Customized Cooling Towers

When a non-standard solution is required

Want to learn more about YWCT?
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Custom Cooling Towers

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CHALLENGING PROBLEMS REQUIRE NON-STANDARD COOLING TOWERS

Allow us to offer you a non-standard solution.
YWCT specializes in tailor-made cooling towers that comply with any cooling challenge. Flexibility in production, diversified materials, and profound cooling towers know-how, enable us to help you devise the cooling tower as per your specific project's requirements.

CASE STUDIES

Super-low cooling tower in an underground parking lot

Challenge:
Cooling 200 m³/hr of condenser water in an HV/AC chiller positioned at a 2.5 m high underground parking lot of a bank in Lagos, Nigeria.

Solution:
A cross-flow, forced-draft cooling tower with a total height of 2.1m, made of galvanized steel and FRP, was designed and manufactured by YWCT. The tower was shipped in a standard container and installed successfully on site.

Cooling tower for hydro fluoric-saturated water

Challenge:
Cooling 8,000 m³/hr of water saturated with hydrofluoric (HF) acid, by-product of a manufacturing process at a chemical complex that produces fertilizers.

Solution:
A multi-cell, counterflow, forced-draft tower made of concrete was designed and built on site. Due to HF's acidity, the internal walls of each one of the 10mx10m cells were coated with protective rubber, and the internal structure was built of treated wood and HAST alloy hardware.

Skyscraper-embedded cooling tower

Challenge:
Cooling 3,000 m³/hr of chiller condenser water in an HV/AC system atop a 235-meter skyscraper.

Solution:
An 8-cell counterflow induced-draft cooling tower made of concrete was designed and built. The tower is embedded in the building's upper floor, with non-visible air outlets at the skyscraper's heliport level.

Retrofit of crossflow cooling tower

Challenge:
Replacement and capacity improvement of a crossflow cooling tower with 800 m³/hr capacity at an industrial gas manufacturing facility, using given floor space and under strict time limitations.

Solution:
A higher-capacity, counterflow induced-draft tower made of FRP was designed and manufactured. In a 24-hour operation, the old tower was piped-out and replaced with the new tower, reducing the plant's downtime to a minimum.

Super-quiet skyscraper crossflow cooling tower

Challenge:
Retrofit of a 2,000 m³/hr crossflow cooling tower atop a 120m skyscraper under strict space limitations and allowable sound level due to close proximity to a luxury residential complex planned on the building's top floor.

Solution:
YWCT uniquely designed a six-cell crossflow cooling tower with three basin levels and super-quiet fans. The tower was field constructed of pultruded FRP structure and FRP casing. VFDs were installed to regulate fans' operation and minimize sound levels.

Splash fill FRP cooling tower to fit an existing concrete basin

Challenge:
Cooling 1,250 m³/hr of low-quality water at a wastewater treatment plant of a steel mill in the Dominican Republic. Concrete water basins were already built when customer approached YWCT and requested a solution.

Solution:
YWCT designed and manufactured a tailor-made counterflow induced-draft 10-cell cooling tower made of FRP with splash-type fill. Stainless steel louver frames and HDG steel ladders were manufactured as well, and all parts were shipped in containers to be assembled on site by the customer.

Cooling system with two cooling circuits

Challenge:
A plastic bottles manufacturer in Romania asked for an end-to-end solution to cool water in a closed circuit as part of its manufacturing process. All components of the two cooling circuits were required, and space limitations were tight.

Solution:
YWCT designed and manufactured two skid-mounted cooling systems, each of which contained two FRP counterflow induced-draft cooling towers, stainless steel heat exchangers, piping, valves and all requiring instrumentation. These PlugN'Play systems were shipped in standard containers and were easily installed on site by the customer.