

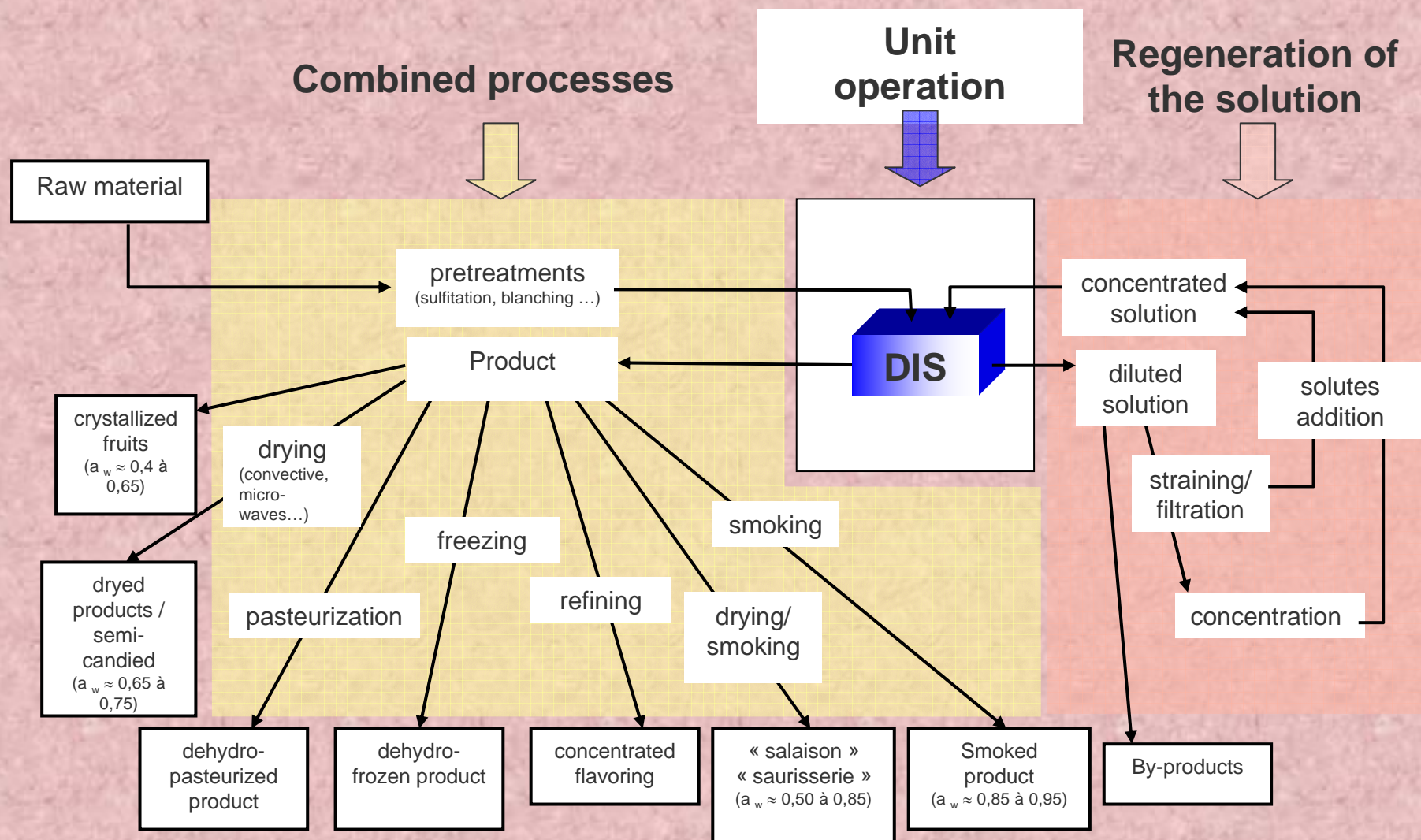
Session 2: Applications

Equipment and industrial lines for osmotic process of food

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Dehydration Impregnation by Soaking



Phases contactors

Principles

1 Discontinuous

Static or dynamic

2 Continuous

Immerged conveyer belt
aspersionshower-type process

Contactors

Discontinuous, static :

Cold process (2-10°C) :

brining of fish and meat (saturated in salt, 4h - 2 days)

Simple vessel in a cooled room.

