Installation Guide

BSO 04

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made in germany.

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1 BASIC INFORMATIONS

All instructions delivered with products must be observed. 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!

The installation may only be carried out by a registered specialist.

Fireplaces equipped with a water boiler must be pressure-tested after hydraulic connection to the heating system. Masonry work may follow only after this pressure test. Ulrich Brunner GmbH does not cover any costs incurred by necessary dismantling of masonry for rework at water boiler installation or replacement of the boiler.

The floor space of the room must have a suitable structure and sufficient dimensions to ensure proper functioning of the fireplace.

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

Dimensioning of downstream heat accumulator must be according to valid stove-setting rules.

During installation of the fireplace, all dimensions and minimal clearances of the fireplace casing must be held as specified by the manufacturer.

Fireplaces that meet the requirements of DIN EN 13240 or DIN EN 13229 and that can only be operated as intended with closed combustion chamber door or that have a self-closing firebox door are suitable for multiple occupancy.

All binding national or EU standards and local regulations for the installation of fireplaces must be observed.

All valid stove fitting rules and regulations of local construction law must be observed and followed.

Please follow the relevant regulations of your country.

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 representations of any kind.

Subject to technical and assortment changes.

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Please notify your supplier of any damage which might have occurred during transport.

Please keep these instructions.

2 GENERAL INFORMATION

Stove insert

The BSO stove fitting kits are designed for particular stove inserts manufactured by Ulrich Brunner GmbH.

BSO	Stove insert to be used	Recomm. load every 2h*)
BSO 01	HKD 2.2 short DR (with mounting frame R330)	2.5 kg
BSO 02	HKD 2.2 DF and HKD 2.2 D/DF (with mounting frame)	3 kg
BSO 03	HKD 2.2 DF and HKD 2.2 D/DF (with mounting frame)	4 kg
BSO 04	HKD 2.2 short SK (water bearing with mounting frame)	see user manual
BSO 05	HKD 7SK side opening door HKD 7SK Tunnel side opening/side opening door	see user manual

*) When the above loads are exceeded, or if the recommended load is burned in shorter times, cracks on external walls of the stove are possible. Please inform the user about this.
The components of BSO kits fulfil the requirements of exposed concrete class SB2.

Floor

On flammable floors, the fireplace must be placed on a slab made of non-flammable material. This slab must be at least 500 mm long in front and 300 mm wide on both sides of the fireplace.
The base plate must be carefully set to level; please pay attention, that it rests evenly on the entire surface. It is recommended to use the wall as reference and set the base plate at 90 degrees. The completely assembled accumulation stove cannot be moved or turned afterwards.

Acrylic joint seal

Used pointwise for setting of components.

24 hours after assembly you can paint the stove external casing. Plastered walls must be previously sanded with fine abrasive paper.

Hairline cracks

Joints between the elements of stove casing or between the house wall and the stove casing can tend to form small cracks. This is normal and no cause for concern. Small cracks can be repaired with the optionally available rework kit (item no.: 900300).

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Bigger defects
Transportation damage must be reported immediately to the shipping company. Replacement parts can be ordered from Ulrich Brunner GmbH.
In the case of bigger defects which cannot be repaired with the optionally available rework kit (item no.: 900300), it is possible to request exchange at Ulrich Brunner GmbH, based on your 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. Then, the printed picture and packing list should be sent back to Ulrich Brunner GmbH. The replacement part will be sent as soon as possible.

Concrete look exterior
Stove casings with concrete look, despite the best practices used during manufacturing and shipping, 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 elements will be replaced as part of your products' warranty.

Built-in components

If any additional components like electronics (EOS) or similar are installed inside the stove casing, the max. allowed ambient temperature must be respected. Electronics must be installed in such a way to provide for rear ventilation.

All safety distances are minimal required distances.

Subject to errors and changes!



Please follow the separate installation instructions for the stove insert.

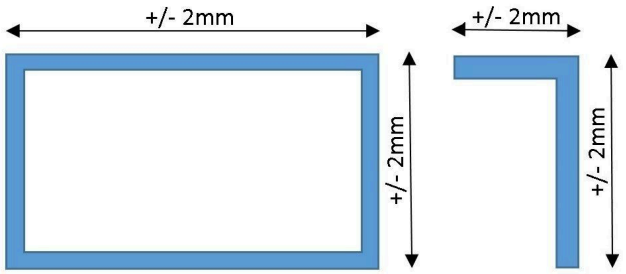
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3 TOLERANCES OF THERMAL CONCRETE PARTS

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!

