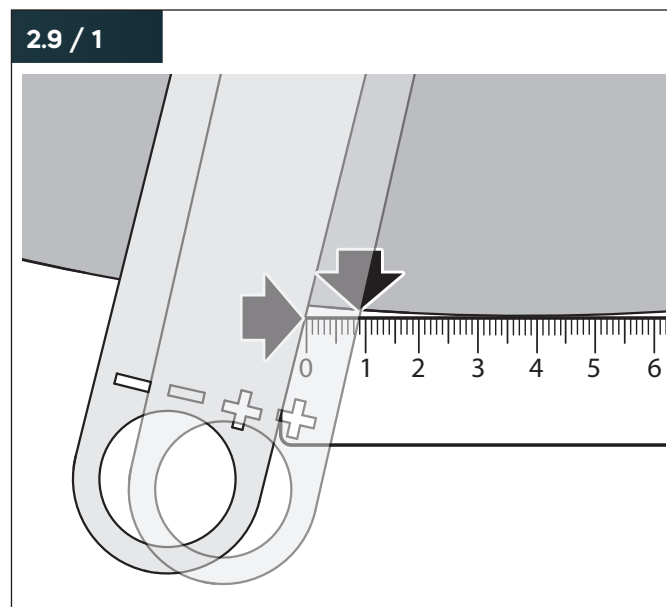
➤ Figure 2.6 / 1 (page 8).

## 2.9 Nominal heat output

The nominal heat output of the unit can be checked in the defined position “NHO position” of the combustion air slider.

To adjust the NHO position, first move the combustion air slider all the way to the left to close the air supply. Then push the combustion air slider to the right by the following amount:

- 9 mm for Passo XS, Passo XS style, Passo XS tripod.
- 9 mm for Passo S, Passo L.



A ruler applied directly to the outer edge of the cover panel makes it possible to determine the NHO position of the unit.

The nominal heat output can only be achieved by adjusting the NHO position under test bench conditions. In heating mode the value represents an approximate value. The ideal position of the combustion air slider depends on the situation and is affected by a variety of factors.

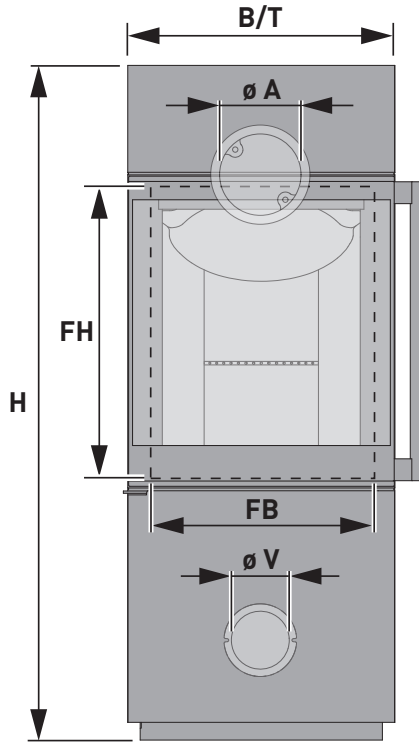
➤ “5.3.3 Controlling the heating process” (page 38).



## 2.10 Dimensions

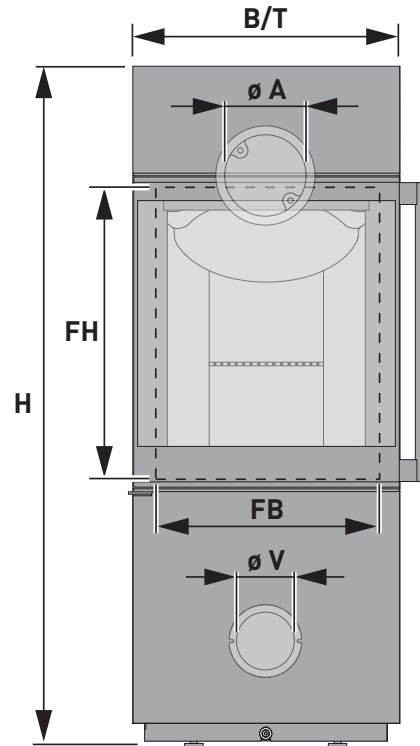
### Non-rotatable models

2.10 / 1



### Rotatable models

2.10 / 2



| Dimensions (mm) | Passo XS | Passo XS style | Passo XS tripod | Passo S | Passo L |
|-----------------|----------|----------------|-----------------|---------|---------|
| H               | 1142     | 1220           | 1235            | 1436    | 1636    |
| B               | 452      | 452            | 452             | 481     | 481     |
| T               | 452      | 452            | 452             | 481     | 481     |
| FH              | 539      | 539            | 539             | 540     | 540     |
| FB              | 448      | 448            | 448             | 481     | 481     |
| øA              | 150      | 150            | 150             | 150     | 150     |
| øV              | 100      | 100            | 100             | 100     | 100     |

|    |                                       |
|----|---------------------------------------|
| H  | Total height                          |
| B  | Width                                 |
| T  | Depth                                 |
| FH | Height of firebox door                |
| FB | Width of firebox door                 |
| øA | Diameter of flue gas connection       |
| øV | Diameter of combustion air connection |

| Dimensions (mm) | Passo XS rotatable | Passo S rotatable | Passo L rotatable |
|-----------------|--------------------|-------------------|-------------------|
| H               | 1152               | 1446              | 1661              |
| B               | 452                | 481               | 481               |
| T               | 452                | 481               | 481               |
| FH              | 539                | 540               | 540               |
| FB              | 448                | 481               | 481               |
| øA              | 150                | 150               | 150               |
| øV              | 100                | 100               | 100               |

|    |                                       |
|----|---------------------------------------|
| H  | Total height                          |
| B  | Width                                 |
| T  | Depth                                 |
| FH | Height of firebox door                |
| FB | Width of firebox door                 |
| øA | Diameter of flue gas connection       |
| øV | Diameter of combustion air connection |

# Types of fuel

## 3. Types of fuel

### 3.1 Information on types of fuel

Wood primarily consists of cellulose, lignin, resins, fats and oils. Wood does not burn directly. The components of wood become gaseous at different temperatures and burn up if enough oxygen is available.

Using fuel with a residual moisture of  $> 20\%$  will lead to decreased output and increased emissions.

Good, fast combustion and good gas release are crucial for problem-free operation of the unit.

Bark prevents moisture from escaping. Gas release is only ensured at "injured" sections of wood, making it necessary to split the wood.

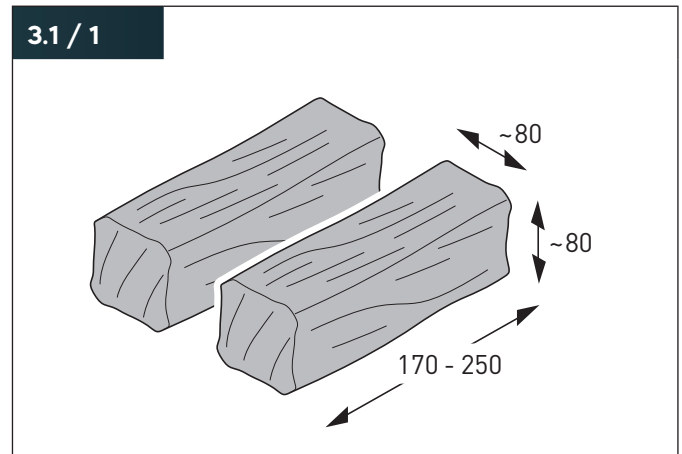
If the temperatures required for gas release and clean combustion are not reached, this will interfere with combustion. The unburned substances will negatively impact the environment and will adhere to the stove system as deposits (e.g. soot, tar). These deposits increase the effort required for cleaning and may damage the stove system.

Hardwood is particularly suitable as firewood. It burns slowly with a calm flame and turns into embers that glow for a long time.

Softwood is rich in resin, burns faster and has an increased tendency to generate sparks.

💡 We recommend beech wood as the ideal fuel.

§ According to DIN EN 13240 a combustion period of 45 min in a time-limited fireplace requires a fuel volume of 1.4 kg of wood.



1.4 kg of wood corresponds to two average logs (length 170 – 250 mm, width/height approx. 80 mm).

1 kg of beech wood generates an output of approx. 4 kW. Compressed wood pieces have an approx. 20 % higher output.

### 3.2 Permissible types of fuel

Only the following types of fuel are approved for use:

- Natural, air-dried split logs (residual moisture max. 20 %).
- Compressed wood pieces
  - § Compressed wood pieces according to DIN EN ISO 17225-3.

The following fuel types are not permissible:

- Chemically treated wood
- Painted or varnished wood
- Synthetically coated wood
- Damp wood (residual moisture higher than 20 %)
- Chipboards
- Wood of Euro pallets
- Trimmings
- Bark waste
- Pellets
- Coal
- Coke
- Household waste
- Plastics
- Waste paper
- Old clothes

§ Burning non-permissible types of fuel is punishable by law in many countries e.g.:

- In Germany as a violation of the Federal Immission Control Act (BImSchG).
- In Switzerland as a violation of the Clean Air Act (LRV).

### 3.3 Permissible igniters

The following igniters are permissible:

- Igniter cube
- Igniter pad
- Wood wool igniter
- Igniter wood

Other igniter types are not permitted.

Never use:

- Flammable fluids and fire accelerants (e.g. ethyl alcohol or kerosene) – there is a risk of deflagration!
- Paper – burns fast and results in flying ash!

### 3.4 Fuel storage

Storage outside of buildings:

- If possible, store the fuel on the sunny side of a building.
- Ensure that the storage location is ventilated and protected against precipitation.
- Stack logs loosely along a wall and support them on at least one side.
- Ensure that there is a gap between logs so that the air flowing through them can carry off the moisture escaping from the wood surface.

Storage in buildings:

- In a dry and well-ventilated room.

Storage of freshly cut (green) wood in film or in closed rooms without sufficient air exchange prevents drying and causes the wood to become mouldy.

Storage period:

- At least one year for soft wood (e.g. coniferous wood, poplar).
- At least two years for hard wood (e.g. beech, oak).

🔔 We recommend a drying period of 2 – 3 years.

### 3.5 Size of the fuel pieces

- Small logs (width/height approx. 60 mm) for fast burning and briefly high output.
- Large logs (width/height approx. 100 mm) for slow, even burning.

Ideal log size:

- Length ideally approx. 180 mm.
- Maximum length 250 mm.
- Width/height approx. 80 mm.

## 4. Assembly

### 4.1 Safety information for assembly

#### WARNING!

#### **Danger due to non-adherence to assembly instructions!**

Incorrect assembly of the unit may lead to severe injuries. This chapter contains important information for safe assembly of the unit.

- ▶ Carefully read this chapter prior to assembly.
- ▶ Adhere to the safety information.
- ▶ Perform the assembly work as described.

Only qualified personnel may assemble the unit. Electrical work may only be performed by qualified electricians.

⇒ "1.2.3 Qualified personnel" (page 4).

The owner is responsible for meeting the requirements for the installation site.

⇒ "1.2.2 Owner" (page 4).

To prevent danger, always adhere to the following requirements:

- Do not store or deposit flammable materials or fluids on or near the unit.
- Do not position flammable objects (e.g. furniture, carpets, flowers) in front of the firebox opening.
- Ensure that the unit is undamaged and in perfect condition prior to assembly.
- Before assembling the unit, ensure that the prerequisites for assembly and the requirements for the installation site are met, in particular the legal requirements for fireplaces.

### 4.2 Requirements for assembly

The stove system must be installed and operated according to the valid standards and directives. Note the following documents and/or regulations prior to assembly:

- Technical documents of the product.
- Local fire safety regulations issued by the responsible authorities.
- Provisions under building law.
- Relevant state building and firing installation regulations.
- Local construction regulations regarding the installation conditions (e.g. firing installation regulations).

As an example, the following applies in Germany:

- § Stoves fired by solid fuel according to DIN EN 13240.
- § Chimney and flue gas connection according to DIN 18160.
- § Chimney dimensions according to DIN EN 13384-1, DIN EN 13384-2.
- § BImSchV Second directive for implementation of the German Federal Immission Control Act.
- § TROL Professional regulations of the tiled stove and air heater construction trade (ZVSHK).

- ✓ The general technical approval has been given by the building authorities or the manufacturer has applied for it.

### 4.3 Requirements for the installation site

#### 4.3.1 Installation room

- The installation room must be suitable for safe use.
- The installation room must be dry and protected against freezing.
- The unit must be protected against freezing and weather factors.
- The installation surface must have a suitable load-bearing capacity, keeping the weight of the unit in mind.
  - ➔ "2.8 Technical data" (page 10).
- The installation surface must be level and horizontal.
- If the floor in front of the firebox door is flammable, it must be protected by a spark guard plate.
- A sufficient fresh air supply must be ensured by means of a ventilation opening to the outdoors (cross section at least 150 cm<sup>2</sup>) or by a combustion air network with other rooms.
- If air extracting units are used at the same time (e.g. extraction hoods, hot-air system, ventilating or exhaust air systems), a safety device must be installed or a unit certified for room air sealed use and connected accordingly must be installed. The safety devices must monitor the permissible underpressure in the installation room (deviation max. 8 Pa from outdoors) and prevent gases from entering the room. A general technical approval must have been given by the responsible authorities.

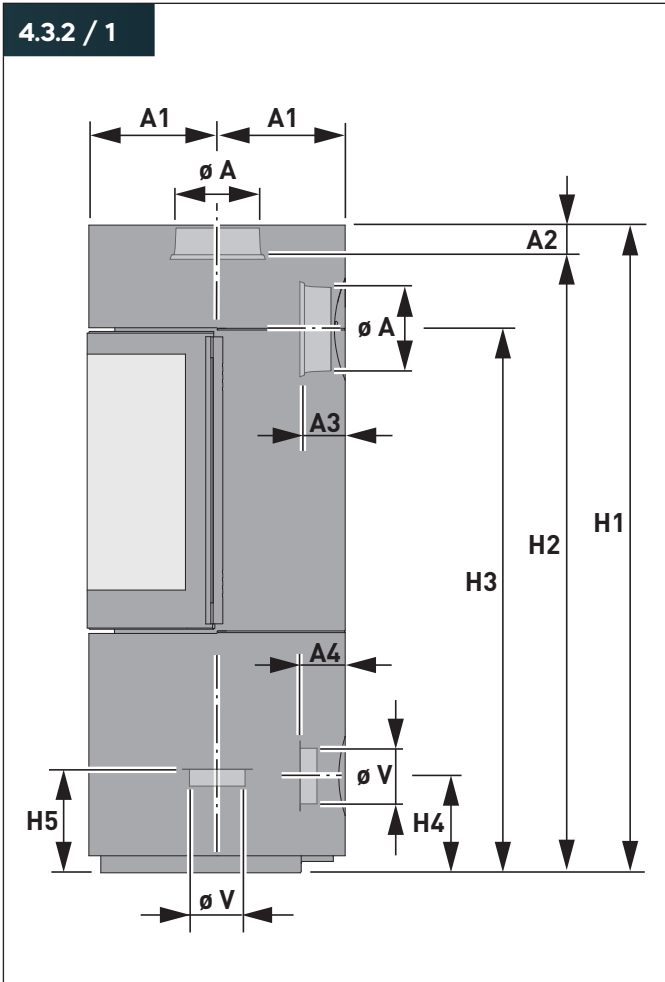
- 💡 We recommend installing the unit on a fireproof surface (e.g. glass plate, steel plate or ceramic tiles).



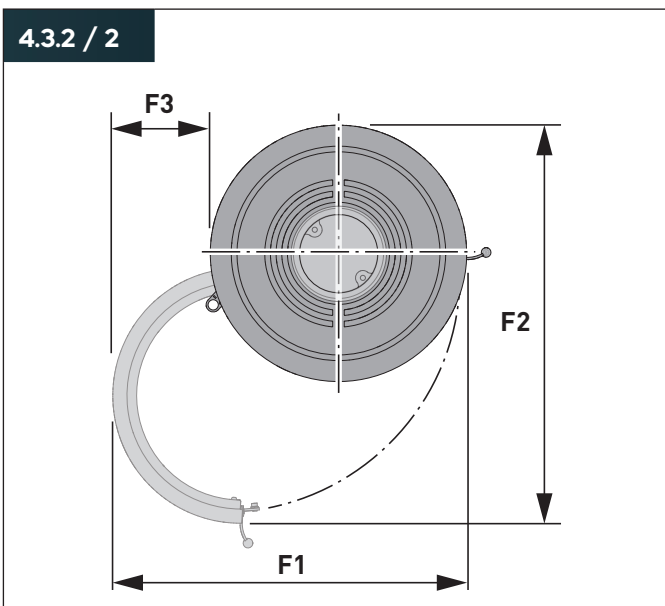
## 4.3.2 Installation dimensions

### Non-rotatable models

#### 4.3.2 / 1



#### 4.3.2 / 2



| Dimensions (mm) | Passo XS | Passo XS style | Passo XS tripod | Passo S | Passo L |
|-----------------|----------|----------------|-----------------|---------|---------|
| H1              | 1142     | 1220           | 1235            | 1436    | 1636    |
| H2              | 1081     | 1144           | 1053            | 1298    | 1398    |
| H3              | 958      | 1013           | 1053            | 1147    | 1247    |
| H4              | 171      | 225            | -               | 142     | 242     |
| H5              | 169      | 223            | -               | 149     | 215     |
| A1              | 226      | 226            | 226             | 241     | 241     |
| A2              | 60       | 99             | 99              | 138     | 138     |
| A3              | 70       | 68             | 70              | 53      | 53      |
| A4              | 70       | 68             | -               | 60      | 60      |
| øA              | 150      | 150            | 150             | 150     | 150     |
| øV              | 100      | 100            | 100             | 100     | 100     |
| F1              | 633      | 633            | 633             | 690     | 690     |
| F2              | 690      | 690            | 690             | 704     | 704     |
| F3              | 180      | 180            | 180             | 210     | 210     |

- H1 Total height
- H2 Height of flue gas connection, top
- H3 Height of flue gas connection, rear
- H4 Height of combustion air connection, rear
- H5 Height of combustion air connection, bottom
- A1 Spacing centre of flue gas connection at top/spacing centre of combustion air connection at bottom
- A2 Spacing of flue gas connection, top
- A3 Spacing of flue gas connection, rear
- A4 Spacing of combustion air connection, rear
- øA Diameter of flue gas connection
- øV Diameter of combustion air connection

- F1 Total width with an open firebox door
- F2 Total depth with an open firebox door
- F3 Additional space requirement when opening the firebox door

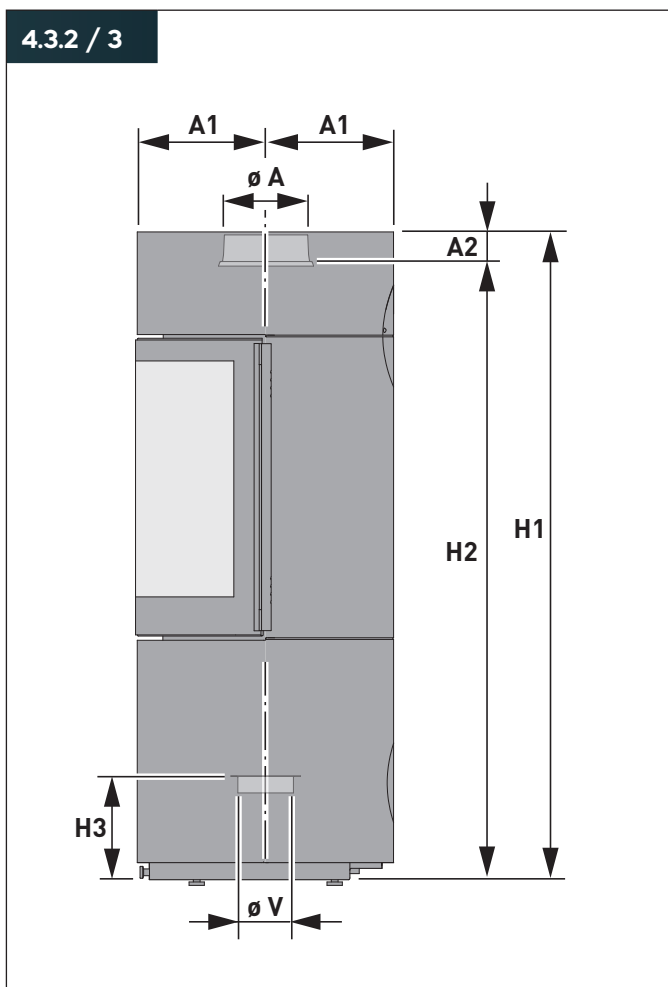
Unit dimensions:

➔ "2.10 Dimensions" (page 13).

