



# **TWI** **SERIES COOLING TOWER**

**300, 400, 500 & 600 CLASS**

**Heavy Duty Crossflow Splash Filled Type**



• DIRTY WATER • HIGH TEMPERATURE • DURABILITY



Member

## TWI SERIES FEATURES

TWI Series Industrial Cooling Towers are specifically designed for heavy duty industrial and process applications.

**TRUWATER** cooling towers are manufactured under very rigid quality control. We monitor very closely all components and workmanship during each step of fabrication and assembly. Proven techniques and highest quality components are used throughout the manufacturing process to ensure optimum thermal performance and maximum service life.

## Advantages

- **High performance**

Provides more wetted surface for uniform water distribution and high heat transfer rate.

- **Dependability**

Very durable tropical hardwood or FRP Pultruded tower body and heavy duty fan machinery ensure NO equipment downtime and production delays.

- **Operation economy**

Fan machinery and heat exchange media are optimised to deliver maximum horsepower for lower operation cost.

**TRUWATER**<sup>TM</sup>



:: Felda Lahat Datu, Biomass Cogeneration Plant.



:: Nestle Food Selangor, Food Processing Plant.



:: Megasteel Selangor, Furnace Cooling.



:: Southern Steel Penang, Direct Cooling.



:: Universal Cable Johore, High Temperature Service.



:: Cargill Selangor, Heat Exchanger Cooling.



:: Perwaja Steel Gurun Kedah, Steel Making Plant.



:: Felda Sabah, Physical Refinery Cooling Tower.



:: FPG Oleochemicals Kuantan, Process Cooling Tower.



:: Samsung Indonesia, Waste Water Treatment Plant.



:: ADM Cocoa Singapore, Contaminated Water.



:: MNI Pahang, Pulp & Paper Mill Water Treatment Plant.





*:: Component replacement*



*:: Performance testing*



*:: Structural repair*



*:: Reconstruction & Thermal upgrades*

## AFTER MARKET SERVICES

Truwater offers a full range of services to help you get the most from all your cooling towers.

Our capabilities include:

- Thermal upgrades
- Structural repair
- Performance testing
- Performance analysis
- Tower inspections
- Component replacement
- Mechanical equipment
- Construction supervision

We apply modern upgrading or retrofitting techniques to maximize the performance of your cooling tower. Our approach involves a step-by-step investigation; namely, pretesting of existing tower-physical inspection-thermal analysis-engineering-fabrication-construction and post-t-testing to determine the degree of improvement achieved.



# TWI SERIES CROSSFLOW COOLING TOWER SPECIFICATION

## 1.0 COOLING TOWER

Furnish and install an induced draft, crossflow, factory-fabricated, field assembly wood or FRP Pultruded cooling tower.

## 2.0 PERFORMANCE

Tower shall have capacity to cool \_\_\_m/hr from \_\_\_ C to \_\_\_ C at a design entering wet bulb temperature of \_\_\_ C.

## 3.0 FRAMEWORK

Structural framework shall be tropical hardwood or FRP Pultruded Structure. All framework joints shall be through-bolted. Columns and diagonals will transmit wind loads to anchorage.

## 4.0 CASING, LOUVERS & FAN DECK

Casing and louvers shall be corrugated fibreglass reinforced polyester. Louvers shall be slip fit into the louver column. Fan deck shall be FRP Pultruded Structure.

## 5.0 FILL & ELIMINATORS

Fill splash bars shall consist of tropical hardwood or PVC extruded bars. Splash bar shall be supported in stainless steel grid support which are firmly attached to structural girt members. Drift eliminators shall be 2-pass design tropical hardwood blades slipfitted into the fibreglass reinforced polyester holders or 3-pass Cellular PVC design.

## 6.0 DISTRIBUTION SYSTEM

Hot water distribution basin floor shall be FRP moulded type. Equally sized and symmetrically spaced, removable and replaceable polypropylene target nozzle installed in the floors of the two open basins shall distribute water uniformly over the entire fill area. Adjustable flow control valves with cast iron bodies and locking bars shall be included to balance flow of water at each cell.



## 7.0 ACCESS & SAFETY

Access ladder shall be provided to give safe access to the fan deck. Access door shall be provided for access to eliminator plenum. A FRP Pultruded handrail & kneerail shall be furnished around the entire fan deck perimeter. A hot dip galvanised steel fan guard shall be furnished over each fan cylinder.

## 10.0 HARDWARE & FINISH

All bolts, nuts and washers shall be hot dip galvanised steel. All steel components shall be hot dip galvanised after fabrication. Stainless steel hardware are available as options.

## 11.0 MECHANICAL EQUIPMENT

Each tower cell shall be equipped with one propeller type axial flow fan with six or more cast aluminium blades. Each blade shall be adjustable and individually attached to cast iron hub. Fan drive shall be through right angle spiral bevel gear reducer. The motor driver and speed reducer shall be coupled through a full-floating driveshaft of stainless steel tubular design. Fan motor shall be not less \_\_\_kW, \_\_\_rpm, \_\_\_Phase / \_\_\_Hz \_\_\_volts. The motors must be designed and manufactured specifically for the cooling tower environment. A tapered fibreglass reinforced polyester fan cylinder shall be provided.

## 12.0 WORK BY OTHERS

Concrete basin and foundation, starting equipment, pumps, cabling and external pipings shall be supplied by other contractors.

TCT/C/004

**TRUWATER**

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