




Alpha | Discharge Compliance

ElectraMet Alpha Systems provide unrivaled process assurance for discharge compliance. Alpha Systems reliably and efficiently remove metal ions from industrial wastewater to enable worry-free attainment of discharge regulations while also recovering the metal ions as metal for recycling revenue and on-site recovery enables Scope 4 carbon emission credits due to mining avoidance.

Intelligent design eliminates failure modes inherent to traditional technology like chemical precipitation and ion exchange while also eliminating environmental impacts of hauling and disposal. Risks like missed feed adjustments or residual breakthrough due to load variation are also avoided. ElectraMet's automation and data management tool, ElectraLink®, analyzes data and provides actionable insights via integration to your building management system.

Metals Extraction & Recovery

	Removal & Recovery, All Applications		Removal & Recovery, Application Dependent		Ionic State Conversion					
22 Ti Titanium	23 V Vanadium	24 Cr Chromium	25 Mn Manganese	26 Fe Iron	27 Co Cobalt	28 Ni Nickel	29 Cu Copper	30 Zn Zinc	31 Ga Gallium	32 Ge Germanium
40 Zr Zirconium	41 Nb Niobium	42 Mo Molybdenum	43 Tc Technetium	44 Ru Ruthenium	45 Rh Rhodium	46 Pd Palladium	47 Ag Silver	48 Cd Cadmium	49 In Indium	50 Sn Tin
72 Hf Hafnium	73 Ta Tantalum	74 W Tungsten	75 Re Rhenium	76 Os Osmium	77 Ir Iridium	78 Pt Platinum	79 Au Gold	80 Hg Mercury	81 Tl Thallium	82 Pb Lead

Parameter	Specifications
Power	120 - 480 VAC, 1 - 3 Phase
Pressure	2 - 45 psig
Automation	Fully automated with manual metal retrieval
Operation	Flow control
Data Monitoring	Digital or Analog Capability
Integration	Agnostic to SCADA/BMS systems
System Flow Rate	0.1 gallons/minute to 1,600 gallons/minute
Removal: Cu ²⁺ , Ag ⁺	~200 g/L removed to <0.03 mg/L
Removal: Others	~10 g/L removed to <1.0 mg/L
Water Recovery	100%
Waste Generation	None
Selectivity	up to 100% pending feed characteristics

Target Markets

Microelectronics

Surface Finishing

Life Sciences

Electronics

Defense

Munitions

Aerospace

Automotive