

PlugN'Play cooling systems

In many cases, integrating a cooling tower with its complementary subsystems requires more planning and attention than does the specification of the cooling tower itself. Thus YWCT has devised an end-to-end solution to this problem: a skid-mounted PlugN'Play system that includes - in addition to cooling towers - complementary subsystems such as:

- Automatic/Manual filter
- Circulation pumps for open and closed water circuits
- Heat exchanger integration
- Water treatment and bleeding system
- Electrical and control panels
- VFD



What components
do you need on
your skid?
Consult with us

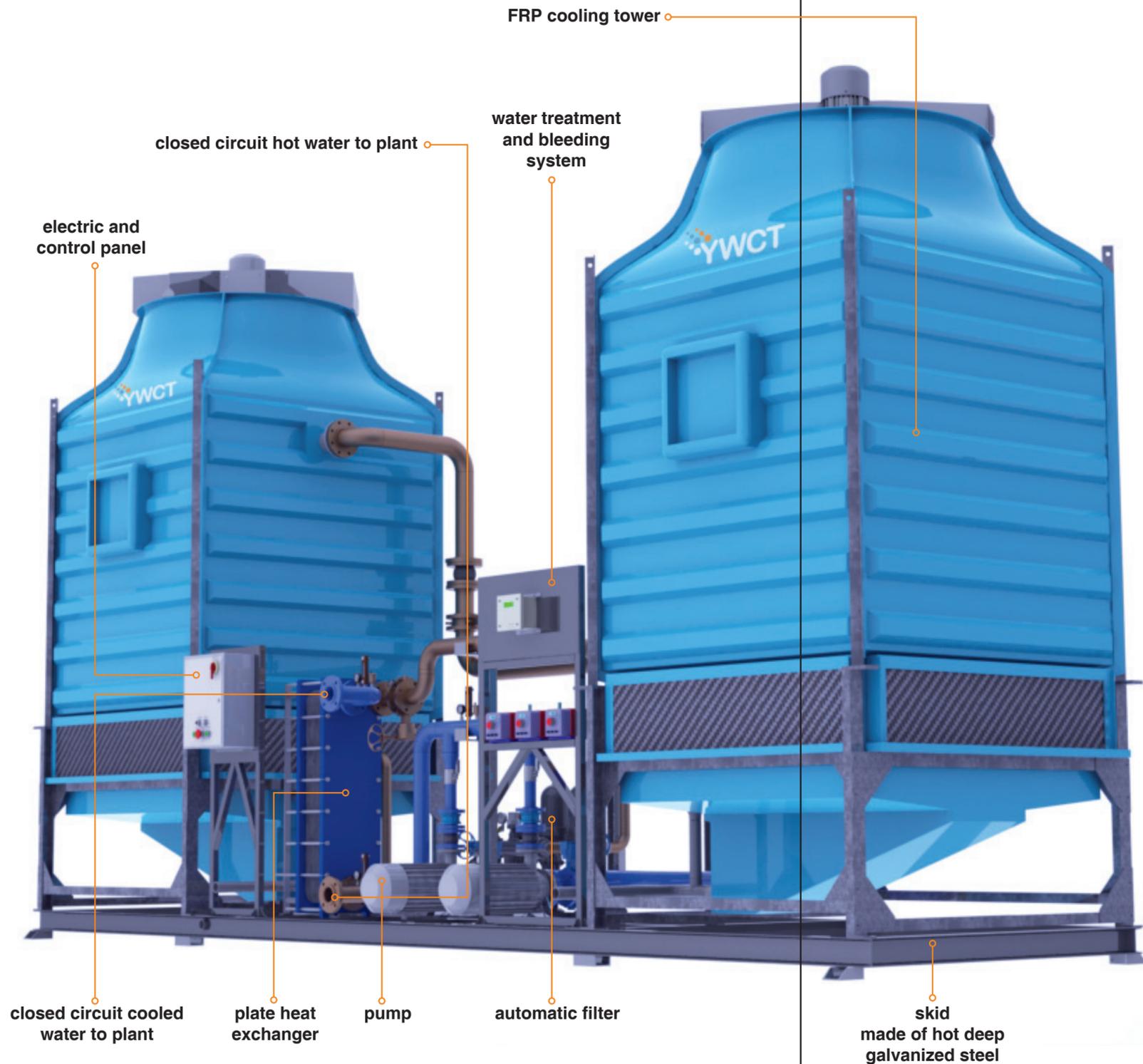
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PlugN'Play Cooling Systems





