

COMBINED POWER SUPPLY AND AIR CONDITIONING WSK FOR INSTALLATION IN MILITARY VEHICLES

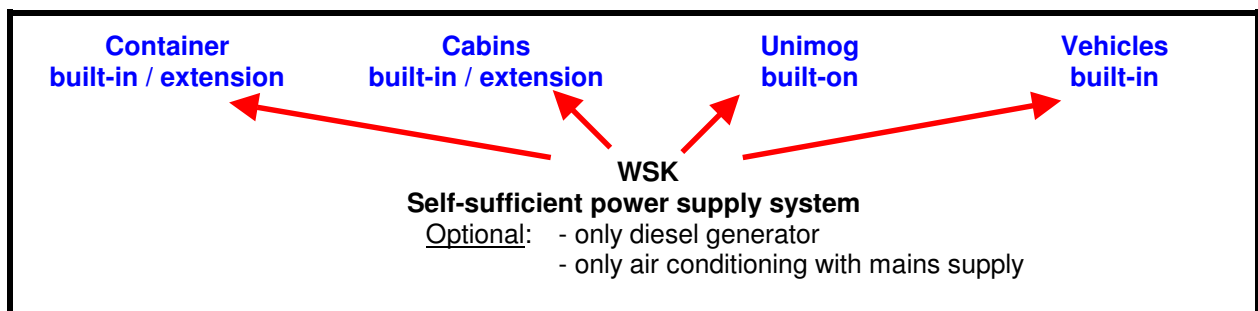
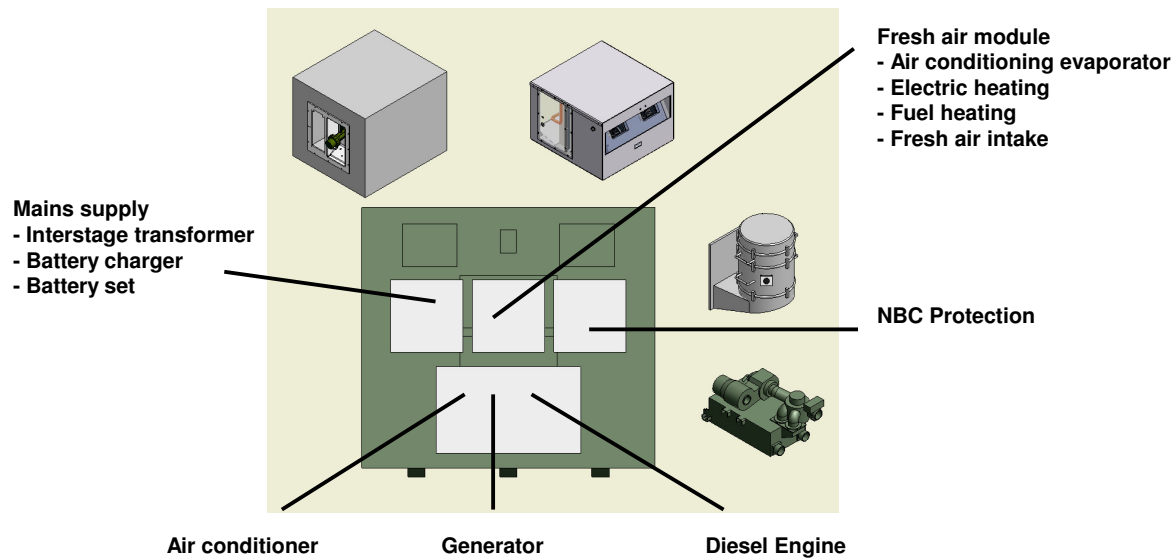
Combined power supply, air conditioning and network feeder system for mobile shelters and engineering cabins.

The world-wide deployment of mobile cabins and containers requires the latter to have a self-sufficient power supply system for electricity and partial air conditioning.

E.WSK. can be used as complete unit comprising diesel / generator / air conditioning / re-circulating air module and network feeder.

The re-circulating air module with evaporator and heating can be installed separately as a split unit.

Five different power ranges cover nearly all applications. A graph of the WSK may be drawn as follows:



| | -.WSK1. | | -.WSK2. | | -.WSK2.115 | | -.WSK3. | | -.WSK4. | |
|--|--------------|------------|------------------|------------|------------------|------------|------------------|------------|------------------|------------|
| input to cabin | A/C System | D/C System | A/C System | D/C System | A/C System | D/C System | A/C System | D/C System | A/C System | D/C System |
| Voltage | 230V 50Hz | 28V | 230/400V 50Hz | 28V | 115/200V 60Hz | 28V | 230/400V 50Hz | 28V | 230/400V 50Hz | 28V |
| max performance | 3.5 kVA | 100A | 7 kVA | 100A | 7.5 kVA | 100A | 11 kVA | 100A | 12 kVA | 100A |
| max temperature difference rating absolute/sensitive | 6/4 kW | ----- | 8/5 kW | ----- | 8/5 kW | ----- | 12/8 kW | ----- | 16/9 kW | ----- |
| fuel heating | 5 kW | ----- | 5 kW | ----- | 5 kW | ----- | 5 kW | ----- | 5 kW | ----- |
| max electric-heating | 4 kW | ----- | 4 kW | ----- | 4 kW | ----- | 4 kW | ----- | 4 kW | ----- |



Mode of operation standard module

The diesel engine runs with a constant speed of 3,000 rpm (depending on the power range). The air conditioning compressor is mechanically driven directly from the diesel engine by V-belts. Via a second coolant cycle, rack-cooling modules can be connected to an own electronic injection valve. The rack-cooling modules can cool and heat independent of the cabin system. The generator, like the compressor, is also driven from the diesel engine with 3,000 rpm by V-belts.

Mode of operation re-circulating air module / fresh air module

The standard cooling/heating module has a temperature difference rating of 5 to 8 kW (depending on air flow). Several modules may be operated simultaneously in one cabin in order to install bigger temperature difference ratings, when necessary. Due to the fact that the modules each have an own expansion valve, separate cooling air cycles are also possible (rack-cooling separate from room air). Heating is done via an integrated electric heating register or, additionally, with the help of a fuel heater. The supply of fresh air can be adjusted.

Mode of operation rack-cooling

The WSK can operate several rack-cooling modules. Cooling the electronic equipment separately is an advantage here. It guarantees fast readiness for use thanks to short air conditioning intervals and the vehicle crew can independently adjust the room temperature.



Mode of operation mains connection

The diesel engine is disconnected. The generator works as engine and drives the protectively insulated air conditioner. Only the cabin user is supplied with electricity via a minimised inter-stage transformer.

Mode of operation pull-out

The complete unit is installed on pull-out bars. Fuel supply and electric cabling is guided through plastic drag chains. The re-circulating air module is fixed to or in the cabin and is supplied via flexible coolant hoses.



Mode of operation reserve fuel tank

The WSK may be operated both via the fuel tank (diesel) of the vehicle or its own tanks (all sizes possible). Optionally, a two-hour fuel spare tank with an own pump, can be used. Using kerosene instead of diesel has been tried and tested.