

IMPLEMENTING WATER SOLUTIONS



EC

BioMOD™ EGSB



BioMOD™ MBR



BioMOD™ MBBR



BioMOD™ AVMD



BioMOD™ ARRO



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CONSULTING | SOLUTIONS | DEVELOPMENTS



Design and Initiation

Experience and capabilities to assist Clients from the first concept phase to the final detailed design, assessing project feasibilities and offering alternative solutions that can save time and cost.

Project Execution

Collaborative and open approach in the planning and execution of agreed designs, achieving efficient project delivery time frames within the appropriate managed and monitored controls, quality and risk mitigation strategies and always meeting the highest Safety and Environmental standards.

Contract Modeling

Ability to operate as D&C, EPC, EPCM through our net of strategic partnerships, we can offer various options of project delivery models such as Guaranteed Maximum Price (GMP), Lump sum, Target Cost Estimate with risk / reward and or Open Book Reimbursable Risk Reward EPC basis, giving a wide range of flexibility to end Clients.

APPLICATION FIELDS



POWER GENERATION

PETROLCHEMICAL AND REFINERY

UPSTREAM OIL AND GAS

COAL SEAM GAS

COOLING TOWERS



MINING AND METALS



MUNICIPAL AND INFRASTRUCTURE



HOME CARE AND BEAUTY



FOOD AND BEVERAGE



AUTOMOTIVE



CS&D Services is proudly the exclusive Australia and New Zealand Agent for Aquatec International

Turnkey Modular Water Solutions

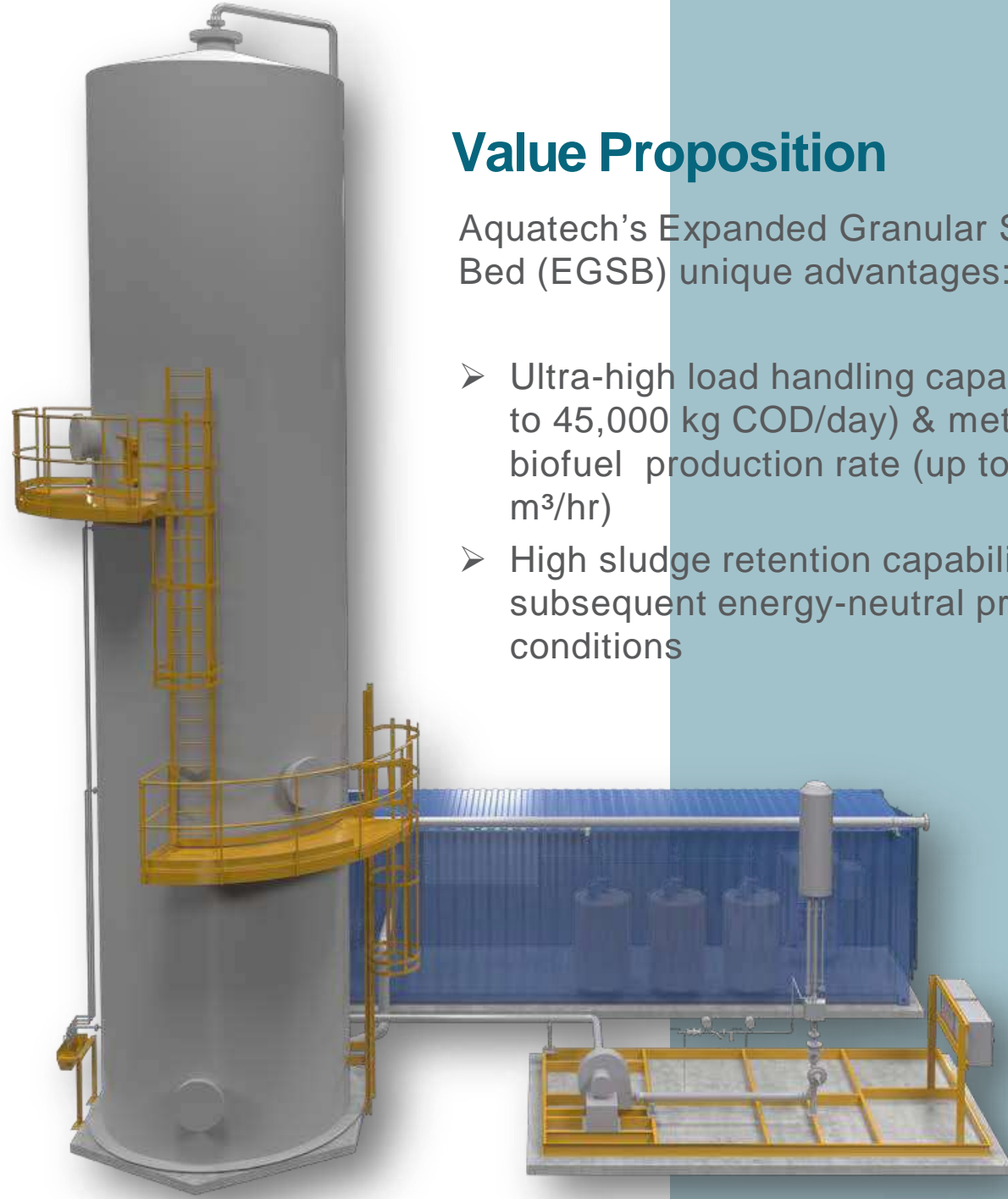
CS&D Services is proudly the Australian and New Zealand exclusive Agent for Aquatec International.

