

DeWRS for Residual Management and ZLD

A real time, fully automated, chemical free, extremely low energy, Ceramic Membrane Process to De-Water solids. The **DeWRS** process allows for full recovery of both the water and solids. The solids can be organic (DOC), biomass, bacteria, and/or metals in any combination from which the water is removed until the solid forms a sludge with a slump. The recovered water or filtrate is available for its end use such as drinking water.

Chemical Free

There are no chemicals, consumables or labor involved in the **DeWRS** process which eliminates most costs (>95%) associated with traditional concentrate wastewater management and disposal methods. **DeWRS** can operate continuously or on demand and has a 25-year design life. It can be a stand-alone process or integrated with other processes.

Residuals Management

The solids produced by **DeWRS** becomes at best a viable product with commercial value or at worst a very small solid waste handling disposal requirement which can be landfilled, or land applied as per regulations.

ZLD

Zero Liquid Discharge (ZLD) is achievable. **DeWRS** solves the technical and purification challenge when transitioning from a water phase to a solid phase. It is adapted to specific needs (configurable) and is used to dewater and recover metals, DOC, oil & solvents, organics, inorganics and municipal sludge as essentially neat product.

Carbon Capture

DeWRS is a Carbon Capture process with a very small footprint and very low electrical energy requirement.

Capability

The solids / residuals are recovered at nominally 20% solids. **DeWRS** is applied in high (multi MGD) and low flow applications.

Applications

Drinking Water Filtration Plants
Concentrating DAF Waste & Clarifier Bottoms
Product Recovery, Mining of Water for Metals & Nutrients
Filter Reject / Backwash Waste Dewatering



Municipal Sludge Concentration
Algae & Pathogen Removal
Replaces Filter Presses & Centrifuges



Process

DeWRS recovers fluids such as water that are rich in solid contaminants or second phase constitute. Contaminates are filtered or phase separated to a sludge with a slump or as neat product to customer requirements. The heart of DeWRS consists of proprietary ceramic membrane technology using dynamic shock.

Eliminates

Conventional Solutions for dewatering that require chemicals (polymer), labor, consumables and high maintenance are eliminated with the DeWRS process. The elimination of these obsolete process inputs further contributes to the unmatched reduction in the operating and capital cost structures of the DeWRS process vs alternatives.

Operating Cost and Performance

ZLD costs \$0.64 / day at a 1MGD Cuf drinking water plant in operation since 2015.

Solids, Different Water, Composition & Set Points





Solids Management Options

