



Akiki Engineering Est.

*Water & Steam Experts*



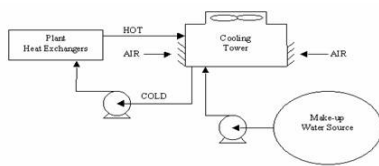
## 4.2. Cooling Tower Catalogue

October 7, 2010

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## Cooling Tower Chemical Products



CFR 2260 & CFR 2210 has a quick killing action, stability and dispersancy action of slime deposits makes it the most effective against LEGIONELLA. Other advantages: little volatility, extended stability, minimum reaction with organic corrosion and scale inhibitors. Akiki Engineering uses an alternation between two biocides: CFR 2260 & CFR 2210

### Treatment Benefit Features:

- Reduce maintenance cost and Prolong equipment life time
- Eliminate unscheduled shut down especially in hot season
- Reduce power cost, by maintaining deposit free surface of the heat exchangers

### Pipe Cleaner: CCH 4200

- Liquid used to clean and flush loop containing dirty water and large amounts of rust and scale
- Remakes soluble the mineral deposit and disperse the none soluble particles
- You don't have to stop the installation, and on metallic surfaces, it has a passive action
- After the curative treatment, it is necessary to make a preventive treatment by using CVA 4110 (soft water) and biocide for microbiological control CFR 2260
- Dosage rate: 1 % to 5 % of system volume
- Package: can of 20kg

### Anticorrosion & Antiscale: CFR 2110

- A multifunctional liquid scale and corrosion inhibitor
- Complexes the hardness ions of water to avoid precipitation, and protects from corrosion by building up a film on the metallic surface
- Maintains in suspension mineral particles
- Will improve the efficiency to control microbial growth.
- Dosage rate is proportional to make-up water: 50-100 g/m<sup>3</sup> in circuit
- Package: Can of 20 and 200 kg, container of 1000 kg

### Microbiological Control: CFR 2260

- Used as preservative, bactericide, microbiocide, odour controller, and anti-fouling agent
- Used when there is a sterilisation
- Dosage is function of contamination state of the treated circuit, seasons, temperatures
- Sterilisation: 200 to 300 ppm, Maintenance: 100 to 150 ppm
- Storage: Keep away from freezing point
- Package: Can of 20, 25 and 230 kg

### Microbiological Control: CFR 2210

- An agent to fight the micro organism; active against iron bacterial, legionella, and algae.
- Dosage: 60 g/m<sup>3</sup> of circuit; Storage: Keep away from freezing point
- Package: Can of 20 and 200 kg, container of 1000 kg

## Cooling Towers Equipment(1)

### Controller



### Controller

- Digital readout display
- Control inhibitor feeding based on make-up volume
- Conductivity / pH function: Sensor, set point, high/low alarm
- Set points and alarms (Conductivity, pH)
- Control biocide-feeding program
- Furnish one microprocessor per independent closed system.

### Cold Water Meter



### Cold Water Meter

- Provide a make-up water meter sized the same as the make-up line
- A water meter is to be hard wired into the microprocessor controller, registering and accumulating total gallons of make-up water.
- Furnish a make-up water meter per each independent closed system

### Solenoid Valve



### Solenoid Valves

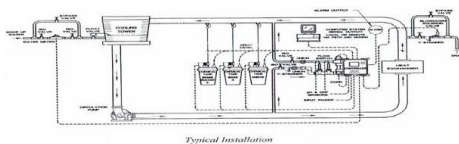
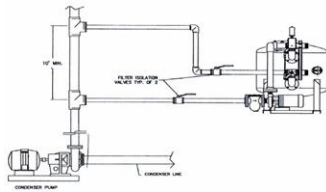
- Furnish a blowdown solenoid valve per independent tower water system.
- Blowdown valve is controlled by conductivity.
- When conductivity measured by the sensor becomes above the set point, a signal will initiate the solenoid valve to open and blow down is in progress.
- When conductivity measured by the sensor becomes below the set point, a signal will initiate the solenoid valve to close and blow down is stopped.
- Valve options: Normally closed
- Body & cap material: Cast iron
- Internal parts: Brass, stainless steel

## Cooling Towers Equipment(2)

### Chemical Feeding Equipment



### Side Stream Filtration Unit



### Chemical Feeding Equipment

- We provide positive displacement diaphragm chemical metering pump with the following properties:
- Fully adjustable speed and stroke settings over the entire operating range
- Furnish two chemical metering pumps per independent closed system. One pump for inhibitor feed and one pump for biocide.
- Polyethylene chemical feed tank is provided. Each tank shall have a drum level switch agitator, incorporated in it.
- Also locally made chemical tanks can be provided

### Side Stream Filtration Unit

- Including sand filter, filter pump, strainer and controls, factory assembled, piped and wired mounted to steel skid.
- Complete with all accessories and electrical panel board.
- Other series are also available