Guinault
AIRCRAFT GROUND ENERGY

MOBILE AIR CONDITIONING UNITS FOR MILITARY FIGHTER AIRCRAFT

ACU

CF33 MODEL

GUINAULT have used their historical expertise in cooling systems and military electronic aircraft ground support equipment to design a unique compact Air Conditioing unit for fighter aircraft.

GUINAULT claims the LOWEST TCO (Total Cost of Ownership) through high reliability and highest efficiency in exteme condition:

- VARIABLE FREQUENCY DRIVE CONDENSOR AND VENTILATOR: the unit is fitted with Variable Frequency Drive to adapt the airflow and airpressure to the exact aircraft requirement. The condensor ventilators are fitted as well with VFD to ensure the highest possible efficiency, in all outside temperature conditions.
- ELECTRONIC EXPANDER: Ensures high reliability and efficiency, whatever are the outside conditions; the unit is fitted with a smart defrosting device, controlled by PLC.
- AIR/AIR INTERCOOLER: to reduce the power consumption.
- AIR TRANSPORTABILITY: The unit is certified for airtransport in military cargo aircraft, and under helicopter (naturally balanced); the size of the unit (104 in x 84 in) fit to international standard cargo palet.
- CONFORTABLE OPERATION: The reduced height of the unit (1,60m / 5,16 feet) ensures a good manoeuvrability and visibility in congested area.
- EXTREME WEATHER CONDITIONS: Certified for operation from - 32° C to + 55° C (- 25,6° F to 131° F). Certified in sand-wind, heavy rain - the unit is fitted with heavy duty covers to allow storage outside in extreme conditions.
- EMC MIL STD COMPLIANT: The unit is certified per MIL-STD-461 at highest level.
- ELECTRICAL DRIVE (60 kVA), available in option diesel driven.
- PLC CONTROL with data loggin for user friendly trouble shooting.

Specifications

		CF33
INPUT	Power supply	3 phases 400 V 50 Hz / 440 V 60 Hz
	Maximum input power:	± 10 % between phase and neutral 60 kW (in extreme conditions)
	Cable	15 meters without plug
AIR OUTLET	Air flow	> 18 kg / min (40 ppm)
	Air pressure	550 mBar gauge (8psig) (from - 32° C to + 55° C / - 25,6° F to + 131° F) at sea level
	Number of air outlets	1
	Air outlet temperature	+ 10° C ± 2° C (+ 50° F ± 3,6° C)
	Cooling power	50 kW
	Temp. control:	± 1° C at hose end
ANTI CONDENSATION MODE	Output flow	> 18 kg / min (40ppm) under 550 mBar gauge
	Output air temperature	+ 28° C ± 2° C (+ 82.4 ° F ± 3,6° C)
DIMENSIONS AND WEIGHTS	Weight	2905 kg
	Length x Width x Height	2800 mm x 2130 mm x 1600 mm
COOLING SYSTEM	Compressor	Hermetic compact reciprocating (piston) compressor
	Refrigerant	R134a
	Condenser	Top-mounted condenser made with copper tubes and aluminum fins. Variable speed fans (VFD controlled)
	Expansion	Electronically regulated expansion valves
	Evaporator	Copper tubes and aluminum fins with automatic defrosting system
	Main blower	Roots compressor driven by variable speed (VFD controlled)

AIRCRAFT COMPATIBILITY

- Air transportable on wheels and on a 463L cargo pallet
- Firstly designed for Dassault Rafale Fighters
- Airlifting beneath on helicopter (underslung)
- Already used on Lockeed Martin F16, Dassault Rafale and Dassault Mirage 2000

SAFETY FEATURES

- High-low pressure refrigerant
- Compressor overheating (KRIWAN)
- Oil level/temperature
- Air outlet overpressure
- Compressor Overload
- Phase rotation

CONSTRUCTION

- Galvanized frame
- Steel canopy
- Brakes applied when tow-bar is raised or lowered
- Stanag 3548 tie down points
- Stanag 4101 towing eye
- Fork lift pockets