

# Installation manual

Stil-Kamin 53-88 +

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**BRUNNER**<sup>®</sup>

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# 1 SAFETY

## 1.1 SAFETY PRECAUTIONS

Fireplaces may be set up only in rooms or areas with no risk of danger due to their location, structure or intended use.

Working on the stove	Installation, commissioning, servicing and maintenance works on the product may be carried out only by an authorized stove-fitter. Safety and efficiency of the system depend on this!
Working with electronics	Switch off the emergency switch or circuit breaker, and secure them against switching on again.



Fireplaces with external air supply are not independent from room air supply and must be considered and designed as roomsealed fireplaces. In connection with a ventilation or extraction system, we recommend the use of a negative pressure safety device (Art.No.: 11600.1).

Installation must be carried out by an authorized stove-fitter, because safety and efficiency of the system depend mostly on proper installation of the product. All valid stove fitting rules and regulations of building law must be observed and followed. Make sure to instruct the owner or user about the functions and controls of the system and possibly installed safety devices.

Fireplaces must be built to ensure safe operation and fire safety in order to eliminate possible risks and unacceptable loads. They have to be ready for use over an adequate period of time.

Make sure to instruct the owner or user about the functions and controls of the system and possibly installed safety devices.

Remember to use only genuine replacement parts.

## 1.2 CONNECTIONS AND ASSEMBLY

### Heating flue / smoke pipe connecting piece

Heating gas pipe (21) between heating device and downstream heat radiator or storage mass, as well as the smoke pipe connecting piece (39) connected to chimney must be made of heat-resistant steel with CE mark. The connecting pipe must be connected directly to the chimney. When the connecting piece is leading through structures made of flammable materials, like protected walls (34), then the connecting piece must be insulated to specified thickness, and additionally, the surrounding area of about 20 cm around this insulated piece must be protected by mineral, non-flammable building material (40). The connecting piece must be also insulated in the area of active back ventilation with suitable insulation material to at least 3 cm thickness.

In the chimney entrance area it is necessary to provide an opening for measurements and revision.

**All smoke pipe connections must be sealed tightly!**

### Outside air duct / combustion air pipe

If external combustion air supply is necessary, it must be connected directly to the air connecting piece of the heating device, to prevent possible drafts.

The combustion air duct must have sufficient cross-section. It must be laid using the shortest way and without unnecessary bends to reduce flow resistance. Combustion air duct dimensioning must be according to EN13884; flow resistance has to be estimated by calculation and must be taken into account!

Components of combustion air duct must be made of non-flammable, dimensionally stable and abrasion resistant materials (DIN 4102 A1 or Class A1(B2) according to DIN EN 13501-1); they must ensure tightness and be accessible for inspection and cleaning. Thermal insulation is necessary from the fire-protection point of view, if air temperatures above 85°C (185°F) are possible. Temperatures below dew point can cause water condensation, therefore appropriate insulation must be used. For buildings with more than two storeys and when crossing fire protection walls, the structure of these venting lines must prevent fire and smoke from penetrating other fire protection zones (see regional building law).

If the outside air duct has a separate flap for closing, the position of this flap must be recognizable. It must be ensured, that the outside air flap is open until the fire is burning. Air suction grilles or flaps cannot narrow the free cross section.

### **Convection space**

The stove/fireplace insert must be surrounded by convection space (31/36). When the room air is streaming through the convection space, the heat being set free during combustion is led away into the room. The convection space must be insulated against all surfaces, which are not parts of heat projecting walls of the fireplace. Insulation thickness: see technical data. The convection space is the distance between the fireplace insert and heat insulation and/or outside walls of the fireplace.

### **Convection air routing / Heating chamber / Mounting surface**

The fireplace, i.e. the heating insert and the additional reheating device (if present) with the heating gas pipe and connecting piece, is enclosed by an external casing or trim, which has to be assembled on site. The external casing consists of walls, bottom plate and top cover, which together form the so called heating chamber. Appropriate external casing materials -> see TROL.

Building surfaces can form parts of the external casing (mounting surfaces = e.g. floor area, ceiling area; adjacent wall = part of building wall which is in direct contact with the fireplace casing).

The heating chamber must be insulated from all mounting surfaces and adjacent walls (inactive casing surfaces). The necessary insulation thickness depends on the material of mounting surface and the mounting conditions (see "Building protection").

The distances between the stove components and the external casing create a convection space (31/36). Stream of air in this convection space helps to transfer some of the heat which is produced during combustion through the openings in external casing (circulating air/warm air) to the room of installation.

#### **Convection casing**

The convection casing (optional accessory) encloses the significant part of the heating insert and helps to transfer the most of hot air which is produced during combustion. Connections on the top of convection casing allow for transfer of this hot air by using dedicated air ducts. The convection casing does not include the hot air share produced by heating gas pipe, reheating systems and smoke pipe connecting piece.

#### **Convection air ducts/shafts**

All convection air ducts/shafts must be made of abrasion resistant, dimensionally stable and non-flammable materials; they must be tight and accessible for inspection and cleaning. Ducts and duct sections within the fireplace must be executed according to TROL specifications. Appropriate insulation must be provided where necessary. Construction law requirements regarding fire protection must be observed.

### External casing / Active trim

The external casing (37) of the stove/fireplace insert is used to project heat into the room and must be made of non-flammable A1 class building materials according to DIN EN 13501-1. The casing must be stable for a lifetime of the fireplace. Vertical and inclined surfaces of the stove casing, made of mineral building materials, must not exceed **120°C** (surface temperature). Surfaces of the casing, where objects of any kind may be placed for decoration or where wood is held (wood stack), as well as casing walls made of other materials, cannot exceed **85°C** (surface temperature). Use thermal insulation, if necessary. The casing cannot be affixed at any point to the fireplace itself. Its construction must be self-supporting. Between the stove/fireplace insert and the external casing, as well as between the supporting frame and the casing, an expansion strap and/or sealing tape must be used to compensate the different expansions caused by high temperature.

### Convection air supply

Hot air convection system: Fireplace with openings and/or warm air gratings in external casing

- Without convection casing  
Room air (circulating air) enters at the bottom of fireplace into the heating chamber (42), it gets warm and returns to the room as convection air through the openings (41) provided in the upper part of the fireplace external casing. The necessary free cross section of the circulation air opening (42) and supply air opening (41) depends on the type of the additional reheating surface and mode of operation (see "Technical data"). Necessary insulation thickness for adjacent wall -> see Building protection.
- With convection casing  
Room air (circulating air) enters at the bottom of fireplace into the heating chamber (42). The hot air produced inside the convection casing must be returned through dedicated openings. The hot air can be transferred by ducts or shafts, which are connected at the convection casing outlets.  
The remaining heat produced by reheating systems, heating gas pipe, and smoke pipe connecting piece must be returned to the room through the openings (41) in the upper part of the external casing. The necessary free cross section of the circulation air opening (42) and warm air opening (41) depends on the type of the additional reheating surface and mode of operation (see "Technical data"). With convection casing, the adjacent wall insulation can be different than specified (see Assembly Instructions for convection casing).
- Fireplace without openings and/or warm air gratings in external casing (hypocaust principle)  
Convection air is circulating inside a closed fireplace casing. Heat is projected through "active" walls of the fireplace. Thermal load is higher as when heat is returned into the room through warm air openings. This higher load must be taken into account by using appropriate additional thermal insulation (see "Technical data" or e.g. active air cooling). The dimensions and design of active trim must be adapted to the heating power of the heating device.

## 1.3 BUILDING PROTECTION

All building areas and (adjacent) walls which are in contact with the heating chamber must be protected against overheating. Fire protection and static considerations must be taken into account. From a static point of view, the admissible temperatures must be lower than specified by fire protection requirements.

Adjacent walls cannot be exposed to temperatures above 85°C (fire protection requirement). The same is valid for built-in furniture. Required insulation measures depend on the type and design of the surface. The load bearing capacity of the mounting surface must be checked; appropriate means for load distribution must be taken if necessary.

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## Heat insulation

Heat insulation layers (32/44/46/54) must be laid smoothly and overlapping. The surface must be clean and resistant to abrasion. Their planned position must be permanently stable and durable. Insulation layers from abrasive materials must have an appropriate covering (for example, using steel panels). Only approved insulation materials must be used (see “Approved insulation materials”). The insulation thicknesses specified in Technical Data for flammable materials or other materials including flammable components are valid only for components with a heat transfer coefficient (U value)  $\geq 0,4\text{W/m}^2\text{K}$ . For U value  $< 0,4\text{W/m}^2\text{K}$ , additional measures for thermal insulation must be taken (see DIN 18896:2013-12).

## Protection of building walls

There are two types of building walls: “protected walls” and (other) “adjacent walls”. For protected walls, a thermal insulation layer (32) and a brick lining (33) must be used. The brick lining must reach up to the insulation of ceiling or to the height of external casing, and must extend at least **20 cm (7.87 in)** above the smoke pipe connecting piece (39).

- **walls to be protected** are walls from flammable materials or containing flammable materials, and all walls with flammable objects behind them (e.g. built-in furniture, wooden panels).

- **other walls** (35), these are: walls from mineral building materials, such as aerated concrete, bricks, sand-lime bricks, with thickness of more than **10 cm (3.94 in)**. For these walls, the insulation layer (32) is enough; a brick lining (33) is not necessary.

## Protection of ceiling above the fireplace

If the stove casing reaches up to the ceiling (43), it must be protected by a sufficient insulation layer (44), if only the ceiling is made from flammable materials or includes supporting elements of the building structure.

## Floor protection

Floors without sufficient load distribution must be provided with a reinforced concrete slab (45) of at least 6 cm (2.36 in) thickness. The mounting surface must be protected against excessive temperatures by sufficient insulation layer (46).

## Firewood storage

The surface temperature of the walls surrounding a recessed firewood storage must not exceed **85 °C**. This must be ensured by appropriate construction or insulation of walls.

## Warm air vents/gratings

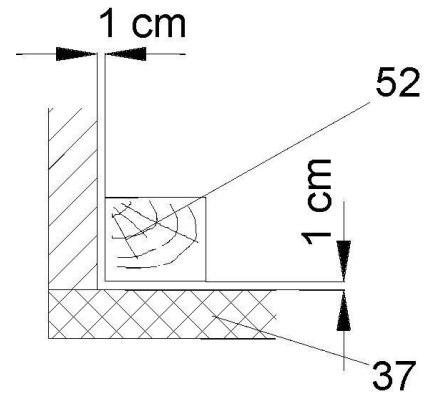
Warm air vents (41) must be situated at least 50 cm (19.69 in) below ceiling level and 30 cm (11.81 in) away from lateral built-in furniture, flammable materials or supporting concrete walls. Air gratings or vents must be located possibly high, to prevent heat accumulation within the external fireplace casing. Air gratings or vents must allow for easy cleaning. The required unobstructed area of air gratings depends on the type of reheating device. The air gratings or air vents must be arranged to avoid clogging up.

## Active air cooling

Active air cooling is a permanently open, non-closing shaft, gap or empty space, where part of the heat projected by the fireplace is dissipated by convection to protect the building or flammable components in adjacent walls or mounting surface.

**Decorative beam over fireplace door**

Decorative beams (52) are allowed with **1 cm** clearance between the beam and the wall of the fireplace casing (37), only outside the heat radiation range. The clearance must not allow for heat accumulation between the beam and the fireplace wall. Decorative beams cannot be parts of the building structure.



**Floor in front of the combustion chamber opening**

Floors made of combustible materials must be protected by a sufficiently thick covering (47) of non-combustible material or replaced by non-combustible building materials. Minimum protection in front of the combustion chamber opening for floors made of combustible materials:

Minimum protection in front of the combustion chamber opening	Closed mode of operation	Open mode of operation
to the front	at least 50 cm	30 cm + height of fire stand (at least 50 cm)
to the side	at least 30 cm	20 cm + height of fire stand (at least 30 cm)

**In the radiation area of the firebox opening**

Components made of combustible building materials or with combustible components (48) and built-in furniture (49) must have a sufficient distance from the firebox opening to the front, top and sides; as a rule, this is 80 cm (TROL). If flammable parts are shielded by a radiation shield ventilated on both sides, a minimum distance of 40 cm is sufficient.

**Note: Different specifications or alternatives are available for the BKH series, WF/WF<sub>R</sub> series and selected products in the HKD series. Please refer to the information in the data sheet!**

**Outside the heat radiation range**

Structures from flammable materials (48) or with flammable components, as well as built-in furniture (49) must have at least **5 cm** air clearance to the outside walls of the fireplace. In this clearance, the room air must be able to circulate without any obstacles. Heat accumulation must be avoided. Structures covering only small areas of the fireplace casing walls, like flooring, adjoining wall coverings and insulation layers on ceiling and building walls, can be led right up to the fireplace casing.

**Electric lines**

Mounting surface must be free from typical electrical wiring, unless it is protected by special measures against permanent influence of temperatures >30°C (86°F). Special wiring with higher heat resistance is permitted (see TROL).

## 1.4 EQUIPOTENTIAL BONDING AND LIGHTNING PROTECTION



ATTENTION - lightning protection, earthing, equipotential bonding.

When connecting fireplaces with / without power connection to metallic exhaust systems (stainless steel exhaust systems, metal chimneys, refurbished chimneys, ...), the national regulations and existing association guidelines must be observed. The requirements and the design of lightning protection systems, surge protection as well as earthing and equipotential bonding for exhaust systems are regulated.

Equipotential bonding and surge protection ("internal lightning protection") have been mandatory in new buildings since 2016. Equipotential bonding is therefore required by law for metallic exhaust systems. Metallic chimneys must always be integrated into the building's earthing system. If there is also a lightning protection system ("external lightning protection"), the exhaust system must be integrated into the lightning protection system.

The measures provided in individual cases must be carried out by qualified electricians and / or lightning protection specialists.

Overvoltage protection measures for electrical and information technology systems are not dealt with in the standards mentioned and must be created individually on site via the fine protection / terminal device protection.



The legally provided equipotential bonding is not covered by the connection of the fireplace with / without a power connection to the protective conductor!

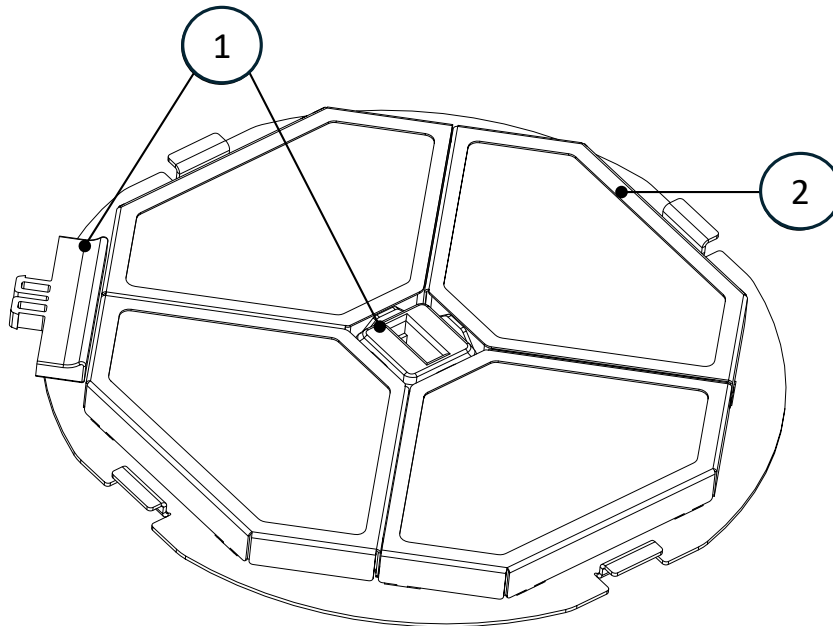


In case of damage to current-carrying components caused by non-professional measures for lightning protection, earthing and equipotential bonding, there is no entitlement to guarantee and warranty.

