



WALLNÖFER

SOLAR & WALLTHERM® ÖFEN

Planning documents:

Walltherm®

Vajolet & Vajolet Basic

The **first** water heating wood gasification stove
for the living room



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Planning documents

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Necessary chimney system:

Examples:

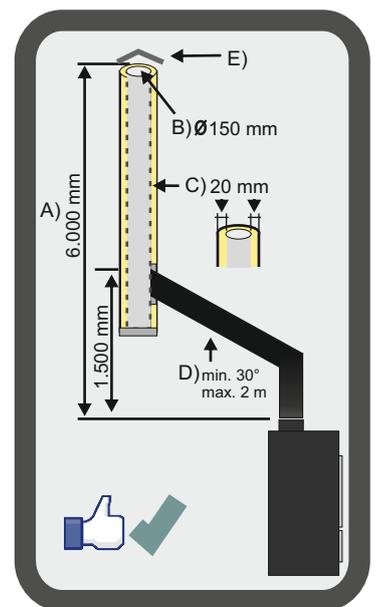
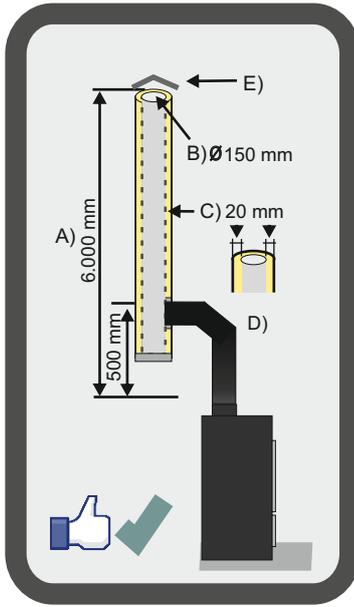
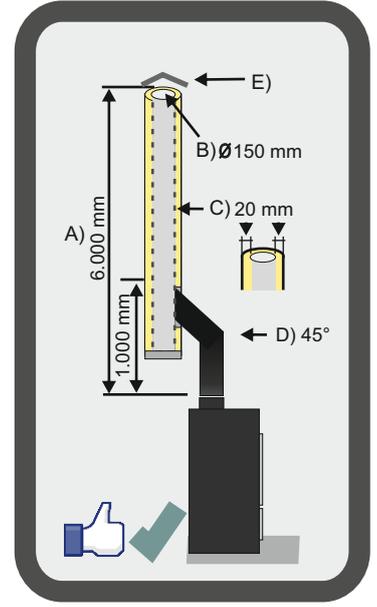
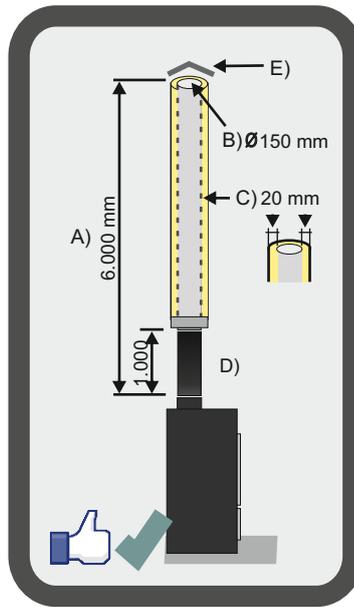
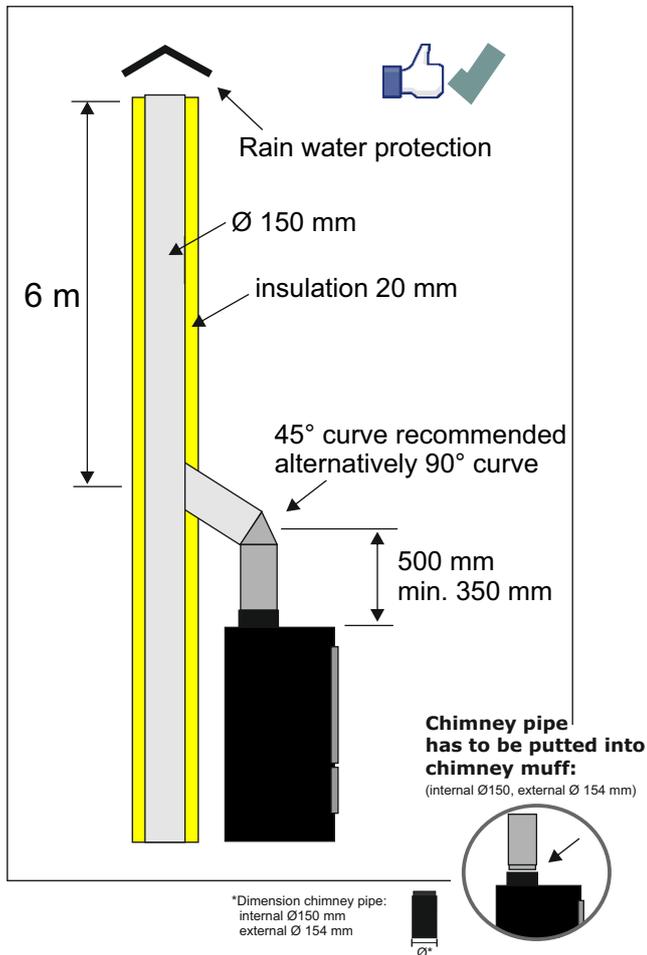


Attention:

Obey standards and laws from the installation country.

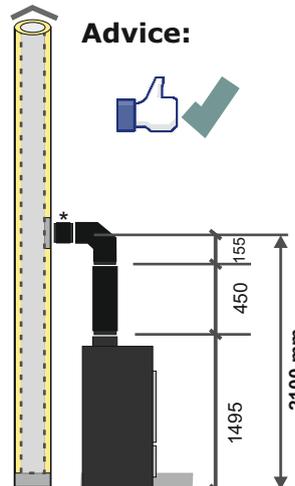
- A) recommended 6 m vertical length (min. 5 m)**
- B) diameter 150 - 180 mm**
- C) insulation at least min. 20 mm**
- D) use preferably 45° curves alternatively use a 90° curve**
- E) rain water protection**
(install an external or internal rain water protection to avoid contact between rain water and stove body)

Chimney material: stainless steel or ceramic



Height of chimney connection with 90°curve Walltherm® Vajolet & Vajolet Basic

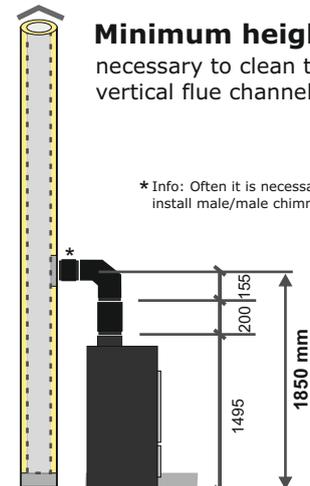
Advice:



Chimney pipe kit:
pipe 50 cm + 90° curve

Minimum height: necessary to clean the vertical flue channels.

* Info: Often it is necessary to install male/male chimney nipple.



Chimney pipe kit:
pipe 25 cm + 90° curve



Horizontal chimney sections reduce the draught and are therefore to avoid.



The combustion air mustn't be taken through a channel from the roof.
If necessary ask for permission from Wallnöfer and the chimney constructor.

