

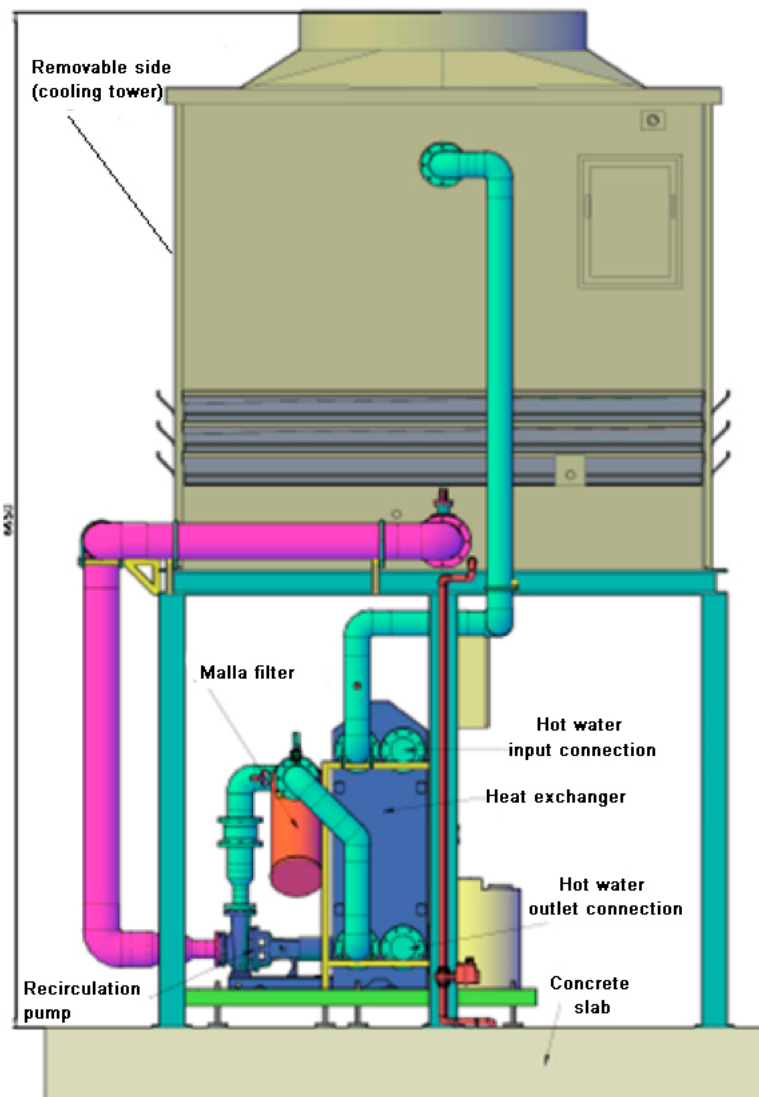
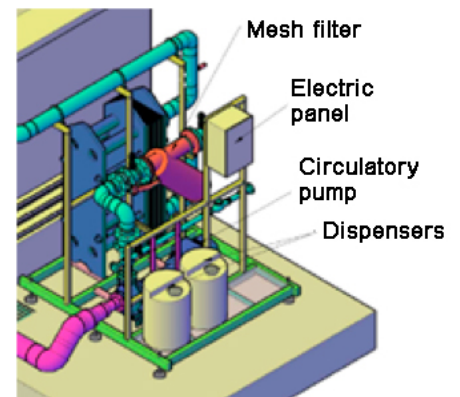
THE CHALLENGE

Kimitec, the largest biotechnology centre in Europe located in Vicar, Almeria needed to install a closed water circuit cooling system where the plate heat exchanger acts as a transmission element between the cooling tower circuit and the process circuit of its chemical synthesis plant. Kimitec reinvents agriculture, allowing food producers to produce more.



In this new plant, the aim was to integrate all the evaporative cooling units into a compact, modular system that would bring together as many units as possible in the smallest possible space.

The installation and design of the plant required a skid-type configuration where the different elements were incorporated onto a metal structure that could travel pre-assembled from the factory, thus minimising the work to be carried out on site.



THE SOLUTION

Different designs were contributed to the property and once the available space was evaluated, the one that integrates the cooling tower and the hydraulic skid on a vertical plane was chosen, as can be seen in the diagram.

The skid is composed of the following elements:

- Pumping system
- Y-Filter
- Plate heat exchanger.
- Chemical dosing equipment.
- Control panel.

All mounted on a stainless steel frame which, together with the cooling tower made of fibreglass reinforced polyester, form a unit that ensures the durability of the installation in an aggressive environment close to the sea.

THE RESULT

The Skid or cooling station is designed as an integrated solution to facilitate the management of the cooling tower. This technical space can also constitute the support surface for the cooling equipment.

Water circulation is provided by a pumping system designed for use in cooling systems. This can be controlled by a frequency converter that ensures flexibility of use, adapted to thermal loads, resulting in significant energy savings, safety management and noise reduction. The use of monobloc centrifugal electric pumps, with direct motor-pump coupling, guarantees constant reliability.

The pumping system is equipped with:

- Single stage, non-self-priming, centrifugal volute pump with axial suction and radial discharge ports.
- Anti-vibration joint with butterfly seal, valves and pressure gauge to control operation.
- Asynchronous fan-cooled motor.

The electrical and control panel is equipped with:

- Static starter for recirculation pump.
- Chemical dosage integration.
- Integration of conductivity purge.

Purging equipment is carried out by means of a motorized valve.

Large delivery and intake manifolds and the use of anti-vibration joints reduce flow turbulence to a minimum

The station also has electrical services, such as automatic lighting and outlets.

The skid has been supplied assembled, inserted into the system and mounted on a solid metal base with adjustable feet for leveling.

CUSTOMER BENEFITS

- very high energy efficiency
- space optimization
- reduction in operating costs
- flexibility and adaptability to loads
- low maintenance
- quiet motor due to high switching frequency



kimatec group multinational andalusian company dedicated to research, development and industrial escalation of efficient, innovative, sustainable and affordable natural solutions aimed at transforming the current model of agriculture -based on chemical synthesis - and its negative impact on human health and the environment. Producer mainly of biopesticides, probiotics, prebiotics and biostimulants.

Created in 2017, it is experiencing strong growth thanks to biostimulant and probiotic products with which it is present in more than 90 countries. Almost 75% of its sales correspond to exports to Brazil, Latin America, USA and China where it has commercial delegations.

In 2015, as part of the H2020 programme, it developed the first biopesticide of botanical origin as effective as chemical synthesis products, consolidating its position as one of the leaders of change in the European Union's production system.