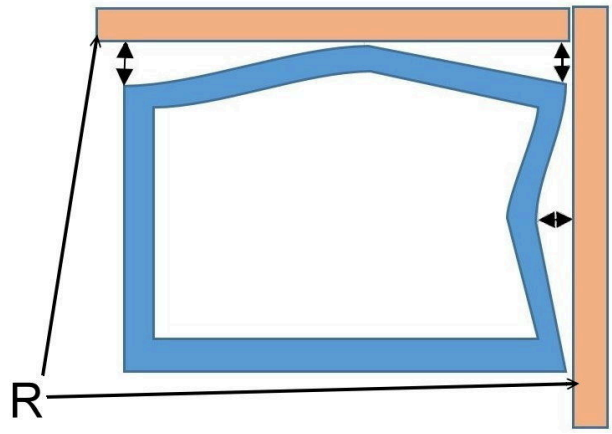


Illustration 1: Leveling boards placed correctly

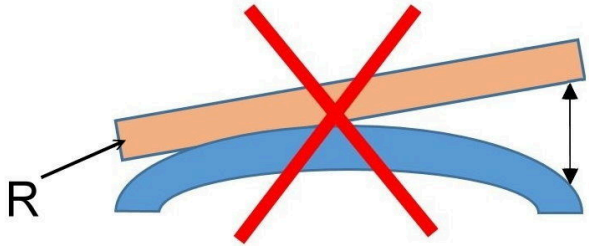


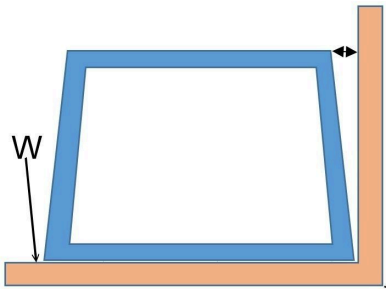
Illustration 2: Incorrectly placed leveling board

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Tolerances of Angle

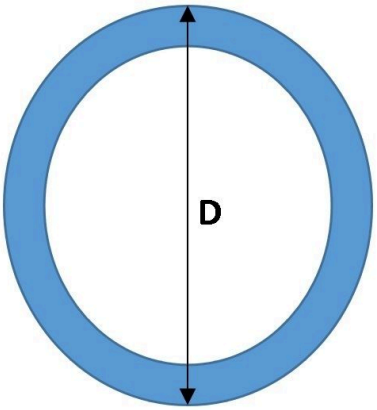
In order to determine the deviations of angles, place the square measuring tool along the long edge!

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.



