Installation instructions

Thermal concrete cladding for KSO 33

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1 BASIC INSTRUCTIONS



Please follow all instructions provided with the product. We do not accept any warranty claim or liability for damage resulting from failure to observe these installation instructions! Improper installation can cause injury and material damage!

Please note, that other installation and assembly instructions are included in other packaging units!

When these instructions are followed and all works are done properly, this will ensure a safe, energy-saving and environmentally friendly operation of the stove. Pictures shown are not to be considered as complete presentations of any kind.

Subject to technical and assortment changes.

Report any shipping damages to the supplier immediately.

Keep these instructions.

Standards and regulations

Apart from the applicable European standards and regulations, all national or local regulations, general rules and application notes must be observed. All applicable regulations of construction law in your country and the legal requirements must be observed. Observe the regulations for stove operation valid in your country.

Installation

Installation must be carried out by an authorized stove-fitter, because safety and efficiency depend on proper installation.

The floor in the room of installation must have a suitable structure and sufficient dimensions to ensure proper functioning of the fireplace. The defined minimal distances must be observed during fireplace installation (see technical data).

Ensure permanent supply of combustion air. When the fireplace is used with a separate combustion air supply connection, special attention must be paid to flow resistance. The fireplace is equipped with a nozzle for direct connection with combustion air supply duct.

The smoke pipe connecting piece and the chimney must be suitable for the fireplace.

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Cleaning possibilities for the fireplace, the smoke pipe connecting piece and the chimney must be foreseen.

All connections and openings for cleaning must ensure permanent tightness.



The total weight of the stove system can be far above 1000 kg (approx. 2200 lbs), depending on the external cladding materials. Please observe the detailed technical data.

Please consider the massive weight of the complete stove system! If the weight exceeds the allowable floor load, suitable means for load distribution must be used.



If additional parts are installed on the fireplace which are not approved for this appliance by Ulrich Brunner GmbH (for example, an external control unit), it is a customized product that meets customer requirements. The resulting fireplace insert is not type-tested; the declaration of performance of this fireplace insert will be no longer valid.

The CE mark must be removed from the heating insert!

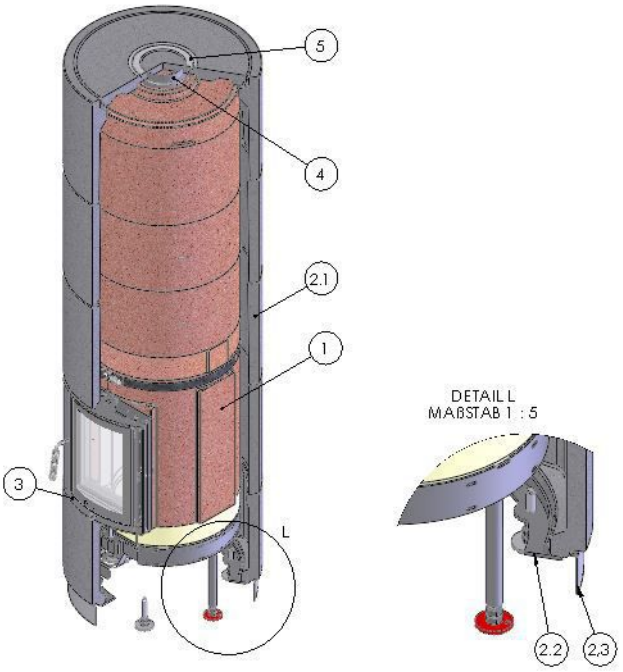
The responsibility for installation (according to TROL) and operation lies exclusively with the specialist craftsman!

When third-party fireplace cladding materials are used, follow the technical data of the manufacturer of these materials.

The user must be informed by the stove builder about the function and operation of the stove system and the installed safety equipment. Hand over the corresponding instructions.

