



# Water Treatment (Cooling Towers)

**Water filtration systems will ensure that the quality of the cooling water is maintained and addresses water treatment issues, particularly fouling and microbiological activity.**

## Filtration

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Cooling Towers are an integral part of cooling systems and need to be maintained to maximise efficiency and performance. If not maintained correctly, the dirty process water will corrode the cooling tower equipment, reduce heat exchange efficiency and drive up energy costs, leading to unnecessary water wastage. In addition, unclean cooling water can lead to the growth of microbes such as the deadly, Legionella bacteria.

Water filtration is a cost-effective method of addressing all water treatment issues and this is done by means of filtering the suspended solids from the cooling water.

### Side Stream Filters

Side stream filters are commonly used in evaporative cooling water systems and work by directing water through a bed of graded filter media, usually made up of compounds such as silica, anthracite, or garnet.

Side stream filters are often the preferred choice for many cooling systems since they can be installed on an operational cooling tower and can be cleaned while the cooling system remains online, avoiding the need for downtime.

### Media Type Filters

Filtration of cooling water means using a conventional type of filter which contains filter media, normally graded sand, or "mixed media" where the sand has an additional layer of graded anthracite on top of it. Anthracite/sand filter beds normally provide all the advantages of single-media filtration but require less backwash water than sand alone. The major advantages of dual-media filtration are higher flow rates and longer filter runs. Filters of this design can remove suspended solids down to 20 microns in size.

## Cyclone Filters

IWC offers a range of skid mounted cyclone filter systems, these are ideally suited to smaller plants and comprise of the following skid mounted equipment.

- Feed pump
- Cyclone type separator
- Basket Filter
- Digital control system

The major advantages of cyclone filters is a reduced water consumption and smaller footprint. Filters of this design can remove suspended solids down to 70 microns in size.

## Chemical Dosing Systems

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Installation of equipment on cooling water systems is a once off cost, however, water maintenance costs are ongoing. Chemicals are used in the maintenance and dosing of the cooling water systems.

IWC offers standardised automated dosing systems that include the following:

- Scale and corrosion control - dosing
- Biocide dosing
- Conductivity based bleed off systems
- pH Control

Our systems can be either stand alone or integrated into the process plants digital control system. Furthermore, our systems can be tailored to suit any plant specific requirements.

