

Osmoflo Water Management
Pty Ltd

Our Technology...



World class desalination



Ground water made suitable for beer production at Coopers Brewery

At a glance

- Leading global water solutions company - located in 3 continents
- Osmoflo is a proud subsidiary of Hitachi Zosen Corporation
- Delivers custom engineered and pre-engineered water treatment solutions
- Owns the largest desalination fabrication facility in the southern hemisphere
- Has designed and built more than 500 plants since 1991
- Operates and maintains over 90 plants and facilities on behalf of clients around the world
- Experienced global workforce
- Offers flexibility through capital purchase, build own operate or rental options
- Backing of strong shareholder as investor and project partner

World class water

Osmoflo is a progressive water treatment company that provides tailored, turn-key water and water recycling/reuse solutions across the industrial, resources and municipal sectors globally.

Osmoflo is the largest Australian based designer and builder of desalination projects, with offices in the UAE and India. Osmoflo have an enviable track record of providing successful, affordable, high technology water solutions dating back to 1991.

Water is life and every day our water treatment systems are vital to the wellbeing of thousands of people around the world. Since establishment Osmoflo has specialised in the design, build and operation of over 500 reverse osmosis desalination plants.

A complete project solution from inception to operation is supported by technical expertise as well as the spare parts, consumables and chemicals needed to keep your plant fully operational. Combined with our flexible purchase options this means we can tailor the right solution for you.

Our plants are located around the world at remote mine sites, oil and gas fields, power stations, city breweries, townships and coal seam gas fields - wherever there's a need for drinking, process, high purity or recycled water.

The hub of our business activities is located at Burton in Adelaide's northern suburbs. This world class facility is the largest in the southern hemisphere dedicated to the design and fabrication of water treatment systems.

Osmoflo's shareholder consists of Japan's Hitachi Zosen Corporation, who partners with Osmoflo to pursue water projects across the globe. Our shareholder facilitates access to their global network, provides specific project support and delivers the additional commercial capability that enables Osmoflo to join the small number of international water companies capable of delivering very large desalination projects.



World class facilities

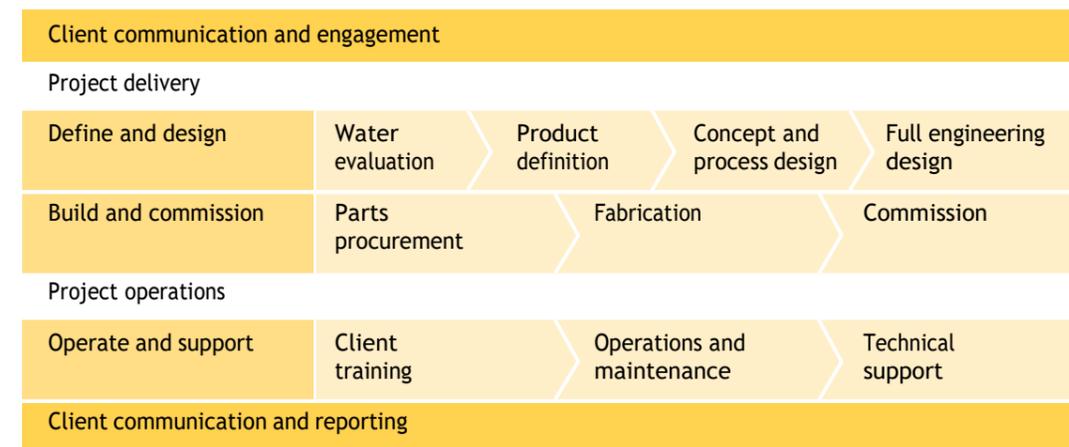


Maintaining the Reverse osmosis plant at the Mt Piper Power Station

Service delivery throughout the project life cycle

Our highly skilled and experienced engineers manage individual contracts from the design phase through to commissioning. This ensures the optimum technical solution is selected in terms of whole of life performance and cost. Technical experts are located in our global offices, enabling us to quickly provide total project life cycle support as required.

Osmoflo project life cycle



Project delivery

What sets us apart:

- Our ability to provide the right technical solution for sea, brackish or waste water, based on many years experience in specialised membrane process design;
- Guaranteed process and operational performance;
- Highly automated plants, minimising manual control and risk of mistakes;
- Strict quality control across all aspects of the project.

Operations and maintenance

In operating and maintaining your plant, our objective is optimised long term performance and reliability.

Experience in remote plant operation and continuous monitoring anywhere in the world through our proprietary PlantConnect® software is supported by our 24 hour operations control centres. Real time performance data from plants controlled through the centres is consolidated and used to manage maintenance scheduling and management of the asset.

In operating your plant we have the experience to:

- Optimise plant performance;
- Minimise energy consumption;
- Reduce brine discharge;
- Optimise preventative and programmed maintenance.

Support services

Osmoflo has a range of support services and solutions to provide both flexibility and a complete service offering. These include:

- For less complex projects we can deliver pre-engineered plants, supported by commissioning, training and operations;
- A large rental fleet ready for immediate dispatch for emergency or short term water needs up to 150,000m³/day;
- An extensive range of spare parts, consumables, instruments and chemicals to maintain and optimise your desalination plant;
- Flexible commercial terms including build own operate or capital purchase options.