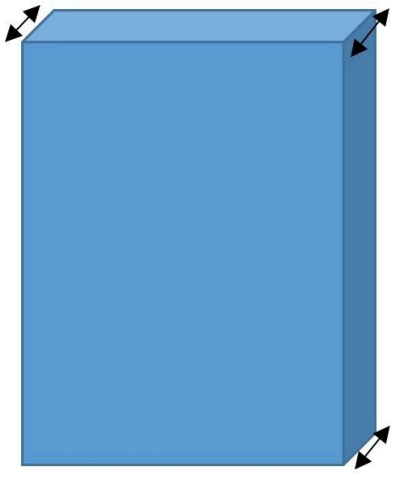
Roundness

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

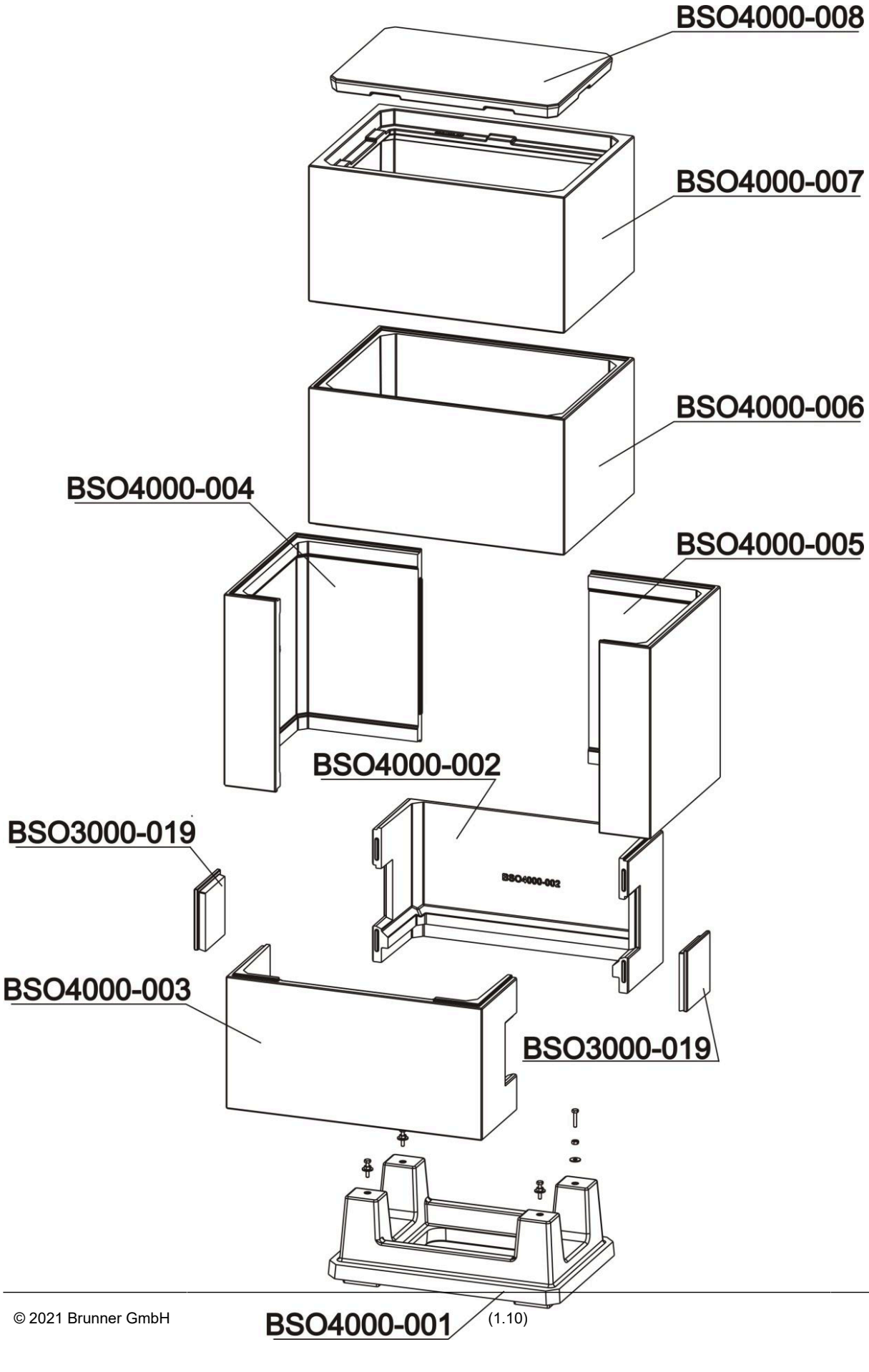
For wall thicknesses, a tolerance of 3.5% applies.



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.

