



ECOOLER

REFRION
a better innovation

MAIN COMPONENTS OVERVIEW

COOLING CAPACITY
Up to 3000 kW*

NUMBER OF FANS
4-20

FAN DIAMETER
800-1250 mm

AIR FLOW
Up to 450.000 m³/h

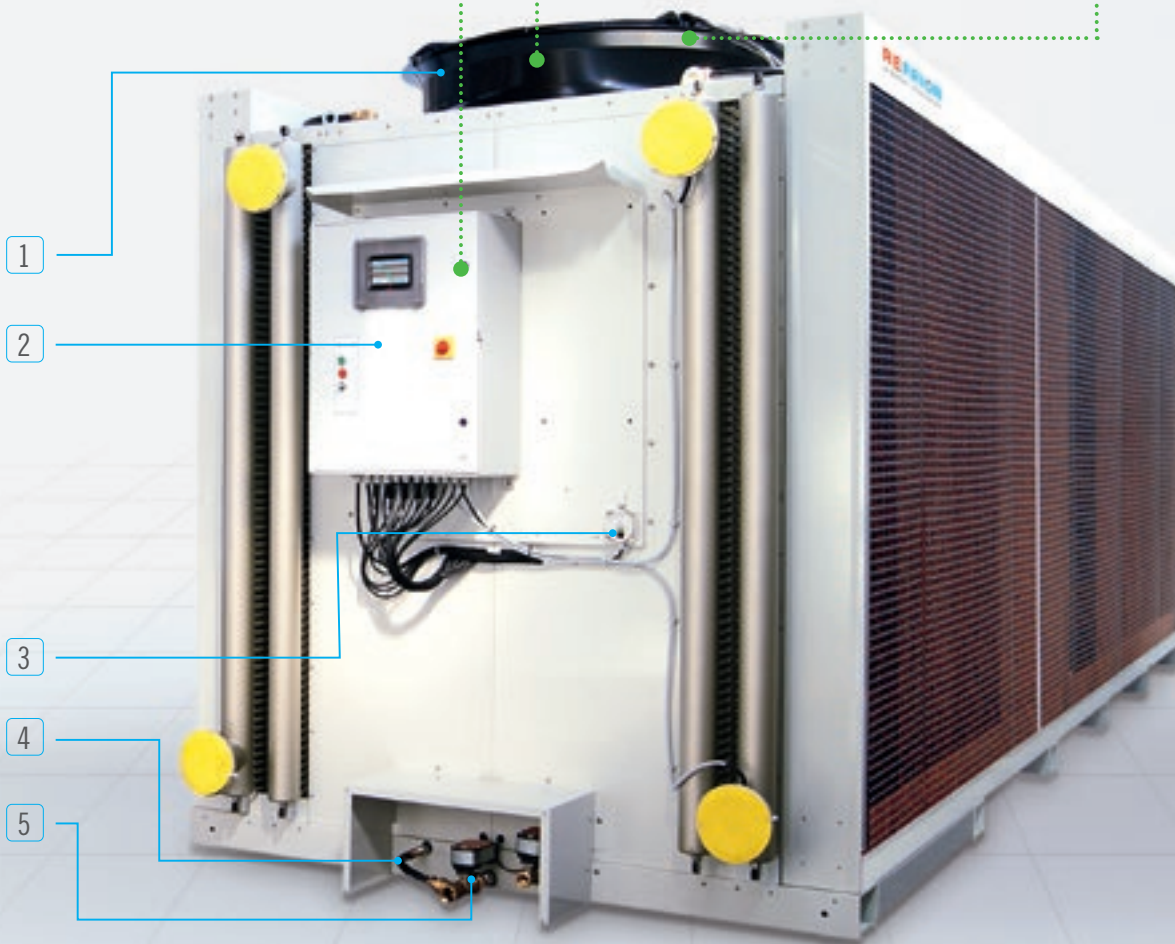
* Standard conditions EN1048

ECOOLER

Full connectivity

Minimised sound levels

Minimised energy consumption



DEVICES

1. EC fans
2. Main electrical panel
3. Humidity and temperature transducer
4. Feed actuated valve
5. Discharge actuated valve

ECOOLER: THE ECO-FRIENDLY ADIABATIC PRODUCT RANGE

Units designed to meet the increasing demand for free-cooling applications, they optimise the benefits coming from the adiabatic saturation of the air adopting a water recirculation system and electronically commutated fans. The water and power consumption are thus minimised, resulting in Energy Ratio maximisation and the possibility to use "free-cooling" applications throughout all the year.

