



# Commercial buildings and multiple dwellings – **one recycling solution.**

## Why lose it when you can re-use it?

Water is a precious commodity. At Aquacell, we're committed to preserving it. Our cutting edge water recycling systems are the sustainable, cost-effective way to reduce water consumption. The Aquacell S Series gives commercial developers modular solutions to on-site blackwater recycling.

## Blackwater v Greywater Recycling

Blackwater is any waste water that is contaminated with water discharged from a toilet. Compared to greywater recycling, it is often more practical to recycle blackwater. Most plumbing systems don't separate greywater streams e.g. showers, basins. Aquacell S systems can often be retro-fitted to existing buildings or be installed in new developments without dealing with dual plumbing complexities.

Despite many commercial facilities and multi-dwelling apartments having the option to discharge waste water directly into a local municipal sewer network, on-site blackwater recycling is attractive to many sites for a number of reasons including:

- Reducing on-site water use by up to 90%.
- Contributing points to a Greenstar development or pro-actively demonstrating good environmental management
- Providing an additional source of water to keep gardens and sports fields green; many parts of Australia have limited water resources available for aesthetic uses.
- Reducing the hydraulic impact of a development on a local municipal sewer. This overcomes development restrictions caused when the existing sewer is at its hydraulic capacity.

## Complete confidence and support

Built-in control logic and instrumentation continuously react to the ever-changing quality of effluent without an on-site operator. Expertly trained Aquacell engineers remotely

monitor all systems via the Internet, twenty-four hours a day, seven days a week.

## Regulatory compliance

Aquacell has delivered numerous localised blackwater treatment/recycling solutions across Australia. We have the experience and knowledge to navigate complex regulatory frameworks and ensure positive blackwater recycling outcomes are achieved.

Data acquisition and compliance reporting is built into the Aquacell system from the ground up.

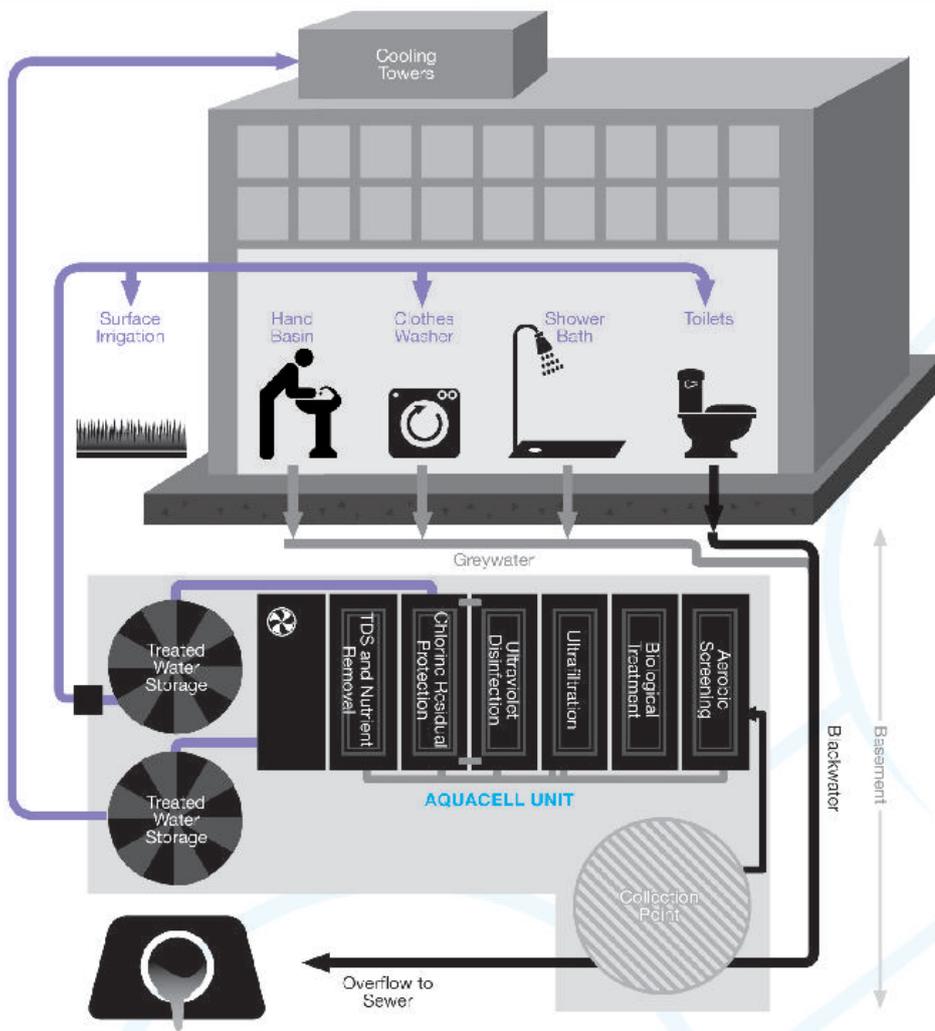
All our systems are backed by expert knowledge, service and maintenance support. This is our ongoing guarantee to ensure your peace of mind.

## Green Star benefits

The Aquacell S Series offers high recovery rates without backwashing, negligible residue and low energy usage. These features provide maximum credits for Green Star or ESD projects.

**Aquacell is the ideal option for green builders.**





One recycling solution

### The Aquacell S Series approach

Our unique modular technology is utilised in the Aquacell S Series. The system features a controlled, robust and comprehensive treatment process that combines physical, microbiological and oxidative treatments into the one package:

**Collection point** – Water flows from the property to a collection point, whereby it is pumped into the Aquacell to begin the treatment process.

**Screening** – The first step efficiently reduces insoluble material to a negligible residue. This residue is either discharged to sewer or it is de-watered and compacted for disposal as solid waste.

**Biological Treatment** – Air is diffused into the water to create optimum conditions for bacteria to consume impurities. A sustainable biomass concentration is maintained, which metabolises all incoming waste – resulting in negligible sludge.

**Ultrafiltration** – Ultrafiltration occurs through a special membrane of microscopic pores that prevents particles, bacteria and viruses from

### Typical Blackwater performance

Parameter	Influent water quality	Treated water quality
Biochemical Oxygen Demand (BOD), mg/L	300–600	<5
Suspended solids, mg/L	300–600	<1
Total Nitrogen, mg/L	70–120	<15*
Total Phosphorous, mg/L	20–30	<10*
Faecal coliforms, cfu/100ml	10 <sup>6</sup> –10 <sup>8</sup>	<1
<i>E Coli.</i> , organisms/100ml	10 <sup>6</sup> –10 <sup>8</sup>	<1
Turbidity, NTU	<2	
Viruses, Pathogens	5–7 log reduction	
Power consumption	Less than 4kWh per kL produced	
	* Levels <1 can be achieved if required.	

passing through. The membranes are cleaned by air scouring, ensuring no waste water is produced.

**Ultraviolet disinfection** – As a precaution, Ultraviolet lamps are provided. These act as a further barrier, providing additional protection against pathogens.

**TDS and nutrient removal** – Proprietary technologies are employed for applications such as cooling tower reuse and discharge to sensitive environments.

**Chlorination** – Finally, a chlorine residual is added to protect the water while in storage and the reticulation system – the only time any chemicals are used throughout the treatment process.

**Treated water storage** – The result is safe water, kept in storage for immediate use in a variety of non-potable applications, including surface irrigation, toilet flushing and cooling towers.

### For further information

Please contact Aquacell Head Office on 02 4782 3300 or email [sales@aquacell.com.au](mailto:sales@aquacell.com.au)