

## GWT(r) SPECIALIZED ELECTROCOAGULATION SYSTEM SPECIFICATION SHEET



### What is GWT Specialized Electrocoagulation Technology?

Specialized electrocoagulation is an electrochemical technique using short wave electrolysis to coagulate and precipitate out large quantities of ionically charged and colloidal contaminants from a water source in one continuous batch operation.

This GWT technology utilizes different sets of electrically charged metallic electrodes to accomplish one of the most important physio-chemical reactions used in water & wastewater treatment; coagulation.

Electrocoagulation (EC) offers an alternative to the use of metal salts or polymers and polyelectrolyte addition for the breaking of stable emulsions and suspensions in a water source. The technology removes metals, colloidal solids and particles, and soluble inorganic pollutants from aqueous media by introducing highly charged polymeric metal hydroxide particles.

GWT EC technology has become a valuable solution in the treatment of water & wastewater due to its ability to remove contaminants that are generally more difficult to remove by filtration or chemical treatment systems, such as emulsified oil, silica, total petroleum hydrocarbons, refractory organics, suspended solids, and heavy metals.

The distinct economical and environmental choice for industrial, commercial and small/mid size municipal water treatment & waste water treatment applications.

### What can GWT EC technology be used to treat?

- Total Suspended Solids (TSS)
- Biological Oxygen Demand (BOD)
- Heavy Metals
- Emulsified Hydrocarbons & Related Organics
- Fats, Oils & Greases
- Phosphates
- Among certain others compounds

### Who can benefit from using Specialized GWT EC technology?

Industries that can benefit from the use of GWT EC technology include:

- Energy Industry (Power & Petrochemical)
- Oil & Gas Operators for produced water treatment facilities
- Food & Beverage
- Industrial (Textile, Paper, Pharmaceutical & General Manufacturing)
- Hotels/Resorts (Water Reuse)
- Small/Midsized Towns & Municipalities

### What are the cost benefits in using specialized GWT EC technology and where can it be implemented in a treatment process?

The cost benefits in using GWT specialized EC technology are typically significantly less than conventional chemical coagulation when accounting for the labor savings, reduction in sludge and disposal cost as EC sludge passes TCLP tests for non hazardous material disposal. In addition, GWT EC technology typically provides higher quality effluent post clarification treatment.

GWT EC treatment systems are typically utilized after coarse screen pretreatment and a grit chamber. However, it can also be used in a secondary polishing treatment application for the treatment of heavy metals or other specific contaminants prior to clarification or filtration.

**Services Offered:**

- Lab/Bench Treatability Testing Services with Validation by Third Party Lab

**Systems:**

- These systems are modular systems designed based on the treatment application.
- Typical flow rates from 10 gpm (50 m3/d) - 2500 gpm (13,500 m3/d)

**Advantages:**

- Can be controlled via process automation for simpler operations
- Compact System Solution Footprint
- Quick reaction rates via continuous batch operation to optimized reaction time
- Optimized for multi-contaminant removal in one process from a water stream
- Removes/Breaks emulsified contaminants
- Reduced OPEX costs including labor input costs & sludge disposal costs
- Pretreatment for Membrane Systems for Water Reuse Applications

**Table with Typical Testing Results  
Specialized Electrocoagulation**

Contaminant	Specialized EC	Chemical Coagulation	Sedimentation Itself
Total Suspended Solids (TSS)	96-99% Reduction	80%-90% Reduction	50-70% Reduction
BOD	60-98% Reduction	50-80% Reduction	25-40% Reduction
Bacteria/Coliforms	95-99.9% Reduction	80-90% Reduction	25-75% Reduction
Heavy Metals	93-99% Reduction	80% Reduction	0-25% Reduction

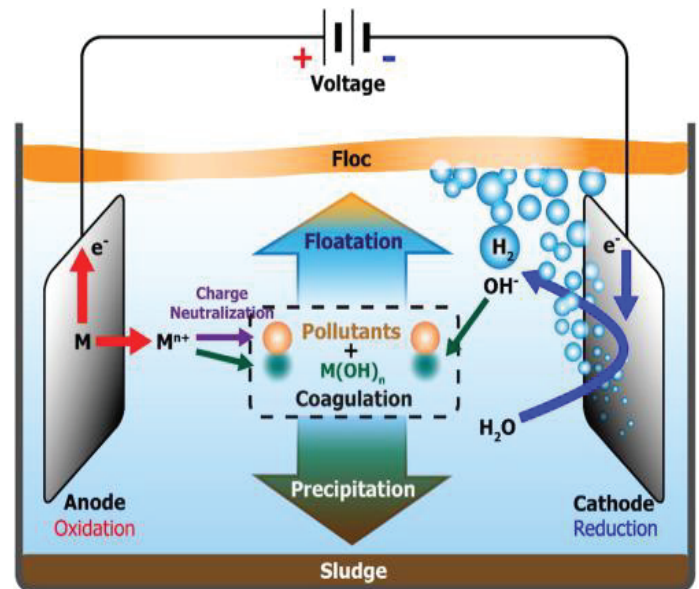
*In addition to above chart, typical removal efficiencies for:*

*Fat, Oil, Grease (FOG): 93-99% reduction*

*Water from Sludge: 50-80% reduction*

*Phosphates: 90-93% reduction*

**GWT - Innovation in Water<sub>(r)</sub>**



**For questions relating to our specialized GWT electrocoagulation systems and specific applications contact us via phone in US at 877 267 3699 or reach out to us via email at [customersupport@genesistwatertech.com](mailto:customersupport@genesistwatertech.com).**