Distance to flammable material and load capacity of the subfloor valid for Walltherm® Vajolet and Vajolet Basic:



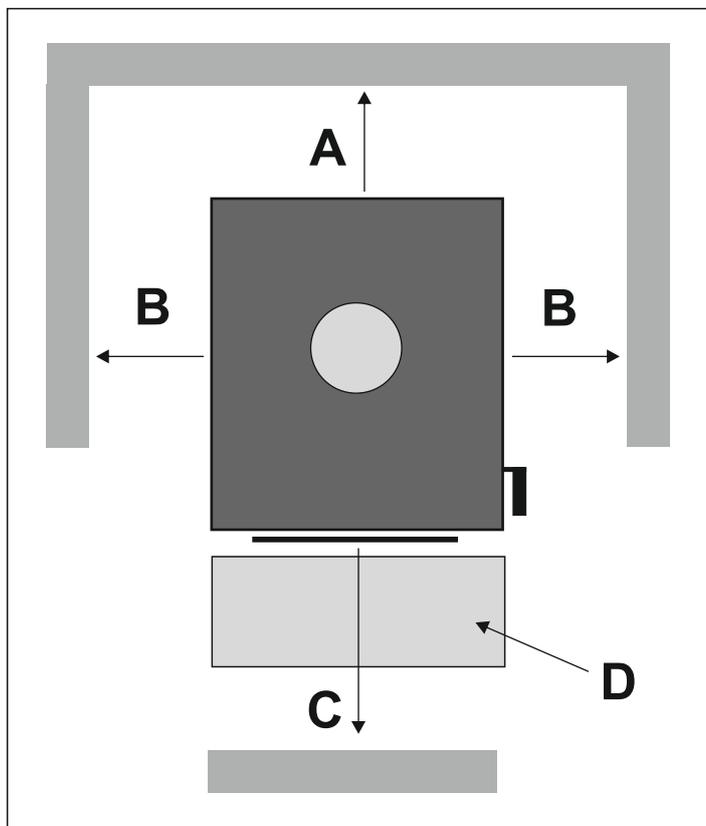
Info:

In any case it is necessary to maintain a distance of **5 cm** to all sides, also to non flammable material. The metal sheets has to be removable.

The water connections and sensors have to be accessible.

Distance to flammable material:

- A = 10 cm
- B = 10 cm
- C = 100 cm
- D = min. 40 cm
- E = 50 cm



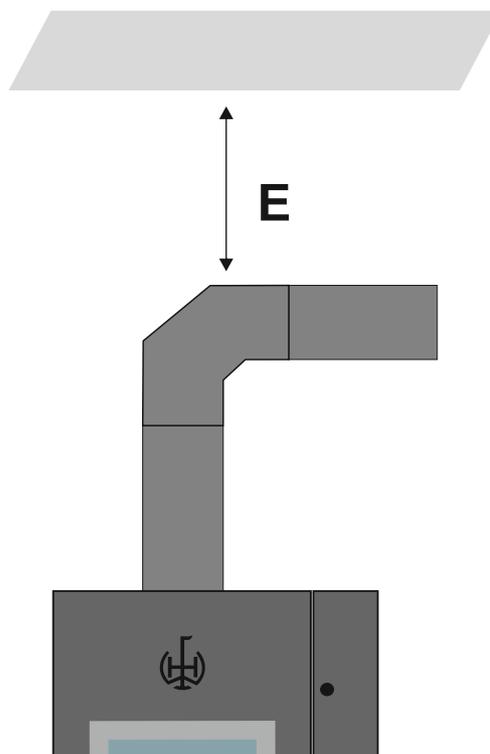
Distance to maintain to non flammable material:

- A = 5 cm
- B = 5 cm



Info:

If combustion air will be taken from the living room, maintain 5 cm of space between stoves backside and the wall.



Load capacity subfloor:

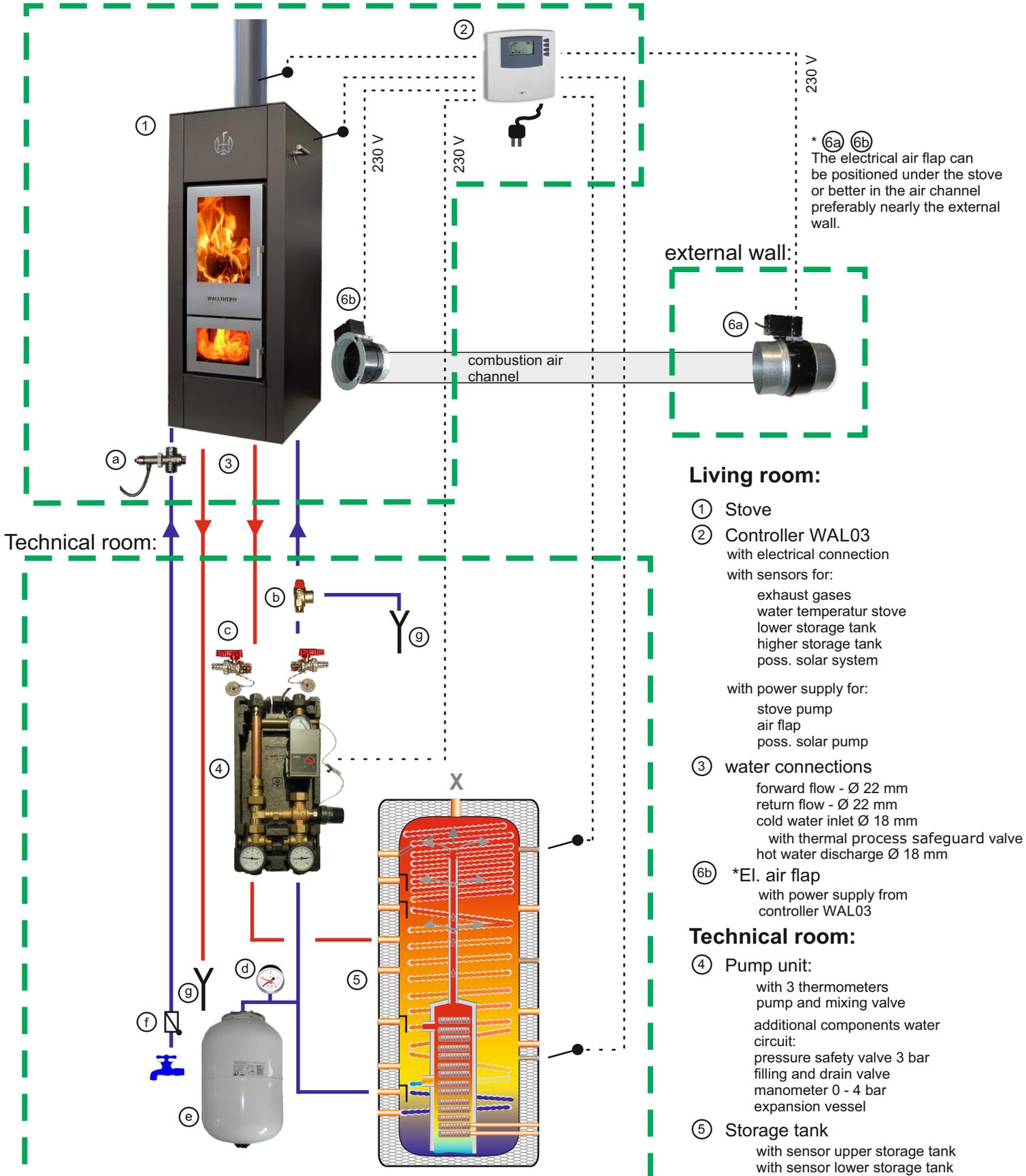
Control if the subfloor can load the boiler stoves weight including water content.

weight boiler stove: approx. 300 kg
water content: 80 kg

If you install the Walltherm® Vajolet Basic insert add also the weight of the material you choiced for immuring the stove.