24/7 monitoring by Plant Connect

Research, development and innovation

Technical innovation

Osmoflo has established and maintains its market leadership by combining technical innovation with practical experience of local conditions. Our employees pride themselves on their ability to keep abreast of advances in membrane technologies anywhere in the world and adapting these to provide 'fit for purpose' solutions to client requirements. From pre-treatment through to management of waste brine, we work with our clients to provide the optimum effective solution site by site.

Research and development

Working at the forefront of technical advancement requires a strong commitment to research and development. This has resulted in a number of patented technologies which have further advanced our treatment processes.

In addition Osmoflo carries out research with commercial partners and contributes to a number of external university managed research programs. Improved recovery during the desalination process and applications to add value to brine produced by it, are examples of Osmoflo research initiatives.

Expertise in desalination

The characteristics of untreated or 'raw' water vary dramatically and these need to be taken into account when deciding what treatment process is required.

Osmoflo has over three decades of experience in treating difficult and diverse raw water, removing salts and other impurities to make it suitable for specific purposes. That experience, plus the fact that the company sources the best technologies worldwide, gives us the confidence and capability to offer best 'fit for project' water treatment solutions.

A selection of technologies we use include:

Pre-treatment	Ultra, nano and micro filtration, multimedia, activated carbon, ion exchange, cartridge filters
Reverse Osmosis desalination	Incorporating energy efficiency and water recovery technologies for sea, brackish and reuse water
Post-treatment	Calcite, lime, carbon dioxide, pH adjustment
Water disinfection	Ozonation, chlorination, ultra-violet treatment
Demineralisation	Electro-deionisation, mixed bed ion exchange, condensate polishing



Customer consultation throughout the project



Chevron, Gorgon Project, demineralisation plant under construction

Expertise in water recycle and water reuse

Our complete turn-key water recycle and water reuse solutions utilise a range of technologies to meet any disposal or reuse criteria. This includes "Class A" or "Class A+" as specified by relevant environmental and public health regulators. Treatment to even higher standards utilising reverse osmosis can also be achieved with in-house capabilities.

Osmoflo's water treatment capabilities and solutions can service industry at large including the resources sector, oil and gas, defence, food and beverage, utility and municipal sectors.

Technology and treatment options include:

- UF/MF/MBR membrane treatment
- Reverse Osmosis treatment
- Post treatment disinfection (UV, hypochlorite) to achieve sufficient log reduction
- Mechanical sludge dewatering



QGC, Windibri, desalination of CSG water

Our projects

Our clients cover industry at large, utilities and developers of major infrastructure:

Mining, Oil & Gas

Antucoya, BHP Billiton, Chevron, Caltex, Glencore, Inpex, Rio Tinto, Santos, Shell

- Desalination of brackish or sea water for potable use
- Purified water for process applications
- High purity water for gas turbines
- Treatment of mine drainage water for environmental release
- Water reuse

Coal Seam Gas

Linc, Origin, QGC, Santos

- Treatment of water extracted in the CSG production process, to meet environmental standards and beneficial uses
- Brine management system to utilise salts for commercial use

Power

AGL, Delta Electricity, EGAT, Origin Energy, Rio Tinto, Verve Energy

- High purity boiler feed water via reverse osmosis or ion-exchange systems
- Pure water for gas turbines - power augmentation and nitrous oxide reduction
- Cooling water - salt removal and recycling



Delivery of Osmoflo containerised plants



Essential Water, Broken Hill Desalination Plant

Food and Beverage

Coca-cola, Coopers, CUB, Fosters

- Pure water for process applications
- Pure water for bottled water products
- Water reuse

General Industry

Nyrstar, OneSteel, Penrice, Visy Pulp & Paper

- Desalination of brackish or sea water for process applications
- Purified water for process applications
- Water reuse

Municipal

ACWA Power Barka, Hong Kong Jockey Club, Maynilad, SA Water, Water Corporation

- Desalination of brackish or sea water for potable use
- Treatment of waste water for recycling to industry or for irrigation

Osmoflo recently achieved Asset Management System certification. The standard identifies the extensive compliance requirements for the life-cycle management of all assets and requires demonstration of asset management as a core priority of the entire business.

Osmoflo's Quality Management System (QMS) includes design, manufacture, installation, operation (including remote operation) and servicing of water treatment, water recycling and other filtration systems.

Our Occupational Health and Safety Management System encompasses all processes associated with design, fabrication, installation, commissioning, servicing and maintenance of our projects.

Osmoflo's Environmental Management System puts the environment first. Our main design and fabrication facility incorporates rainwater and wastewater collection systems. Advanced membrane bio-reactors treat wastewater making it suitable for reuse throughout the facility.



Working to global standards



Delta Electricity, Wallerawang Power Station

Locations

Australia

India

United Arab Emirates

Contact us

+61 8 8282 9700

mail@osmoflo.com

osmoflo.com



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