

Jet COOLER® Packaged Unit

UNIC sal is equipped to produce a wide range of **COOLER®** Air conditioning and Refrigeration units, conforming to the international standards and works continually to improve its products and facility. As a result, the design and specifications of each product at the time of order may be changed without notice and may not be described herein. Please contact our customer department for specific information on the current design.

Consultancy & Design Our Engineering Dep't is always available to solve special requirements, investigating the client situation and using the most sophisticated available tools. The knowledge and the precious experience of our Engineers is supported by the most advanced computerized calculations and design programs.

Revision AG 16-07



Jet COOLER® Mobile Air-cooled Packaged Units

Jet COOLER® Air-cooled Packaged Units are designed for Stand-by Take-off Aircraft Air conditioning applications.

The Jet Cooler series air conditioners are available in a wide range of capacity:

60, 120 and 180 Refrigeration Tons (720, 1,440 and 2,160 MBtu/hr) at 50 or 60 Hz, both in Cooling & Heat Pump Models.

Jet COOLER® Units are built with the industry's most reputable components, are completely factory assembled and tested, wired and made ready for immediate field operation.

All what is required on field is to connect Air-Hoses to the Aircraft and start up the Unit.

FEATURES

Units are designed for low-bed trailer, and smaller units track assembled, with vertical self-cooling Air discharge over a wide range of ambient temperatures up to +50/60 °C, and Horizontal Conditioned Air Discharge directed to the Aircraft. All **Jet COOLER® Air-cooled Packaged Units** serie incorporate the following efficient power protection, and economic features: Heavy gauge galvanized steel net finished with weatherproof electrostatic powder coating. Units are equipped with easi , removable bolted access panels and locked doors, to facilitate maintenance

works inside the Units and easy access to the operational locked electric panel.

High efficiency semihermetic compressors, totally enclosed in an independent casing, which is fully insulated by neoprene-coated thread reinforced fiberglass panels. That decreases noise and prevents vibrations generation from Unit. All compressors are equipped with internal overload, High Voltage cut-out, high & low pressure cut-out switches, crankcase heaters, start time delay, phase-failure & de-icer.

Multiple compressors arrangement whether independently or in parallel, provides greater operating flexibility by allowing variation off capacity by partial operation of the Unit for Power-saving purpose. Modern high efficiency Fan assembly, with sicle type blades and pre-coated steel wire fan guards and sealed motors class IP-55 protection with self lubricated bearing class F winding. 1.25 mm thick galvanized steel non-corrosive condensate drain-pan, slightly slanted towards the trap of the condensate

pipe, to enhance condensate drainage and insulated with 10 mm thick polyurethane foam. Double power connections and fully insulated control panel, with an easy access by locked doors, to facilitate power and control wiring, instruments and components control.

SPECIFICATIONS:

Jet COOLER® Air-cooled Packaged Units shall be delivered ready to use, assembled on suitable Truck or Low-bed-trailer, connected to his own Diesel Electric Generator and a Fuel Tank, and with alternative direct plug-in connection to Main Electric board from external electric power supply.

Trucks available are: Mercedes, Iveco, Renault, Scania, or any model to satisfy the client requirements.

Generators available: Volvo-Penta, Perkins, Deutz, MV, or any model to satisfy the client requirements.

Optional one year suggested spare-parts-kit, shall be provided for Jet COOLER, Generator and Truck.

Optionally, the Jet COOLER, Truck and Trailer shall be painted with Airport Company Colors and Flags.

The complete Jet COOLER Mobile Unit shall bear Running, Service, Operating and Emergency Lights.

Optionally Radio Equipment shall be installed (or scheduled space), to satisfy special client requirement.

The Main Electric board is including all operational control monitoring instruments, lights and buzzers, all active switches and push-buttons for:

Start/stop and Amp-Volt-RPM controls of the Diesel Electric Generator and Fuel Tank Level & Alarm.

Start/stop the Jet COOLER Air-cooled Packaged Units, with Air Temperature Set and Display,

Compressor's monitoring running / stand-by, Cooling / Heating switches and lights.

CASING:

Jet COOLER® Air-cooled Packaged Units casing is made of heavy gauge galvanized steel, with exterior surfaces electro-static oven backed weatherproof powder coating. Cabinets are painted with light gray color or any color suitable to the Client. Units are equipped with protection fan guards and easily removable or hinged access doors to facilitate maintenance and operability of the Units. Panels are internally insulated with 25 mm thick, 40 kg/m³ neoprene coated thread reinforced fiberglass panels.