Overview of all important components:

Living room:



* (6a) (6b)
The electrical air flap can be positioned under the stove or better in the air channel preferably nearly the external wall.

Living room:

- ① Stove
- ② Controller WAL03 with electrical connection with sensors for:
 - exhaust gases
 - water temperatur stove
 - lower storage tank
 - higher storage tank
 - poss. solar system
 with power supply for:
 - stove pump
 - air flap
 - poss. solar pump
- ③ water connections
 - forward flow - Ø 22 mm
 - return flow - Ø 22 mm
 - cold water inlet Ø 18 mm with thermal process safeguard valve
 - hot water discharge Ø 18 mm
- (6b) *El. air flap with power supply from controller WAL03

Technical room:

- ④ Pump unit:
 - with 3 thermometers
 - pump and mixing valve
 - additional components water circuit:
 - pressure safety valve 3 bar
 - filling and drain valve
 - manometer 0 - 4 bar
 - expansion vessel
- ⑤ Storage tank
 - with sensor upper storage tank
 - with sensor lower storage tank

External wall:

- (6a) *El. air flap with power supply from controller WAL03

Legend valves:

a = thermal process safeguard valve, b = pressure safety valve 3 bar, c = filling and drain valves, d = manometer, e = expansion vessel, f = non return valve, g = discharge

This list is not exhaustive.

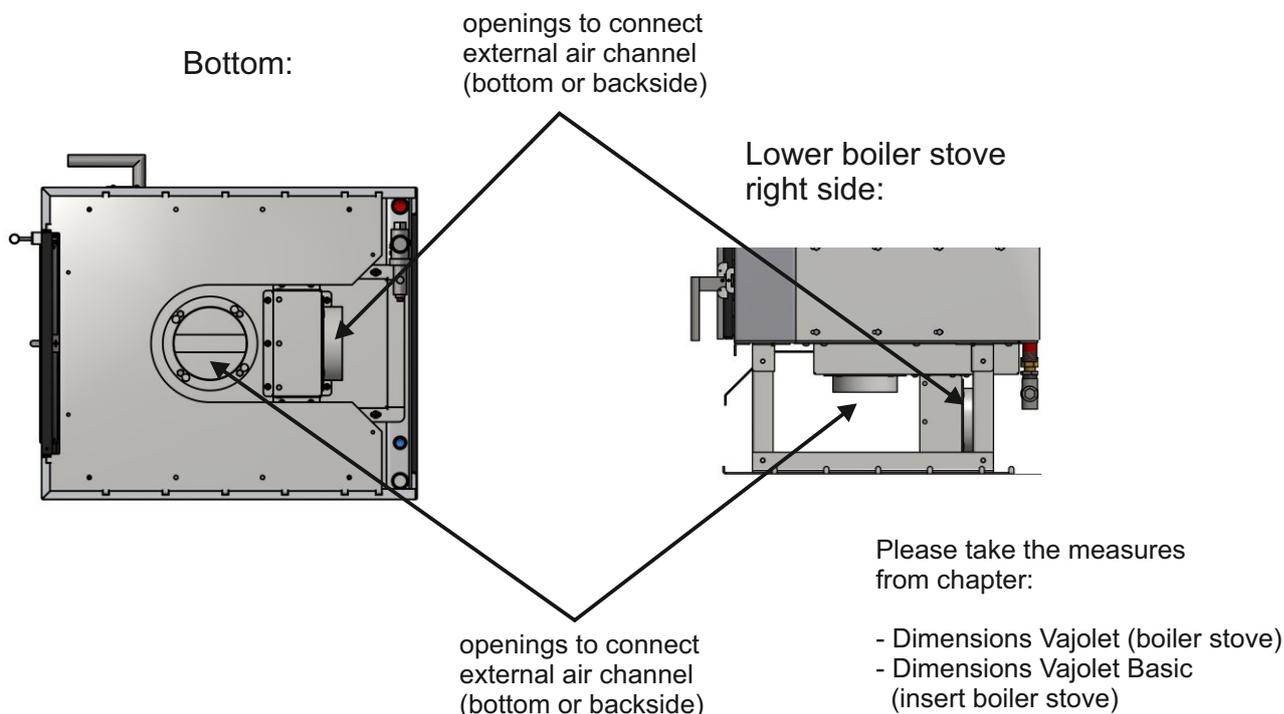
Combustion air:

i **Combustion air from the room:** The air from the room flows through the backside openings to the boiler stove, therefore it is necessary to maintain a distance of 5 cm to the backside wall.

Combustion air from outside:

On the versions **Walltherm® Vajolet** and **Vajolet Basic** it is always possible to connect an external air channel on the stoves bottom or stoves backside. (look pictures)

We deliver the boiler stove with an adapter for the Ø 125 mm air channel on the bottom and with a closed flange on the backside opening. If you want to connect the external air channel on the backside, exchange the adapter on the bottom with the closed flange of the backside



i **Info:** Necessary **diameter** for the air channel:

up to 4 m length = Ø 125 mm
up to 6 m length = Ø 150 mm

! **The combustion air mustn't be taken through a channel from the roof.**
If necessary ask for permission from Wallnöfer and chimney constructor.

! **Attention:**

To avoid condensate water the air channel has to be insulated. A valve to stop air circulation is recommended to be installed.

i **Info for the electric air flap:**

The installation of an electric air flap controlled from the controller WAL03 is recommended. The controller WAL03 closes the air flap automatically after the combustion process to avoid that cold air circulates through the Walltherm when it isn't operating.

Alternatively you can close the primary air manually after the combustion process.

The electric air flap should be installed in the air channel as nearest as possible to the air inlet. Alternatively is available an air flap with flange which can be installed directly to the stove. The electric air valve has to be accessible. Install an electric cable between controller WAL03 and the electric air flap!

Electrical air flap for installation in the air channel (2x Ø 125 mm)



Electrical air flap with flange for installation on stoves body (1x Ø125 mm + 1x flange)



Water connections:

Following 4 water connections are needed for the versions Walltherm® Vajolet and Walltherm® Vajolet Basic

