

COOLING TOWER

Cooling Water Slime & Algae Control

Problems in Cooling Water Maintenance

MAJOR PROBLEM IN COOLING TOWER maintenance is ALGAE (Green organic) MICROBIAL Activity and SLIME (Pastry Organic Material) Deposit in Heat transfer surface of Heat exchanger called "FOULING. This interferes with heat transfer operation of cooling cycle which reduces the efficiency of Heat transfer thereby resulting in direct / indirect commercial loss. In addition, bacterial Metabolism influences the scale forming or it produces corrosive spots resulting in corrosion of metal on water side of Heat Exchanger.

Control of Slime & Algae

SHOCK DOSING of 5 ppm of chlorine for the volume of water in COOLING CIRCUIT for a short period of about 10 Minutes maximum or sudden dumping of chlorine in one minute in the C.T. hold up tank, will effectively control Algae fouling. SHOCK dosing is to be done once in a shift (i.e. 3 times a day).

IEC Fabchem Limited, pioneers in Chlorination Systems in India is providing solution to the problem faced by OEM Manufacturers of Cooling Towers and Refrigeration System Owners through its innovative, pattern pending On-site Chlorine Generating System called 'CHLORIDOSE'. This system enables the plant operator to generate chlorine in the form of Sodium Hypochlorite with least attention requirement for operation and maintenance of the unit. The chlorine is generated from common salt, water and power. The chlorine generated can be manually transferred to C.T. basin for effective algae and slime control. The solution generated is a best low cost biocide produced in-house which can be used effectively instead of branded costly biocides available in the market.

Air conditioning systems – problems & remedies in Cooling Water

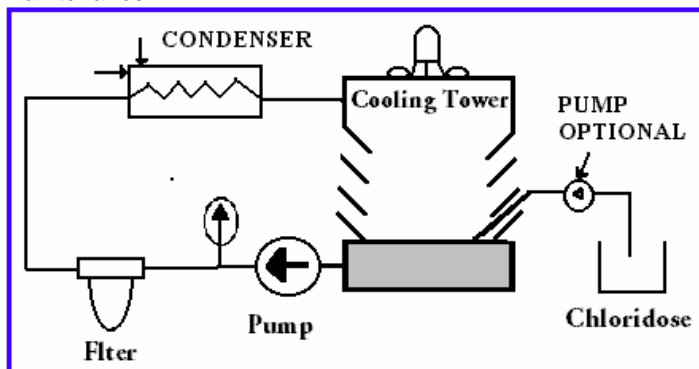
| Problems encountered on water side | Treatment |
|---|------------------------|
| • Microbial fouling. (Slime & Algae) | Chlorine Shock Dosing |
| • Scale formation on Heat transfer tubes | Water Softening |
| • Corrosion of metals in the system | Addition of Inhibitors |
| • Fouling from dirt and silt accumulation | Filtration |

Model Selection Chart

| Volume of water handled by Cooling tower in litre. | Chloridose | | | Shockdose – Volume of chloridose solution in Litre / per shift. | Consumable per day Common Salt (Kg) |
|--|------------|--------|---------|---|--|
| | Model | gm/day | lit/day | | |
| Up to 5,000 | CHL-A | 100 | 10 | 3 | 0.5 |
| 10,000 | CHL-B | 200 | 20 | 6 | 1.0 |
| 25,000 | CHL-C | 500 | 50 | 15 | 2.5 |
| 50,000 | CHL-D | 1,000 | 100 | 30 | 5.0 |
| 1,00,000 | CHL-E | 2,000 | 200 | 60 | 10.0 |
| 2,00,000 | CHL-F | 4,000 | 400 | 120 | 20.0 |
| 4,00,000 | CHL-G | 8,000 | 800 | 240 | 40.0 |

Typical Cost Of Operation

5,000 litres of water capacity Cooling tower consumes 0.5 Kg. salt & 0.75 KW power per day for daily maintenance.



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