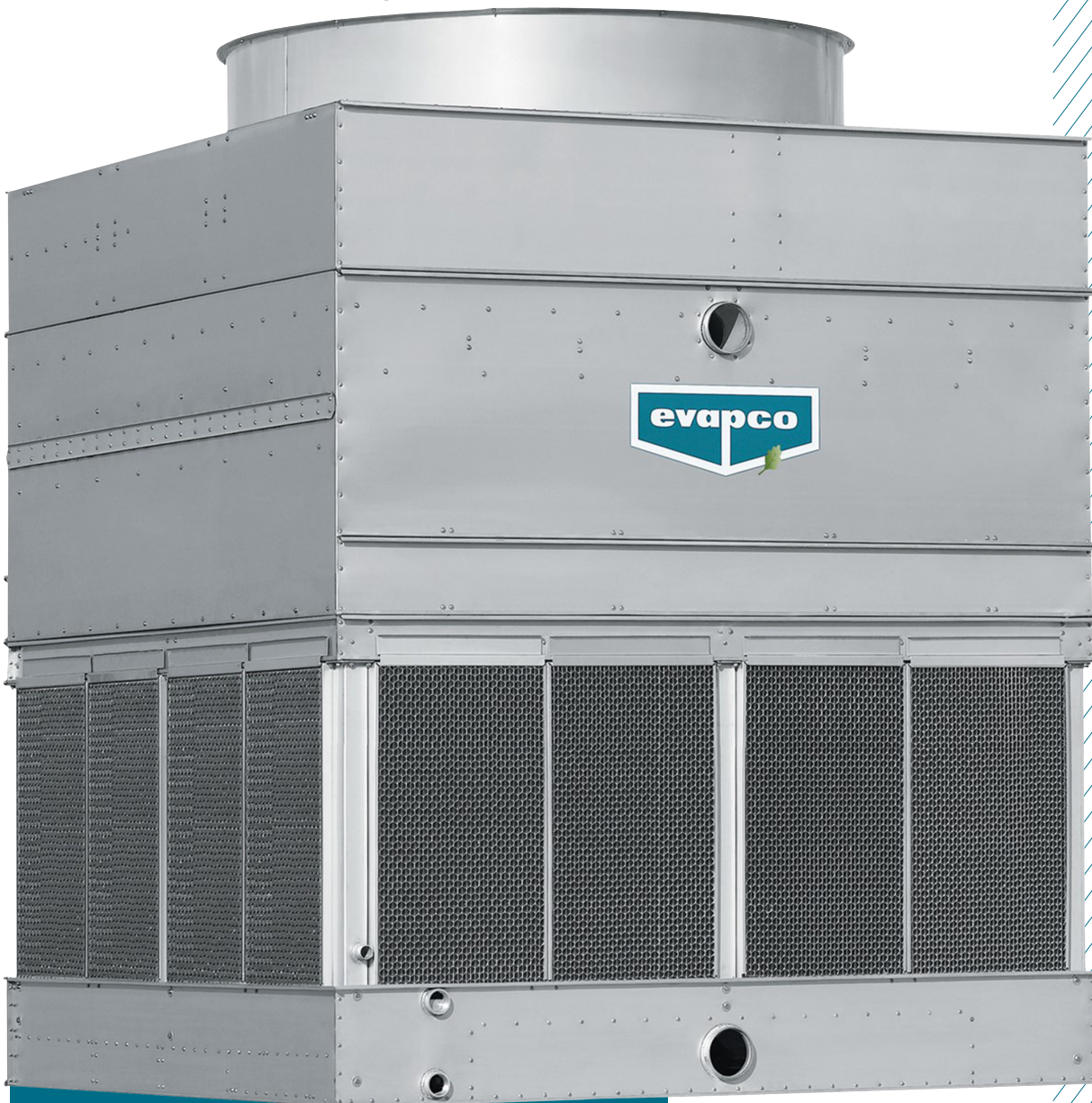




**Mr. GoodTower®**

# Replacement Parts

For Cooling Towers, Closed Circuit  
Coolers and Evaporative Condensers



[www.evapco.com](http://www.evapco.com)

Any Part,  
Any Manufacturer,  
Any Time!