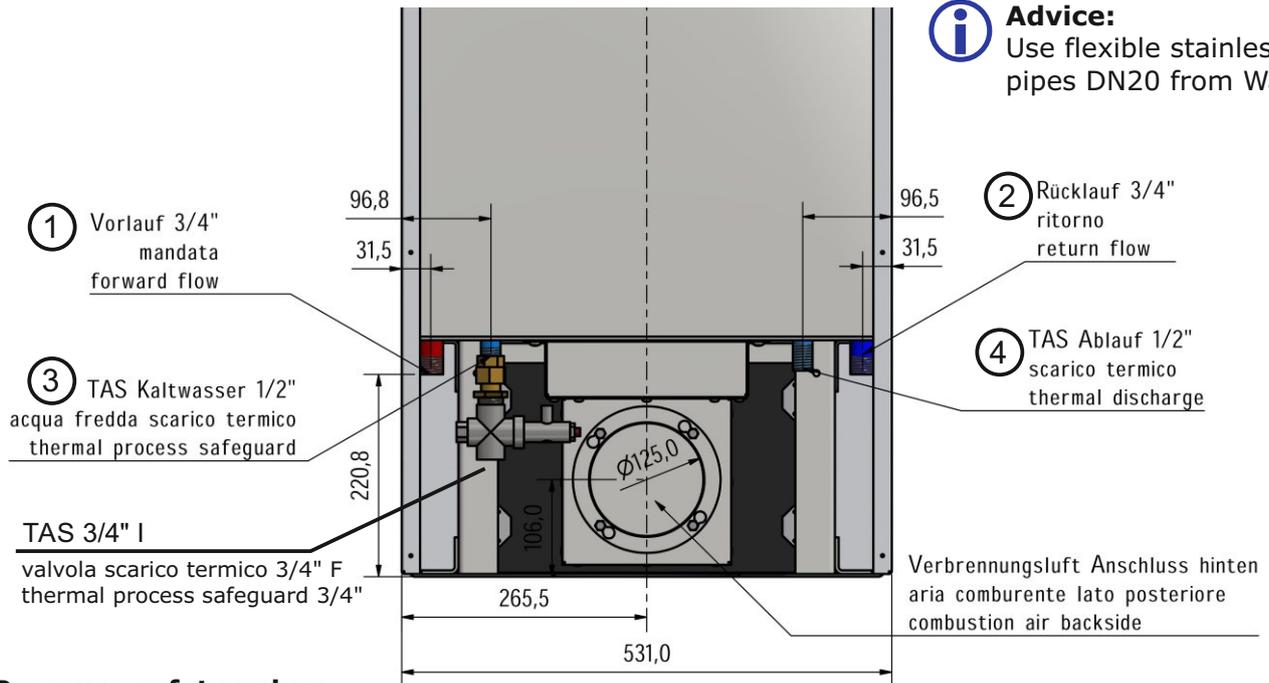
- 1) Forward flow 3/4" M
- 2) Return flow 3/4" M
- 3) Cold water inlet 1/2" M with thermal process safeguard valve 3/4" F
- 4) thermal discharge 1/2" M

Pipe dimensions:

Ø 22 mm for forward and return flow
Ø 18 mm for cold water inlet and hot water discharge

pipe material: steel, stainless steel, copper with insulation

Advice: Use flexible stainless steel pipes DN20 from Wallnöfer.



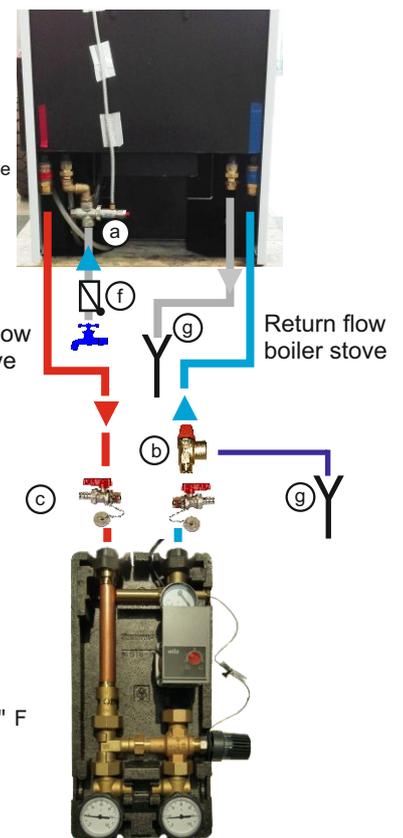
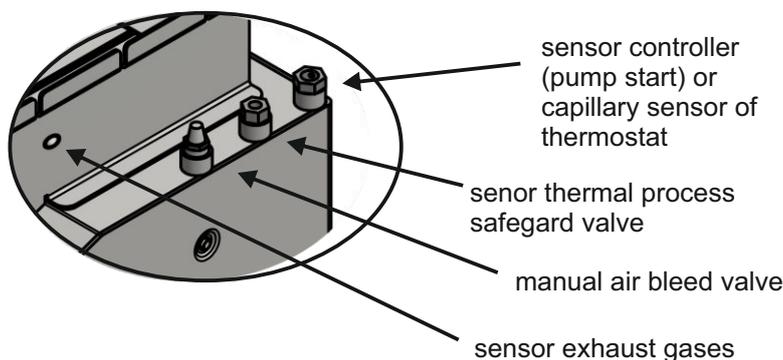
Pressure safety valve: A security pressure valve 3 bar has to be installed between pump unit and boiler stove.

Advice: The installation of filling and drain valves is recommended to clean the water circuit and to bleed the system with an external pump unit.

Picture water connections on boiler stoves backside:

Legend valves:
a = thermal process safeguard valve
b = pressure safety valve 3 bar
c = filling and drain valves
d = manometer 0-4 bar
e = expansion vessel
f = non return valve
g = discharge

Sensors and air bleed valve: The connections for sensors and the air bleed valve are on the upper right side of the heat exchanger.



Pump unit with mixing valve connections 1" F

forward flow 1" storage tank return flow 1" storage tank

Overview with important measured for the correct placement:

We suggest to follow this chronology:

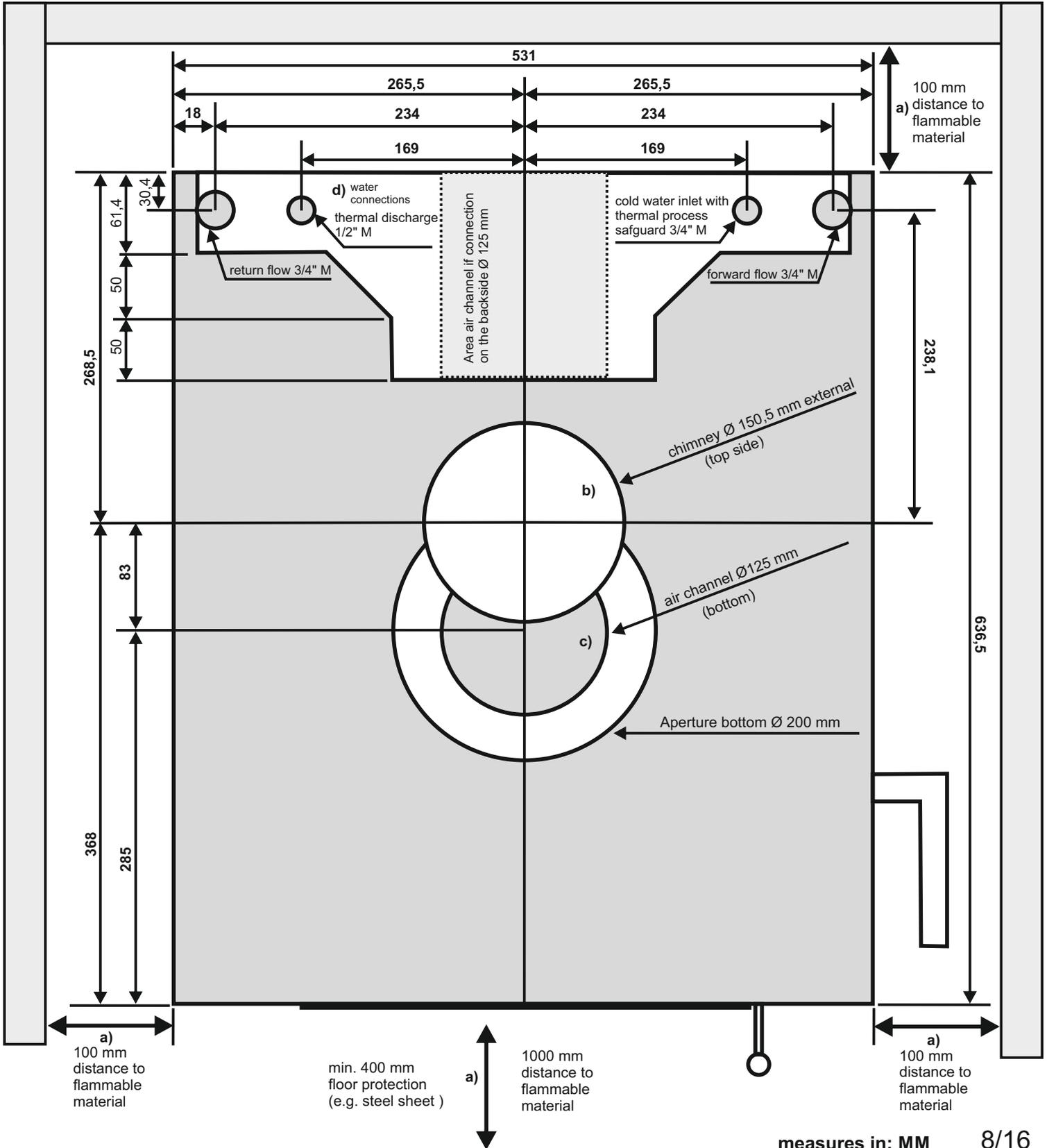
- a) Minimum distance to flammable and non flammable material
- b) chimney connection
- c) external air channel if connected on the bottom
- d) water connections



Info: For the sensors we need a plastic pipe between controller and the boiler stove.