We recommend to perform a **Product registration**. (www.produktregistrierung.brunner.de)

2 OVERVIEW- KSO CONSTRUCTION WITH CLADDING



Pos.	Designation	Description
1	KSO	Base frame with combustion chamber, top mount accumulator and front
2.1	Trim moldings	construction kit round or square; in different materials
2.2	Base ring	Execution depending on cladding
2.3	Footplate	Execution depending on base ring
3	Mounting frame	optional cover or mounting frame, shape depending on cladding
4	Flue outlet	optional vertical or horizontal connection
5	Cover for flue outlet	optional for vertical or horizontal flue outlet connection

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3 GENERAL INFORMATION ON THERMAL CONCRETE CLADDING



Risk of injury!
Parts are reinforced with steel needles. These can protrude on edges, finishing surfaces and breaking points!

Wear suitable gloves during all works with thermal concrete parts.

Surface quality

The components of the KSO kits fulfil the requirements of exposed concrete class SB2.

Despite our greatest attention during manufacturing and shipping, thermal concrete claddings can show slight irregularities like air inclusions, small cracks or unclean edges. This corresponds entirely with the concrete look design and is not a reason for a claim. Cracked or significantly damaged parts will be replaced based on your product's warranty.

Small defects

Such defects can be repaired accordingly. A special reworking kit (art. no. 900300) is available, which includes patching material and necessary tools as well as more detailed application notes.

For bigger defects we recommend to fill the cavity in two steps, to avoid settlement cracks caused by shrinking of patching material. Apply the patching material on a dust-free spot of damage and leave to dry. Then finish the surface with sandpaper until it's smooth. Repeat the process when necessary.

Bigger defects

Shipping damage must be reported immediately to the shipping company. Replacement parts can be ordered from Ulrich Brunner GmbH.

For bigger defects not to be repaired with the reworking kit, it is possible to request replacement parts from Ulrich Brunner GmbH, based on your product warranty.

Replacement part requests:

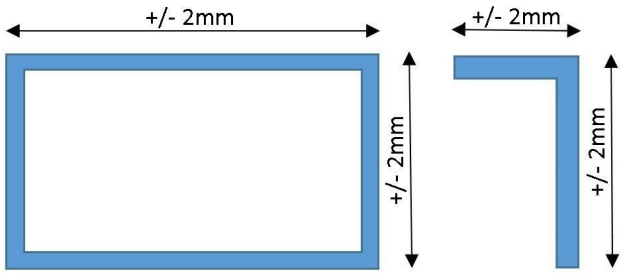
When ordering replacement parts, it is necessary to mark the damaged parts on the attached packing list and make a picture of the damage. Send the replacement part request with a picture and the packing list to the Ulrich Brunner GmbH. The replacement part will be sent as soon as possible.

4 TOLERANCES OF THERMAL CONCRETE PARTS

The following tolerances are valid for all parts of our system fireplace/stove casings. Except where otherwise indicated, all data refer to the nominal dimensions, as found in dimensional drawings.

Length Tolerances

For each part, the indicated tolerances apply.



Height Tolerances

For each part, the indicated tolerances apply.



Tolerances of Flatness

For parts with nominal dimensions up to 950 mm, a tolerance of +/- 2.5 mm applies. Above this dimension, a tolerance of +/- 3 mm applies.

These tolerances apply also for the base support and top cover parts. The leveling board (R) must be placed in parallel to the basic body!

