EC-S

PACKAGED COOLING TOWER

SINGLE-CELL UP TO 1700 HRT COOLING CAPACITY

TRUWATER®

High Performance Counterflow Type

ISO 9001 14001

CTI CERTIFIED

SINGAPORE GREEN BUILDING PRODUCT SGBC ✓ GOOD

✓ ENERGY CONSERVING

✓ SPACE SAVING ✓ DESIGN FLEXIBILITY

EC-S SERIES COOLING TOWER

SINGLE-CELL UP TO 1700 HRT COOLING CAPACITY

TRUWATER®

INTRODUCTION

EC-S Series is an induced draft counter-flow, film filled, multi-cell cooling tower designed for the cooling of industrial process and commercial air conditioning systems.

The EC-S Series Cooling Tower is designed to meet maximum performance and reliability with easy maintenance.

EC-S Series Cooling Towers are designed and provided with high quality drive systems (direct drive, v-belt or gear drive) with motors located on the fan deck for easy access.

The thermal performance of the EC-S Series is tested and certified annually by CTI in accordance with CTI Standard STD-201.

ADVANTAGES

Efficient Drift Eliminator
0.001% drift loss verified by authorized CTI Licensed Test Agency

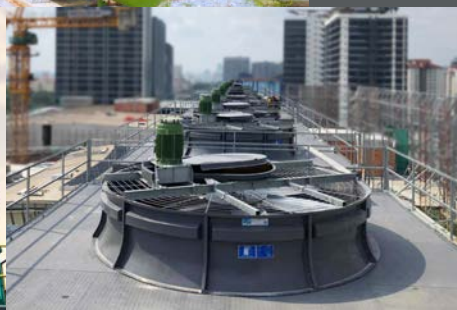
Reduced Pump Head
Wide orifice, high flow, and low pressure loss spray nozzles

High Performance Fill
Maximum thermal performance for reduced energy consumption

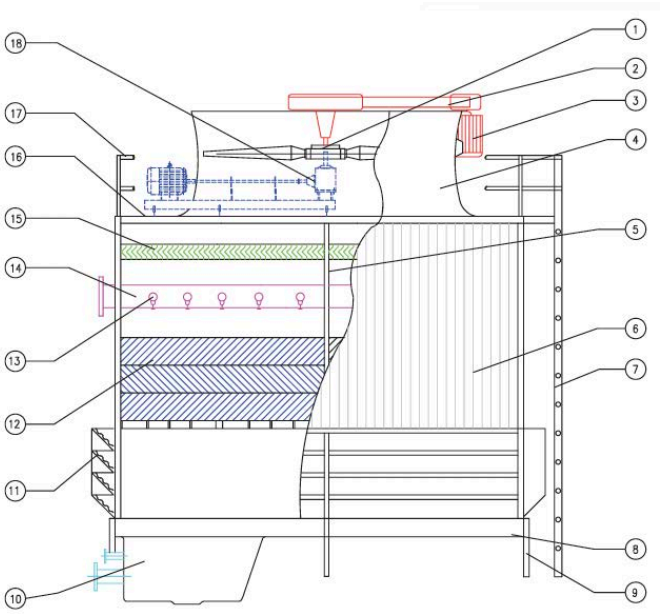
Simplified Piping Layout
Streamlined layout with flexibility for lower piping cost

Reliable Mechanical Drive System
Trouble-free operation

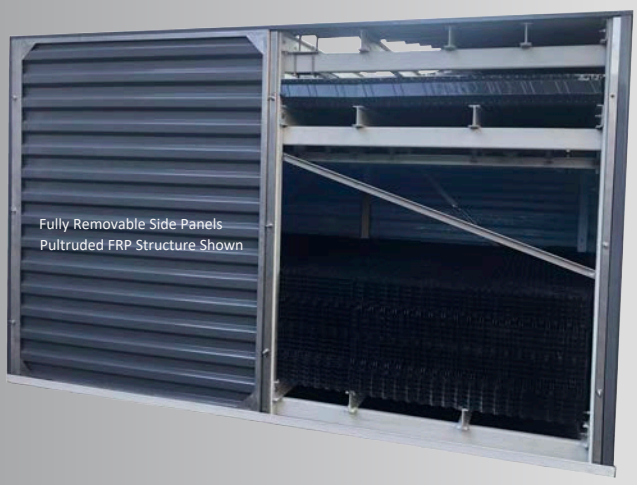
Safety Fan Deck Platform
Including ladders and handrails as per OSHA and/or AS-1657 Safety Standards.