## 2 INSTALLATION

### 2.1 CATALYTIC CONVERTER (OPTIONAL)

Components Catalytic converter module BKH 5.0 (HK000210)



*Im. 1: Catalytic converter module with assembly tool*

Pos.	Designation	Item no.	Unit
1	KAT assembly tool	HK000204	1
2	Catalytic converter module complete	HK000210	1

**Work steps****NOTICE**

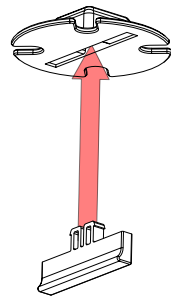
**Do not touch the sponge ceramic of the catalytic converter directly!**

Contact with the catalytically active layer restricts the effect of the catalytic converter.

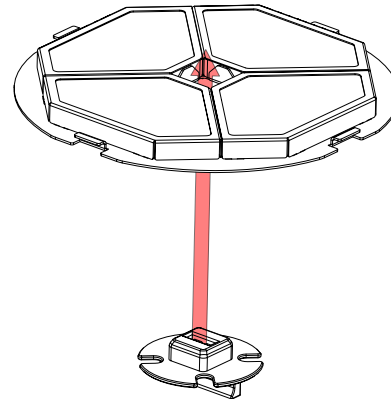
- ▶ Use the assembly tool.

**1. prepare the assembly tool**

- ▶ Connect the handle to the assembly tool.
- ▶ Pick up the catalytic converter with the assembly tool.



*Im. 2: Connecting the handle to the assembly tool*



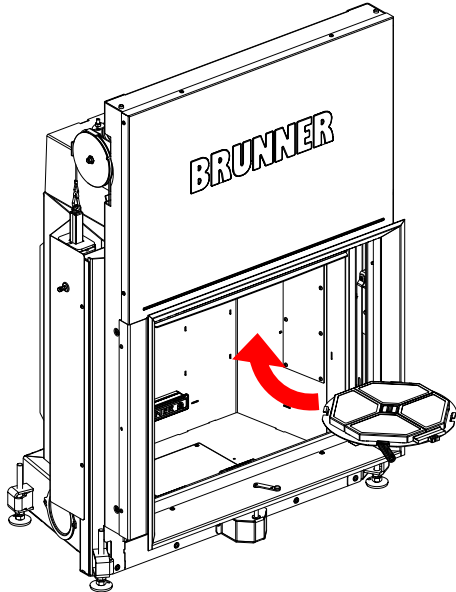
*Im. 3: Picking up the catalytic converter*

## 2. install the catalytic converter

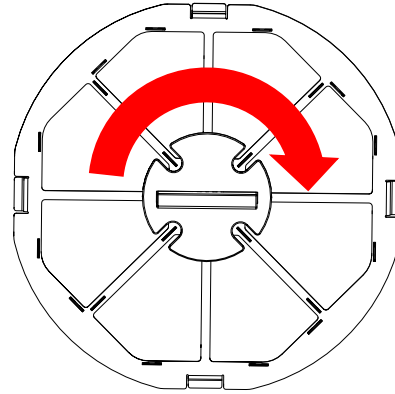
- ▶ Insert the catalytic converter through the combustion chamber into the catalytic converter retaining ring.

If necessary (e.g. for retrofitting), remove the deflector plates and then reinsert them.

- ▶ Turn the catalytic converter to secure it. Then remove the assembly tool.



*Im. 4: Insert into the retaining ring*

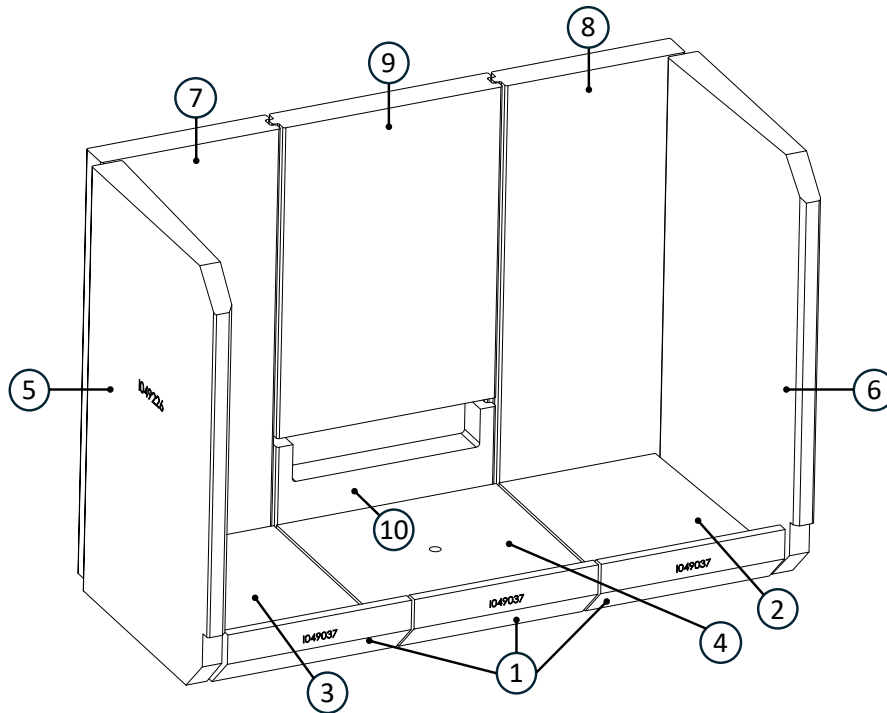


*Im. 5: Turning the catalytic converter*

## 2.2 FIREBOX LINING

### 2.2.1 SMOOTH CHAMOTTE SET

Smooth chamotte set components (I049224)



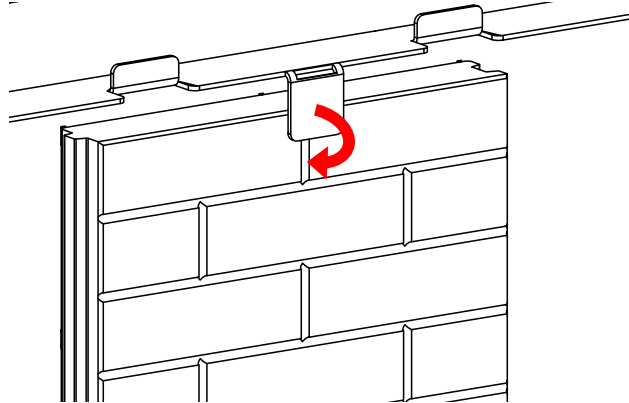
Im. 6: Smooth chamotte set

Pos.	Bezeichnung	Art.-Nr.	Stück
1	Wedge block	I049037	3
2	Bottom stone right	I049098	1
3	Bottom stone left	I049099	1
4	Bottom stone center	I049056	1
5	Side wall stone left	I049226	1
6	Side wall stone right	I049227	1
7	Rear wall stone left	I049229	1
8	Rear wall stone right	I049228	1
9	Rear wall stone, center top	I049225	1
10	Back wall stone middle bottom	049230	1

**Installation sequence of chamotte set: 10, 9, 7, 8, 5, 6, 1, 1, 1, 3, 2, 4****1. Insert rear wall stones in the middle**

- ▶ Insert rear wall stone in the middle at the bottom (10).
- ▶ Insert the rear wall stone in the middle at the top (9).

Secure by bending the tab of the rear chamotte holder:



*Im. 7: Securing the rear wall stone in the middle at the top*

- ▶ When inserting the rear wall stone, place a strip of ceramic fiber felt around the combustion air nozzle:



*Im. 8: Combustion air nozzle with fiber felt*

- ✓ Avoid direct contact between the casting and the chamotte bricks.

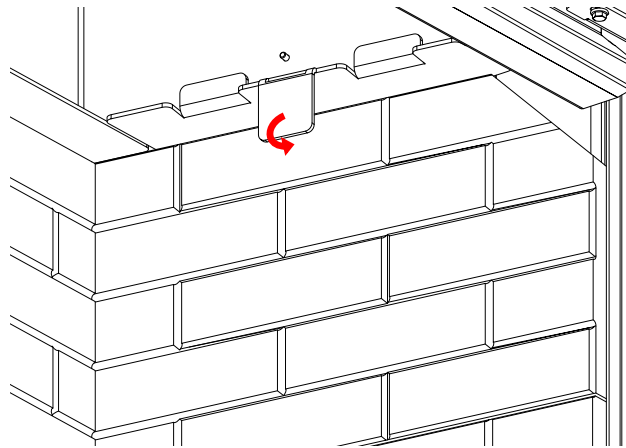
**2. Insert rear wall stones side**

- ▶ Insert rear wall stones on the left (7) and right (8).

**3. Insert side wall bricks**

- ▶ Insert side wall stones on the left (5) and right (6).

Secure by bending the tab of the rear chamotte holder:



*Im. 9: Securing the side wall stones at the top*

#### 4. Insert wedge stones

- ▶ Insert wedge stones (1) and align with firebox mortar.

#### 5. Insert bottom stones side

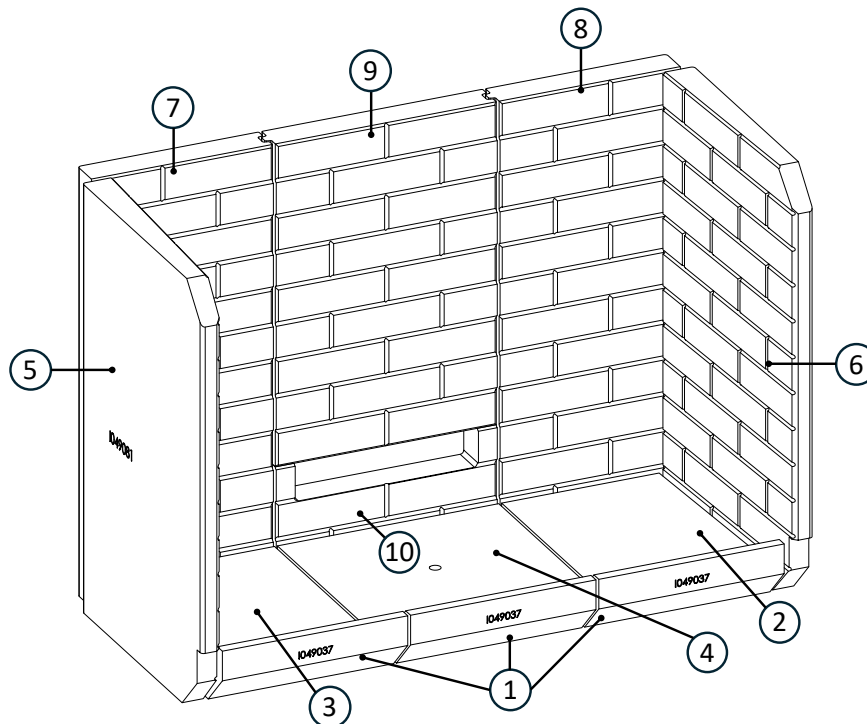
- ▶ Insert left (3) and right (2) bottom stones and align with firebox mortar.

#### 6. Insert bottom stone in the middle

- ▶ Insert the bottom stone in the middle (4) dry.

## 2.2.2 CHAMOTTE SET - BRICK OPTIC

### Components of chamotte set - brick optic (I049158)



Im. 10: chamotte set brick

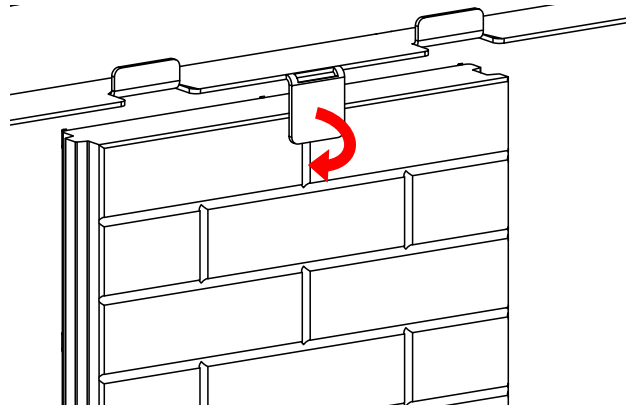
Pos.	Bezeichnung	Art.-Nr.	Stück
1	Wedge block	I049037	3
2	Bottom stone right	I049098	1
3	Bottom stone left	I049099	1
4	Bottom stone center	I049056	1
5	Side wall stone left	I049081	1
6	Side wall stone right	I049082	1
7	Rear wall stone left	I049084	1
8	Rear wall stone right	I049159	1
9	Rear wall stone, center top	I049159	1
10	Back wall stone middle bottom	I049160	1

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**Installation sequence of chamotte set: 10, 9, 7, 8, 5, 6, 1, 1, 1, 3, 2, 4****1. Insert rear wall stones in the middle**

- ▶ Insert rear wall stone in the middle at the bottom (10).
- ▶ Insert the rear wall stone in the middle at the top (9).

Secure by bending the tab of the rear chamotte holder:



*Im. 11: Securing the rear wall stone in the middle at the top*

- ▶ When inserting the rear wall stone, place a strip of ceramic fiber felt around the combustion air nozzle:



*Im. 12: Combustion air nozzle with fiber felt*

- ✓ Avoid direct contact between the casting and the chamotte bricks.

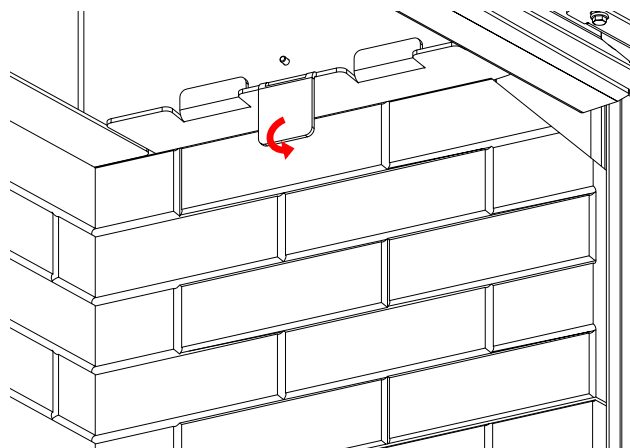
**2. Insert rear wall bricks side**

- ▶ Insert rear wall stones on the left (7) and right (8).

**3. Insert side wall bricks**

- ▶ Insert side wall stones on the left (5) and right (6).

Secure by bending the tab of the rear chamotte holder:



*Im. 13: Securing the side wall stones at the top*

#### 4. Insert wedge stones

- ▶ Insert wedge stones (1) and align with firebox mortar.