Aquatec, with 40 years of successful growth and performance, is the trustable partner for all your water needs.

From the Experience in delivering MAJOR projects in **Pre Treatment, Thermal Desalination, Ion Exchange, Ultra Pure Water System and Zero Liquid Discharge**, we are now providing their patented technologies in a **MODULAR, PLUG AND PLAY TURN KEY SETUP**

- BioMOD MBR
- BioMOD MBBR
- BioMOD AnMBR
- R₃MOD CeraSoft
- R₃MOD AVMD
- R₃MOD ARRO
- BioMOD EGSB
- DesalMOD (SWRO and BRWO)
- DAF/ UF

BioMOD™ EGSB



Value Proposition

Aquatech's Expanded Granular Sludge Bed (EGSB) unique advantages:

- Ultra-high load handling capability (up to 45,000 kg COD/day) & methane biofuel production rate (up to 660 m³/hr)
- High sludge retention capability and subsequent energy-neutral process conditions

Typical Applications

- Breweries
- Dairy Processing
- Wineries and Distilleries
- Food Manufacturing
- Pulp and Paper
- Pharmaceutical / Chemical / Municipal

BioMOD™ MBBR

Value Proposition

Aquatech's Moving Bed Biofilm Reactor (MBBR) provides proven wastewater treatment and recycling to a domestic as well as of industrial effluent.

- Requires Less Footprint.
- Less Energy consumption
- Robust technology (Roughening stage)
- Better in handling organic and hydraulic fluctuations
- Can operate at turndown ration of as low as 30%



BioMOD™ AnMBR

Value Proposition

Anaerobic MBR (AnMBR) is a sustainability-focused technology to treat high organic load and produce higher energy in smaller footprint

- Target- COD Reduction – Inlet COD Level (>10000 ppm)
- AnMBR= Anaerobic Digestion + Membrane
- Digestion at high temperature with mesophilic/thermophilic biomass
- Q-Sep- Ceramic Membrane

