



SOLARBEAMZ

Ceramic Microfiltration Treatment System

System Specifications

The CMF Treatment System is skid-mounted and designed to filter pretreated wastewater at a continuous flow rate of 10–450 gpm on a continuous basis (24 hours per day, 7 days per week), without the need to stop or reduce treatment for scheduled membrane cleanings. CMF Treatment System maintenance will necessitate brief system shutdowns on a predefined basis.

Major units furnished by SCMF:

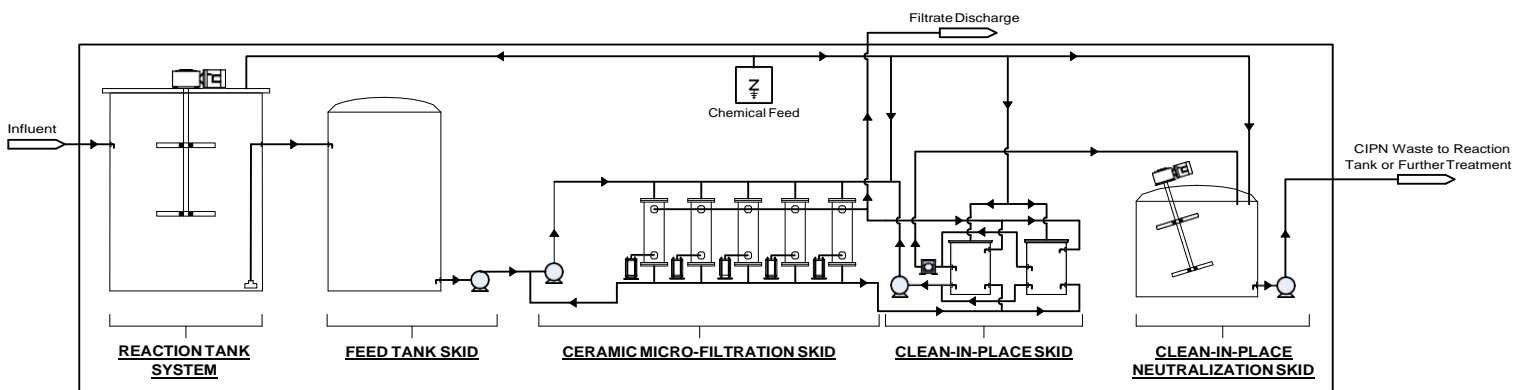
- CMF Reaction Tank System
- CMF Feed Tank Skid
- CMF Skid
- CMF Clean-in-Place (CIP) Skid
- CMF CIP Neutralization (CIPN) Skid
- CMF Chemical Feed System



The System contains 5 to 10 ceramic microfiltration modules, each with 19 elements and an absolute pore size no greater than 0.10 micron.

CMF Skid: Height: 10 feet, 9 inches
 Length: 16 feet, 10 inches
 Width: 6 feet, 11 inches
 Weight: dry 16,000 lbs., operating (wet) 23,200 lbs.

CMF CIP Skid: Height: 9 feet, 6 inches
 Length: 10 feet, 0 inches
 Width: 7 feet, 0 inches
 Weight: dry 6,700 lbs., operating (wet) 14,000 lbs.





SOLARBEAMZ Ceramic

Microfiltration Treatment System

System Specifications

CMF CIPN Skid: Height: 9 feet, 4 inches
 Length: 10 feet, 0 inches
 Width: 7 feet, 6 inches
 Weight: dry 5,000 lbs., operating (wet) 22,000 lbs.

Environmental Requirements

- Water temperature: 40–125 °F standard, up to 160 °F as required
- Ambient temperature: 40–100 °F
- Chemical storage temperatures: 70–100 °F

Electrical Requirements

- Supply to system: 480-volt AC, three-phase, 60 Hz
- Power usage: Maximum electrical demand estimated to be 4,500 kWh/day, based on 24 hours per day of operation

Compressed Air Requirements

- Dry air supply pressure range: 80–120 psi
- Maximum estimated air demand: 10–40 standard cubic feet per minute (scfm), assuming 24 hours per day of operation

Control and Software Requirements

- The CMF skid control system will communicate and interface with existing plant PLC.
- The CMF Treatment System is operable from the CMF skid-mounted SCMF-furnished Human Machine Interface (HMI).

SCMF warrants that all equipment as furnished is free from defects in design, workmanship, and materials, and of sufficient capacity to fulfill the specified operating conditions. Should any defect in design, material workmanship, or operating characteristic develop during the first year of operation, SCMF shall furnish, at no cost to Owner, all necessary alteration, repairs, replacements, and labor to correct the defect in accordance with the product warranty.

Sample Effluent Water Quality Results	
Turbidity	0-2 NTU
Total Dissolved Solids	0-10 ppm
Arsenic	66.4% removal
Cadmium	99.98% removal
Calcium	78.27% removal
Calcium, dissolved	78.79% removal
Chromium	99.35% removal
Copper	99.95% removal
Lead	99.95% removal
Manganese	99.8% removal
Manganese, dissolved	99.76% removal
Nickel	99.75% removal
Silver	99.8% removal
Zinc	99.95% removal
Zinc, dissolved	99.93% removal