EMO

OUTDOOR COOLING UNITS FOR DOOR OR WALL MOUNTING

Version 1

The new cooling EMO series is the manufacturers solution for the outdoor installations. Quick assembly, minimised maintenance and high reliability in the heavy ambient condition.

A wide power range
The range of powers available goes from 400 to 9400 W, covering the majority of applications for cooling electric enclosures in an extremely compact package.

Regulation and safety devices
The EMO cooling units are supplied with electromechanical thermostat as standard. This thermostat guarantee the maximun reliability also in extreme ambient conditions. The refrigeration circuit is protected by high and low self-reset safety pressure switches. An ON/OFF pressure switch with fixed setting drive the condenser fan.

Quick installation
Installation is very quick thanks to the simplicity of the holes to be drilled on the enclosure panel and to the fixing system, whose elements are all included in the cooling unit packaging. They all lend themselves to easy and safe electrical connection by means of rapid connectors which are inserted into the back of the unit.

Ideal enclosure cooling
Internal enclosure air is sucked up from the top of it, cooled inside the cooling unit and let back into the enclosure with a high-speed flow aimed towards the bottom. This ensures optimum cooling of the whole panel and puts a stop to any hot points of the electronic components protected by the cooling unit.

Minimised maintenance
All the cooling units feature heat exchange surfaces designed to prevent clogging by solid contaminants in the ambient air. The condenser heat exchangers are protected by Cataphoresis treatment that prevent the corrosion and the dirtiness. They maintain high efficiency even when the environmental conditions are bad, thus reducing maintenance work drastically meaning that the cooling unit can work without a filter on the external air intake.

Optimum enclosure protection
Thanks to the special internal configuration that keeps the flow of outside air separate and sealed form the inside air, and to the self-adhesive coupling seal, the EMO cooling unit allow the enclosure to maintain an IP54 protection level.

Safe guarding the environment
Great attention is paid to limiting the noise level, being one of the most important criteria when designing the EMO cooling units. They are, in fact, designed to minimise disturbance caused by noise to ensure a quiet working place. To protect the environment the cooling units use the CFC-free, ozone-friendly refrigerants R134a or R407C.

Supply voltage
The EMO cooling units are available for the main AC supply voltage: 230 V single-phase, 400-440 V two-phase (in the case of voltage between lines when there is no neutral), 115 V single-phase and 400 V three-phase, all bifrequency 50-60 Hz; 400 V and 460 V three-phase, monofrequency (50 or 60 Hz). On request and for substantial quantities they can also be available with other voltages not given in the catalogue.

Frame and painting
The frame is build in painted sheet metal. Epoxy powder paint is used. RAL 7035 orange peel effect is the standard colour. On request other colours are available as well as stainless steel versions. The electrical connections are protected by the rubber covers.

Temperature range
The EMO cooling units must be operate in ambient temperature range from -20 to +55 °C. The internal enclosure temperature must be regulate between +20 and +46 °C (the cooling unit is factory setted at +35 °C).

Optional
The EMO cooling units can be equipped with the following optionals:

- stainless steel frame
- 48 VDC evaporator fan (separate power supply)
- front frame closing with anti vandalism screw
- high temperature alarm
- high and low pressur common alarm