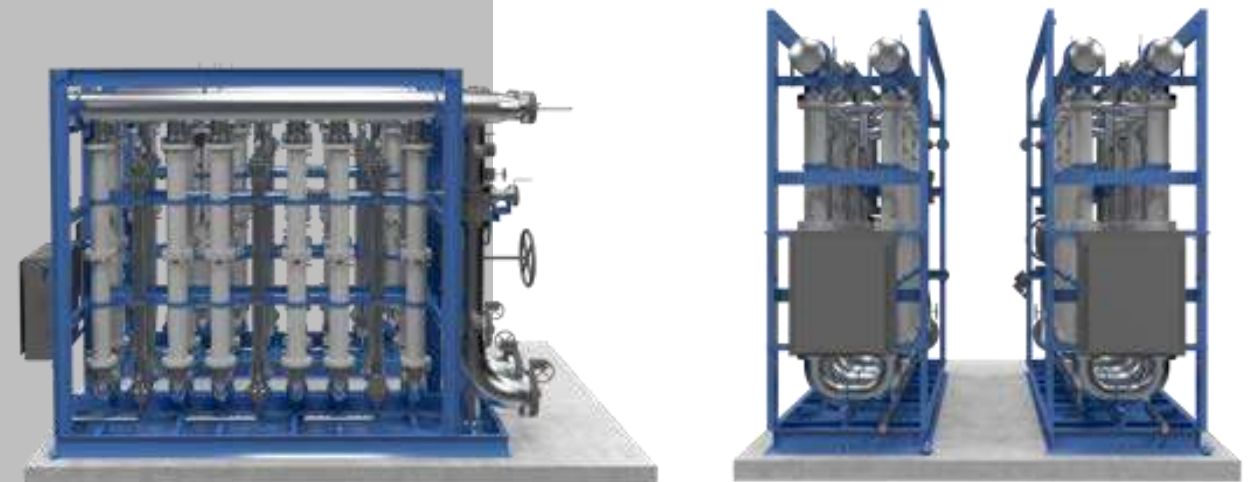


R₃MOD™ CeraSoft

Value Proposition

Combines QUA Group's advanced ceramic membrane technology (CeraQ™) with our extensive RO process experience to provide a solution capable of:

- Scale-reduction for Reverse Osmosis (RO) feed/reject water applications
- Ultra-high fluxes (300-350 LMH) and 30-40% smaller footprint (translating to lower energy consumption)
- Integrating seamlessly with RO



