TECHNICAL DESCRIPTION
"SULZER" COOLING TOWER EWB

The Cooling tower consists of:

Motor support

Hot dipped galvanized steel structure with wire guard on top.

Stainless steel execution available on request.

Fan

Statically balanced axial fan. Pitch of the aerodynamically profiled blades can be adjusted at standstill.

Blades: aluminium

Hub: hot-dipped galvanized mild steel (MS-HDG)

Fibreglass Reinforced Polyester (FRP) blades and stainless steel hubs available on request at additional cost.

The fan is mounted directly on to the output shaft of a gearbox, which is driven by a directly coupled - flange mounted shaft down electric motor - on top of the tower.

All motors can also be supplied in pole changing execution and for special voltage on request.

Water distribution system

Consisting of hot dipped galvanized steel pipes fitted with big throat conical spray nozzles in ABS material – maximum operating temperature is 80 ºC. These nozzles spray the water uniformly over the fill. Under normal operating conditions, clogging is impossible because of the strong twist effect.

Cooling tower housing

Consisting of hot dipped galvanized steel section frames, brackets and supports for the filling material and clad with FRP casing panels - UV resistant gel coat.

Frames, brackets and supports in MS-HDG, stainless steel on request at additional cost.

Casing panels and cell dividing panels in FRP - UV resistant gel coat.

Decking FRP non-skid surface - UV resistant flokote - marine grade.

Filling material –film type (standard cooling tower)

Manufactured as rigid honeycomb blocks (1200x300x300) and made from "corrugated" sheets in Polypropylene PP (or optional PVC) material. It is UV stabilized and contains a large heat exchange surface area of 243 m^2/m^3. In general the PP material can work up to a continuous maximum operating temperature of 80°C (PVC up to 55.0°C).

For higher operating temperatures, other plastic materials can also be used on request.

Alternative fill – BB 100 – "Splash Type" for very dirty water – with corresponding increase in cooling tower size (at additional cost)

Manufactured as helical tubes – joined into blocks (560x560x550 – weighing 7.0 kg per block) - and are made of inert polyethylene material. It is UV stabilized and contains a large heat exchange surface area of 100 m^2/m^3. In general the polyethylene material can work up to a continuous maximum operating temperature of 100.0°C.

Drift eliminator

Made of UV stabilized PVC sheet in honeycomb shape. It is used to prevent carry over of water droplets by air stream. The drift eliminator restricts water loss to less than 0.002% of the total water flow through the Cooling Tower in strict accordance to the Australian standard AS3666/2002.

Different plastic materials can also be used on request.

Fasteners

All fasteners are 304-grade stainless steel.

Ladder and top deck hand rail

Ladder is made of hot-dipped galvanized steel profiles and is equipped with back protection. Top deck hand rail is Webforge Monowills railing system - hot-dipped galvanized steel.

Aluminium execution is available on request.

Air inlet louvers

FRP or PVC UV stabilized - one-piece louvre per air inlet opening.

OPTIONAL ITEMS

Controls

One or two stage thermostat - regulates the fan speed according to the water temperature. The two stage thermostats are used in controlling pole-changing motors only.

This device is equipped with a switchover contact. Lower temperature has to be set by means of a control button. The switch difference is set on the differential roll. The upper response temperature is given by the lower response temperature plus the temperature differential. It is recommended that the switching of motors should not be more than 3 to 4 times in an hour.

Lower level switch (electric)

A conductive liquid level control device enabling dual point activation/deactivation of pumps, alarms and other monitoring and control equipment.

FRP water collecting basin

FRP Water Collecting Basin can be supplied if installation of cooling tower is not foreseen to be on top of concrete basins.

Foundation

Shall be designed in accordance with Superchill Australia Pty Ltd recommendation.

Dimensions - See attached sheet.

Colour

Colour of side panels is fixed during manufacturing process using special UV stabilized gel coats as a first layer. Standard colour: aquatic blue. Other colours available on request at additional cost.

Stairway

Made of M.S.-H.D.G. material.

Corrosion

The Cooling Tower is practically CORROSION FREE. All steel components are HDG or #304 SS. All plastic materials used for "Sulzer" Cooling Towers are stabilized against UV radiation.

Installation

Tower with or without water collecting basin is delivered in dismantled form to be erected on site. The supervision, erection and commissioning of the towers will be charged separately if requested.

Spare parts

Experience suggests that almost no spare parts will be required for the first five (5) years of operation of the tower, if operated in accordance to our operating instructions. However, if any parts are required, these are available from our factory in Melbourne.

Note: **There will be additional charges for any on request or optional item.**

Reference list of EWB cooling tower user in Australia available on request.