EVALED™ RV
Forced circulation MVR evaporators
EVALED™ RV comprehends TC and MVR series which distinguish from each other by the heat exchanger technique, one by forced circulation and shell&tube heat exchanger, the other by falling film and forced circulation with shell&tube heat exchanger.

EVALED™ RV Solution represents the range of mechanical vapour recompression and forced circulation evaporators for industrial wastewatert treatment, ideal when large quantity of waste which can cause fouling, precipitation and crystal formation has to be treated.

The low running costs enable installation of plants whose return on investment can often be measured in months.

VWS Italia has a firm commitment to reduce the CO₂ emissions of its technological offer. Careful analysis has enabled us to calculate the CO₂ emissions of our solutions.

Contact us for a customized Carbon Footprint Assessment.

www.veoliawaterst.it
VWS Italia, in co-operation with respected materials research centres, selects the most suitable materials for the safe management of aggressive liquids. The resistance to corrosion is the main feature of every EVALED™ evaporator, essential when dealing with extremely concentrated liquids.

**Austenic stainless steel AISI 316L**  
(Number: 1.4435 – X2 CrNiMo 18-14-3)  
Austenic weakly bound structure, non-hardening, 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**  
(Number: 1.4410 - X2 CrNiMo 25-7-4)  
Austenic-ferritic structure, magnetic. The high percentage of chromium gives excellent resistance to localised corrosion.  
**Uses:** acid liquids (pH>3) with high chlorides and metals content, galvanic wastewater, landfill leachate.

**Nickel alloy**  
(Number: 2.4819 – NiMo 16 Cr15 W)  
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 metals, anodising wastewater, special applications.
EVALED™ TC Series

TC series is based on forced circulation technology through an external shell & tube heat exchanger. The evaporator allows high levels of waste concentration and dramatical reduction of the frequency of cleaning and maintenance operations. Furthermore, the high liquid recirculation through the tube heat exchanger allows an high heat exchange efficiency and a reduction of deposits or scaling on the heating surface.

TC series is the best solution for:
- mechanical industry
- surface treatments
- power
- landfills

Features and benefits

- Low specific energy consumption: 0.050 kWh/l distillate
- A standard structure: 2 modules on a stainless steel frame
- Fully automated non-stop working: evaporation process controlled by a PLC

TC 10000
10.000 l - 2.650 gal of distillate / 24h

TC 15000
15.000 l - 3.970 gal of distillate / 24h

TC 30000
30.000 l - 7.930 gal of distillate / 24h

TC 60000
60.000 l - 15.850 gal of distillate / 24h

TC 120000
120.000 l - 31.700 gal of distillate / 24h

SVR

- Service: assistance | maintenance | spare and consumable parts | Hydrex™ chemical products | Aquamove™ temporary mobile units
- Value: dramatic reduction of volumes and disposal costs | water reuse
- Responsibility: low carbon and water footprint evaporators
Process diagram

- Vapour
- Boiling chamber
- Demister
- Blower
- Circulation pump
- Heat exchanger
- Distillate tank
- Concentrate
- Feed
- Distillate
- Distillate transfer pump
- Heat recovery

Diagram showing the process flow of a distillation system with components such as boiling chamber, demister, blower, circulation pump, heat exchanger, distillate tank, concentrate, feed, distillate, and distillate transfer pump.
EVALED™ MVR Series

MVR evaporator is based on the forced circulation technology through a falling film heat exchanger. It operates in two stages both having independent mechanical vapour recompression system: falling film followed by external heat exchanger. The falling film stage carries out the preconcentration of the solution, while the forced circulation with external shell&tube heat exchanger concentrates up to 30% of the total dissolved solids. The distillate is continuously produced and discharged by both stages.

The main benefit of the falling film technique is the possibility of treating heat-sensitive products with very low temperature differences between the heat exchanger and the boiling liquid. Therefore the liquid is not effected by any heat shock.

MVR series main benefits:
- large heat transfer surface
- vertical tube
- low speed
- low energy consumption
- reduced difference of temperature on the surface

MVR series is the best solution for:
- mechanical industry
- chemical industry
- biogas

Features and benefits

MVR 100
100.000 l - 31.700 gal of distillate / 24h

MVR 200
200.000 l - 63.400 gal of distillate / 24h

- Low specific energy consumption: from 0.025 to 0.030 kWh/l distillate
- A standard structure: 5 modules on a stainless steel frame
- Fully automated non-stop working: evaporation process controlled by a PLC

Service
- assistance | maintenance | spare and consumable parts | Hydrex™ chemical products | Aquamove™ temporary mobile units

Value
- dramatic reduction of volumes and disposal costs | water reuse

Responsibility
- low carbon and water footprint evaporators
Service - is what we provide our customers
Value - is what we create for our customers
Responsibility - is the keystone for all our business activities

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