

Solar systems & Walltherm®

The first water heating
wood gasification stove

developed & produced by Wallnöfer H.F.



WALLNÖFER H.F.

SOLAR SYSTEMS & WOODSTOVES

Progress
is the route from the primitive
via the complicated,
to the simple solution.

efficiency
86%
internationally patented



efficiency
93%
fine particles
only 24mg
internationally patented

Walltherm®

wood gasification stove

The function:

There are two combustion chambers in the stove. The fire is lit in the upper chamber. Once up to temperature the hot gases pass through the combustion jets where they are combined with secondary air. In the lower combustion chamber that gas ignites and creates a second flame which burns extremely cleanly and efficiently. The hot exhaust gases then run up through the heat exchanger.

Beautiful to look at!

The stove has two heat-resistant glass panels, through which you can see the amazing fire.

The chimney needed for an ideal draught

6 m height

20 mm insulation

150 mm diameter



temperature exhaust gases 130 - 160°C

How the heat is divided:



70% to the water



30% radiant heat

cooking plate

exhaust fume flap

heat exchanger

designed to absorb the highest amount of heat possible from fumes

upper combustion chamber for 35 cm wood logs

lower combustion chamber with gasification flame temp. >1000°C



The efficiency of **93 %** confirms the quality of the wood gasification stove Walltherm®.

Also **BLT-Wieselburg (A)** and **TÜV Rheinland (G)** confirm the high efficiency!



VKF Nr. 17665 (CH)

Walltherm® technical data:

efficiency:	93%
total power output:	14,9 kW
output to water:	~10,4 kW
output to air:	~4,5 kW
fine particles:	24 mg/Nm ³
working pressure:	max. 2,5 bar
chimney draught:	min. 12 - 15 Pa max. 20 Pa
weight:	around 300 kg
combustion air connection backside or bottom:	Ø125 mm
water content:	20 lt
volume of the upper chamber:	55 lt
diameter of chimney:	Ø 150 mm (internal)
exhaust stream:	0,0107 kg/s
exhaust gas temperature:	~120 - 160 °C
exhaust gas temperature (in lighting phase):	~250 - 400 °C
fuel:	dried wood (max. 20 % humidity) length max. 35 cm

Warranty: 5 years on the body (wear parts excluded)
2 years on all valves and electrical components

Walltherm®

wood gasification stove



Mod. Zebrú

Look our **Walltherm®** video on:  or www.walltherm.com

Features

The **Walltherm®** is the **first** stove which combines the characteristics of a traditional stove with the technical attributes and efficiency of a reverse combustion log gasification boiler. Due to the gasification, the **Walltherm®** achieves very low emissions (only 24mg) and an unparalleled efficiency of 93%.

The **Walltherm®** heats up the thermal store and gives radiant heat into the living room. Its unique double windows give you the extraordinary sight of two different fires, the cosy wood fire above and the spectacular gasification flames pouring through below.

It works like this:

The stove has an upper and lower combustion chamber. The fire is lit in the top chamber and produces gas while burning. This hot gas is pulled down through the combustion jets, where it is mixed with secondary air. In the bottom chamber that gas creates the clean burning and highly efficient second flame. The hot flue gases are then routed up through the heat exchanger, which is designed to absorb the highest amount of heat possible.

The burning rate is thermostatically controlled and will use less fuel and give a cleaner burn than any other domestic stove made today. Combustion air can be brought directly from outside, so eliminating any draughts.

One of many innovations in this stove is that this has been achieved using the natural draught of the chimney without the use of an exhaust fan.

The power output of the stove is 14,9kW. 30% of that warmth is passed into the room where the stove is placed while the other 70% of heat is sent to the thermal store, to be used whenever it is needed.

An impressive fact is that the flame in the lower combustion chamber generates up to 1000°C, but the exhaust gases have only around 130 - 160°C. This shows just how efficiently the stove uses the heat.



The **Walltherm®** is internationally patented.

Mod. Zebrú

The standard model, the simple and elegant Zebrú is available in black or grey.

It can come complete with:
Pump, load valve, safety group and
overheat safety valve as well
as cleaning brushes, fireplace poker
and stove broom.