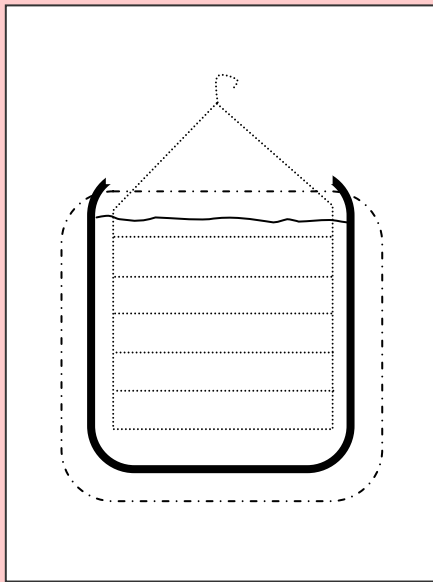
Warm process (40- 100°C) :

candying of fruits & vegetables (2 hr.-2 days)

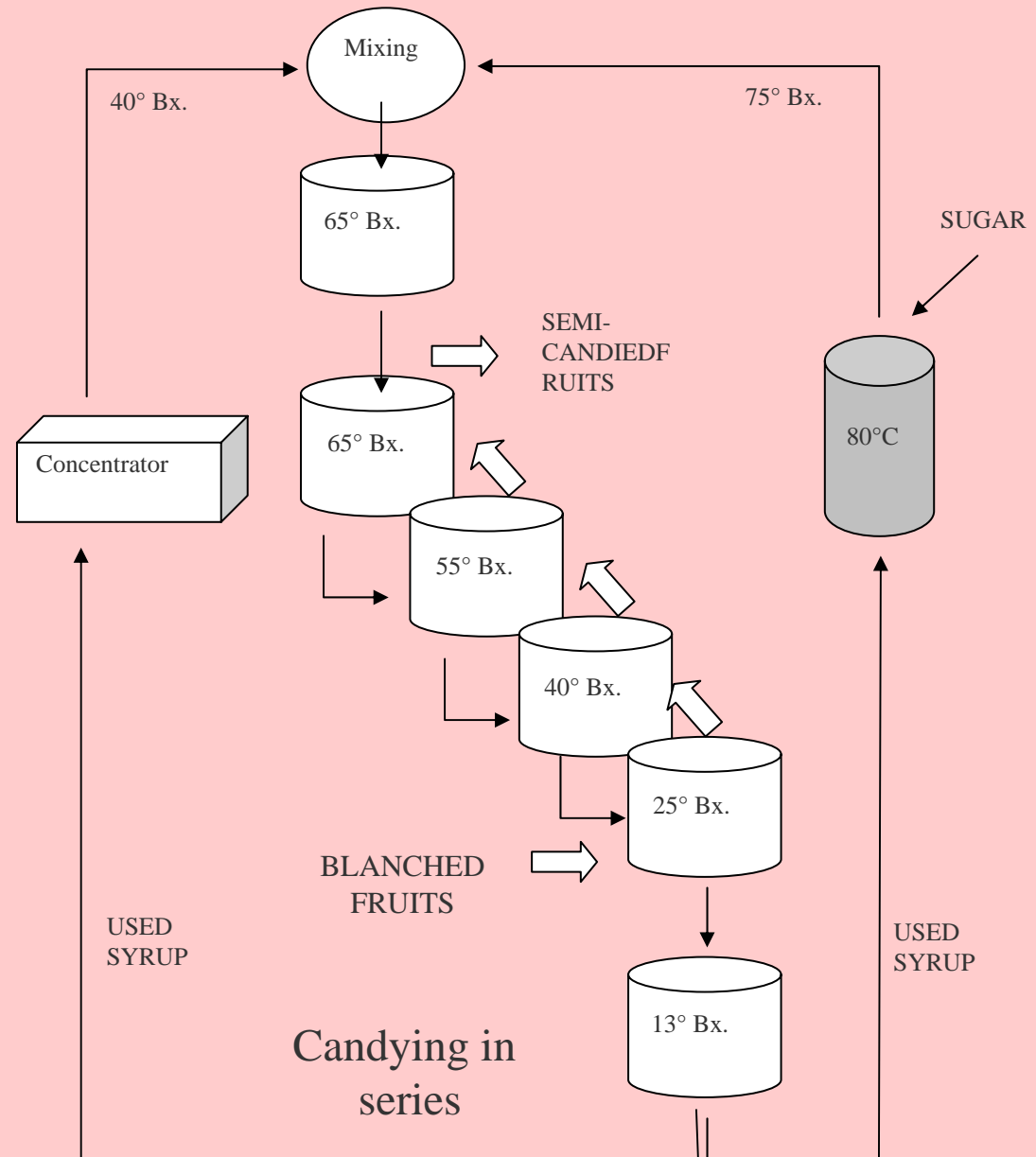
dewatering of aromatic herbs (1 to 5 min. 90-100°C)