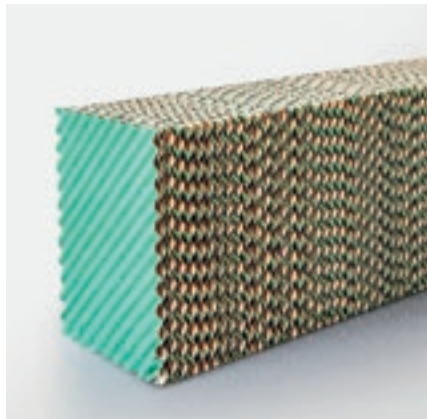


HIGHLIGHTS

HIGH EFFICIENCY EC FANS

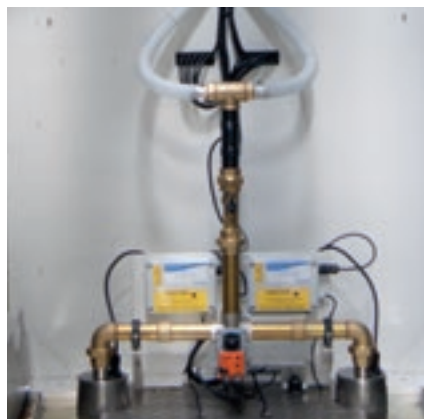
Compared to units equipped with standard EC fans, the high efficiency diffusers allow to:

- reduce the speed of the fans;
- reduce the sound level down to 3dB(A);
- reduce the energy consumption down to 15%; or
- increase the air flow up to 9%;
- increase the thermal exchange up to 8%.



EVAPORATIVE COOLING PADS

Panels made of pure cellulose imbued with resins and biocide and antibacterial agents.



RECIRCULATION PUMP

Submersible centrifugal pumps in stainless steel material. Enclosure class: IP 68



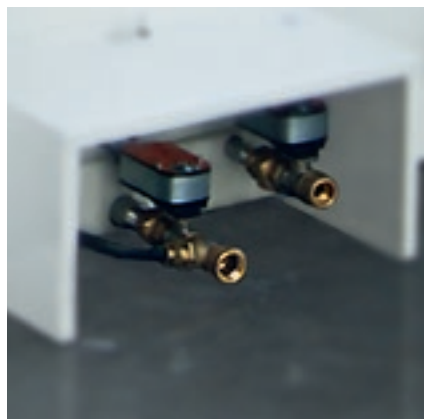
MAINTENANCE DOOR

Full access to the inside of the unit protected by security switch.



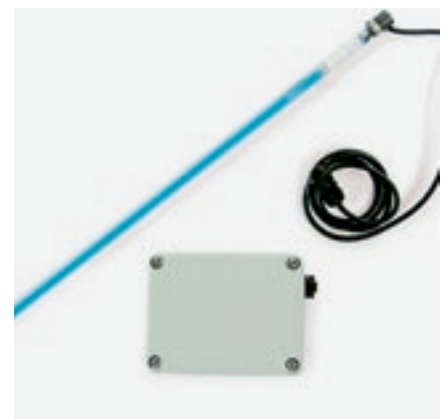
INSPECTIONABLE TOP GUTTER

Complete inspection possibility of the recirculation circuit for easy maintenance.



FEED/DISCHARGE ACTUATED VALVES

IP54, maintenance free approvals: CE, UL, CSA.

