

**ETHERMA<sup>o</sup>**

EFFICIENT. ELECTRIC. HEATING.



# FIRE+ICE

THE INNOVATIVE SINGLE ROOM HEAT PUMP  
WITH COOLING OPTION

Warm your  
**HOME.**  
Not the earth.



Independent **heating.**  
Comfortable **cooling.**

**Minimalist design. Maximum efficiency.**

With the introduction of their new FIRE+ICE single room heat pump with cooling option, ETHERMA presents an innovative monoblock air heat pump that does not require any external unit. It is perfect for rooms up to 35 m<sup>2</sup> in size such as living rooms or bedrooms, and is a surefire winner with a COP (Coefficient of Performance) value of 3.28 at 7 °C. And here's the best thing: FIRE+ICE can be installed quickly and easily on the inside of external walls, as it is assembled entirely from the inside.



Flexible control using the touchscreen display on the device, remote control or app



Very low noise for a restful night's sleep: Night mode: 27dB(A) at 2 m



Heating and cooling all in one – perfect all year round



Optimal decentralised heating solution for the renovation of individual apartments (private or housing association)



No refrigeration engineer required for assembly



Monoblock air heat pump with no external unit, for rooms up to 35 m<sup>2</sup>



Easy installation by an electrician or installer on the inside of an external wall



Sustainable with green energy

### This is how you heat your home today. A real revolution.

The compact FIRE+ICE is the optimal decentralised solution for individual residential units – either for older buildings or for easy and quick apartment renovations. Regardless of whether you are a private apartment owner who wants to break your dependence on oil or gas, or whether you are a housing cooperative and want to renovate as many apartments as possible without breaking the bank. Because in multi-party homes in urban areas in particular, central heat pumps are usually not permitted, and/or there is simply no space for them.

### Efficient. Electric. Heating.

Clever combined with power from solar, water or wind power, electric heating systems from ETHERMA are already helping to reduce CO<sub>2</sub> emissions. With fast, almost loss-free heat at the touch of a button. No technical room. No maintenance. No fuel supply. No complicated piping installation. The innovative FIRE+ICE single room heat pump with cooling option is another step towards a sustainable future.

# The ETHERMA OVERALL CONCEPT.

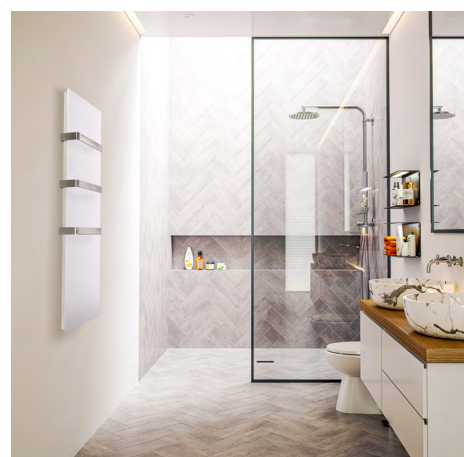
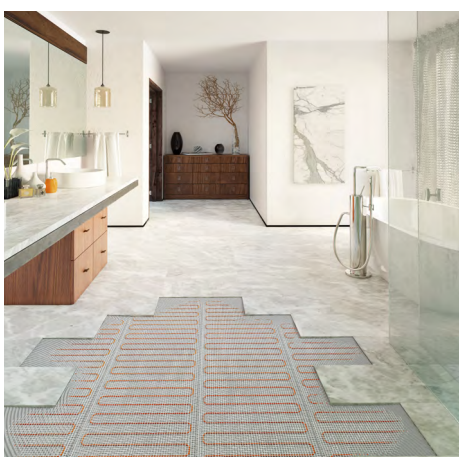
For home renovations.

## Comfort in every room. Without oil or gas.

In existing apartments in particular, there are almost no alternatives when it comes to innovative, easy to install heating systems. ETHERMA heating systems therefore provide the perfect solution for decentralised gas boilers or old night storage heaters. If you are investing in a new heating system, there is no better choice than ETHERMA.

In larger rooms, FIRE+ICE is ideal for heating. In smaller rooms that are only used on a temporary basis (kitchen, bathroom, hallway) and rooms with no external wall (a necessity in order to install FIRE+ICE), you can use infrared panels and electrical underfloor heating. The ETHERMA AQUA product range for central and decentralised hot water generation completes the overall concept. For heating or hot water: With ETHERMA, everything comes from a single source.

