



AKG ThermoCore Motion

The **AKG ThermoCore Motion** is a new, patent-protected solution that has been specially developed for use in heat pumps for vehicle air conditioning. This innovative system combines seven components (evaporator, condenser, expansion valve, receiver, filter, dryer and internal heat exchanger) in one compact unit. The heart of the **ThermoCore Motion** is the multifunctional refrigerant unit, which includes the expansion valve, receiver, filter, dryer and internal heat exchanger in one compact unit. Together with the evaporator and the condenser, it is made of aluminum and is soldered in one piece, which ensures maximum efficiency and durability.

Thanks to its compact design, the **ThermoCore Motion** requires little space for installation in heat pumps. In addition, only two refrigerant lines (suction and pressure line) are required to the compressor. This reduces the risk of leaks considerably and reduces installation times. Thanks to the short refrigerant lines, the system is less susceptible to vibrations and shocks, as can occur in vehicles. This has been proven in extensive tests on the vibration test bench in the AKG test laboratory.

The heat exchangers used in the **ThermoCore Motion** are specially designed for use in heat pumps with the refrigerants R 1234yf and propane. These are characterized by high heat output combined with low pressure losses and a low refrigerant quantity.



AKG ThermoCore System with ThermoCore Motion and Compressor



AKG ThermoCore Motion

AKG ThermoCore Motion – Benefits



1. Modular design

Pre-assembled modules, no individual parts need to be integrated into the vehicle and flexible to customer requirements



5. Global product portfolio

AKG's diversified product portfolio offers all heat exchangers types needed for the vehicle



2. Closed-loop refrigerant circuit

Low maintenance; no additional refrigerant lines to the vehicle needed



6. AKG stacked shell cooler

Optimally designed for ThermoCore with less weight and high performance



3. Simulation

Simulations at the component and system level speed up the vehicle development on the customer's side



7. AKG engineering service

Comprehensive engineering support regarding the integration of ThermoCore into the vehicle architecture



4. Robustness

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



8. Environmental friendly

Low refrigerant volume means the use of natural refrigerant (propane) is possible



Applications – Markets



Agricultural equipment



Forestry equipment



Automobile



Generator set



Commercial vehicle



Municipal vehicles



Construction equipment



Battery storage



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