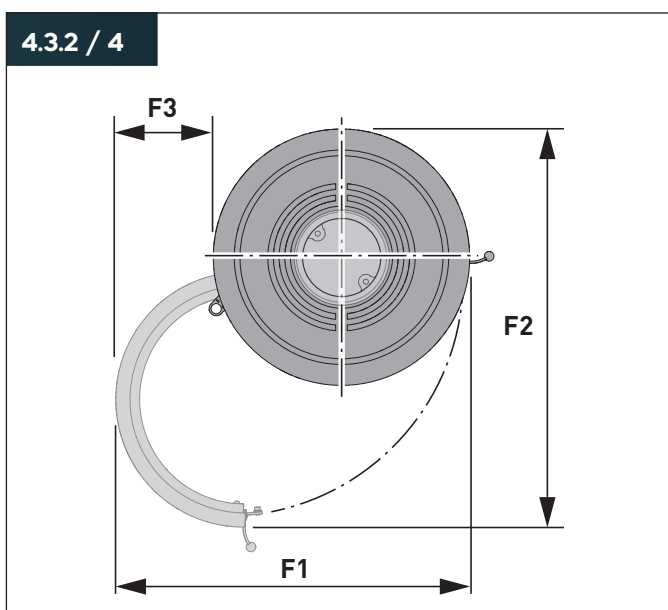
# Assembly

## Rotatable models

4.3.2 / 3



4.3.2 / 4



| Dimensions (mm) | Passo XS rotatable | Passo S rotatable | Passo L rotatable |
|-----------------|--------------------|-------------------|-------------------|
| H1              | 1142               | 1446              | 1661              |
| H2              | 1081               | 1308              | 1408              |
| H3              | 171                | 159               | 229               |
| A1              | 226                | 241               | 241               |
| A2              | 60                 | 138               | 138               |
| øA              | 150                | 150               | 150               |
| øV              | 100                | 100               | 100               |
| F1              | 633                | 690               | 690               |
| F2              | 690                | 704               | 704               |
| F3              | 180                | 210               | 210               |

- H1 Total height
- H2 Height of flue gas connection
- H3 Height of combustion air connection
- A1 Spacing centre of flue gas connection/  
spacing centre of combustion air connection
- A2 Spacing of flue gas connection
- øA Diameter of flue gas connection
- øV Diameter of combustion air connection
- F1 Total width with an open firebox door
- F2 Total depth with an open firebox door
- F3 Additional space requirement when opening the firebox door

### 4.3.3 Safety distances

#### ⚠ WARNING!

#### Risk of fire resulting from non-adherence to safety distances!

Using the unit creates very high temperatures. Smoke and sparks may escape when opening the firebox door. Sensitive items near the unit may become damaged or deformed, may melt or catch fire.

- ▶ Ensure that the necessary safety distances are observed at all times.
- ▶ Ensure that flammable objects and materials (e.g. furniture, textiles) are located at a sufficient distance from the unit.
- ▶ On rotatable models, take all possible positions of the firebox opening and the open firebox door into account.

If the connection pipe is guided through ceilings or flammable walls, suitable construction material must be installed:

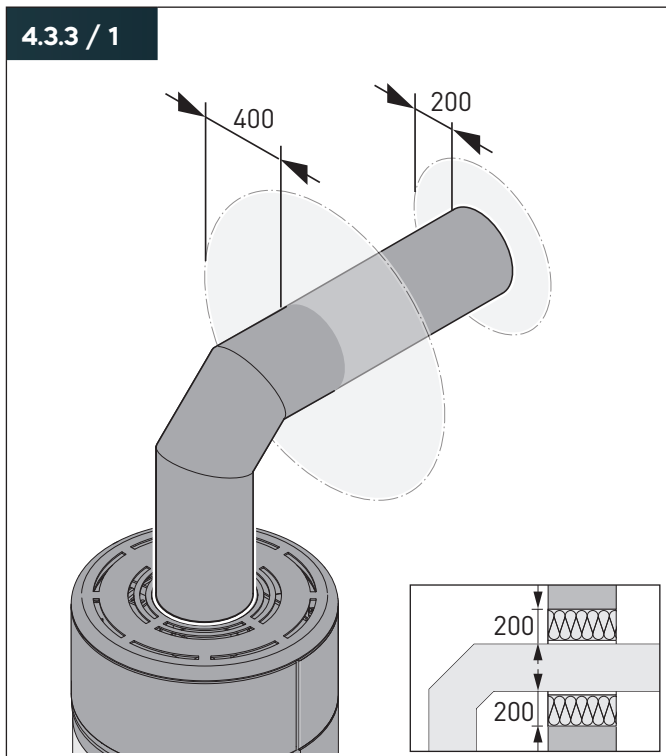
- Non-flammable.
- Low heat conductivity.
- 200 mm around the connection pipe.
- With building authority usability certificate.

💡 Complete systems for routing pipes through walls and ceilings with building authority usability certificates are commercially available.

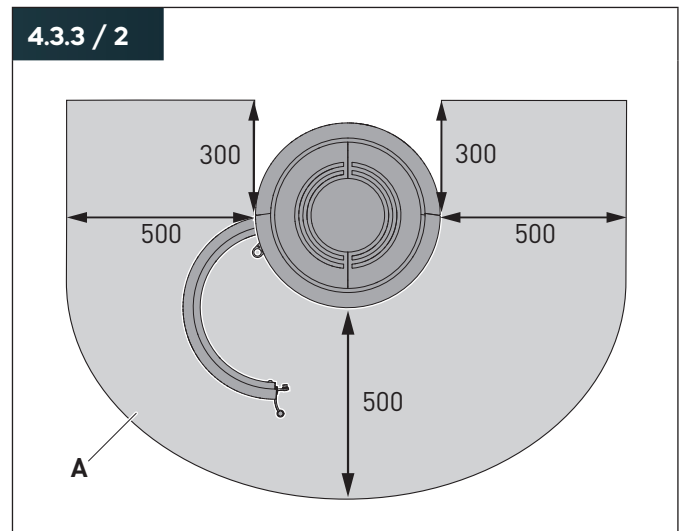
#### Installation on floors requiring protection

Floors requiring protection are flammable or unsuitable for permanent exposure to temperatures above 85 °C due to their structure and material type.

Floors requiring protection in front of the firebox opening must be covered by a floor covering (e.g. cover plate) made of non-flammable material.



- Area around the connection opening to the chimney: 200 mm.
- Distance of the connection pipe from walls or ceilings: 400 mm.



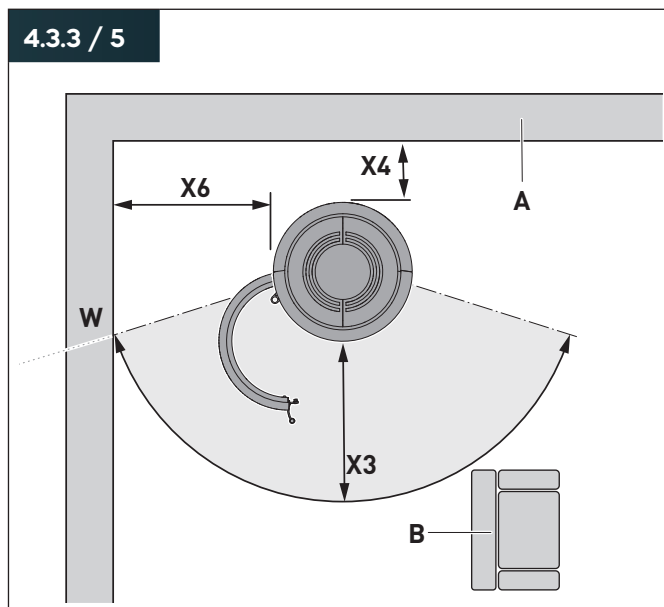
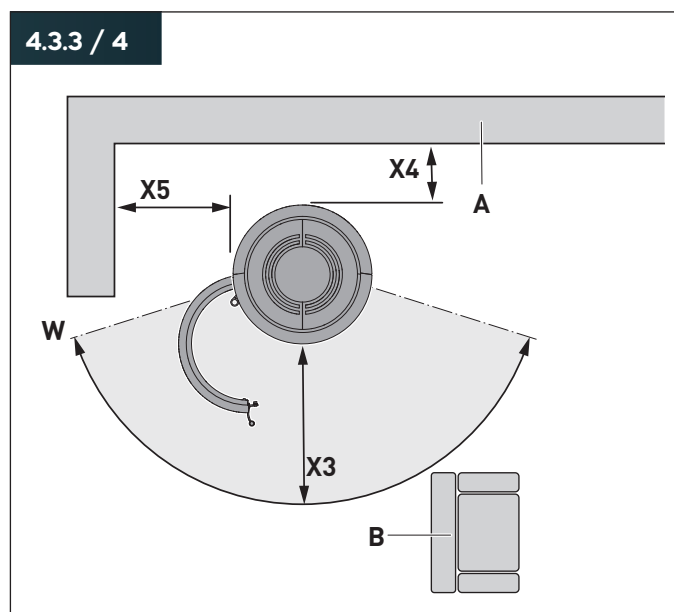
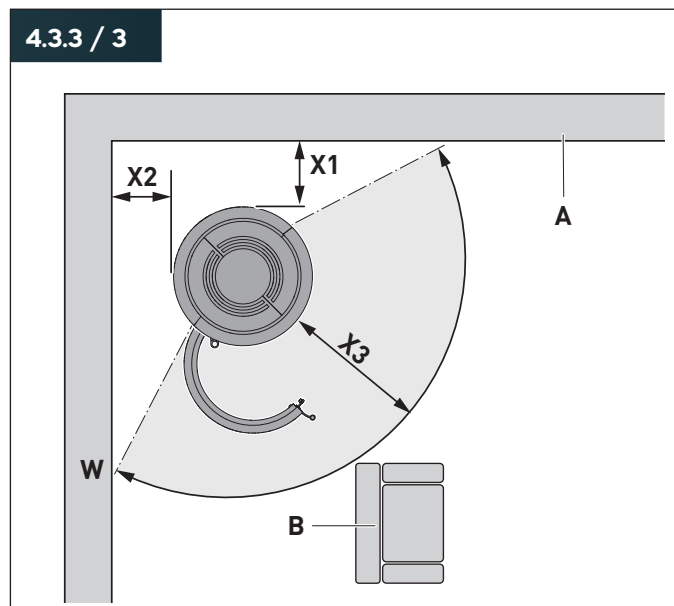
A Floor protection

- In front of firebox opening: Minimum 500 mm.
- Beyond firebox opening on the side: Minimum 300 mm.

# Assembly

## Installation on walls requiring protection

Walls requiring protection are flammable or unsuitable for permanent exposure to temperatures above 85 °C due to their structure and material type.



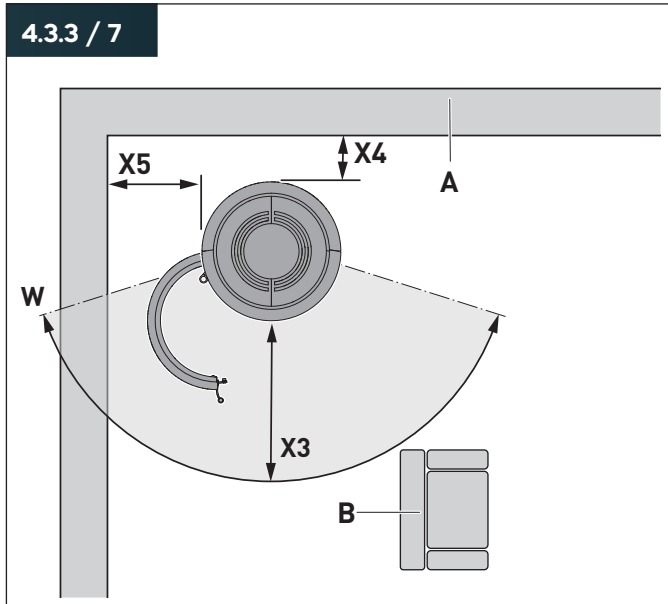
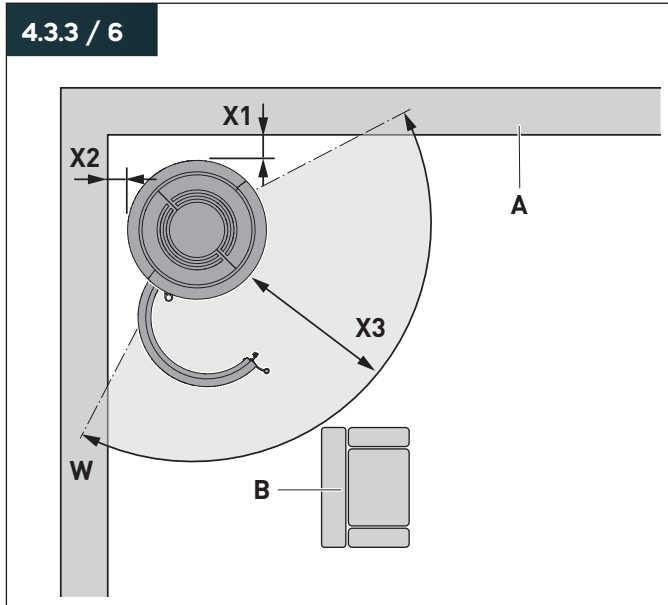
- A Wall
- B Flammable object (e.g. armchair)
- X1 Distance between unit and wall for corner installation
- X2 Distance between unit and side for corner installation
- X3 Radiation area – minimum distance from flammable objects and materials
- X4 Distance between unit and wall for wall installation
- X5 Distance between unit and side for wall installation – short wall outside of radiation area angle
- X6 Distance between unit and side for wall installation – continuous wall within the radiation area angle
- W Radiation area angle

| Dimensions (mm) | Passo XS | Passo XS style | Passo XS tripod | Passo S | Passo L |
|-----------------|----------|----------------|-----------------|---------|---------|
| X1              | 340      | 340            | 340             | 545     | 545     |
| X2              | 340      | 340            | 340             | 545     | 545     |
| X3              | 900      | 900            | 900             | 1100    | 1100    |
| X4              | 100      | 100            | 100             | 100     | 100     |
| X5              | 100      | 100            | 100             | 50      | 50      |
| X6              | 865      | 865            | 865             | 1075    | 1075    |
| W               | 151°     | 151°           | 151°            | 164°    | 164°    |



## Installation on walls not requiring protection

Walls not requiring protection are not flammable and suitable for permanent exposure to temperatures above 85 °C due to their structure and material type.



- A Wall
- B Flammable object (e.g. armchair)
- X1 Distance between unit and wall for corner installation
- X2 Distance between unit and side for corner installation
- X3 Radiation area – minimum distance from flammable objects and materials
- X4 Distance between unit and wall for wall installation
- X5 Distance between unit and side for wall installation
- W Radiation area angle

| Dimensions (mm) | Passo XS | Passo XS style | Passo XS tripod | Passo S | Passo L |
|-----------------|----------|----------------|-----------------|---------|---------|
| X1              | 50       | 50             | 50              | 50      | 50      |
| X2              | 50       | 50             | 50              | 50      | 50      |
| X3              | 900      | 900            | 900             | 1100    | 1100    |
| X4              | 50       | 50             | 50              | 50      | 50      |
| X5              | 180      | 180            | 180             | 210     | 210     |
| W               | 151°     | 151°           | 151°            | 164°    | 164°    |

## Installation of a radiation protection plate

The safety distance between the unit and combustible objects or walls to be protected can be reduced using a radiation protection plate ventilated from both sides.

### Radiation area

If a radiation protection plate is fitted between the unit and combustible objects or walls to be protected, the distance (X3) is reduced to 400 mm.

### Installation on walls requiring protection

The distances between walls to be protected and the rear of the unit (X1, X2) are reduced to 100 mm under the following conditions:

- A radiation protection plate is mounted on the walls to be protected.
- The reduced radiation area of 400 mm (X3) does not touch the walls to be protected
  - ▶ When calculating, note the angle of the radiation area (W).