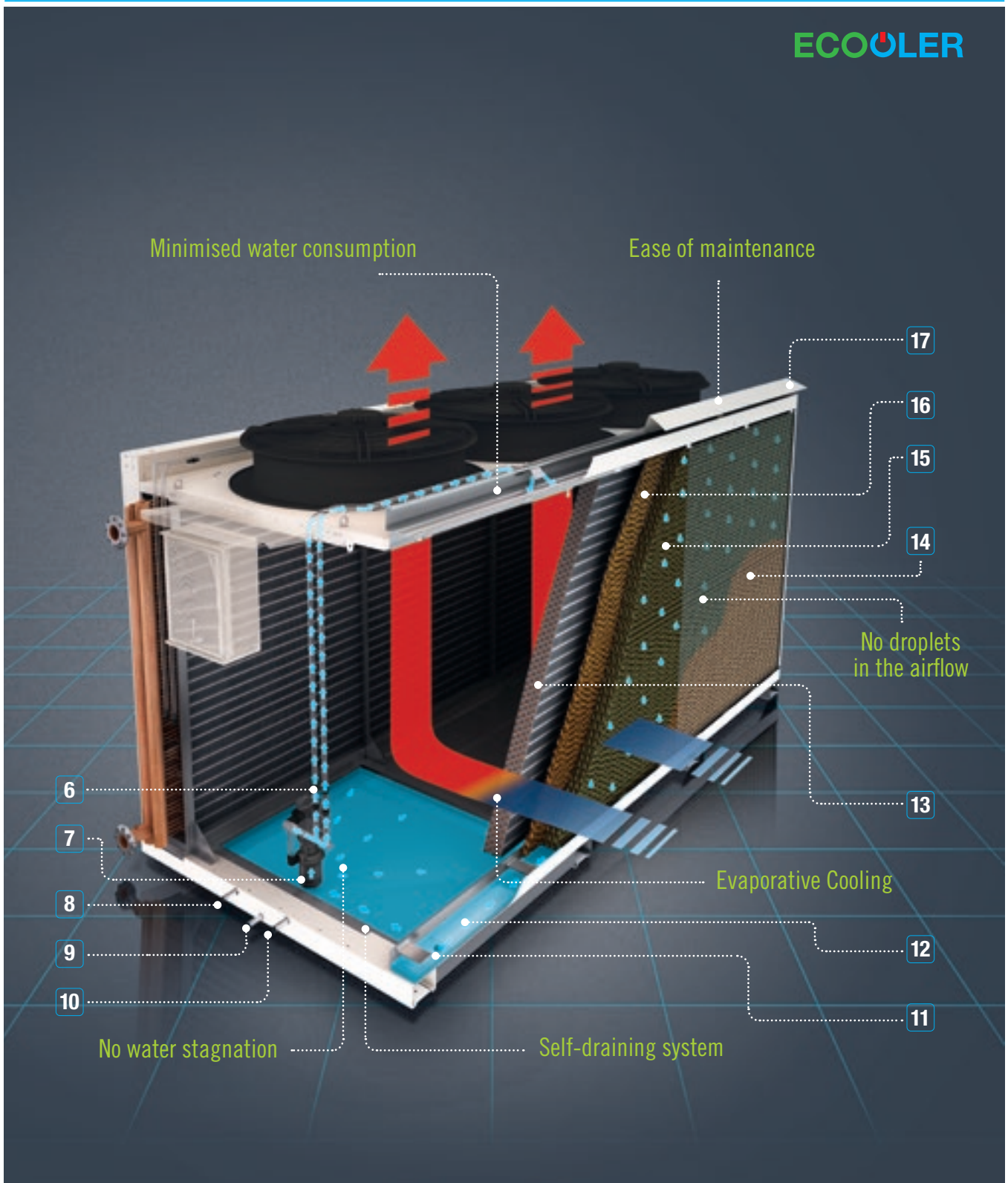


ULTRAVIOLET LAMP

It allows the complete water sterilization of the adiabatic system by means of a lamp that emits doses of UV radiations that are lethal to pathogens (including the Legionella bacteria).