Skid-mounted Cooling Systems

In many cases, integrating a cooling tower with its complement subsystems requires more planning and attention than does the specification process of the cooling tower itself. Detecting a need in the market, YWCT marketing personnel have devised an end-to-end solution to this problem: a skid-mounted plugNplay system that includes in addition to cooling towers other components such as pumps, heat exchangers, automatic filters, water treatment and bleeding systems and electric and control panel. Furthermore, a standard skid is designed for shipping in ordinary containers to the required location. Our systems are based on the following components (or a combination thereof):

Cooling Tower

Our solution is based on one or two cells of YWCT's PIND cooling towers. PIND units are induced-draft counterflow cooling towers made of Fiberglass Reinforced Polyester (FRP). To ensure redundancy in case of need, the cells together with other components are skid-mounted as a single assembled unit. The capacity of such a single system is between 120,000kcal/hr to about 800,000kcal/hr (changing according to design condition). The tower itself is of a heavy-duty design. Its casing and basin are made of three layers of hand-laid FRP. The resin is a product of Reichhold, USA. The external layers of the FRP are UV topcoated. The internal infrastructure (to carry the fill) is made of stainless steel. All external metal parts are hot-dipped galvanized. The PVC fill, drift eliminators, and louvers are all products of Brentwood Industries, USA. In our PIND series, the fan is mounted directly on the shaft of the electrical motor. The blades of the axial fan (a product of Wingfan, Germany) are made of polypropylene. The electric motor (made by CMG, Australia) is designed to operate in humid environments.

Automatic Filter

The tower can be fitted with a fully automatic (Self cleaning) disc filter made by Arkal, Israel. The system includes two 2" - 4" parallel filters made of

polypropylene, and an electric controller that triggers the self-washing cycles based on several parameters. The flow rate of the filter is usually designed to be 10% of the total water flow. In most cases, we use a filter with a rating of 100 μ . The filter is located on a side stream of the cooling tower's main stream, using the main cooling tower circulating pump.

Water Treatment and Bleeding System

The cooling tower can be equipped with a water treatment and bleeding system. The water treatment system is able to cover three aspects: Corrosion, Scale and Biological; the solution is offered by most reputable water treatment companies. The equipment we offer, designated for water-cooling towers, is based on Walchem's controller and metering pumps. The system is installed over a stainless steel rack.

Circulating Pumps

As part of the cooling system, we can supply you with circulating pumps (manufactured by Pentax, Italy). Pentax's CM series are single-impeller centrifugal pumps, extremely silent, suitable for industrial applications, with a very flat curve to guarantee constant pressure. We recommend choosing two pumps operating in tandem, with an option of a third pump as backup to ensure redundancy.

Heat Exchangers

One of the components that can be provided as part of the cooling system is a heat exchanger. The heat exchanger may be used for a second closed-circuit water system, or for any other fluid used in the production process. While heat exchangers increase the cost of the system, they also protect the end user, since the water in the closed loop does not have any contact with the open air. YWCT can offer either a copper heat exchanger, which is installed inside the cooling tower, or a stainless steel plate heat exchanger (a product of Sondex, Denmark), which is installed outside the tower as one of the components on the skid.

Skid

The components are mounted rack on a chassis made of hot galvanized profiles coated with protective paint. The solution includes piping connecting all components, including non-return valves, pressure meters, thermometers, etc. The skid is designed to fit standard containers.

Electric and Control Panel

The system can be equipped with electric and control panel. The panel can be simple and include Start/Stop buttons and indication lamps or it can be complex and include PLC control system and VFD for the motor of the pumps and motor of the fans.