

ELECTROCOAGULATION BASED ETP AT **HERITAGE FOODS**

Enhanced Wapp Systems India Pvt. Ltd. successfully designed, supplied, installed, and commissioned a 250 Kilo Litres per Day (KLD) Effluent Treatment Plant (ETP) at Heritage Foods Limited, delivering an advanced wastewater treatment solution.



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CLIENT & PROJECT INFORMATION

Project Name: Heritage food limited

Project Type: Greenfield

Plant Capacity: 250 KLD

Technology: Electrocoagulation

Execution Type: Turnkey (Design → Commissioning)

Application: Effluent treatment, discharge and compliance

Operation Mode: Continuous 24×7

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PROJECT OBJECTIVES

The factory required a modern wastewater management system to:

- ◀ Treat large volumes of Effluent generated from factory from Manufacturing processes
- ◀ Produce high-quality treated water suitable for discharge
- ◀ Ensure regulatory compliance
- ◀ Operate with minimal manual intervention

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SCOPE OF WORK

Enhanced Wapp Systems delivered complete turnkey execution including:

Engineering & Design

-  Process design and hydraulic calculations
-  Technology selection and system configuration
-  Equipment sizing and layout engineering

Supply & Installation

-  Mechanical equipment supply
-  Electrical and instrumentation systems
-  Plant automation integration
-  Site installation & system integration

Commissioning

-  Testing & performance validation
-  Process stabilization
-  Operator training & handover support

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Background & Challenge

CASE STUDY: ELECTROCOAGULATION-BASED ETP AT HERITAGE FOODS

Heritage Foods, one of India's leading dairy and food processing companies, generates high-strength wastewater from milk processing, cleaning-in-place (CIP) systems, and utility operations.

The effluent contains:

-  High organic load (BOD/COD)
-  Suspended solids and fats, oils & grease (FOG)
-  Variable pH due to process fluctuations

Traditional biological systems alone face challenges in treating such wastewater efficiently, especially when rapid reduction of FOG, color, and recalcitrant organics is required.

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OUR SOLUTION

As a solution to this an Effluent Treatment Plant (ETP) with 2 Electrocoagulation (EC) unit was constructed at Heritage Foods.

The EC unit was then integrated with:

Tertiary filtration system → Ozonation
→ Treated water tank

Electrocoagulation Process Overview

-  Uses sacrificial electrodes (Aluminium & Magnetic Steel) and controlled DC current.
-  Generates metal hydroxide flocs in-situ.
-  These flocs destabilize and remove suspended, colloidal, and dissolved pollutants.

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RESULTS ACHIEVED

High Pollutant Removal Efficiency

- ◀ COD reduced by 60–70% in EC stage.
- ◀ TSS and FOG removal >90%.
- ◀ Significant reduction in color and turbidity.

Improved Downstream Performance

- ◀ Consistent compliance with CPCB discharge norms.

Operational Flexibility

- ◀ Handles shock loads and varying influent quality effectively.
- ◀ Automated current control ensures stable performance.

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Sustainability & Key Advantages

SUSTAINABILITY BENEFITS

- ◀ No need for large chemical coagulant dosing.
- ◀ Lower sludge volume compared to chemical coagulation.
- ◀ Sludge generated is more stable and easier to dewater.

