

LOTIC Technical Specifications

Engineered for performance. Designed for simplicity.

LOTIC's EC-AOP systems are modular water treatment units that combine Electrocoagulation (EC) with Advanced Oxidation Processes (AOP) to deliver fast, reliable, and chemical-free treatment of complex wastewater.

Core Treatment Technologies

Technology	Description
Electro-Catalytic (EC) Coagulation	In-situ generation of metal hydroxide flocs via anodes
Advanced Oxidation (AOP)	Hydroxyl radical production via catalytic reactions for organics oxidation
Integrated EC-AOP	Simultaneous removal of suspended solids, heavy metals, BOD, COD, PFAS

Modular Systems

Model	Flow Capacity (GPM)	Nominal Flow (L/hr.)	Footprint (L x W x H mm)	Power (avg. kW/hr.)
LOTIC-12.5	12.5 GPM	2,835	1500 x 1200 x 2100	0.55
LOTIC-25	25 GPM	5,670	2000 x 1400 x 2100	0.55
LOTIC-50	50 GPM	11,340	3000 x 1500 x 2100	0.55
LOTIC-100	100 GPM	22,680	6000 x 1800 x 2100	0.55

Electrical requirements

Parameter	Value
Voltage	400-415 V (3-phase)
Frequency	50/60 Hz
Protection	IP65-rated control panels, integrated shutdowns

Construction Materials

Component	Material/Description
Reactor Chamber	316L stainless steel or FRP (application dependent)
Electrodes	Aluminium
Piping	Schedule 80 PVC, HDPE or stainless options
Skid Base	Powder-coated structural steel or marine-grade aluminium options



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Performance Range

Parameter	Typical Removal Efficiency
TSS (Total Suspended Solids)	90-99%
BOD/COD	70-90%
Heavy Metals	85-99%
PFAS precursors	Up to 90% (with polishing)
Hydrocarbons (TPH)	>90%
Pathogen Load	Significant log reduction

Automation & Control

Feature1	Description
Interface	HMI touchscreen interface with SCADA capability
Remote Monitoring	Via Modbus, MQTT or VPN
Programmable Cleaning	Programmable cleaning cycles for electrode health
Adjustable Settings	Adjustable flow, voltage, and current settings

Integration Options

Options	Description
Polishing	Modular floc tanks, DAF, GAC or UF polishing
Mobility	Containerised / trailer-mounted versions available
Flexibility	Easily adapted to batch or continuous flow

Maintenance & Operation

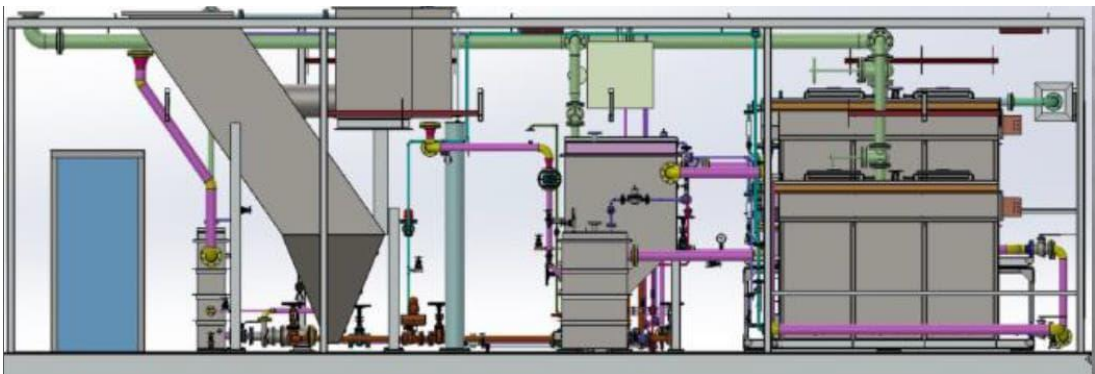
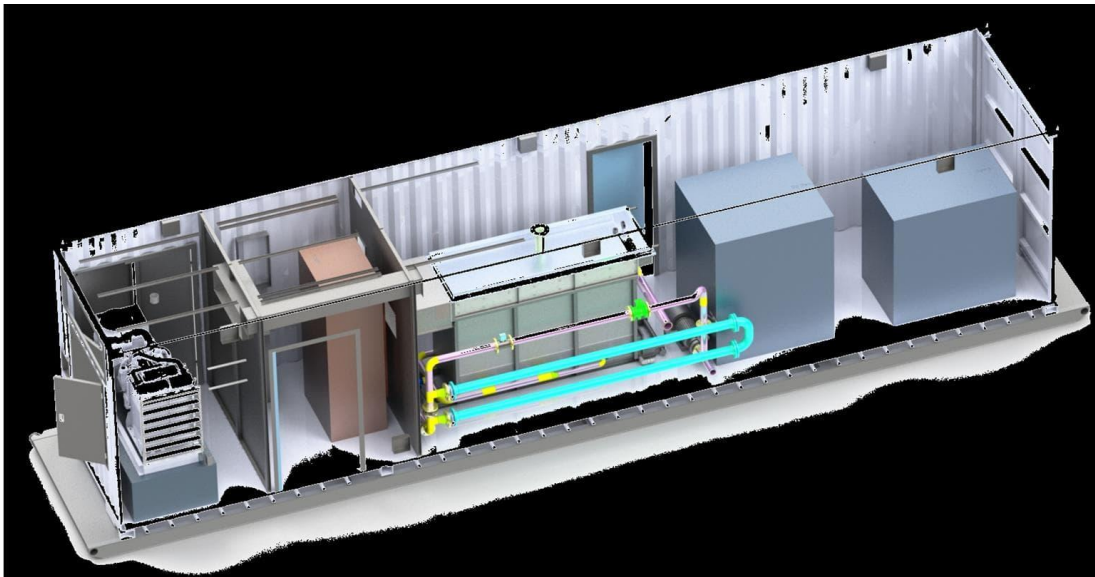
Aspect	Details
Maintenance	Low-maintenance design with accessible electrodes
Electrode Life	6–18 months (dependent on feedwater)
Chemical Use	Minimal chemical footprint
Serviceability	Easy swap-out parts & field serviceability

