



DESALT MFE-1

Thermal Vacuum Evaporator-Crystallizer with Forced Circulation

The DESALT MFE-1 series thermal vacuum evaporator-crystallizer is designed to treat large volumes of aqueous-based streams. 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.

It is an ideal system to manage effluents with a high contaminant load and it allows the precipitation of salts from dissolved solids. The high-speed recirculation pump plays a crucial role in preventing scale formation in the main heat exchanger. Additionally, this heat exchanger is sufficiently inclined to facilitate its draining to the vessel in case of shutdown.

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

FEATURES

Technology

Single/Multi-Effect

Thermal Energy for Evaporation

Thermal Energy for Condensation

Vacuum

Evaporation Temperature

Evaporation Vessel

Droplet Separator

Heat Exchanger for Heating

Vacuum System

Control Unit*

Protection:

Electricity Supply**

Standard Manufacturing Material

Special Anti-corrosion Manufacturing Material***

Evaporation with thermal energy

Forced Circulation (FC)

Single-Effect

Saturated steam or hot water

Cooling water

≈ 200 mbar

≈ 60 °C

Vertical conical bottom

Mesh Demister

Shell and tube

Liquid ring pump

PLC Siemens with HMI touch screen

IP54

400 V III + PE 50 Hz

1.4401/1.4404 (AISI 316/AISI 316L)

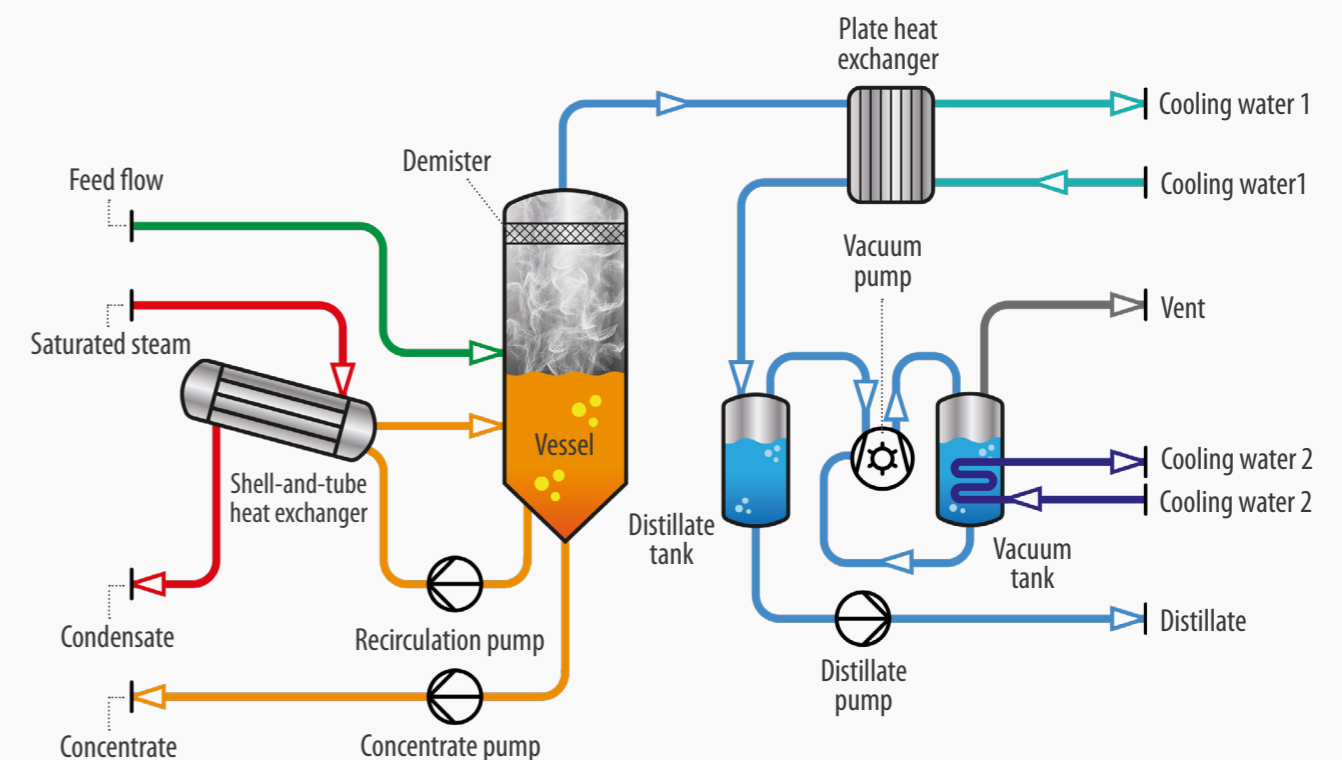
1.4410 (Superduplex 2507)

TECHNICAL DATA

Parameter	Unit	20000	40000	60000	80000	100000
Capacity*	L/day	20000	40000	60000	80000	100000
Electricity Consumption	kWh	26	32	35	46	48
Thermal Energy for Evaporation	kWh	630	1260	1885	2515	3140
Thermal Energy for Condensation	kWh	630	1260	1885	2515	3140
Length	mm	6500	7000	7000	7500	8100
Width	mm	2600	3600	4000	4000	4000
Height	mm	5100	6000	6600	6600	7395

* Data refer to clean water when working continuously in standard conditions ($T = 20\text{ }^{\circ}\text{C}$, $P = 1013\text{ mbar}$).

DIAGRAM



* Different PLC manufacturer available on request

** Different voltage supply available on request

*** Consult other available material options