## 4.3.4 Flue gas routing

The flue gas routing requires a chimney on site meeting the following requirements:

- The flue gases must be extracted through a chimney.
- As a rule, the chimney must discharge the flue gases via the roof.
- The dimensions for flue gas routing and the chimney must be calculated for each individual case.
- The chimney height from the flue gas inlet must be at least 4 m.
- Only approved pipe systems may be used for connections to the chimney. It must be possible to clean the connection line at any time. Suitable cleaning hatches must be provided.
- The pipe systems must be as short as possible.
- The temperature class of the exhaust gas system (pipework and flue) depends on the exhaust gas temperature of the connected unit.
  - ➔ “2.8 Technical data” (page 10).
- The exhaust gas system (pipework and flue) must, at minimum, meet the requirements of temperature class “T400 protected against soot fires”.
- The necessary delivery pressure must be observed. A higher delivery pressure will increase the output and emissions, causing increased strain on the stove system, which may damage the system. A lower delivery pressure reduces the output, the emissions increase and the burning behaviour is impacted. This may lead to black discolouration of the glass and fireclay. The optimum delivery pressure is 12 – 18 Pa (measured near the flue gas connection).
- Remove all flammable and temperature-sensitive materials around the connection opening to the chimney – on and in the wall.
- Local laws and regulations must be adhered to.
  - § E.g. in Germany, the relevant building regulations.
- The flue gas routing must comply with local regulations.
  - § E.g. in Germany with DIN 18160.
- The chimney must have been inspected and approved for use (in Germany e.g. by the district chimney sweep). A permit for use must be present.
- The chimney requires regular cleaning (e.g. in Germany by the district chimney sweep) to prevent formation of a layer of soot in the chimney.
  - ➔ “1.4 Chimney fire” (page 5).

Measured values for the unit for chimney calculation:

- ➔ “2.8 Technical data” (page 10).

The thermal output of the unit depends on the delivery pressure of the chimney. An auxiliary air system can be installed in the flue gas system to compensate for any occurring fluctuations.

If you would like an auxiliary air system:

- ▶ Contact the manufacturer or a specialised company.

Based on the operating mode, the following requirements must also be met.

### Room air sealed operation

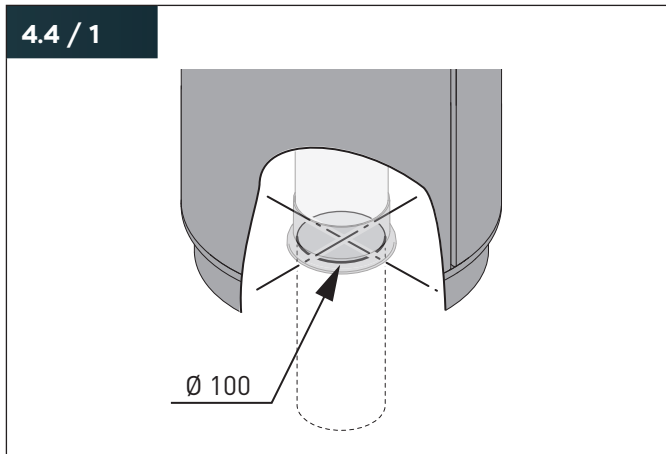
- Passo S and Passo L:
  - The chimney is used exclusively by this unit – no multi-use.
- Passo XS and Passo XS style:
  - Multi-use of the chimney is permissible. All other units connected to the chimney must be approved for multi-use.
- The combustion air is supplied to the unit from a different room air network (e.g. from the cellar) or from outdoors (e.g. through an external air connection).
- The combustion air line must be dimensioned in accordance with the valid regulations.
- The combustion air line must be permanently connected with the combustion air connection of the unit and sealed. Ensure that it is leak-tight.
- The combustion air line must be equipped with a locking device meeting the following requirements:
  - The locking device does not close on its own.
  - The position of the locking device is visible at all times (e.g. due to the position of the operating lever).
  - The locking device does not impede processes and work on the unit.
- The combustion air line must be connected to the unit without SQC connection.
- To prevent condensate formation, insulate the combustion air line and route it so that no water or other substances can enter the unit. Ensure that any formed condensate can be discharged.

### Room air dependent operation

- Multi-use of the chimney is permissible, as the unit has a self-closing firebox door. All other units connected to the chimney must be approved for multi-use.
- Note the combustion air requirement.
  - ➔ “2.8 Technical data” (page 10).

## 4.4 SQC connection (optional)

The SQC connection is an adapter factory-installed on the bottom of the unit for quick connection of a combustion air line. The adapter retracts when the unit is installed on an air supply opening in the floor. A sealing lip on the adapter ensures an air-tight connection.



The SQC connection requires a circular opening in the floor that must meet the following requirements:

- Diameter 100 mm.
- Centred under the planned installation site of the unit.
- Flush with the floor surface.
- Adherence to safety distances after installation of the unit.
  - ➔ “4.3.3 Safety distances” (page 19).

## 4.5 Preparation for assembly

- ▶ Familiarise yourself with the unit and the associated documents:
  - Assembly and operating manual.
  - Accessories and equipment.
  - Installation site.
  - Flue gas routing.
  - Operating mode (room air dependent or room air sealed).
  - If applicable, instructions of additional components (e.g. heat generator, heating controller).
- ▶ Prepare the necessary materials and tools:
  - Tools from the field of stove and ventilation construction, stove and tiled stove manufacture.
  - Industrial vacuum cleaner with ash separator.
  - Hexagon wrench, width across flats 13 and 14
  - Allen key 3 mm and 4 mm.
  - Allen key 5 mm (only for rotatable models).
  - Work gloves.

The following materials are also absolutely required for installing the unit:

- Flue gas pipes.
  - Combustion air pipes (for room air sealed operation).
- Suitable flue gas connection bend sets are available from the manufacturer.
- ➔ “10.1 Accessories” (page 51).
- ▶ Keep the installation site free of objects which may be damaged or destroyed during assembly.
  - ▶ Ensure that the flue gas routing complies with the valid regulations.
  - ▶ Ensure compliance with the chimney requirements.
  - ▶ Perform a chimney calculation.
  - ▶ Check adherence to the required delivery pressure.

## 4.6 Transporting the unit

### ⚠ WARNING!

#### Risk of injury caused by heavy loads!

The size and weight of the unit require plenty of strength during installation. Incorrect lifting or the unit tipping may lead to severe injuries.

- ▶ Adhere to the transport labels on the packaging.
- ▶ Use suitable transport equipment (e.g. lift truck, hand truck with tension belt).
- ▶ Secure the unit against sliding, tipping and falling.
- ▶ Only lift the unit at the points intended for this purpose.
- ▶ Have at least two persons present to install the unit.
- ▶ Ensure a stable position during installation.
- ▶ Ensure that no additional persons remain in the work area.

### ⚠ ATTENTION!

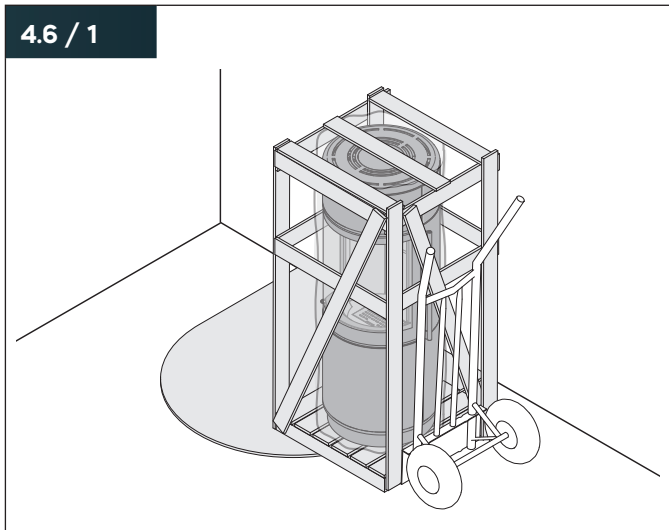
#### Risk of material damage caused by improper transport!

Rough handling may damage sensitive components on the front of the unit (e.g. the glass of the firebox door). Glass or ceramic surfaces may break if the unit is pulled or jammed.

- ▶ Use suitable transport equipment (e.g. lift truck, hand truck with tension belt).
- ▶ Only position the transport equipment at the marked points on the packaging.
- ▶ Only transport the unit in a standing or slightly inclined position leaning on the rear sides.
- ▶ Move the unit with care and caution.

# Assembly

## 4.6 / 1



- ▶ Transport the unit to the installation site.

## 4.7 Unpacking the unit

- ▶ Check the packaging for damage.
- ▶ Remove the packaging.
- ▶ Undo the screws of the transport securing mechanism on the pallet.
- ▶ Lift the unit off the pallet.
- ▶ Check the scope of delivery for completeness and ensure that it is not damaged.
  - ➔ “2.7 Scope of delivery” (page 9).

In the event of damage or incompleteness:

- ▶ Contact the manufacturer.

If the packaging is no longer required:

- ▶ Properly dispose of the packaging material.
  - ➔ “9.1 Disposing of the packaging” (page 50).

💡 The wooden cladding is suitable as fuel.

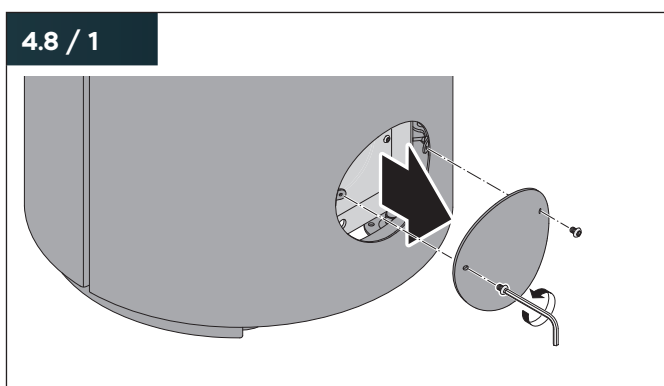
## 4.8 Changing the combustion air connection

In general, the combustion air connection is factory-installed on the bottom of the unit. With room air sealed operation, the combustion air connection may already have been factory-installed on the rear. On rotatable models it is only possible to connect the combustion air line from below.

Depending on the situation at the installation site, it may be necessary for the position to be moved to the rear side.

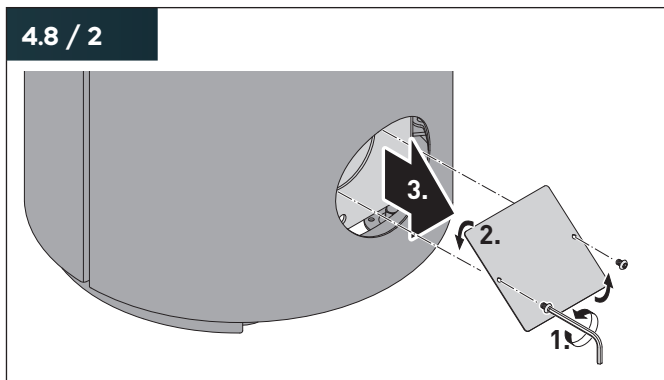
- ▶ Check the intended air supply.
- ▶ If necessary, change the combustion air connection as described below.

### 4.8 / 1



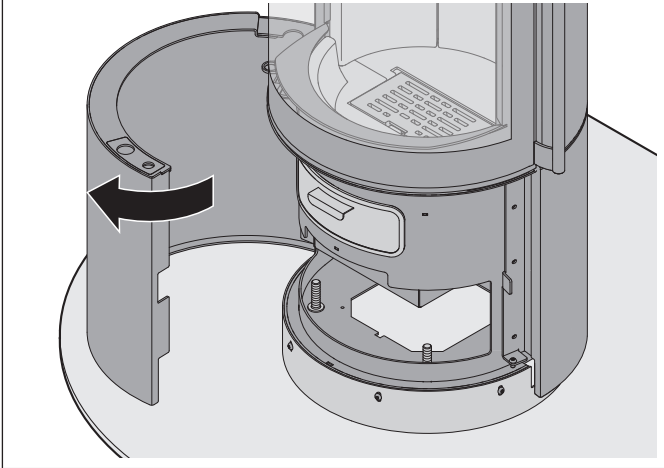
- ▶ Remove the cover lid on the rear.

### 4.8 / 2



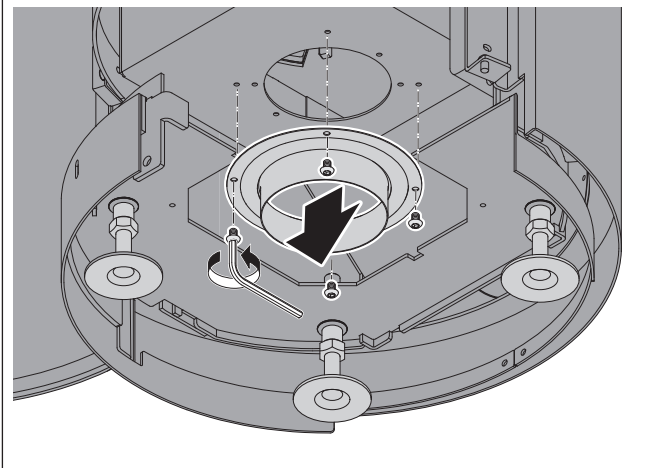
- ▶ Loosen the blind cover behind the cover panel.
- ▶ Tilt the blind cover.
- ▶ Pull the blind cover out of the unit.

4.8 / 3



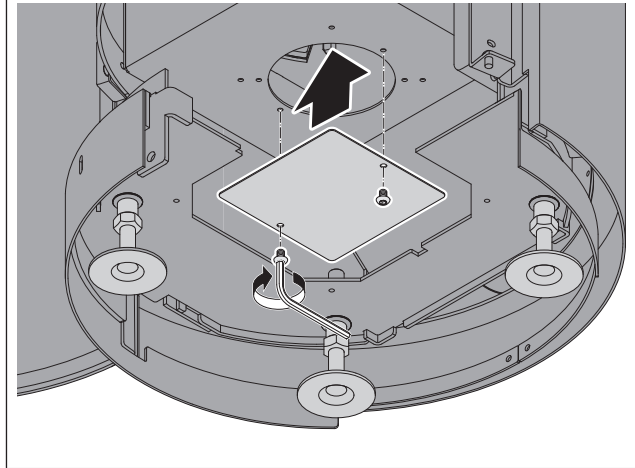
- ▶ Open the bottom cover panel door.

4.8 / 4



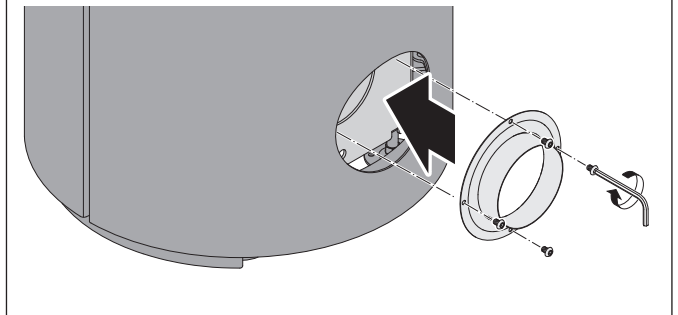
- ▶ Unscrew the combustion air connection at the bottom of the unit.

4.8 / 5



- ▶ Screw on the blind cover at the bottom of the unit. Ensure that the seals are positioned correctly while doing so.
- ▶ Close the bottom cover panel door.

4.8 / 6



- ▶ Screw the combustion air connection onto the rear side of the unit. Ensure that the seals are positioned correctly while doing so.

# Assembly

## 4.9 Changing the flue gas connection

The flue gas connection cannot be changed on rotatable models. The flue gas connection is factory-installed on top of the unit. Depending on the situation at the installation site, it may be necessary for the position to be moved to the rear side.

- ▶ Check the intended connection to the flue gas routing.
- ▶ If necessary, change the flue air connection as described below.

A heat protection plate is located behind the cover lid.

### ⚠ ATTENTION!

#### Risk of material damage caused by open or missing heat protection plate!

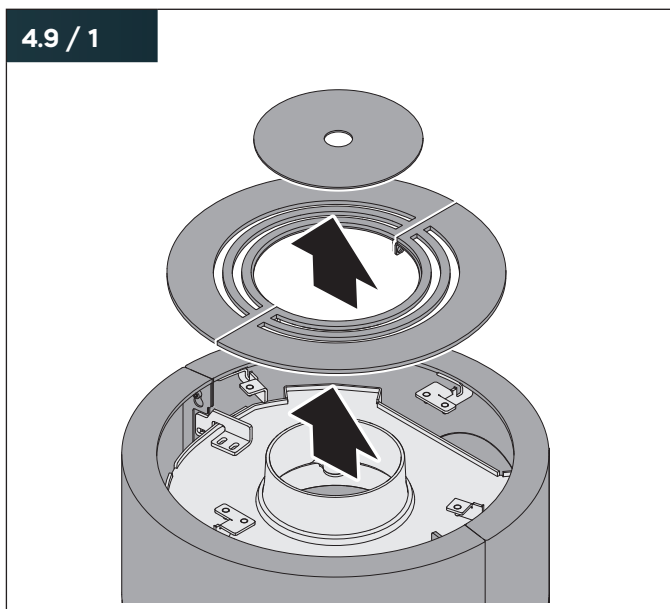
If the rear heat protection plate is missing from the flue gas connection at the top or the cover of the heat protection plate was not installed, the unit may be damaged by high temperatures.

- ▶ Ensure that the unit is never used without an intact heat protection plate.
- ▶ Ensure that the cladding cover is in perfect condition.

To move the flue gas connection from the side back to its top position:

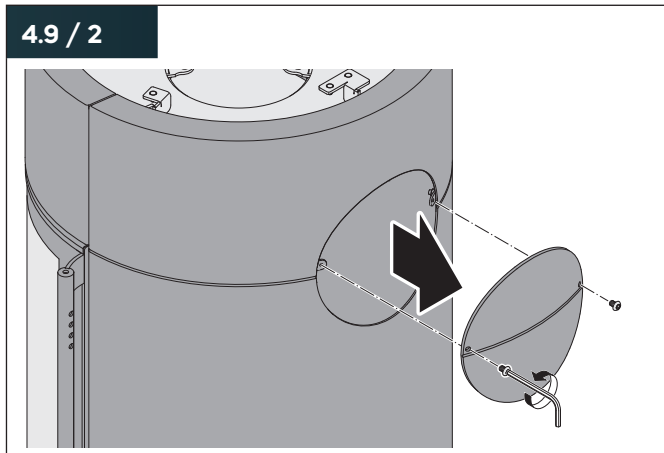
- ▶ Replace the used heat protection plate with a new one.