#### 5. Insert bottom stones side

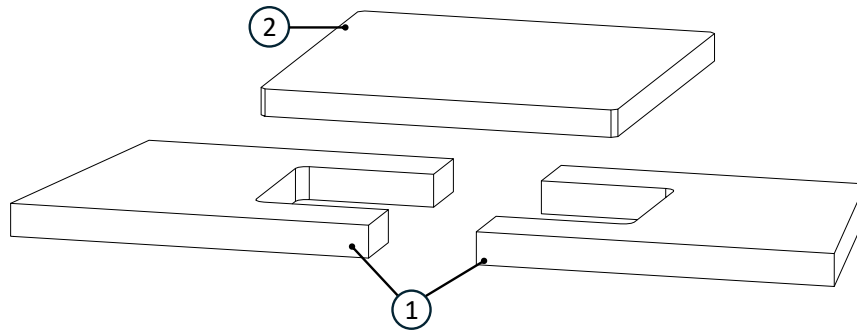
- ▶ Insert left (3) and right (2) bottom stone and align with firebox mortar.

#### 6. Insert bottom stone in the middle

- ▶ Insert the bottom stone in the middle (4) dry.

## 2.3 DEFLECTION

### Components deflection



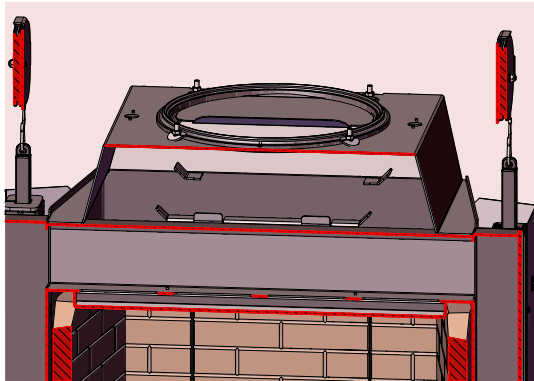
*Im. 14: Deflection plates*

Pos.	Designation	Item no.	piece
1	Deflection plate	I049343	2
2	Deflection plate 2	HK000099	1

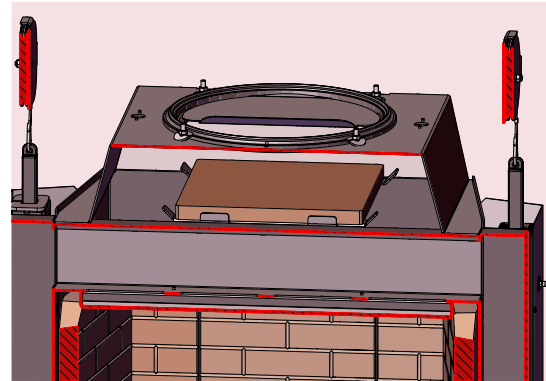
## Work steps

### 1. insert the upper deflector plate

- ▶ Place deflector plate 2 (2) on the upper deflector plate holders



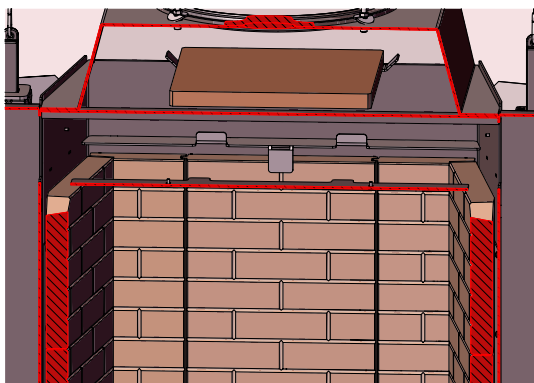
*Im. 15: Position of upper deflector plate holder*



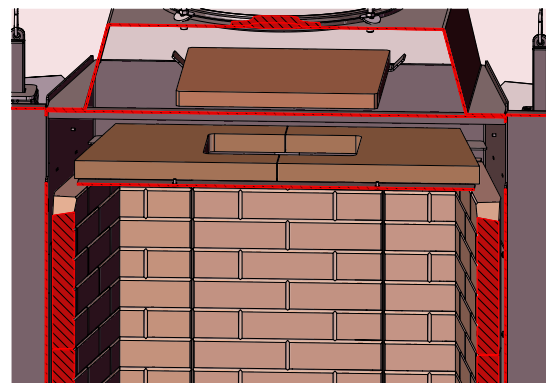
*Im. 16: Top deflector plate inserted*

### 2. insert lower deflector plates

- ▶ Place the deflector plates (1) on the lower deflector plate holders



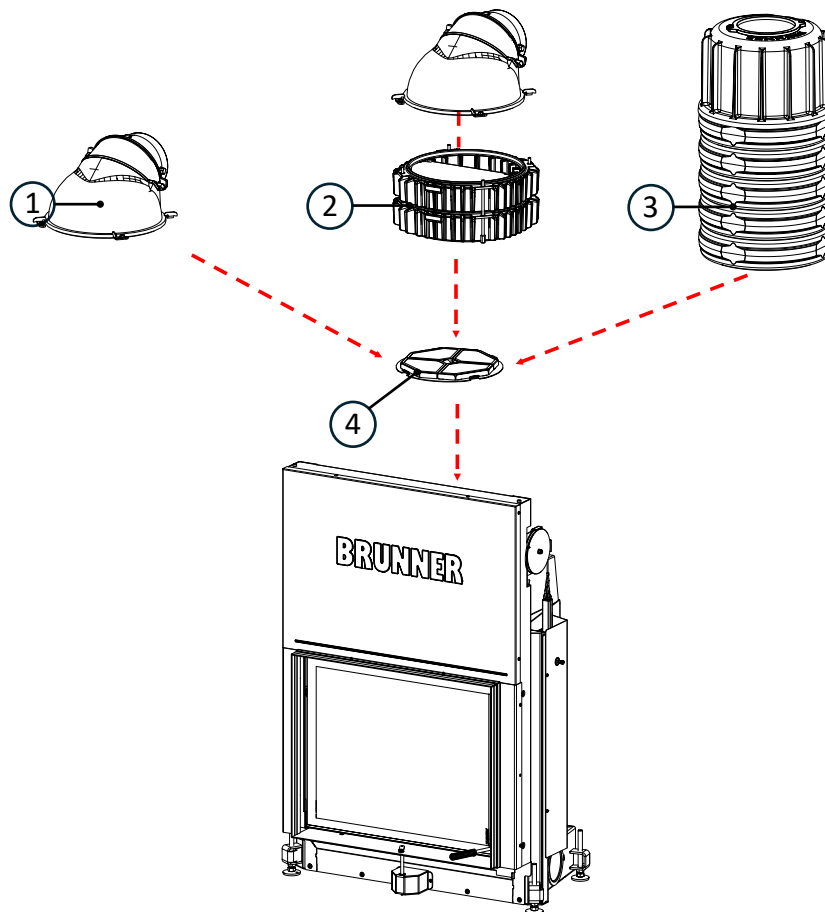
*Im. 17: Position lower deflector plate holder*



*Im. 18: Lower deflector plate inserted*

## 2.4 CONNECTION VARIANTS

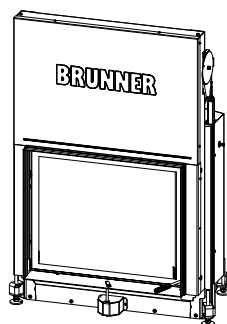
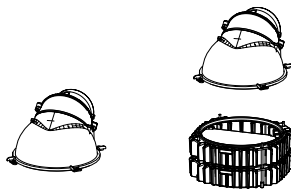
### Overview of connection variants



*Im. 19: Connection variants Style fireplaces S04.2*

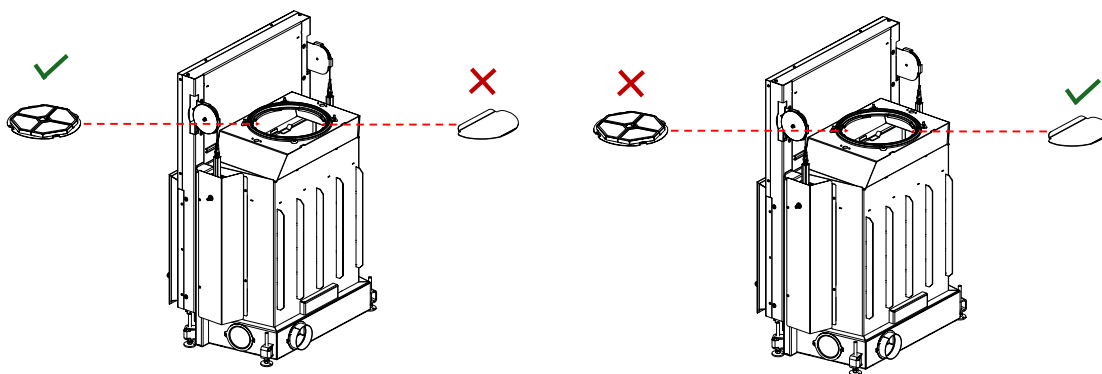
Pos.	Designation	Variant	Part no.
1	Rotatable cast dome with spigot	ø 180 mm	D004186
		ø 200 mm	10087
2	Heat exchanger rings cast iron		R015006-02
3	Module top-mounted storage tank MAS		SET211444
4	Catalyst		HK000210

Note heat exchanger deflection: Cast iron dome and cast iron heat exchanger rings



Im. 20: Cast iron dome and cast iron heat exchanger rings

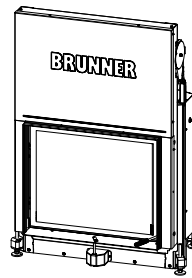
- ▶ Catalytic converter: Remove heat exchanger baffle
- ▶ No catalytic converter: Insert heat exchanger baffle



Im. 21: Connection variants with catalytic converter

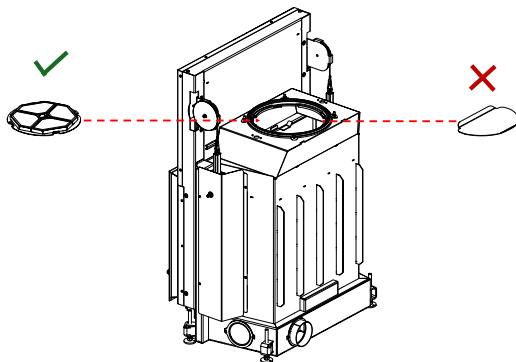
Im. 22: Connection variants without catalytic converter

Note heat exchanger deflection: Modular top-mounted storage tank MAS

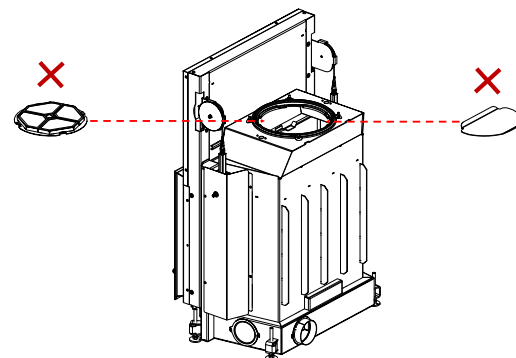


Im. 23: Modular top-mounted storage tank MAS

- ▶ Catalytic converter: Remove heat exchanger bypass
- ▶ No catalytic converter: Remove heat exchanger bypass



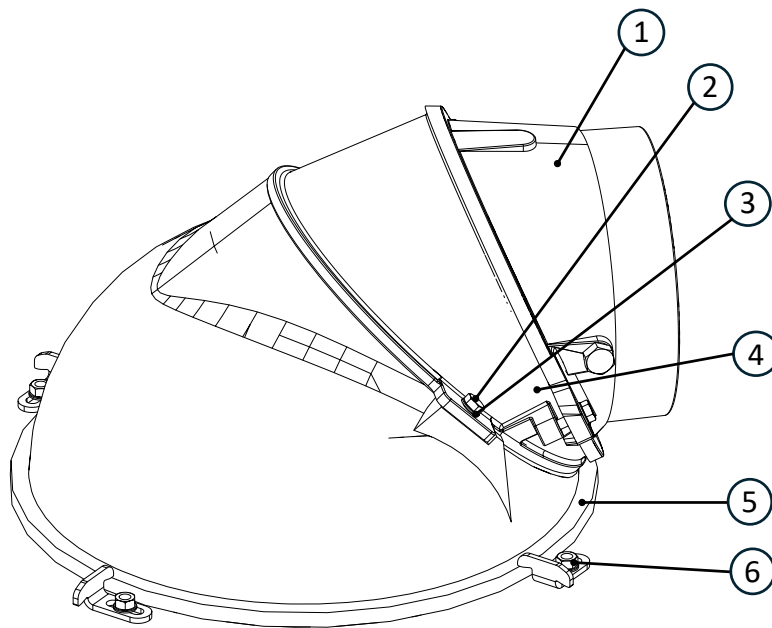
Im. 24: Connection variant with catalytic converter



Im. 25: Connection variant without catalytic converter

## 2.4.1 CAST IRON DOME

Components of rotatable cast iron dome with connection piece (∅ 180 mm = D004186 ; ∅ 200 mm = 10087)



Im. 26: Cast iron dome horizontal outlet

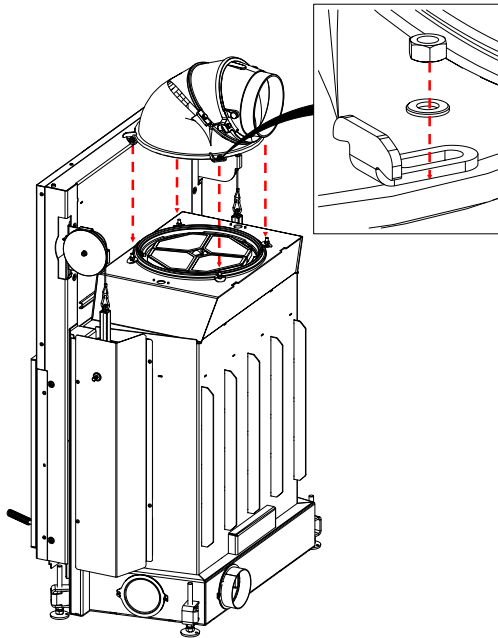
Pos.	Designation	Variant	Part no.	Piece
1	BG Connection elbow	∅ 180 mm	D004188	1
		∅ 200 mm	10088	1
2	Hexagon head screw		00683	4
3	Washer		800267	4
4	BG Top bend		08201	1
5	BG Dome		08200	1
6	Accessory pack		N008057	1

## Work steps

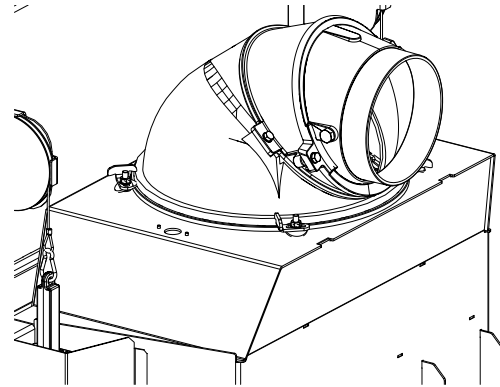
### 1. install the cast iron dome

- ▶ Screw the cast dome to the body using the four stud bolts.