Heated vessel, atmospheric or vacuum, one or several vessels, syrup 25 to 70 Bx.

Contactors



Universal candying vessel



Discontinuous, dynamic

The complete cycle in a unique tank

Stirring in the tank :

Boema : horizontal candying vessel (6,000 - 18,000l) under vacuum. Heated by steam in the spiral agitator.

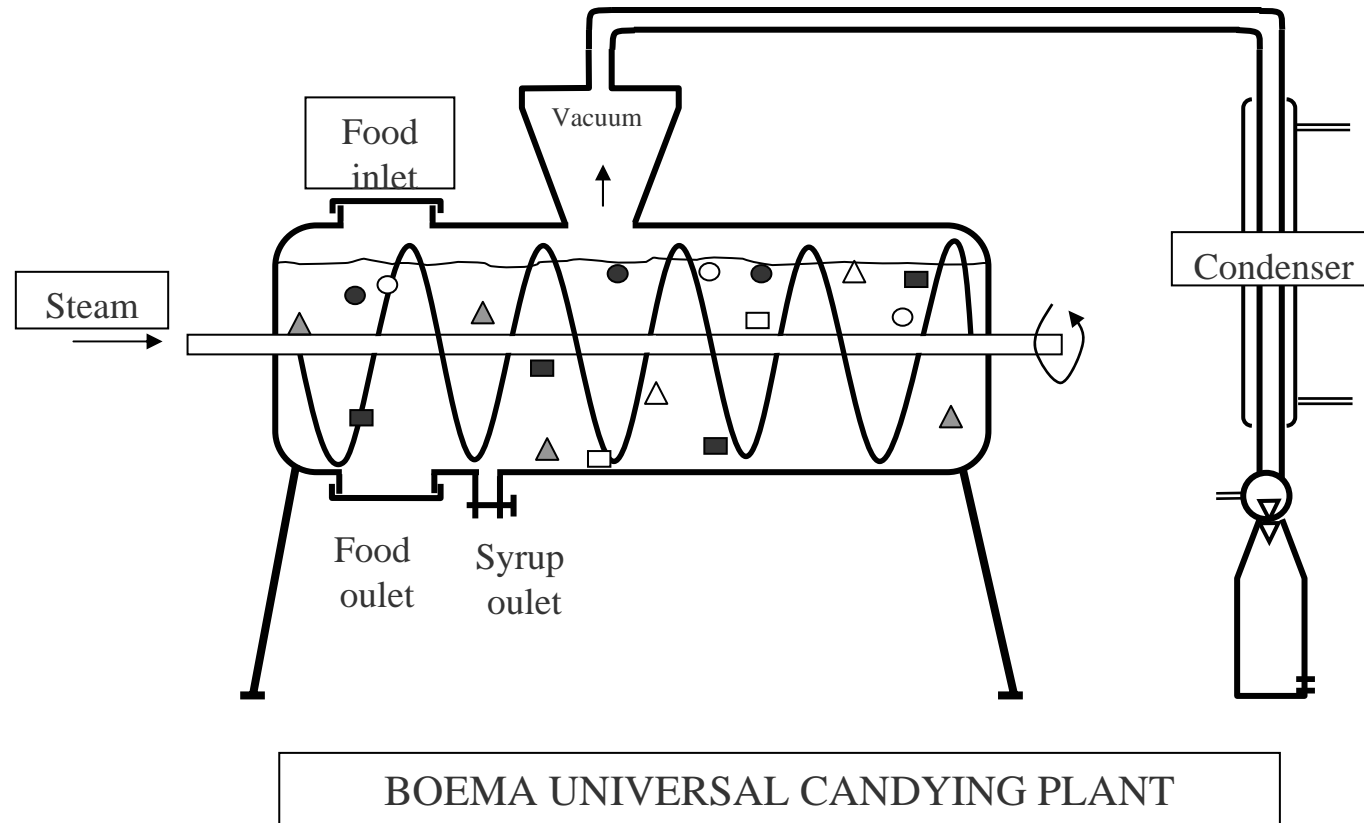
3 - 10 tons /24hr.