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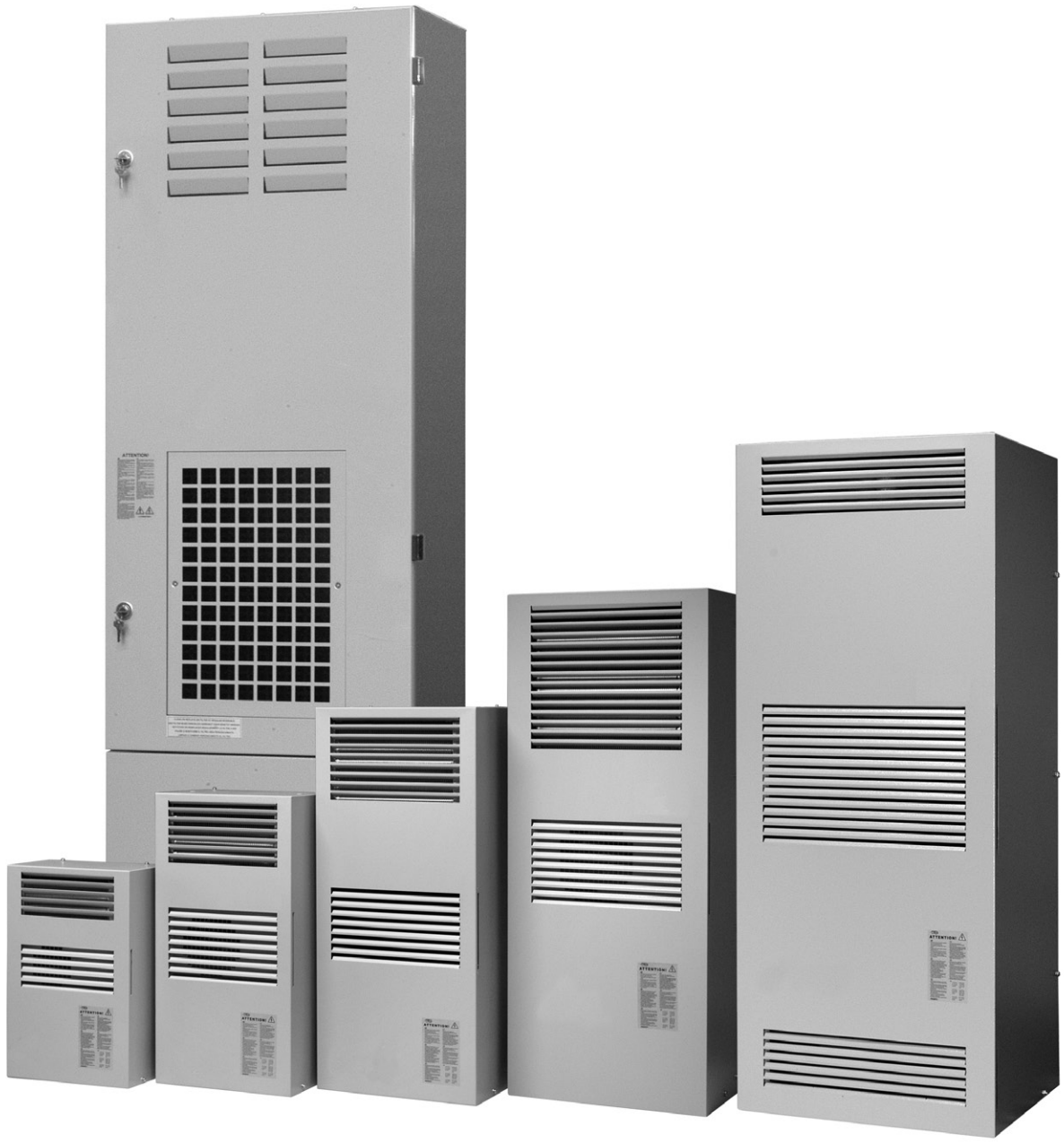
Cooling capacity **400 - 10000 W**



Application tips

- When choosing the cooling unit maintain a safety margin of at least 10 % on the rated power considering the most difficult conditions it will have to work in.
- Seal the enclosure well. Slits and openings will cause the cooling unit's capacity to drop considerably and excessive condensate to form.
- Install the cooling unit on a door or wall but always as high up as possible so that the air is taken from the top of the enclosure where very hot air is created.
- The cooling unit is factory set at 35 °C which is the optimum temperature for the majority of applications. Unless it is strictly necessary, do not reduce the temperature as it would diminish the efficiency of the cooling unit and cause an excessive production of condensate.
- Arrange the electronic components inside the enclosure in such a way to facilitate the flow of air. Do not obstruct the air inlet or outlet with components installed too close. Any components that have their own internal ventilation must have the flow aimed so as not hinder the cooling unit air flow.
- Switch the cooling unit off if the enclosure doors are opened. This is to prevent an excessive production of condensate. To this end, install a limit switch on the door.
- The line supplying electricity to the cooling unit must be protected with a delayed fuse or a circuit breaker suitably rated according to the unit's technical data.