FEATURES



No.	Description	Material
1	Fan Assembly	Aluminium Alloy
2	Mechanical Frame	HDG or SST
3	Fan Screen	HDG or SST
4	Fan Motor	Cooling Tower Duty
5	Fan Stack	FRP, HDG or SST
6	Internal Frame Structure	HDG, Pultruded FRP or SST
7	Casing Panels	FRP, HDG or SST
8	Access Ladder	FRP, HDG or SST
9	Cold Water Basin Floor	FRP
10	Cold Water Basin Frame	HDG or SST
11	Cold Water Depressed Sump	FRP
12	Air Inlet Louver	PVC
13	High Performance Fill	PVC
14	No-Clog Spray Nozzle	Polypropylene
15	Water Distribution Piping	PVC
16	AS3666 Drift Eliminator	PVC
17	Fan Deck Service Platform	Pultruded FRP, Checker Grip
18	Perimeter Handrails	HDG, Pultruded FRP or SST


Fully Removable Side Panels
Pultruded FRP Structure Shown

EC | F | 1111 | B | 4 - 1 | B | S | M

- EC-S Series
- Internal Structure
  - S – HDG Steel
  - F – Pultruded FRP
  - X – Stainless Steel
- Nominal Cell Size
- Motor Size
- No. of Air Intake
- Cells
- Drive
  - B – Belt
  - D – Direct
  - G – Gear
- Fan
  - S – Super Low Noise
  - U – Ultra Low Noise
- I – Bottom Inlet
- A – Additional Item
- M = Non-CTI Option


HDG or SST basin connections

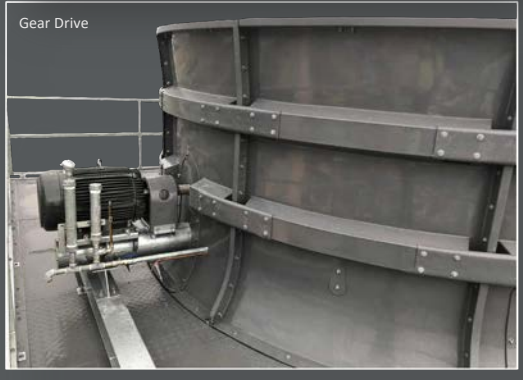

Easy Clean Basin


Direct Drive

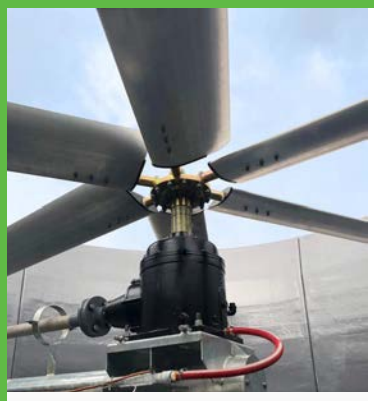
FEATURES

- Removable Side Panels.
- Removable Air Inlet Louvers.
- Full Access Easy-Clean Basin.
- Checkered-Grip Fan Deck.
- Full Perimeter Handrails.
- Local code compliance.
- OSHA, AS 1657, AS 3666
- Fan Drive Options
  - Direct Drive
  - Belt Drive
  - Gear Drive
- Materials
  - HDG, 304-316 SST, FRP


Belt Drive


Gear Drive

EC-S SERIES COOLING TOWER SPECIFICATION



TRUWATER®

1.0 GENERAL

The cooling tower shall be induced-draft vertical discharge type, counterflow, film filled primarily of Fiberglass construction. The cooling tower shall be designed with high efficiency drift eliminators to meet current environmental standards and guidelines for microbial control.

