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PROTEINE

REDA
Food Processing Plants

Vacuum Evaporators for thermosensitive products

REDA EVAPORATORS

The best solution for the low temperature concentration of your products

The cold concentration

The new REDA concentration plants evaporate, under vacuum conditions, pure distilled water or alcohol at low temperatures (+18/24°C), leaving intact the organoleptic characteristics of the processed product and the balance between the various substances in solution.

Advantages

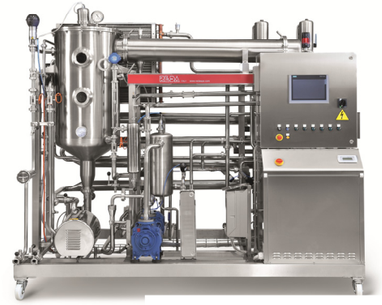
- Inlet product temperature ranging between 0° and 50°C.
- The incoming product (with no peels or seeds) requires no further filtrations.
- Total absence of foams during the process.
- No thermic damage to the product due to low temperatures of the process and very short permanence time in the system.
- Constant evaporated output over time, with continuous operation even beyond 24 hours without CIP cleanings need.
- The concentration level can be very high (up to more than 65-70 ° Brix) depending on the product to be processed.
- Removed water can be recovered for other uses (eg. CIP cleanings, etc.).

Range of applications:

- Fruit juices
- Fruit nectars
- Fruit concentrates
- Herbal distillates
- Honey
- Beer, wine, spirits
- Milk and by-products
- Seaweed extracts
- Vegetable extracts
- Spirits distillation
- Yeast and ferments

SINGLE STAGE EVAPORATORS

Dealcoholisation and Concentration



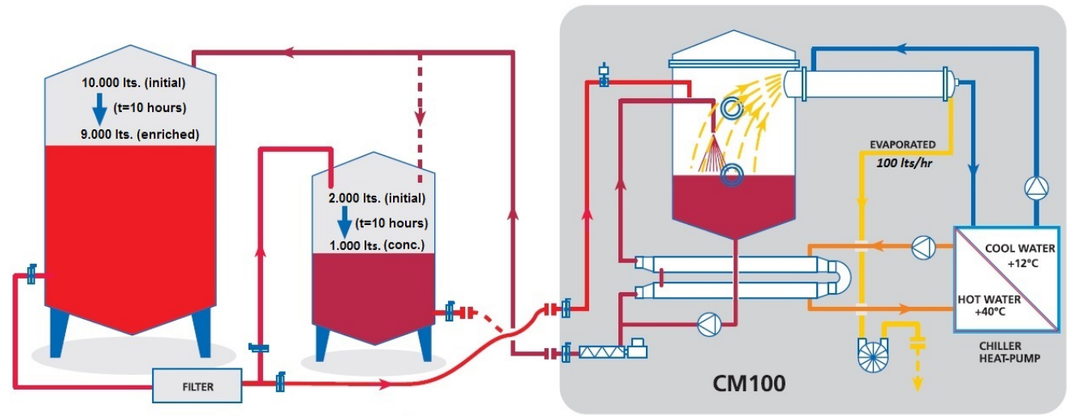
Operating Characteristics

REDA evaporators combine the technique of heat pump with vacuum. The hot water (at +35/40°C) is produced by a Chiller/Heat Pump integrated in the system and is used to generate the heat required for evaporation. Cold water (at +12°C) is produced by the same group and is used for the condensation of the generated vapors. The system controles and regulates automatically the correct temperature of the product (+18/24°C) so to get the best evaporation performances.
This solution allows a considerable reduction of investment costs because evaporation occurs in a single effect. It also allows a soft concentration of the product, an optimum separation of the water and allows to reach high degrees of concentration with a very low energy consumption (equivalent to a standard 3-effects evaporator).

Automation

Automation allows a safe operation of the plant, in addition to grant a consistent high quality of treated product. All production phases are controlled by means of a PLC, for which the use of the system is simple and safe even in the absence of the operator. In addition, the automation reduces the risk of operator errors, provides production reports, recording data of work and full traceability of production.
The system can work in three ways:

a) By recirculating in a tank until when the required concentration is obtained.
b) During transfer from one tank to another with different concentration.
c) By concentrating only part of the total mass (ex. 20%) which is then mixed to the remaining mass to obtain the desired concentration.