Forced convection of the syrup :

Bertuzzi Kandimat : vertical candying vessel under vacuum.

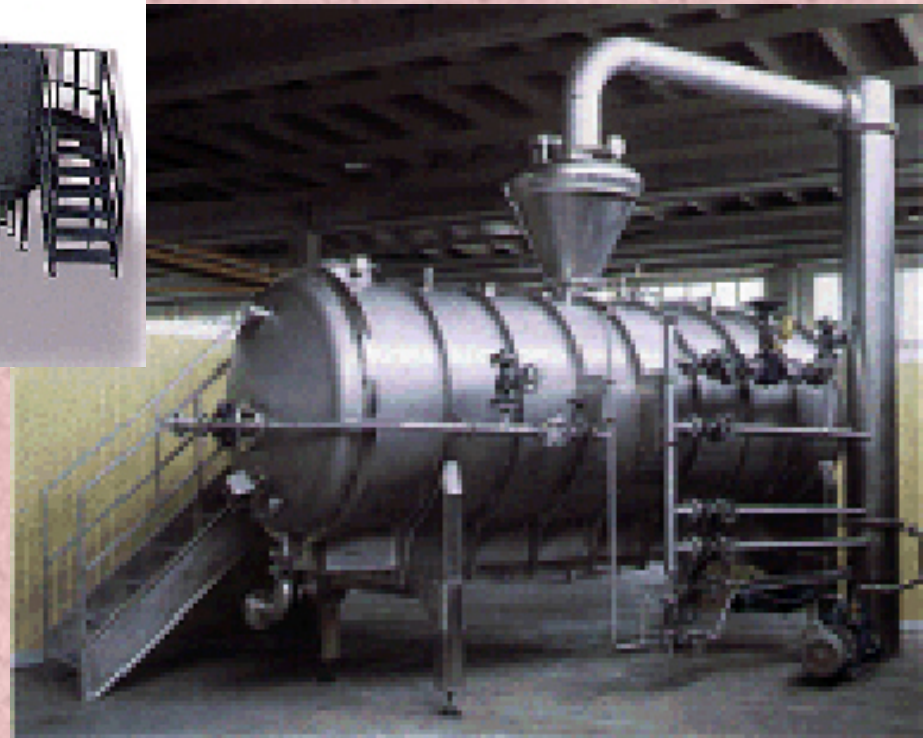
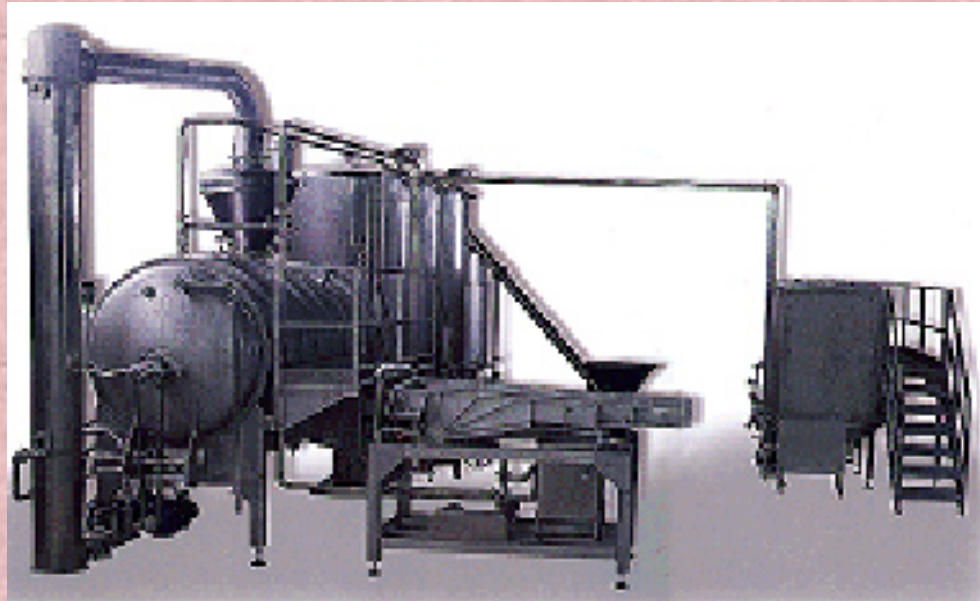
Syrup recirculation in a heat exchanger. Fruits pieces in baskets. 600 - 4,800 kg/cycle. Model KK : 3,000 - 6,000 kg/ 24 hrs.

