



Mr. GoodTower®



Replacement Parts

For Cooling Towers,
Closed Circuit Coolers &
Evaporative Condensers

FREE Unit Inspection!
See Inside for More Details.



Centrifugal Cooling Tower

Any Part, Any Manufacturer, Any Time!

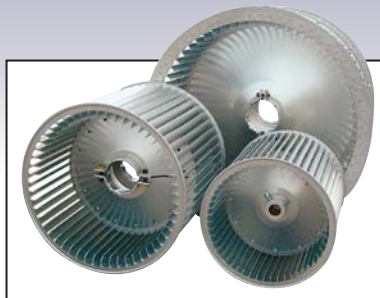
Forced Draft Products

① FAN SCREENS

The fan screens are galvanized steel mesh.

② FANS - CENTRIFUGAL

Centrifugal fan wheels are of the forward curved centrifugal type with hot-dip galvanized steel construction. All fan wheels are available with an optional epoxy coating. Some sizes are available in 304SST. All fans are statically and dynamically balanced for vibration free operation.

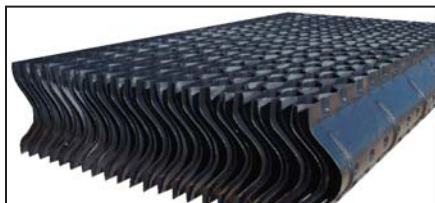


③ FANS - VANE AXIAL

The wide-blade slow speed cast aluminum alloy fans are arranged in a two-stage system (i.e. front and rear fan) that is installed in a closely fitted cowl with a venturi air inlet. Narrow blade fans are supplied on evaporative condensers.

④ DRIFT ELIMINATORS

The eliminators are constructed entirely of Polyvinyl Chloride (PVC) in easily handled sections. The design incorporates three changes in air direction resulting in a high efficiency eliminator that limits the water carry-over to an **industry-leading** minimum of 0.001% of the circulating water rate. This reduces water and chemical loss. The light-weight PVC eliminators are easily removed for access to the water distribution system.



The eliminators are available in heavy duty PVC with **no effect on water loss**. Other material options include galvanized and 304SST when increased structural integrity is required.

⑤ WATER DISTRIBUTION SYSTEM

The spray headers and branches are constructed of Schedule-40, Polyvinyl Chloride pipe for corrosion resistance. Also available with Schedule-80 CPVC, galvanized steel, or 304SST. For maximum thermal performance cooling towers utilize precision molded ABS spray nozzles with large orifice openings to eliminate clogging. Coil products utilize EVAPCO'S **Zero Maintenance (ZM)** spray nozzle.



NOZZLE



ZM NOZZLE

⑥ COIL

The patented Thermal-Pak® elliptical coil is all prime surface steel, encased in steel framework with the entire assembly hot-dip galvanized after fabrication. It is designed with sloping tubes for liquid drainage and tested to 400 psig air under water. The Thermal-Pak® elliptical design results in maximum heat transfer efficiency and minimum pressure drop. Coils are available in copper or stainless steel for corrosive or industrial applications.