**Forced Draft Products**

# Replacement Parts

## 1 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.

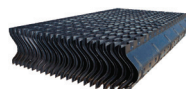


## 2 FANS - VANE AXIAL

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.

## 3 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.



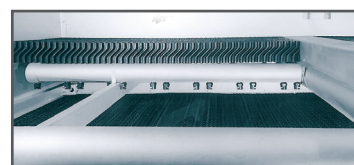
## 4 COIL\*

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 stainless steel for corrosive or industrial applications.



## 5 WATER DISTRIBUTION SYSTEM\*

The water distribution system is made of PVC pipe and ABS plastic water diffusers for corrosion protection in this key area. The piping is easily removable for cleaning. They have an anti-sludge ring extending into the headers to prevent sediment from building up in the diffuser opening. Additionally, the spray branches have threaded end caps to allow easy debris removal.



Coil products utilize EVAPCO'S Zero Maintenance (ZM®) spray nozzle.



NOZZLE

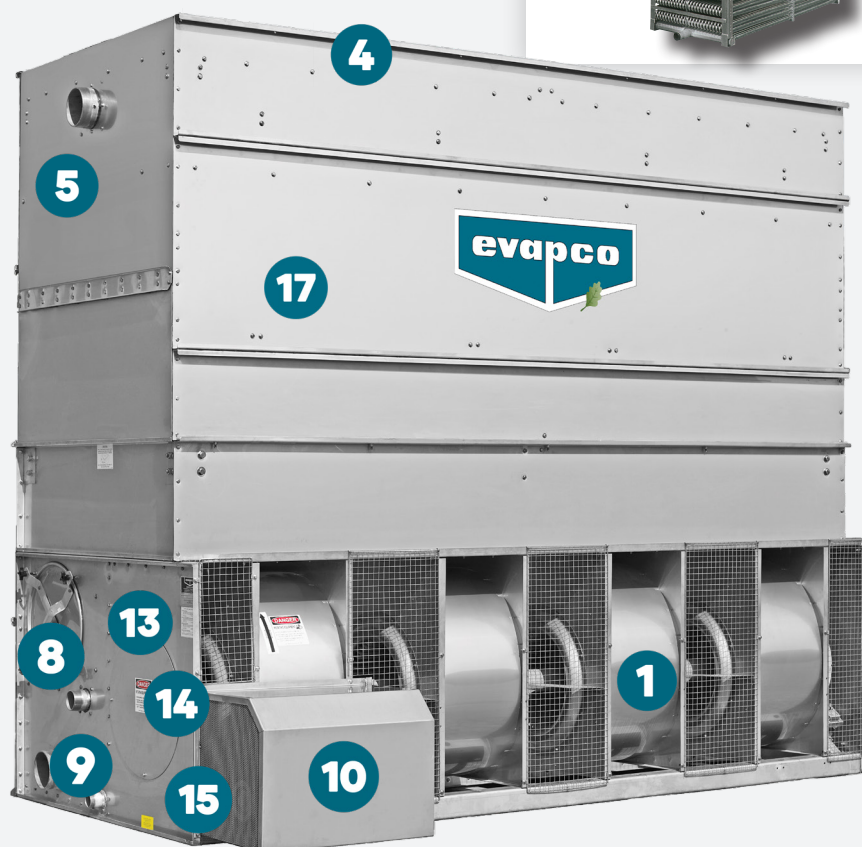


ZM® NOZZLE



ZM® II NOZZLE

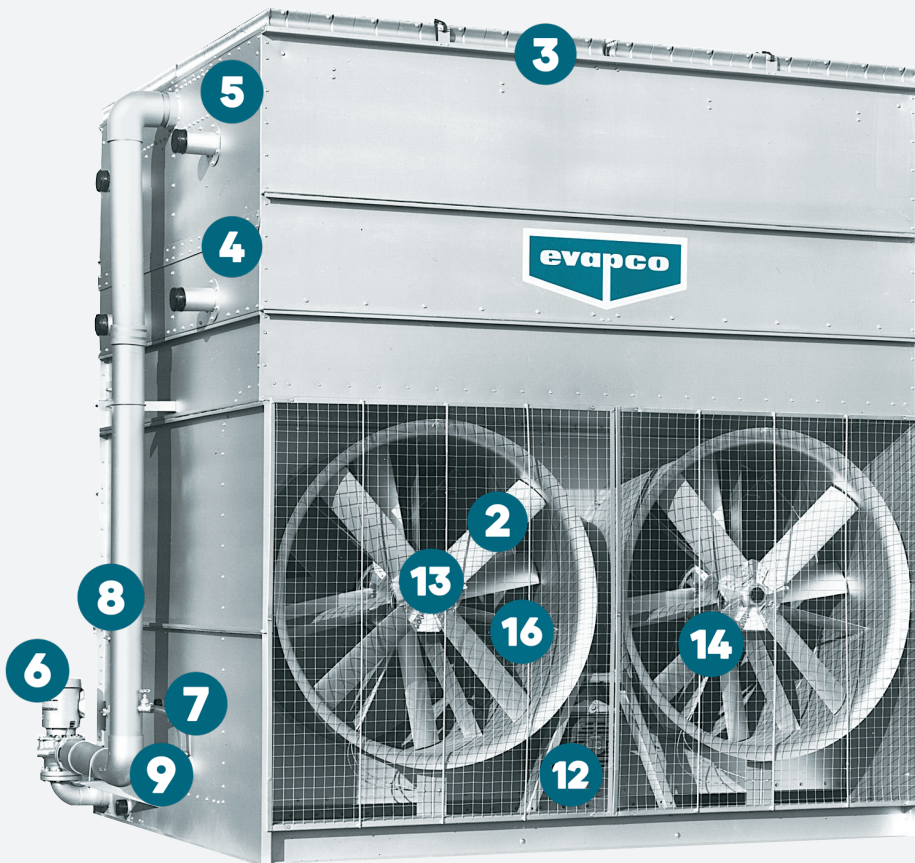
Cooling towers utilize the EvapJet™ nozzle, ensuring complete and even water distribution resulting in maximum thermal performance. The unique design results in an oscillating spray pattern **yet contains no moving parts**. EvapJet™ nozzles increase equipment thermal performance **up to 3.5%!**



