

## CRF

Closed circuit cooling towers



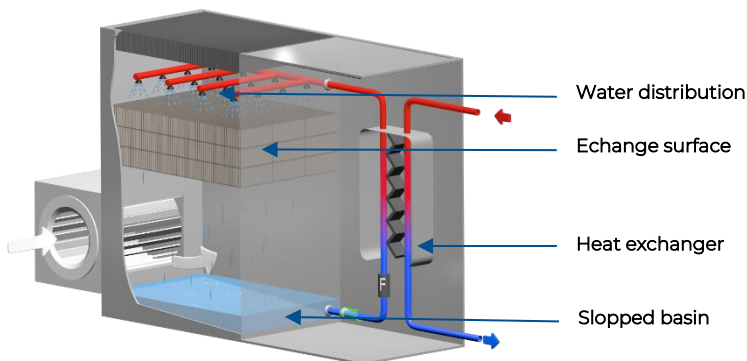
Range: water flow rate from 10 to 250m<sup>3</sup>/h  
Evacuated power: from 50 to 3 000kW

COMMERCIAL DOCUMENTATION

# Modular closed circuit cooling towers: CRF series

## Innovative technology

Thanks to its long-lasting experience, JACIR 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 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 CONFITER is totally cleanable by elastic 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.

## Environment protection

### 3 sound attenuation levels

- ∞ Standard attenuation IB,
- ∞ Complete attenuation ICV plus casing insulation ICVK,
- ∞ NR 30 attenuation (approx. 35dBA at 10m).

### Plume suppression coil

JACIR design (see option in hybrid documentation CRIM)

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

### Easy access and cleanable basin

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 x 390mm. All the utilities are located on the same panel: overflow, drain, make-up, electrical heater, etc. There is only one flange for connection per water inlet and outlet.

## Anticorrosion protection

Two possibilities:

- ∞ Stainless-steel sheets (304L or 316L) for an extended life time, a better hygiene, and substantial water and water treatment savings,
- ∞ Galvanized 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.

## Acoustics and water savings

The fans are made by JACIR, 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 fans is located inside the dry airflow, outside the basin and are protected by a thick latex coating of 350 to 400 microns on each side.