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4 COMPONENTS



5 SEQUENCE OF ASSEMBLY

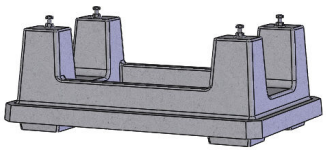


Illustration 3: Set up the bottom plate

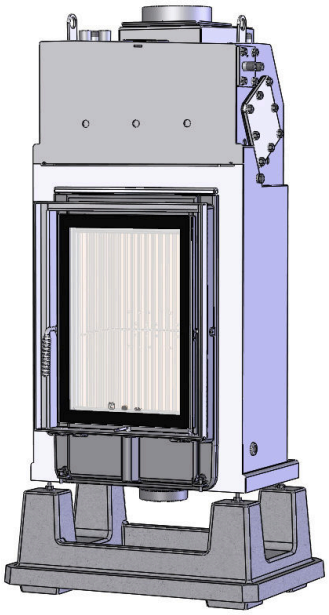


Illustration 4: Set up the boiler on the bottom plate and fix it

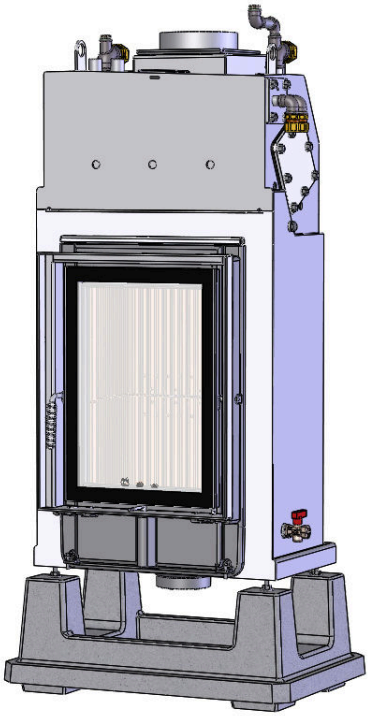


Illustration 5: Mount the components for the boiler connections

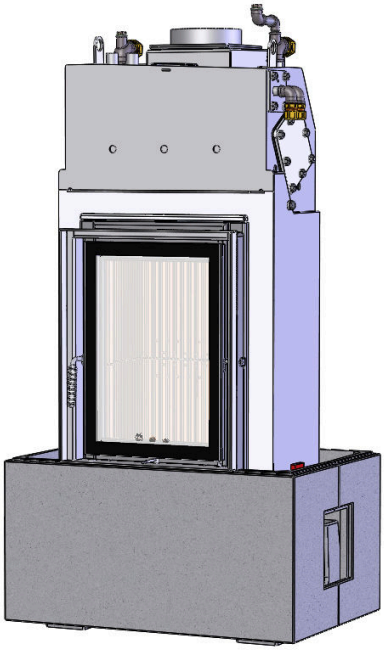


Illustration 6: Set up the lower components on don't forget the revision plate

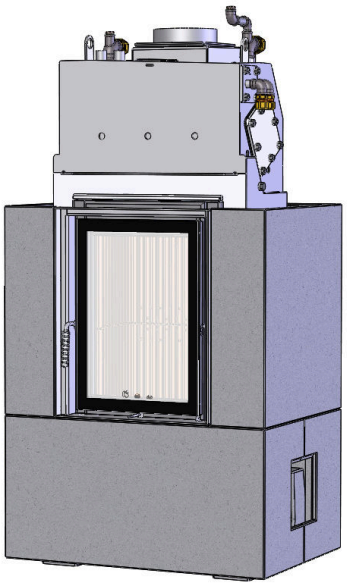


Illustration 7: Set up the components of the second ring

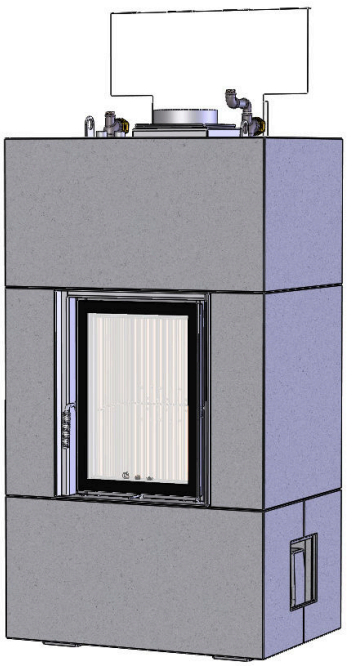


Illustration 8: Insert theradiation panels (if ordered) and set up the third ring

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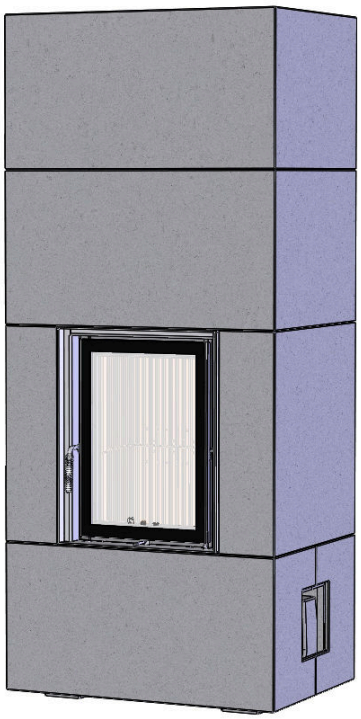


Illustration 9: Set up the fourth ring

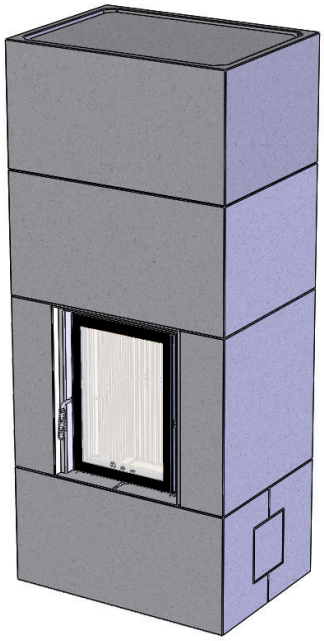


Illustration 10: Set up the ceiling cover and close the opening for the revision

6 ASSEMBLY

Sequence of assembly

For sequence of assembly, please follow the instructions in chapter 'Sequence of assembly'. It shows each and every step of assembly.