Dynamic batch contactors

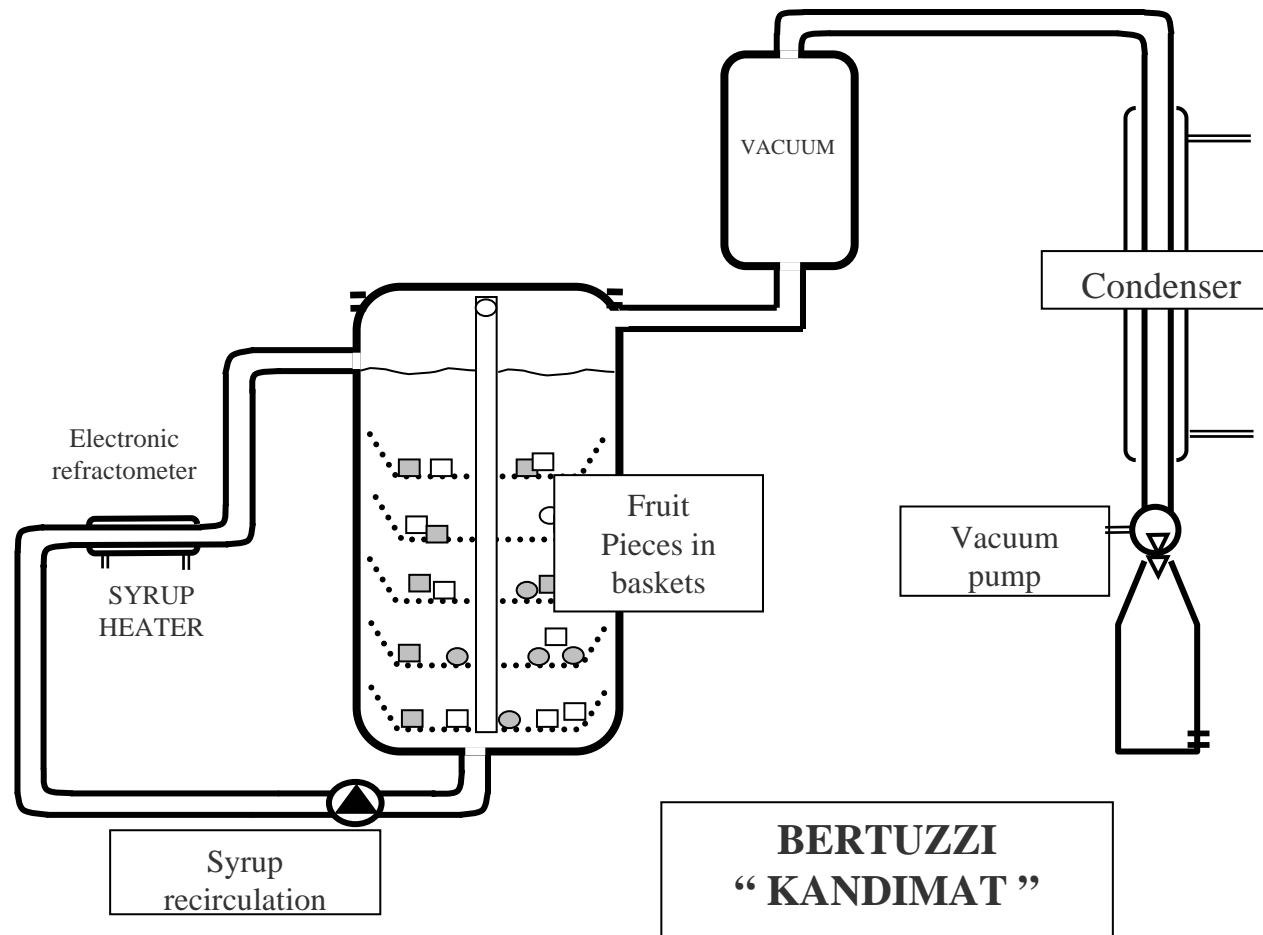


BOEMA