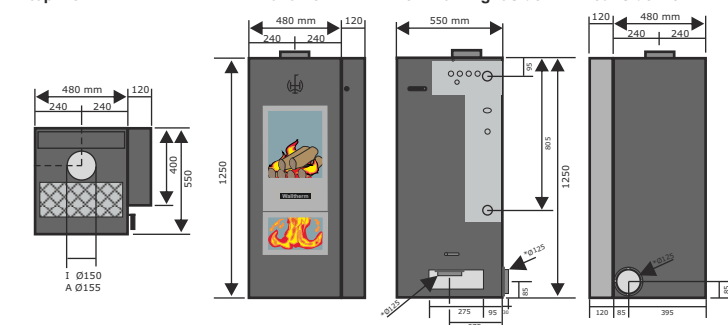
Size of the Zebrú model:
in mm

top view

front view

view from right side

rear side view



* Combustion air taken from outside

Walltherm®

wood gasification stove

In well insulated buildings, or in small rooms, the Walltherm® could give more radiant heat than is needed. Insulation systems for the stove are available for these situations. These significantly reduce the heat to the room.

Complete insulation: Quick for Walltherm® Zebrú

This set insulates the Walltherm® completely with 25mm of insulation material. It can be combined with radiant reduction glass, which further reduces the heat to the room.

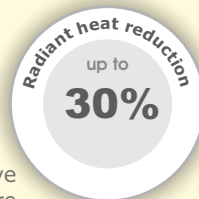


The Quick steel insulation set is available in:

- honey glow-brown
- black
- grey

The Quick firepanel insulation, can be painted with any colour emulsion paint

Individual insulation: for Walltherm® Zebrú



Stainless steel



Patinated corten steel



Honey glow brown



Black



Grey



Walltherm® Zebrú with brackets for a front stone slab.

It is possible to fit insulated covers on the front, left, right and back side of the stove. On the front side the panel can be in painted or stainless steel. A soapstone slab can be fitted on the top. There is also an option for radiant reduction glass, which further reduces the heat output to the room.

KA88/2002

High efficiency solar panel:

Due to the high efficiency of the solar panels they can manage to heat all the domestic water throughout the summer. But even in winter, when there is much less sun, the solar panels continue to support the heating system.

The absorbing panel is the heart of the solar collector because it collects the sun's energy and transfers it through the copper tubes into the solar fluid.

Our solar panel has a special system to connect the high performance absorbing surface to the copper tubes. We use **WARO- flat tubes** rather than round tubes which 'massively' increases the connection area between tube and absorber.

The special flat tube is a Wallnöfer H.F. patent!

Due to its high efficiency, our solar panel has its greatest advantage on days with bad weather and limited sunshine. Our panel produces up to 25% more power compared with "standard" solar panels.



86% efficiency
Absorption 95 %

SPF Solartechnik
Prüfung
Forschung

TÜVRheinland®
DIN CERTCO



certificato Solarkeymark

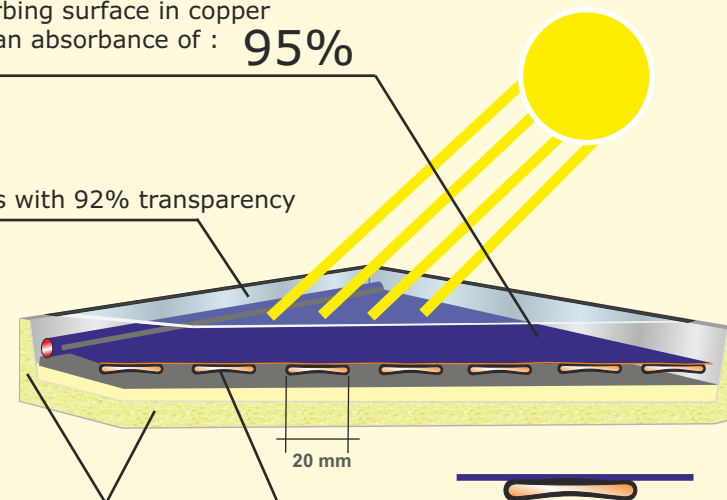
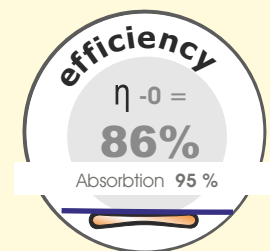
Inside the panel:

Absorbing surface in copper with an absorbance of : **95%**

Solar glass with 92% transparency

Insulation on all four sides and on the back

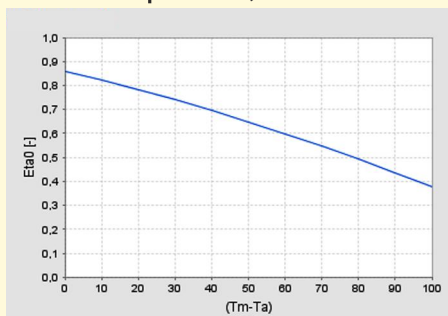
WARO- flat tubes
with 20mm contact to absorbing surface



The high efficiency was tested and confirmed by SPF solar testing facility in Switzerland and TÜV Rheinland in Germany.