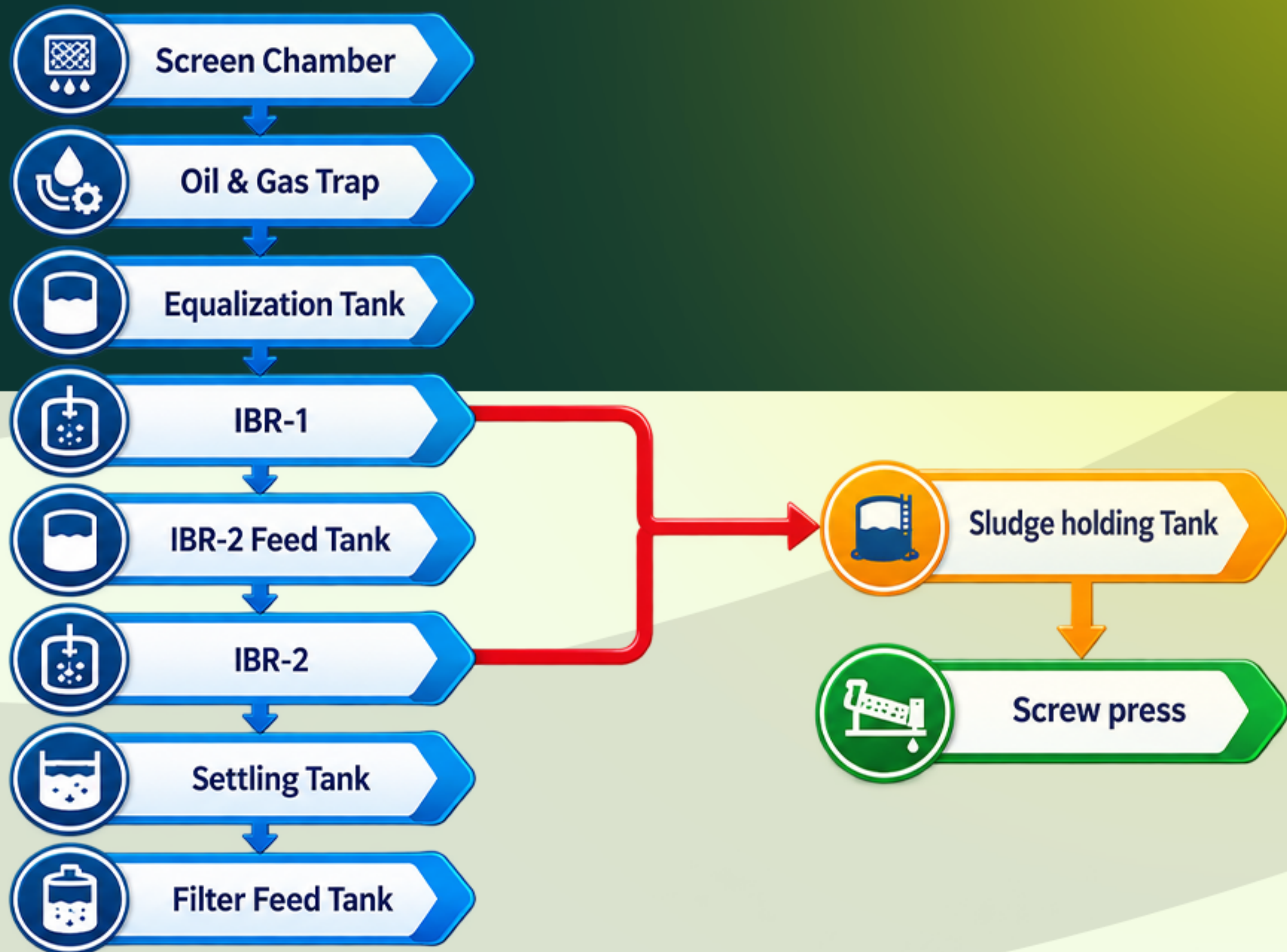
KEY ADVANTAGES FOR HERITAGE FOODS

- ◀ Improved effluent quality, ensuring regulatory compliance.
- ◀ Reduction in operational cost compared to conventional chemical treatment.
- ◀ Compact plant footprint, ideal for industry space constraints.
- ◀ Environmentally sustainable – reduced chemical usage and waste.
- ◀ Enhanced reliability in treating food-processing wastewater.



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SCHEME



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CONCLUSION

The Heritage Foods STP project demonstrates the effectiveness of Electrocoagulation as a robust and sustainable wastewater treatment solution for food industries.

By integrating Electrocoagulation and tertiary polishing units, it delivered a system that not only ensures compliance but also supports Heritage Foods' sustainability goals.

Enhanced Wapp Systems India Pvt. Ltd.