




**memmert**  
Experts in Thermostatics

# The countdown is on!

**WITH PELTIER FOR MAXIMUM  
ENERGY EFFICIENCY, PRECISION AND DURABILITY**



LABORATORY EQUIPMENT  
WITH PELTIER TECHNOLOGY  
FOR INCUBATION,  
CLIMATE CONTROL AND STORAGE

**100% ATMOSAFE. MADE IN GERMANY.**

[www.memmert.com](http://www.memmert.com) | [www.atmosafe.net](http://www.atmosafe.net)

# Unmatched quietness

10

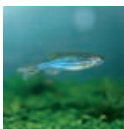
(Almost) without vibrations and noise



**Almost without vibrations and extremely quiet, the Peltier technology in Memmert appliances heats up and cools down seamlessly in one system.**



Particularly for applications like growing protein crystals, breeding insects, zebra fish and mice, the fact that no loud and unsmooth compressor is required is an invaluable advantage.



Of course employees also profit from the pleasant peace and quiet in the laboratory independent of the application, so that, without distraction, they can concentrate on what is essential: their work.



# Unmatched value

9

## Best price / performance ratio

**Not only are Memmert Peltier devices extremely economic in terms of operating costs, they also convince with their acquisition costs.**

For many applications, climate chambers with complex compressor technology are out of scale. Especially for stability testing at constant temperatures above zero or for cultivation around room temperature, Memmert constant climate chambers or cooled incubators based on Peltier technology offer an excellent price / performance ratio.



Constant climate chamber HPP  
with light module

# Unmatched versatility

8



## Applications from A to Z



**Incubation, storage as well as climate control with Peltier-cooled incubators and constant climate chambers.**



The universally applicable energy savers are used in microbiology, cell culture, food analysis or the electronics industry just the same as for stability testing of food and pharmaceutical products as well as building materials testing.

In addition, our customisation department has already developed different customised models in cooperation with industry experts, such as an appliance testing the melting behaviour of ice cream. In case of special applications, the customisation department will gladly take any questions or requests at

➡ [myatmosafe@memmert.com](mailto:myatmosafe@memmert.com)

By the way: You will find reports on interesting applications of different Memmert appliances on our user platform ➡ [www.atmosafe.net](http://www.atmosafe.net).



# Unmatched durability

---

7

While providing unmatched reliability

**The classic Memmert ovens' durability is legendary. All around the globe, some of them have been in use for decades without failure or any loss in quality.**

But how are things with the comparably young Peltier technology? We set out on a search and discovered a cooled incubator IPP of the first Peltier generation. Delivered in 2000 to Frozen Fish in Bremerhaven, Germany, the microbiology department is still profiting from its reliability and precision.



"The cooled incubator IPP from the first generation runs 365 days a year. We absolutely swear by the reliability of Memmert appliances."

Karsten Borchers,  
laboratory manager at Frozen Fish International GmbH

# Unmatched precision

6

Peltier is wonderfully versatile

**A Peltier element in a Memmert Peltier-cooled incubator or a Peltier constant climate chamber is switched up to 18,000 times a second, thus enabling extremely sensitive temperature control.**

The extremely small control fluctuations ensure that tests and processes are repeatable and documentable under precisely defined conditions. Failure free and for many years.





# Unmatched economical

---

5

Reducing energy consumption by up to 90 %

**A reduction of energy consumption by up to 90 % in running operation is no rarity. A Memmert Peltier appliance hardly emits any heat to the environment.**

In practice, this fact has two major advantages: Neither does the appliance need energy-intensive cooling to compensate high temperatures in the laboratory in order to prevent failure, nor is the room's AC required.

Another plus for operating costs: A Peltier appliance does not need any refrigerant which needs to be replaced regularly. Even though modern refrigerants are as environmentally-friendly as possible, their disposal always represents an environmental burden.

