

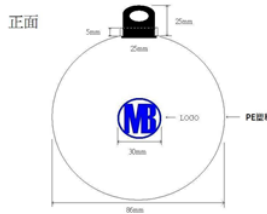
MB-50 Instruction Manual

The instruction manual is for medium or small size cooling tower, if is a large size, because the difference of locally water quality parameter, please take locally water operate parameter and test value or operate management instruction with local agent or dealer.

Magnetic Ball is designed as a ball. Each ball can handle water in cooling tower for **25 tons** cooling tower and **valid for 14 months**. If a cooling tower is larger than 25 tons and needs for more than one ball, just connect balls with iron-chain.

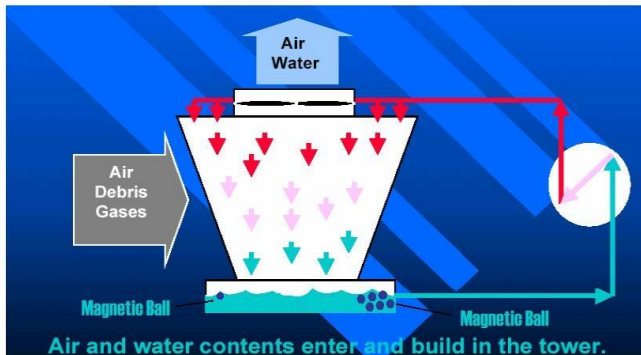
PHYSICAL SPECIFICATIONS

PE material, Work temperature $\leq 90^{\circ}\text{C}$, when $\geq 120^{\circ}\text{C}$ then will be change shape.



OPERATIONAL GUIDE

To use Magnetic Ball, just put ball or balls into a place of water inflow or outflow in cooling tower, bind iron-chain on pipe to fix the balls.



A. Start to install:

1. Checking the hardness of the water scale and growing of algae, testing the EC(Electrical Conductivity) and PH of the cooling tower water. When the EC exceed $3000\mu\text{s}$, then, we must release the cooling water 1/5 ~ 1/3. When PH under 7, then, it is special case, call us for help. If request any other water analysis, please contact us as well.
2. Use the stainless chain to hold the MB Balls close to the soaking gate.

Caution: Don't let MB balls block the water gate, it might cause the cooling system shot down.

B. Two weeks or one month later:

1. Same test the EC and PH of water, if EC exceed $3000\mu\text{s}$ then release the cooling water 1/5 ~ 1/3.
2. Check the water filth if begin soften or not, and water under tray if has slide or mud deposit, that is water filth begin soften, and then **the cooling tower water is clean and no turbid**.

C. Eight weeks later:

1. It will find a lot of water scale when clean water plate, you can use water or brush to clean radiator plate. It will easy clean water scale, and that **will show the original color of radiator plate**.
2. After cleaning water plate and refill fresh water, the Magnetic Ball will magnetize water again.
3. After that can test water quality and draw of water each month. If the EC is not over level, that can do it each 3 months.
4. It suggest cleaning water plate once at least each season, because if the water tower had serious water scale, that could continue has water scale in 6 months or 1 year.

- D. To maintain water tower like this way, that can extend years and will not cause the cooling system shot down.

Notice

- If cooling tower is use groundwater, please take locally water operate parameter and test value or operate management instruction with local agent or dealer.
- The MB ball process need an optimum water flow speed. When the water flow speed increase, then the content of calcite crystals will decrease and the aragonite crystals will increase. **The optimum water flow speed is 3 m/sec**. In the condition, the crystal in water almost is aragonite, no calcite, will just has soft water scale, that will reach the optimum performance to stop water scale.
- During the period of use MB ball, the PH of cooling tower water can't over 9.5. In normal temperature, the crystal growth rate will increase with the PH raise, and the growth rate is maximum when the PH is 9.5.
- Magnetic ball needs around 1~2 weeks to magnetize water. In this period, you will need soft scale agent to avoid water scale grow. After water magnetized, you can stop doing so.
- In the period of using the Magnetic ball, you will need **chlorine ingot or bleach agent** to avoid moss grow.
- Magnetic ball can soften and divest existing water scale, and prevent new water scale from adhering on surface of material. Because there is muddy sediment in water plate, the conductivity and hardness just will be increased. It is easy to solve this problem just by cleaning muddy sediment and adding fresh water.
- Magnetic ball can soften and divest existing water scale, and let the system pressure go down slowly. If the system pressure increase suddenly, the pipe should block by large piece of water scale, and then just need clean pipe that can resolve the problem.