Ensure that the parts are screwed together in the correct order: Clamping bracket, washer, hexagon nut.



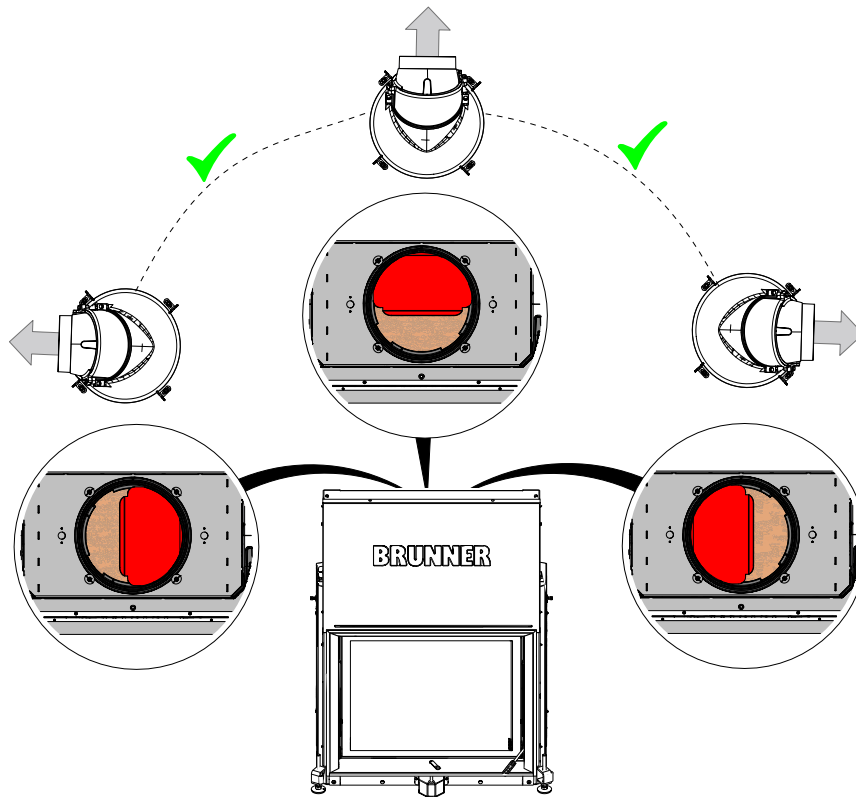
*Im. 27: Fitting the cast dome*



*Im. 28: Screwed cast dome*

### Alignment of the cast dome

- Observe the correct position of the deflection for different alignments of the cast dome.



Im. 29: Alignment options for the cast iron dome

## NOTICE

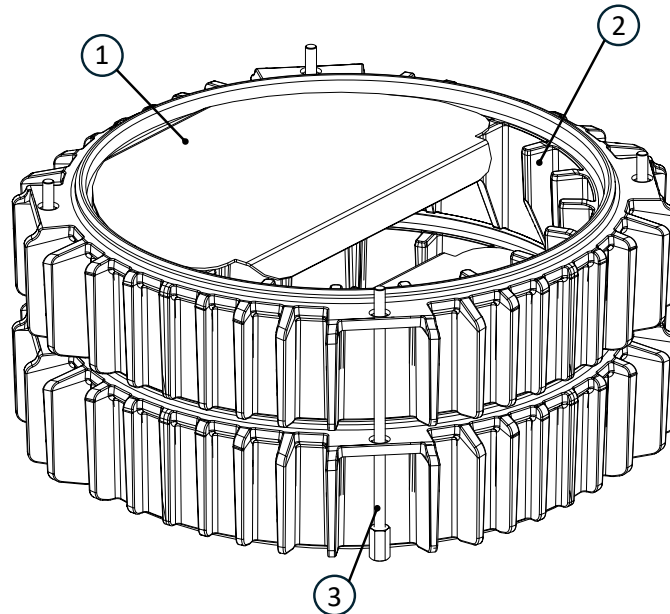
### Ensure correct position after fitting the cast iron dome!

During installation, the cast dome can shift so that it no longer sits correctly aligned on the mounting ring.

- Check with light test: Illuminate the combustion chamber to make any gaps between the mounting ring and the cast iron dome visible.

### 2.4.1.1 ADDITIONAL OPTION: CAST HEAT EXCHANGER RINGS

Components SET cast iron heat exchanger rings (R015006-02)



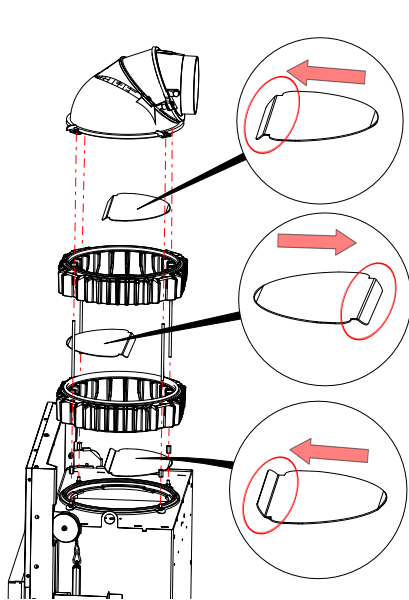
*Im. 30: 2 cast iron heat exchanger rings with deflector plates*

Pos.	Designation	Variant	Part no.	piece
1	Heat exchanger deflector		R015003	2
2	BG Cast iron heat exchanger ring		R015002	2
3	BG Threaded rod		R015008	1

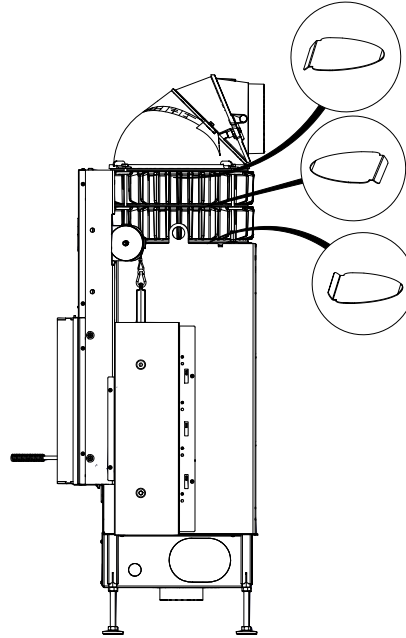
**Work steps**

Flue gas flow - heat exchanger rings

- ▶ When installing the cast heat exchanger rings, ensure that the deflectors are positioned correctly.



*Im. 31: Schematic diagram of the position of the deflectors*



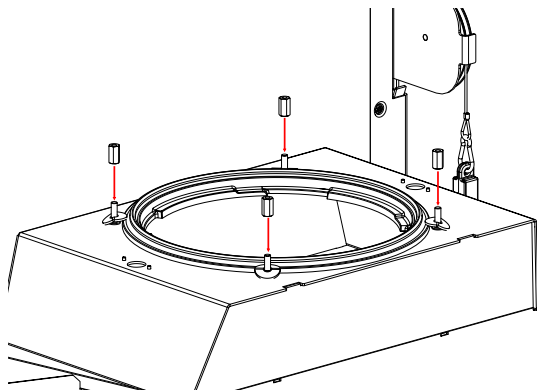
*Im. 32: Mounted cast iron heat exchanger rings*

1. fit the lower heat exchanger ring

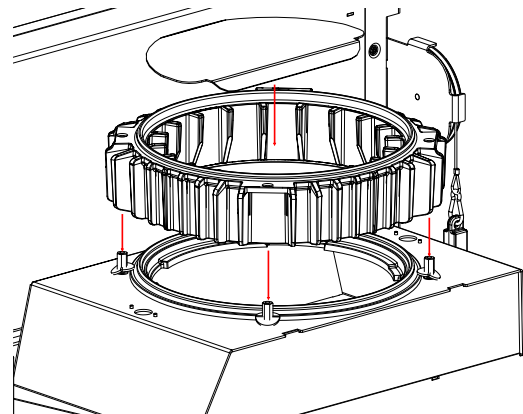
- ▶ Remove the nuts on the retaining ring and screw on the long nuts.

Ensure that the through holes for the long nuts are in the correct position.

- ▶ Fit heat exchanger ring with heat exchanger deflector.



*Im. 33: Screwing on the long nuts*



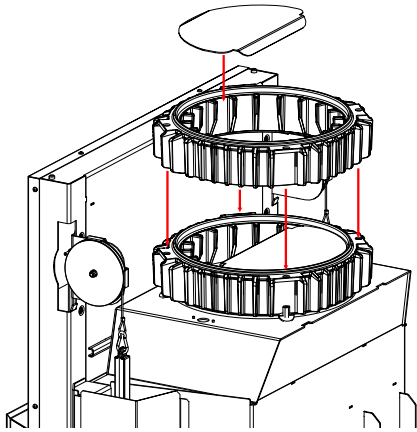
*Im. 34: Positioning the lower heat exchanger ring*

2. fit the second heat exchanger ring

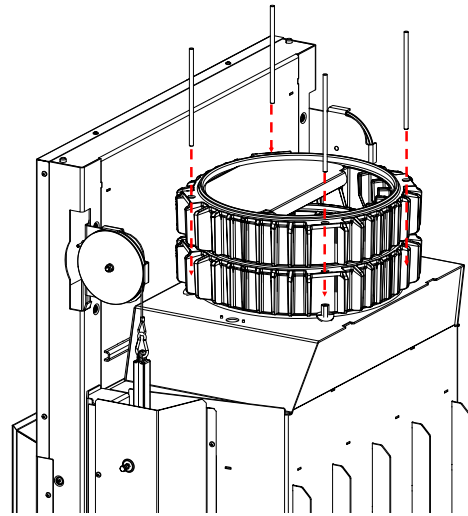
- ▶ Fit the heat exchanger ring with deflection heat exchanger.

Ensure that the through holes for the long nuts are in the correct position.

- ▶ Screw in the threaded rods.



*Im. 35: Fitting the upper heat exchanger ring*

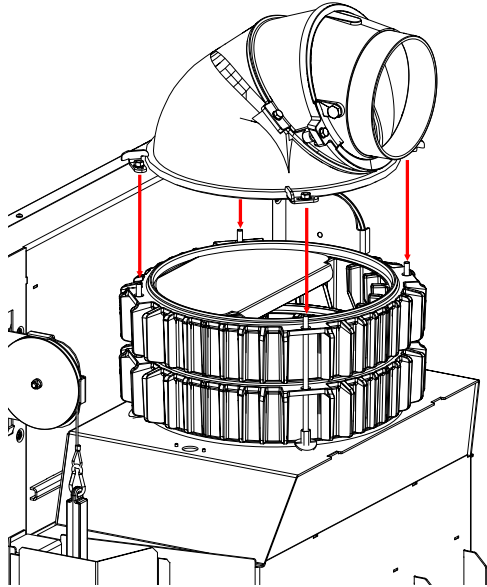


*Im. 36: Screw in threaded rods*

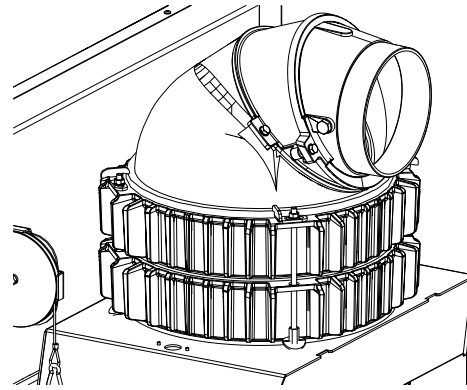
### 3. install cast dome

- Fit the cast dome and screw on with threaded rods.

Ensure that the parts are screwed together in the correct order: Clamping bracket, washer, hexagon nut.



Im. 37: Fitting the cast iron dome



Im. 38: Cast iron dome fitted

## NOTICE

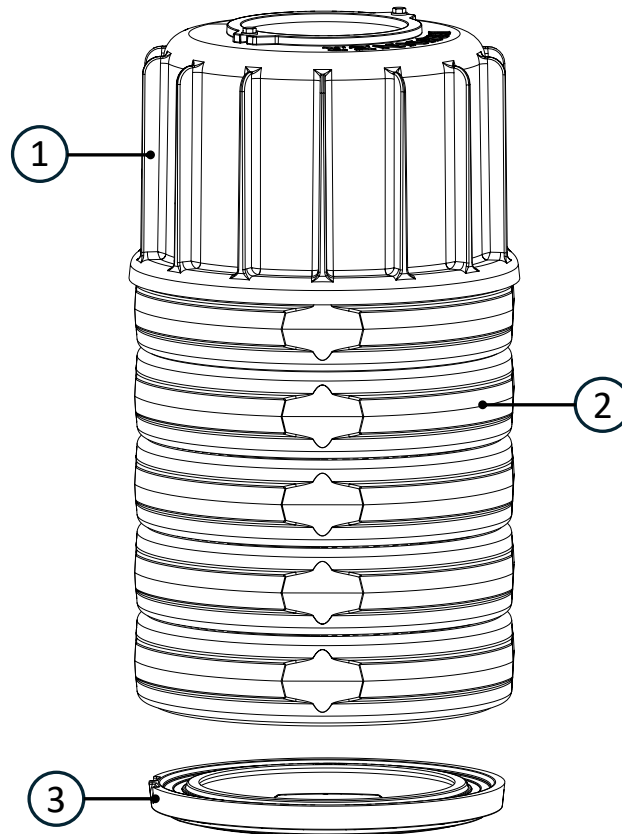
**Ensure correct position after fitting the heat exchanger rings together with the cast iron dome!**

During installation, the cast dome may shift so that it no longer sits correctly flush on the mounting ring.

- Check with light test: Shine a light through the combustion chamber to make any gaps between the mounting ring and cast dome visible.

## 2.4.2 MAS MODULAR TOP-MOUNTED STORAGE UNIT

Components SET MAS 440 (SET211444)



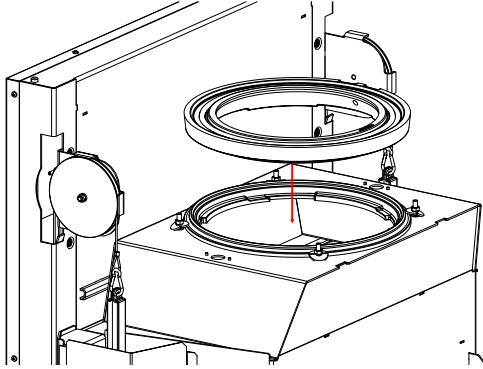
*Im. 39: MAS 440 double-shell*

Pos.	Designation	Variant	Part no.	piece
1	Cast hood MAS	ø 180 mm	R009095-01	1
2	Modular top-mounted storage tank MAS 440 double-shell		R009042	5
3	Intermediate ring		10077	1

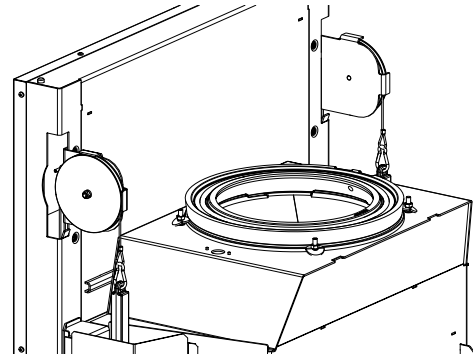
## Work steps

### 1. place the intermediate ring

- Place the intermediate ring directly on the heater cover or catalytic converter mounting ring.



