

ENVIDEST DPM

Vacuum Evaporators powered by hot water or steam



HORIZONTAL TYPE EVAPORATORS WITH IMMERSION HEAT-EXCHANGER:

○ STRUCTURE

- Modular skid made of austenitic steel, single or multiple effect, with possible extension from 1 up to 3 evaporation modules.
- Horizontal boiling chamber, fitted with external tube-nest heat-exchangers, pullout type.
- The multi-stage version allows the recovery of the latent heat of vaporization, in "cascading" effect, from 1st to stage to next ones, reducing of 1/3 the otherwise required energy.
- Digital and analogue control instrument for the automatic monitoring of the system.

○ VACUUM CIRCUIT AND CONDENSED MATERIAL LINE

- Circuit for condensate extraction composed by storage and liquid preheating tanks, centrifugal pumps for vacuum generation, Venturi ejector, manual nonreturn valves, digital and analogue control.

○ CONCENTRATE DISCHARGE AND RECIRCULATION SYSTEM

- Automatic circuit for the recirculation and discharge of the concentrate, complete with extraction pumps, pneumatic and manual valves, on-off valves for taking product samples during processing.
- The automatic discharge function is programmable through an adjustable density control device or by a timer for a complete customization of the process.



condorchem
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HIGHLIGHTS

Modular Multi Effect Evaporator fit to concentrate high capacities of water based solutions. Horizontal boiling vessels with high-efficiency immersed heat exchanger.

Powered by hot water, steam or diathermic oil. Special condensation tower included. Full automatic operation system by PLC; display of main parameters by LCD TOUCH screen. Standard manufacturing AISI316 – special alloys on demand.

Standard range from 4 to 30 t/day of evaporated water.

MAIN CHARACTERISTICS

- Power supply by hot water or steam.
- Immersion horizontal heat-exchanger.
- Heat exploiting at multiple effect.
- Possible recycling of already available heat sources.
- Low energy consumption.
- Possible addition of evaporation modules without more energy supply.
- Limited maintenances.
- Wastewater inlet, distillate and condensate outlet automatically operated.
- Check by PLC Siemens S7-200 PLC with TP 170 b keyboard.
- Pull-out boiling chamber and heat exchangers.
- Main frame, pipes and valves made in stainless steel AISI 316 L.
- Special corrosion-resistant material upon request.
- Possible extension from one up to three modules.

MAIN APPLICATIONS

ENVIDEST DPM series is particularly suitable for:

- oily emulsions, wastewater from vibratory finishing, exhausted baths.
- wastewater from pressure die-casting (release agents, glycols, lubricant oils).
- wastewater from galvanization (chromium, nickel, copper), exhausted baths, eluates.
- recycling of exhausted baths.
- treatment of foamy liquids.
- treatment of water-based solutions.

STEAM CONDENSING CIRCUIT

• The condensation of the evaporated wastewater happens in closed circuit with the steam passage through a water cooled plate heat exchanger or by cooling tower fitted with air/water heat exchanger.

CLEANING SYSTEM

• The automatic system is complete with pneumatic valve and rotating nozzle. The circuit allows the release of cleaning agents inside the evaporator: the wash cycle time can be adjusted from the control panel according to the actual needs.

FOAM CONTROL BATCHING SYSTEM

• Automatic system complete with foam formation sensor and variable setting control. The circuit allows the automatic injection of antifoam products inside the evaporator: the quantity of injected antifoam is adjustable by the control panel according to the actual needs.

CONTROL UNIT

- Siemens PLC control unit and touch screen control panel.
- Electrical panel in painted sheet, protection IP 54.
- Automatic overload cutout for all motors.
- 24 volts auxiliary circuit.
- Wiring made in flame proofs cables.
- Level control regulators for tanks and outside reservoirs level.

OPTIONALS

“Teleservice” Control System for remote assistance”

EXAMPLES OF INSTALLATIONS



TECHNICAL DATA

	Units	4000	5000	8000	10000
Feed Inlet	l/d	4.000	5.000	8.000	10.000
Nominal Capacity	l/h	165	208	330	420
Energy Consumption	KCal	110.000	135.000	215.000	250.000
Dimensions (LxPxH)	cm	320x100x320	320x120x390	330x120x380	330x120x380

PROCESS DIAGRAM

