



TECHNICAL DESCRIPTION **“SULZER” EWK-D (A) FORCED DRAFT COOLING TOWER**

Advantages of EWK-D cooling towers

- Low height, can easily fit in the existing plant room
- Easy access for service of fan/motor assembly at floor level – no need for access ladder
- Low noise due to double inlet centrifugal fans with forward curved blades. (no noisy axial “propeller” fans) Further noise reduction is possible with tailor made sound attenuators (EWK-DA execution).
- Totally corrosion-proof and waterproof fibreglass reinforced polyester case. (6 years casing warranty).
- The fan/motor assembly on the air intake side of the cooling tower is not exposed to the humid cooling tower exhaust air.
- Quick and simple installation. The cooling tower is delivered to site completely factory assembled – No site assembly is required.
- The flat tower top has a pleasing architectural appearance.
- The tower base design includes an integrated support frame, which allows for installation on simple foundation such as concrete slab or platform, without the need for structural steel support. (The frame can be made to suite existing supports.)

COOLING TOWER FEATURES:

Cooling Tower Housing and Basin

The casing and the water-collecting basin are made of fibreglass-reinforced polyester (FRP). The standard colour is sky-blue. Other colours are available on request. Every water outlet has a strainer basket, which is made in stainless steel and protect your water circulation from dirt.

Fill Material

The Fill Pack consists of rigid honeycomb blocks and made from "corrugated" sheets in Polypropylene PP (or optional PVC) material. It is UV stabilised and contains a large heat exchange surface area of 243 m²/m. The “standard” fill pack made in PP (PVC) can withstand a maximum of 80°C (55°C) operating temperature. High temperature fill is available on request. The standard dimension of a fill block is 1,200 x 300 x 300 mm and weighs approximately 3-4 kg.



Water Distribution System

Consists of PVC pipes fitted with wide throat, conical spray, non-clogging nozzles made of ABS material. The spray nozzles distribute water uniformly over the fill. Under normal operating conditions, clogging is prevented by strong twist effects.

ABS, Polypropylene, hot-dipped galvanised or stainless steel pipes are available on request.

Radial fan

A high performance double inlet forced draught centrifugal fan, which is made in galvanized steel blows the air into the cooling tower. A three-phase high quality IP 56 protected motor and a V-belt drive power the fan. All moving parts are covered over with a protective guard.

Motors

The motors used on EWK-D Cooling Towers are three phase, insulation class F with IP56 protection. (TEFC)

Single speed motors are four pole and two speed motors are four / eight pole motors.

Drift Eliminator

Blade type drift eliminators utilizing a series of sinusoidal-shaped blades assembled into modules using an end cap design. The drift eliminator is made of UV stabilised PVC material. It is used to prevent carry over of water droplets by air stream. The drift eliminator in Sulzer Cooling Towers reduces the water loss by drift to less than 0.002% of the total water flow through the Cooling Tower in strict accordance to the Australian standard AS3666/2002.

Different materials or types can be offered on request.

Connections

The following connections are provided on EWK Cooling Towers:

- Hot water inlet
- Cold water outlet
- Over flow
- Drain
- Makeup including float valve
- Quick fill



Base Frame

EWK-D Cooling Towers are supported by HDG steel base frame, which are an integral part of the design. The Cooling Towers can be installed on simple foundations. There is no need for a special support structure.

Internal Supports

The support for the fill, the water distribution system and the drift eliminator are made in pulltruded FRP

Fasteners

All fasteners are #304 grade stainless steel.

Cooling Tower Access

Stainless Steel access doors are provided for the access to the fill, drift eliminator and water distribution system. Access to the basin is available by removing one of the louvre panels.

Make up water

A float valve keeps the water level in the basin on a constant level.

Sound attenuation (EWK-DA)

Special sound attenuation chambers for the air inlet and an air outlet sound attenuator are available for these cooling tower models for noise reduction.

Vibration isolation

The mechanical part (motor-fan assembly) is isolated from the main cooling tower. The motor-fan sub frame is mounted on the base frame with vibration dampers. The fan opening is connected to the cooling tower body with a flexible water and air tight duct.

This isolation prevents the transmission of structure-borne noise.



Other optional items can be offered on request

- Water treatment unit
- Side stream filtration
- Thermostats
- Electrical heater (for frost protection)
- Variable speed drives, with thermostat and control loop
- Expansion joints for connecting air inlet and outlet
- Air volume dampers
- Electrical level switches
- Water treatment and cleaning program
- Cooling tower risk management plan

Spare Parts

From our experience, 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, they are available from our Melbourne factory.

Note: There will be additional charges for any "Optional" or "on request" items - unless specifically included in scope of supply.