Operational Advantages

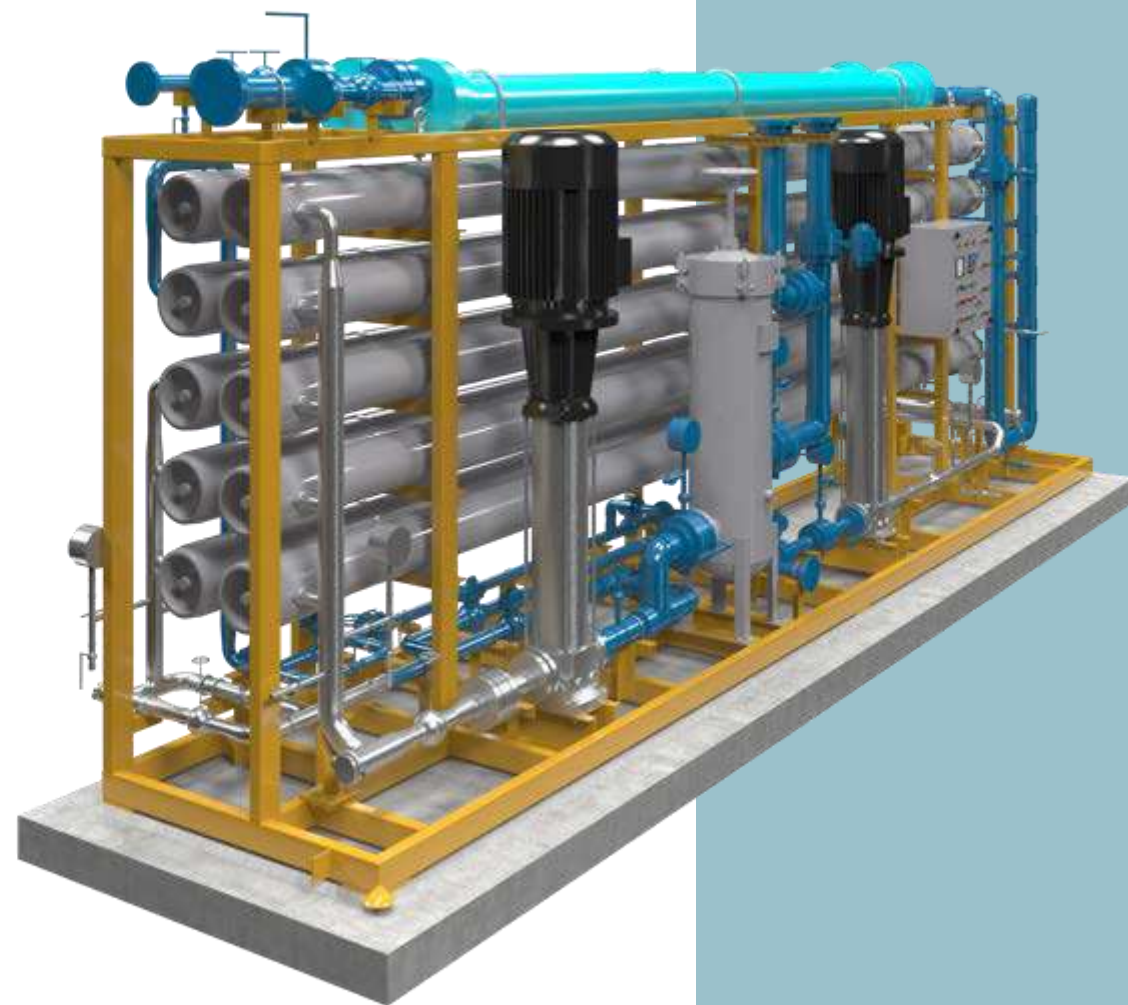
- Able to remove minerals, organics and heavy metal contaminants prior to RO without extensive equipment
- Able to operate at higher thresholds than competing softening technologies, providing mechanical, thermal and chemical strength benefits
- Suspended solids are continually recycled to prevent the system from exceeding 5% solids concentration

R₃MOD™ ARRO

Value Proposition

Advanced Recovery Reverse Osmosis (ARRO) ARRO has been developed to treat wastewater, where conventional RO is not satisfactory

- ARRO achieves recovery rates up to 95% without extended downtime for maintenance using its patent-pending process
- Primary stages function in stress-free mode at all times, while final stage handles majority of load to yield high recovery
- Capital cost is comparable to that of conventional RO



R₃MOD™ AVMD

Value Proposition

Aquatech's Advanced Vacuum Membrane Distillation consist of hydrophobic membrane envelopes. A vacuum is created to pull water vapor through the membranes. This technology has been successfully pilot-tested for TDS, selenium and COD removal, and is under execution for Pharmaceutical company in India

- Uses modular configuration and specialized membrane design to drive down cost of ownership for small ZLD facilities by 40-50%
- High brine concentration and salt rejection capability, with high recovery.
- Lower CapEx as compared with conventional thermal evaporation systems
- Innovative design - eliminates membrane fouling
- Lower operating costs and smaller footprint