## Comparison of energy costs between compressor technology and Peltier technology

(1 year, 0.30 Euro/KWH, +25 °C working temperature)

**Energy costs compressor technology: 1,845 Euro**

**Energy costs Peltier technology: 260 Euro**

**Cost savings: 1,585 Euro**

**Cost reduction of —————> more than 85 %**



# Unmatched sophistication

---

4

Nobody does “Peltier” better than we do

**With its cooled incubator IPP, Memmert introduced the first Peltier appliance in 2000. It achieved performance values which until then seemed impossible with the Peltier elements available at that time.**

The Peltier era had begun. Today, different Peltier appliances are available on the market. However, the outstanding properties of the Memmert product range remain unmatched: Maximum energy efficiency and precision, short heating up times, as well as recovery times after opening the doors, durability and this all while being almost maintenance-free.

Recovery time temperature (in min) at 22 °C ambient temperature	HPP 110	HPP 750
30 °C/35 % rh	1	5
30 °C/65 % rh	1	5
40 °C/75 % rh	5	5





# Unmatched scope

3

## The Memmert Peltier product range

- **Peltier-cooled incubator IPP and IPPplus**  
32 to 749 litres, 0 °C to +70 °C
- **Constant climate chamber HPP**  
108 to 749 litres, 0 °C to +70 °C  
Humidity 10 to 90 % rh
- **Storage cooled incubator IPS**  
256 and 749 litres, +14 °C to +45 °C
- **Cooled vacuum oven VOcool**  
29 and 49 litres, +5 °C to +90 °C  
10 to 1100 mbar
- **Waterbath Peltier cooling unit CDP 115**  
Extended temperature range of the  
Memmert waterbaths from +10° C to 95° C



SÜDZUCKER

"Our Peltier-cooled incubator IPP bought in 2000 is in continuous use in the sugar season. In all this time, no repairs were necessary."  
Helga Welther, microbiology, Südzucker AG, Offenau, Germany

# Unmatched innovation

2

What is it that makes Peltier technology so unique?



**The principle of thermoelectricity, with electric voltage being converted into heat, has been known since the 19th century.**



Nonetheless, making effective use of the electrical energy involved to the present day remains a big challenge for any engineer.

Memmert is the only manufacturer succeeding at the same time in efficiently heating and cooling large chamber volumes of up to 749 litres with a combined heating / cooling concept – without using a conventional heating.

Temperature uniformity [+/- K]	HPP 110	HPP 260	HPP 750
5 °C	0.5	0.7	0.9
25 °C	0.3	0.3	0.3
40 °C	0.4	0.4	0.7

Temperature variation (time) [+/- K]	HPP 110	HPP 260	HPP 750
5 °C	0.15	0.15	0.15
25 °C	0.15	0.15	0.15
40 °C	0.15	0.15	0.15

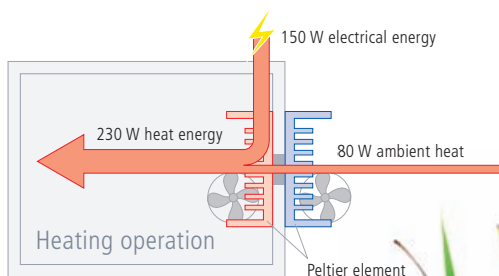
# Unmatched environmental friendliness

1

## Peltier technology facilitates environmental certification

For companies aiming for environmental certification, Memmert Peltier appliances are a climate-friendly alternative. In contrast to compressor technology, Peltier technology only requires energy when heating or cooling. For this reason, it is particularly economical close to ambient temperature.

In heating operation, the Peltier system removes thermal energy from the ambient air and introduces it into the chamber operating as heat pump. This way, up to a third of the heat energy required is saved. There is no exchange of outside air and the interior is thus not dehumidified.



Peltier element operates as an electronic heat pump



**YOUR MEMMERT PARTNER**

Your Memmert sales team  
will be pleased to help you



**Peltier-cooled incubator IPP and IPPplus**



**Constant climate chamber HPP**



**Storage cooled incubator IPS**



**Cooled vacuum oven VOcool**



**Waterbath Peltier cooling unit CDP 115**



**memmert**  
Experts in Thermostatics

Memmert GmbH + Co. KG  
P.O. Box 1720 | D-91107 Schwabach  
Phone +49 9122 925-0 | Fax +49 9122 14585  
E-mail: [sales@memmert.com](mailto:sales@memmert.com)  
[www.memmert.com](http://www.memmert.com) | [www.atmosafe.net](http://www.atmosafe.net)