

Modern thinking in wastewater treatment

Phosphorus Removal

# How effective is your current effluent treatment?



# Are you discharging outside of consent?

Kolina's electrocoagulation technology reduces a wide range of contaminants from wastewater, including Phosphorus, Nutrients, COD, TSS and metal ions.



## Do you want to reduce your operating costs?

Kolina's fully automated effluent treatment plant requires minimal operation intervention with average consumption of 0.4 kWh /m<sup>3</sup>.

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## Do you want to eliminate the use of expensive chemicals?

Kolina's patented 'Electrocoagulation' technology is a chemical free solution designed to deliver a robust and efficient treatment alternative for wastewater treatment.



## Is your site limited for space?

Housed in a modified 10', 20' or 40' ISO container, Kolina's small footprint reduces the physical impact on standard treatment plant / solutions.



# Would you like to join our growing band of happy customers?

Do you need a solution to phosphorus in AMP7? Get in touch for more information.

# #gobluebegreen



Our unique containerised systems offer patented Electrocoagulation technology. They provide a viable, chemicalfree alternative to treat a wide range of contaminants including nutrients (Phosphorus and Nitrogen), COD, SS and metal ions.

From forward-thinking standalone companies to global blue-chip groups, Kolina's team can deliver a comprehensive service including full project management, installation, training and maintenance.





Ready to go and modular, our solution allows for rapid delivery, installation and commissioning. A small footprint, enables greater utilisation of valuable operational space.



Cost effective and sustainable phosphorus removal system to allow utilities to meet AMP 7 targets.



Full automation and remote monitoring improves operational efficiency. Requires less energy and resources to manage the plant (versus other technologies).



**KOLINA** 

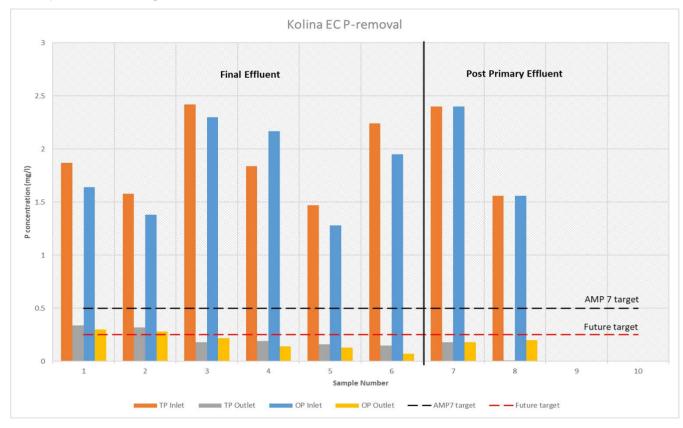
A chemical free solution that is environmentally considerate versus alternative treatment methods. Zero noise and odour pollution.

# **Phosphorus Removal Performance**

Kolina's Phosphorus Removal plant was deployed at a UK Utilities Wastewater site to treat the final effluent stream and also the post primary effluent. It conclusively removed both Total Phosphorus and Ortho P to below the current (AMP7). Snapshot of data shown in figure below.

#### Key Parameters acheived:

- Kolina's EC removes Total Phosphorus and Ortho Phosphate from the final effluent post primary samples to <0.25mg/L. and achieved Ortho P as low as 0.01mg/L
- The treatment does not affect alkalinity (depletion) post-treatment.
- No release of Zinc and Chromium in the treated effluent.
- COD polished to <15 mg/L.





## Install & Commission

Nominated project manager Formal sign-off and handover of plant Certificate of conformity Training of your operational team Daily progress report

# Full Deployment & Support

Dedicated Sector Relationship Manager Planned & preventative maintenance 24 hr call out Performance monitoring Remote system access Monthly planning & review meeting

	Our Responsibility	Your Responsibility	Our Responsibility	Your Responsibility
Infrastructure/Civil Works		<b>v</b>		
Power		$\checkmark$		✓
Fresh Water		$\checkmark$		✓
Installation	$\checkmark$			
Commissioning	$\checkmark$			
Training	$\checkmark$		$\checkmark$	
WiFi Connection	$\checkmark$			✓
Change Plates	$\checkmark$			✓
Sampling	$\checkmark$			✓
Sludge Disposal		$\checkmark$		✓
Material changes*				✓

\*Material changes in volume, process and ingredients to be advised by the client at the earliest opportunity.



# How quickly can we install?

Our EC unit is manufactured to order with lead times normally being 6-10 weeks. This can be reduced subject to pre-planning and early commitment from the client.

# Installation [1week]

Delivery, siting and connection of services to Plant, subject to readiness of client's site and infrastructure.

# Commissioning [1week]

Testing of Plant and training of client's nominated employees.





# How do we go about it?

### Enquiry

Customer first shares situation, issues and challenges with the Kolina team.

### Feasibility

Kolina meets customer team on site to conduct feasibility survey and reports on project timeframe and responsibilities.

### Framework

Jpon agreement of Feasibility ssessment, Kolina completes Framework document ncorporating detailed project plan, ancillary infrastructure osts and terms & conditions.

## Engagement

Subject to acceptance of Framework Plan - completion of Kolina's Supply, Support and Maintenance Agreement

#### Commissioning

Upon contract completion - manufacture, delivery, installation and commissioning of Plant in readiness for training.

# Contact Us



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#### KOLINA



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"Playing our part in reducing the impact on the worlds most carce resource"

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