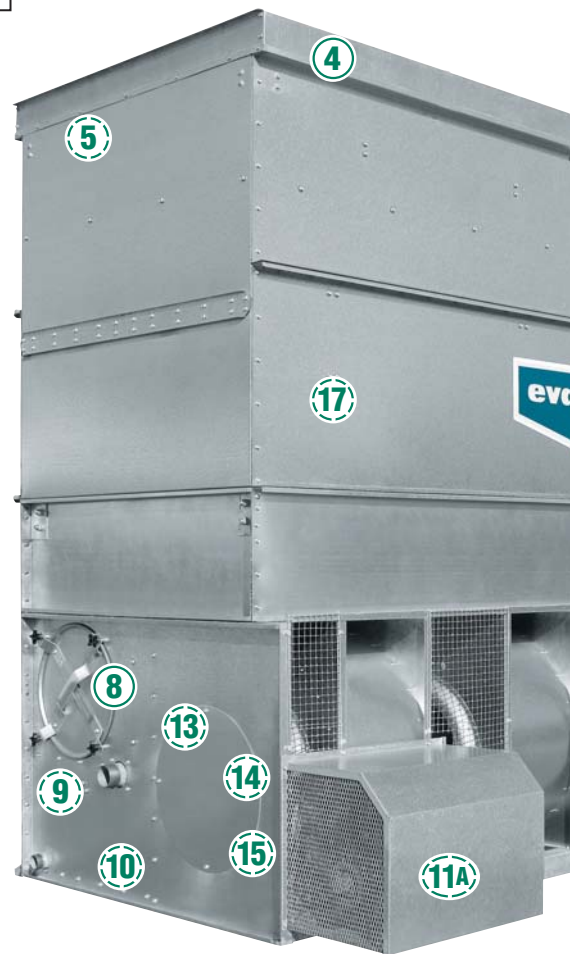
⑦ WATER RECIRCULATION PUMP

Closed circuit coolers and evaporative condensers are supplied with a vertically installed close-coupled centrifugal pump with a mechanical seal installed to drain on shut down. The totally enclosed, fan cooled (TEFC) motor is provided with a protective canopy as standard.

Numbers in Dotted



Indicate Part Location Inside Unit.



⑧ ACCESS DOORS

G235 hot-dip galvanized circular door(s) provide easy access to the sump section. Also available in 304SST or 316SST.

⑨ MAKE-UP FLOAT VALVE ASSEMBLY

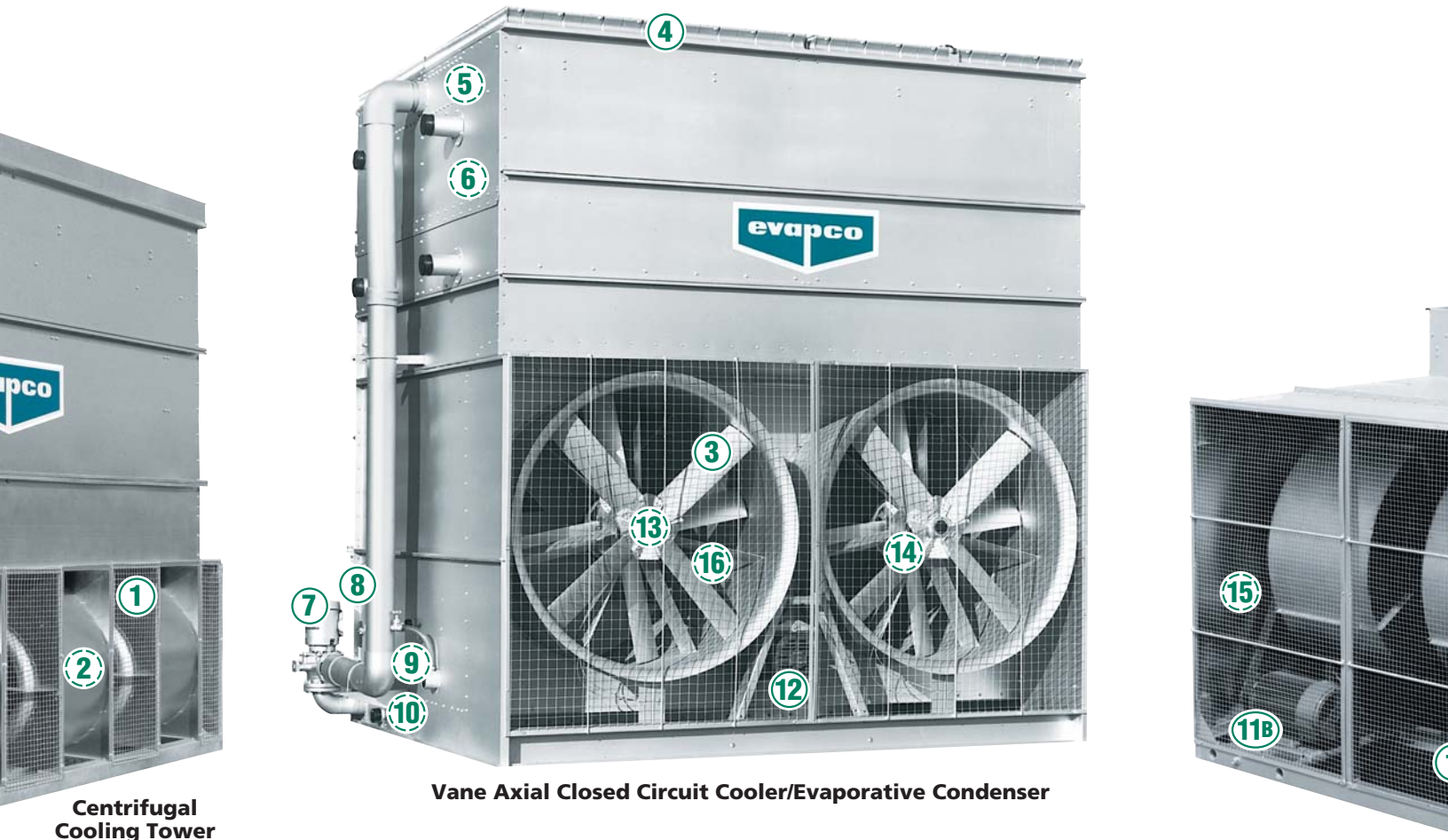
This assembly contains a brass float valve with an adjustable plastic float. The supply of makeup water entering the unit is easily regulated by adjusting wing nuts on the threaded float rod.