If the electrical air flap get installed we need a power supply cable between controller and the position of the el. air flap.

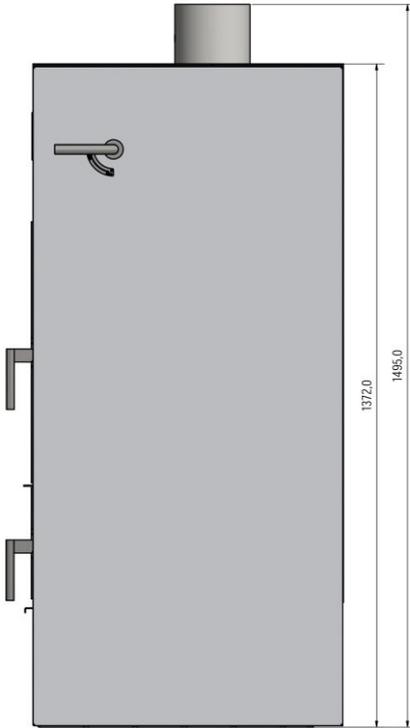
Between controller and technical room we need plastic pipes for sensors and the power supply of the pumps.
(look chapter controller WAL03)



Walltherm® Vajolet

Dimensions Walltherm® Vajolet:

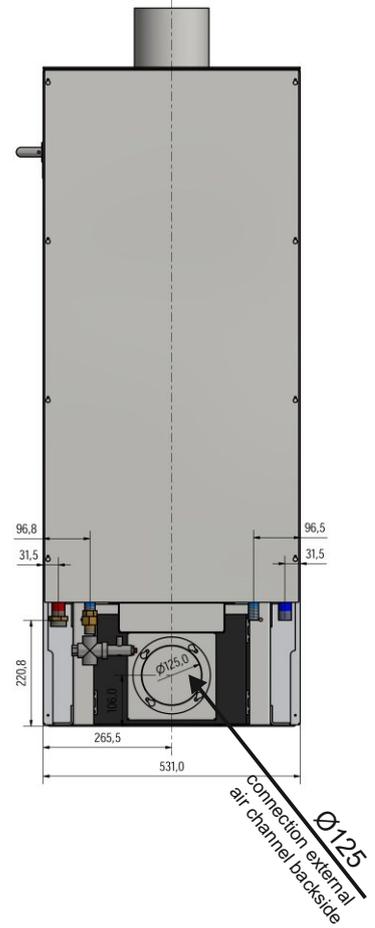
right side



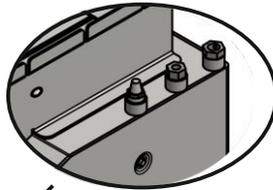
front side



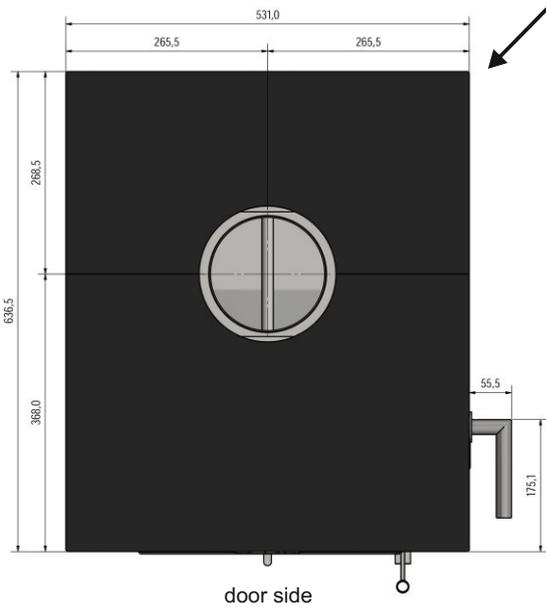
backside



Position of the sensors:
(upper right side, behind metal sheet)

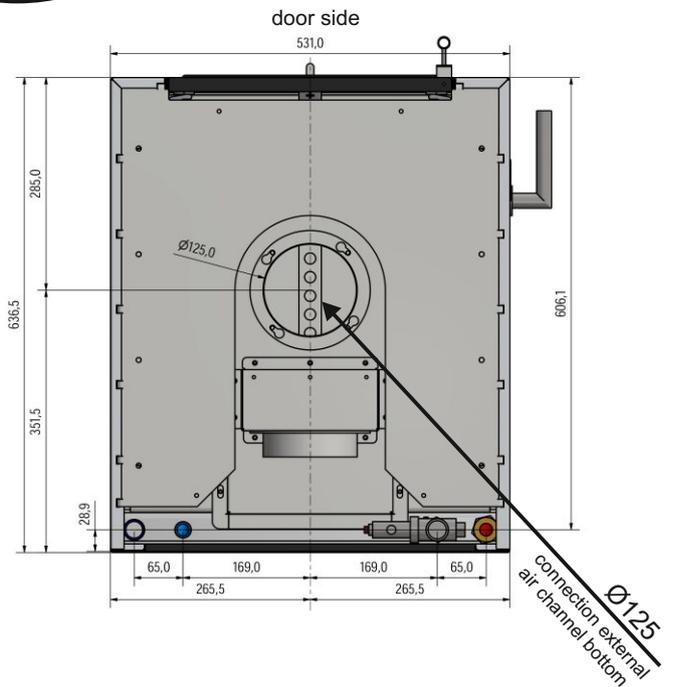


top view:



door side

bottom:



door side

Dimensions Walltherm® Vajolet Basic information for immuring the insert:

i Follow the instructions!!

Initially the Walltherm® Vajolet basic insert model **has to be connected** to the water circuit and to the chimney before immuring.

The chimney sweeper needs to approve the installation.

The client has to use the stove a few times before it get immured. This is to guarantee the stove is working well before immuring it.

Immuring can start as soon as the stove works correctly.

