

SELF-SUFFICIENT AIR CONDITIONER AKA

Range of application

New task areas of the Armed Forces require flexible, easily adaptable and expandable air conditioners with a universal range of application, especially for existing systems.

The product family "AKA - self-sufficient air conditioners" was developed especially for this purpose. This solution offers an expandable air conditioning system with an almost unlimited spectrum of use.

When the AKA was designed and developed, it was made sure that retrofitting the system would be as easy as possible with only slight changes to the system.



Basic Concept

Essentially, the AKA is a split air conditioning system. The outdoor part contains a diesel drive with AC compressor and condenser. The indoor part consists of an evaporator and a re-circulating air fan. The two components are connected by refrigerant hoses, electrical control wires and supply lines. Due to its modular form the inside part may be adapted relatively easy and fast to its wished-for place of installation.

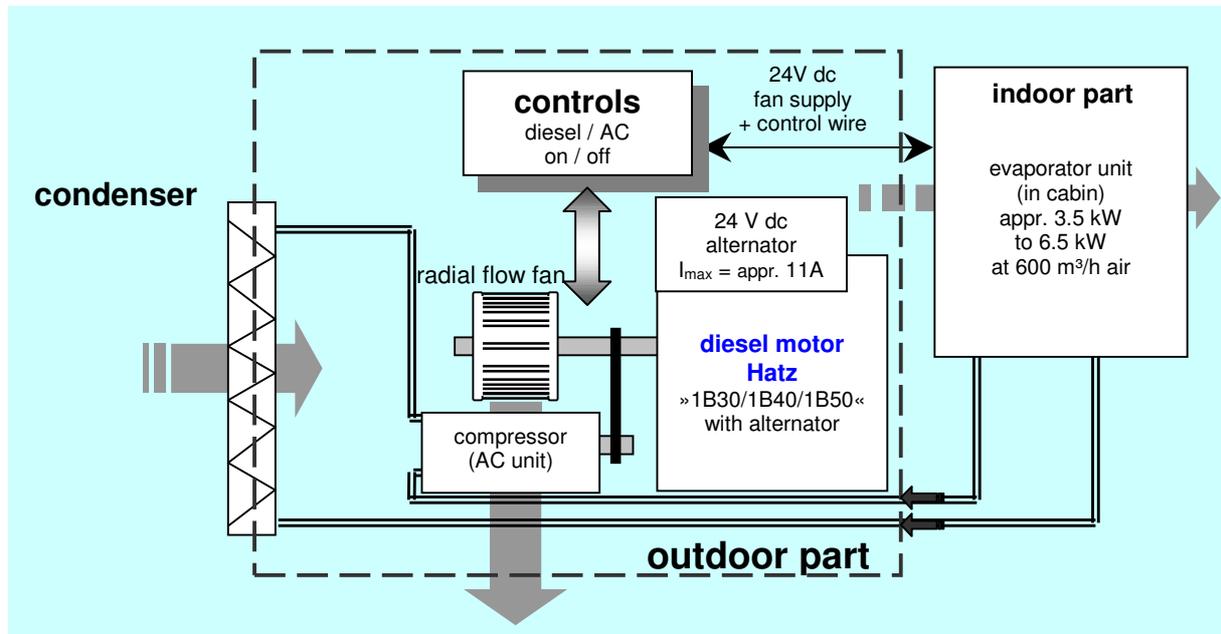
The engine (diesel) of the air conditioning unit can be switched on with the starter (24V DC supply from the vehicle/cabin) or manually with the reversing starter.

The AKA supplies itself during operation with the help of the integrated alternator. It is therefore totally self-sufficient from the transporting vehicle with regards to the electrical supply.

The refrigerating capacity ranges from 3.5 to 6.5kW for outside temperatures of up to 49°C. Operation is permissible to 55°C.

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AKA Overview



AKA System: different options

- AKA1:** Air conditioning performance 4.5 kW, Motor Hatz 1B40
- AKA2 (Light):** Reduced air conditioning performance (approx. 3.5kW) with smaller, lighter Diesel Engine (Hatz 1B30). Weight reduction approx. 35 kg.
- AKA3 (Electric):** Diesel engine replaced by a 4.5 kW electric motor, so the AKA can only be operated with a connection to an external network.
- AKA4 (Heavy Duty):** An alternating voltage generator of approx. 2.0 kVA is added to the outdoor part, so in addition to the refrigerating capacity, electricity is also available.
- AKA5:** Cooling performance 6,5 kW, Motor Hatz 1B50, especially developed to be installed on existing vehicles.

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AKA Application Matrix

Type	Application	Solution
AKA1-2	Unimog with FM I cabin	Outdoor part fixed on a mounted bracket in front of the bumper. Indoor part pushed through a standard cut-out B and installed.
AKA4	Unimog with FM I cabin Extra need for electrical power	Outdoor part as "AKA heavy Duty" (with additional AC-generator) on mounted brackets in front of the bumper. Indoor part pushed through a standard cut-out B and installed.
AKA1-5	Mobile FM cabin as quasi-stationary work space.	Outdoor part set up in the necessary configuration, separate from the cabin. Indoor part pushed through a standard cut-out B and installed.
AKA2	Easily transportable system (air transport!)	Outdoor part "AKA Ultra" (small weight!). Indoor part with the necessary mechanical layout.
AKA1-5	Tent refrigeration	Outdoor part in the necessary configuration - also with external mains supply – set up separate from the tent!. Indoor part with the necessary mechanical layout.
AKA1, 2, 4 and 5	System to install on top of shielded and unshielded vehicles	Casing and construction for additional installation to existing vehicles. Air conditioning and control connections are put in the inside room, the installation of the evaporator is project-specific.



power section



indoor part



control panel

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Logistics

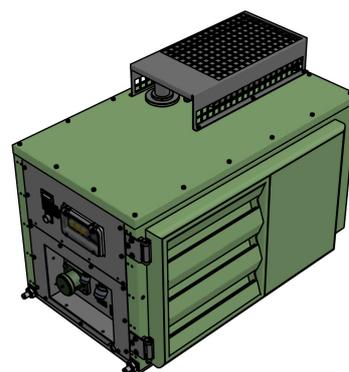
Experience shows, it is difficult to protect devices that are installed on the outside of military vehicles against all adverse conditions (dust, water, damage, etc.). If an AKA breaks down, this should not lead to a longer downtime of the system.



Therefore the AKA may be replaced easily and without special tools. The replacement unit may be put into operation fairly fast with the available quick-action couplings for the refrigerant lines and fuel pipes as well as the plugs of the control lines.



Inside part with evaporator (6.5 kW)



Power unit (6.5 kW)