Im. 40: Positioning the intermediate ring

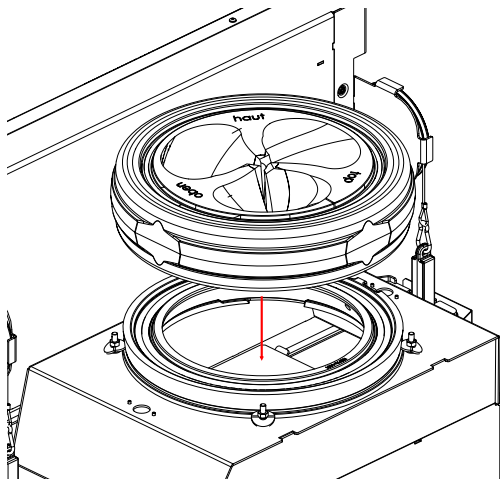


Im. 41: Intermediate ring in place

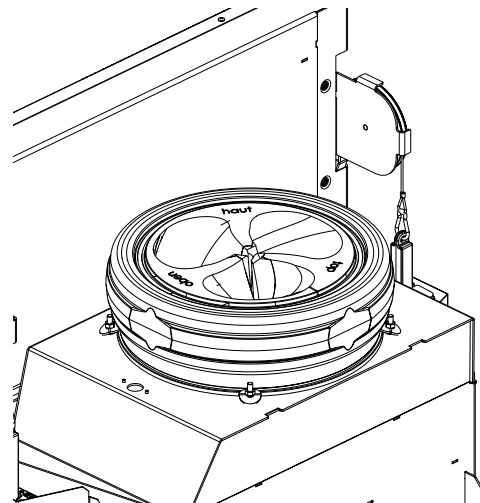
### 2. place the storage tank rings

- Place the storage ring on the bottom of the intermediate ring.

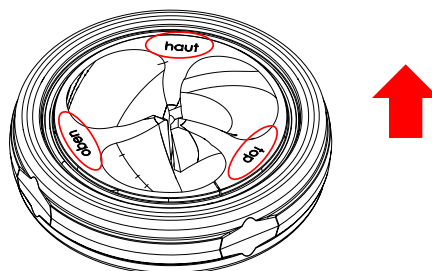
Place the storage rings with the correct side facing upwards:



Im. 42: Place the storage ring on the bottom



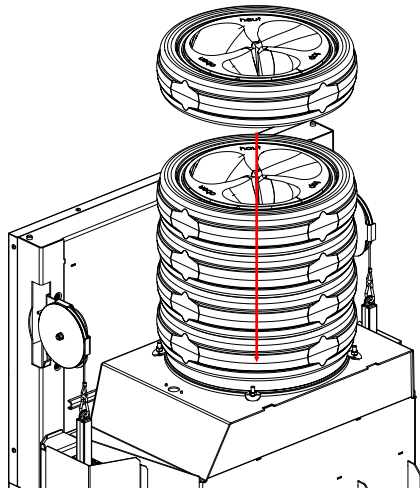
Im. 43: Storage ring placed at the bottom



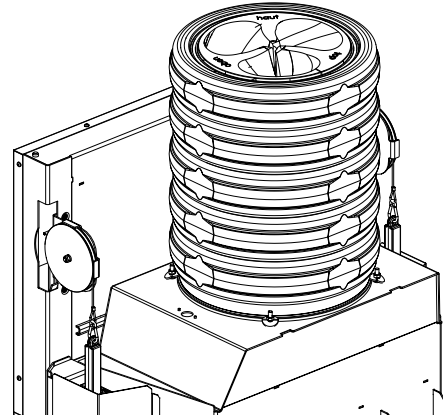
Im. 44: Storage ring: Labeling side up

- Place further storage rings.

Ensure that the flue gas path through the storage rings forms a continuous spiral.



*Im. 45: Place further storage rings*

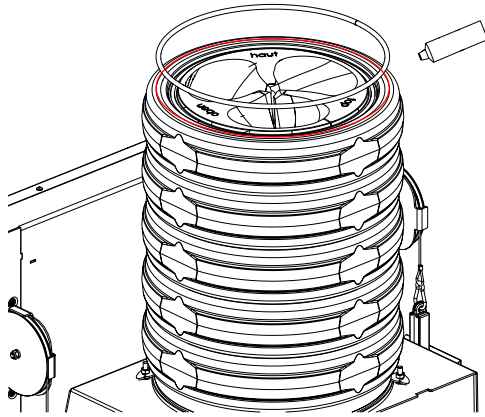


*Im. 46: Storage rings in place*

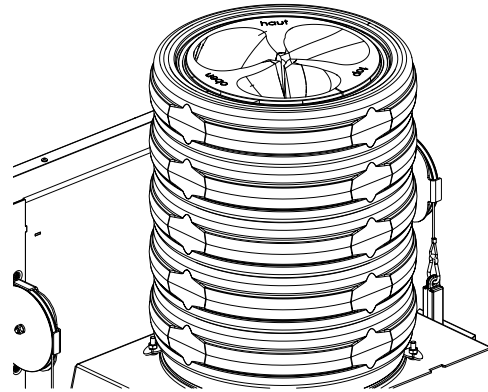
### 3. fit the cast dome

- ▶ Glue the cast iron dome seal into the groove of the top storage ring.

Cut the seal to length and wrap the ends of the seal with aluminum tape.

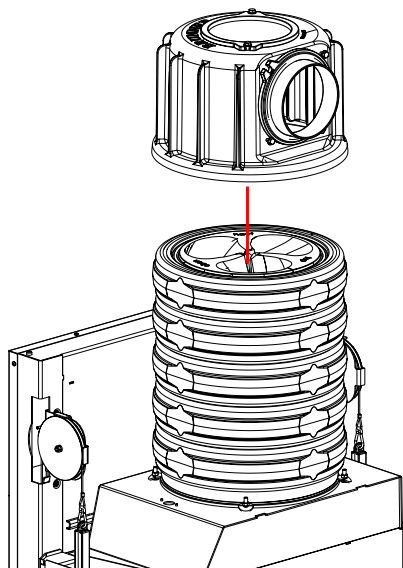


*Im. 47: Glue in the cover seal*

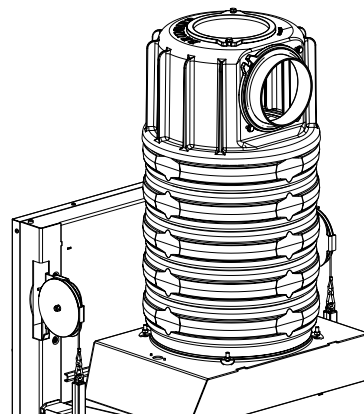


*Im. 48: Seal glued in*

- ▶ Fit the casting cover.



*Im. 49: Fit the cast iron cover*

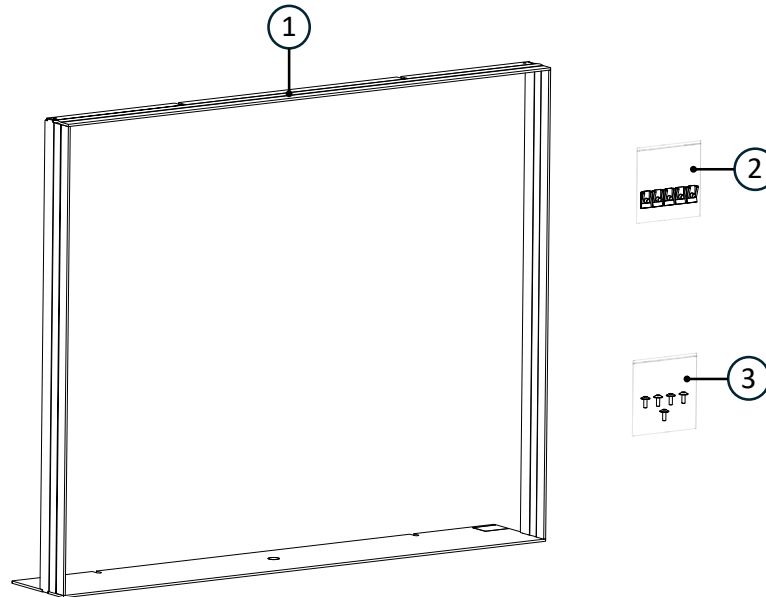


*Im. 50: Casting cover in place*

## 2.5 FRAME VARIANTS

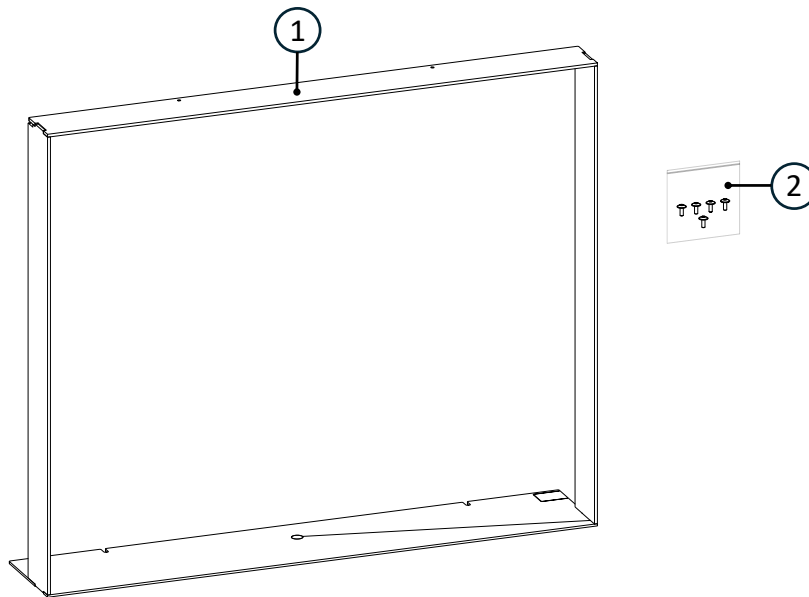
### 2.5.1 MOUNTING FRAME

Components BG mounting frame 50 mm black (I049031-1)



*Im. 51: Mounting frame 50 mm with side packs*

Pos.	Designation	Item no.	piece
1	Mounting frame 50 mm	I049451-01	1
2	Side pack of sheet metal nuts	02147	1
3	Supplementary pack of Torx pan-head screws	01998	2

**Components BG mounting frame 70 mm complete black (I049031-5)***Im. 52: Mounting frame 70 mm with accessory pack*

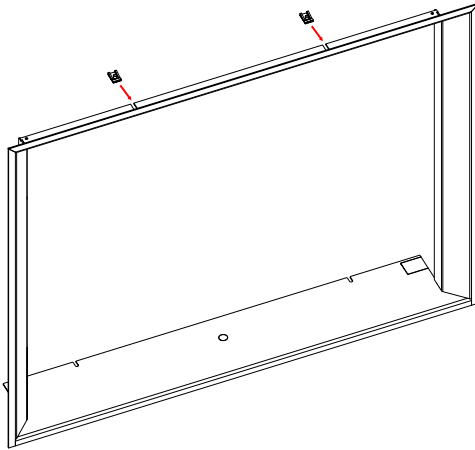
Pos.	Designation	Item no.	Piece
1	Mounting frame 70 mm	I049452-01	1
2	Supplement lens flange screws Torx	01998	2

## Work steps

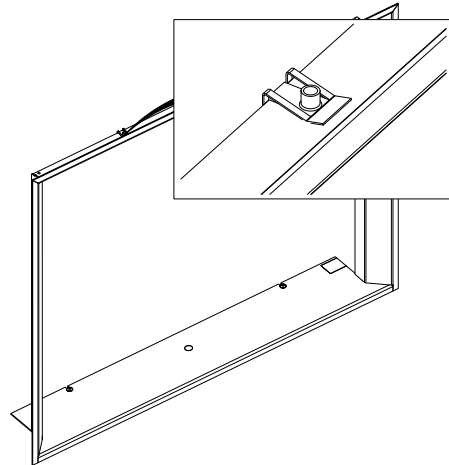
### 1. prepare the mounting frame

- ▶ Slide the sheet metal nuts onto the upper bar of the frame.

Depending on the width of the front, not all of the supplied sheet metal nuts may be required.



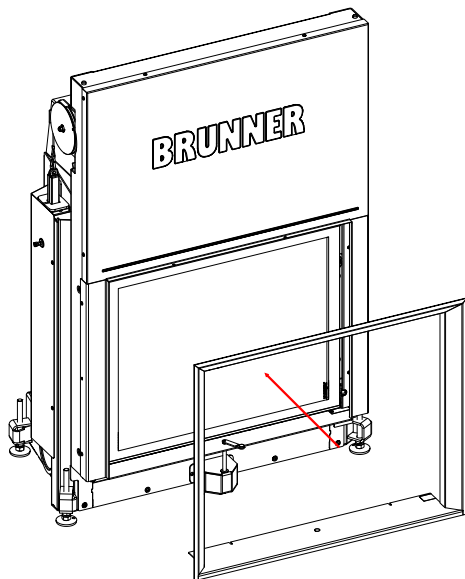
*Im. 53: Fit the sheet metal nuts*



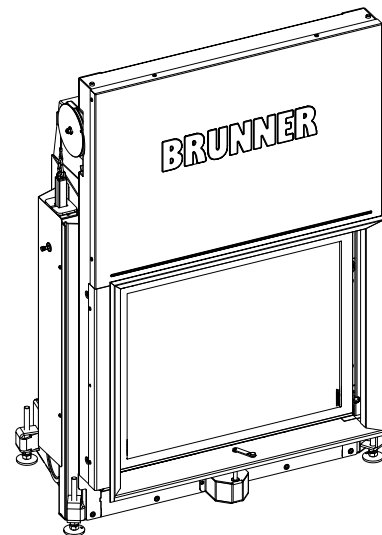
*Im. 54: Sheet metal nuts fitted*

### 2. mount the frame

- ▶ Insert the frame

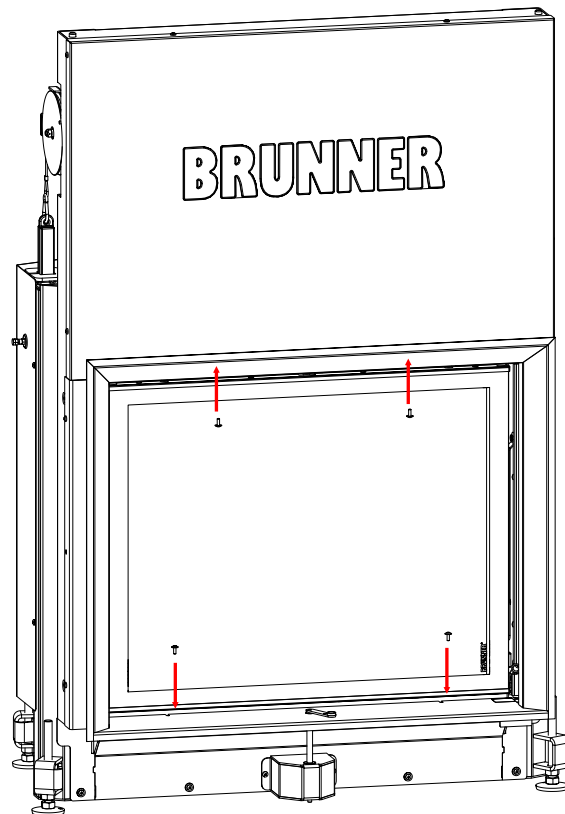


*Im. 55: insert the frame*



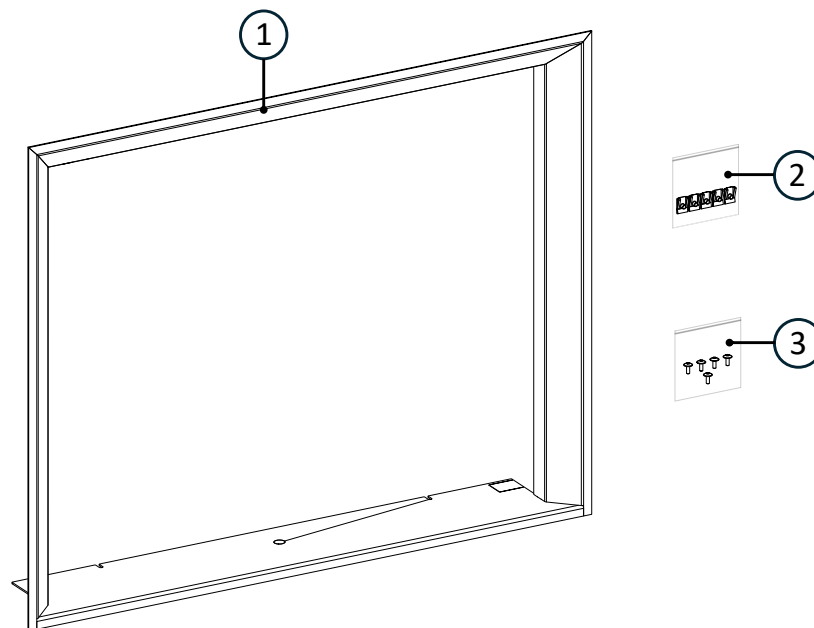
*Im. 56: inserted frame*

- Screw on the frame bar at the top and bottom.