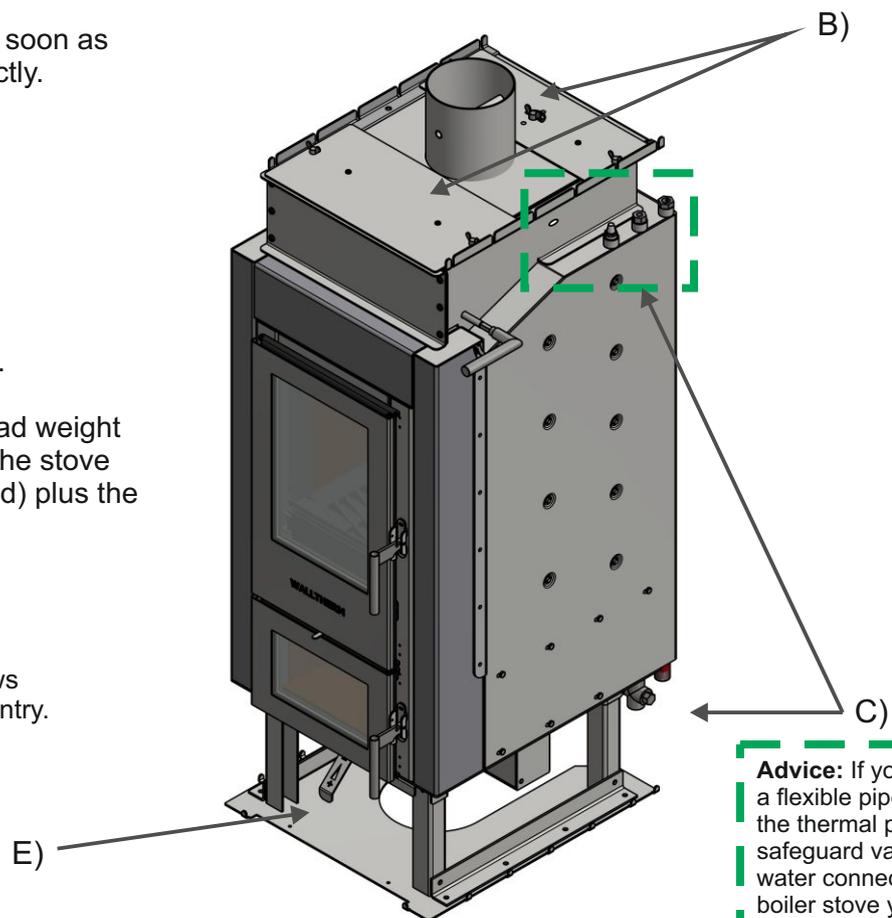


Choose material which is temperature-resistant and fireproofed. Wallnöfer GmbH helps you if you are not sure if a material is suitable or not.

You should also check the load weight limits of the ceiling because the stove weighs ca. 380 kg (water filled) plus the material you choose.



Attention:
Obey standards and laws from the installation country.



Advice: If you install a flexible pipe between the thermal process safeguard valve and it's water connection on the boiler stove you can make maintenance from the side.



A) Keep at least 20 mm of distance between the wall/housing and the stoves body. On the lower and upper side there had to be done some openings to guarantee air circulation. (avoid to much heat)

B) Access to the covers on the top side has to be guaranteed. Remember to let enough space for the steel brush with 1,10 m length, that are needed to clean the vertical flue channels.

C) The water connections (stoves backside) needs to be accessible (also from the side possible). Also the position of the sensors (upper right side) has to be accessible for possible maintenance.

D) The lever of the exhaust fume flap has to be accessible.

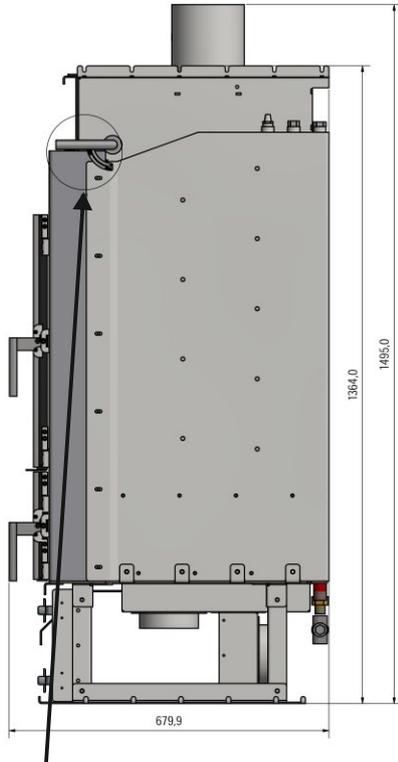
E) The lever for primary air below the lower door has to be accessible for daily utilization.

F) If you connect an electrical air flap directly on the boiler stove it has to be accessible for maintenance.

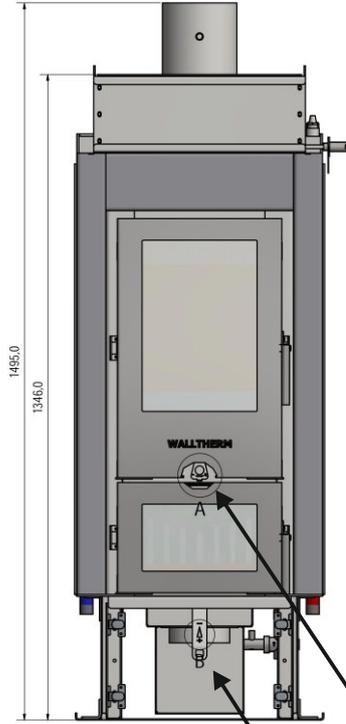
Walltherm® Vajolet Basic

Dimensions Walltherm® Vajolet Basic:

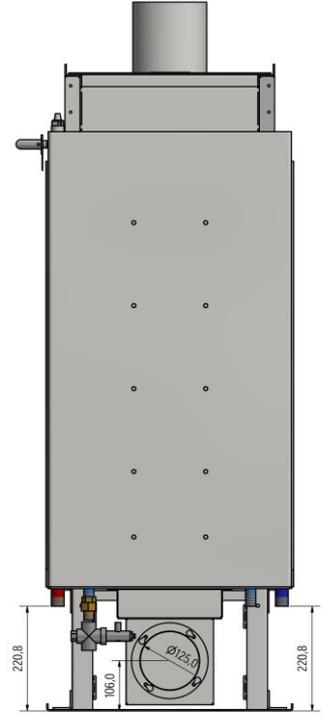
right side



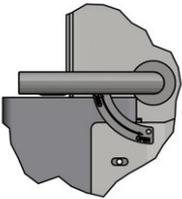
front side



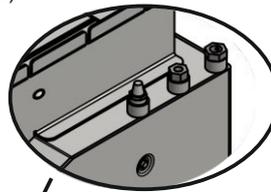
backside



lever exhaust fume flap:



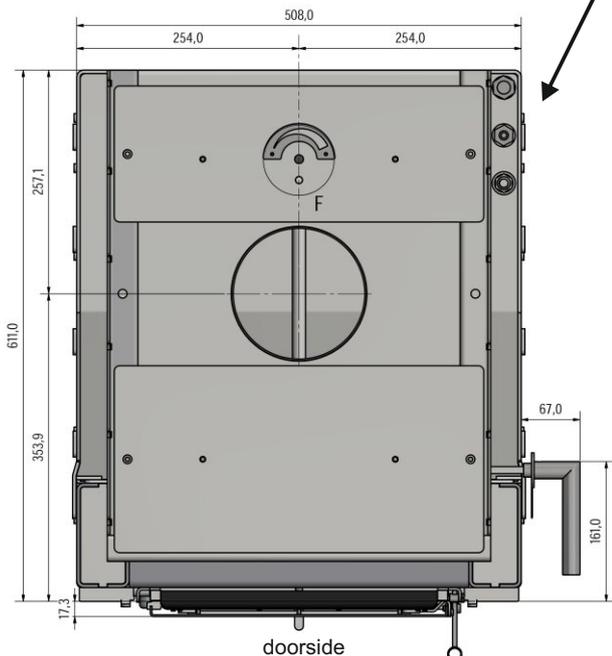
Sensor positions:
(upper right side)