Always keep to the specified order!

The single elements must be examined closely before installation to ensure correct position. Don't forget the pointwise bonding of elements with acrylic adhesive.

The assembly sequence of protective panels is only an example and can be different in various cases.

Fireplace insert

To compensate for the different thermal expansions between the fireplace insert and casing, a gap of ca. 2-3 mm must be left around the doors.



If the fireplace casing is in direct contact with the fireplace insert, it leads to damage of the fireplace casings, which are not covered by our warranty.

The mounting frame must have an overlap of about 4 mm.

Breakthroughs and breakouts

Breakthroughs for smoke pipe connection, air gratings or other components within the fireplace casing must be created on site. These are to be made with extreme caution to prevent breakage of the components.

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

The safest way to create the breakthroughs is using a jigsaw.

Setting of the ring elements

The ring elements of the fireplace casings must be lifted over the fireplace insert previously set on the base plate. To avoid damages during setting, it is recommended to place the elements on pieces of wood, and then set down the ring element carefully after pulling out the wood pieces.

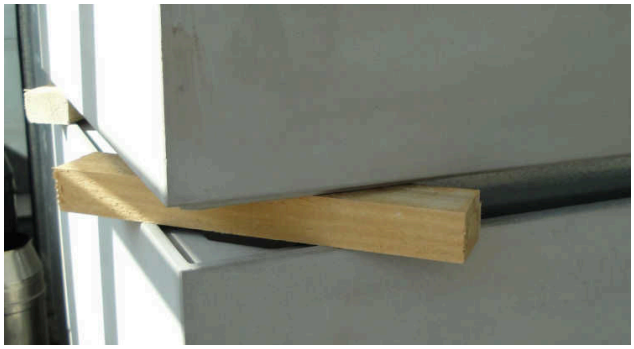


Illustration 11: Wood pieces as supports

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Plastering

Before plastering the fireplace casing, the fireplace should have been heated once. As a result, the fireplace casing can expand and break down the biggest stresses. This prevents or reduces subsequent cracks in the surface of the plastered fireplace.

The surface of the fireplace casing must be cleaned with a damp cloth. A pre-wetting of the surface is not required.

Keep processing temperature above 5°C (41 deg. Fahrenheit).

To avoid stress cracks as much as possible, a fiberglass mesh is applied with adhesive plaster (optional) Brunner Universal (Art.Nr.: 900384) or Brunner Spezial (Art.Nr.: 900284) on the fireplace casing.

The actual plaster layer is then drawn with adhesive plaster over this layer.

Please note the processing instructions for the adhesive plaster.

Excerpt from the processing instructions: Mix dry mass before removal of processing volumes in a clean container. Set small quantities in a mason pan with a spatula or trowel with clean tap water into application-specific consistency and process quickly; for large-area coating, stir with a mortar agitator in low speed intensively, allow to soak, stir again and then process quickly.

Air supply (combustion and convection air)

The required combustion- and convection air flows to the fireplace insert over the openings in the base area. If one of these openings are blocked, you need to make a correspondingly large opening in the components of the Brunner fireplace kits.

The hot air outlet is structurally guaranteed by the free cross sections in the ceiling area. If they are blocked, it is necessary to provide for a sufficient warm air outlet (see section 'Technical Data') on the ceiling area of the BSO.

Risk of overheating!

The openings for air supply and hot air outlets with the specified cross sections are required, even if the fireplace is provided with external air supply.

The stove cannot be used without sufficient air intake or hot air outlets.

Please read the installation instructions provided with the fireplace/stove insert.

In the first step of the construction sequence, the bottom plate is shown with inserted screws. With these screws the installation height of HKD 2.2 k-SK can be set and the device can be aligned.

The HKD 2.2 k-SK is placed on the screws.

Place the front lower ring and align the boiler.



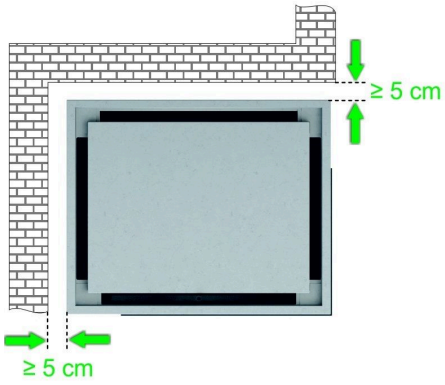
Illustration 12: the screw in the bottom plate