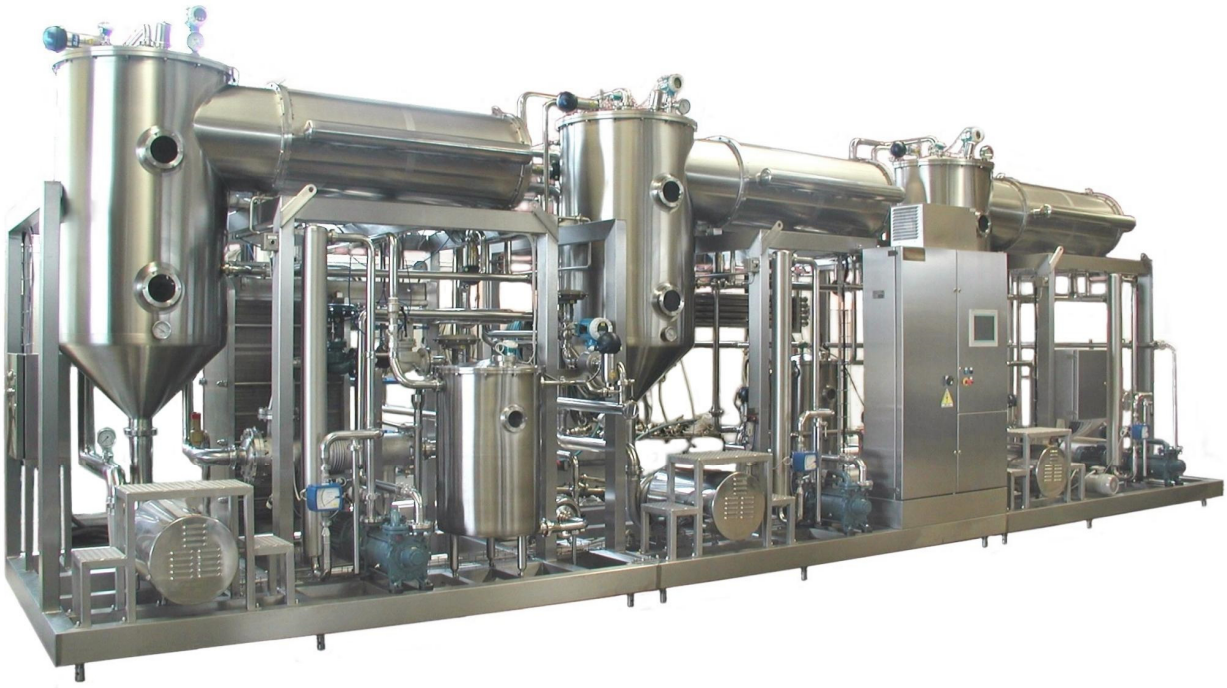


Technical characteristics

	u.m.	CM100	CM200	CM400	CM800
evaporated water in 1 hour	L/h	100	200	400	800
Installed power	kW	25	50	95	180
max. concentration	°Brix	65/70			
potable water consumption	L	300 (only for CIP cleanings)			

MULTIPLE-EFFECT EVAPORATORS

for concentration of juices, milk ,whey and other special products



Operating Characteristics

Multiple-effect evaporator of REDA is a multi-purpose equipment ideal for concentration of a large amounts of heat sensitive products like juices, milk, whey and others.
The first effect works at max +65/70°C and it comes heated not by steam but by means of hot water at max +70/75°C. The product flows very quickly in the circuit so that no thermal damages are possible. The second effect works at around +50/55°C and recovers the heat derived from the condensation of the vapors in the first effect. The last effect works at +40°C and uses tower water at +25/30°C for the condensation of vapors. Tower water is cooled by a specific evaporation tower that may be included in the supply. Then finally, the product comes cooled before the outlet from the unit.

	u.m.	CS1000	CS2000	CS3000	CS5000	CS8000
evaporated water in 1 hour	Lt/hr	1000	2000	3000	5000	8000
no. of effects		1 or 2	2	3	3	3 or 4
steam consumption	Kg/hr	500	1000	1000	1600	2000
max. concentration	°Brix	60/70				

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