MEMCOR® membranes for tertiary reuse applications

Water Technologies

SIEMENS

MEMCOR® membranes for tertiary reuse applications

Wastewater reuse makes pure sense

The use of Memcor® membranes is allowing communities worldwide to augment current water supplies with wastewater reclamation. This sustainable and cost effective solution safely recycles water for use in agriculture, irrigation, industrial processes and groundwater replenishment.

Tertiary treatment using Memcor membranes provides a cost-effective solution when compared to other reclamation alternatives. Membranes provide a verifiable physical barrier ensuring that consistent high-quality water standards are met. With a compact footprint and ease of operation, Memcor membranes offer the lowest cost for treated water. Memcor membranes also provide a superior pretreatment to reverse osmosis, prolonging RO membrane life and reducing membrane fouling and operating costs.

MEMCOR® membrane advantages:

- Flexibility: Available in pressurized or submerged configurations suitable for multiple plant requirements.
- Superior fiber strength: Employs a robust membrane fiber that ensures long term integrity.
- Ease of Installation: Stand-alone pre-packaged units and components for larger projects have been designed to be assembled in the factory to the greatest extent possible to simplify installation.
- Reduced Capital Cost: System efficiency allows for greater capacity in a smaller footprint thereby reducing overall system cost.
- Reduced operational costs: Designed for minimal operational intervention and reduced chemical consumption make Memcor products the greatest overall value in the market today.

MEMCOR® Pressurized membrane system

MEMCOR® Submerged membrane system

MEMCOR® Membrane Technologies

Memcor membranes are used in hundreds of locations for the treatment of secondary wastewater effluent for urban reuse, golf course irrigation, groundwater replenishment or other beneficial use. Our modules are available in both pressurized or submerged configurations to meet specific project needs.

Pressurized

Memcor pressurized membrane systems operate in a closed environment. Feed water is pressurized through the units at 30 to 40 psi (200 to 275 kPA). Higher pressures can be used if additional residual pressure is needed for applications, such as pretreatment to reverse osmosis. The system has fully automated processes including backwash, cleaning and membrane integrity testing. All membrane modules are individually isolatable , ensuring consistent operation.

Submerged

Memcor submerged systems operate in an open tank design. Feedwater typically flows by gravity into the membrane cell. A suction pump draws filtrate water through the membranes up to 12 psi (83 kPA). Submerged systems are ideal for retrofitting existing basins, increasing capacity in a small footprint. The system has fully automated processes including backwash, cleaning and membrane integrity testing. Membrane modules are isolatable in groups of four or clovers.

Experience. Reliability. Proven performance.

MEMCOR® membrane systems are currently meeting the needs of communities in more than 1,000 installations around the world— and doing so with impressive reliability, economy and minimal operator intervention.

Featured reuse installations:

Orange County Water District, California
Reclaiming 70 MGD (265,000 m^3/day)

Memcor membrane filtration provides consistent, high-quality water significantly enhancing the operation and life expectancy of reverse osmosis and thus reducing overall capital and operating costs.

Homebush Bay, Sydney, Australia
Reclaiming 2.5 MGD (9,500 m^3/day) in filtered and desalinated water

Recycled water from the 2000 Olympics site is used for public space irrigation and is recycled to residential properties in a separated system for non-potable uses including garden irrigation and car washing.

Bundamba, Queensland, Australia

The new water facility provides water to microelectronics manufacturers. The plant also provides water for potable use.

Bedok Water Reclamation Site, Singapore
Reclaiming 3.4 MGD (13,000 m^3/day)

The reclaimed water from Bedok is used primarily for demanding industrial applications as the quality has a lower TDS and is more consistent than town water.

Eraring Power Station, NSW, Australia
Reclaiming 2 MGD (peak flow) (7,500 m^3/day)

The first installation of low-pressure membrane and RO in the world used for boiler feed water, this plant achieved significant operating cost savings while producing high quality water.

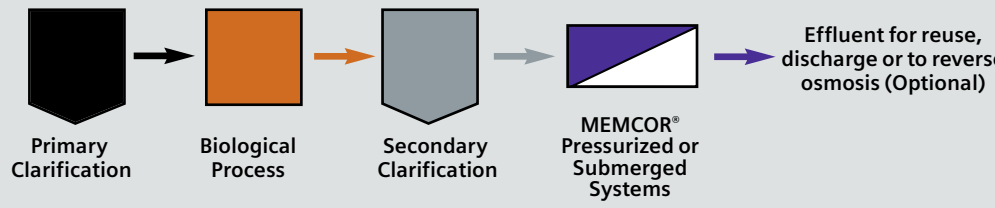
MEMCOR® membranes for tertiary reuse applications

Advantages

- Simplified design reduces process steps, minimizing footprint.
- Physical barrier provides consistent, reliable water quality, day after day, exceeding the most stringent reuse regulations.
- Proven performance in hundreds of installations in operation for over 20 years.
- Simple, automated operation and direct on-line integrity monitoring ensures system membrane integrity is consistently met.

Typical Memcor® Membrane Results	
Parameter	**Result**
Silt Density Index	<2.0
Total Suspended Solids	<1 mg/l
Total Coliform	Not Detected

Typical Tertiary Process Flow Diagram:



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