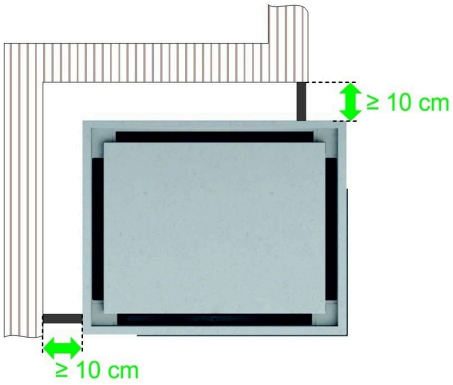
7 MINIMAL DISTANCES

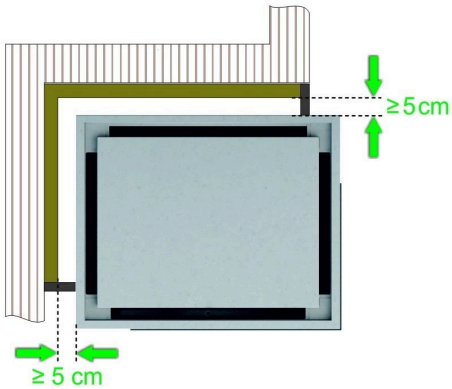
Minimal distances to adjacent walls

Depending on wall type (flammable or non-flammable wall), the minimal distances are different. With installed heat protection screen it is possible to minimize the distance to adjacent wall.

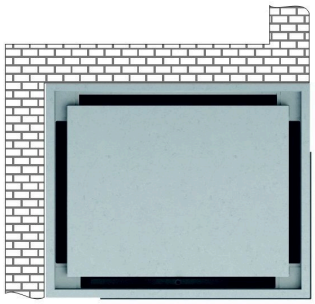
Without heat protection screen:

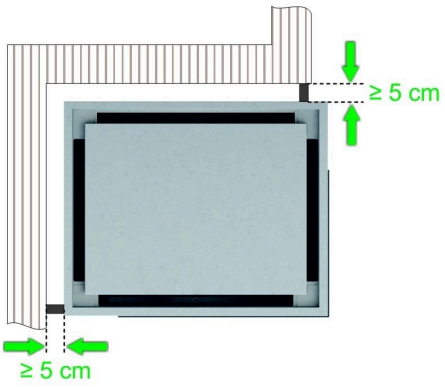


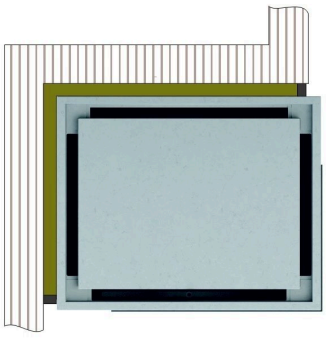




With installed heat protection screens:







Other walls:

- aerated concrete
- ceramic bricks
- sand-lime bricks
- mineral building materials with wall thicknesses > 10 cm

Walls requiring protection:

- flammable walls and wall structures
- load-bearing reinforced concrete walls
- other walls up to 10 cm thickness
- walls with built-in furniture behind them (heat accumulation)

Walls requiring protection with 10 cm brick lining or alternative insulation

Thermal concrete slabs (assembled by craftsman, with exposed joints)

Non-flammable wall, not requiring protection (other walls)

