Cooling Tower Working Demonstrator - Acrylic

Model: 142-CT2

Bayport Technical's Cooling Tower Working Demonstrator (142-CT2) is a scaled, acrylic replica of a forced draft cooling tower used in oil refineries and petrochemical plants. This working demonstrator allows a full view of how water is filtered through the tower to cool it off and then return it the factory. This tabletop system includes a water basin and distribution system, heater assembly, pump, fan, splash bars, air intake louvers, draft eliminators, and temperature gauges.

What is a cooling tower?

Cooling towers are heat rejection devices that remove heat from water used to cool factory machinery and process and then return it to the factory as it cools down. Cooling towers are used in various industries and plants including oil refineries, petrochemical plants, coal-fired plants, chemical plants, thermal power stations, nuclear power stations, and industrial HVAC systems. There are two common types of cooling towers: forced draft, which uses an inlet axial fan on top of the tower to create low pressure, and induced draft, which uses an exhaust fan – either axial or centrifugal – at the base to cause overpressure.

How does a cooling tower work?

Equipment and processes in the plants listed above require an immense amount of energy to operate and in-turn will overheat unless properly cooled. These plants utilize water that circulates throughout the building as a cooling agent that absorbs the heat. Once the water is heated, it cycles into the cooling tower where it passes over a heat exchanged and then is distributed over the top of tower, which exposes it to the atmosphere and begins the cooling process. From there, the water is sprayed through a set of nozzles onto a series of banks (or "fill").

Spraying the water exposes as much water surface area to the air as possible and the banks slow the water flow by creating a trickle-down effect. The air flow is provided by an electric motor-driven fan that’s pulling air into the tower.

Efficiency and Environmental Advantages

Cooling towers also provide great environmental advantages, as well as efficiency that reduce energy costs. Cooling towers have replaced the outdated OTC method. Instead of drawing water from a natural source and then feeding it back once it's heated up, the cooling tower recirculates the water and releases the heat into the atmosphere.

FEATURES & SPECIFICATIONS Includes:

- Water Basin with Distribution System
- Pump
- Fan
- Heater Assembly
- Splash Bars
- Air Intake Louvers
- Draft Eliminators
- Temperature Gauges

PRODUCT DIMENSIONS Approximate overall dimensions; 40”L x 24”W x 30”H

UTILITIES Operates on 120 VAC-60 HZ

Address

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