



Range : water flow rate from 10 to 250 m³/h
Evacuated power : 50 to 3 000 kW

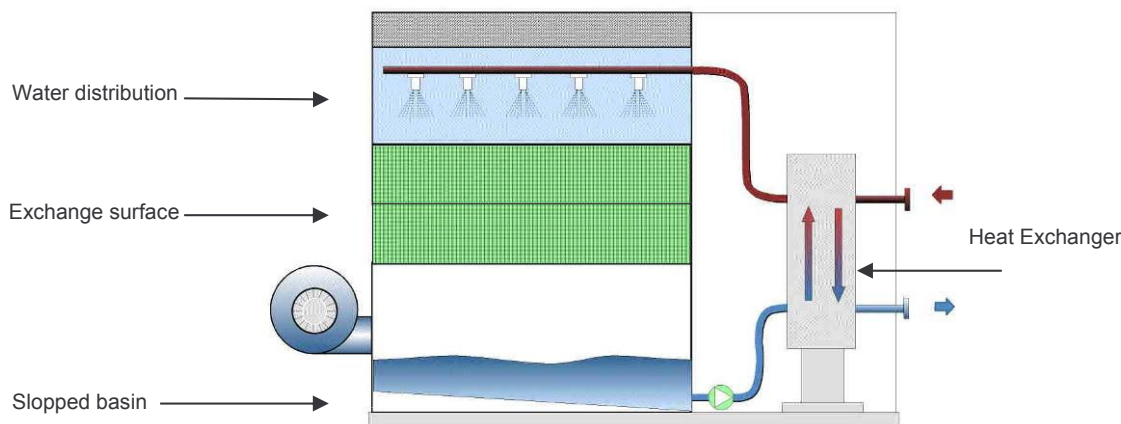
CRF Series

Closed Type Cooling Towers

Modular closed type cooling towers : **CRF** series

Innovative Technology

Thanks to its long experience, **JACIR - AIR TRAITEMENT** is proud to propose the most reliable technology for monobloc closed type cooling towers : combination of highly efficient exchange surface water / air made of high density polyethylene, with a stainless steel plate heat exchanger.



Lasting performance

Designed for long lasting efficiency even in drastic operation and maintenance conditions, the CRF cooling tower, after cleaning, still provides the original design thermal and mechanical performances. Indeed, the exchange surface **COFINTER** is totally cleanable by elastical warping and high pressure spray. The access to the plate heat exchanger in stainless steel is quite easy, and its assembly / disassembly and cleaning very simple.

Antifreeze without glycol

The exchanger, outside the airflow, in a separate closed casing is freeze resistant. In the case of an electrical stop during freezing conditions, the secondary circuit is automatically drained by gravity, giving space for the dilatation of the freezing primary circuit. It is possible to operate the tower without glycol, so to improve the performances by 5 to 15 %. The integrated pump does not require any electrical antifreeze tracing.

Steel works

All the steel sheets for the casing are twice or 4 times folded on the four sides of the panels. This design secures very rigid panels, strong and exceptionally tight.

Materials

As standard, stainless steel plate heat exchanger, hot dip galvanised piping, PVC pipes, turbine pump in stainless steel or in cast iron, exchange surface in polyethylene vertical channels.

Anticorrosion protection - 2 possibilities :

- Stainless steel sheets (304L or 316L) for an extended life time, a better hygiene, and substantial water and water treatment savings.
- Galvanised steel sheets Z 275, rich zinc paint coated on the external side. All the folds are outwards, so that the internal sides are totally zinc coated. Note: sheets (except tower casing) can be coated before assembly, by baked polyester powder.

Environment protection

a) 3 sound attenuation levels :

- ✓ Standard attenuation : **IB**,
- ✓ Complete attenuation : **ICV** plus casing insulation : **ICVK**,
- ✓ **NR 30** attenuation (approx. 35dB (A) at m10).

b) Plume suppression coil :

JACIR – AIR TRAITEMENT design

(See option in hybrid tower documentation : **CRIM**)

- ✓ Plume reduction system,
- ✓ Plume suppression system,
- ✓ Water savings by 30% to 50% per year.

c) Basin : easy access and cleaning :

In order to avoid bacteria proliferation, there are no welds on areas in contact with the water. The basin is inclined for a complete drain. Large access doors are provided : 540 mm X 390 mm. All the utilities are located on the same panel : over flow, drain, make up, electrical heater... There is only one flange for connection per water inlet and outlet.

Acoustics and water savings

The fans are made by **JACIR – AIR TRAITEMENT**, and are permanently improved. The inlet cones, double inlets are generously designed. So the total pressure and the speed are quite low : very low sound design. The electrical consumption of the fan motors is therefore minimal. These fans are located inside the dry air flow, outside the basin, and are protected by a thick latex coating of 350 to 400 microns on each side.



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