## 2.5.2 FRAME

Components BG Frame complete (I049072-1)



Im. 57: Frame with accessory packs

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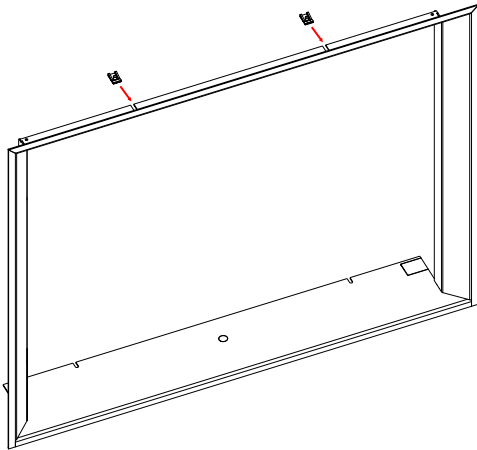
<b>Pos.</b>	<b>Designation</b>	<b>Item no.</b>	<b>Piece</b>
1	Frame	I049450-01	1
2	Side pack of sheet metal nuts	02147	1
3	Supplementary pack of Torx pan-head screws	01998	1

## Work steps

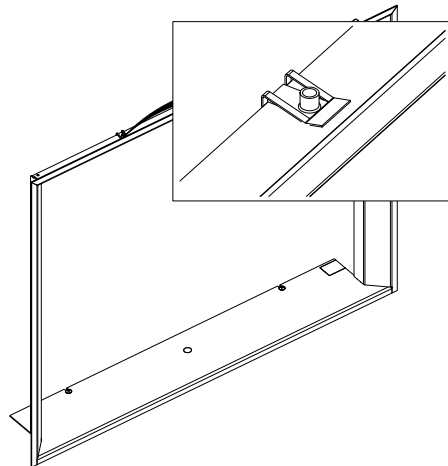
### 1. Prepare the frame

- ▶ Slide the sheet metal nuts onto the upper bar of the frame.

Depending on the width of the front, not all of the supplied sheet metal nuts may be required.



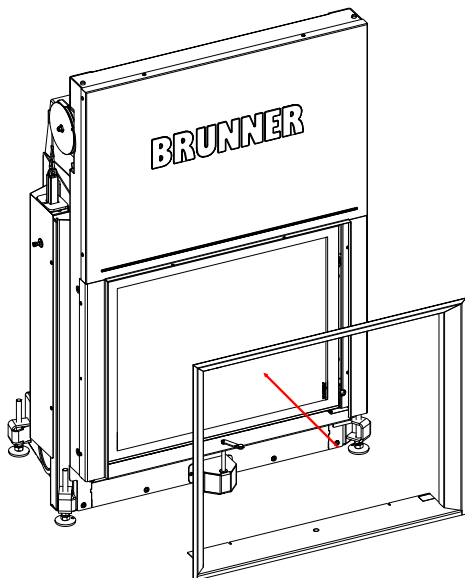
*Im. 58: Slide on the sheet metal nuts*



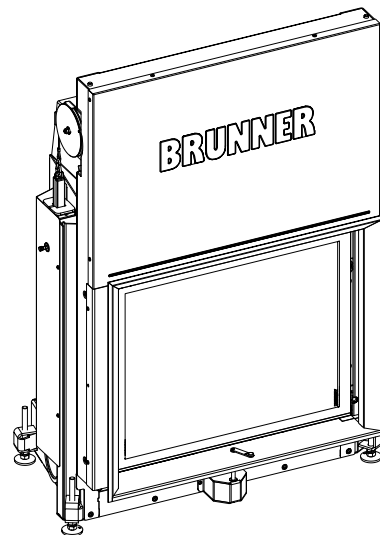
*Im. 59: Sheet metal nuts in place*

### 2. Mount frame

- ▶ Attach the frame.

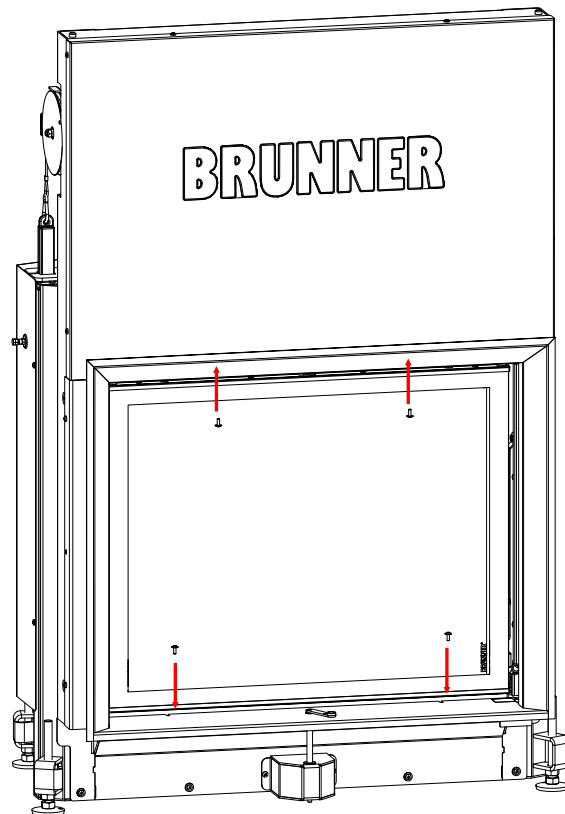


*Im. 60: Attach frame*



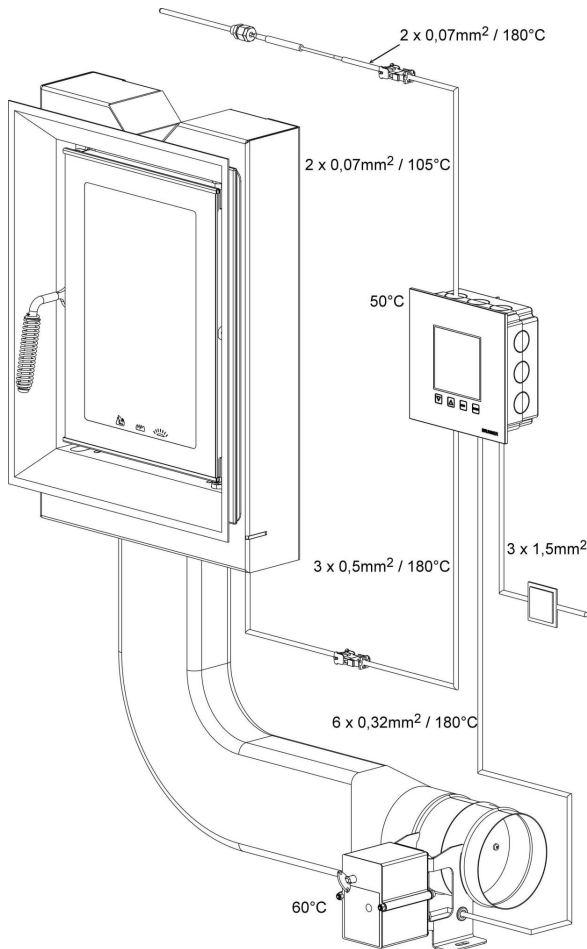
*Im. 61: Frame is attached*

- Screw on the frame bar at the top and bottom.

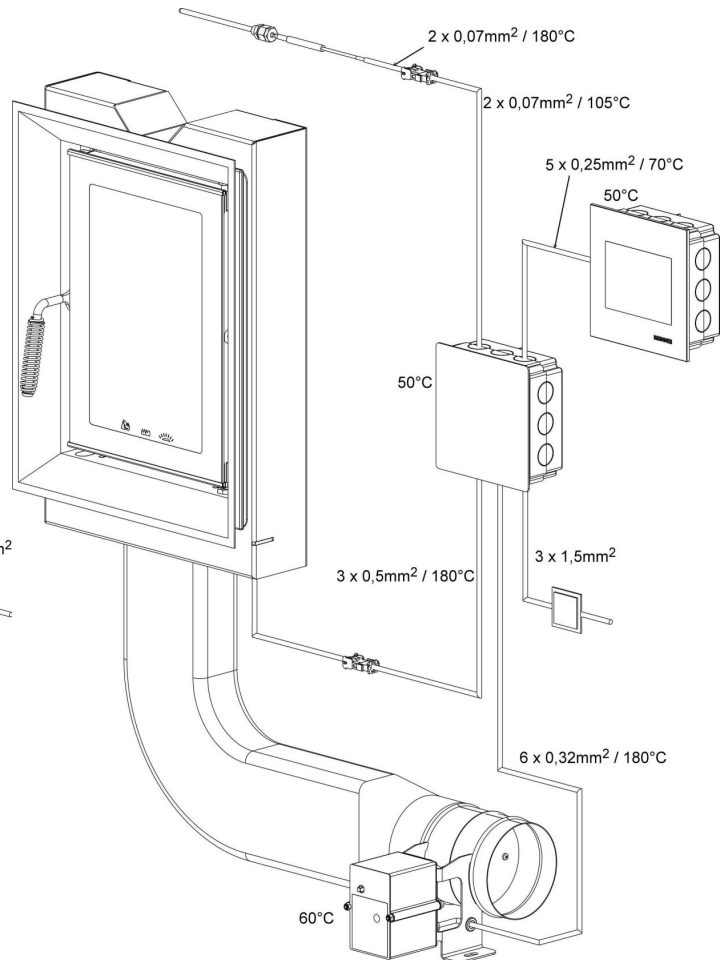


*Im. 62: Position of screws*

## 2.6 MOUNTING INSTRUCTIONS FOR EAS / EOS VARIANTS



Im. 63: Schematic layout of EAS



Im. 64: Schematic layout of EOS

The indicated temperatures are maximal permissible temperatures of components!  
The indicated cable dimensions are minimal dimensions!

Installation of electronic components must be prepared and performed carefully. Please pay attention to the following points:

- The flush-mounting box must be fitted in level and clean, to ensure easy, tension-free installation of electronics.
- Prevent any physical contact with electronic components - possible electrostatic discharge can damage them.
- Humidity can affect electronic components. Therefore, it is very important to ensure clean and dry installation of electronics.
- If possible, avoid installation of electronic components in exterior walls to prevent risk of corrosion at temperatures below dew point.
- The control unit must not be installed in hot parts of the tiled stove casing.
- The selected type of installation must ensure that temperatures do not exceed +40# (140°F) and the unit is not exposed to direct heat radiation.

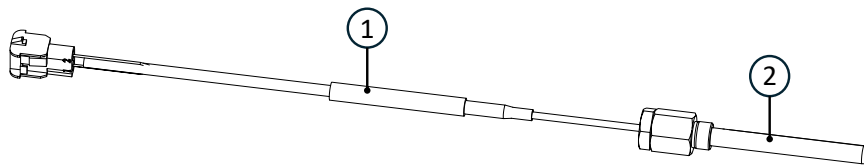
For units with external air supply, the motorized combustion air flap assembly cannot be installed in such way that the motor is located under the flap. Condensate could penetrate the motor and destroy it.

To avoid risk of damage, all cable conduits leading from electronics into the heating chamber must enter at the bottom of the stove casing. Cable conduits cannot end in upper parts of the heating chamber due to excessive temperature.

All electronic components must be accessible after installation for revision and replacement. When selecting place of installation, keep in mind the max. permitted temperature for the component. Components cannot be installed in closed spaces; proper ventilation must ensure sufficient heat discharge.

## 2.7 THERMOCOUPLE

### Components of the thermocouple complete (10992.1)

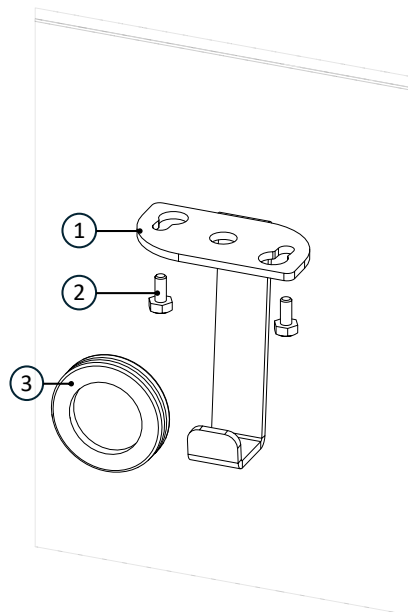


*Im. 65: Thermocouple*

Pos.	Designation	Item no.	piece
1	Thermocouple L 145 mm	Z020020-02	1
2	Ceramic protection tube d8-185 mm	00847.1	1

**Components accessory pack thermocouple holder BKH05 (N008069)**

Pos.	Designation	Item no.	piece
1	Thermocouple retaining plate	HK000216	1
2	Hexagon head screw	02531	2
3	Membrane feed-through (not required for Stil fireplaces)	901248	1



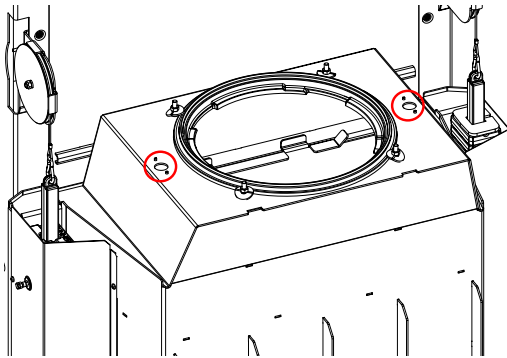
*Im. 66: Thermocouple accessory pack*

**Work steps**

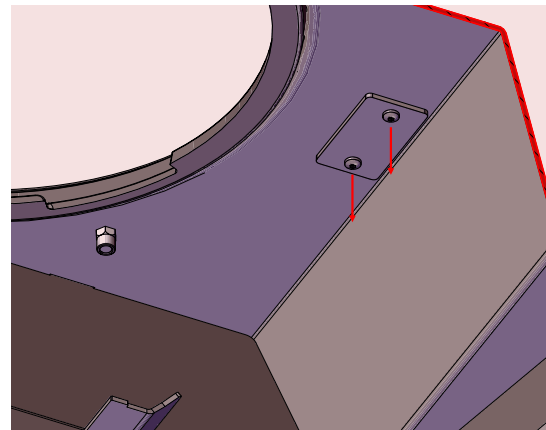
1. prepare the thermocouple mounting position

- Unscrew the dummy cover for the thermocouple.