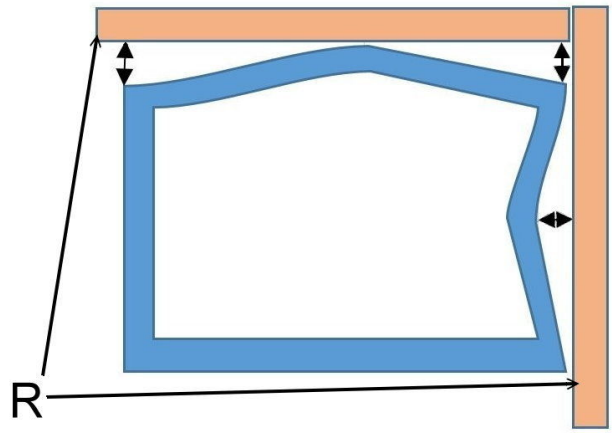


Illustration 1: Leveling boards placed correctly

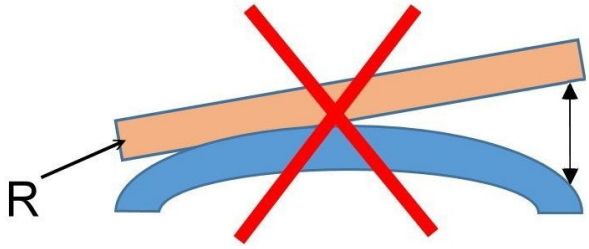


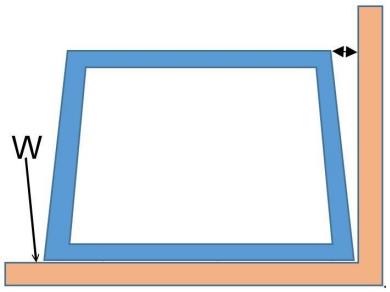
Illustration 2: Incorrectly placed leveling board

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Tolerances of Angle

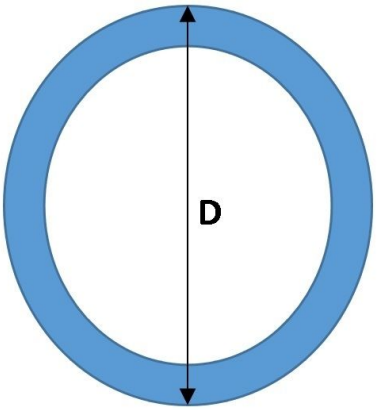
In order to determine the deviations of angles, place the square measuring tool along the long edge!

For nominal dimensions up to 600 mm, a tolerance of 0.28%, i.e. 1.7 mm applies. For nominal dimensions up to 900 mm, a tolerance of 0.30%, i.e. 2.4 mm applies.



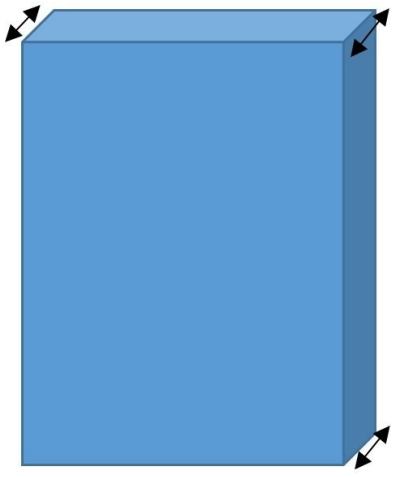
Roundness

Up to a nominal diameter of 650 mm, a tolerance of 0.25%, i.e. 1.62 mm applies. For diameters above this value, a tolerance of 0.28%, i.e. 2.38 mm applies.



Wall thicknesses

For wall thicknesses, a tolerance of 3.5% applies.



The overall appearance with color shade differences being present or not can be assessed in general only after a longer period of time (several weeks in some cases). The uniformity of color should be assessed from a typical viewing distance.

5 WORKING WITH THERMAL CONCRETE

Necessary openings within cladding

Openings within the cladding, e.g. for smoke pipe, air grating or other components, must be made on site. These openings have to be made with extreme caution to prevent breakage of the thermal concrete parts.

Mark the position of the openings on the parts in question. The openings can be cut using a jigsaw (with a diamond plated saw blade) or using a drilling machine (with a tungsten carbide drill for stone).

Damage caused by improper work is not covered by the warranty.

- To make openings using a jigsaw

The safest way to create the breakthroughs is using a jigsaw. The working steps we have shown in a video (http://www.youtube.com/watch?v=lfelXzJDAEc&feature=player_embedded).

Video 'How to build a BSK system fireplace'

This video can be also found, when you search the site www.youtube.de for 'Systemkamine bearbeiten' or in the Internet

http://tv.brunner.de

- To make openings using a drilling machine

Perforate the contour along the outbreak line with a drill. The distance between holes should be possibly small.



Break out the webs between the drilled holes. This can be done by moving the drilling machine back and forth carefully with the drill inside the hole. It is also possible to break the webs using a hammer (and a chisel).

Then punch out the internal part from the visible side using a hammer.



Setting of cladding parts

Check the individual parts before setting - check the surfaces as well as the groove and tongue connections. The contact faces must be clean and free from dust.



Use the attached acrylic joint seal to affix the parts in place. Apply the acrylic joint seal spotwise on the inner joint faces.