Centrifugal Cooling Tower

\*part located inside unit

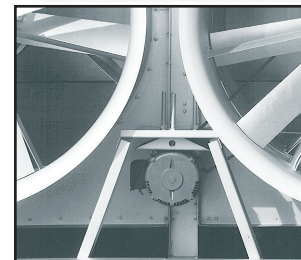
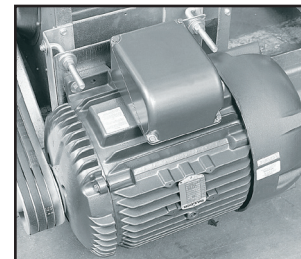
# Identification



Vane Axial Closed Circuit Cooler/  
Evaporative Condenser

## 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.



## 10 CENTRIFUGAL MODELS - LSTE

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.

## 11 CENTRIFUGAL MODELS - LPT

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

## 12 VANE AXIAL MODELS

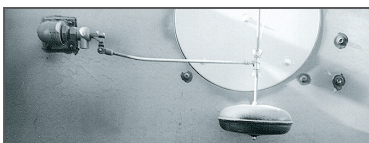
The motor is mounted on an adjustable motor base for ease of service.

## 6 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.

## 7 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.

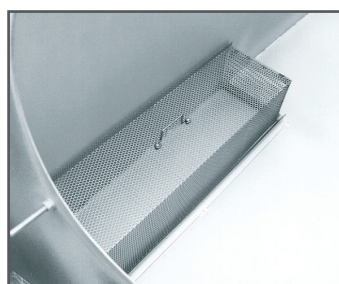


## 8 ACCESS DOORS BELT DRIVE

Access door(s) are in the upper casing for easy access to the fan drive and water distribution system.

## 9 PAN STRAINER\*

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



# Forced Draft Products, Factory Authorized Parts, and Quick Shipment

## 13 FAN SHAFT\*

All belt driven units have a solid shaft of ground and polished steel. The exposed surface is coated with a rust preventative. Also available in 304SST.

