



Who We Are: What We Do

Purifics offers complete water purification solutions using ceramic membrane technology. Its three innovative and disruptive technologies Filter, Destroy and Recovery contaminants from water with ZLD (Zero Liquid Discharge) through solids recovery. Investing a significant portion of its annual revenues in R&D, Purifics has achieved 5th generation ceramic membranes and the CUF[®] (Ceramic Ultra-Filtration) process innovation with proven performance. This is a quantum leap forward in membrane filtration, yielding benefits other membrane processes cannot match in terms of comparative performance.

Purifics is the oldest most experienced vendor of ceramic membrane systems in North America with expertise from 60+ installations and 30+ patents & patents pending. This includes the first, second and third ceramic membrane Municipal Drinking water plants in the US. Purifics has produced complete water purification systems since 1993 from source water to effluent specifications across industrial, reuse, and municipal markets with full automation and remote controls.

Generation 5 Ceramic Membrane

Gen5 is the integration of unmatched advanced technology attributes to achieve; low TMP & X-flow pressures, high flux and the resistance or elimination of fouling mechanisms. The CUF[®] ceramic membrane is a robust, durable design that eliminates concerns of wear, fracture, thermal shock, high parts count, organic bonding, channels and energy.

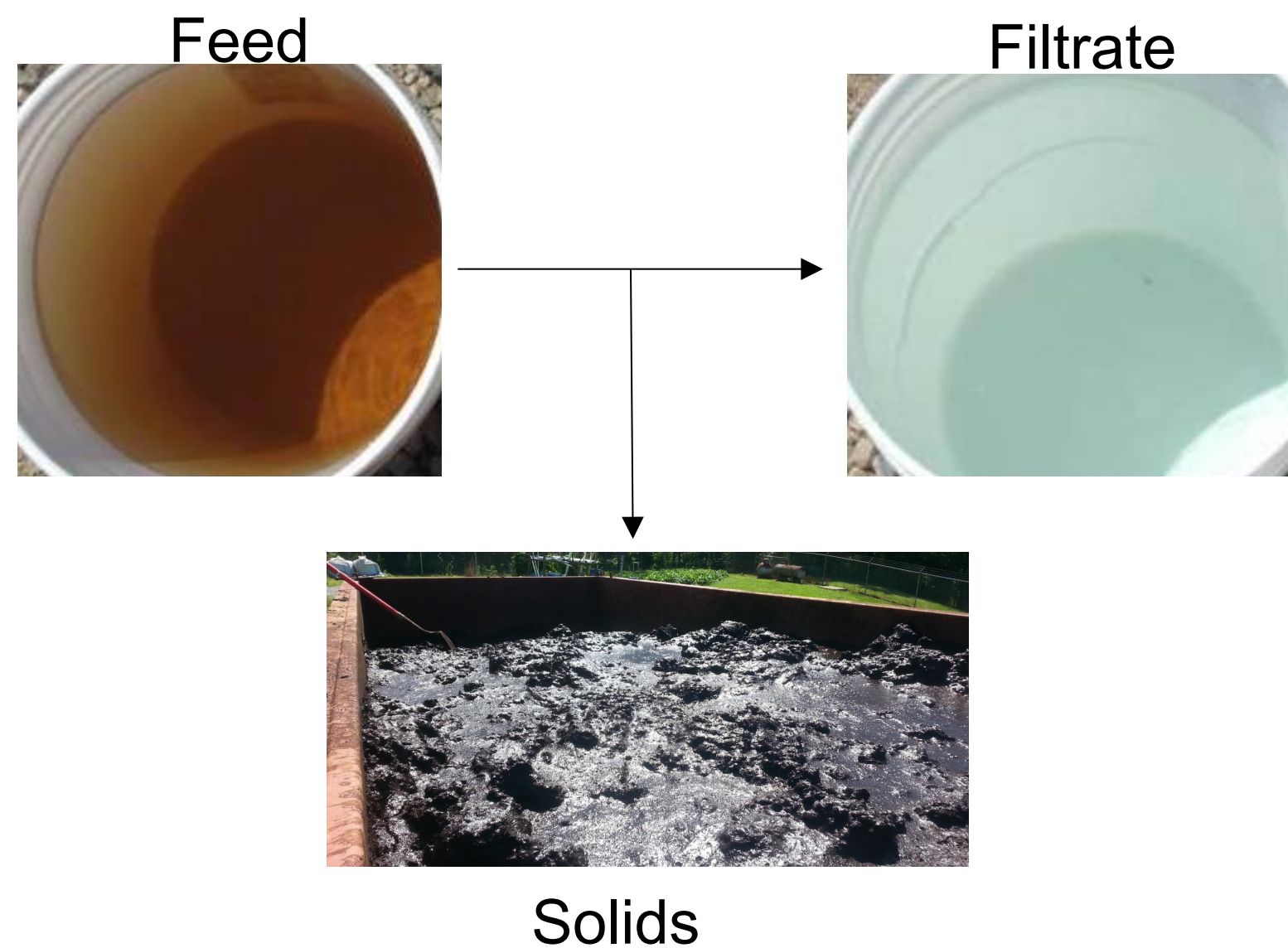
Value Proposition

Better water at lower cost. OPEX reductions in chemicals (50%), energy (50%) and labor (Audited not Operated). CAPEX reductions with the elimination of pre-treatment (flocculation & clarifiers), backwash & CIP (Clean In Place) infrastructure and the resultant smaller foot print (building). Other tangible values are the elimination of future cost exposure or escalation (no membrane replacement) and a greener low carbon footprint.



CUF[®] Case History: THM Prevention; Color, DOC & Fe Removal with ZLD

CUF[®] is more than a filter, CUF[®] is the plant. The feature case demonstrates the CUF[®] process innovation which eliminates pre-treatment, feed pumps, back wash, CIP and liquid waste at ultra-low filtration energy. This 1 MGD drinking water plant, operational since 2014, is the 1st Ceramic Membrane Drinking Water Plant in North America.



The Experience

The client offers weekly tours and is achieving ZLD for less than \$1 / day with DeWRS (DeWating Recovery System).

Parameters	Inlet	Filtrate
Color	85 CU	5 CU
DOC	3.3 ppm	< 1.0 ppm
Iron	400 ppb	< 10ppb
THM	N/A	38 ppb
HAAs	N/A	18 ppb
Coagulant	14 ppm	Non-detect

Flux (MLD/GFD)@12 psi	680/480
Cuf Filtrate % of Feed	98
DeWRS Filtrate % of Feed	2



What this means for the future

With a growing recognition by consulting engineers, state regulators, and utilities of the quality and savings offered by Purifics' technologies, the future is promising. In the municipal drinking water market Purifics expects to double its customer and installed capacity base over the next year.

Purifics technologies are also making inroads in water reuse and wastewater treatment. In April 2018, Purifics was awarded a multi-million dollar contract for storm water reuse by a large city in southern California. While the company's primary focus is on municipal water and wastewater treatment and water reuse, its roots are in industrial water treatment; Purifics will continue to assist customers in various industries (e.g., food processing, mining, etc.) which are confronting complex water challenges.