

XtremeUF

Robust Ceramic Ultrafiltration

- Remove suspended solids and organics from the most challenging slurries and wastewaters
- Engineered, compact 900 m³/day package with self-cleaning controls
- High tolerance to a wide range of input waters, turbidity, oils, grease, chemicals, pH and temperature
- Corrosion-resistant construction materials for high salinity
- Quality, widely available ceramic membranes are available from a broad supply chain, not linking you to a single membrane supplier
- Built-in redundancy and intelligent automation maintain performance



Membrane vessels in an XtremeUF plant

Polymeric or Ceramic?

Ultrafiltration (UF) is widely used to filter out suspended solids, microbes, oils and grease of size >0.01 micron (µm). Our XtremeUF ceramic membrane system does not compete with polymeric. Each technology has its own fit, shown in the below table.

Parameter	Typical Polymeric UF Limits	XtremeUF Limits
Total suspended solids, TSS (mg/L)	100	100,000
Maximum particle size (µm)	300	1000
pH continuous	3-9	1-12
pH temporary	2-11	0-14
Turbidity (NTU)	300	N/A
Total organic carbon, TOC (mg/L)*	40	1000
Chemical oxygen demand, COD (mg/L)	60	N/A
Oil and grease (mg/L)	2	1000
Temperature (°C)	40	85 [†]

* Guideline only, actual limit will depend on nature of organic chemical species.

† Limit of CPVC piping. Membrane temperature limit is 300°C. Enquire with Saltworks for temperature de-rates. UF vessels de-rated to 60°C for ASME-rated units or alternative higher cost ASME vessels can be fitted.

Automated Self-Cleaning With No Capacity Loss

Even with the toughest wastewaters, XtremeUF maintains performance with no downtime using built-in redundancy and automated clean-in-place (CIP) while running.

Low-Cost Install and Fast Start-Up

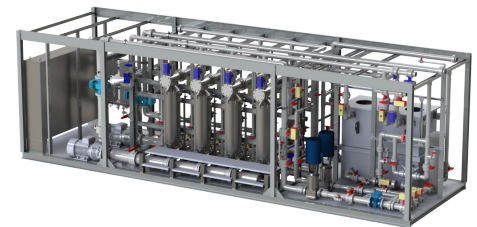
Built from pre-assembled and factory-tested modules with all equipment onboard a single skid for easy, low-cost installation at site.

Zero Liquid Discharge (ZLD) Filtration

Options available for comprehensive solids management, including an integrated solid slurry management system producing solid cake.

Tightly Controlled Production and Supply Chain

Saltworks factory-builds systems at our quality-controlled production facility, with in-house supply chain and engineering.

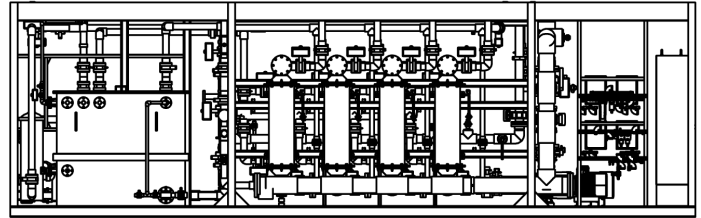


3D render of an XtremeUF-900 plant

Sizing

Capacity varies with inlet water quality. The below table is based on wastewater with a flux of 280 LMH (litres per m² per hour) or 165 GFD (gallons per ft² per day). The flux ranges in the chart below show how flux varies for different wastewaters. Contact us for a detailed capacity estimate.

XtremeUF-900	
Inlet water specification	Any, contact us
Rated filtrate capacity (m ³ /day)	900
Nominal power (kW)	50
Skid weight (tonne)	10
Skid dimensions (feet)	L32 x W10' x H10'
Filtration pore size (µm)	0.01, 0.05, 0.1, 0.5 and 1.2 µm



