

Aquatec Maxcon is the distribution partner for Aspiral MABR technology for advanced, energy efficient treatment of wastewater.

Packaged decentralised MABR treatment plants are the latest offering in packaged treatment plants in Australia, offering low carbon emissions and high effluent quality.

- *Smart Packaged MABR-based wastewater treatment*
- *Highly efficient nutrient removal*
- *Reduced energy consumption*

MABR modules slash nutrient loading by up to 90% while also reducing energy consumption

### **Description**

Aspiral™ is a Smart Packaged wastewater treatment solution based on an innovative Membrane Aerated Biofilm Reactor (MABR) technology. MABR is a well-validated technology for low-energy treatment of municipal wastewater.

It uses a spirally wound, self-respiring membrane sleeve to provide the aeration required for the wastewater treatment process by diffusion.

The spiral membrane module at the heart of the biological reactor performs simultaneous BOD, TN and TP removal, all in a single pass.

Aspiral™ L

Aspiral™ S1 Package Plant

MABR Biological  
Operation Principles

### Design

Select the right configuration for the most suitable solution for small to medium sized treatment plants from 100 EP to 10,000 EP, serving townships, residential communities, resort hotels, commercial complexes, caravan parks and more. All Aspiral™ configurations can be remotely monitored and controlled.

The Aspiral™ system arrives fully equipped and tested for fast installation and start-up.

It incorporates durable membrane materials with a life expectancy of over 20 years. The MABR biological treatment has no moving parts which leads to reduced maintenance.

ASPIRAL™ S1

ASPIRAL™ L3

ASPIRAL™ CLARIFIER  
UP TO 3,000 EP

### Technology

Fluence's unique, patented MABR process features highly efficient aeration and biofilm

nitrification-denitrification. In MABR, a spirally wound membrane is submerged in a tank.

Wastewater is continuously fed through and effluent is discharged by overflow. Low-pressure air is blown through one side of the membrane and the biological activity takes place on the other side.

Oxygen is constantly supplied to a fixed biofilm that develops on the wastewater side of the membrane sleeve. Simultaneous aerobic and anoxic conditions develop in this zone leading to simultaneous nitrification and denitrification using very little energy and space. This low-pressure, passive aeration offers significant energy savings over conventional, high-pressure aeration.

The operational conditions in the MABR spiral support a highly efficient nutrient-removal process even at low temperatures.

## Key Advantages

- Reliable high-quality effluent (BOD?)
- Very low energy consumption
- Save OPEX - up to 50% (compared to conventional treatment processes)
- Small footprint when TN removal is required
- Simple to operate by non-skilled operators
- Low maintenance resulting in high plant availability
- No odours and noise
- Modular design for easy expansion

## Key Installations



*ITEST 3,000 EP*



*QSY 4,500 EP*

St Thomas 1,425 EP



Ha'Yogev 1,875 EP

## Services

### Products & Services

#### *MABR Test Tank*

Aquatec Maxcon, in partnership with Fluence Corporation, can deliver technical advice and the process knowledge to meet specific project needs.

Aquatec Maxcon has 50 years of experience in treating water and wastewater for both municipal and industrial applications.

A leader of the water industry, Aquatec Maxcon has successfully introduced a range of innovative process technologies to Australia including the first UASB, IC Reactor, Membrane Bioreactor and Circox Reactor, and Nereda® Granular Sludge and have diligently supported their implementation within Australia.

Aquatec Maxcon Pty Ltd is part of the Aquatec Maxcon Group which provides a vertically

integrated range of in-house services including:

- Design and Construction;
- Project Management, Commissioning and Operation;
- Installation and Maintenance;
- Steel Fabrication, Sand Blasting and Painting;
- Machine and Plant Automation;
- System Integration and SCADA Configuration.

Aquatec Maxcon has established and maintains a dedicated service department for scheduled maintenance and breakdown services.

[Services Home Page](#)