### 4.9 / 1



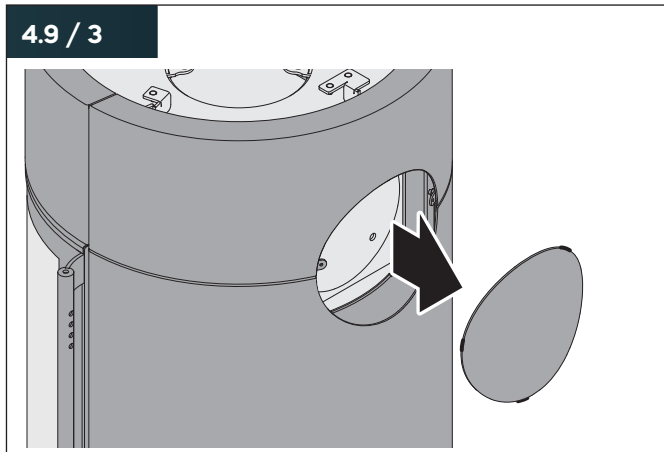
- ▶ Remove the blind cover and the cover plate.

### 4.9 / 2



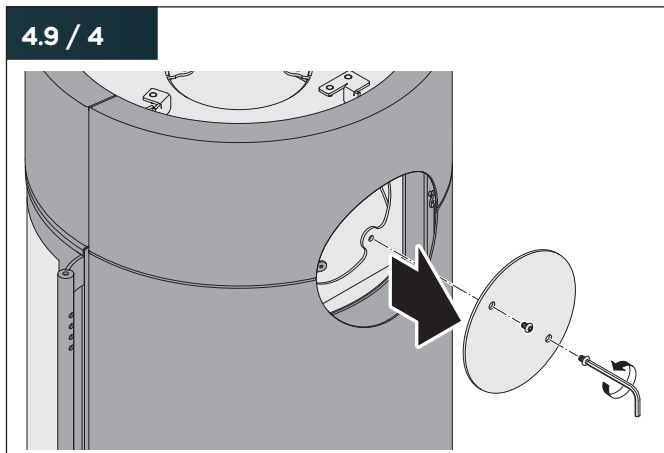
- ▶ Remove the cover lid on the rear.

### 4.9 / 3



- ▶ Push in the cover of the heat protection plate underneath along the perforation.
- ▶ Remove the lid of the heat protection plate.

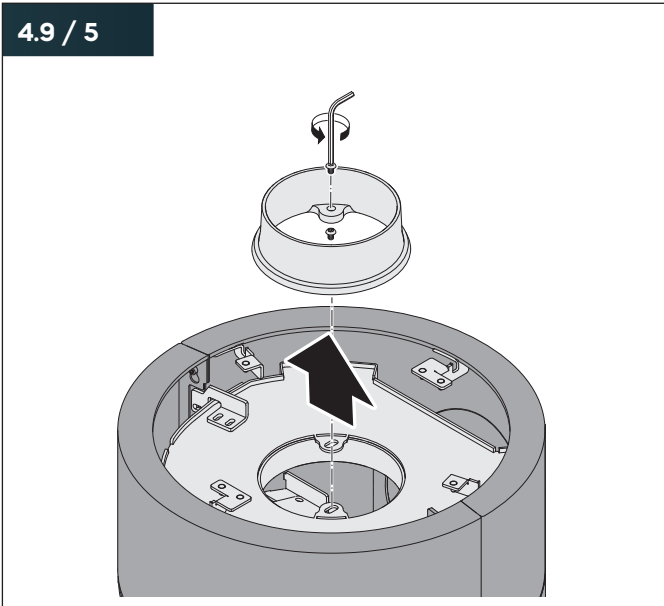
### 4.9 / 4



- ▶ Unscrew the blind cover inside.

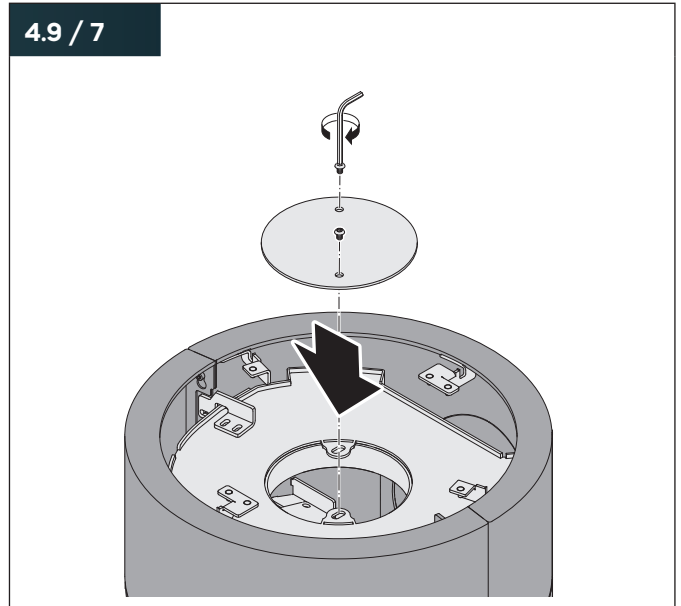


4.9 / 5



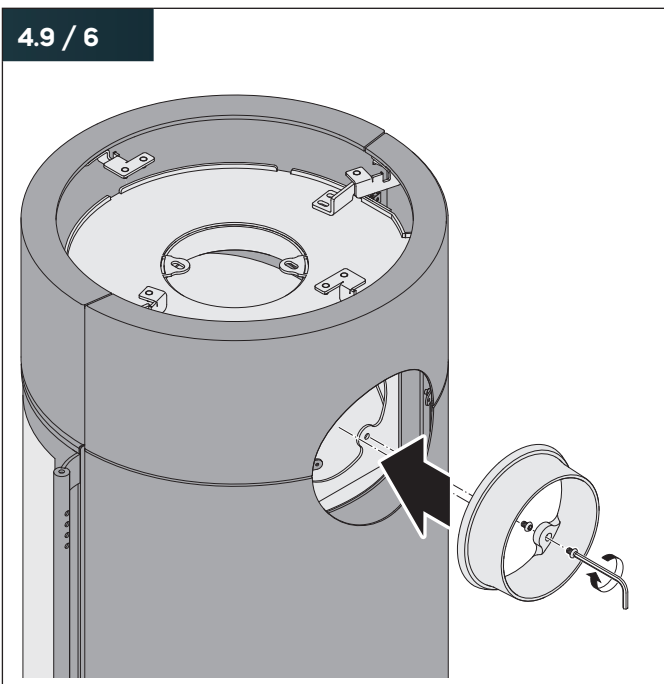
- ▶ Unscrew the flue gas connection from the top of the unit.

4.9 / 7



- ▶ Screw the blind cover taken from the rear side onto the top of the flue gas connection. Ensure that the seals are positioned correctly while doing so.

4.9 / 6

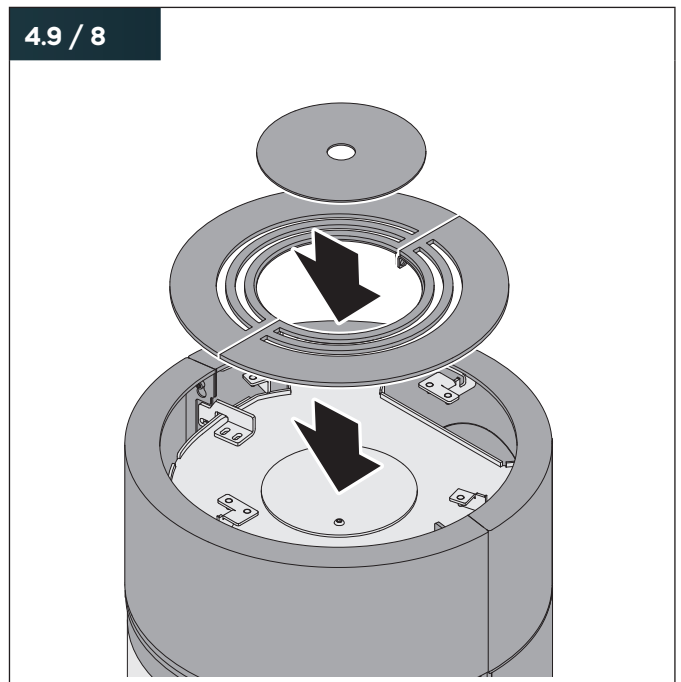


- ▶ Screw the flue gas connection onto the rear side of the unit. Ensure that the seals are positioned correctly while doing so.

If storage stones are used:

- ▶ Now insert the storage stones.
  - ▶ “4.12 Installing the storage stones (optional)” (page 30).

4.9 / 8

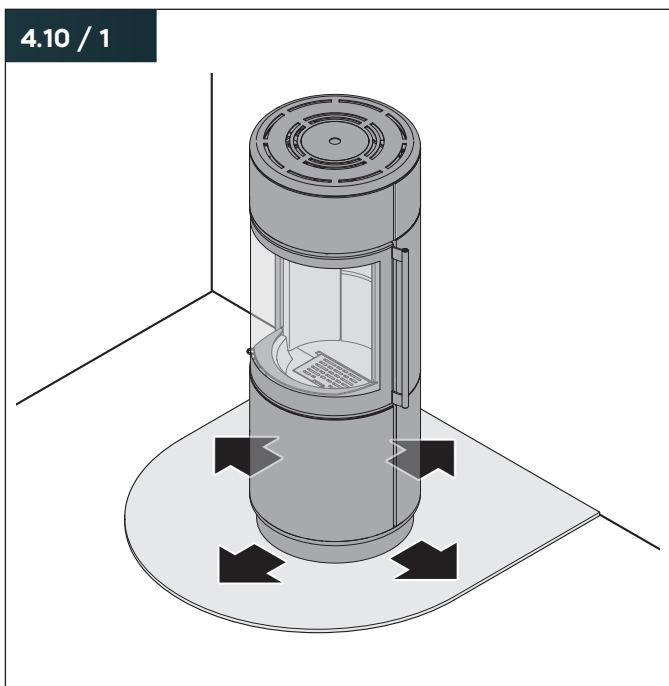


- ▶ Position the blind cover and the cover plate on top of the unit.

# Assembly

## 4.10 Positioning the unit

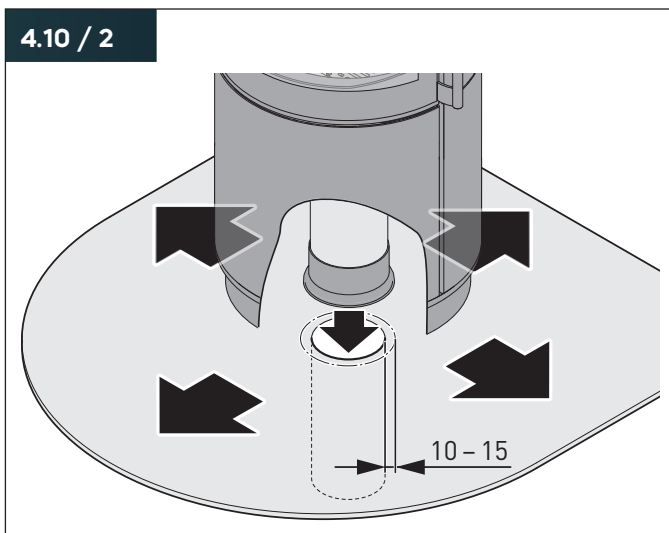
### 4.10 / 1



- ▶ Position the unit, taking into account the requirements for the installation site.
  - ➔ “4.3 Requirements for the installation site” (page 16).

Only for models with SQC connection (optional):

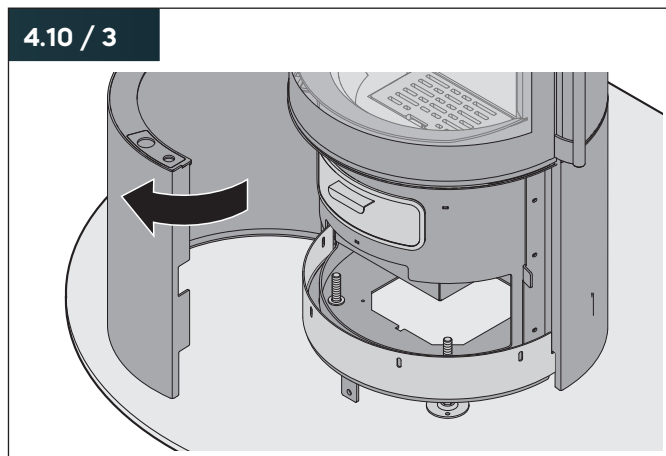
### 4.10 / 2



- ▶ Centre the unit above the floor opening.
    - ➔ “4.4 SQC connection (optional)” (page 23).
- Inaccuracies of the floor opening or unit positioning can be compensated for within a range of 10 – 15 mm.

All models:

### 4.10 / 3



- ▶ Open the bottom cover panel door by pulling on the side or bottom edge.

### Passo XS, Passo S, Passo L

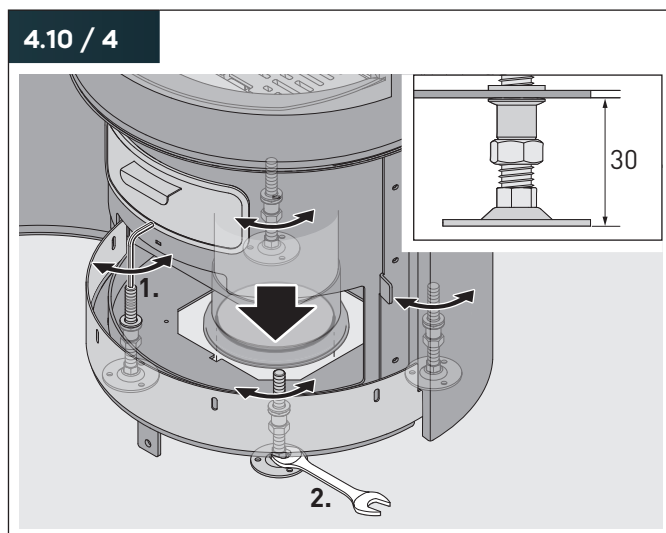
To prevent damage while pushing the unit, the foot screen is factory-secured in a position with sufficient space from the floor.

If the foot screen is not positioned with a gap from the floor (e.g. if the unit was already installed at a previous time):

- ▶ Undo the screws of the foot screen.
- ▶ Push up the foot screen in the slots.
- ▶ Secure the position of the foot screen.

Only for Passo XS, Passo S, Passo L with SQC connection:

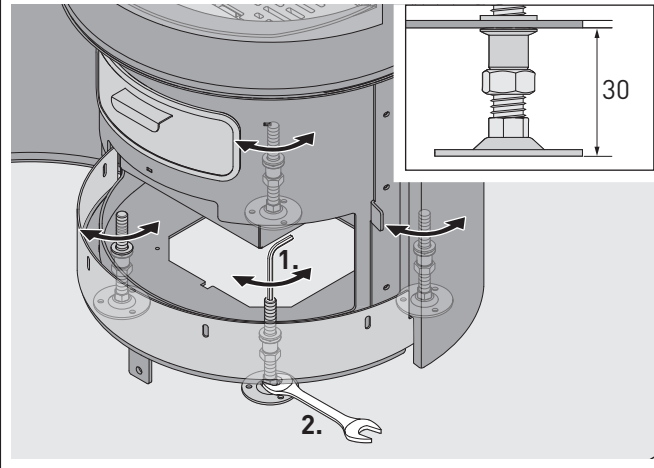
### 4.10 / 4



- ▶ Turn in the pre-installed adjustable legs until the sealing lip is pressed onto the floor without any gap.
- ▶ Ensure that the floor opening is completely closed by the sealing lip.
- ▶ Adjust the unit vertically and horizontally.
- ▶ Secure the adjustable legs by tightening the nuts.

Only for Passo XS, Passo S, Passo L without SQC connection:

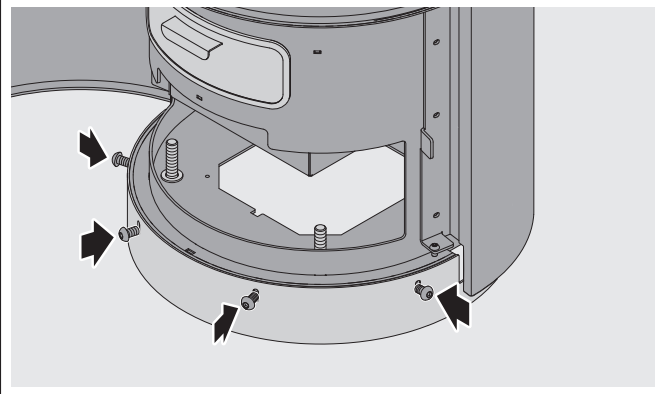
## 4.10 / 5



- ▶ Turn in the pre-installed adjustable legs.
- ▶ Adjust the unit vertically and horizontally.
- ▶ Secure the adjustable legs by tightening the nuts.

All models Passo XS, Passo S, Passo L:

## 4.10 / 6



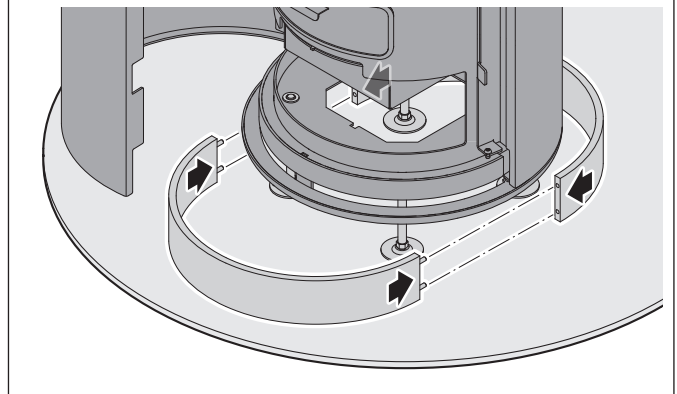
- ▶ Undo the screws of the foot screen.
- ▶ Push down the foot screen in the slots so that the foot screen is flush on the protective surface.
- ▶ Tighten the screws of the foot screen.
- ▶ Close the bottom cover panel door.

## Passo XS style

The adjustable legs are turned to their most extended position at the factory. If the adjustable legs are in a different position (e.g. if the unit was already installed at a previous time):

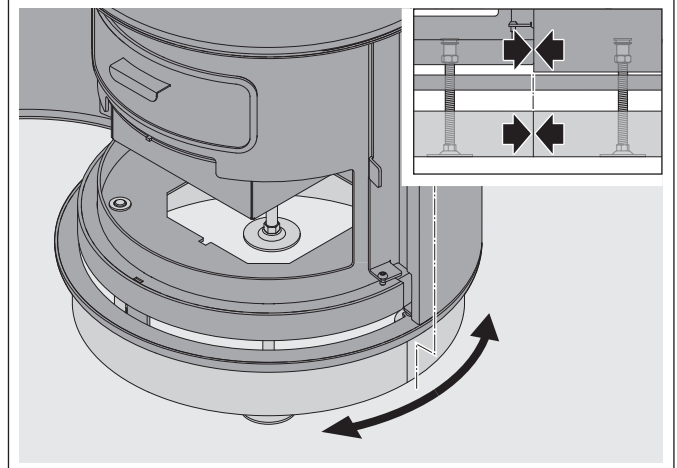
- ▶ Turn the adjustable legs all the way down to the stop.

