



Anhydro Laboratory Vacuum Evaporator

Evaporation is a sophisticated method to increase the concentration of a certain product.

SPX offers one standardised Anhydro Laboratory Vacuum Evaporator.



Equipment Supply, basic plant

- Calandria
- Separator
- Mixing Condenser
- Vacuum Pump
- Condensate/Cooling Water Pump
- Instruments
- Pipes
- Support Structure
- Valves
- Control Panel

Optional Equipment

- Forced Circulation Pump



Technical data

Process Design Data:

Capacity at	60°C
Evaporation Capacity	50 kg/h
Steam Consumption:	55 kg/h
Cooling Water Consumption:	2-3000 kg/h
Power Consumption:	1.5 kW
Power Supply	3x400 V / 50 Hz

Type Laboratory Vacuum Evaporator

Evaporation is a sophisticated method to increase the concentration of a certain product.

The liquid to be concentrated is sucked into the plant through an adjustable valve (A) at the top of the calandria. When the boiling starts, the liquid circulates from the calandria to the separator and back again to the calandria, until the desired concentration is obtained. As the concentration takes place, fresh product can be taken into the plant. The concentrated liquid is discharged through a valve (B) at the bottom of the calandria when the batch is finished, and vacuum is taken off. On account of the low pressure, the boiling takes place at a low temperature. The boiling temperature is governed by the vacuum in the plant. The vacuum can be varied by varying the cooling water quantity and temperature.

Low pressure steam is used as heating medium in the calandria, and is supplied to the jacket around the tubes through a valve (D).

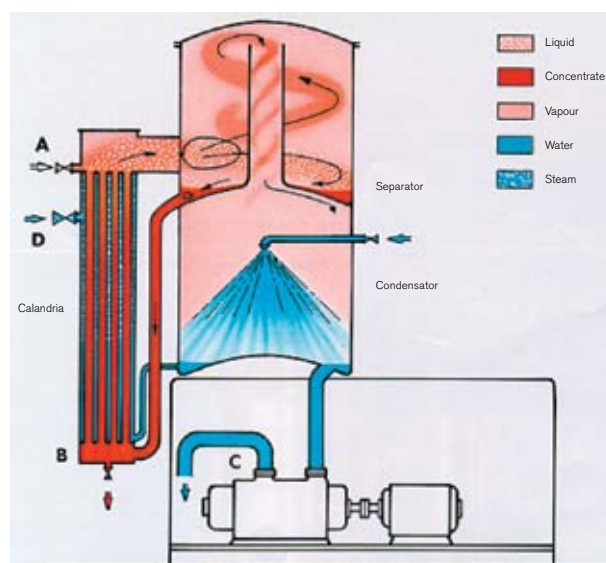
From the calandria the product is led to the separator through a duct, which is connected tangentially to the separator. By this design the kinetic energy of the liquid

is retained, ensuring a rapid circulation of the liquid. In the separator, the vapour is separated from the liquid.

The vapour goes to the condenser and is condensed by injection of cooling water, which is supplied through a spray nozzle.

The condenser is connected to a condensate/cooling water pump and vacuum pump (C). The condensate/cooling water pump extracts the water from the condenser while the vacuum pump maintains vacuum in the whole system.

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