Markets and applications

Pharmaceuticals and Cosmetics
Chemical
Photovoltaic and Microelectronics
Automotive and Aviation
Food and Beverage
Oil and Gas
Power
Mining and Primary Metals
Other industrial processes

EVALED™ evaporation technology. The valiant and natural solution, November 2015

Evaporation technology: A valuable and natural solution to reducing wastewater volume

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Evaled™ evaporators are industrial systems that accelerate the natural evaporation process. They are fully automated standardised modular units, that are low in energy consumption and have low CO2 footprint. They are also an effective solution for concentrating and removing salts, heavy metals and a variety of hazardous components. All evaporators undergo a Factory Acceptance Test (FAT) with water before installation.

**About Evaporation**
Evaporation is not only a natural phenomenon but also a clean separation technology that is recognised as the “Best Available Technique” for waste water volume reduction in wastewater treatment.

**Benefits**
- Disposal cost reduction
- Wastewater volume reduction
- Water recycling and reuse
- Valuable components recovery
- High outlet quality
- ZLD (Zero Liquid Discharge)
- High level of automation
- Option for remote control
- Quality certification (ISO 9001/2008)

**Materials**
Manufacturing materials designed to treat even the most aggressive effluents

Veolia has worked together with renowned materials research centres to select the most suitable materials to safely treat aggressive liquids. Resistance to corrosion is a strong feature of every Evaled evaporator, which is essential when controlling extremely concentrated liquids.

**Austenitic stainless steel**
- Austenic is a weakly bound structure, which is non-hardening and non-magnetic.
- The low percentage of carbon in this alloy reduces the risk of intergranular corrosion at high temperatures.
- Uses: alkaline liquids, acid liquids (pH>4) with a low percentage of chlorides, oil emulsions, liquids from flexographic printing.

**Superduplex stainless steel**
- Austenic-ferritic structure, magnetic.
- The high percentage of chromium gives excellent resistance to localised corrosion.
- Uses: acidic liquids (pH>3) with high chlorides and metals content, galvanic wastewater, landfill leachate.

**Nickel alloy**
- Nickel alloy is a high flexibility Cr-Ni-Mo steel.
- The low carbon content ensures resistance to the formation of carbides at zones exposed to thermal variation.
- It has excellent resistance to localised corrosion, both in oxidising and reducing environments, even at high temperatures.
- Uses: very acid liquids (pH<2) with high content of chlorides, fluorides and metal, anodising wastewater, special applications.

**Silicon Carbide (SiC)-PC type only (KT-Series)**
- Chemically inert material resistant to almost all aggressive substances.
- It is usually matched with another chemically inert material, PTFE, a fluoride co-polymer used for coating the inner faces of the boiling chamber.
- Uses: pickling wastewater, chromic acid recovery and aggressive liquids.
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- Waste, biogas, biofuels
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Resourcing the world

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