



## Water Purification

*Equipment for the production of potable drinking water  
For Emergency Relief, Small Communities,  
Farm Water Supply & Temporary Supply*

### Water Plus+ Clarifiers

WaterPlus+ Clarifier Systems are recommended for treating water that is non-saline, or contains low concentrations of dissolved salts, such as river and dam water. These systems are suitable for purification of water containing turbidity (i.e. clay and sediment) and low salt levels.

WaterPlus+ Clarifiers remove harmful contaminants from drinking water by utilising chemical processes to remove sediment, pollutants, bacteria and viruses. A typical plant includes a clarifier, a sand filter, chemical metering system, pH control and water pumps. Optional equipment includes carbon filters, ultraviolet light disinfection and electrical generators.

The WaterPlus+ Clarification process produces good quality water suitable for drinking. The water purification process is automated to ensure reliable operation and consistent water quality.



### Process Description

WaterPlus+ Clarifiers purify water by the addition of chemicals to remove sediment, suspended solids, and other contaminants. Water is processed batch-wise in the clarifier. Once the tank is filled with water, coagulant is added and the pH adjusted by the addition of alkali. On completion of the initial mixing period, flocculant is added resulting in rapid clarification of the water and precipitation of solids.

The clean, solids free water is pumped from the Clarifier, through a sand filter & disinfection chamber and then to storage.

Thickened sludge is discharged intermittently.

### Benefits

The WaterPlus+ Clarifier systems apply a water treatment process that is an accepted standard for the treatment of low salinity, turbid waters. The process is used at thousands of water treatment facilities around the world.

The treatment process is computer controlled and fully automated to ensure consistent product water quality.

Chemical addition rates, mixing times and clarification period are operator adjustable via a set of timers.

The WaterPlus+ Clarifier systems are supplied fully assembled on a painted steel baseframe and are designed around standard ISO shipping container dimensions.

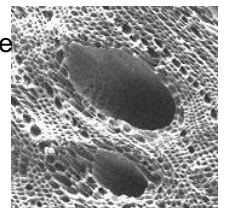
Camlok type connections are provided for interconnection to the feed water supply, product water, waste discharge and filter backwash water supply.

### Optional Equipment

#### Carbon Filter



Activated carbon filtration is used to remove water soluble chemicals that may cause water to have an unpleasant taste or odour. Carbon is also effective in removing toxic chemicals such as those resulting from Blue-Green algae. The carbon is highly porous providing an extremely large surface area for adsorption of carbon chemicals.



#### Water Disinfection - Using Ultraviolet Light

Ultraviolet light disinfection is available as an option. The U.V. system destroys viruses and bacteria. Water travels through Teflon tubes and passes the U.V. light twice to ensure maximum effectiveness.



#### Generators

Electrical generators matched to the power requirements of the Clarifier systems are also available. Petrol or diesel motors are available.



## Water Purification

**Equipment for the production of potable drinking water**  
*For Emergency Relief, Small Communities,  
Farm Water Supply & Temporary Supply*

### WaterPlus+ Evaporators

Evaporators that utilise our Cold Evaporation technology are recommended for saline water, or water that contains high concentrations of dissolved salts, such as bore water and seawater.

The Cold Evaporation process produces very high purity water from water sources that would otherwise be unsuitable for drinking. Purification is achieved via a process of water boiling and subsequent steam or vapour condensation.

The process is easy to operate, requires minimal chemical addition and is very stable. The process will tolerate variations in feed water quality without any affect on product water quality. Even polluted water can be used as feedwater. The process has been successfully applied to purifying wastewater containing electroplating wastes, low level radioactivity and pesticides. Pollutants are reduced to part per billion levels.

The Cold Evaporation process is also very affective at disinfection as viruses and bacteria are physically destroyed by the applied vacuum.

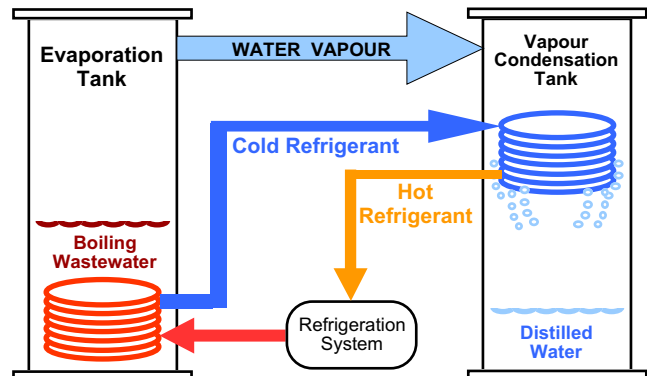
The WaterPlus+ Evaporators are supplied fully assembled on a painted steel baseframe and are designed around standard ISO container dimensions.

### 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 only a few moving parts, thereby minimising maintenance requirements.

#### 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 distilled water.
- No sludge production - the effluent discharged is a high strength salt solution.



*For additional information regarding these products please consult your local agent, Environmental Warehouse or visit our website.*