

ElectraMet™ Solution

Advanced Technologies for Effective Water Purification

ElectraMet specializes in electrochemical water treatment systems. The ElectraMet™ system is a powerful and chemical free water treatment platform designed to remove heavy metals from industrial wastewater and process water. It harnesses the power of carbon electrode technology to remove heavy metals from water with no sludge by-product.

The environmentally friendly ElectraMet system is modular and scalable to meet changing water treatment needs. The ElectraMet cartridges are carbon-based electrochemical filters that use small voltages (< 2 V) in an active filtration process to target metals with > 99% selectivity. The ElectraMet cartridges remove metals from water streams and do not produce a sludge by-product while achieving 100% water recovery and yielding cost reductions of up to 90%. Metals can be removed to meet environmental regulations, recycled, or recovered in high purity.

Feed Water Quality

Parameter	Unit	Range
Total dissolved solids (TDS)	ppm	0-100,000
Total Organic Carbon (TOC)	ppm	< 100
Chemical Oxygen Demand (COD)	ppm	< 200
Turbidity	NTU	< 2
Fats, Oils, Greases (FOGs)	ppm	< 3
Total Suspended Solids (TSS)	ppm	< 4
Total Chlorine	ppm	< 50
pH	-	2 - 14
Total Hardness (CaCO ₃)	ppm	0 - 2000
M Alkalinity (as CaCO ₃)	ppm	0 - 2000
Pre-filtration	µm	1*
Temperature	°C	5 - 60 °C**
Chemicals	-	Contact PTW

*Contact ElectraMet for more information

**Options available up to 60°C, please inquire

ElectraMet Benefits

- ◆ Safeguard Your Compliance
- ◆ Automate Your Process
- ◆ Lifetime Support of Your System
- ◆ Energy Efficient (< 0.1 kWh/m³)
- ◆ Small Footprint
- ◆ Precise Metal Removal
- ◆ Predictable Monthly Costs
- ◆ High Temperature Tolerance*

*Options available up to 60°C, please inquire

Target Metals

Initial:

24 Cr Chromium 51.9961	47 Ag Silver 107.868	48 Cd Cadmium 112.414
29 Cu Copper 63.546	82 Pb Lead 207.2	25 Mn Manganese 54.938
46 Pd Palladium 106.42	27 Co Cobalt 58.933	79 Au Gold 196.967

End Goals:

- ◆ Discharge Compliance
- ◆ Resource Recovery
- ◆ Product Purification
- ◆ Process Improvement

ElectraMet™ System



Performance

Feature	1 Module Skid
Produced Flow Rate	1 – 10 gpm
Metals Removal	up to 99.5 %
Water Recovery	100 %

System Specification

Feature	1 Module Skid
Power Requirements	100 – 120 / 200 – 240 VAC, 50/60 Hz
Module Operating Voltage	< 2 V
Module Operating Current	0 – 50 A
Operating Pressure	2 – 60 psi
Module Dimensions (L x W x H)	14" x 14" x 24" (ref)
System Dimensions (L x W x H)	26" x 29" x 67" (ref)
Module Weight	50 lbs (ref)
Feed Inlet Coupling	1" NPT
Product Outlet Coupling	1" NPT
Regeneration Loop Coupling	½" OD or 1" NPT
Mechanical/Electrical Life	100,000 hours MTBF

Operational Requirements

Feature	1 Module Skid
Water Temperature	5 – 60°C (41 – 140°F)*
External Pump	230 VAC, 3-phase, 15 A

*Options available up to 60°C (140°F), please inquire

Controls

Operation	Fully automatic (PLC controlled)
Modes	Flow control, Volume control
Data Monitoring	Voltage, current, flow, pressure, total volume, operating hours, et al.

To find out how ElectraMet can work for you and for information on larger systems, contact us at: sales@electramet.com

www.electramet.com

Mission and Vision

ElectraMet™ was founded under the belief that clean water should be affordable and accessible to all, without harming the environment. Today we are actively developing the technologies to make this reality possible and disrupt the consumable and wasteful nature of current water treatment solutions.

Our vision is to apply advanced carbon electrode technologies to deliver targeted solutions for sustainable water treatment while delivering superior performance and reliability to our customers.