



WaterFresh – Key Factors for Professionals

The revolutionary WaterFresh technology invented in Australia is the first major advance in water disinfection methods for many decades. It uses physics to destroy pathogens. It disinfects even very turbid or salty water without the need for chemicals. It does *not* desalinate water and it does *not* remove chemical or heavy metal pollution.

The core of the WaterFresh technology is the Cell Destruction Unit (CDU). A complex series of stators and rotors spinning at high speed in the CDU generate extreme forces – radical pressure and frequency changes, intense cavitation – forces great enough to smash the cell walls of all pathogens.

Certified WaterFresh technology achieves at least a log6 – that is, 1:1,000,000 times - reduction in the level of bacteria, viruses and protozoa. Nothing comes out alive!

- WaterFresh technology is very safe, effective, compact, reliable and energy efficient.

To deliver 5-star drinking water, the WaterFresh technology is normally combined with filters to remove suspended particles (turbidity), activated carbon (to remove pesticide residues and hydrocarbons) and, optionally, dosing equipment to adjust pH and hardness. Systems are also available using Australian-designed Burkert FilterLINE Ultra filtration, providing an additional level of safety.

Two Capacities Available

WaterFresh I	250,000 litres/day maximum (1 to 3 litres/second)
Dimensions (skid mounted)	2 m x 2.2 m x 2.6 m
Power Requirement	8 kW, 415 V three-phase supply
Daily Power Consumption	192 kWh maximum (24 hour operation)
Operating Cost	~8 c/ 1,000 litres (@ 10c/kWh)
<ul style="list-style-type: none"> • Capacity: 250 guest 5-star hotel or resort, or disinfecting a large swimming pool. 	
WaterFresh II	42,000 litres/day maximum (0.2 to 0.5 litres/second)
Dimensions	0.7 m x 0.5 m x 0.5 m
Power Requirement	2.5 kW, 240 v single phase
Daily Power Consumption	60 kWh maximum (24 hour operation)
Operating Cost	~5 c/ 1,000 litres (@ 10c/kWh)
<ul style="list-style-type: none"> • Capacity: Daily drinking and cooking water needs for >2,000 people. 	

Water Reuse and Recycling

Properly treated wastewater is suitable for reuse directly for irrigating ornamental gardens, lawns and tree crops; but it should *not* be used for food crops without further treatment.

Disinfection using WaterFresh’s technology allows reuse for many additional purposes.

For example, for hotel and resorts, housing complexes and condominiums, after being disinfected with WaterFresh, water can be reused for: topping-up air conditioning cooling systems, laundries, washing vehicles and equipment, interior cleaning, flushing toilets. WaterFresh also eliminates the need for chlorine use for disinfecting water in swimming pools, spas and saunas.

Water Management

EcoAsia, in collaboration with Ozzi Kleen, WaterFresh and our local partner, also offer clients assistance in identifying and implementing practical and cost-effective means for managing water demand in large complexes.

Globally, clean water is becoming more scarce and expensive, and polluted sources of surface and ground water more common. Corporate environmental policies and consumer demand require more eco-friendly approaches, including efficient management of water resources, increased reuse and recycling and sharp cuts in use of chemicals like chlorine. Green rating systems have become mandatory and influence client and consumer choices.

EcoAsia can work with your architects and engineers to design for more efficient use of available water, reduce demand on local supplies, cut chemical use and maximise water reuse and recycling. A table is attached that illustrates some of the ways these goals and how EcoAsia can assist you and your team achieve them.

Design Factors

To assist WaterFresh prepare a custom design and detailed quotation for your system we need some basic technical and operational factors. These are:

Technical Factor	Response
Type of establishment (e.g. hotel, office, hospital, residential)?	
Estimated number of people using the system per day?	
Daily treatment capacity required (litres or m ³ /day)?	
Water source (public mains, surface water, ground water)?	
Civil works by WaterFresh or local company?	
Planned date for operation (month, year)?	

Once you have provided the information above please copy and paste the table into an email and send it to EcoAsia (info@ecoasia.biz) or our country or regional partner.

Potential for Reuse and Recycling

Application	Issues	Technology	Water Source	Advantages	Notes
Aircon Cooling Tower Water	Bacterial colonies, bio-films, chlorine use, large volume	WaterFresh I + basic filters	Treated STP Effluent	Elimination of bio-hazards, no chlorine, water use efficiency improvements	Some additional plumbing may be required
Large swimming pool(s)	Bacteria, rhinoviruses, chlorine use, THMs, maintenance costs	WaterFresh I + basic filters	Main supply, water recycled	Elimination of chlorine & THMs, safer swimming	Replaces traditional chlorine treatment
Private villa swimming pools	Bacteria, rhinoviruses, chlorine use, THMs, maintenance costs	WaterFresh II + basic filters	Main supply, water recycled	Elimination of chlorine & THMs, safer swimming	Replaces traditional chlorine treatment
Spas & saunas	Bacteria, rhinoviruses, chlorine use, THMs, maintenance costs	WaterFresh II + basic filters	Main supply, water recycled	Elimination of bio-hazards, no chlorine & THMs,	Replaces traditional chlorine treatment
Laundries	Water use efficiency, bio-hazards, chlorine use	WaterFresh II + basic filters	Main supply, water recycled	Reduced water demand through reuse	Requires treatment of wastewater
Vehicle & equipment washing	Run-off HC pollution, water use efficiency	WaterFresh I post-STP	Reused treated STP effluent	Reduced water demand through reuse	Requires oil-trap(s) and proper disposal
Gardens	Water use efficiency, cost	WaterFresh I post-STP	Reused treated STP effluent	Reduced water demand & costs	Provides some additional nutrients
Flushing toilets	Large volumes, once through	WaterFresh I post-STP	Reused treated STP effluent	Reduced water demand, & costs	Requires additional, separate supply pipes