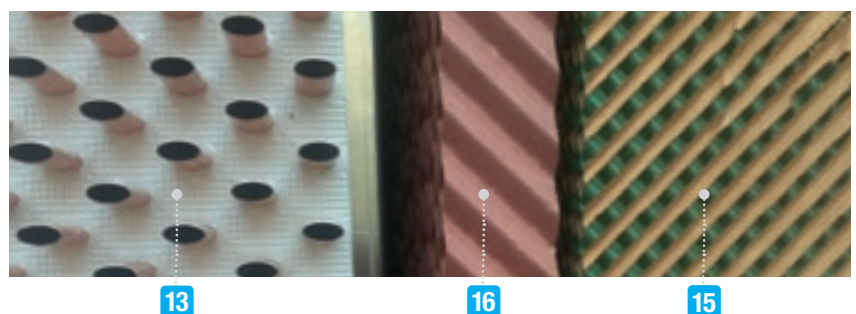
RECIRCULATION SYSTEM

ECOOLER

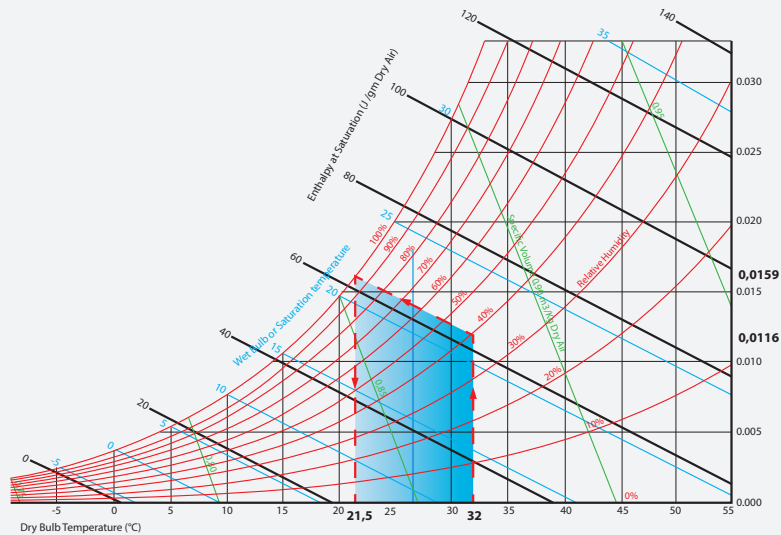


COMPONENTS

- 6. Water distribution pipes
- 7. Recirculation pump
- 8. Overflow
- 9. Drain
- 10. Make-up water
- 11. Self-draining drip
- 12. Water basin
- 13. Heat exchanger
- 14. Protection grids
- 15. Evaporative cooling pad
- 16. Droplet separator
- 17. Inspectionable top gutter



EVAPORATIVE COOLING



Due to the adiabatic saturation made possible by the Industrial Adiabatic System, the Refrion design model provides an increase in relative humidity of $\Delta R.H. = +60\%$ up to a maximum of $R.H. = 99\%$.

BENEFITS

PLUS

- + ENHANCED HEAT EXCHANGE CAPACITY
- + FULL CONNECTIVITY
- + MINIMISED SOUND LEVELS
- + EASE OF MAINTENANCE

DECREASED OPERATING COSTS

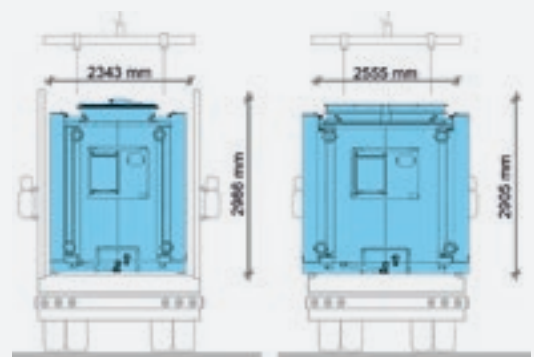
- MINIMISED WATER CONSUMPTION
- NO NEED FOR WATER TREATMENT
- MINIMISED ENERGY CONSUMPTION