Thermocouple can be mounted either on the left or right.



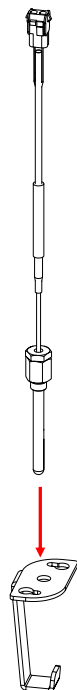
*Im. 67: Blind cover position*



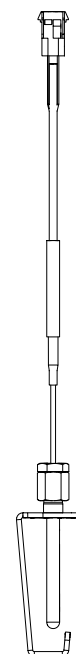
*Im. 68: Unscrew the dummy cover*

2. insert the thermocouple into the retaining plate

- Insert the thermocouple with the protective tube at the bottom through the middle opening of the retaining plate.



*Im. 69: Insert thermocouple*

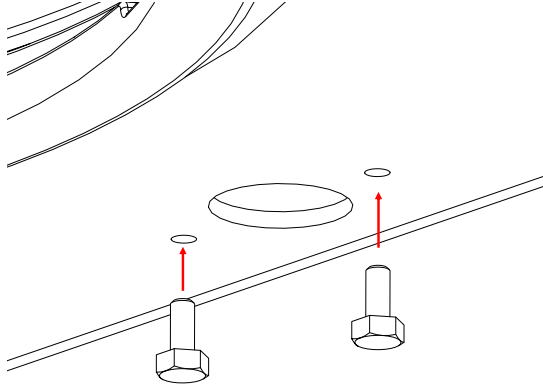


*Im. 70: Thermocouple inserted*

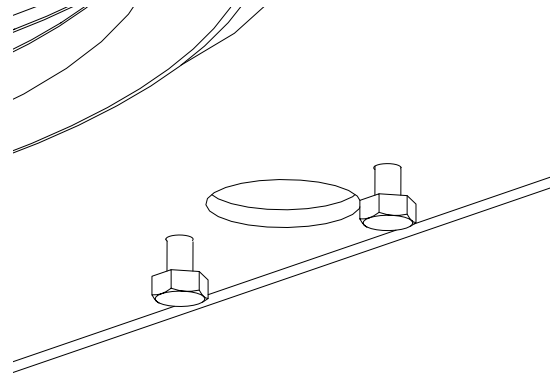
### 3. mount retaining plate with thermocouple

- ▶ Screw on the hexagon head screws from the accessory pack from below next to the opening for the thermocouple.

Do not tighten the screws yet.



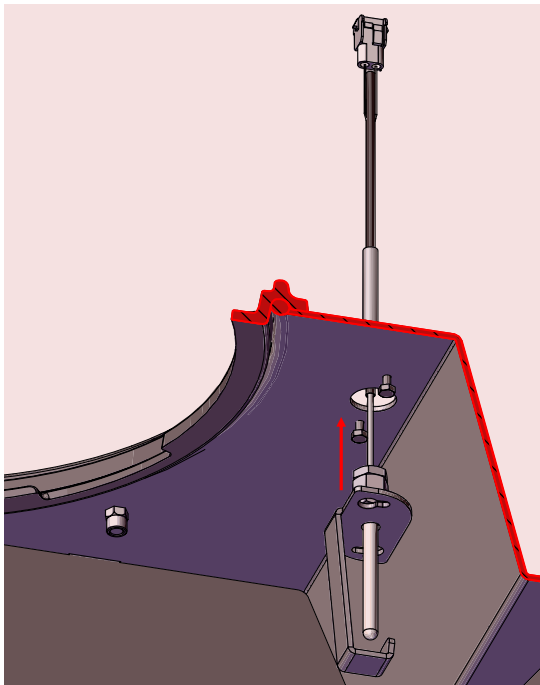
*Im. 71: Screw on the screws from the accessory pack*



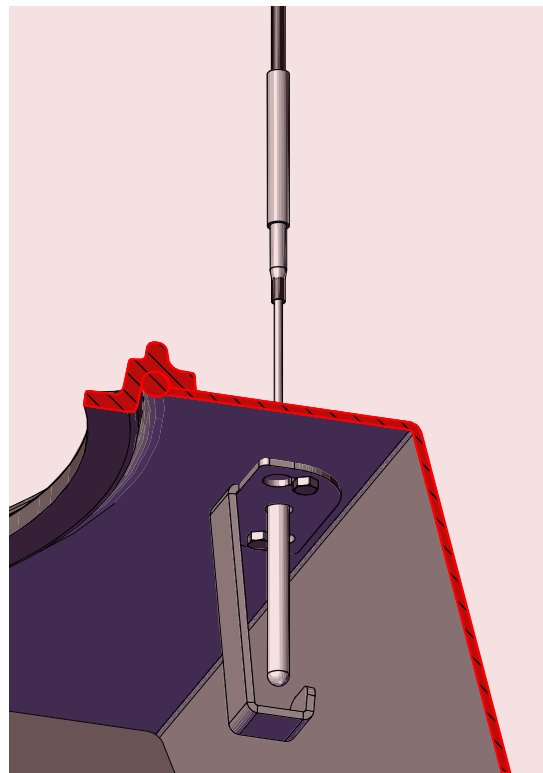
*Im. 72: Packing screws screwed on*

- ▶ Hang the retaining plate on the two screws and turn into position. Then tighten the screws.

Ensure that the retaining plate is in the correct position: Long sheet metal bar points towards the combustion chamber.

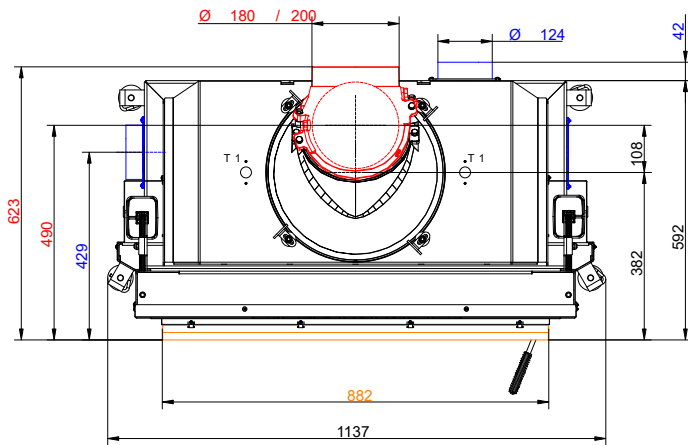
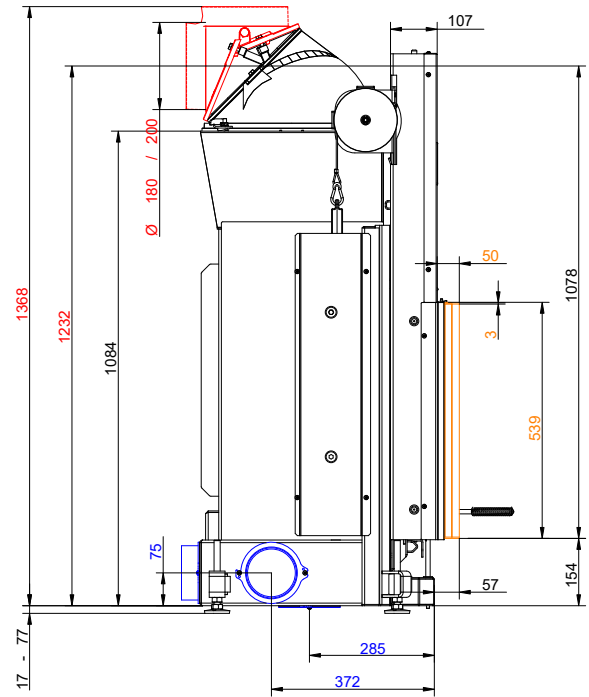
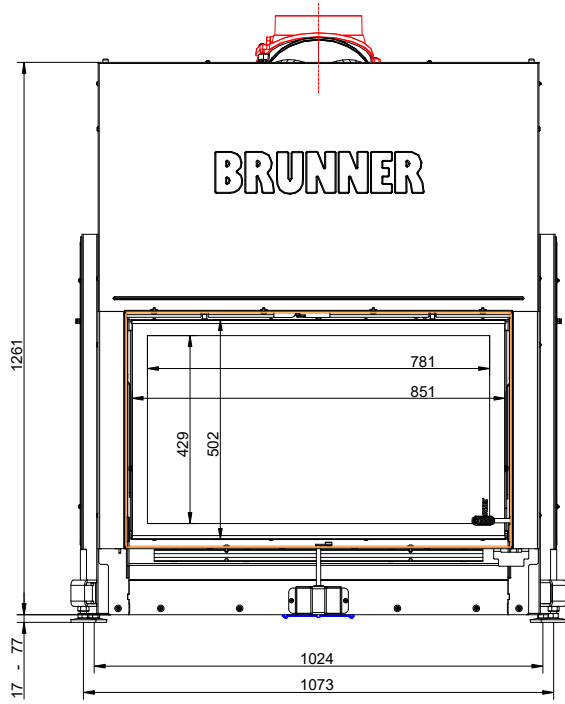


*Im. 73: Hook in retaining plate with thermocouple*



*Im. 74: Thermocouple fitted*

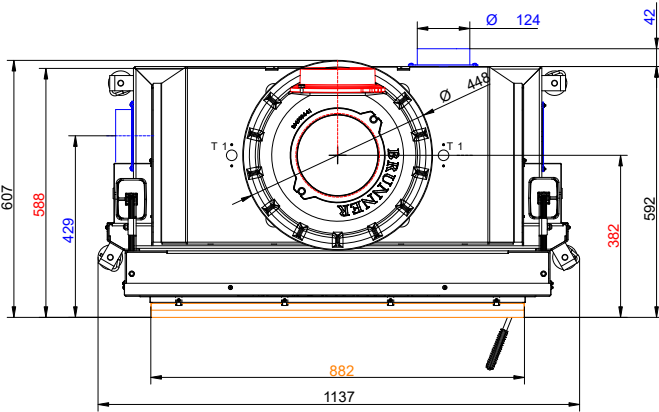
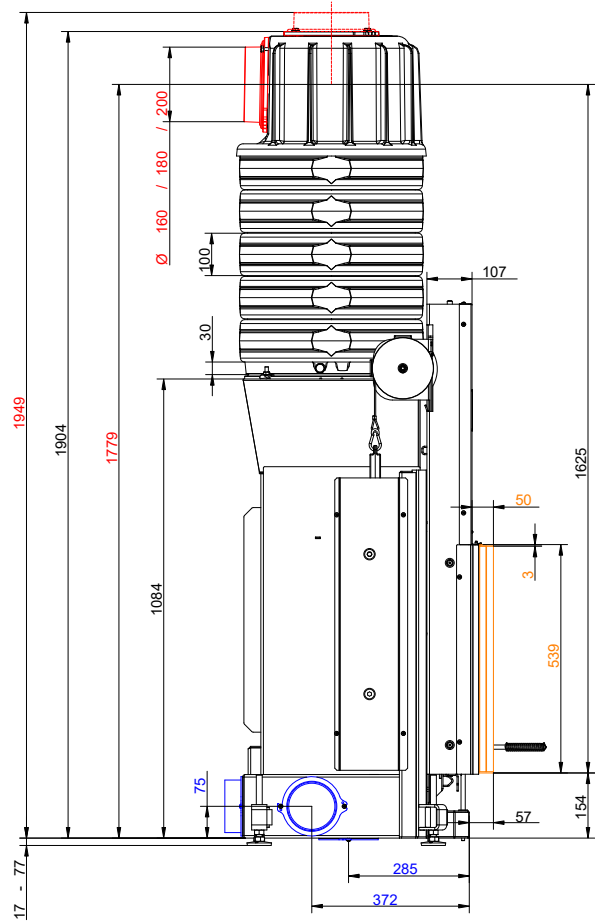
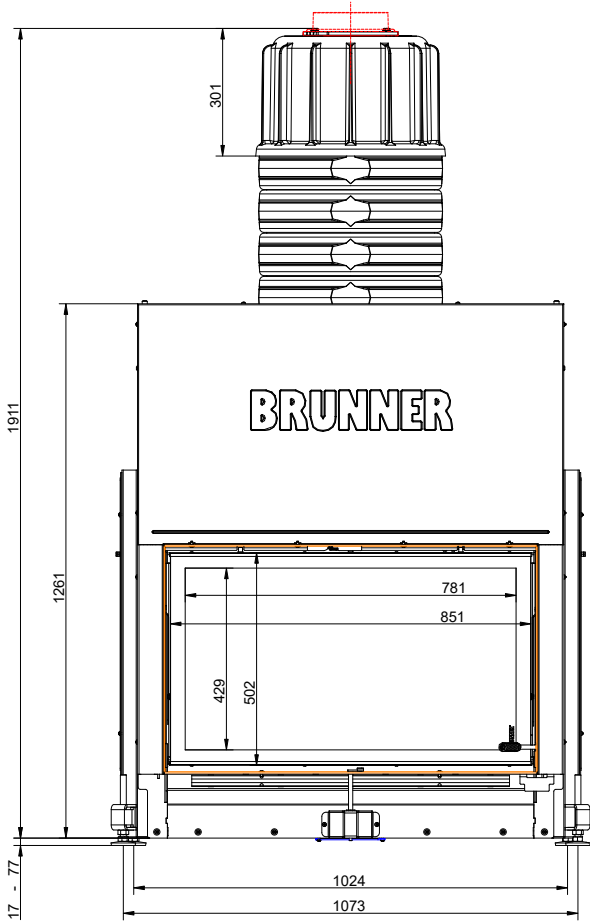
# Dimension sheets - Stil-Kamin 53-88 +



