



## Evaporators & Crystallisers

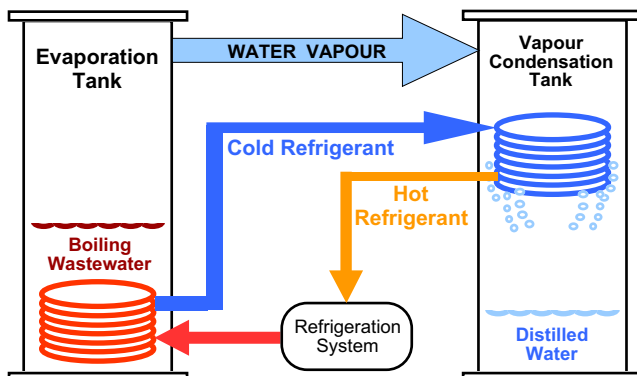
### Cold Evaporation For Industrial Wastewater Purification

#### Process Description

Cold Evaporation is a process that purifies water by boiling and subsequent condensation of the water vapour. As water boils, the change in physical state from liquid to gas removes all water soluble chemicals. When the vapour is condensed it is purified and free of salt contamination.

Cold Evaporation is an energy efficient process that utilises refrigeration in a heat pump cycle to reduce by 80% the energy required for water boiling and vapour condensation. Energy is continuously recycled in the system as water and refrigerant concurrently change physical state.

Boiling occurs under vacuum, so that the process operates at a low safe temperature of 25 °C.



*A refrigeration heat pump recycles heat gained during vapour condensation to boil wastewater*

#### Benefits

##### EASY TO OPERATE

Push button start sequence allows unit to be brought into operation quickly. Plant operation is automatic and computer controlled. It is designed for unattended operation.

##### EASY TO MONITOR

Large viewing windows enable inspection of the boiling wastewater & condensed water. An operator interface displays relevant operating conditions such as vacuum, temperature & refrigeration pressures.

##### EASY TO MAINTAIN

The system has few moving parts, therefore maintenance requirements are minimal.

#### OTHER BENEFITS

- Low operating costs
- Low maintenance costs
- Minimal pretreatment, the process will tolerate variable feedwater quality.
- Effective for TDS, BOD, TOC, COD reduction
- Consistently produces high quality water.
- No sludge production - the effluent discharged is a high strength salt solution.

#### Applications

Evaporation is suitable for purifying water contaminated with many types of pollutants. The process may be applied to simply purify polluted water or for volume reduction to reduce transportation costs or it may combine purification with recovery of valuable products such as process chemicals, plating solutions or printing inks.



*CE-500 Evaporator treating low level radioactive wastewater*



*CE-100 Evaporator treating water contaminated with herbicides*

Cold Evaporation is suitable for purification of a wide variety of water soluble chemicals such as .....

- Leachate from municipal landfills
- Chemical industry wastewater
- Drum recycling rinse water
- Glycol wastewater
- Electroplating rinse water & drag out tanks
- Flexo ink
- Herbicides, pesticides
- Machine coolants
- Medical & clinical wastewater
- Petroleum & phenol wastewater
- Complexed metals
- Soil remediation
- Volume reduction for wastewater transport.

*For additional information regarding this product consult your local agent, Environmental Warehouse or visit our website.*