- > **Fast, practical loss-free warmth**
- > **Entirely independent heating**
- > **Maximum supply security**
- > **No gas boiler in your apartment**
- > **No technical room, no fuel, no maintenance**
- > **Convenient individual room control**
- > **Cooling in summer (FIRE+ICE)**
- > **Cheaper over the longer term in terms of the overall cost calculation**



### Electrical underfloor heating

- > Pleasant infrared radiant heat
- > Under tiles, laminates, parquet or stone
- > Low installation height, max. 4 mm, ideal for subsequent renovation
- > Immediately noticeable warmth, no inertia as with water-based floor heating systems

### Infrared heating

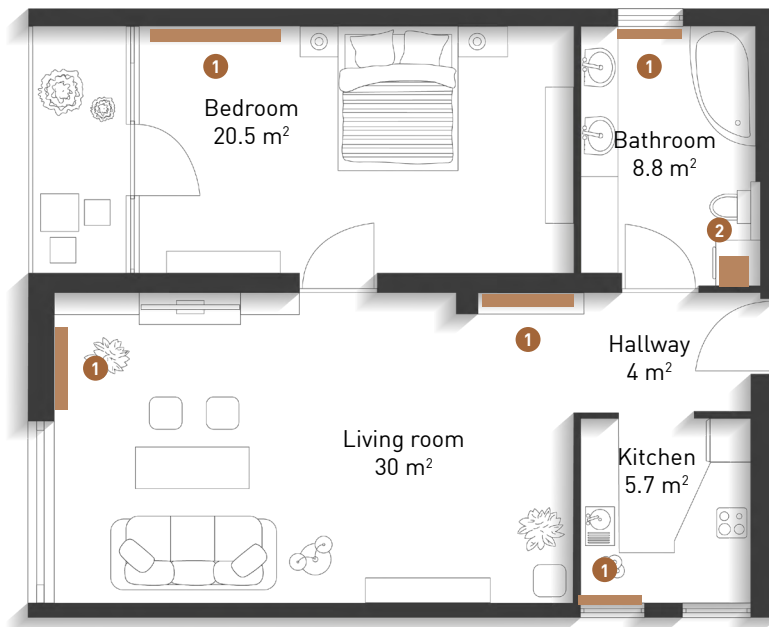
- > Very high radiation efficiency
- > Cut heating by up to 3 degrees, and hence up to 18% in energy and costs
- > Pleasant infrared warmth
- > Fast heating response
- > Modern design
- > For your wall or ceiling

### One-time investment in ETHERMA systems

Type	Quantity	Price per unit excl. VAT	Total excl. VAT	Rated power in kW
<b>Heating</b>				
<b>FIRE+ICE heat pump</b>	2	2,580.00 €	5,160.00 €	5.72
<b>LAVA® BATH PURE infrared heating panel</b>	1	730.49 €	730.49 €	0.5
<b>LAVA® BASIC-DM infrared heating panel</b>	1	469.77 €	469.77 €	0.35
<b>eFLOOR DS PRO netted heating mat set</b>	1	728.14 €	728.14 €	0.8
<b>eTOUCH PRO kitchen thermostat</b>	1	226.91 €	226.91 €	-
<b>Total Heating</b>			<b>7,315.31 €</b>	<b>7.37</b>
<b>Warm water</b>				
<b>AQUA WHL instantaneous water heater</b>	1	535.70 €	535.70 €	15
<b>AQUA WSP hot water storage</b>	1	296.45 €	296.45 €	2
<b>Total - hot water</b>			<b>832.15 €</b>	<b>17</b>
<b>Total - heating and hot water</b>			<b>8,147.46 €</b>	<b>24.37</b>
<b>Total - heating and hot water Germany incl. 19% VAT</b>			<b>9,695.48 €</b>	
<b>Total - heating and hot water Austria incl. 20% VAT</b>			<b>9,776.95 €</b>	

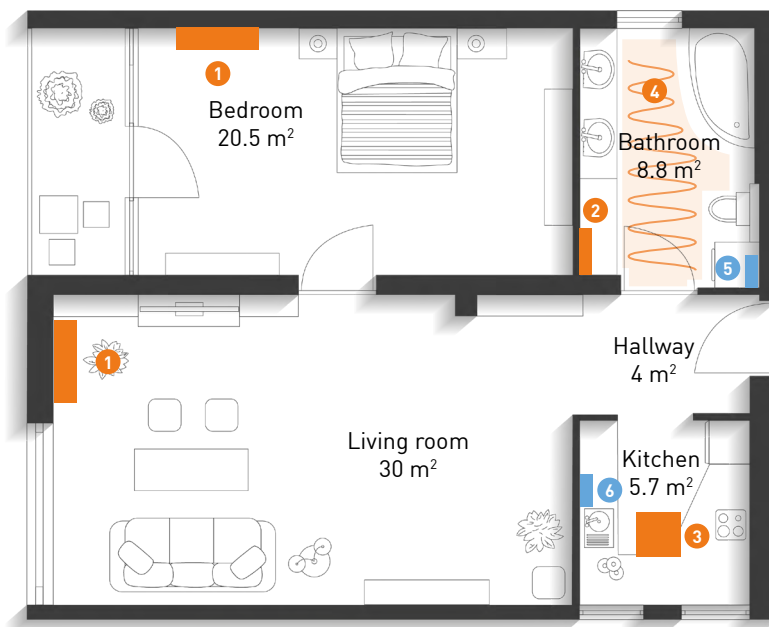
# From old to new. From gas heating to the **ETHERMA** overall concept.

