

## AKG ThermoCore ECO for Ground-Source Heat Pumps in Buildings

The **AKG ThermoCore ECO** is a new, patented solution specifically developed for use in ground-source heat pumps for building climate control. This innovative system integrates seven components (evaporator, condenser, expansion valve, receiver, filter, dryer, and internal heat exchanger) into a single compact unit. The condenser can be made of stainless steel or aluminum, depending on specific requirements. The multifunctional refrigerant core, which includes the expansion valve, receiver, filter, dryer, and internal heat exchanger, as well as the evaporator, are made of aluminum.

Thanks to its compact design, the **ThermoCore ECO** requires minimal installation space within domestic heat pumps. Additionally, only two refrigerant lines (suction and discharge lines) are needed to connect to the compressor. This significantly reduces the risk of leaks and shortens installation times. The short refrigerant lines also make the system less susceptible to vibrations and shocks, as confirmed by tests on the vibration test bench in the AKG testlaboratory.

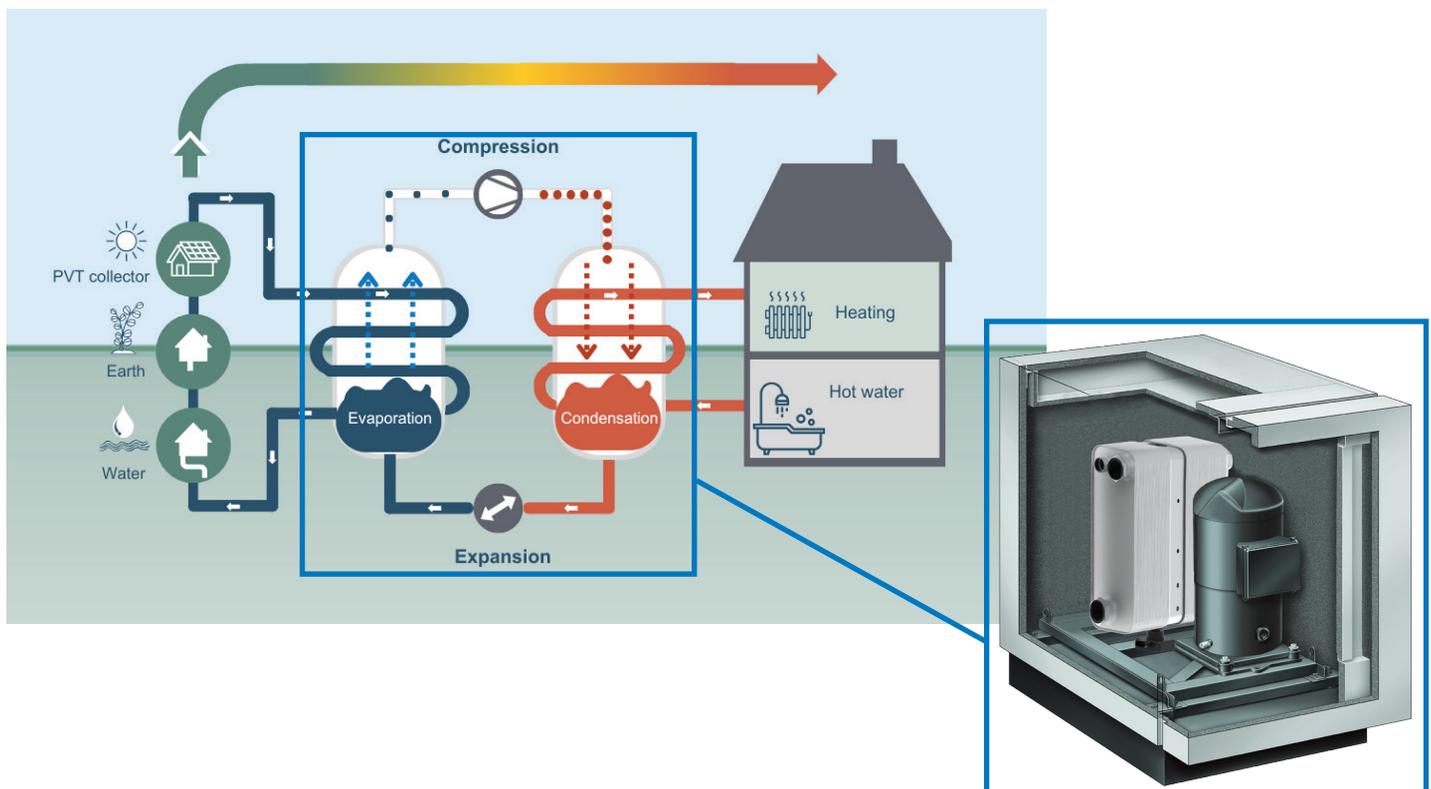
The heat exchangers used in the **ThermoCore ECO** are specifically designed for operation in domestic heat pumps using propane (R290) as a refrigerant. They offer high thermal performance while maintaining low pressure losses and requiring only a low refrigerant volume.



ThermoCore ECO with Aluminum Condenser



ThermoCore ECO with Stainless Steel Condenser



ThermoCore ECO in the Ground-Source Heat Pump



## AKG Green Thermal Solutions.

### AKG Green – Thermal Management Solutions for Renewable Energies

With **AKG Green**, we develop highly efficient **Thermal Management Solutions for renewable energies**. Our systems are used in areas such as wind energy, heat pumps, electronics and fuel cell technology to make sustainable solutions even more efficient.

One example is the **ThermoCore ECO**, which is used in stationary applications for heating and air conditioning buildings. Our solutions enable **reliable and energy-efficient heating and cooling regulation** – a decisive factor for decarbonization and the achievement of global climate targets.

With innovative technologies, we support the sustainable use of clean energy and actively contribute to a more energy-efficient future.

### AKG ThermoCore ECO Benefits



#### 1. Global product portfolio

Our broad product portfolio enables us to supply a wide range of heat exchanger designs worldwide



#### 2. AKG Stacked Shell Cooler

Efficient design with less weight and high performance



#### 3. AKG engineering service

Comprehensive engineering support regarding the integration of **ThermoCore ECO** into the Ground-Source Heat Pumps



#### 4. Simulation

Simulations at component and system level accelerate development on the customer side



#### 5. Environmental friendly

Low refrigerant charge and suitable for the use of natural refrigerants such as R290 (propane)



#### 6. Robustness

Same performance verified under different inclinations and robustness confirmed in vibration tests

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