Highest efficiency:

$$\eta_0 = 0,86$$



Legende:
Eta0 [-] = efficiency scale 0 - 1,0 (1=100%)
Tm-Ta = difference between average collector temperature and ambient temperature

Tecnical data:

depth:
width:
length:
total surface:
absorbing surface:
fluid content:
weight/m²:
weight:
working pressure:
testing pressure:
max. temperature w/o fluid:
case material:

	standard size 1,8 m²	big size 2,5 m²
depth:	88 mm	88 mm
width:	920 mm	1050 mm
length:	1940 mm	2350 mm
total surface:	1,80 m²	2,50 m²
absorbing surface:	1,65 m²	2,30 m²
fluid content:	0,6 l/m²	0,6 l/m²
weight/m²:	19,45 kg/m²	19,45 kg/m²
weight:	35 kg	48 kg
working pressure:	2-4 bar	2-4 bar
testing pressure:	8 bar	8 bar
max. temperature w/o fluid:	250°C	250°C
case material:	stainless steel	stainless steel or aluminium
		Solar Keymark

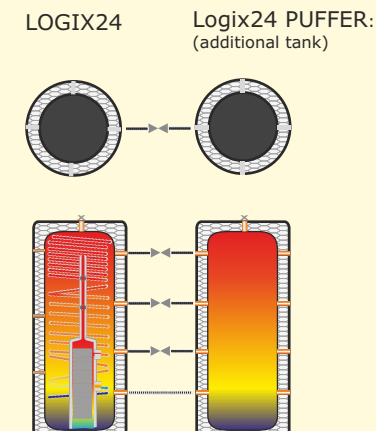
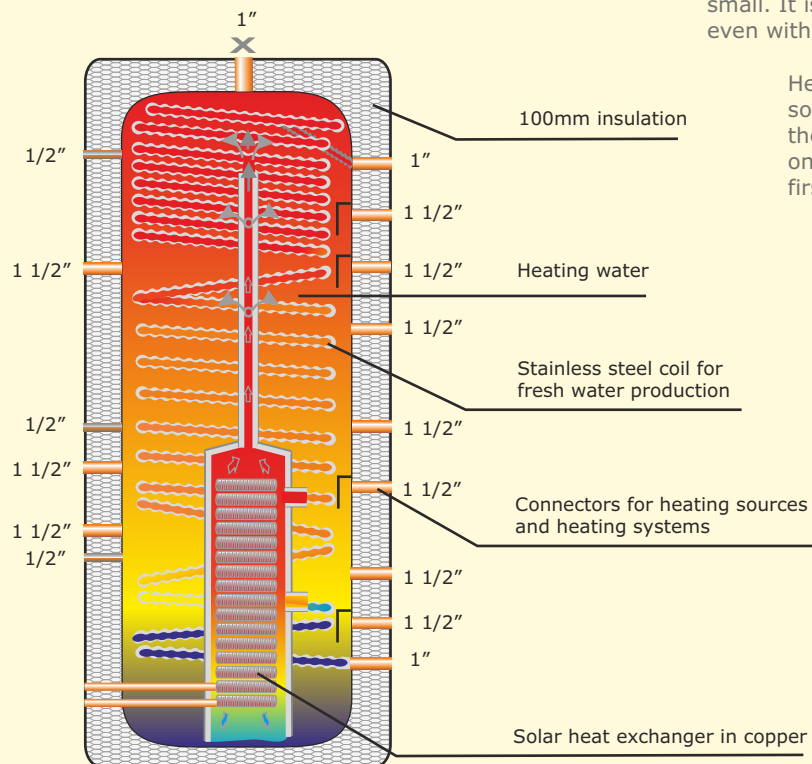
Logix24

The Logix24 combi tank

The Logix24 is a combi tank which contains the heating water. It produces domestic hot water through a stainless steel coil. As a result of the numerous connectors it is possible to use multiple heating sources.