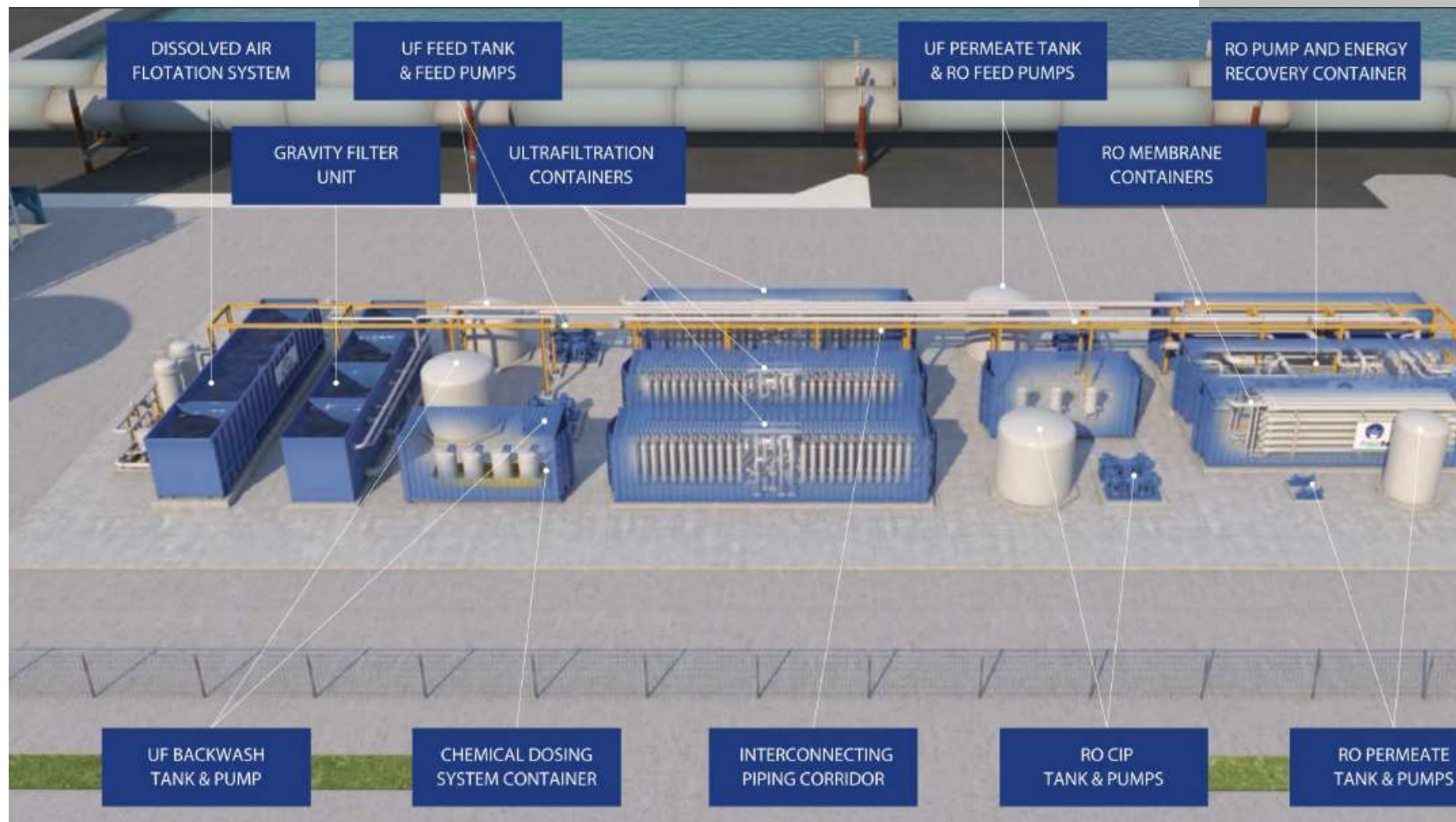
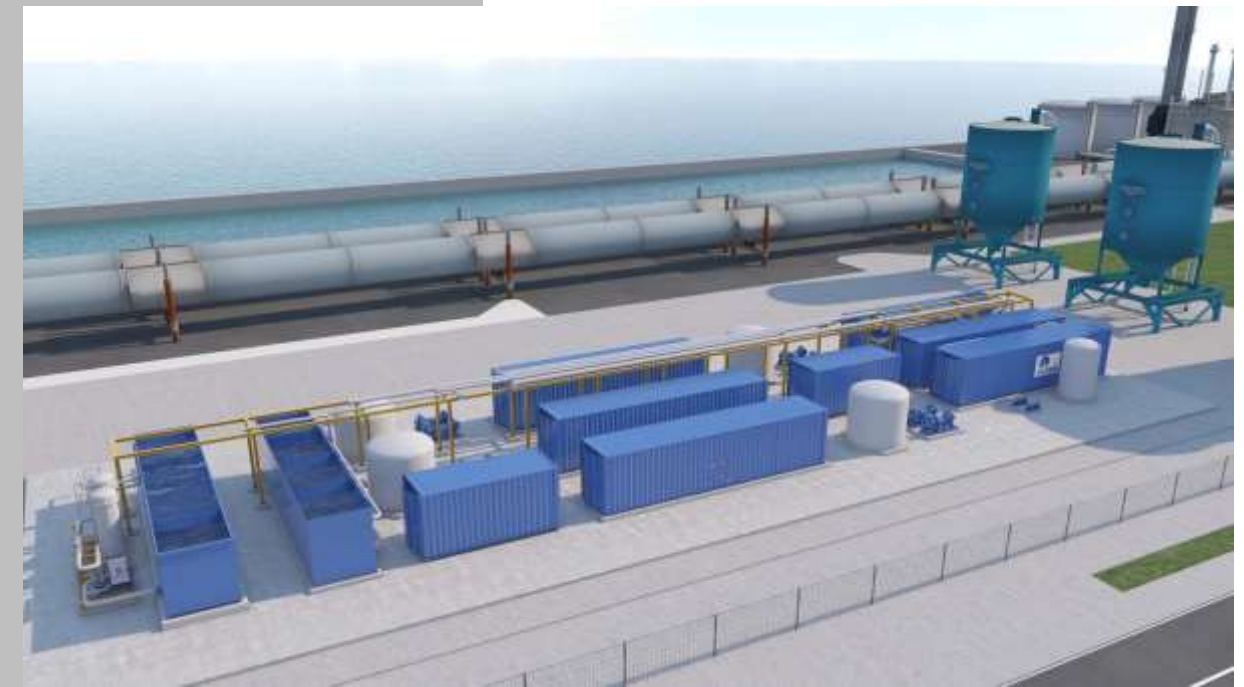