2.0 CAPACITY

The cooling tower shall be capable of providing the thermal performance indicated on the schedule.

3.0 PERFORMANCE WARRANTY

The rated capacity shall be certified by the Cooling Tower Institute (CTI). The cooling tower manufacturer shall guarantee that the tower supplied will meet the specified performance conditions when the tower is installed according to plans.

4.0 CONSTRUCTION

The cooling tower main frame structure shall be HDGS, Pultruded FRP or SST. The casing, louver and fan cylinder shall be made of Fiberglass Reinforced Polyester (FRP).

5.0 MECHANICAL EQUIPMENT

5.1 Fan(s) shall be propeller type, incorporating heavy duty blades of cast aluminum alloy. Blades should be individually adjustable.

5.2 V-belts shall be of rubber and pulleys shall be cast aluminum alloy with the grooves of standard dimensions. FRP Belt cover must be provided to protect V belts from moist discharge air.

5.3 Motor(s) shall be TEFC, weather-proof, squirrel cage, for 3 ph/50Hz/415V power supply and installed outside air stream.

5.4 The complete mechanical equipment assembly for each cell shall be supported by a rigid, welded, hot dipped galvanized steel structural support. Vibration limit switches must be installed to shut off the motor if excessive vibration occurs. The switch is located on the motor end of the mechanical equipment support outside he fan cylinder, so as not to be exposed directly to the discharge air stream and for ease of maintenance and access to reset.

6.0 FILLS, LOUVERS AND DRIFT ELIMINATORS

6.1 Fill shall be film type, rigid, corrugated PVC sheets that are conducive to cooling water with UV protected and self-extinguishing properties. Fill shall be cross-corrugated and the surface of the sheet shall have a suitable micro-structure to improve turbulence and water distribution. Fill sheets shall be bonded at all contact points. Fill shall be of alternate tip configuration to improve water drainage and minimize air pressure drop.

6.2 Drift Eliminators shall be assembled in easily removable modules. Drift Eliminator shall be 3 pass sinusoidal-shaped blade type. Proof of drift rate not exceeding 0.001% with test having been performed by a testing agency authorized by the Cooling Technology Institute.

7.0 HOT WATER DISTRIBUTION SYSTEM

Each cell of the tower shall be equipped with hot water distribution system. Header and lateral pipes shall be PVC. Nozzles shall be non-clogging, capable of passing objects up to 25mm in diameter. The spray must be designed such that the nozzle outlet is the lowest point in the system. The water inlet connection shall be located outside the tower casing. No rotating mechanical sprinkler system is allowed.

8.0 COLD WATER BASIN

The cold water basin shall be of FRP and supported on HDG Steel framework. The basin shall be designed with sufficient water capacity to avoid air entrainment in the outlet during operating conditions. FRP sump(s) shall be provided and equipped with suction strainer, make-up ball valve, overflow and drain. For multiple tower arrangement, equalizing pipes between basins shall be provided to maintain the same level of water in each basin.

9.0 ACCESS AND SAFETY

Service and maintenance platform must be constructed at the fan deck level to facilitate easy inspection & maintenance of the fan machinery. Inspection door and caged ladder shall also be provided. Louver panel shall be removable for access to the sump, make-up, overflow and suction strainer. HDG steel fan guard shall be provided over each fan cylinder.

...providing solutions to your cooling needs

Member

TRUWATER®

Truwater Cooling Towers Sdn Bhd (188113-A)
Executive Suite 702, Block B, Kelana Business Centre, No. 97, Jalan SS7/2,
Kelana Jaya, 47301 Petaling Jaya, Selangor, Malaysia
Tel. : +603 7880 8800 Fax : +603 7804 5519
E-mail : Tw.Cooling@truwater.com.my Website : www.truwater.com.my

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