Replacement Parts Identification

Forced Draft Products

Factory Authorized Parts and Quick Shipment!



Centrifugal Cooling Tower

Vane Axial Closed Circuit Cooler/Evaporative Condenser

10 PAN STRAINER

The type 304 stainless steel strainer is constructed with large removable perforated screens to reduce the need for frequent servicing.



Pulse~Pure™ NON-CHEMICAL WATER TREATMENT

EVAPCO'S **Pulse~Pure™** system is an environmentally sensitive alternative for treating water in evaporative cooled equipment. It controls scale, biological growth and corrosion while eliminating chemicals completely from equipment drift and blowdown. **Pulse~Pure™** is used on GREEN or LEED projects because of this elimination of chemicals and the increased water conservation.



ADDITIONAL ACCESSORIES:

SELF SUPPORTING SERVICE PLATFORMS

All units are available with self-supporting service platforms that include access ladders which are designed for easy field installation. This option offers significant savings in comparison to field constructed, externally supported catwalks. The EVAPCO service platform may be installed on either side, or the end opposite the connections.

OVERSIZED ACCESS DOORS

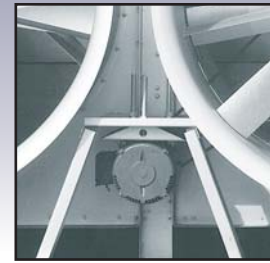
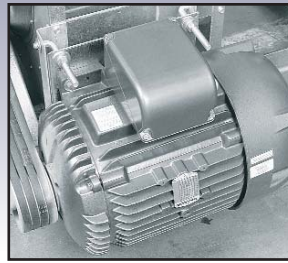
For enhanced basin accessibility, the Oversized Access Door option enables maintenance personnel to quickly and easily enter the basin for float valve adjustment and unit inspection. For vane axial units only.



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FAN MOTORS:

Totally enclosed, ball bearing type electric motors with 1.15 service factor specifically designed for evaporative cooling applications. All motors equipped with double sealed non-lubricable bearings, double dip and bake windings, and cast iron frames with Corro-Duty paint.



11A CENTRIFUGAL MODELS—LSTA

On 4', 5', & 8' (1.2, 1.5 & 2.4M) wide models, the motor is mounted externally on the unit with an adjustable motor base for ease of service, see front cover for picture. A hinged protective cover shields the motor and sheave from the weather. On 10' (3.0M) wide models, the motor is mounted above the fan housing, under cover, on an adjustable motor base for ease of service.