COMPRESSOR:

All units have high efficiency COPELAND semi hermetic compressors for all models. Compressors are equipped with an internal safety thermostat, high & low voltage cut-out, high and low pressure cut-out switches, time delay relays, phase failure and de-icer. Compressors are imported from USA or Germany.

FILTERS:

Jet COOLER® Air-cooled Packaged Units are equipped with 2" thick permanent cleanable wowed aluminum flat panel air-filters or disposable paper filter, with an easy side sliding access, and disposable bags filters with easy side access door.

ELECTRIC HEATER:

All units can be equipped with electric heater on request.

MULTIPLE COMPRESSORS

Multiple compressors in packaged units are state of the art products, featuring the most advanced technology, a break through in performance, flexibility, and reliability. Provided in multiple refrigerant gas circuits. Units have a Multi Steps Compressor's start up, imposing much less Power requirement due to major reduction in locked rotor current over a single compressor units, allowing them to start one at a time specially on weak electric power supply.

CONDENSING & EVAPORATING COILS:

9.52 mm OD finned coils, permitting heat exchange between Air and Refrigerant fluid, are manufactured using the most advanced technology productions systems. The finned block is made of mechanically expanded copper tubes on continuous aluminum fins equipped with collars. Perfect and uniform spacing, is achieved by the collars, plus perfect contact and minimum resistance to heat flow between fins and tubes. Aluminum Fins are Pre-coated to stand the most aggressive ambient pollutants. All Coils have fins pressed with a special undulating surface. This increases the strength of the fins and creates a controlled turbulence in the airflow that increases the air-fin heat transfer coefficient.

Condenser coils and Evaporator coils are flushed and leak tested at a pressure of 28 kg/cm² and filled with Freon R-134a. Operational test is performed after final assembling. Coils are imported from major international certified suppliers from Italy and France.

FAN MOTOR ASSEMBLY:

Condenser's Fans are of high efficiency, propellers are made of sickle shaped blades, which considerably reduce air-flow turbulence, which is usually located around the blades inlet and outlet borders, offering low noise level and high aerolic efficiency. All fans are imported from UL or EC listed supplier from USA or Europe.

Evaporator's Blowers are forward curved centrifugal type double inlet, made of galvanized steel, delivering an accurate airflow. All blowers are imported from EC listed supplier from Europe.

Motors are of the sealed type IP-55 protection, 3 phase, canopy, six poles, and class F winding insulation with internal thermal protection. All motors are imported from EC listed supplier from Germany.

All fan's driving components are mounted on rubber pad vibration isolators for maximum noise reduction.

CONTROL PANEL:

Jet COOLER® Air-cooled Packaged Units Series have control panel made of galvanized metal sheets and mounted inside the unit with locked hinged doors for servicing and operational purposes. Power and control wirings and terminal connections are on the same side of the unit, which facilitates wiring to external power supply.

The control panel incorporates the following features:

- Compressor and Fan's contactors.
- Circuit breakers for motors and compressors.
- Phase failure protection.
- Time delay relays.
- Condenser and Evaporators Fan-motor over-current protection.
- Compressor Low and High-pressure safety switches.
- Compressor oil failure safety switches.
- Multi step temperature controller for multiple compressors multi-circuit units.
- Power and control circuit terminal connections and fuses.
- De-icier for Heat pump models.
- Restart timer on all models with anti recycling protection for compressor.
- Suction accumulators on all heat pumps.
- Dual expansion valves, filters and magnetic check valves on heat pumps.
- Solenoid valve pump down system to trap refrigerant in to the receiver for compressors protection.

OTHER ACCESSORIES:

- Diesel Electric-Generator Start and Stop switches.
- 3-phases Ampermeter, 3-phases Voltmeter, RPM-meter.
- Fuel Tank Level & Low-Level Alarm.
- Running, Service, Operating and Emergency Lights switches.

Jet COOLER® Air-cooled Packaged Units is ready for use on field, assembled on Truck or Low-bed-trailer, complete of Diesel Electric Generator and a Fuel Tank. Dimensions are available on request.



QUALITY GUARANTEE

UNIC sal COOLER® guarantees contractual free maintenance, availability of all parts and components, and qualified field technicians to carry out the maintenance requirements.

UNIC sal Company is ISO 9001:2015, DQS-UL, IQNet and CE Certified.

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