## 14 FAN SHAFT-BEARINGS\*

All belt driven units have heavy-duty self-aligning ball type bearings with grease fittings extended to the outside of the unit. Bearings are designed for an L-10 life of 75,000 to 135,000 hours, making them the heaviest duty pillow block bearings available for cooling tower duty.

## 15 CENTRIFUGAL MODELS\*

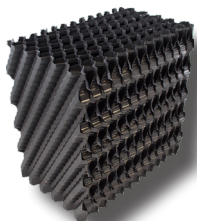
The fan drive is a v-belt type with taper lock sheaves designed for 150% of the motor nameplate horsepower. Belt adjustment is easily accomplished from the exterior of the unit.

## 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\*

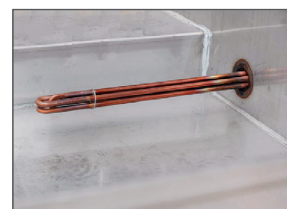
The Polyvinyl Chloride (PVC) fill with a cross-fluted design provides maximum heat transfer efficiency. The PVC sheets are bonded together for strength and durability. The fill is self-extinguishing for fire resistance and has a flame spread rating of 5 per ASTM E 84-819. It is also resistant to rot,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



## Additional Accessories

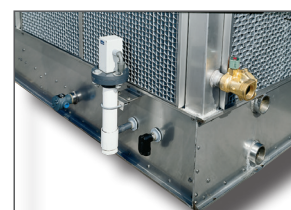
### ELECTRIC BASIN HEATERS

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.



### ELECTRIC WATER 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.

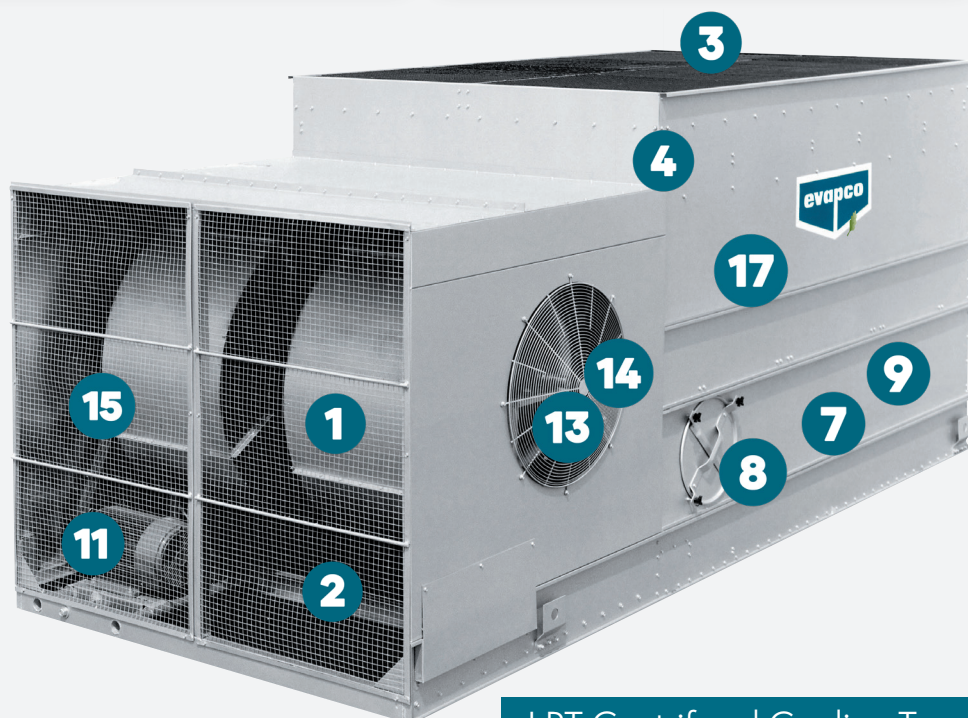


### OVERSIZED ACCESS DOORS

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.

### SELF SUPPORTING SERVICE\*

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.



LPT Centrifugal Cooling Tower

# 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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 EVAPCO Manufacturing Facilities

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