NO BACTERIAL PROLIFERATION

- + SELF DRAINING SYSTEM
- NO DROPLETS IN THE AIRFLOW
- NO WATER STAGNATION

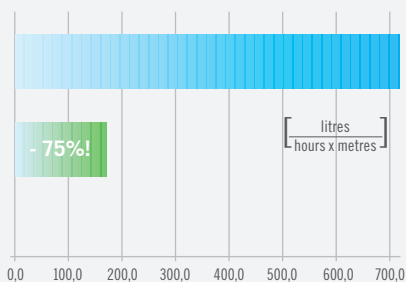
REDUCED INSTALLATION COSTS

- + SUITABLE FOR TRUCK TRANSPORT
- REDUCED WEIGHTS AND FOOTPRINT
- NO NEED FOR FINAL ASSEMBLY ON SITE

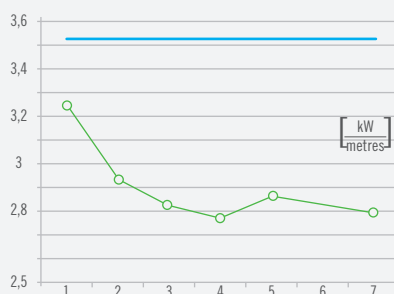


SAVING

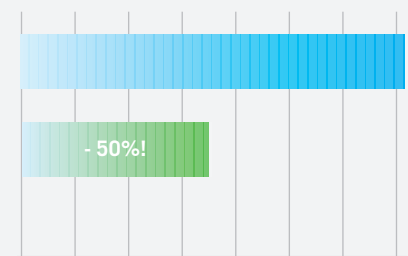
SPECIFIC WATER CONSUMPTION



SPECIFIC ELECTRICAL POWER CONSUMPTION

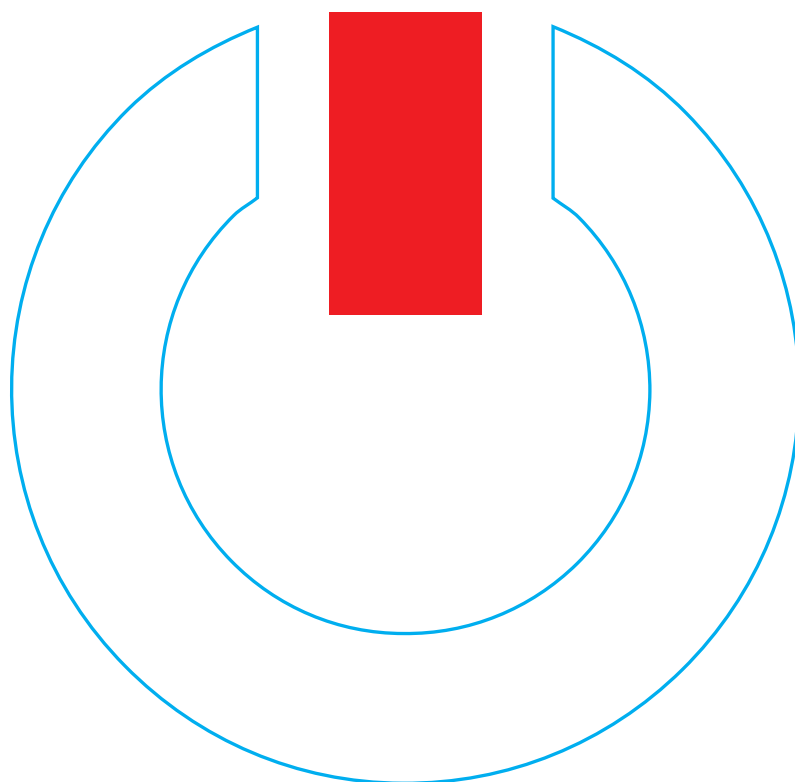


FREIGHT COSTS



■ SUPER JUMBO + INDUSTRIAL ADIABATIC SYSTEM (WITHOUT RECIRCULATION SYSTEM)

■ ECOOLER



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