Drawing of an XtremeUF-900 plant

Flux Ranges for Industrial Wastewaters

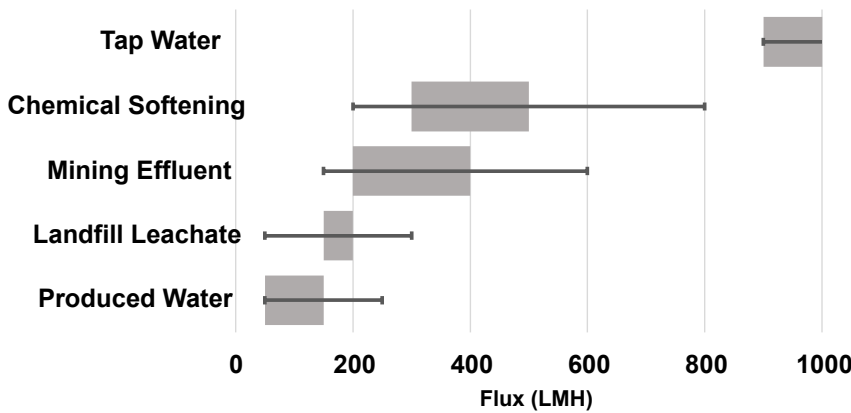
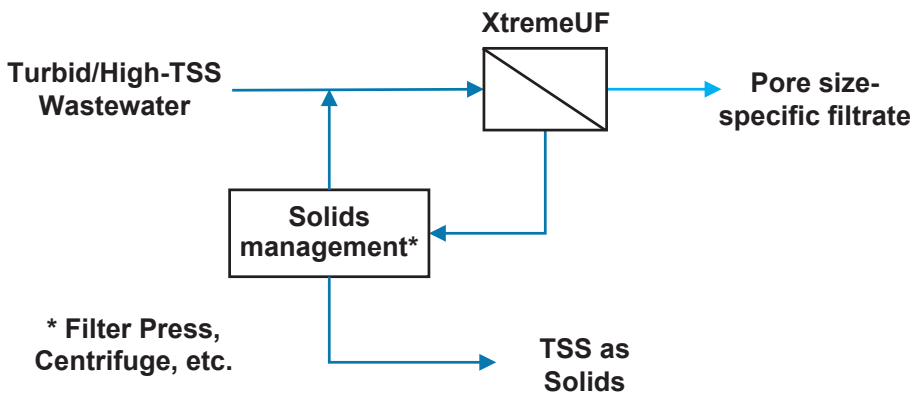
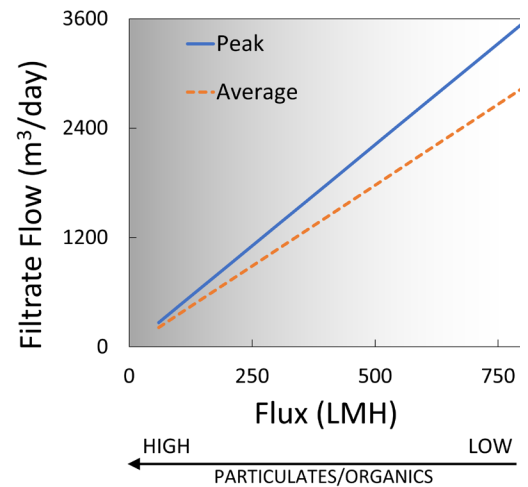


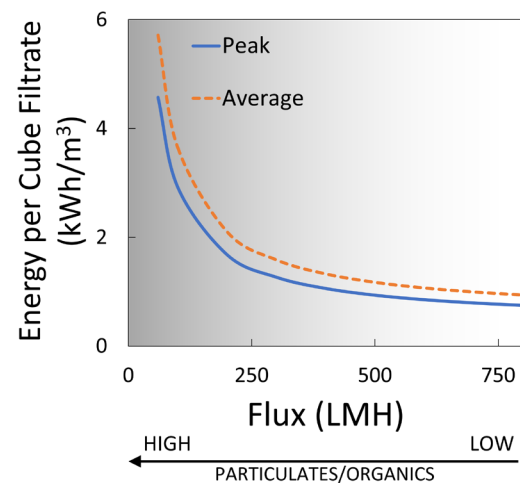
Chart of XtremeUF flux ranges in LMH for tap water and a selection of different industrial wastewaters.

XtremeUF 900 Performance



Process flow diagram showing an XtremeUF system with solids management in a treatment chain

XtremeUF Energy Performance



Pilot and full-scale plants available. Contact us with your project needs