The domestic hot water is heated instantaneously in the stainless steel coil (316L). The coil has a big exchanging surface which ensures a fast heating of the domestic hot water even if the content of the coil is relatively small. It is nearly impossible to have a legionella problem with this system even with limited domestic hot water use.

Heat produced by the solar panels is sent into the inner solar heat exchanger. This works with natural stratification, which means the hottest water is always loaded into the top part of the tank. So even on days with little sun the top part of the water tank can get hot first making it possible to heat up the domestic hot water.



Logix24	600	1000	1300
content in liters:	600	950	1290
width without insulation in mm:	700	790	950
width with insulation in mm:	900	990	1150
height without isolation in mm:	1619	2016	1992
height with isolation in mm:	1700	2100	2072
tilt height in mm:	1670	2090	2090
weight in kg:	140	190	210
total fresh water production in liters: when tank is on 60°C (fresh water at least 40 °C):	410	780	1050
fresh water coil in m ² :	4,5	7,5	10
solar heat exchanger m ² :	3,9	3,9	3,9
energy efficiency class:	C	C	C



These pictures show the stratification inside of the Logix24 when connected to a solar plant:

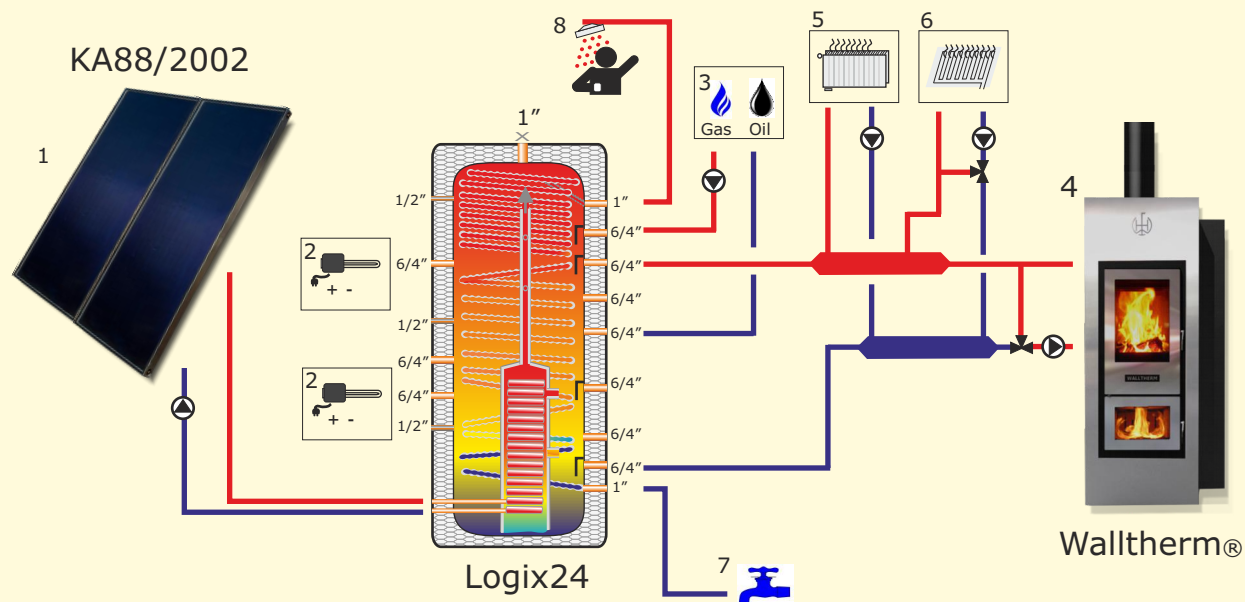


tank material:
fresh water coil material:
testing pressure:
max. working pressure fresh water:
max. working pressure tank:
insulation:
warranty:

S235JR
stainless steel 316L
10 bar
6 bar
2,5 bar
100 mm Vlies in black
5 years



The best solution to use the sun and wood as heating sources



- 1 solar plant
- 2 electrical heating element
- 3 gas/oil burner
- 4 Walltherm® woodstove
- 5 radiators
- 6 floorheating
- 7 fresh water entrance
- 8 fresh water exit



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