## 4.10 / 7



- ▶ Position the half shells of the wooden base around the unit.
- ▶ Connect the half shells using a wooden plug.

## 4.10 / 8



- ▶ Align the half shells so that the edges are flush with the joint on the unit.

## ⚠ WARNING!

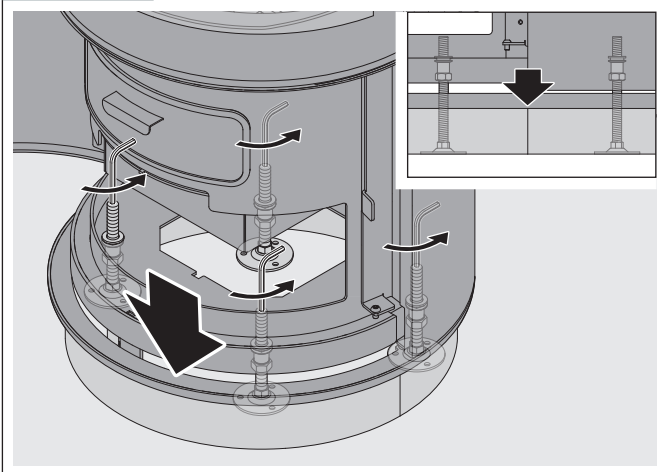
### Risk of injury caused by the unit falling over!

The wooden base cannot bear the weight of the unit. If the adjustable legs are turned in too far, the wooden base may break and the unit may tip over. This can lead to severe injuries.

- ▶ Ensure that the weight of the unit rests on the adjustable legs.
- ▶ Only turn in the adjustable legs far enough to lightly hold the wooden base in place.

# Assembly

## 4.10 / 9



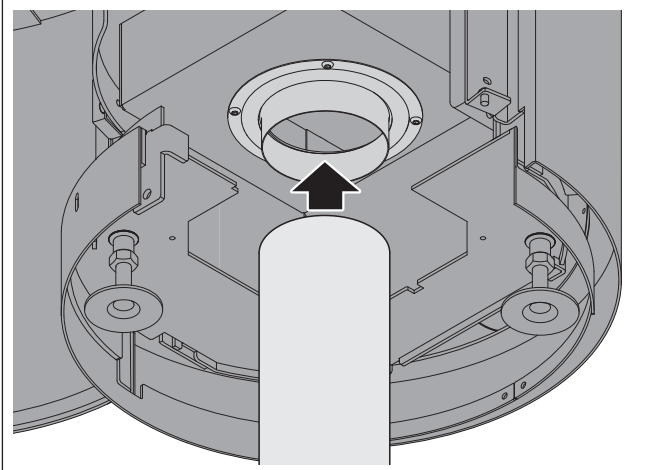
- ▶ Lower the unit by turning in the adjustable legs until the wooden base is surrounded by the steel ring of the cover panel.
- ▶ Check to ensure that the wooden base can no longer be shifted.

## 4.11 Connecting the combustion air line (optional)

For room air sealed operation, the unit must be connected to the combustion air line.

For room air dependent operation, the unit can be connected to the combustion air line.

## 4.11 / 1



- ▶ Connect the combustion air line with the combustion air connection on the unit.

## 4.12 Installing the storage stones (optional)

Additional storage stones (available for the Passo L models) increase the heat storage capacity of the unit. Their high density and high weight allows them to store heat for several hours and emit it into the room where the unit is installed.

### ⚠ WARNING!

#### Risk of injury caused by the unit falling over!

High models will become top-heavy if the storage stones are used and may tip over. The high weight may cause severe injuries.

- ▶ Secure the unit against unintentional movement.

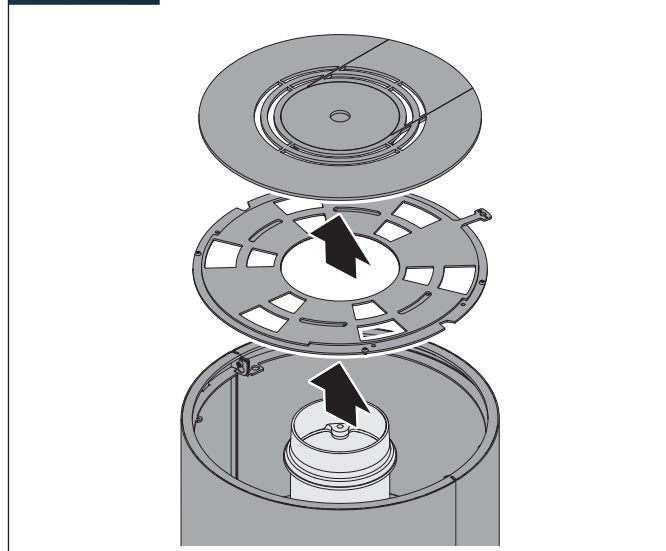
### ⚠ CAUTION!

#### Risk of injury caused by sharp edges!

Storage stones may be heavy and have sharp edges. If the storage stones shift during movement, this may lead to hand injuries.

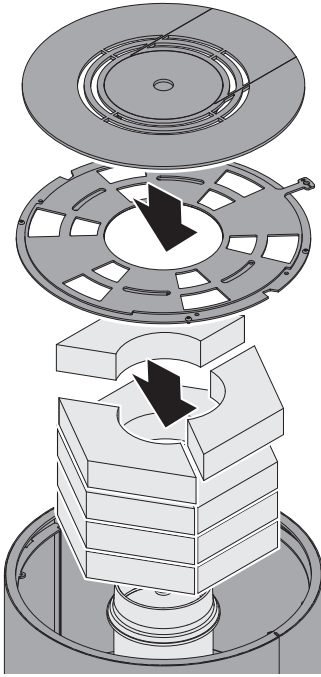
- ▶ Wear protective gloves when installing the storage stones.

## 4.12 / 1



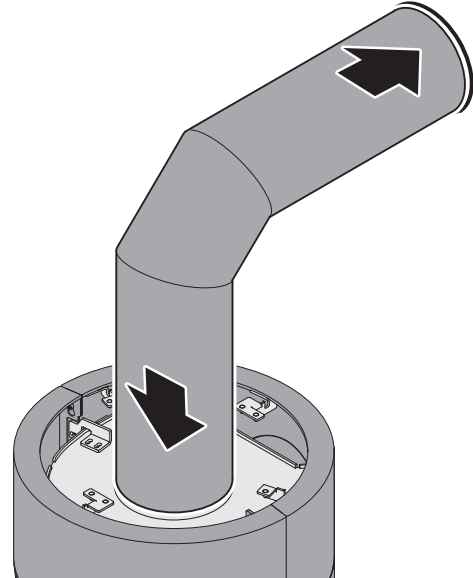
- ▶ Remove the blind cover, the cover plate and the convection air regulator.

4.12 / 2



- ▶ Insert the storage stones from the outside in.
- ▶ Reinstall the convection air regulator.
- ▶ Reinstall the cover plate and the blind cover.

4.13 / 2

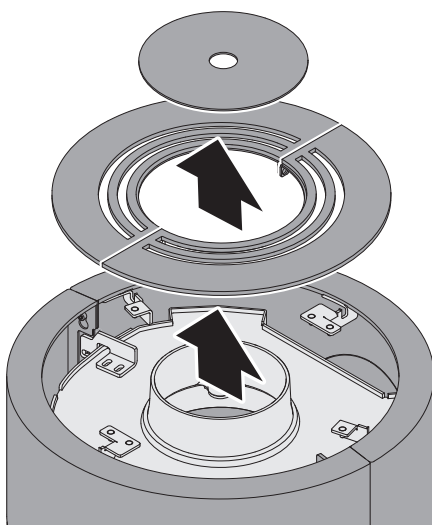


- ▶ Position the flue gas pipe on the flue gas connection on the unit.
- ▶ Route the flue gas pipe to the chimney horizontally with an incline along the shortest path.
- ▶ Connect the flue gas pipe with the chimney.
- ▶ Ensure that the flue gas pipe does not protrude into the chimney.
- ▶ Ensure that the pipe connections are sealed.

💡 We recommend using a double wall lining for the connection to the chimney.

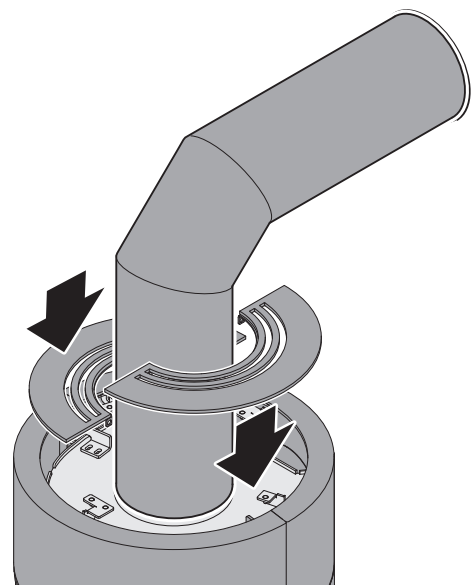
4.13 Connecting the flue gas routing

4.13 / 1



- ▶ Remove the blind cover and the cover plate.

4.13 / 3



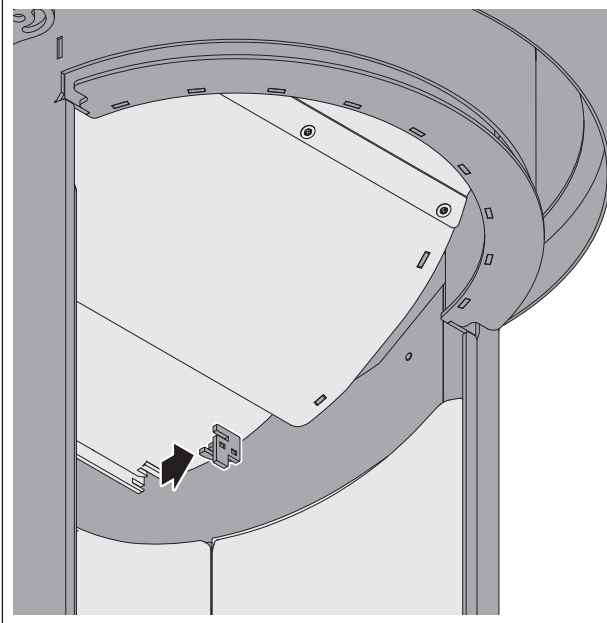
- ▶ Position the cover plate on top of the unit.

# Assembly

## 4.14 Installing the baffle plate

The deflection plate (factory-installed) and the baffle plate are used to guide the flue gas above the firebox.

### 4.14 / 1



- ▶ Remove the transport securing device from the deflection plate.

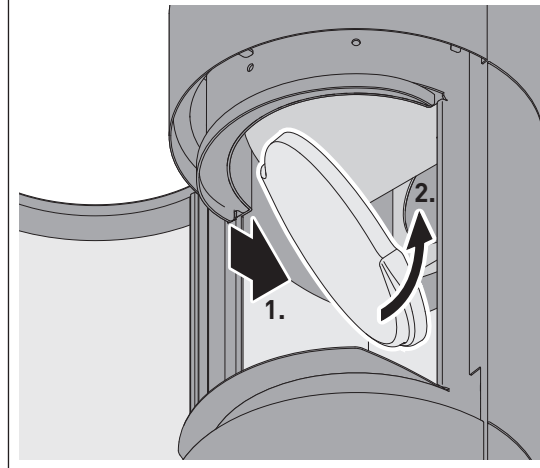
### ⚠ ATTENTION!

#### **Risk of material damage caused by improper handling!**

The size and weight of the baffle plate require strength and attention when inserting it. If the baffle plate falls down, it may cause damage to the unit, floor and other objects.

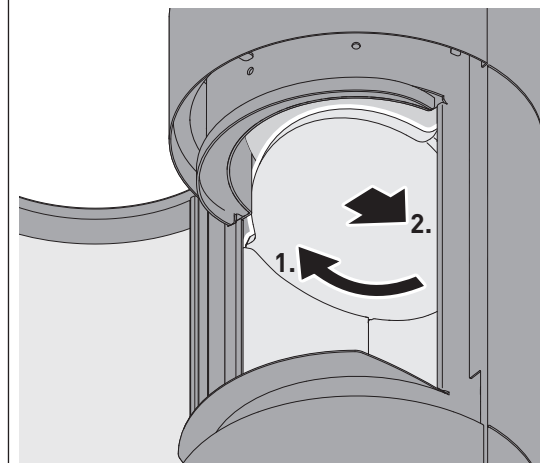
- ▶ Hold the baffle plate tightly.
- ▶ When depositing the baffle plate, ensure that it cannot slide out of place.

### 4.14 / 2



- ▶ Insert the baffle plate vertically in the firebox.
- ▶ Tilt the baffle plate above the firebox lining.

### 4.14 / 3



- ▶ Position the baffle plate on top of the firebox lining.
- ▶ Push the baffle plate rearward to the outer wall.

## 4.15 Checking the installation

- ▶ Remove the attached adhesive labels from the unit and from the connection pipes.
- ▶ Ensure that all connections between the stove system and chimney are leak-tight.
- ▶ Ensure that the necessary protective devices are functional.
  - ➔ “2.4 Protective devices” (page 7).
- ▶ Ensure that the necessary safety distances are observed.
  - ➔ “4.3.3 Safety distances” (page 19).

For room air sealed operation:

- ▶ Ensure that the air supply and flue gas routing use pipes approved for this purpose.

For room air dependent operation:

- ▶ Ensure that sufficient fresh air is supplied to the installation room.

## 4.16 Performing initial start-up

The initial start-up must be performed by qualified personnel.  
 ⇨ “1.2.3 Qualified personnel” (page 4).

Before the unit is used for the first time, the requirements for safe and intended use must be met:

- The stove system complies with the valid regulations and has been approved by the approval authority or supervisory authority (in Germany e.g. district chimney sweep).
- The unit is fully installed and connected. Its proper installation has been checked.
  - ➔ “4.15 Checking the installation” (page 33).
- The unit is dirt-free, all cleaning agent has been removed.
  - ➔ “6. Cleaning” (page 41).

Preparation:

- ▶ Ensure a sufficient fresh air supply.
- ▶ Open the locking devices in the combustion air pipe or in the flue gas connection.
- ▶ Ensure that the ash box has been emptied.
- ▶ Ensure that no flammable materials or objects are located on the unit or near the unit.

The first heating process dries out the applied protective paint and burns the corrosion protection coating into the surface of the unit. This may generate an odour and cause water to emerge from the firebox lining.

How to proceed:

- ▶ Only use a small volume of wood during the first heating process:
- ▶ Heat up the unit.
  - ➔ “5.3.2 Heating up the unit” (page 37).
- ▶ Increase the quantity of wood to the nominal heat output in 3 – 5 burning processes.
  - ➔ “2.8 Technical data” (page 10).

If no more smoke generation can be detected on the unit:

- ▶ Perform another combustion process.

The burn-in process up to the temperature reached in the final combustion process is complete.

As long as the first heating process is ongoing:

- ▶ Ensure that nobody touches the unit.
- ▶ Ensure that no objects are placed on the unit.
- ▶ Thoroughly ventilate the installation room and all connected rooms.
- ▶ Ensure that no persons remain in these rooms for a longer period.

If problems related to the delivery pressure and air extraction occur on the chimney:

- ▶ Measure the delivery pressure of the chimney.

## 4.17 Instructing the owner

Prior to initial use, the qualified personnel performing installation must instruct the owner in the following matters:

- Instruction on the intended use of the unit.
- Instruction on safe, proper, environment-friendly heating.
- Explanation of permissible types of fuel and the consequences of using unintended types of fuel.
- Explanation of the effects and operation of the unit, particularly taking into account safety-relevant actions.
- Explanation of the necessity of cleaning and servicing for safe, environment-friendly operation.
- Note that the stove system may not be modified.
- Information about the owner’s responsibility and tasks.
  - ➔ “1.2.2 Owner” (page 4).

Once the first heating process has been completed successfully:

- ✓ The first start-up and transfer have been logged.
- ✓ This manual and all technical documents have been handed over to the owner.



## 5. Use

### 5.1 Safety information for use

#### **WARNING!**

##### **Danger due to non-adherence to operating instructions!**

Incorrect use of the unit may lead to death or severe injuries. This chapter contains important information for safe use of the unit.

- ▶ Carefully read this chapter.
- ▶ Adhere to the the safety information.
- ▶ Only use the unit as described here.

Only allow instructed users to use the unit.  
 ➔ "1.2.4 Users" (page 4).

To prevent danger during use of the unit, adhere to the following requirements at all times:

- Do not store or deposit flammable materials or fluids
  - on the unit,
  - near the unit,
  - in the compartment behind the bottom cover panel door.
- It is also not permissible to dry laundry items.
- Do not use candles in the unit.
- Do not position flammable objects (e.g. furniture, carpets, flowers) in front of the firebox opening.
- The firebox door must always be kept closed in cold condition and during operation. Opening is only permissible for heating, refuelling and cleaning.
- The unit must be monitored during operation and after operation until it has fully cooled down.
- The unit may only be operated with the approved fuel.
  - ➔ "3.2 Permissible types of fuel" (page 15).
- The maximum permissible fuel volume may not be exceeded.
  - ➔ "2.8 Technical data" (page 10).
  - ➔ "3.5 Size of the fuel pieces" (page 15).
- Allow the fire in the stove system to burn down and the stove system to cool down before working with explosive or highly flammable substances in the vicinity.
- The chimney requires regular cleaning (e.g. in Germany by the district chimney sweep) to prevent formation of a layer of soot in the chimney.
  - ➔ "1.4 Chimney fire" (page 5).

Keep the necessary safety distances at all times.  
 ➔ "4.3.3 Safety distances" (page 19).

#### **WARNING!**

##### **Danger of death by poisoning!**

During operation of the unit, hazardous materials which are inevitably generated during the burning process can enter the indoor air. During room air dependent operation, additional breathing air is removed from the room air. An insufficient supply of breathing air and fresh air can lead to headaches, nausea and dizziness and even loss of consciousness and death.

