

# Water Solutions for the Food and Beverage Industry



# Smart Water Solutions

The food and beverage industry is constantly looking to reduce costs, reduce wastage and streamline operations.

MAK Water specialises in water and wastewater treatment solutions for food and beverage applications. From high purity water or process water treatment for re-use and recycling, to wastewater treatment for disposal to sewer or re-use, MAK Water's wide range of plant design means we can meet all your site water and wastewater treatment requirements. MAK Water takes a consultative approach to solving our clients' water problems; you can rely on us for smart advice.

## Reliable Food and Beverage Expertise

**COMPLIANT DISCHARGE.** MAK Water has experience in many different types of food and beverage applications and provides custom designed solutions for your site to comply with local discharge requirements.

**FLEXIBLE SOLUTIONS.** Our wide range of standard designs can be fully customised to meet project specifications and applications. For short-term requirements, rapidly deployable hire plants are available. Where project funds are better employed in other areas, MAK Water can offer build-own-operate, or lease-to-own solutions.

**EQUIPMENT RELIABILITY.** In food and beverage operations, equipment reliability is paramount. MAK Water has an established track record of manufacturing fully automated, high quality equipment for maximum reliability and minimum operator intervention.

**END TO END SOLUTIONS.** From the supply of process technology only, to turnkey installations, we can design, build, install, operate and maintain all of your site water and wastewater treatment requirements.

**INNOVATIVE DESIGNS.** MAK Water is always looking for innovative ways to better deal with clients' water treatment solutions. We offer innovative technologies to deliver the best results in manufacturing applications.

**24 HOUR LOCAL SUPPORT IN EACH STATE.** A service team located in every mainland state in Australia allows for rapid deployment to sites across Australia, for both planned and unplanned maintenance and technical support of water and wastewater treatment plants.



### INDUSTRY SECTORS

#### MEAT PROCESSING

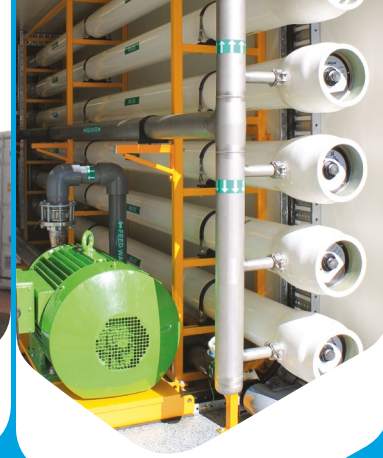
- ♦ Beef
- ♦ Poultry
- ♦ Lamb
- ♦ Pork

#### DAIRIES

- ♦ Milk
- ♦ Cheese
- ♦ Ice Cream
- ♦ Yogurt

#### BEVERAGES

- ♦ Breweries
- ♦ Soft Drinks
- ♦ Malting
- ♦ Wineries



## ✓ INDUSTRIAL WASTEWATER

### Compliant Discharge

MAK Water understands the importance of regulatory compliance for trade waste discharge and can provide full custom solutions for your project. MAK Water works collaboratively with you to develop solutions to meet your site discharge requirements.

Typical applications include:

- ◆ Dissolved air flotation (DAF) plants, moving bed bioreactor (MBBR) plants and membrane bioreactor (MBR) plants for reduction in biological demand, chemical oxygen demand, oil and grease
- ◆ Gravity clarification, filtration and screening for solids removal
- ◆ pH adjustment for compliant discharge

### Recycling and Reuse

As water becomes more expensive and less abundant, recycling water can result in significant cost savings for your business. MAK Water provides innovative treatment systems for water recycling and reuse onsite to minimise your wastewater discharge and water usage costs.

Typical applications include:

- ◆ Dissolved air flotation, screening, filtration and clarifiers for factory process water recycling
- ◆ Gravity clarification and filtration plants for rain and storm water harvesting

## ✓ WATER TREATMENT

### Industrial Process

Many food and beverage plants require clean treated water for internal operations. MAK Water can provide solutions to produce high purity water at your facility for various processes. Typically the available source water used for process requires additional treatment to meet the purity standards necessary for a specific application. **Reliable water treatment reduces maintenance costs for boilers, cooling towers, pumps and other process equipment.**

Typical applications include:

- ◆ Demineralised water plants for boiler and cooling tower make-up
- ◆ Water softening and ion exchange plants for boiler and cooling tower make-up
- ◆ Demineralised water for process water
- ◆ Ultrafiltration or media filtration for process water

### Potable/ Drinking Water

MAK Water has a wide range of technologies we can use to design smart solutions for your onsite potable water production. As water becomes more expensive, producing your own potable water, which is often used throughout the process as well as for drinking, can result in significant cost savings to your business.