Compliance & Certification

Designed in accordance with AS/NZS/ATEX/ICEx standards

Can meet discharge compliance for:

- EPA Trade Waste
- Mining & Oil & Gas runoff
- Food, Agri, Landfill and Emergency washdown applications





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LOTIC Electro Catalytic AOP

Pilot Test Results – 3rd Party Analysis

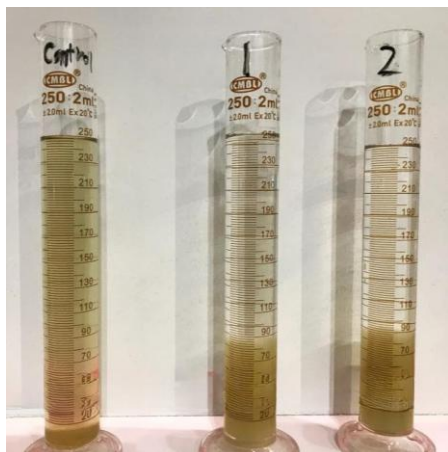
Production Water – SAGD (Steam-Assisted Gravity Drainage)



Parameter	Control	Treated Sample	Removal
Tannin (mg/L)	626	315	49.7%
Magnesium (mg/L)	505	8	98.4%
Calcium (mg/L)	307	80	74%
Silica (mg/L)	142	1	99%
Hardness (mg/L)	351	87	75%
Alkalinity(mg/L)	634	350	45%

Production water: High silica removal, hardness reduction, immediate sludge flocculation

Municipal Wastewater



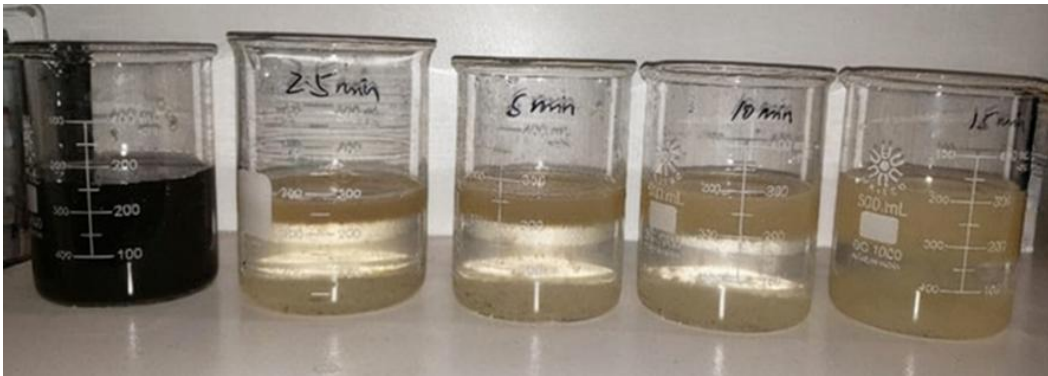
Parameter	Control	Treated Sample	Removal
COD (mg/L)	149	34	76.5%
BOD (mg/L)	13	6	53.8%
TSS (mg/L)	41	9	78.0%
Ammonia (mg/L)	12.8	12.4	3.1%
TKN (mg/L)	17.3	13.5	22.0%
Phosphorous (mg/L)	812	212	73.9%
Calcium (mg/L)	77.2	34.5	55.3%
Magnesium (mg/L)	44.2	21.7	50.9%
Hardness (mg/L)	375	176	53.1%
Alkalinity (mg/L)	300	178	40.7%
Total Coliform (CFU/100mL)	20	1	95.0%
<i>E.coli.</i> (CFU/100mL)	10	1	90.0%

Municipal wastewater: High silica removal, hardness reduction, immediate sludge flocculation

Landfill Leachate

Parameter	Control	Treated Sample	Removal
COD (mg/L)	626	315	49.7%
TSS (mg/L)	505	8	98.4%
EC (µs/cm)	3130	1600	49.9%
TDS (mg/L)	1700	747	56.1%
Hardness (mg/L)	812	212	73.9%
Alkalinity(mg/L)	1110	253	77.2%

Landfill leachate: High bacteria removal, high organic removal





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