

# **Purifics** DeWRS (De-Watering Recovery System) Residuals Management & ZLD

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## DeWRS

A real time, fully automated, chemical free, extremely low energy, Ceramic Membrane Process to De-Water solids. DeWRS allows for essentially full recovery of both the water and the 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.

There are no chemicals, consumables or labor involved in the DeWRS process which eliminates most costs (>95%) associated with traditional concentrate waste water 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 concentrate sludge 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 foot print and very low electrical energy requirement.

## Capability

The solids / residuals are recovered at nominally 20% solids, and essentially neat product for oil and/or non-aqueous phase liquid (NAPLs) recovery. DeWRS is applied in high (multi MGD) and low flow applications.

## Applications

- Drinking Water Filtration Plants
- Concentrating DAF Waste & Clarifier Bottoms
- Replaces Filter Presses & Centrifuges
- Municipal Sludge Concentration
- Algae & Pathogen Removal
- Product Recovery, Mining of Water for Metals & Nutrients
- Filter Reject / Backwash Waste Dewatering

## Certification

NSF/ANSI 61

LT2ESWTR

Compliant > 4 Log



## Process

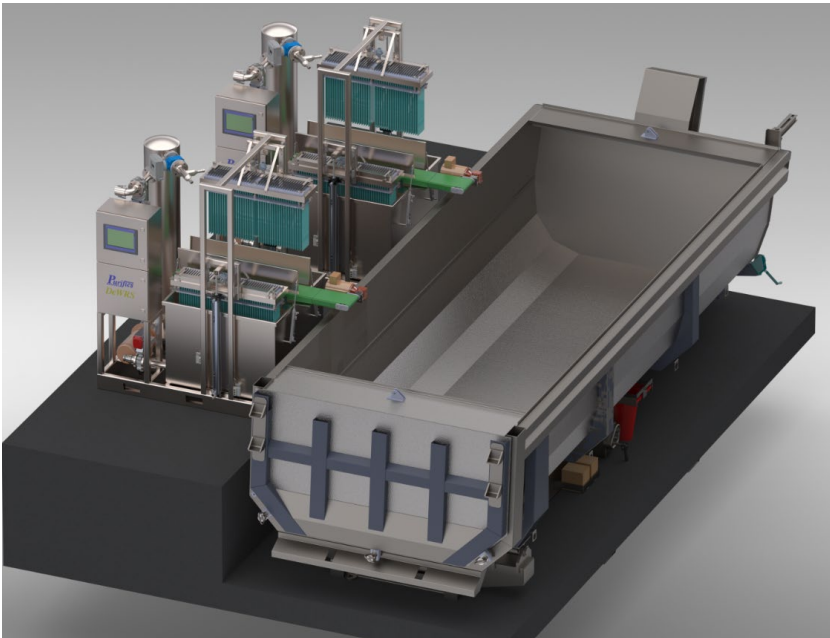
DeWRS recovers fluids such as water that are rich in solid contaminants or second phase constitute. Contaminates are filtered or phase separated to a sludge with a slump or as neat product to customer requirements. The heart of DeWRS consists of proprietary ceramic membrane technology using dynamic shock.

## Eliminates

Conventional Solutions for dewatering require chemicals (polymer), labor, consumables and high maintenance all of which 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

\$0.64 / day for a ZLD Cuf plant with 1 MGD capacity in a drinking water application and in operation since 2015.



## Related Documents:

- DeWRS M4 Spec Sheet
- DeWRS M40 & DM40 Spec Sheet
- DeWRS QM40 Spec Sheet



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