



Flow rates : from 70 to 570 m<sup>3</sup>/ h  
Cooling capacity : from 900 to 2700 kW

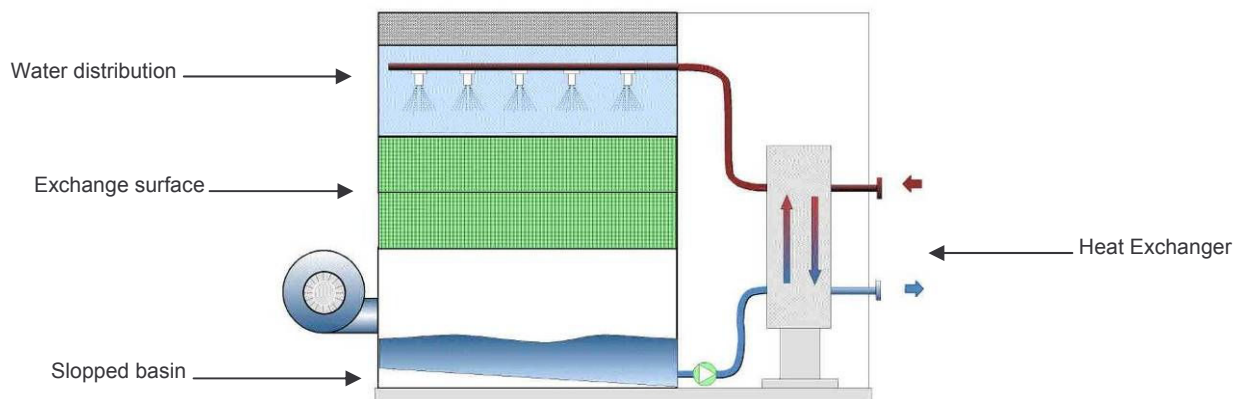
## KSF Series

**Closed circuit Cooling Towers  
Centrifugal fan**

# Closed type cooling towers : **KSF** Series

## Innovative Technology

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



## Lasting performance

Designed for long lasting efficiency, the **KSF** cooling tower provides the original design thermal and mechanical performances. Indeed, the exchange surface **FREEFILM** is made of vertical channels 12 and 20mm large, very resistant to fouling. The access to the plate heat exchanger in stainless steel is quite easy, and its assembly / disassembly for cleaning very simple.

## Non freezing 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. If the pipes connected to the tower are traced, the room is out freeze protected by conductivity.

## Water distribution

Water is distributed by polypropylene pipes, and by nozzles especially designed to achieve an optimal distribution through the whole air section. So the complete surface of the infill is watered. These nozzles operate under low pressure, in order to low pumping head and to distribute large size drops, which prevents the drift from getting out of the cooling tower.

## Tower casing

All the panels are folded twice or 4 times at the 4 sides of the panels. This design secures extremely rigid sheets which, once assembled, provide an unequalled sturdiness to our towers.

## Environment protection

Two levels of sound attenuation :

**IB** sound attenuation, without absorbed power increase.

**Special** sound attenuation : casing with baffles at both air inlet and outlet, with tower casing attenuation, according to sound level to reach.



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## Plumeless system: **JACIR - AIR TRAITEMENT** system (Option : see open circuit hybrid towers series **KSFIM**)

- ✓ Plume reduction system,
- ✓ Plume suppression system,
- ✓ 30% to 50% water savings.

## Anti-corrosion protection - 3 options :

- 275 gr / m<sup>2</sup> galvanized sheets coated outside with zined paint. All the sheets are folded onto the outside of the tower in order to ensure that the inside of the tower is completely protected by the zinc coating.
- Stainless steel sheets (304 L or 316 L)

## Accessible and cleanable basin

The basin is plane and inclined to secure a complete and clean drain. Large access doors are provided : 540 x 540mm. Finally, all the connections are located on the same panel (overflow, drain, make up water supply, electrical heater ...).

To avoid bacteriological growth, the assembly of the panels is made without any welds and without screws on the parts in contact with water.

## Acoustics and energy savings

Fans manufactured by **JACIR - Air Traitement** have continuously been perfected over the years. The large double inlet polyester cones made of polyester allow low total pressures and slow rotation speeds with very low sound level. This leads to a very low power consumption of the fan motors. The fans located in the dry air flow and outside the tower's basin, are protected against corrosion with a thick rubber based coating.

## Options

Automatic Deconcentration by Induction (Dai), frequency converter, support beams, level switch with electro valve, control panel, explosion proof motors, site erection...