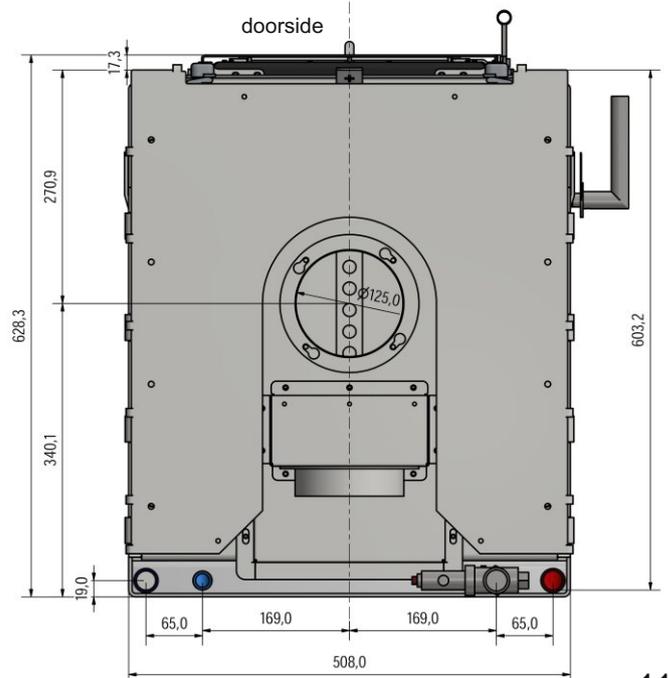
lever secondary air

lever primary air

top view:



bottom:



i **Info:** The controller WAL03 has to be installed **near the Walltherm® stove.** Only by this mounting position you are able to use all the functions and you can open the electrical air flap.



The most important functions of the controller WAL03:

- Regulation of a thermal solarsystem (*with cooling function/holiday function*)
- Regulation of the *Walltherm®*
 - with *acoustic alarm function** for the *Walltherm®*
 - with electric air flap function**

with display to control the following temperatures:
Upper and lower storage tank temperature, temp. exhaust gasses, water temp. *Walltherm®* and solar collector.

*** Alarm function (acoustic signal):**

At the beginning of each combustion process it could happen that the user forgets to close the fume flap when the stove and the chimney are in temperature.

For this case the WAL03 controller has a fume gas sensor (T4) which measures the temperature of the exhaust gasses and when this temp. achieves the limit for example 350°C (300 - 400°C), an acoustic alarm signal informs the user to turn back to the boiler stove, to control if enough ember (3-4 cm) is produced, to add wood logs and to close the fume flap. The gasification flame now starts.

**** electric air flap function::**

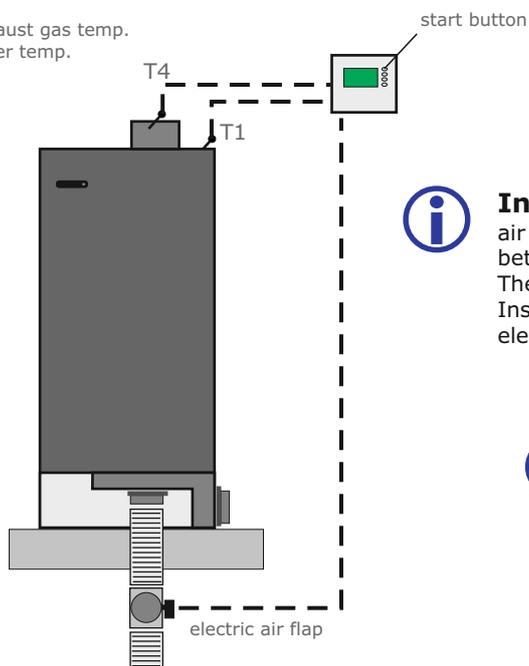
Before lightening the *Walltherm®* you have to push the start button at the controller WAL03, then the electric air flap opens and provides the *Walltherm®* with combustion air.

The electrical air flap remains open for minimum 2 hours, after this time the water sensor on the *Walltherm®* regulates the electric air flap and keeps it open until the water temperature is fallen below 40°C.

This function prevents the cold air circulation between *Walltherm®* and chimney system.

Security: The electric air flap will close if the water temperature rises over a temperature of 90°C (air in the circuit/pump fault ...) and reopens when the temperature falls under 80°C.
In case of power cut the electric valve closes automatically.

T4 = sensor exhaust gas temp.
T1 = sensor water temp.



i **Info for the electric air valve:** When the electric air flap get installed it can be placed on the boiler stove or better it get placed as near as possible at the external wall. The electric air flap has to be accessible. Install an electric cable between regulation WAL03 and the electric air flap!

i **Info for high efficiency pumps:** The controller WAL03 isn't able to work with pumps that use a PWM - signal.

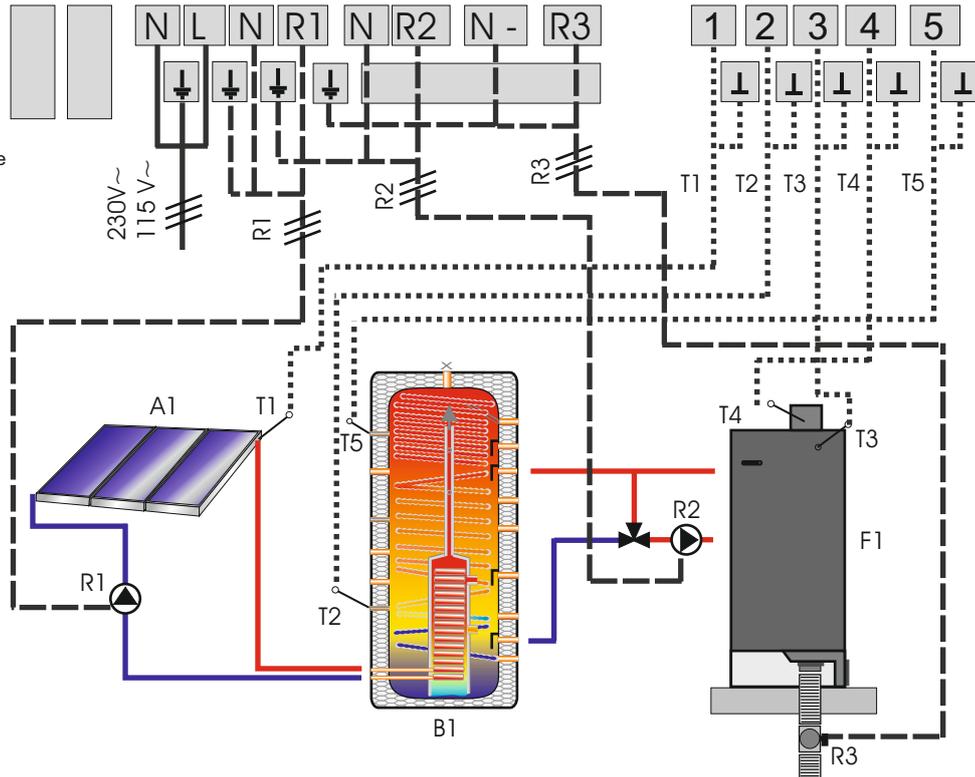


Info: The controller WAL03 has to be installed near the Walltherm® stove. Only by this mounting position you are able to use all the functions and to open the el. air flap.
(for example: alarm function/electric air valve function, display temp. of storage tank)