To avoid damages during setting, it is recommended to place the parts e.g. on pieces of wood, and then set down the thermal concrete ring part carefully after pulling out the wood pieces.

Finishing of surfaces

It is possible to use the fireplace with a thermal concrete cladding in a state as delivered. When painting or plastering is required due to aesthetic reasons, please observe the following:

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Before all finishing works on surfaces it is necessary to heat the stove at least once. This will allow the cladding parts for expansion, drying and breaking down the biggest stresses. This prevents or reduces future cracks on the surface.

If any reworking measures have been applied on the cladding surface, it should be completely cured.

Preparation of cladding: The cladding surfaces to be coated have to be free from dust. Wipe the surfaces with a damp cloth. A pre-wetting of the surface is not required.

Do not apply coatings on hot or warm cladding surfaces. Keep processing temperature above 5°C (41°F).

Painting

In certain places the cladding surfaces can reach temperatures up to 120°C (248°F) - use suitable paints only.

Follow the paint manufacturer’s instructions.

Plastering with Brunner “Spezial” mortar

Put a glass fibre mesh on the cladding surface and apply a thin coat of Brunner “Spezial”. The mesh structure remains visible at this point. Leave this coat to dry for 24 hours. Depending on desired finishing structure, apply one or two coats of Brunner “Spezial” and finish accordingly to receive the desired look and feel.

Follow the processing instructions for the plastering mortar.

Repairing hairline cracks

Joints between the cladding parts or between the building wall and the stove casing can tend to form small cracks. These cracks emerge due to different thermal expansion of cladding parts and they are no reason for concern. Small cracks can be removed. Scratch the crack out and remove dust (vacuum cleaner). Then fill the crack with acrylic joint seal and remove excess material to receive a smooth surface. The filled crack can be painted after 24 hours.

6 GENERAL INFORMATION ON THERMAL CONCRETE CLADDING ASSEMBLY

Contact faces of thermal concrete parts

The components of thermal concrete cladding are assembled dry. Check all joint faces before assembly. The joint faces and edges must be free from debris and dust.

Acrylic joint seal (in delivery contents) can be used to fix the parts together during assembly. Apply the acrylic joint seal only spotwise on the inner joint faces.

Contacting faces of cladding and firebox

Firebox and cladding are contacting each other in the stove door area. Free space is required to compensate the different thermal expansion behaviour of firebox and thermal concrete cladding.

The direct interface is formed by a door frame or mounting frame. A circumferential gap of 2-3mm must be kept here.

If plastering on thermal concrete is foreseen, the mounting frame should protrude approx. 4mm in front direction.



Illustration 3: Detailed view: Gap between the mounting frame and thermal concrete cladding

When the cladding is set in direct contact with the firebox, it leads to damage of the fireplace cladding parts, which are not covered by our warranty.

Contacting faces of thermal concrete and adjacent walls

Requirements of fire safety must be met during assembly of thermal concrete cladding. In the technical data, the minimal distances between the cladding surface and adjacent surfaces like building walls and floor are indicated. For required heat insulation, the minimal insulation thickness is stated. When the adjacent wall is made from or with flammable materials, an additional brick lining is required.
The space between the cladding and adjacent wall must ensure active back ventilation. The heat dissipated by the cladding must be permanently removed by a continuous air flow. Equipment for heat dissipation should not be modified by the user.

The floor under the fireplace must consist of non-flammable materials or must be covered up by such materials.

The floor in front of the cladding within the heat radiation area of the stove door must be made of non-flammable materials or must be covered up with such materials.

Within the heat radiation area of the stove door there must be no flammable parts.