... with mounting frame 50 mm and Cast iron dome



# Dimension sheets - Stil-Kamin 53-88 +

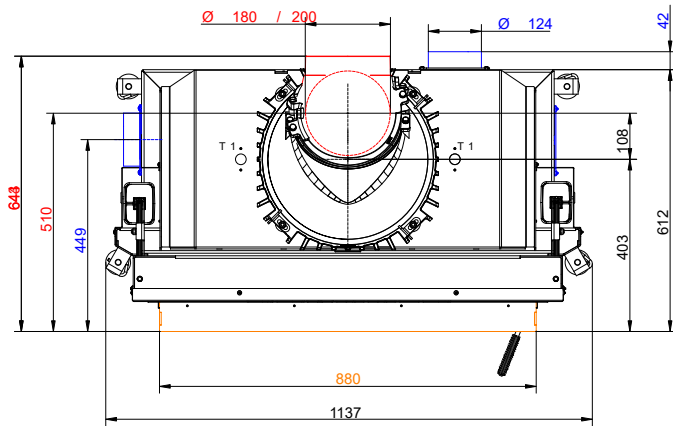
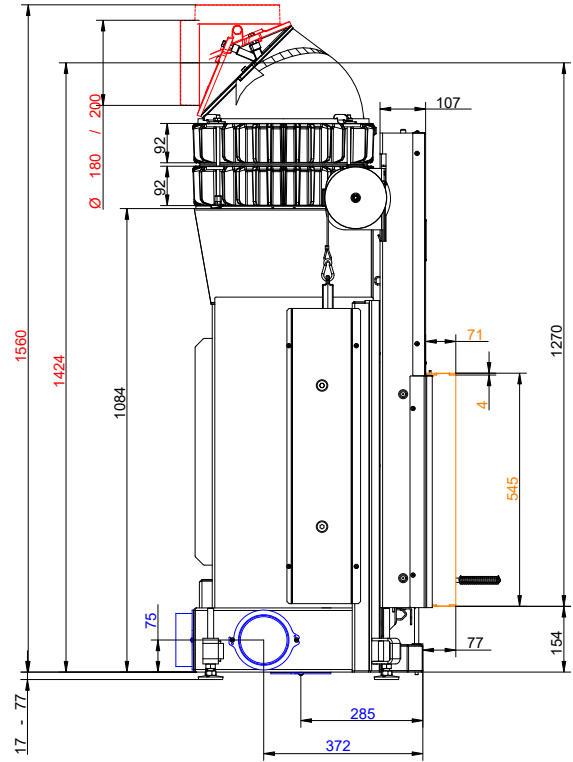
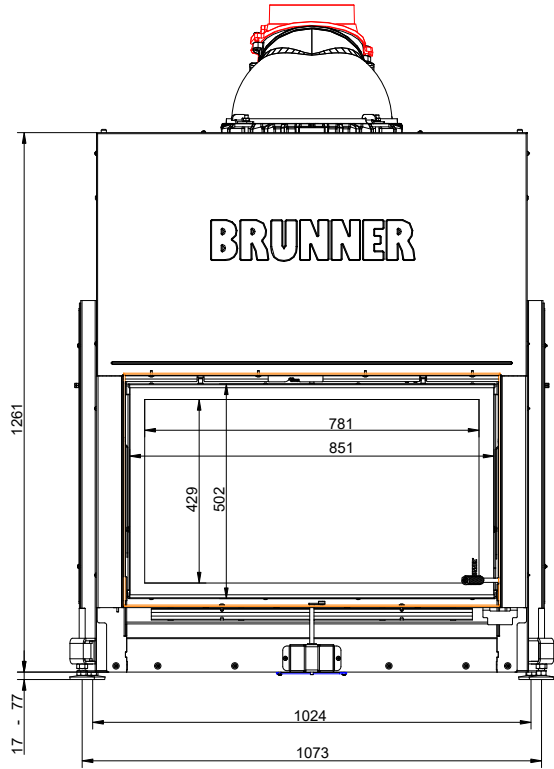


... with mounting frame 50 mm and MAS





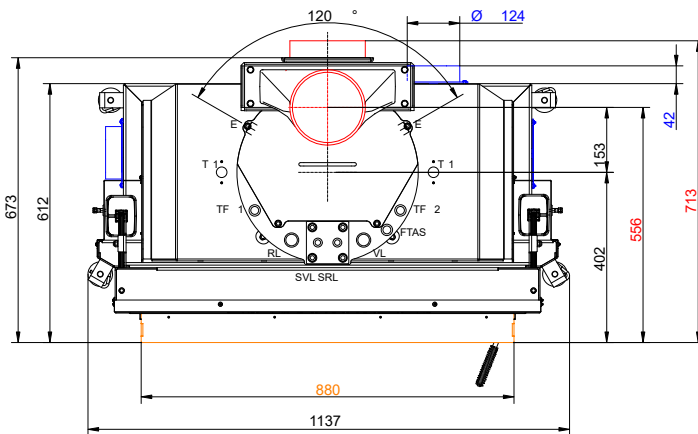
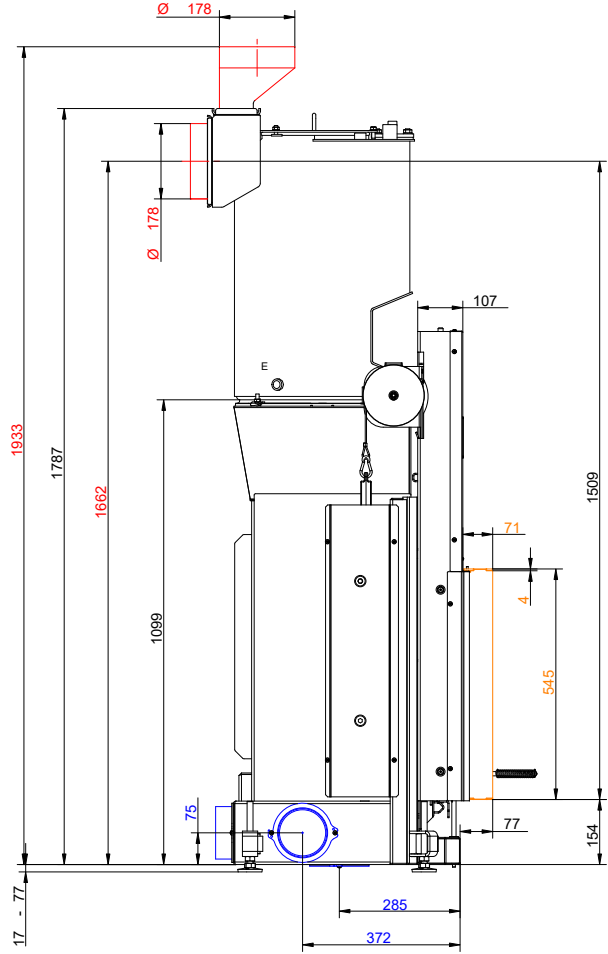
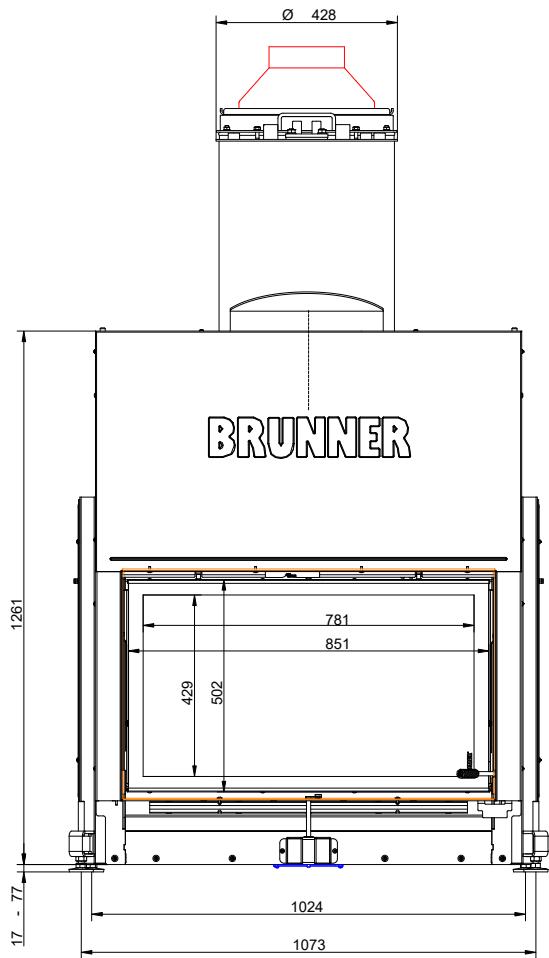
# Dimension sheets - Stil-Kamin 53-88 +



... with mounting frame 70 mm and cast iron heat exchanger rings + dome



# Dimension sheets - Stil-Kamin 53-88 +

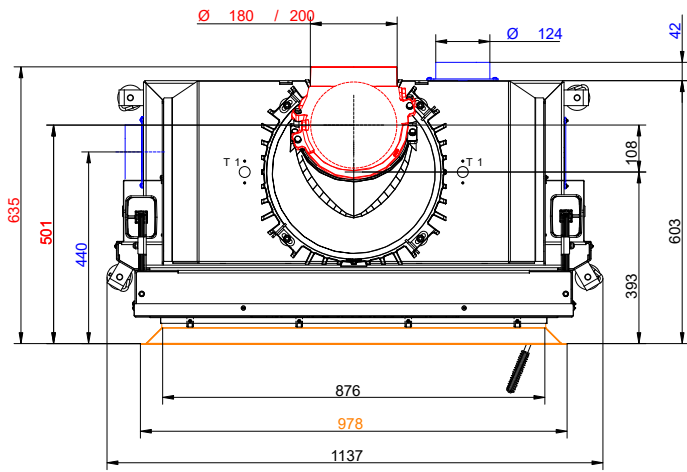
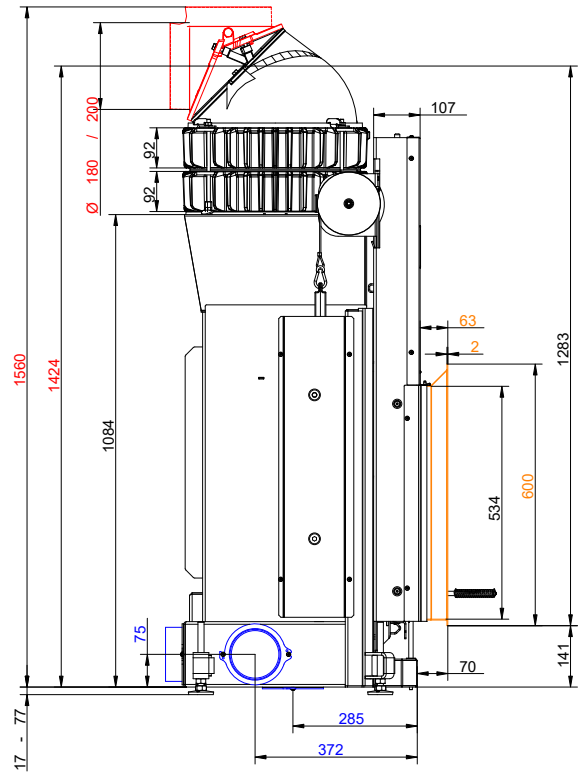
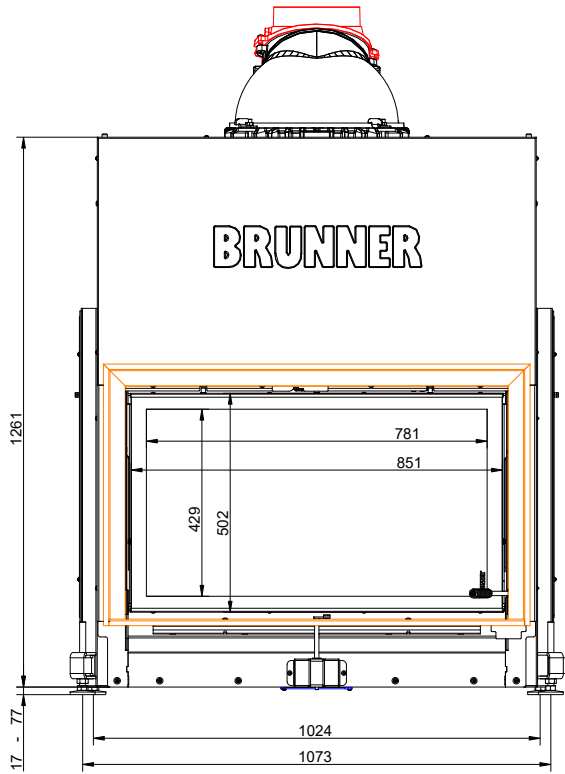


- VL supply 1"ext. th.
- RL return boiler 1"ext.th.
- E drain 1/2"int. th.
- SVL supply cooling pipe outlet ext.th.
- SRL return cooling pipe outlet 1/2"ext.th.
- TF socket 1/2" for sensor int.th.

... with mounting frame 70 mm and Boiler module



# Dimension sheets - Stil-Kamin 53-88 +



with door frame and cast iron heat exchanger rings + dome



## Planning and installation - Stil-Kamin 53-88 +

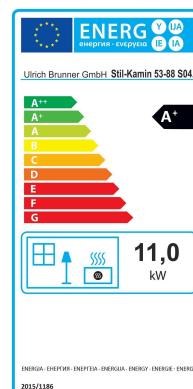
Series status		04.2
Tested according to		EN 13229 W
Values measured at		Rated power <sup>1)</sup>
Suitable for all construction types according to rules		OK
<b>Data for functional demonstration</b>		
Rated heat power	kW	11
Fire wood volume	kg/h	3.5
Combustion performance	kW	13
Flue gas mass flow	g/s	13
Flue gas temperature after:		
2 x cast iron heat exchanger rings + dome	°C	190
5 x accumulation rings incl. MAS casted cover <sup>2)</sup>	°C	205
Boiler module	°C	208
Necessary supply pressure	Pa	13
Combustion air consumption	m <sup>3</sup> /h	38
Combustion air connection Ø	mm	125
<b>Heat distribution</b>		
Insert / reheating surface	%	60 / -
<b>Cross-section of gratings <sup>3)</sup></b>		
exhaust warm air	cm <sup>2</sup>	700 / 100 / -
Recirculation air	cm <sup>2</sup>	700 / 100 / -
<b>Minimal oven surface for closed construction type</b>		
Heat dissipating surface	m <sup>2</sup>	4.5
<b>Minimal distances of the fireplace</b>		
to cladding, insulation layer	cm	6
to mounting floor	cm	2
<b>Thermal insulation without / with air gratings <sup>4)</sup></b>		
Mounting wall	cm	18 / 14
Floor	cm	0
Ceiling	cm	22 / 16
Brick lining for combustible wall	cm	10
<b>Minimum distances in front of the combustion chamber, glass ceramic / glass ceramic coated (GKB)</b>		
for combustible parts	cm	≥ 120 / ≥ 80
<b>Weight</b>		
Fireplace / combustion chamber	kg	258 / 96
<b>Meets requirement/limit values for:</b>		
Germany/ Austria / Switzerland / Norway		1.BImSchV (Stufe 2) / 15a BVG (2015) / LRV / NS 3059

- 1) Indications to "Rated power" determined with metallic reheating surface
- 2) Damper flap recommended
- 3) for fireplace inserts / flue gas pipe / metallic reheating surface
- 4) Values determined with upper air cross-sections; stove cladding is heat emitting.



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

Supplier's name or trademark	Ulrich Brunner GmbH
Model identifier:	Stil-Kamin 53-88 S04.2
Energy efficiency class:	A+
Direct heat output:	11,0 kW
Indirect heat output:	N.A. 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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