DesalMOD™

Value Proposition

Advanced Recovery Reverse Osmosis (ARRO) ARRO has been developed to treat wastewater, where conventional RO is not satisfactory

- Modular Design
- Fast Delivery – as all the units are standardized and manufactured in-house
- Plug and Play Option – Required pre-treatment can be implemented
- Majority are containerized system
- Available in 3 MLD and 5MLD capacity



Operational Advantages

- Lowest Energy Cost as company's patented LoWatt™ technology is implemented.
- Highly simplified operation due to minimized downtime and less operator intervention.
- Higher plant availability as option better selection of Pre-treatment

Components

- DAF- *pretreatment*
- GRAVITY MEDIA FILTER – *pretreatment*
- PRESSURIZED MEDIA FILTERS – *pretreatment*
- BACTERIA DEACTIVATOR - *pretreatment*
- ULTRAFILTRATION SYSTEM - *pretreatment*
- SEA WATER REVERSE OSMOSIS SYSTEM WITH OSMOTIC CLEANING FACILITY
- BRACKISH WATER REVERSE OSMOSIS SYSTEM FOR FURTHER TDS POLISHING – *post treatment*
- CALCITE FILTERS – *post treatment*

PARTNER FOR YOUR WATER CHALLENGES



SEAWATER DESALINATION

15 MIGD RO desalination plant reduces UAE's reliance on ground water with reduced energy demand



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BIOLOGICAL TREATMENT

Advanced biological treatment systems to address difficult to treat wastewater with lower opex and higher energy efficiency.



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ENERGY SERVICES

Innovative and mobile solutions to ensure efficient treatment and recycle reuse for the energy industry.



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WATER IN MINING

As a world leader in desalination and ZLD technology, we are uniquely qualified to help companies adhere to regulations.



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