Typical applications include:

- ◆ Desalination plants for potable water
- ◆ Water softening plants for potable water
- ◆ Ultrafiltration or media filtration plants for potable water
- ◆ Sterilisation systems to maintain safe water storage and distribution



# Solutions

## BRACKISH WATER REVERSE OSMOSIS

Treat brackish ground, surface or industrial water to achieve potable water quality. Standard process includes pre-treatment, RO desalination and a clean-in-place (CIP) system for membrane cleaning. Add additional treatment steps as required.



## WASTEWATER / SEWAGE MEMBRANE BIOREACTOR

Treat wastewater for compliant discharge to sewer. Standard process includes screening, biological degradation, ultrafiltration and sterilisation. Add additional treatment steps, such as enhanced nutrient removal, as required.



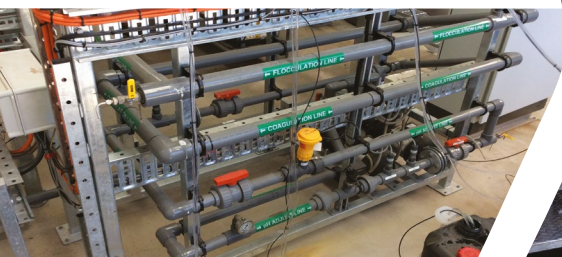
## WASTEWATER / SEWAGE MOVING BED BIOREACTOR

Treat wastewater for compliant discharge to sewer. Standard process includes screening, biological degradation and clarification.



## DISSOLVED AIR FLOTATION

Counter-current system designed to achieve maximum treatment efficiency in a compact footprint. Removes a variety of contaminants to meet trade waste or reuse requirements.



## GRAVITY CLARIFICATION

Clean water prior to reuse, or discharge to the sewer or environment to minimise the use of potable water or water supply while protecting users and the environment from contaminants in the waste stream.



## SCREENING AND PRIMARY CLARIFICATION

Free-standing units used for the separation of settling solids from wastewater and process water through sedimentation. Sludge thickening and dewatering are performed in one compact unit, producing dry sludge. Low investment and requires very little maintenance.



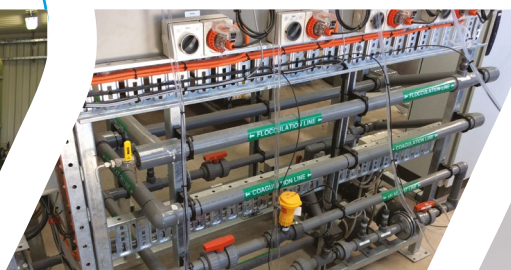
## MULTIMEDIA FILTRATION

Treat ground, surface, storm and waste water with suspended solids to achieve potable or process water. Standard process includes auto-backwashing multimedia filtration. Add additional filtration media and other treatment steps, such as sterilisation or pH correction, as required.



## ULTRAFILTRATION

Treat ground, surface, storm and waste water to achieve ultra-clear filtrate that is free of viruses and bacteria. Standard process includes pre-filtration, ultrafiltration and automated membrane cleaning systems. Add additional treatment steps as required.



## WATER STERILISATION

Automatically maintain the correct amount of free chlorine in a potable water storage tank, or use ultraviolet sterilisation to disinfect water, in accordance with Australian Drinking Water Guidelines.





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## Client Services

MAK Water are packaged plant specialists, providing industrial waste water, sewage and water treatment solutions in Australia and overseas.

For more than 20 years, our solutions have been helping clients achieve cleaner water solutions that are both cost-effective and regulatory compliant.

MAK Water offers customised water management systems, owns a substantial hire fleet, and provides service and maintenance for all types of water and wastewater treatment systems. A wide variety of consumables and chemicals for ongoing system performance and a complete range of standard products are also available.

MAK Water has built a reputation for delivering superior service and high performing systems, enabling clients to reduce operating costs and extend equipment life-cycles.

- ◆ Design
- ◆ Project Management
- ◆ Procurement
- ◆ Manufacturing
- ◆ Installation
- ◆ Commissioning
- ◆ Operation
- ◆ Service and Maintenance
- ◆ Consumables
- ◆ Spare Parts
- ◆ Equipment Hire