- ① Heating element
- ② Decentralised gas boiler



Sample apartment, approx. 70 m<sup>2</sup>

- ① FIRE+ICE heat pump
- ② LAVA® BATH PURE infrared heating
- ③ LAVA® BASIC-DM infrared heating
- ④ eFLOOR DS PRO netted heating mat set
- ⑤ AQUA WHL instantaneous water heater
- ⑥ AQUA WSP hot water storage



GAS

ETHERMA

	Gas combi-boiler incl. heating element replacement (incl. 19% VAT)	ETHERMA concept for Austria (incl. 20% VAT)	ETHERMA concept for Germany (incl. 19% VAT)
<b>Investment costs</b>	9,011.00 €	9,776.95 €	9,695.48 €
<b>Ø Lifespan of the heat generator</b>	18 years	15 years	15 years
<b>Energy price per kWh<sup>1</sup></b>	0.18 €	0.31 €	0.37 €
<b>Ø Overall efficiency of the heat generator</b>	0.85	2.7	2.7
<b>Total energy required</b>	18,613	6,775	6,775
<b>Annual investment costs<sup>2</sup></b>	770.90 €	941.88 €	934.03 €
<b>Annual running costs<sup>3</sup></b>	4,044.00 €	2,535.00 €	3,026.00 €
<b>Annual maintenance costs</b>	259.53 €	48.29 € <sup>4</sup>	47.90 € <sup>4</sup>
<b>Total costs/year over the life cycle</b>	<b>5,074.43 €</b>	<b>3,525.17 €</b>	<b>4,007.93 €</b>

<sup>1</sup> Energy prices as of 2023/04/20:

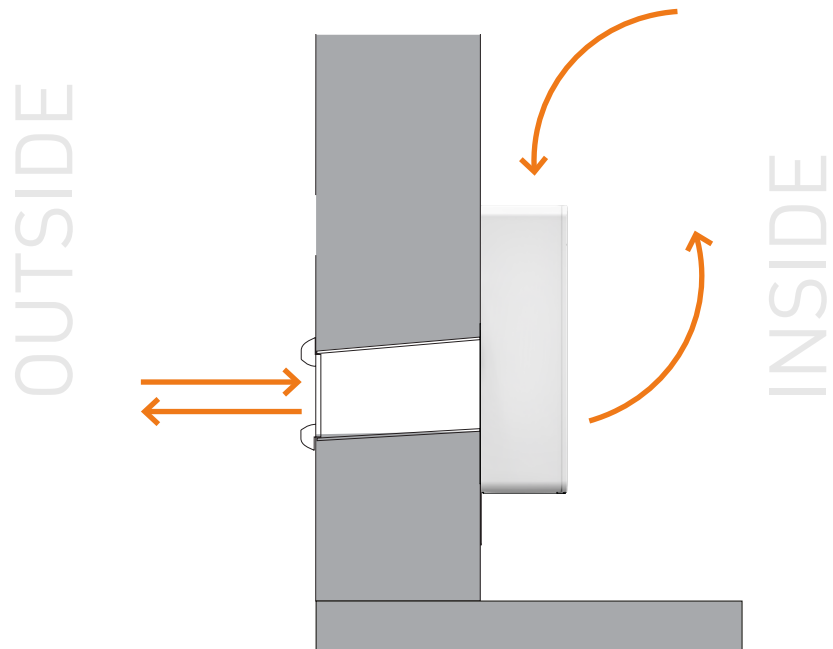
for Austria: MaxEnergy gas 12.94 ct/kWh, Salzburg AG electricity 31 ct/kWh  
for Germany average prices: gas 18 ct/kWh, electricity 37 ct/kWh

<sup>2</sup> Over the calculated life cycle

<sup>3</sup> Annual COP (Coefficient of Performance) for FIRE+ICE is assumed to be 3; Infrared panels and UFH: 1,200 full-load hours/year

<sup>4</sup> Maintenance costs for hot water systems

Simple  
to operate.  
Ingenious  
**TO INSTALL.**



That's the way it works with the **FIRE+ICE** single room heat pump.