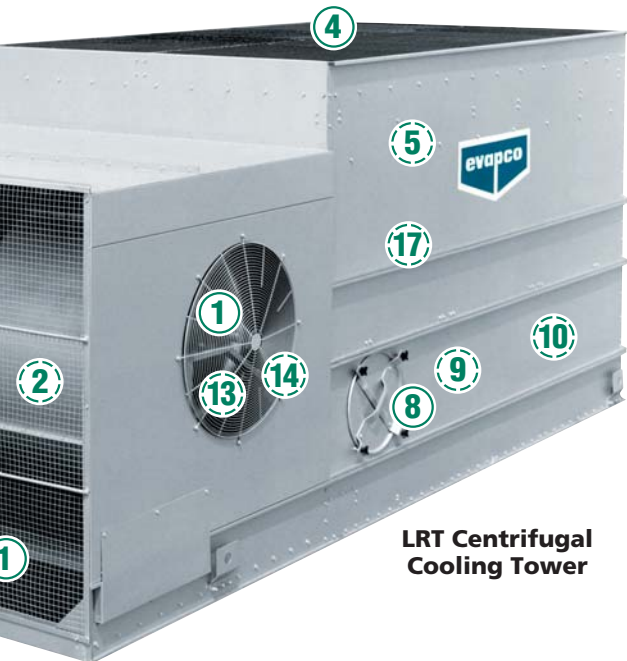
12 VANE AXIAL MODELS

The motor is mounted on an adjustable motor base for ease of service.

11B CENTRIFUGAL MODELS—LRT

The motor is mounted under the protective fan system enclosure on an adjustable motor base for ease of use.

FAN SHAFT & BEARINGS:



LRT Centrifugal Cooling Tower



CENTRIFUGAL



VANE AXIAL

13 FAN SHAFTS

Shafts are constructed of ground and polished steel. The exposed surface is coated with a rust preventative. Shafts on the centrifugal models have forged bearing journals. Also available in 304SST.

14 FAN SHAFT BEARINGS

Bearings on centrifugal and vane axial models are self-aligning, heavy duty grease-packed ball bearings with eccentric locking collars. Some centrifugal models also use an intermediate sleeve bearing. On vane axial models, the grease fittings are extended to the outside of the unit for ease of maintenance.

FAN DRIVE:

15 CENTRIFUGAL MODELS

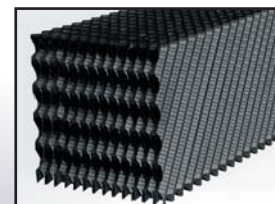
The fan drive is a v-belt type with taper lock sheaves designed for 150% of the motor nameplate horsepower. Belt adjustment is easily accomplished from the exterior of the unit.

16 VANE AXIAL MODELS

The fan drive is a solid backed POWER-BAND constructed of neoprene with polyester cords and designed for 150% of the motor nameplate horsepower. The fans and fan sheaves are mounted on the shaft with a special dacromet plated bushing to provide maximum corrosion protection.

17 FILL

The Polyvinyl Chloride (PVC) fill with a cross-fluted design provides maximum heat transfer efficiency. The PVC sheets are bonded together for strength and durability. The fill is self-extinguishing for fire resistance and has a flame spread rating of 5 per ASTM E 84-819. It is also resistant to rot, decay and biological attack.



ELECTRIC WATER LEVEL CONTROL

The optional electric water level control system provides accurate control of the pan water level and does *not* require field adjustment. The control is mounted external to the unit in a vertical standpipe. The system includes a slow closing solenoid valve and an in-line Y-strainer.



ELECTRIC BASIN HEATERS

Electric heaters are sized to maintain a +40° F (4.5°C) pan water temperature with the fans off. They are furnished with thermostat and low water protection devices to cycle the heater on and off while preventing them from energizing unless they are completely submerged. All components are enclosed in rugged, weather proof enclosures for outdoor use.



