

CLOSED CIRCUIT COOLING TOWER



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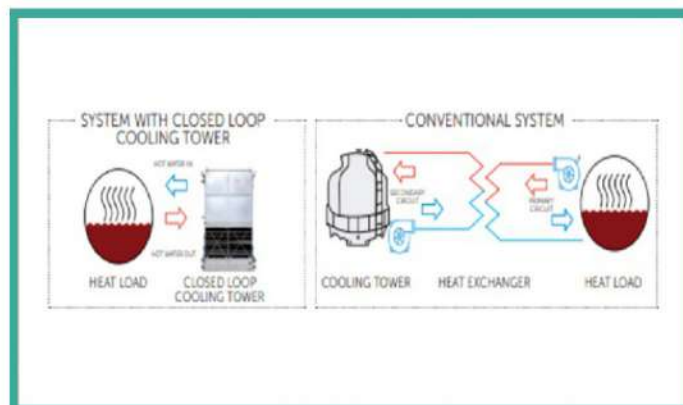
Closed loop cooling tower operates in a manner similar to conventional cooling towers, except that the sensible heat to be rejected is transferred from the process fluid to water and ambient air directly through a heat exchange coil. The coil serves to isolate the process fluid from outside environment, keeping it clean and contamination free in a closed loop, thus creating two saperates circuits

- # Primary / Internal circuit in which the process fluid circulates inside the coil
- # Secondary / External circuit sprays circulating water from the basin over the coil which evaporates to reject heat to the environment.



CLOSED LOOP COOLING TOWER V/S CONVENTIONAL SYSTEM

Cooling System using a closed loop cooling tower is for simpler when compared to conventional system. The Intermediate heat exchanger, secondary pumps - piping & valves of the conventional Secondary Circuit are replaced with single closed loop cooling tower unit having inbuilt primary & secondary circuits.



PRODUCT RANGE

MODEL	FI-CCCT-TR-50	FI-CCCT-TR-60	FI-CCCT-TR-80	FI-CCCT-TR-100	FI-CCCT-TR-120	FI-CCCT-TR-135	FI-CCCT-TR-150	FI-CCCT-TR-170	FI-CCCT-TR-200	FI-CCCT-TR-250	FI-CCCT-TR-300
COOLING CAPACITY (Kcal/h)	150000	180000	240000	300000	360000	400000	450000	510000	600000	756000	900000
WATER FLOW (m ³ /h)	30-32	40-43	49-51	59-61	70-72	80-82	90-93	102-105	125-128	150-153	180-182

Above specs are for common use. We can also customize.

Design condition of cooling capacity based on inlet temp 37 Deg. C ;
Outlet 32 Deg. C ; Wet Bulb temp 28 Deg. C.

Please contact our representative for suitable selection of the equipment based on the site conditions and application



