DESALT VR

Thermal Vacuum Evaporator-Crystallizer

The DESALT VR series vacuum evaporator-crystalliser is designed to treat scaling aqueous-based streams, as well as for achieving high product concentration. The equipment can be manufactured to operate using saturated steam or hot water to heat the product to be concentrated. The condensation of the generated vapour is carried out by supplying cooling water.

Equipped with an internal motorised scraper, the evaporator ensures continuous cleaning of the heat exchange surface in the evaporation vessel, preventing the formation of scale. It allows the precipitation of crystals from dissolved solids by increasing the concentration above the solubility limit.

The operation of the equipment is fully automatic - 24 hours a day.

FEATURES

Technology	Evaporation with thermal energy
Single/Multi-Effect	Single-Effect
Thermal Energy for Evaporation	Saturated steam or hot water
Thermal Energy for Condensation	Cooling water
Vacuum	≈ 200 mbar
Evaporation Temperature	≈ 60 °C
Evaporation Vessel	Vertical conical bottom with scraper
Droplet Separator	None
Heat Exchanger for Heating	Shell and tube
Vacuum System	Venturi Ejector or liquid ring pump (depending on the model)
Control Unit*	PLC Siemens with HMI touch screen
Protection:	IP54
Electricity Supply**	400 V III + PE 50 Hz
Standard Manufacturing Material	1.4401/1.4404 (AISI 316/AISI 316L)
Special Anti-corrosion Manufacturing Material***	1.4410 (Superduplex 2507)

* *Different PLC manufacturer available on request*
** *Different voltage supply available on request*
*** *Consult other available material options*

TECHNICAL DATA

Parameter	Unit	2000	3000	5000	6000	10000	20000
Capacity*	L/day	2000	3000	5000	6000	10000	20000
Electricity Consumption	kWh	4,2	4,2	4,6	4,6	4,8	5,0
Thermal Energy for Evaporation	kWht	65	95	160	190	315	630
Thermal Energy for Condensation	kWht	65	95	160	190	315	630
Length	mm	3000	3100	3300	4000	4100	4100
Width	mm	1600	1600	2000	2000	2000	2000
Height	mm	3260	3760	3945	4250	5000	5510

* *Data refer to clean water when working continuously in standard conditions (T = 20 °C, P = 1013 mbar).*

DIAGRAM