Flammable walls requiring protection

Brick lining or equivalent alternative insulation material, insulating panel

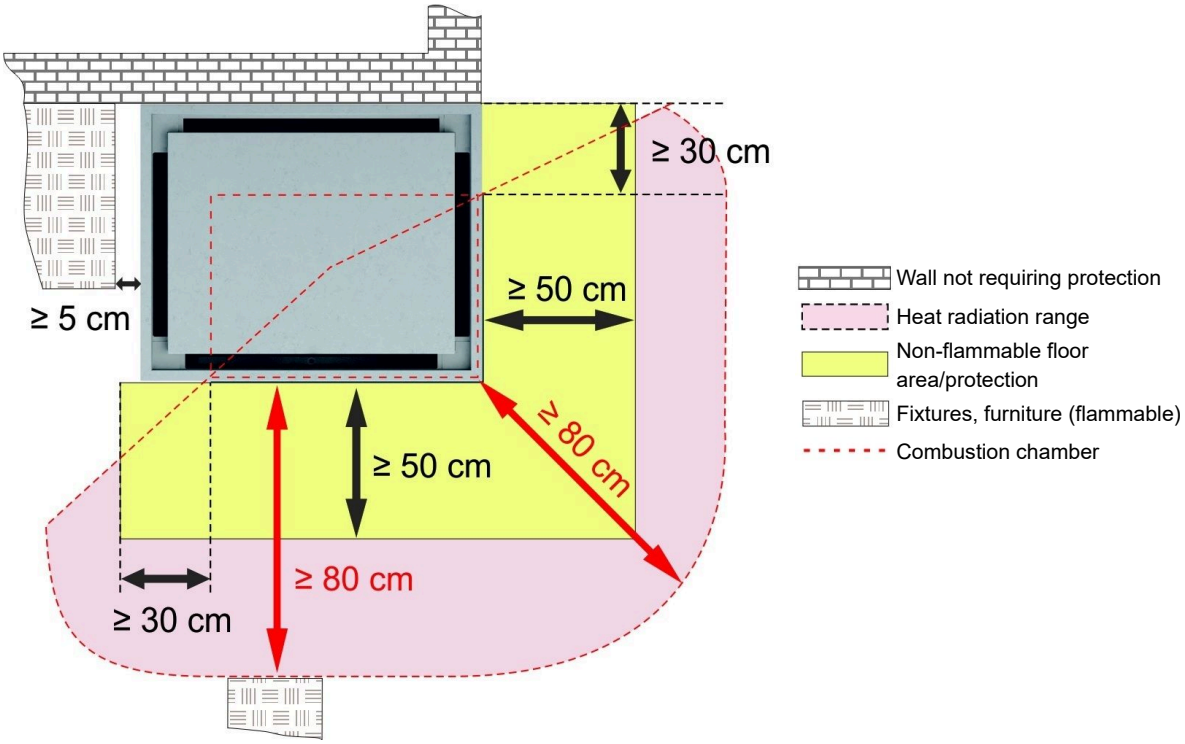
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8 HEAT RADIATION RANGE

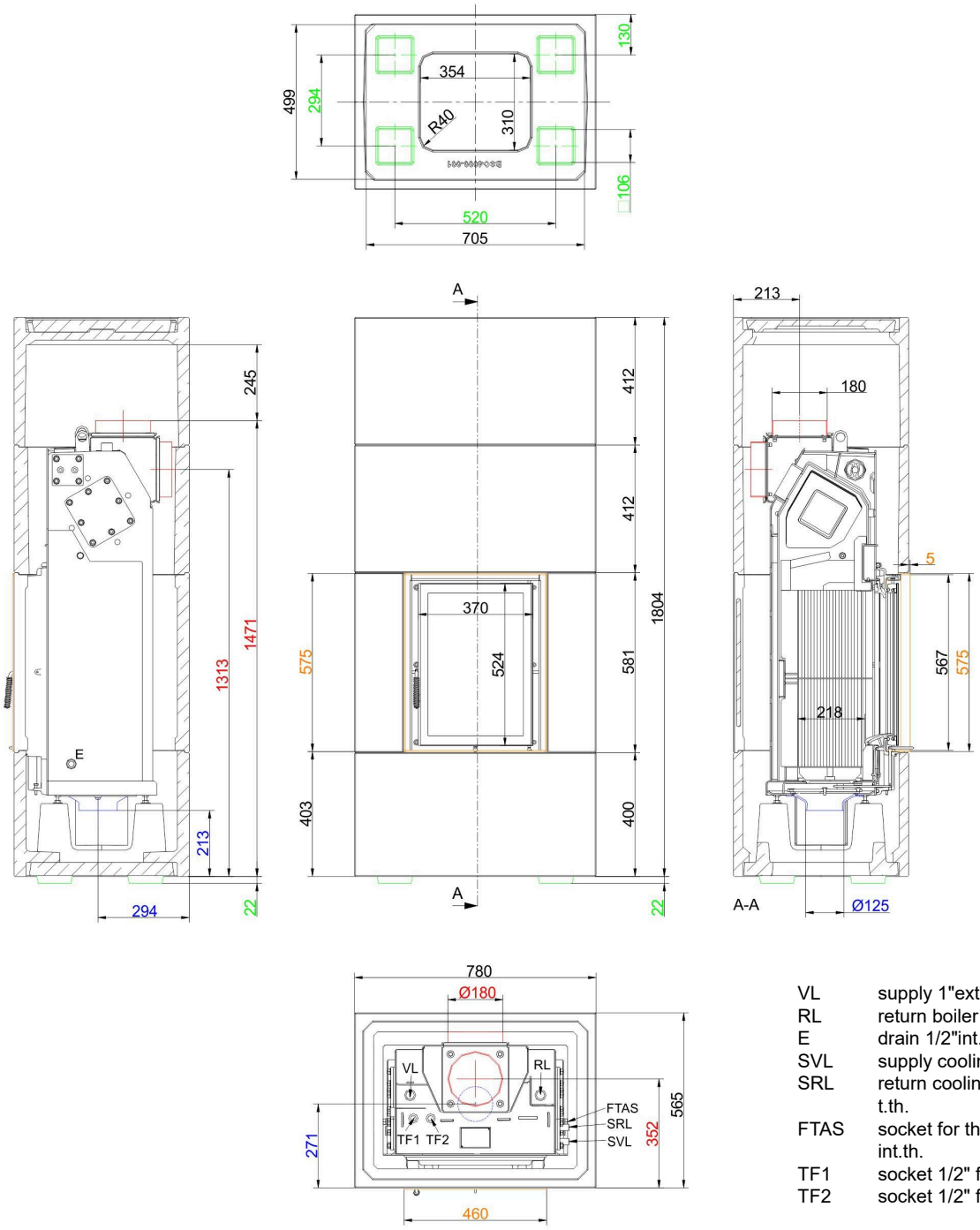
Within the range of heat radiation through the fireplace door (glass pane) there must be a minimal distance to all flammable parts (e.g. built-in furniture, fixtures) of at least 80 cm.