- ▶ Prior to using the stove for heating, open the locking mechanisms in the combustion air path.
- ▶ Ensure that the firebox door is closed during heating operation.
- ▶ Ensure that sufficient fresh air is supplied to the installation room during heating operation. This also applies to simultaneous use of the stove system and additional heat-generating devices.
- ▶ Ensure that the required safety devices are installed if the unit is used in an interlinked system with extraction hoods, hot-air systems or ventilating systems.
- ▶ Do not use the unit during extreme weather conditions (e.g. severe storm, severe low pressure or severe precipitation).

#### **WARNING!**

##### **Risk of injury due to contact with hot surfaces!**

Unit parts (e.g. cover panel, pipes, firebox door, door handle, combustion air slider) may become very hot during operation. Contact may lead to burns.

- ▶ Ensure that children do not stay near the hot unit. Children under the age of 8 and pets must be supervised at all times and must be kept away from the unit.
  - ▶ Use the heat protection glove:
    - When opening and closing the firebox door.
    - When refuelling the unit.
    - When operating the combustion air slider.
    - When turning the unit (only for rotatable models).
- The heat protection glove is intended for protection and is not fireproof.

#### **CAUTION!**

##### **Risk of injury when closing the firebox door!**

The open firebox door is subject to tension and closes automatically. When the firebox door is closed or slammed shut, fingers may be crushed.

- ▶ Do not reach into the closing area.
- ▶ Wear protective gloves.



## 5.2 Turning the unit (optional)

On rotatable models the orientation of the firebox opening can be changed at any time. Starting from the factory setting, the turntable permits turning of the unit by 45° each left and right. Use the button on the front of the unit to lock the unit in the desired firebox opening orientation.

### ⚠ WARNING!

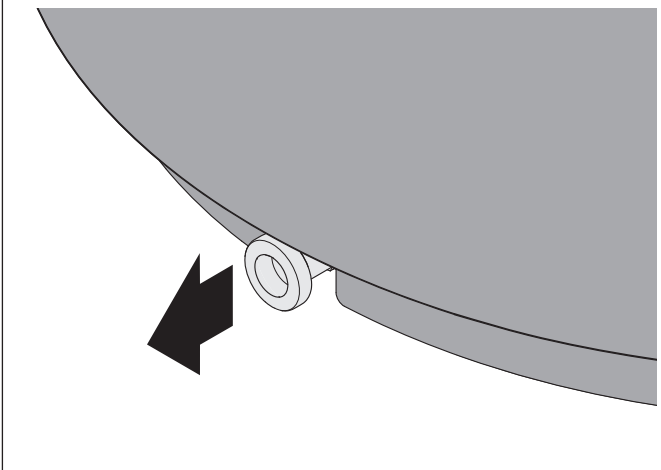
#### Risk of injury due to contact with hot surfaces!

Unit parts (e.g. cover panel, firebox door, door handle) may become very hot during operation. Contact may lead to burns.

- ▶ When turning the unit in heating mode, use the heat protection glove.

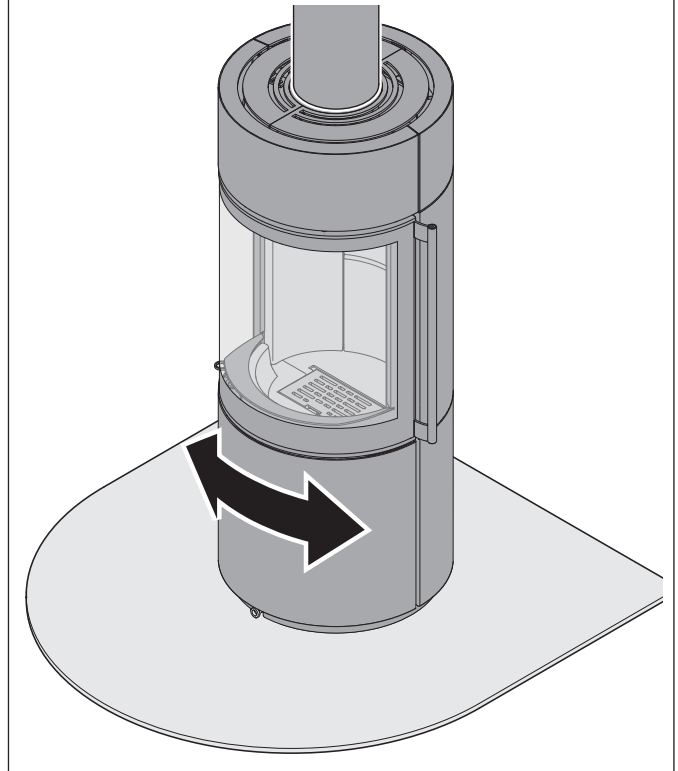
The heat protection glove is intended for protection and is not fireproof.

### 5.2 / 1



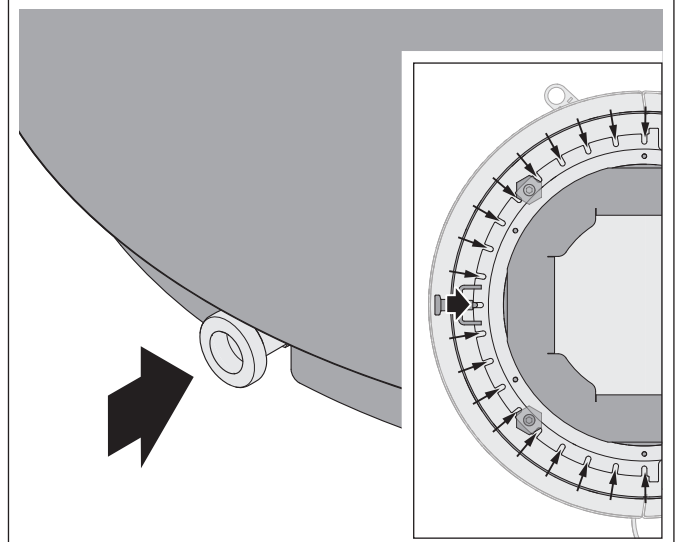
- ▶ Pull out the button on the turntable.
- ▶ Hold the button.

### 5.2 / 2



- ▶ Turn the unit to your preferred position.

### 5.2 / 3



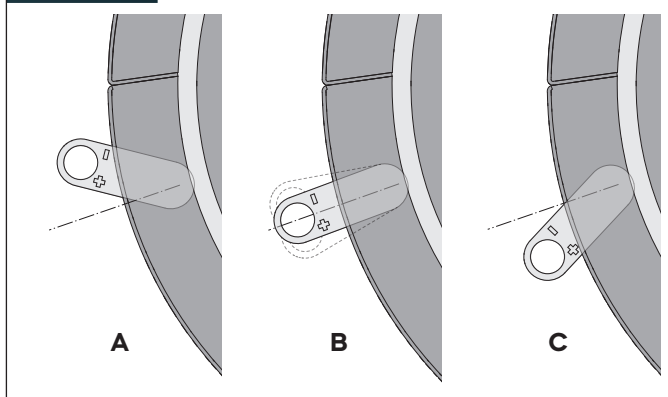
- ▶ Release the button.  
The button engages in the nearest possible notch of the 19 notches in the turntable.

## 5.3 Heating mode

### 5.3.1 Preparing the heating process

- ▶ Pay attention to the weather. Do not use the unit during extreme weather conditions (e.g. severe storm, severe low pressure or severe precipitation).
- ▶ Ensure a sufficient fresh air supply.
- ▶ If installed, open the locking devices in the combustion air pipe or in the flue gas connection.
- ▶ Ensure that the air openings are not blocked.
- ▶ Ensure that the ash box has been emptied.
- ▶ Check whether it is necessary to remove combustion residue from the firebox.
- ▶ Ensure that no flammable materials or objects are located on the unit or near the unit.

#### 5.3.1 / 1

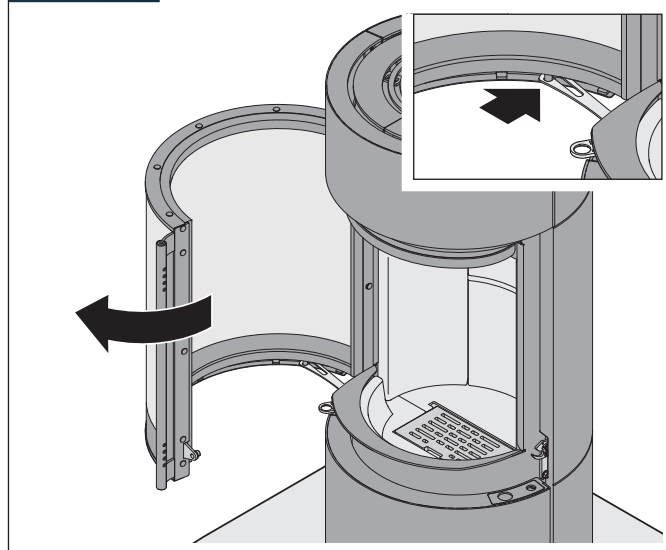


The combustion air is controlled in an infinitely variable manner by using the combustion air slider while the firebox door is closed.

➔ “2.1 Functional principle” (page 6).

- A** Air supply closed.  
No combustion air is supplied to the firebox. The air supply and additional locking devices in the air guide may only be closed once the fuel has completely burned down.
- B** Combustion (nominal heat output).  
The primary air supply is closed. Secondary air flows against the ceramic glass pane via the window cleaning system.  
Opening or closing the combustion air slider affects the burning behaviour.
- C** Air supply open.  
The maximum combustion air volume is supplied to the firebox as primary and secondary air.

#### 5.3.1 / 2



- ▶ Open the firebox door by pulling the door handle.

Use the door lock to secure the firebox door against falling shut (e.g. prior to firing up the unit or during cleaning). Do not use the door lock during the heating process.

- ▶ Push the door lock outward and hold it.
- ▶ Slowly close the firebox door until the door lock engages.

To release the door lock again:

- ▶ Fully open the firebox door.
- ▶ Let go of the firebox door.

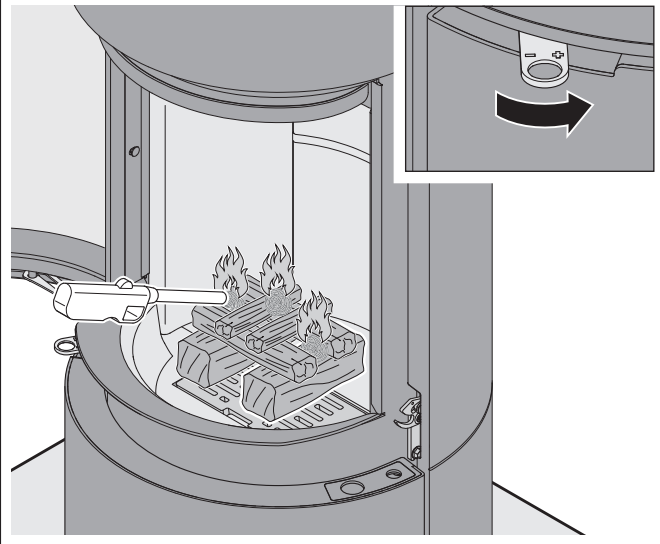
The spring mechanism automatically closes the firebox door.

To prevent damage caused by overheating (e.g. discolouration) and ensure perfect function, it is necessary to fire up the unit in the correct manner. Do not exceed the maximum fuel volume.

➔ “2.8 Technical data” (page 10).

## 5.3.2 Heating up the unit

### 5.3.2 / 1



If glowing embers are still present from the previous day, it may be enough to stoke the ash-and-ember bed:

- ▶ Push the combustion air slider all the way to the right for opening **(C)**.
- ▶ Place thin wooden chips on top.
- ⚠ As a foundation for firing up we recommend an approx. 2 – 5 cm thick layer of ash and unburned residue.

When reheating:

- ▶ Push the combustion air slider all the way to the right for opening **(C)**.
- ▶ Deposit logs in the firebox in multiple layers:
  - Thick logs at the bottom.
  - Thin logs at the centre.
  - Small pieces of soft wood kindling at the top.
- ▶ Position igniters on the top of the wood.
- ▶ Ignite the igniters with a long match or a stick lighter.
- ▶ Close the firebox door.
- ▶ Monitor the heating process.

After lighting:

- A pilot fire is generated, which slowly eats through the stack of wood from the top to the bottom while generating few emissions.
- Smoke may form and the firebox may darken, particularly in the top section. A light-coloured firebox lining will become darker.
- The longer the fire burns, the higher the temperature in the unit rises and the dark areas become lighter again, first in small spots, followed by entire sections.

Once the fuel has burned down to embers:

- ▶ Refuel the unit.
  - ➔ "5.3.4 Refuelling the unit" (page 39).

Under normal conditions, the operating temperature is reached after two burning processes and all surfaces should be free of dark discolourations.

If the chimney is cold, delivery problems may occur during the light-up phase. The chimney does not draw enough air, which is detectable from a small or extinguishing flame.

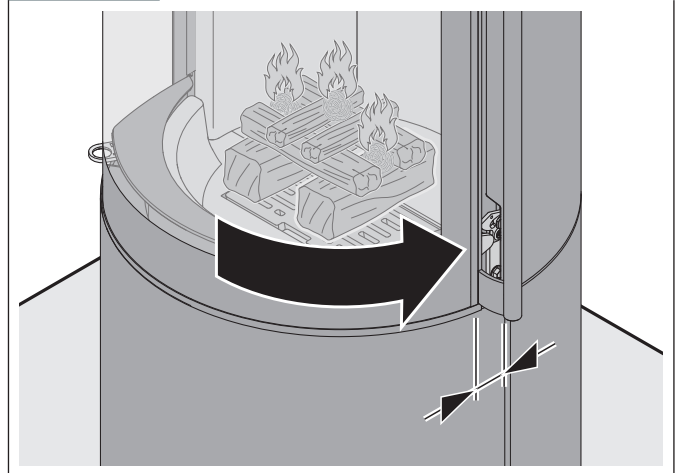
On the other hand, excessive delivery pressure is indicated by inclined flames, soiled windows and fire noises.

If the delivery problems persist for a longer period even when the weather is suitable:

- ▶ End the heating process.
  - ➔ "5.3.6 Ending the heating process" (page 40).
- ▶ Contact a specialised company to inspect the chimney.

Only for room air dependent operation:

### 5.3.2 / 2

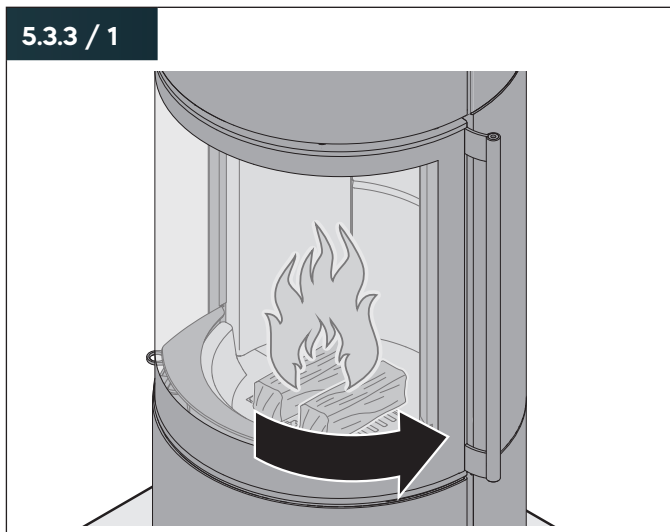


- ▶ Leave the firebox door slightly ajar in the first minutes after lighting the fire so that a gap remains.
- ▶ Ensure that the firebox door does not lock automatically.
- ▶ Monitor the burning behaviour.
- ▶ Immediately close the firebox door if flue gas emerges.
- ▶ Close the firebox door when the fuel is completely on fire or no later than after 15 minutes.

For room air sealed operation, the firebox door must always be closed during heating operation.

## 5.3.3 Controlling the heating process

5.3.3 / 1



- ▶ Ensure that the firebox door is completely closed.

When starting the fire or refuelling:

- ▶ Push the combustion air slider all the way to the right (**C**).

During the heating process (approx. 30 – 45 minutes after the start):

- ▶ Push the combustion air slider to a centre position (**B**).

The precise position and the thermal output achieved with it depend on the specific situation and are affected by many factors:

- Size, type and residual moisture of the fuel.
  - Volume of fuel placed in the unit.
  - Stove temperature.
  - Delivery pressure of the chimney.
  - External weather conditions.
- ▶ Select a setting that creates a calm, bright flame pattern.
  - ▶ Familiarise yourself with the unit and find out what the best settings are.

Position of the combustion air slider with tested nominal heat output:

- ➔ “2.9 Nominal heat output” (page 12).

The following signs can be used to detect whether the fire in the unit is clean and low-emission:

- The ash should be white. A dark colour indicates charcoal residue and therefore incomplete burning.
- The flue gases on the chimney stack should be as invisible as possible – less smoke indicates better burning behaviour.
- The firebox lining in the unit is light-coloured and not sooty after the heating process.

If the fire burns with an excessively large flame:

- ▶ Push the combustion air slider to the left without fully closing the air supply.  
The air volume is reduced, stabilising the burning process. This prevents overloading of the unit and reduces emission generation.

If the air supply is reduced too much, the fire may extinguish. The result may be incomplete burning and severe soot formation.

- ▶ Push the combustion air slider to the right (**C**).

If the weather conditions change during the heating process (e.g. oncoming storm or precipitation) and this causes the heating process to deteriorate:

- ▶ Allow the fire to extinguish.
- ▶ Do not add additional logs.

If outdoor temperature are above 15 °C, the delivery pressure may fluctuate.

Measures for malfunction-free operation:

- ▶ Stoke the flames frequently.
  - ▶ Only insert very little additional fuel.
- ▶ Ensure that the heap of ash and embers does not grow excessively. Otherwise end the heating process, allow the unit to cool down sufficiently, then clean it.
    - ➔ “6.3 Simple cleaning” (page 42).

## 5.3.4 Refuelling the unit

### ⚠ WARNING!

#### Risk of injury caused by hot door handle!

With increasing duration of use, the unit components (e.g. door handle and combustion air slider) become very hot. Contact may lead to burns.