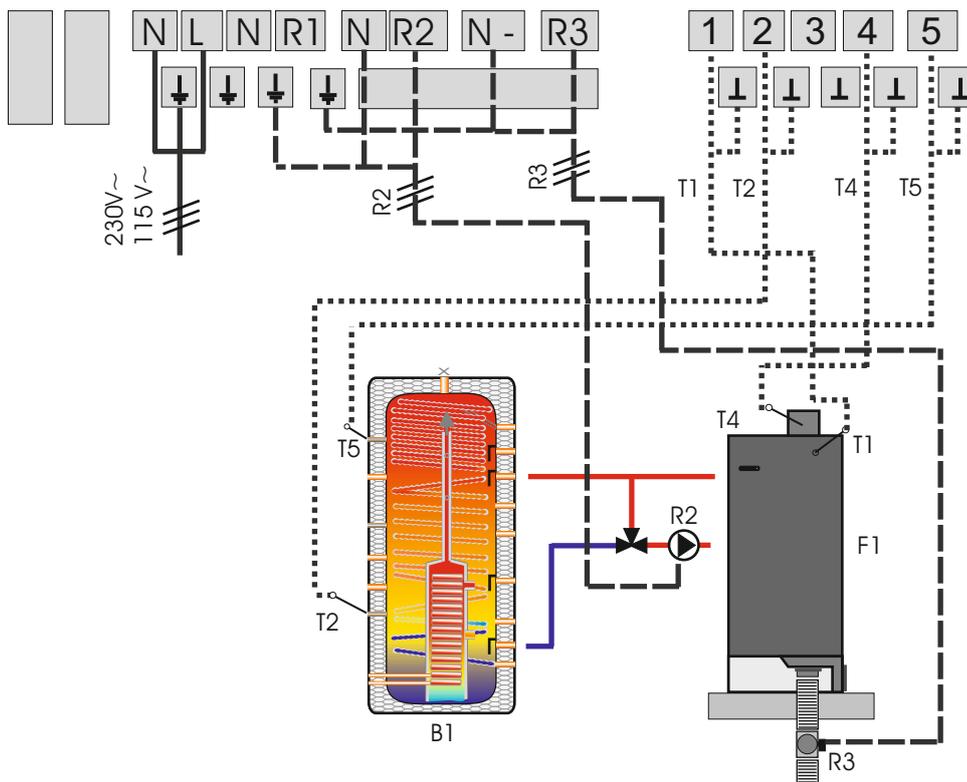
Power supply for the controller is needed. (230V).
Between Walltherm® boiler stove and controller WAL03 you need a plastic pipe for the sensors (water temp. and gas temp) and maybe also a pipe for the power supply of the electrical air flap if installed on the stove.
Between controller WAL03 and technical room you need two plastic pipes for power supply of the pump unit/s (stove pump unit and possible solar pump unit) and for the sensors.
From the controller WAL03 to the electric air flap you need a plastic pipe it's power supply.

Please follow the **right wiring diagram:**

Wiring diagram for Walltherm® in combination with a solar system



Wiring diagram if you use **only the Walltherm®**



Information:

This information doesn't substitute the installation manual.

Obey norms and laws from the installation country.

Important advices for heating controller:

valid for systems with solar system and the Walltherm® boiler stove

Important:

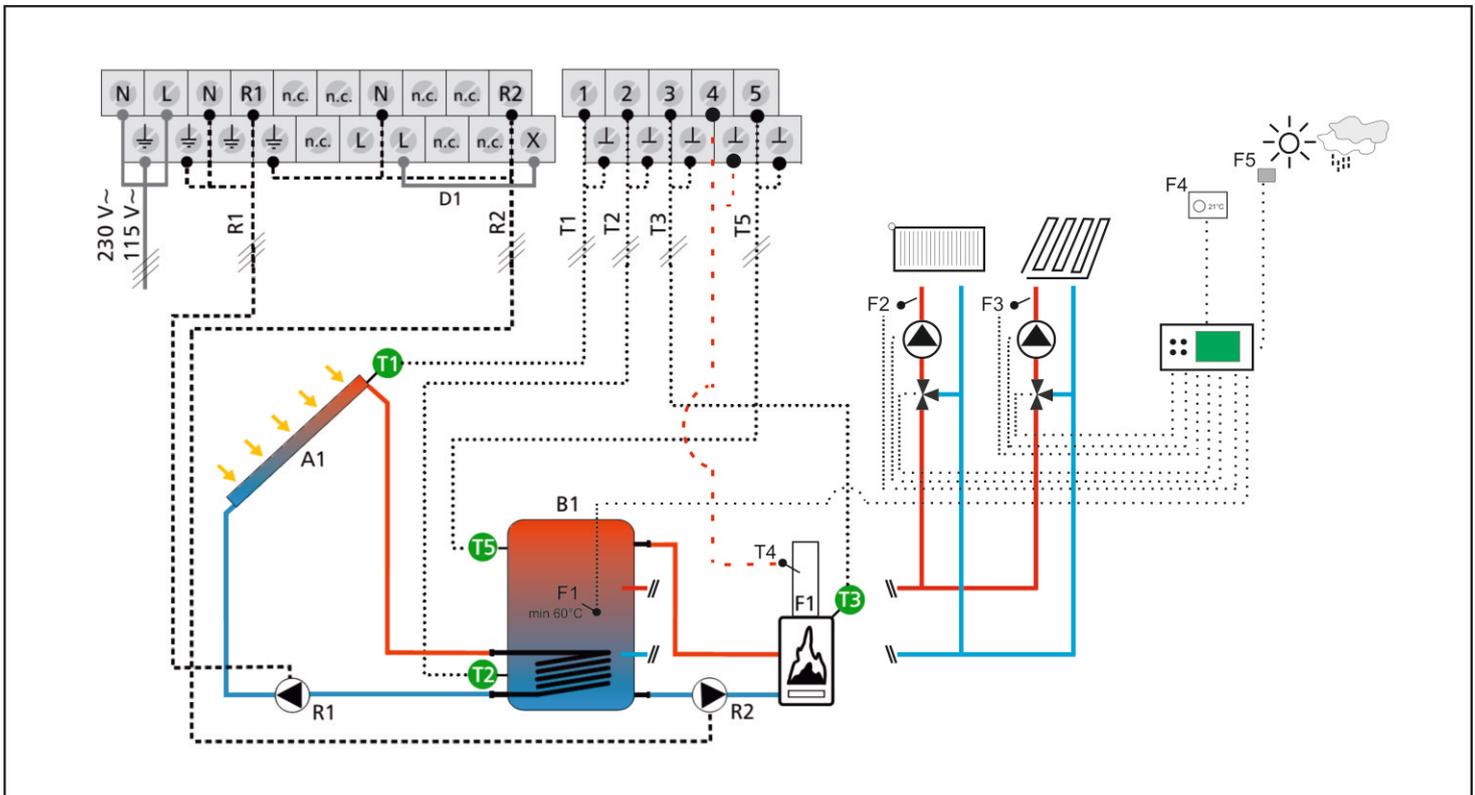
If your heat sources are a weather-dependent solar system and a manually loaded wood boiler stove so the control unit for heat distribution has to be adjusted.

It is important to activate the pumps for heat distribution (ex. floor heating system) **only** if the storage tank contains enough hot water to supply the circulation pumps for a few hours, otherwise cold water could circulate !!!!

Solution:

Install a thermostat with adjustable hysteresis (example: start temperature 60°C / Stop temperature 30 °C):

If the room heating sensor is calling energy before activating the pumps, the thermostat with hysteresis checks if the storage tank is in temperature f. ex. 60 °C. Only in that case the pumps of the heating system (f. ex. floor heating system or radiators) will get activated. The pumps are working until the rooms get in temperature (f. ex. floor heating system or radiators) or the storage tank temperature falls below a temperature of 30°C.







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