

Monitoring & Control

Monitoring of industrial water treatment system is essential to get feedback. The feedback indicates the effectiveness of treatment. There are other benefits also by proper monitoring of cooling water treatment.

1. Control of chemical underfeed or overdose.
2. Meeting pollution standards.
3. More effective treatment. Improved or better plant operation.
4. Savings in chemicals, water and energy.
5. Improved plant productivity.

Chemical Treatment Program will be monitor by

1. **Water Parameters Testing**
2. **Specialty Chemicals Residual Testing**
3. **Corrosion Coupon Monitor**
4. **Fouling Depositor**
5. **Microbiological Count Test**

Method of Monitoring

Monitoring can be manual or online. Manual monitoring is done for small system or in non critical water systems. Manual monitoring is also done in water systems where there is not much variation in water quality.

There are large plants like power plants and refineries where huge amount of water is used in cooling. Here the precision required is much higher than for smaller plants. This is achieved by online monitoring.

Water Parameters Monitored

In cooling water system the following parameters are generally measured.

1. Hardness (Both total and Calcium)
2. M. Alkalinity
3. Total Dissolved solids (TDS)
4. Total Suspended Solids (TSS)
5. pH
6. Chloride
7. Silica
8. Iron
9. Specialty Chemicals Residual.
10. Chlorine residual.
11. Other residuals



Depending on the treatment and the cooling water system the parameters are analyzed on per shift, daily or weekly basis. We have water testing Kits to test on site and other monitor equipments which can provide on cost basis.

DAILY WATER TESTING

Water testing (make up and recirculating) is to be done by our trained chemist at startup and we will provide the testing procedure to monitor the make up and recirculating water daily.

Monitoring of Corrosion rate

In cooling water treatment, monitoring of corrosion rate is important because corrosion cannot be totally eliminated but reduced. Monitoring gives feedback on the effectiveness of treatment. Corrosion monitoring is done by various methods but most common method is by “Test Coupons”

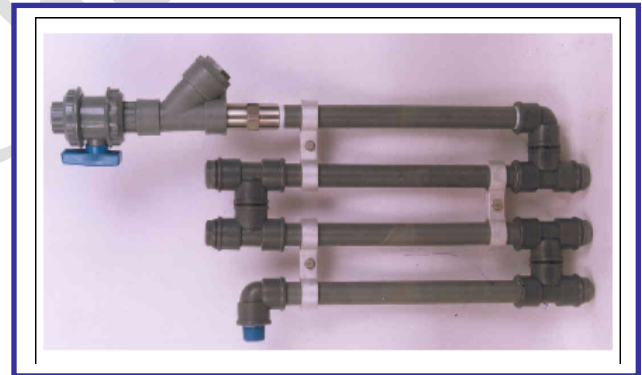
Test coupons are generally installed in the following location

1. At the outlet of hottest condenser/cooler.
2. In cooling water return
3. In makeup water line

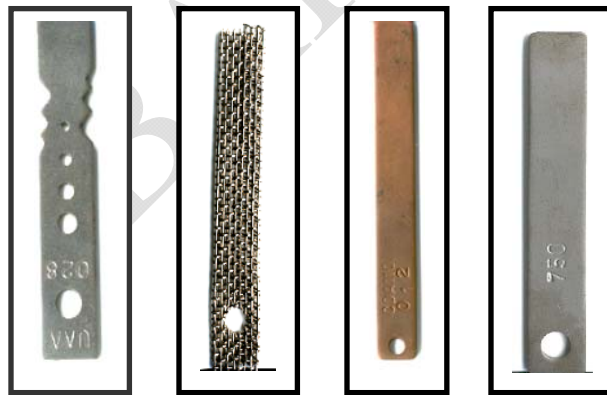
Corrosion rate is expressed in MPY(or mpy) Mills per year, IPY (or ipy) inches per year or MMPY(or mmpy) millimeters per year

CORROSION COUPON RACK

a) The **Corrosion Coupon Test Rack** is used to evaluate the effectiveness of chemical treatment programs on non-heat transfer surfaces. It comes with all accessories including a flow control valve. With these units corrosion rate can be measured at different water flow velocities. This method confirm ASTM standard and will be provide on cost basis



b) Imported **Corrosion Coupon** is per-weighted with accurate surface area and will be provide on cost basis



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4

1. Scale and Fouling Monitor Coupon
2. Fouling & Slime Monitor Coupon
3. Copper Monitor Coupon
4. MS Monitor Coupon

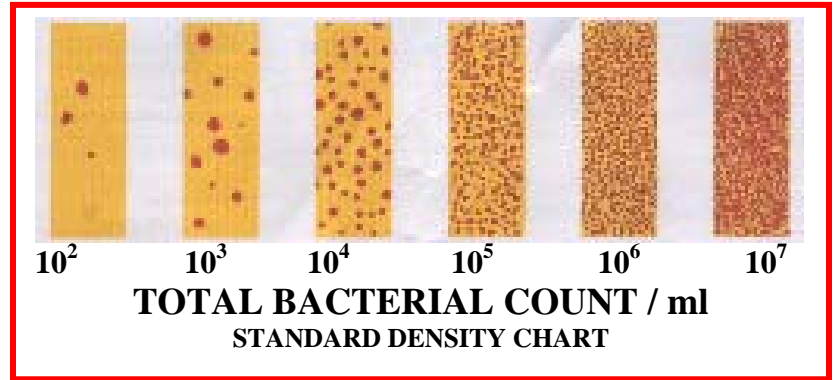
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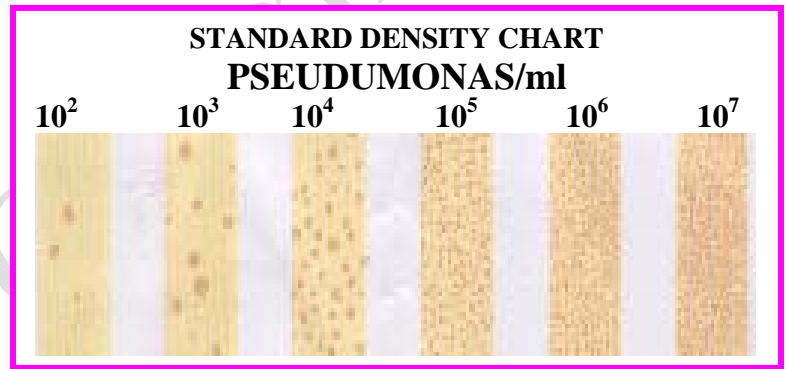
DIP SLIDE (Biological Growth Testing)

We will provide the Dip Slid for the testing of following microbiological growth and It gives freedom to test bacteria at anytime and anywhere

1. Total Bacterial Counts
2. Pseudomonas
3. Escherichia Coil (E. Coli)
4. Yeasts
5. Fungi
6. SRB



DIP SLIDE FOR MICROBIOLOGICAL GROWTH TESTS



Dosing Equipment & Systems

Looking to the specific demands of the customers, Chemical dosing pumps and dosing systems with pH & TDS Controller are being supplied for water Treatment.