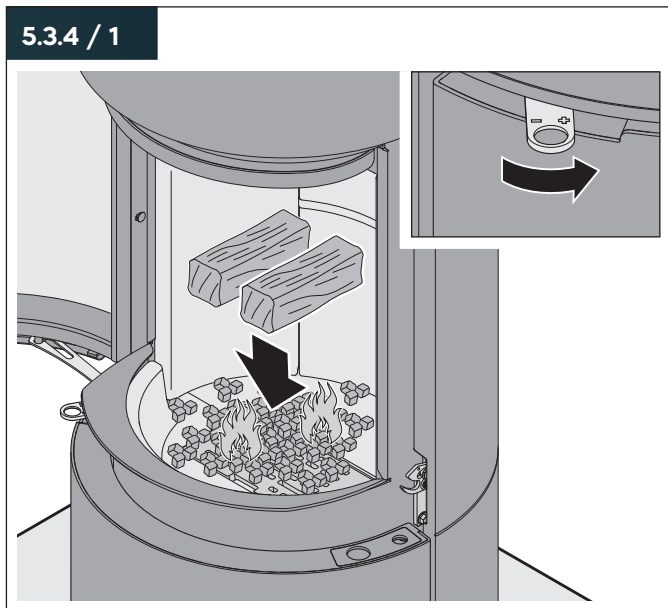
- ▶ Use the heat protection glove:
    - When opening and closing the firebox door.
    - When refuelling the unit.
    - When operating the combustion air slider.
- The heat protection glove is intended for protection and is not fireproof.

### ⚠ ATTENTION!

#### Risk of fire caused by burning particles falling out!

When the firebox door is opened during the heating process, sparks or fuel particles may emerge from the unit.

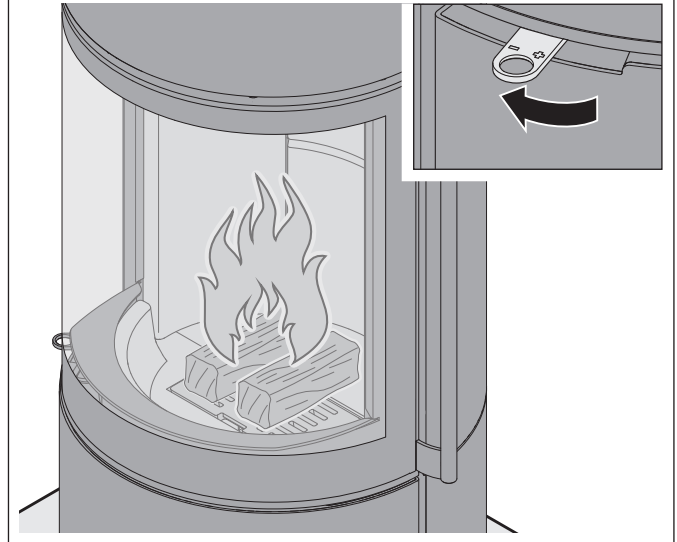
- ▶ Open the firebox door slowly to avoid creating swirls.
- ▶ Only refuel the stove when the fuel has burned down to embers.



- ▶ Push the combustion air slider all the way to the right (C).
- ▶ Pull the door handle to slightly open the firebox door.
- ▶ Wait 2 – 3 seconds for pressure equalisation to take place.
- ▶ Only fully open the firebox door after this time.
- ▶ Place smaller logs (up to 250 mm) on the embers or place larger logs vertically on the embers.
- ▶ Ensure that the embers are not extinguished as you refuel.
- ▶ Close the firebox door.

Do not exceed the maximum fuel volume.  
 ➔ “2.8 Technical data” (page 10).

### 5.3.4 / 2

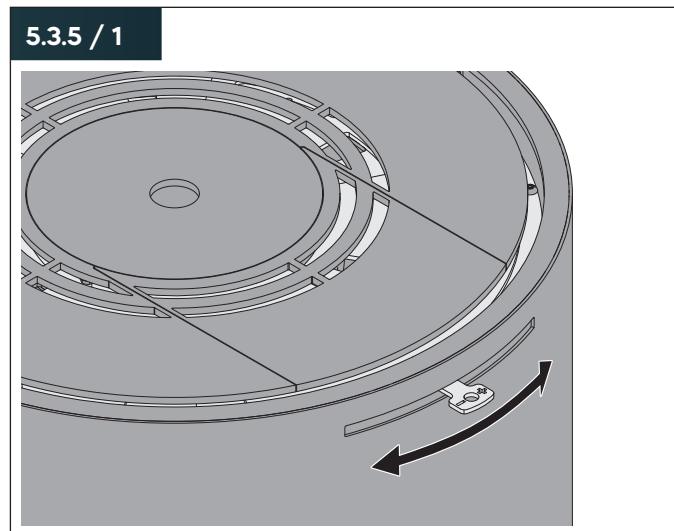


Once the inserted wood is burning (approx. 2 – 5 minutes after insertion):

- ▶ Push the combustion air slider to a centre position (B).

## 5.3.5 Controlling the heat output (optional)

Only for Passo L with installed storage stones:



The heat emission from the storage stones can be controlled using the convection air regulator.

- Convection air regulator to the right:  
More heat is emitted to the installation space, the duration of heat emission is reduced.
- Convection air regulator to the left:  
Less heat is emitted to the installation space, the duration of heat emission is increased.
- ▶ Set the convection air regulator to your desired setting.

## 5.3.6 Ending the heating process

### ⚠ ATTENTION!

#### Risk of material damage caused by explosion!

If heat or glowing embers remain in the unit and the air paths are closed, flue gas is generated, which may ignite in an explosive manner. This could cause severe damage to the unit and components in the environment of the unit.

- ▶ Only close the air supply when no flames are visible.
- ▶ Ensure that no heat or glowing embers remain in the firebox.
- ▶ Ensure that no smouldering, unburned wood remains in the firebox.

To reduce the cool-down of the room air, the remaining embers can be used for some more time (approx. 2 hours).

- ▶ Leave the combustion air slider in the centre position (**B**) for this time.

Combustion only ends when the wood has burned down completely and no smouldering or incomplete burning is possible.

- ▶ Ensure that no open flame remains.
- ▶ Ensure that no heat or glowing embers remain in the firebox.
- ▶ Push the combustion air slider all the way to the left (**A**).

To fully end the heating process:

- ▶ Allow the fire to extinguish for a sufficiently long period (e.g. over night).
- ▶ Ensure that the combustion air slider is in the position all the way on the left (**A**).

## 6. Cleaning

### 6.1 Safety information for cleaning

#### **⚠ ATTENTION!**

#### **Risk of material damage caused by improper cleaning!**

Incorrect cleaning may damage the unit (e.g. damage to surfaces and varnish, glass breaking). This chapter contains important information for cleaning the unit.

- ▶ Carefully read this chapter.
- ▶ Adhere to the the safety information.
- ▶ Perform the cleaning work as described.

Cleaning may only be performed by instructed users.  
⇒ "1.2.4 Users" (page 4).

- Always fully remove any dirt. Remaining dirt may be burnt in and can then no longer be removed.
- Ensure that cleaning agent does not make contact with seals or varnished surfaces (e.g. as a result of spraying). The seals may harden, leading to the glass breaking.
- Keep objects that may cause scratches on the unit (e.g. rings on your finger) away from the unit.
- Do not use objects that may scratch surfaces when cleaning the firebox.
- Only use suitable cleaning agents. Harsh, caustic or scouring cleaning agents are not suitable.

📄 Note the information and specifications on the cleaning agents used.

A suitable ash extractor (industrial supplies/specialist retail) can be used to remove fine deposits in the firebox.

#### **Prior to any cleaning work:**

- ▶ Ensure that the unit and other accessible components have cooled down.
- ▶ Please note that glowing embers in the fuel residue may persist for up to 24 hours or longer.
- ▶ Protect the surroundings of the stove system, e.g. by covering the floor and furniture.
- ▶ Wear work clothing and protective gloves.
- ▶ Ensure that the open firebox door has been secured against falling shut by means of the door lock.  
➔ Figure 5.3.1 / 2 (page 36).

### 6.2 Cleaning intervals

The cleaning intervals depend on:

- Intensity of use.
- Heating habits.
- Fuel quality.

To ensure a good fire quality, regularly clean the ash box and ash grate – if possible after each heating process.

Simple cleaning can be performed as required and based on the degree of soiling.

➔ "6.3 Simple cleaning" (page 42).

The annual cleaning, which includes dismantling and reinstalling unit components must be performed once a year. If necessary (e.g. after chimney cleaning or intensive use), this cleaning process may have to be performed additional times.

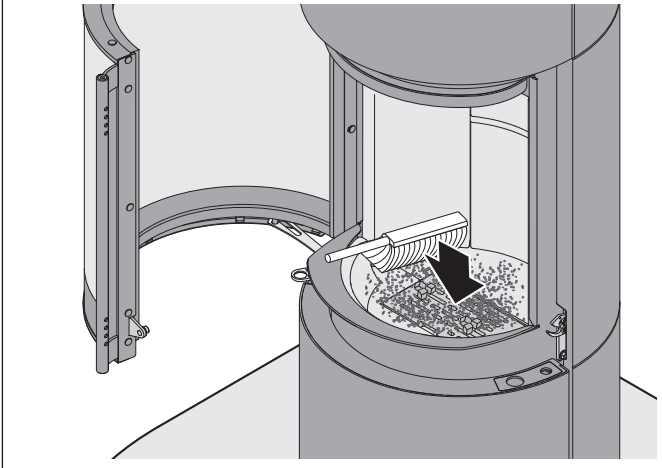
➔ "6.4 Annual cleaning" (page 43).

# Cleaning

## 6.3 Simple cleaning

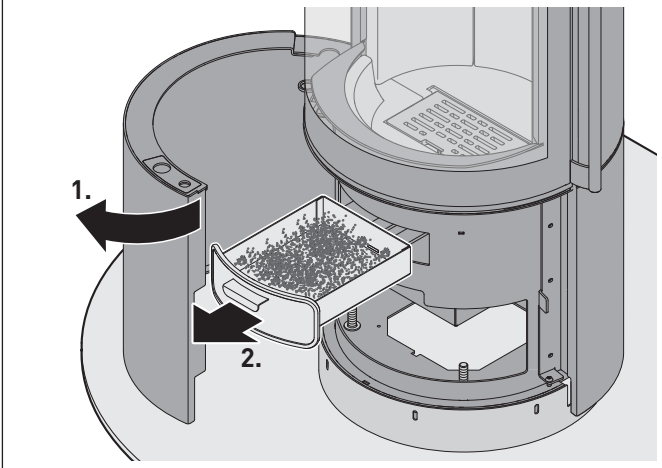
### Firebox

#### 6.3 / 1



- ▶ Remove severe soiling (fuel residue and coarse dirt).
- ▶ Use a hand broom to clean the firebox lining and the ash grate.
- ▶ Clean the air openings.
- ▶ Clean all components of the firebox lining.
- ▶ Clean the ash grate.

#### 6.3 / 2



- ▶ Empty the ash box.

### Surfaces

- ▶ Clean the surfaces and door handle with a dry or damp cloth - do not use a microfibre cloth.
- ▶ Clean the stainless steel surfaces with conventional stainless steel cleaning agents. Always clean in the sanding direction.

### Viewing window

- ▶ Clean minor soiling with a damp cloth.
- ▶ In the case of severe soiling, carefully apply glass cleaner with a cloth or a rag.
- ▶ Ensure that the cleaning agent does not make contact with seals or varnished surfaces.

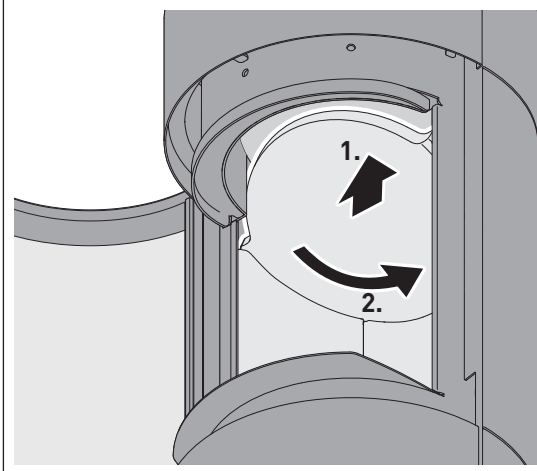


## 6.4 Annual cleaning

Annual cleaning includes the measures for simple cleaning as well as the disassembly and reassembly of unit components. Ash residue and fire dust are unpreventable during this process.

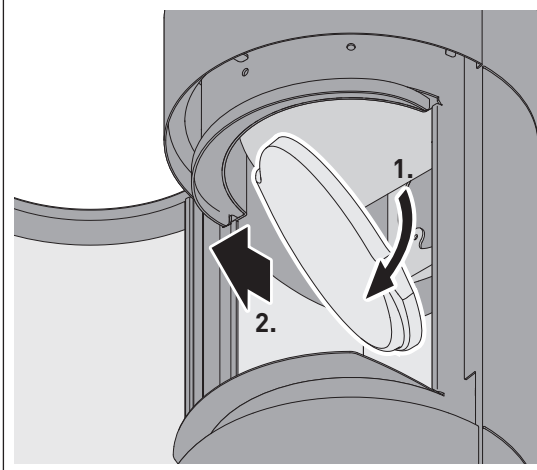
- ▶ Protect the area surrounding the unit.
- ▶ First clean the firebox.
  - ➔ “6.3 Simple cleaning” (page 42).

### 6.4 / 1



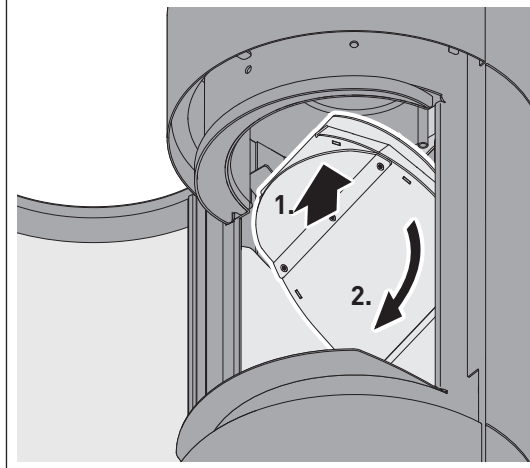
- ▶ Lift the deflection plate on the firebox ceiling.

### 6.4 / 2



- ▶ Carefully tilt the deflection plate slightly sideways.
- ▶ Take out the deflection plate toward the bottom.
- ▶ Use a hand broom to clean the deflection plate.
- ▶ Use a hand broom to clean the area above the firebox.

### 6.4 / 3



- ▶ Lift the deflection plate.
- ▶ Carefully tilt the deflection plate slightly forward.
- ▶ Take out the deflection plate toward the bottom.
- ▶ Use a hand broom to clean the deflection plate.
- ▶ Use a hand broom to clean the area above the firebox.
  
- ▶ Reinsert the deflection plate (only for Passo XS, Passo XS style and Passo XS tripod).
- ▶ Reinsert the baffle plate.
  - ➔ “4.14 Installing the baffle plate” (page 32).
- ▶ Check the proper condition:
  - All components are in the correct position.
  - There is no gap between the components.
- ▶ Clean the surfaces and the viewing window glass.
  - ➔ “6.3 Simple cleaning” (page 42).

## 7. Service work

### 7.1 Safety information for service work

#### **WARNING!**

#### **Danger due to non-adherence to service work instructions!**

Incorrect servicing of the unit may lead to severe injuries. This chapter contains important information for safe servicing of the unit.

- ▶ Carefully read this chapter.
- ▶ Adhere to the safety information.
- ▶ Perform the service work as described.

Maintenance and repair work may only be performed by qualified experts.

⇒ "1.2.3 Qualified personnel" (page 4).

Measures for repairing malfunctions may be performed by instructed users.

⇒ "1.2.4 Users" (page 4).

To prevent danger, always adhere to the following requirements:

- Immediately eliminate any detected defects.
- Only use spare parts manufactured or approved by the manufacturer.

#### **Prior to any work on the unit:**

- ▶ Ensure that the unit and other accessible components have cooled down.
- ▶ Please note that glowing embers in the fuel residue may persist for up to 24 hours or longer.
- ▶ Protect the surroundings of the stove system, e.g. by covering the floor and furniture.
- ▶ Wear work clothing and protective gloves.
- ▶ Ensure that the open firebox door has been secured against falling shut by means of the door lock.
  - ➔ Figure 5.3.1 / 2 (page 36).

Only qualified personnel may replace or repair components.

- ▶ Contact the manufacturer or a specialised company.

### 7.2 Maintenance intervals

After the heating period has ended, regular, thorough maintenance must be performed by a specialised company. The maintenance intervals depend on the following factors:

- Duration of use.
- Heating habits.
- Fuel quality.

💡 We recommend performing maintenance work on the unit at least once a year.

### 7.3 Maintenance measures

#### **WARNING!**

#### **Risk of injury due to contact with hot components!**

Unit components (e.g. cover panel, pipes, firebox) may remain very hot after use. The firebox may contain glowing embers and hot ash. Contact may lead to burns.

- ▶ Ensure that the unit and all accessible components have cooled down.
- ▶ Use the heat protection glove.

#### **Stove system**

- ▶ Remove dirt and soot from all components of the stove system.
- ▶ Clean the flue gas pipe to the chimney.
- ▶ Check the incoming air, combustion air and circulating air paths. If necessary, clean the air paths.
- ▶ Check the overall system for perfect function.
- ▶ Ensure that all connections between the stove system and chimney are leak-tight.
- ▶ Ensure that the necessary protective devices are functional.
  - ➔ "2.4 Protective devices" (page 7).
- ▶ Ensure that the necessary safety distances are observed.
  - ➔ "4.3.3 Safety distances" (page 19).

#### **Combustion air and flue gas pipe**

- 📄 Perform maintenance according to the pipe manufacturer's specifications.

## Firebox door

When the firebox door is opened:

- ▶ Ensure that the open firebox door has been secured against falling shut by means of the door lock.
  - ➔ Figure 5.3.1 / 2 (page 36).

The firebox door is sealed with special seals.

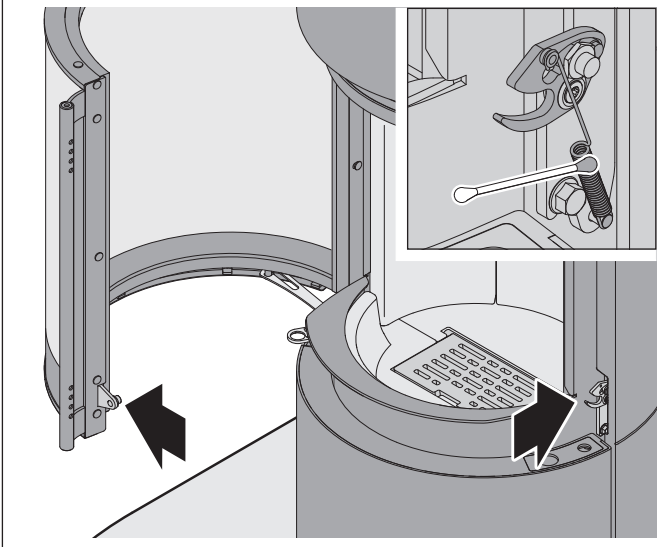
- ▶ Check the condition of the door and glass seals.
- ▶ Check the seals for wear (e.g. elasticity, distortion, leaks).
- ▶ If necessary, replace the seal.