FREE Unit Inspection!

Call Your
EVAPCO Mr. GoodTower®
Representative Today.



Mr. GoodTower®



To ensure your equipment's optimum performance and trouble-free operation, EVAPCO offers a **FREE Unit Inspection**. Regardless of the equipment manufacturer, EVAPCO's Mr. GoodTower® representative will perform a **FREE Unit Inspection**. This Inspection combined with regular service & maintenance will ensure your equipment's peak efficiency and long service life.

Call your local EVAPCO Mr. GoodTower® representative to schedule your **FREE Unit Inspection** today!

Maintenance Checklist

PROCEDURE

- Clean pan strainer – **monthly or as needed**
- Clean and flush pan** – **quarterly or as needed**
- Check bleed-off valve to make sure it is operative – **monthly**
- Lubricate pump and pump motor according to manufacturer's instructions
- Check operating level in pan and adjust float valve if necessary – **monthly**
- Check water distribution system and spray pattern – **monthly**
- Check drift eliminators – **quarterly**
- Check the fan blades for cracks, missing balancing weights and vibrations – **quarterly**
- Lubricate fan shaft bearings* – **every 1,000 hours or every three months**
- Lubricate fan motor bearings – **see manufacturer's instructions, typically for non-sealed bearings every 2-3 years**
- Check belt tension and adjust – **monthly**
- Sliding motor base – inspect and grease, **annually or as needed**
- Check fan screens, inlet louvers and fans. Remove any dirt or debris – **monthly**
- Inspect and clean protective finish – **annually**
Galvanized: scrape and coat with ZRC
Stainless: clean and polish with a stainless steel cleaner
- Check water quality for biological contamination. Clean unit as needed and contact a water treatment company for recommended water treatment program** – **regularly**

DURING IDLE PERIODS

- Less than two weeks: Run gear reducer for 5 minutes – **weekly**
- Two to four weeks: Completely fill gear reducer with oil. Drain to normal level prior to running.
- One month or longer: Rotate motor shaft/fan 10 turns – **bi-weekly**
- One month or longer: Megger test motor windings – **semi-annually**

OPTIONAL ACCESSORIES

- Gear Reducer: Check oil level with unit stopped – **24 hours after start-up & monthly**
- Gear Reducer/Piping: Do visual inspection for oil leaks and auditory inspection for unusual noises and vibrations – **monthly**
- Gear Reducer: Replace oil – **semi-annually**
- Oil Pump: Do visual inspection for leaks and proper wiring – **monthly**
- Gear Reducer/Coupling: Check alignment of the system – **24 hours after start-up & monthly**
- Coupling/Shaft: Inspect flex elements and hardware for tightness, proper torque & crack/deterioration – **monthly**
- Heater Controller: Inspect controller and clean between probe ends – **quarterly**
- Heater: Inspect junction box for loose wiring and moisture – **one month after start-up and semi-annually**
- Heater: Inspect elements for scale build-up – **quarterly**
- Electronic Water Level Controller: Inspect junction box for loose wiring and moisture – **semi-annually**
- Electronic Water Level Controller: Clean probe ends of scale build-up – **quarterly**
- Electronic Water Level Controller: Clean inside the standpipe – **annually**
- Solenoid Make-up Valve: Inspect and clean valve of debris – **as needed**
- Vibration Switch (mechanical): Inspect enclosure for loose wiring and moisture – **one month after start-up and monthly**
- Vibration Switch: Adjust the sensitivity – **during start-up and annually**
- Positive Closure Dampers: Check and lubricate the linkage – **monthly**
- Insulation: Check for damage/cracks and repair as necessary – **semi-annually**
- Sump Sweeper Piping: Inspect and clean piping of debris – **semi-annually**
- Water Level Indicator: Inspect and clean – **annually**

* See maintenance manual for start-up instructions and lubrication recommendations.

** Cooling Towers must be cleaned on a regular basis to prevent the growth of bacteria including Legionella Pneumophila.



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