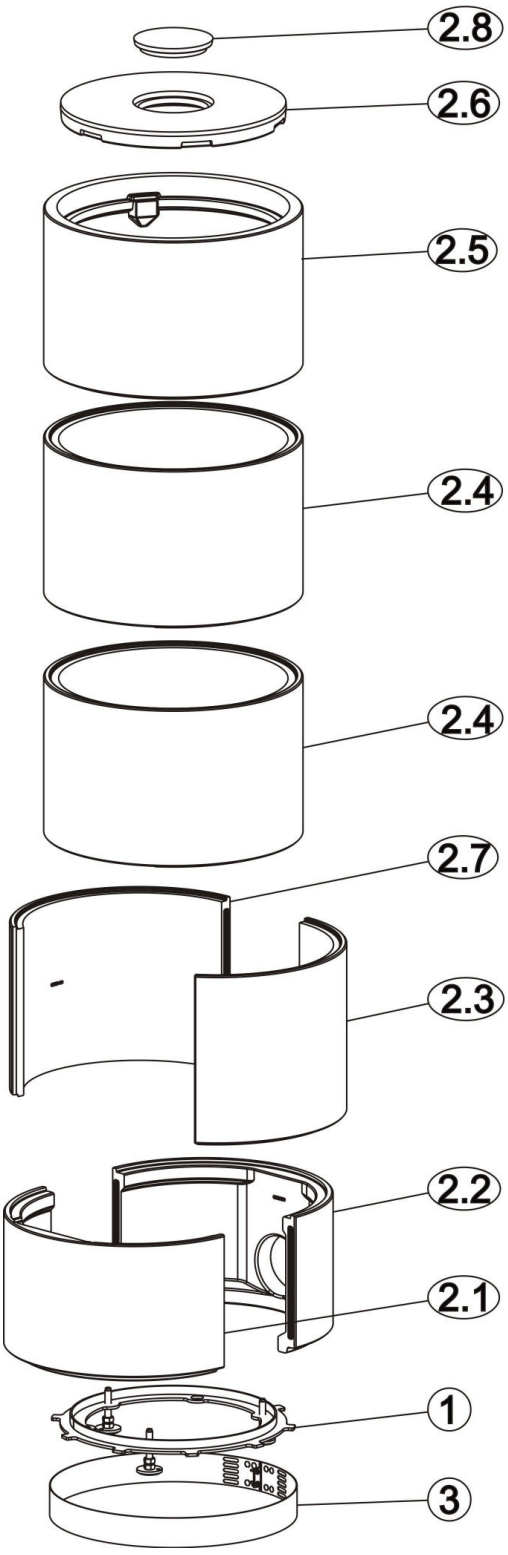
In the smoke pipe area, the minimal distances should be kept too.
For detailed information on fire safety, see: Combustion chamber installation instructions.

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7 DESCRIPTION OF PARTS

Thermal concrete cladding, round (G022040):

Pos.	Designation	Part no.
1	Pedestal ring D520	G022053
2	Thermal concrete cladding assembly D650	G022028
2.1	Front base wall D650	G022034
2.2	Rear base wall D650	G022029
2.3	Cladding for door area, right side	G022030
2.4	Cladding ring 1 D650	G022031
2.5	Cladding ring 2 D650	G022032
2.6	Cladding top cover D650	G022033
2.7	Cladding for door area, left side	G022075
2.8	Top cover blind	G020415
3	Sheet metal pedestal d660	G020363



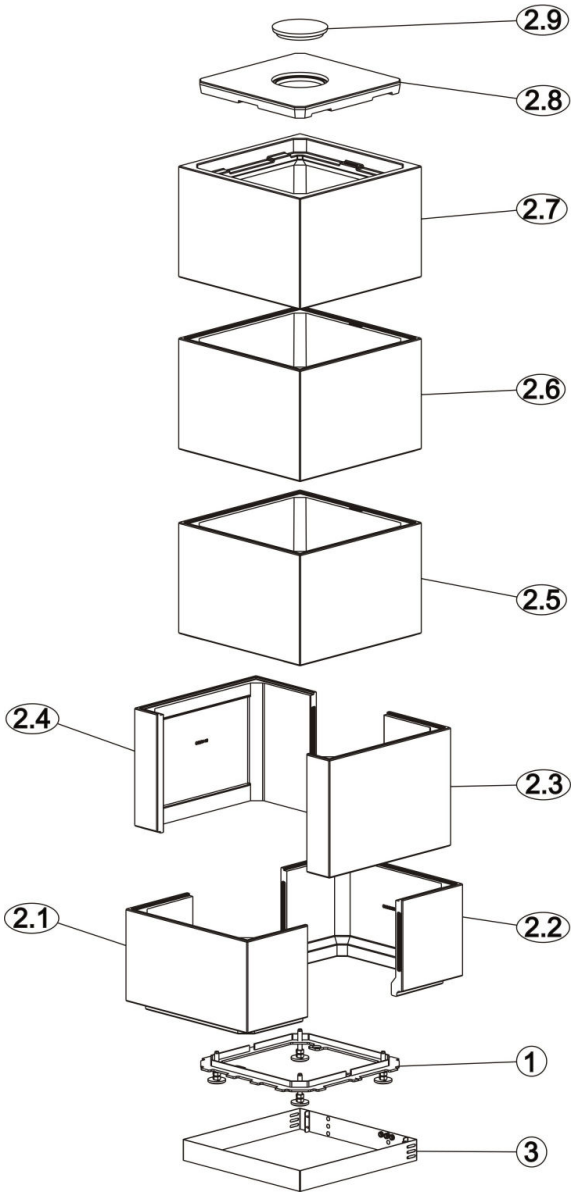
Mount the pedestal ring (1) together with the base frame from the KSO 33 delivery contents. The pedestal ring cannot be laid afterwards!