GI COILS



SS 304

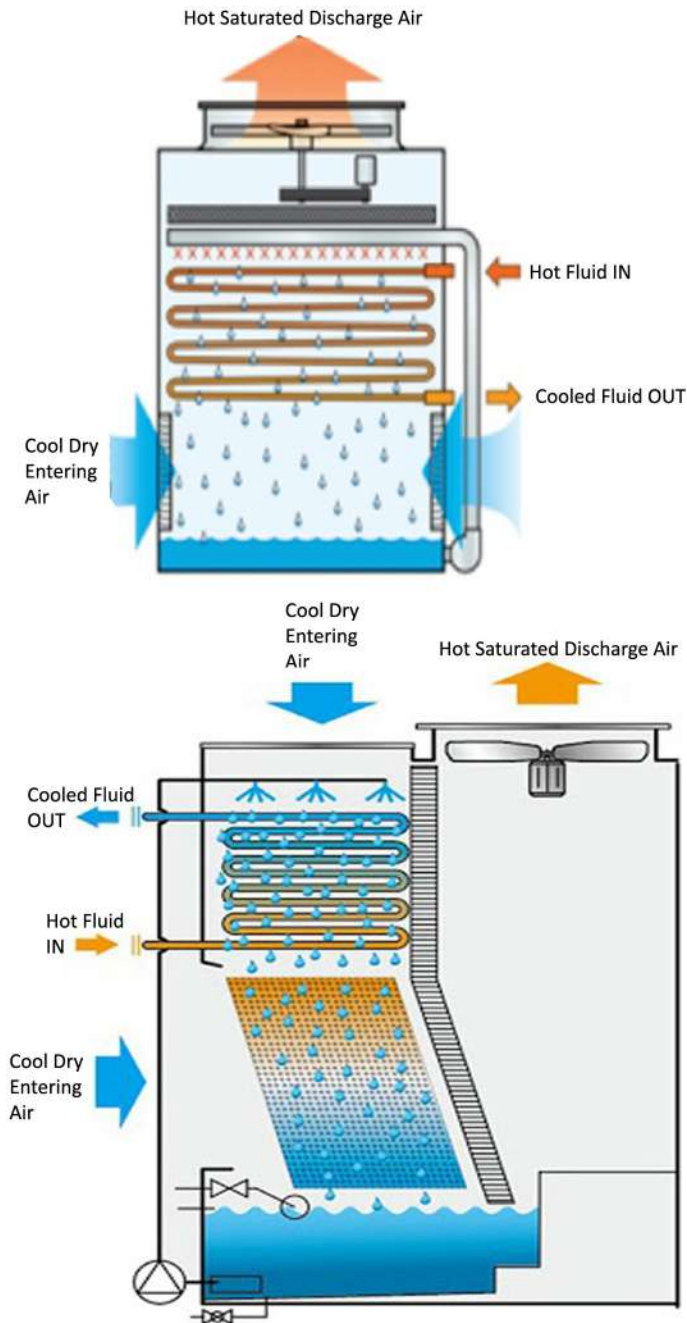


CARBON STEEL



COPPER COILS

OPERATING PRINCIPLE



- The process fluid is circulated through the coil of the closed loop cooling tower
- Heat from the process fluid is rejected through the coil tubes.
- Part of the heat is removed directly by the downward induced air and discharged to the surrounding.
- Rest of the heat is rejected to the water cascading down over the tubes.
- Simultaneously, air is drawn in through the air inlet louvers at the base of the closed loop cooling tower.
- A small portion of the water is evaporated which removes the heat. The warm saturated air travels through the drift eliminator & discharged by the fan to the surrounding, thereby reducing drift water loss.
- The remaining cooled water is collected in the basin at the bottom of the closed loop cooling tower. Spray pump connected to the basin pumps the water to be sprayed onto the coil.

FEATURES

1. LOW ENERGY CONSUMPTION
2. LOW INSTALLATION COST
3. LONG SERVICE LIFE
4. ZERO MAINTENANCE

CLOSED CIRCUIT COOLING TOWER COMPONENT

COOLING TOWER PACKING

Cooling tower packing is one of the most important parts of a cooling tower. The packing ensures maximum contact between air and water to enable cooling.

FIL12 | FIL19 | FIL27 | FILOSS19 | ABS |
FILRC



DRIFT ELIMINATORS

Drift eliminators have the purpose of preventing droplets or smaller aerosols from being taken by the air flow from the cooling tower.

H130RC | RC50 | RC10 | RC20 | RC30



MOTOR AND FANS

All parts of a cooling tower are important, but it is certainly important to exercise the necessary care of the drive gear of your cooling tower, these being the turning parts of a cooling tower.

FAN | FAN STACK | MOTOR



WATER DISTRIBUTION SYSTEM

Engineering, production and installation of open and closed water distribution systems for your cooling tower, including the appropriate nozzles.

CLOSED WATER DISTRIBUTION
OPEN WATER DISTRIBUTION
NOZZLE



Spray Nozzle

AIR INTAKE LOUVERS

Air intake louvers prevent water splashes from the water collection tank and prevent larger debris from arriving in the water tank.



ADVANTAGES OF CLOSED CIRCUIT

Closed circuit cooling towers are used in the following application: water source heat pumps, industrial processes, air compressors, weld machine cooling, mould water cooling, power plant auxiliary cooling, furnace cooling, transformer cooling, closed condenser loops, critical systems, and system requiring plume elimination.

LOWEST OPERATING COST:

Clean process fluids sustain the performance of high efficiency components
Save an energy consumption by operating in “Free Cooling Mode” during the Winter

LOWEST MAINTENANCE COSTS:

Reduces or eliminates cleaning the heat exchanger
Extends the Life of the Equipment.

OPERATIONAL FLEXIBILITY:

Free cooling without an intermediate heat exchanger
Dry Operation during winter months
Variable speed pumping to conserve energy without the potential of scaling the unit

LOWEST WATER COSTS:

Lower volume of recirculation water reduce water treatment cost
Dry operation and adiabatic modes reduce or eliminate water consumption

MINIMAL INSTALLATION COSTS:

Compact single piece of equipment conserves space replaces three components
(Cooling tower, Heat exchanger and Pump arrangement)

FEATURES

- # Uniform water distribution system with large orifice nozzle to reduce clogging.
- # Specially designed axial air-foil fan blades for low noise levels and lower power consumption.
- # Moving parts are placed in such a way that they can be easily removed and repaired.
- # Highly efficient sprinkling pump to ensure low power consumption and low noise.
- # We have a wide base working platform to ease the tedious maintenance process.
- # We have a water level control system that controls that maintains a constant level of water in the Cooling tower basin.

FOOT TRACKS : PROCESS COOLING

- ▶ HVAC
- ▶ Refrigeration & Chilling Plant
- ▶ Diesel Engine & Gas Engine
- ▶ Natural Gas Engine
- ▶ Induction Melting Steel Furnace
(Ferrous & Non Ferrous Metal)
- ▶ Induction Heating Steel Furnace
(Ferrous & Non Ferrous Metal)
- ▶ Plastic Injection & Blow Moulding Machine
- ▶ Water Cooled Air Conditioning systems
& VAM Machines
- ▶ Cold Storage
- ▶ Milk & Dairy Plants
- ▶ Oxygen Plants
- ▶ Bio Gas Plant & Renewable Energy Power Plant
- ▶ Electrical Power Generation Plants
- ▶ Vacuum Pumps
- ▶ Gasifier
- ▶ Anodizing processes Plant
- ▶ Industrial/Hydraulic Oil Coolers & Press
- ▶ Die Casting Machine
- ▶ Water Cooled Air Compressors

FITZER INCORPORATION

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