

ENVIDEST DPM 3

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.



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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 3 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.

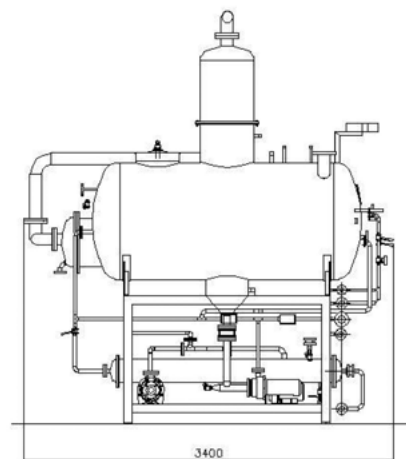
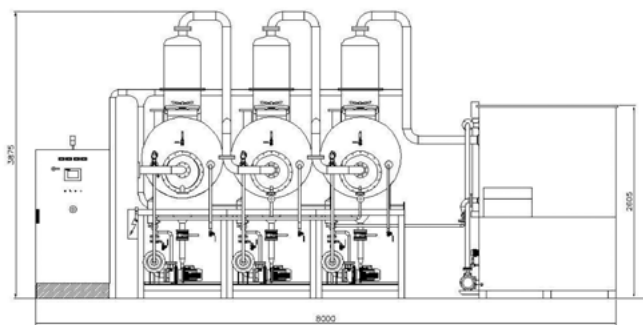
CONTROL UNIT

- 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"

OVERALL DIMENSIONS ENVIDEST DPM 3



TECHNICAL DATA

	Units	12000	20000	24000	30000
Feed Inlet	l/d	12.000	20.000	24.000	30.000
Nominal Capacity	l/h	500	840	1.000	1.250
Energy Consumption	KCal	110.000	180.000	215.000	250.000
Dimensions (LxPxH)	cm	310x300x325	320x375x380	320x375x380	320x375x380

PROCESS DIAGRAM