The components should be handled and assembled with care! Risk of breakage!

Risk of injury! The components are reinforced with steel needles - wear suitable protective gloves

Thermal concrete cladding, square (G022118):

Pos.	Designation	Part no.
1	Pedestal ring KSO 33q	G022113
2	Thermal concrete cladding assembly KSO33q	G022099
2.1	Base ring front wall 1	G022100
2.2	Base ring front wall 2	G022101
2.3	Cladding for door area, right side	G022102
2.4	Cladding for door area, left side	G022123
2.5	Cladding ring 1	G022103
2.6	Cladding ring 2	G022104
2.7	Cladding ring 3	G022105
2.8	Cladding top cover	G022106
2.9	Top cover blind	G020415
3	Sheet metal pedestal for KSO 33q	G022116



Mount the pedestal ring (1) together with the base frame from the KSO 33 delivery contents. The pedestal ring cannot be laid afterwards!

The components should be handled and assembled with care! Risk of breakage!

Risk of injury! The components are reinforced with steel needles - wear suitable protective gloves.

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8 ASSEMBLY OF KSO THERMAL CONCRETE CLADDING

There are two different cladding kits available for the KSO33 accumulation stove:		
Accumulation stove kit	**Cladding kit**	**Part no.**
KSO33	KSO33 thermal concrete cladding, round, D600, with pedestal	G022040
KSO33	KSO33 thermal concrete cladding, square, with pedestal	G022118

Sequence of assembly

After assembly of combustion chamber and stove front, we recommend to start with the lower cladding parts, and complement the assembly with rings 2.4 and 2.5 after the appropriate level of the top-mount accumulator is complete.

Before laying the thermal concrete parts, check each and every part of cladding. The contact faces must be even and free from dust.

Pedestal ring

Item	Working step:
1	The pedestal ring must be combined with the base frame already before the combustion chamber is assembled. Before the first cladding part is laid, check the height adjustment and the levelling of the pedestal ring. Later adjustments are possible also with assembled cladding.

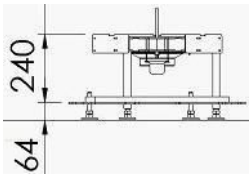
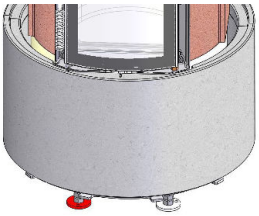


Illustration 4: Height adjustment of pedestal ring

Before the cladding parts are laid, install the combustion air connection and the components of the EAS stove control system (if available). Wiring connections for thermocouple, door contact and servo motor should be placed accessible within the pedestal ring.

Assembly of cladding

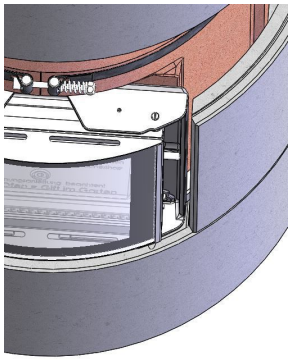


Item Working step

The sequence of assembly corresponds essentially with the numbering of parts as shown in overview.