💡 We recommend replacing the door seal after no more than three heating periods.

To prevent sluggish movement or noises while opening and closing the firebox door, use the special copper paste included in the scope of delivery.

- ➔ "2.7 Scope of delivery" (page 9).

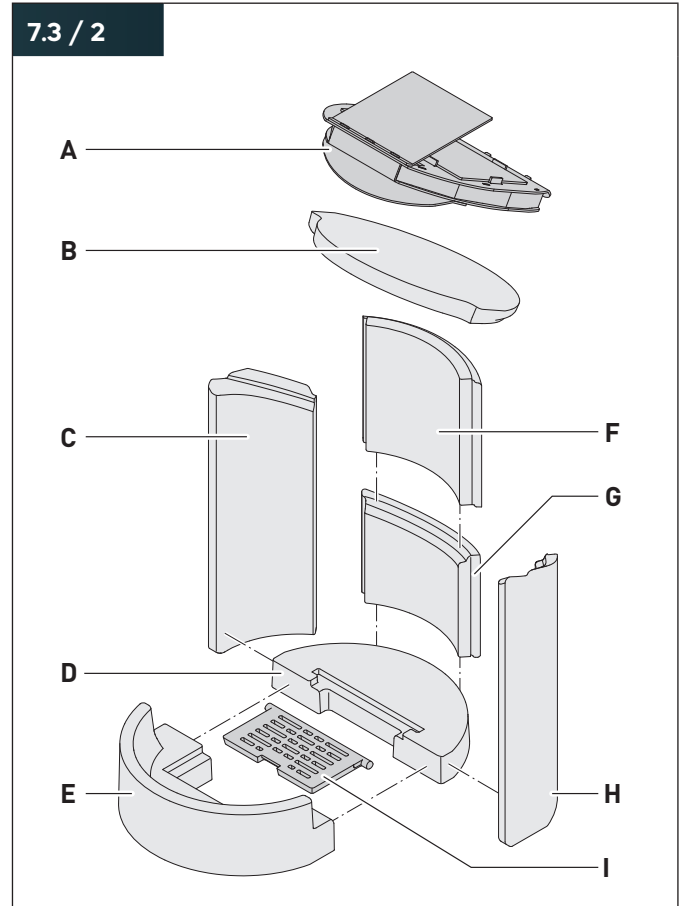
### 7.3 / 1



- ▶ Cover a cotton bud with the copper paste.
- ▶ Use the cotton bud to apply the copper paste to the door closing spring and the spring mount.
- ▶ Open and close the firebox door several times.
- ▶ Ensure that the copper paste does not make contact with the cover panel. If it does, immediately remove the copper paste with a cotton cloth.

## Firebox lining

### 7.3 / 2



- A Deflection plate
- B Baffle plate
- C Side wall brick, left
- D Base brick, rear
- E Base brick, front
- F Rear wall brick, top<sup>1</sup>
- G Rear wall brick, bottom<sup>1</sup>
- H Side wall brick, right
- I Ash grate

<sup>1</sup> Only for Passo S and Passo L. The models Passo XS, Passo XS style and Passo XS tripod have a single-piece rear wall brick.

- ▶ Dismantle the firebox lining into its components.
- ▶ Remove dirt and soot from the components.
- ▶ Correctly reinsert the components after cleaning.
- ▶ Check the proper condition of the firebox lining:
  - All components are in the correct position.
  - There is no gap between the components.

## 7.4 Malfunction repair

Possible malfunctions are described in the following section:

### What malfunction is occurring?

- Cause of the malfunction.
    - ▶ Eliminating the malfunction.
    - ➔ Reference to the relevant chapter.
- 

### The unit smokes, there is an odour of varnish.

- The protective paint of the unit is drying out. The previously achieved maximum temperature of the body (e.g. during initial commissioning) was exceeded.
    - ▶ Ensure sufficient ventilation of the installation space with fresh air.
    - ▶ Reduce the fuel volume.
    - ▶ Do not overheat the unit.
  - The corrosion protection coating of the unit is burned in. The previously achieved maximum temperature of the body (e.g. during initial commissioning) was exceeded.
    - ▶ Ensure sufficient ventilation of the installation space with fresh air.
    - ▶ Reduce the fuel volume.
    - ▶ Do not overheat the unit.
- 

### Smoke nuisance.

- Too much fuel or fuel not fully burned down.
    - ▶ Only insert the volume of fuel required for the current heating output.
    - ▶ Only refuel the stove when the fuel has burned down to embers.
  - The flue gas path is soiled.
    - ▶ Clean the unit and the stove system.
  - The firebox door is leaking.
    - ▶ Check the seal of the firebox door. If necessary, replace the seal.
  - The firebox door was opened too fast.
    - ▶ Open the firebox door slowly and carefully.
  - The delivery pressure of the chimney is too low.
    - ▶ Have the chimney checked by a specialised company.
- 

### Deflagration occurs.

- The air supply is closed or insufficient.
  - ▶ Push the combustion air slider to the right.
  - ▶ Ensure that the locking mechanism of the combustion air line is open.
  - ▶ Check the air supply from outside (e.g. external air grid not blocked).

- The fuel volume is too high.
    - ▶ Only insert the volume of fuel required for the heating output.
  - The fuel is too fine-grained.
    - ▶ Only use permissible types of fuel.
    - ➔ "3.2 Permissible types of fuel" (page 15).
  - Back-up of flue gases in the chimney or insufficient delivery pressure.
    - ▶ Have the chimney checked by a specialised company.
- 

### The firebox door does not close or lock.

- The closing device is defective.
    - ▶ Have the closing device replaced by a specialised company.
- 

### The fire does not burn properly.

#### The stove system does not heat up.

- The fuel is unsuitable (e.g. wood too damp).
  - ▶ Only use permissible types of fuel.
  - ➔ "3.2 Permissible types of fuel" (page 15).
- The fuel volume is unsuitable (e.g. too many or overly large logs).
  - ▶ Use fuel pieces of the correct size and in the correct quantity.
  - ➔ "2.8 Technical data" (page 10).
  - ➔ "3.5 Size of the fuel pieces" (page 15).
- The weather conditions are critical (e.g. fog, outdoor temperature above 15 °C, inversion).
  - ▶ Stoke the flames frequently.
  - ▶ Only insert very little additional fuel.
  - ▶ Ensure that the combustion air slider has been pushed all the way to the right.
- The air supply is insufficient.
  - ▶ Ensure that the combustion air slider has been pushed all the way to the right.
  - ▶ Ensure that the locking mechanism of the combustion air line is open.
  - ▶ Check the air supply from outside (e.g. external air grid not blocked).
  - ▶ Clean the combustion air line.
- The air openings in the unit are closed.
  - ▶ Ensure that the air openings are not blocked.
  - ▶ Ensure that the ash drawer has been emptied.
  - ▶ Check whether it is necessary to remove combustion residue from the firebox.

- The chimney is cold, the delivery pressure is too low.
  - ▶ Light a “pilot fire” in the firebox using suitable igniters.
  - ➔ “3.3 Permissible igniters” (page 15).
  - ▶ Check the connection pipes to the chimney. If necessary, clean the connection pipes or seal the connection pipes.
  - ▶ If necessary, have the chimney cleaned by a specialised company.
- The inspection openings of the chimney are leaking or not closed.
  - ▶ Ensure that the inspection openings of the chimney are leak-tight.
  - ▶ Close the inspection openings.
- The chimney is clogged (e.g. by a bird nest).
  - ▶ Have the chimney checked by a specialised company.

---

### **The stove system heats excessively.**

#### **The fire burns too fast.**

#### **Loud noise (whistling, crackling) in the unit.**

- The fuel volume is too high.
  - ▶ Only insert the volume of fuel required for the heating output.
  - ▶ Use fuel pieces of the correct size.
  - ➔ “3.5 Size of the fuel pieces” (page 15).
- The wood is extremely dry.
  - ▶ Use wood with a residual moisture of 15 – 18 %.
  - ➔ “3.2 Permissible types of fuel” (page 15).
- The air supply setting is not suitable.
  - ▶ Reduce the combustion air supply by pushing the combustion air slider to the left.
- The firebox door is leaking.
  - ▶ Check the seal of the firebox door. If necessary, replace the seal.
  - ▶ Lubricate the closing mechanism with copper paste.
  - ➔ Figure 7.3 / 1 (page 45).
- The firebox door is not fully closed.
  - ▶ Check the closing mechanism of the firebox door.
- The delivery pressure of the chimney is too high.
  - ▶ Have the chimney checked by a specialised company.
  - ▶ If necessary, have an auxiliary air device installed.

### **The viewing window turns black.**

#### **The fireclay does not burn freely.**

#### **The firebox lining remains or turns black.**

- The fuel is unsuitable (e.g. wood too damp).
  - ▶ Only use permissible types of fuel.
  - ➔ “3.2 Permissible types of fuel” (page 15).
- The fuel volume is unsuitable (e.g. too many or overly large logs).
  - ▶ Use fuel pieces of the correct size and in the correct quantity.
  - ➔ “2.8 Technical data” (page 10).
  - ➔ “3.5 Size of the fuel pieces” (page 15).
- The weather conditions are critical (e.g. fog, outdoor temperature above 15 °C, inversion).
  - ▶ Stoke the flames frequently.
  - ▶ Only insert very little additional fuel.
  - ▶ Ensure that the combustion air slider has been pushed all the way to the right.
- The chimney is cold, the delivery pressure is too low.
  - ▶ Light a “pilot fire” in the firebox using suitable igniters.
  - ➔ “3.3 Permissible igniters” (page 15).
  - ▶ Check the connection pipes to the chimney. If necessary, clean the connection pipes or seal the connection pipes.
  - ▶ If necessary, have the chimney cleaned by a specialised company.
- The inspection openings of the chimney are leaking or not closed.
  - ▶ Ensure that the inspection openings of the chimney are leak-tight.
  - ▶ Close the inspection openings.
- The firebox door is leaking.
  - ▶ Check the seal of the firebox door. If necessary, replace the seal.
  - ▶ Lubricate the closing mechanism with copper paste.
  - ➔ Figure 7.3 / 1 (page 45).
- The delivery pressure of the chimney is too high.
  - ▶ Have the chimney checked by a specialised company.
  - ▶ If necessary, have an auxiliary air device installed.
- The air supply is insufficient.
  - ▶ Ensure that the combustion air slider has been pushed all the way to the right.
  - ▶ Ensure that the locking mechanism of the combustion air line is open.
  - ▶ Check the air supply from outside (e.g. external air grid not blocked).
  - ▶ Clean the combustion air line.

# Service work

## **The flue gas pipe glows red.**

- The stove system is overheating.
    - ▶ Do not add additional logs.
    - ▶ Push the combustion air slider all the way to the left.
    - ▶ Allow the fire to extinguish.
    - ▶ Ventilate the room where the stove is installed.
    - ▶ Determine the cause.
- 

## **Cracks in the firebox lining.**

- Frequent operation with excessive fuel volume.
    - ▶ Only insert the volume of fuel required for the heating output.
    - ▶ Use fuel pieces of the correct size.
    - ▶ "3.5 Size of the fuel pieces" (page 15).
  - Incorrect handling during refuelling.
    - ▶ Ensure that you position fuel carefully – do not throw it in.
    - ▶ Have the firebox lining replaced if wide cracks are visible or pieces have broken out.
- 

If a malfunction cannot be overcome:

- ▶ Contact the manufacturer or a specialised company.

## 8. Disassembly

### 8.1 Safety information for disassembly

#### **⚠ WARNING!**

#### **Danger due to non-adherence to disassembly instructions!**

Incorrect disassembly of the unit may lead to severe injuries. This chapter contains important information for safe disassembly of the unit.

- ▶ Carefully read this chapter prior to disassembly.
- ▶ Adhere to the safety information.
- ▶ Perform the disassembly work as described.

Only qualified personnel may disassemble the unit. Electrical work may only be performed by qualified electricians.

⇒ "1.2.3 Qualified personnel" (page 4).

To prevent danger, always adhere to the following requirements:

- The unit and other parts that you may come in contact with have cooled down for a sufficient period (e.g. several days).
- No heat or glowing embers remain in the firebox.
- The surroundings of the stove system are protected, e.g. by means of covers for the floor and furniture.

Prior to disassembly, clean the unit and the stove system.

For cleaning work, remove the baffle plate from the firebox.

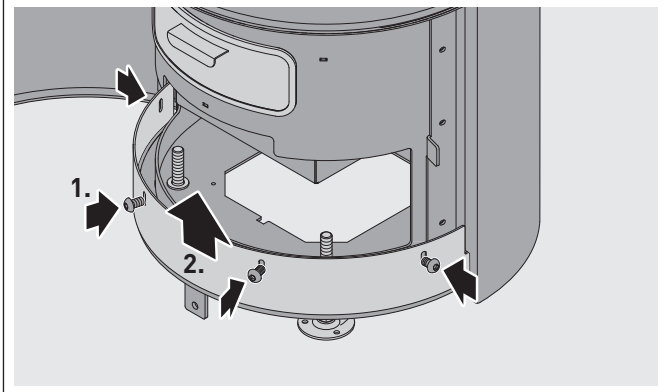
➔ "6. Cleaning" (page 41).

### 8.2 Dismantling the unit

If storage stones are installed:

- ▶ Remove the storage stones. During this work, note the requirements for installation.
  - ➔ "4.12 Installing the storage stones (optional)" (page 30).
- ▶ Remove all connections between the stove system and the chimney.
- ▶ Remove all pipes from the flue gas routing system.
- ▶ If installed, remove all pipes from the combustion air line.

#### 8.2 / 1



- ▶ Open the bottom cover panel door.
- ▶ Undo the screws of the foot screen.
- ▶ Push up the foot screen in the slots.
- ▶ Tighten the screws of the foot screen.
- ▶ Close the bottom cover panel door.
- ▶ Ensure that the firebox door is closed.
- ▶ Secure the firebox door and the cover panel door against accidental opening.

## 9. Disposal

### 9.1 Disposing of the packaging

#### ATTENTION!

#### **Risk of environmental damage caused by improper disposal of the packaging!**

- ▶ Do not dispose of the packaging with the normal household waste.
- ▶ Ensure that the packaging is recycled in a proper, environment-friendly manner.

The packaging is intended to protect the unit from transport damage. The packaging materials have been selected based on their environment-friendly characteristics and are made of recyclable materials. The packaging materials can be returned to the raw material cycle after use.

- ▶ Dispose of the packaging in an environmentally friendly manner, separated by the types of material.



### 9.2 Disposing of the unit

#### ATTENTION!

#### **Risk of environmental damage caused by improper disposal of the unit!**

- ▶ Do not dispose of the unit with the normal household waste.
- ▶ Ensure that the unit is recycled in a proper, environment-friendly manner.

- ▶ Dispose of the unit according to the legal regulations through a specialised disposal company or your local disposal facilities.





## 10. Appendix

### 10.1 Accessories

- Combustion control S-Thermatik NEO.
- Storage stones “on top” (only for Passo L).
- Flue gas connection bend set (suitable for any model).
- SQC connection, factory-installed (only for Passo XS, Passo S, Passo L).
- Side wood compartment (only for Passo XS).
- Glass cover plate.

If required and for additional information (e.g. brochures, spare parts, price lists):

- ▶ Please contact the manufacturer or a specialist shop.

📄 [www.spartherm.com](http://www.spartherm.com)

### 10.2 Warranty terms

The warranty terms and other information regarding the warranty are available on the manufacturer's website:

📄 [www.spartherm.com](http://www.spartherm.com)

### 10.3 Standards and regulations

Relevant regulations – without claim to completeness:

- **FeuVo**: Firing installation regulation of the respective German state.
- **LBO**: State construction regulations or fire protection regulations.
- **VKF**: Association of Fire Insurances of the Cantons (Switzerland).
- **LRV**: Clean air act (Switzerland)
- **1. BImSchV**: First directive for implementation of the German Federal Immission Control Act.
- **TROL**: Professional regulations of the tiled stove and air heater construction trade (ZVSHK).
- **DIN 1298 / DIN EN 1856**: Connecting flue pipes for heat generating systems.
- **DIN EN 13240**: Stoves/room heaters fired by solid fuel.
- **DIN 18896**: Fireplaces fired by solid fuel. Technical specifications for installation and operation.
- **DIN EN 13384**: Calculation methods for chimneys.
- **DIN 18160-1/2**: Flue gas systems/chimneys.
- **DIN 4751 / DIN EN 12828**: Heating systems in buildings – Design for water-based heating systems.
- **VDI 2035**: Water treatment for heating systems.
- **Art. 15a**: Federal Constitutional Law (Austria).

### 10.4 Declarations of conformity

The design and operating behaviour of this product complies with the European directives and the additional national requirements. This compliance is certified by the CE label.

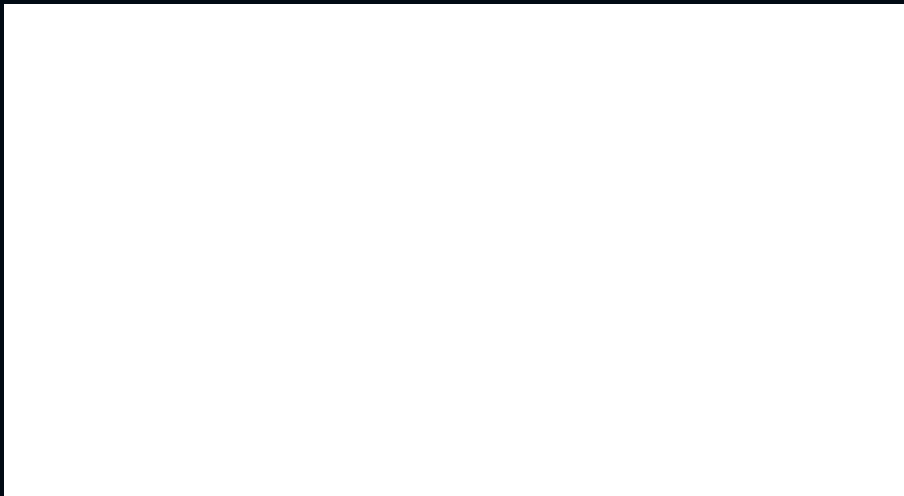
A declaration of performance in line with directive EU 305/2011 is available on the manufacturer's website:

📄 [www.spartherm.com](http://www.spartherm.com)

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