**Circuit 1: Outside air**

- > Outside air is drawn into the system through an opening in the external wall.
- > The heat exchanger removes the heat from this outside air.
- > The cooled outside air is directed through the second opening into the open air.

**Circuit 2: Interior air**

- > The heat removed from the outside air is continuously fed into the room air.
- > The external air and inside air circuits are completely separate from each other in terms of ventilation.
- > When outdoor temperatures are cooler, the integrated additional heating element is activated automatically as required.

**FIRE+ICE** also functions as an air conditioning unit based on the same principle. Except that in this case, the inside air is cooled.



1.

- > Two core holes, 162 mm in diameter respectively for supply and exhaust air
- > One hole, 20 mm in diameter for the small condensation line
- > The air ducts and control flaps are inserted from the inside

2.

- > The wall mounting rail is secured using 6 screws (included in the scope of delivery)

3.

- > FIRE+ICE is connected using power cord or junction box
- > The unit is hung on the wall mounting rail – and you're done!

## Installation in no time at all. Entirely From the inside.

The FIRE+ICE single room heat pump can be easily installed on the inside of any vertical external wall with an even surface. This makes it perfect for retrofitting. Only two small core holes and one small hole are needed.

The entire assembly is performed from the inside, so that no ladders, cranes or risers are needed in order to reach greater heights, as is the case with other conventional external units. The FIRE+ICE heat pump can for example be installed by an electrician or installer, and no refrigeration engineer is required.

**Unattractive, bulky outdoor units, a familiar sight with conventional heat pumps or air conditioning units, are therefore a thing of the past.**

Facade with conventional outdoor units



No aesthetic impact thanks to innovative FIRE+ICE technology





## TECHNICAL DETAILS

- > Voltage: 230 V
- > Fuse rating (inert): 16 A
- > Max. connected load  
without/with additional electric heater: 1.06/2.86 kW
- > Additional heating output: 1.8 kW
- > Max. heat output **at 7°C outdoor temperature**  
without/with additional electric heater: 3.05/4.85 kW
- > Max. heat output **at 2°C outdoor temperature**  
without/with additional electric heater: 2.51/4.31 kW
- > Max. heat output **at -7°C outdoor temperature**  
without/with additional electric heater: 1.60/3.40 kW
- > Max. cooling output at 35/27°C: 3.10 kW
- > COP at 7°C (Coefficient of Performance): 3.28
- > EER (Energy Efficiency Ratio): 3.25
- > Sound pressure level indoor: 21.0-41.0 dB
- > Refrigerant: R32 (0.5 kg)
- > Air hole diameter  
external wall (2x): 162 mm
- > Condensation line diameter  
external wall (1x): 20 mm
- > Weight: 41 kg
- > Plug connection cable: 1.7 m
- > IP rating: IPX0
- > Energy efficiency class - heating: A
- > Energy efficiency class - cooling: A+

# ETHERMA FIRE+ICE

The innovative single room heat pump with cooling option



fireice.etherma.com



## ETHERMA FIRE+ICE single room heat pump with cooling option, 230 V

RG: HC1

(The scope of delivery includes all parts required for installation, including the drilling template, air hole covers and installation rail, as well as remote control incl. battery.)

Type	Art. no.	Width (mm)	Height (mm)	Depth (mm)
ET-HP-FIRE+ICE-5-W	48000	1010	549	165

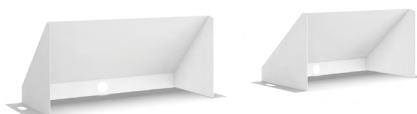
## Accessories

RG: A10

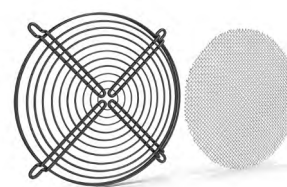
Type	Art. no.	Description
ET-HP-FIRE+ICE-AP-ACFF	48096	Aluminium covers with fixed slats incl. insect screen, to cover the outside holes, VPE: 1 pair (Fig. 1)
ET-HP-FIRE+ICE-AP-RPK	48097	Weather protection plates for the outside, in combination with covers with fixed slates, colour: RAL 9003 white, VPE: 1 pair (Fig. 2)
ET-HP-FIRE+ICE-AP-IPK	48098	Insect screen in combination with external cover (Standard or fixed slats), incl. installation material, VPE: 1 pc. (Fig. 3)
ET-HP-FIRE+ICE-AP-CLS	48099	Cover for underside of unit, privacy screen for elevated installations, VPE: 1 pc. (no image)
ET-HP-FIRE+ICE-AP-PREIK	48095	Pre-installation set consisting of drilling template, air hole covers and installation rail, VPE: 1 set (no image)



1.



2.



3.

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