

Anhydro Laboratory Vacuum Evaporator

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

Anhydro offers one standardised pilot Laboratory Vacuum Evaporator.

Equipment Specification

- Heating Body
- Separator
- Counter-Current Mixing Condenser
- Water Ring Pump
- Instruments
- Support Structure
- Valves





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 special water-terring pump, (C) which is a combined pump for water and air. The pump extracts the water from the condenser and at the same time maintains vacuum in the whole system.

The partly concentrated liquid runs from the separator through a tangentially connected outlet pipe back to the calandria where it is heated again.

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Technical data

Process Design Data	
Capacity at	60°C
Evaporation Capacity	50 kg/h
Steam Consumption:	55 kg/h
Cooling Water	
Consumption:	1000 kg/h
Power Consumption:	4,4 kW