Outside the heat radiation range, any flammable fixtures cannot be exposed to temperatures above 85°C. Large-dimensioned parts from flammable materials or built-in furniture must have a clearance of at least 5 cm to external fireplace cladding. In this clearance, the room air must be able to circulate without any obstacles.

In general, parts of external fireplace cladding are allowed to be installed without any clearances, if such parts are not exposed to temperatures above 85°C under any circumstances.



Dimension sheets - BSO 04 with HKD 2.2k SK



VL	supply 1"ext. th.
RL	return boiler 1"ext.th.
E	drain 1/2"int. th.
SVL	supply cooling pipe outlet ext.th.
SRL	return cooling pipe outlet 1/2"ext.th.
FTAS	socket for thermal safety sensor int.th.
TF1	socket 1/2" for sensor int.th.
TF2	socket 1/2" for sensor int.th.

frame (orange), combustion air nozzle (blue), levelling feet (green) marked in color

We suggest for CAD planning Palette CAD. Permanent updated drawings: www.brunner.de
Frames/ flue gas outlet connection/ combustion air supply connection/ front variants/ support bearing are marked in color.

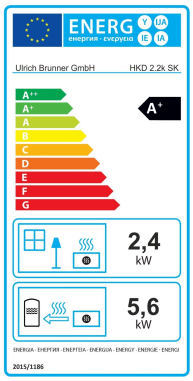
Planning and installation - BSO 04 with HKD 2.2k SK

Tested according to		EN 13229
Data for functional demonstration		
Rated heat power	kW	8
Direct heat output	kW	2.4
Indirect heat output	kW	5.6
Fire wood volume	kg/h	2.5
Flue gas mass flow	g/s	9
Flue gas temeperature	°C	210
Necessary supply pressure [1)]	Pa	12
Combustion air consumption	m^3/h	25
Combustion air connection Ø	mm	125
Cladding components		
Foot print (W x D)	mm	780 x 565
Overall height	mm	1826
Height of extension ring	mm	412
Minimal distances		
to mounting wall	cm	5
to mounting wall with heat protection panels	cm	0
to combustible mounting wall	cm	10
to combustible mounting wall with heat protection panels	cm	5
from top of fireplace to ceiling	cm	40
Cross-section of gratings [2)]		
Convection air	cm^2	318
Supply air	cm^2	592
Heat insulation		
In ceiling region connection	cm	4
Weight		
Total weight	kg	573
Meets requirement/limit values for:		
Germany/ Austria / Switzerland / Norway		1.BImSchV (Stufe 2) / 15a BVG (2015) / LRV / -

1) Damper flap recommended
2) Existing convection air openings. If the construction differs from the supplied system kit (e.g. construction up to the ceiling or closed construction), the information in the data sheet is decisive for carrying out the cross section of the convection air openings.

Product data sheet according to (EU) 2015/1186:

Supplier's name or trademark	Ulrich Brunner GmbH
Model identifier:	HKD 2.2k SK
Energy efficiency class:	A+
Direct heat output:	2,4 kW
Indirect heat output:	5,6 kW
Energy efficiency index:	109
Fuel energy efficiency (at nominal heat output):	82,0 %
Fuel energy efficiency (at minimum load):	N.A. %
Special precautions: see supplied product documentation	



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