



cleaning  
systems  
for liquids

# Case Study

## Replacement of energy-intensive wastewater evaporators

A leading manufacturer of die-cast parts faced a key challenge: high energy consumption and inefficient old wastewater treatment plants were not only increasing operating costs but also impacting the environmental balance. The use of the modern MKR ET 1500 evaporator system enabled significant optimisation to be achieved – both ecologically and economically.

### Initial situation

Previously, 8 to 10 evaporator systems were in use for wastewater treatment, distributed across various locations within the plant. These systems were inefficient, had poor efficiency, and caused above-average energy consumption. In addition, the technological condition and decentralized arrangement led to increased maintenance costs and rising operating costs. A sustainable solution was urgently needed.

### Requirements

- Reduction of energy consumption
- Increase in throughput
- Reduction of operating costs
- Reduction of maintenance costs
- Integration into existing infrastructure
- Reliable removal of hydrocarbons

### Solution by MKR

MKR replaced two old evaporator systems with the ET 1500 and integrated efficient peripherals. A belt filter removes coarse impurities, while the CIP cleaning system minimizes maintenance requirements. A TB 1000 tramp oil separator separates oil-containing components, and the UC 12 membrane filtration system ensures complete separation of hydrocarbons. Preliminary laboratory tests optimized the system to meet the specific requirements of the customer.

### Project at a Glance

#### Project:

Replacing old energy-intensive evaporator systems with a central system.

#### System technology:

- pH adjustment
- Filter station
- Bag filter with pump
- ET 1500 evaporator
- Tramp oil separator TB 1000
- Ultrafiltration UC 12
- Tanks for distillate and concentrate

#### Customer:

Industrial companies involved in aluminium and light metal processing

#### Contractor:

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## Results

- Energy savings compared to old systems
- Reduction in operating costs due to lower maintenance requirements
- Increased availability and process reliability
- Complete solution from a single source – planning, design, and installation
- Significant improvement in environmental performance
- Sustainable and robust wastewater treatment for the future