2.1 Set the “Front base wall” onto the pedestal ring. The part should be positioned in the middle of the stove door. The marking notch (up in the middle) should be aligned with the air adjusting lever. The part has recesses for door hinges. These should be exactly positioned.

2.**2** Set the rear base wall and align it with part 2.1. The height must be the same around the whole circumference, make sure that the gaps are small. Distance from combustion chamber must be the same all around (concentric alignment).



2.**3** Set the right side door area. The gap to the cast iron front should be left free.

2.7 Set the left side door area. Align the parts 2.3 and 2.7 to have the same gap to the cast iron front on both sides.

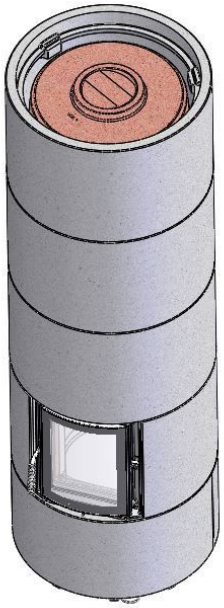


2.4 At least the first level of the top-mount accumulator must be assembled and tightly sealed.

Set ring 1 in place

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2.5 With vertical smoke outlet it is possible to set the “Cladding ring 2” right afterwards. With horizontal smoke outlet, the outbreak for the smoke pipe must be prepared in advance - see the “Working with thermal concrete” section. The exact height of the outbreak can be checked after the rings 2.4 are set.



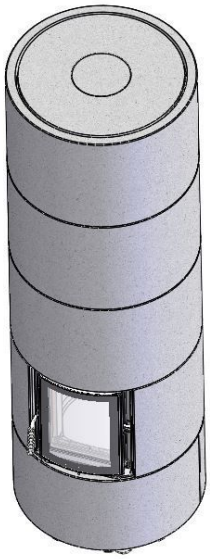
2.6 The top cover can be laid in two positions:

- with air gap -> the bottom face is laid on the cams of part 2.5

- without air gap -> the recesses on the bottom are covering with the cams

Assembly without air gap is recommended to reach the best heat accumulation properties.

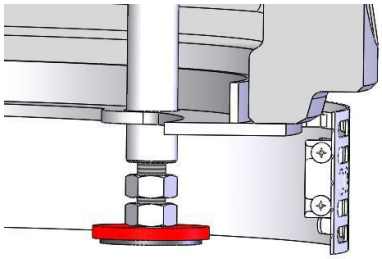
In both cases, the top-cover must be laid loose, because it must be available for removal when cleaning is necessary.



2.8 The blind cover is needed only with horizontal smoke outlet, and is placed loose in the corresponding opening.

Assembly of sheet metal pedestal

Item	Working step
3.	Check the height before assembly of sheet metal pedestal. Then fix the adjustable feet. The upper nut on all adjustable feet must be turned up to the sheet metal pedestal and finally tightened.



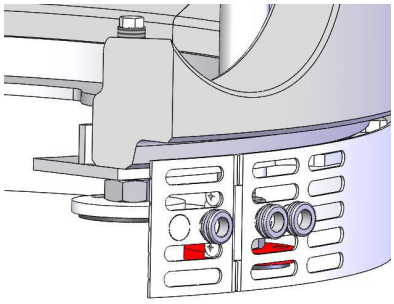
With proper height adjustment of pedestal ring, between the top of sheet metal pedestal and the stove cladding remains a gap of 8mm, which allows for combustion air supply.

The sheet metal pedestal can be attached to the pedestal ring in any position. Attach the inside bent latch onto the existing screws. The screws can be reached from outside through slots, using a screwdriver. After tightening the screws, the sheet metal pedestal can be turned around (with proper height adjustment of pedestal ring).



Preparation of sheet metal pedestal with EAS control

Item	Working step
3.	When EAS is used, the connecting cables should be led through the sheet metal pedestal. Prepare cable entry points on sheet metal pedestal. Break out the pre-punched parts, remove the remaining sharp edges with a file and install the cable bushes (from accessory pack). Feed the cables through the cable bushes. Leave sufficient spare cable length to allow for access during exchange of parts. For assembly of the sheet metal pedestal on the pedestal ring, follow the instructions under “Assembly of sheet metal pedestal”.



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