



## PlugN'Play Cooling Systems

# 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



# Skid-mounted Cooling Systems

In many cases, integrating a cooling tower with its complementary subsystems requires more planning and attention than does the specification process of the cooling tower itself. Detecting a need in the market, YWCT personnel have devised an end-to-end solution to this problem: a skid-mounted plugNplay system that includes in addition to cooling towers components such as pumps, heat exchangers, automatic filters, water treatment and bleeding systems, and electricity and control panels. 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, the cells, together with other components, are skid mounted as a single assembled unit.

The capacity of such a system is between 120,000 and 800,000 kcal / hr (varying 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 FRP layers are UV topcoated. The internal infrastructure (to carry the fill) is 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 electric motor. The blades of the axial fan are polypropylene. The motor is designed to operate in humid environments.

## Automatic Filter

The tower can be fitted with a fully automatic (self-cleaning) disc filter. The system includes two 2"- 4" parallel polypropylene filters and an electric controller that triggers the self-washing cycles based on several parameters. The filter's flow rate is usually designed to

equal 10% of total water flow. In most cases, we use a filter with a 100  $\mu$  rating. The filter is located on a side stream of the cooling tower's main stream, using the main cooling tower circulating pump. Various filters can be selected based on water quality parameters.

## 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 fouling - as offered by most reputable water treatment companies. The equipment we offer is designated for water cooling towers, and includes controller and metering pumps. The system is installed over a stainless steel rack.

## Circulating Pumps

As part of the cooling system, we can supply centrifugal circulating pumps that are extremely silent, suitable for industrial applications, and have a very flat curve to guarantee constant pressure. We recommend two pumps operating in tandem, with an option of a third as backup to ensure redundancy.

## Heat Exchangers

A component that can be provided as part of the cooling system is a heat exchanger. The heat exchange 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 make 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, which is installed outside the tower as one of the components on the skid.

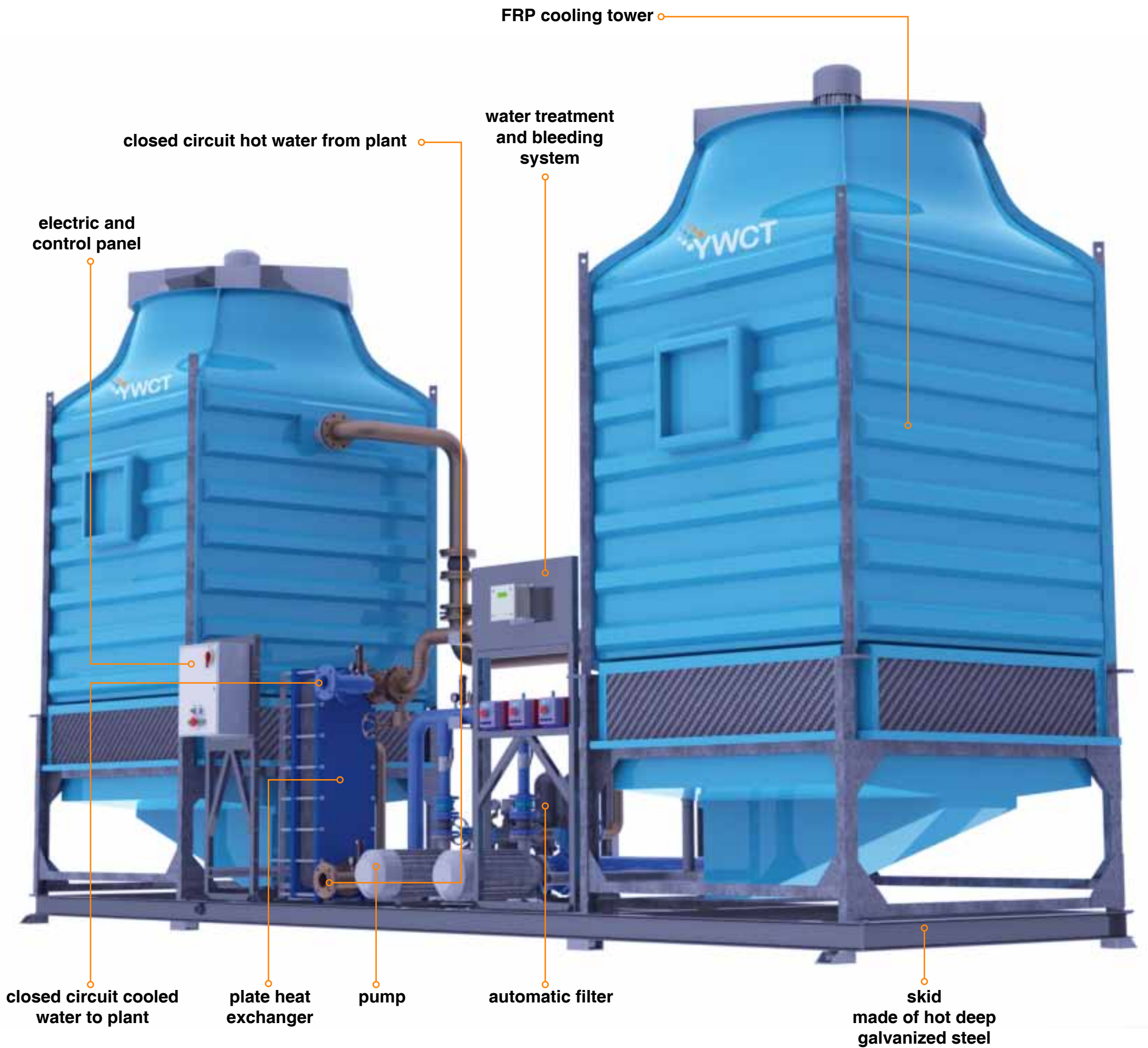
## Skid

The components are rack-mounted 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, and thermometers. The skid is designed to fit standard containers.

## Electric and Control Panel

The system can be equipped with electricity and control panels, which can be simple and include Start / Stop buttons and indicator lights, or complex and include PLC control systems and VFD for the pump and fan motors.





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

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about YWCT?  
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Custom Cooling Towers