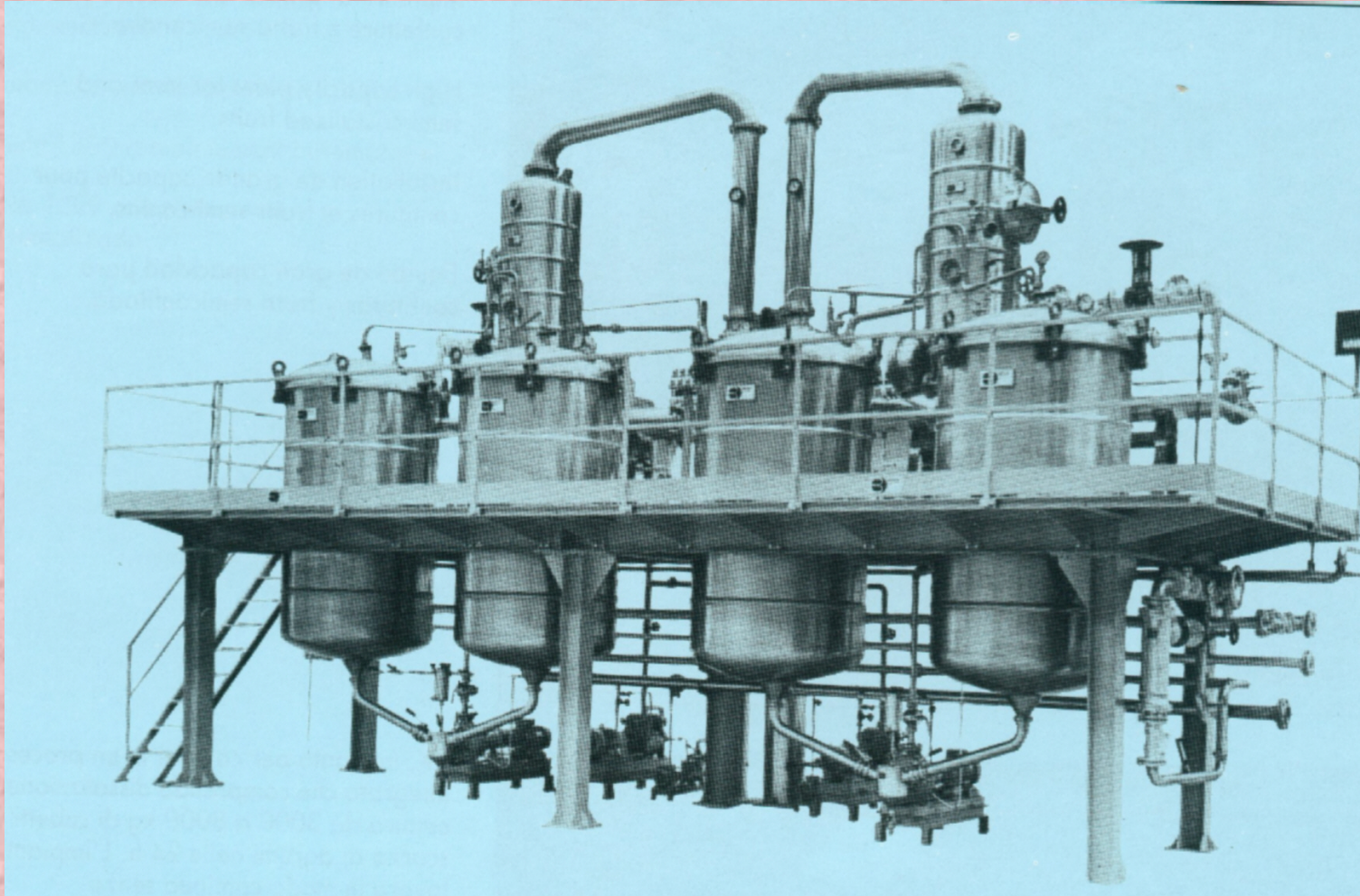
Universal vacuum
candying machine



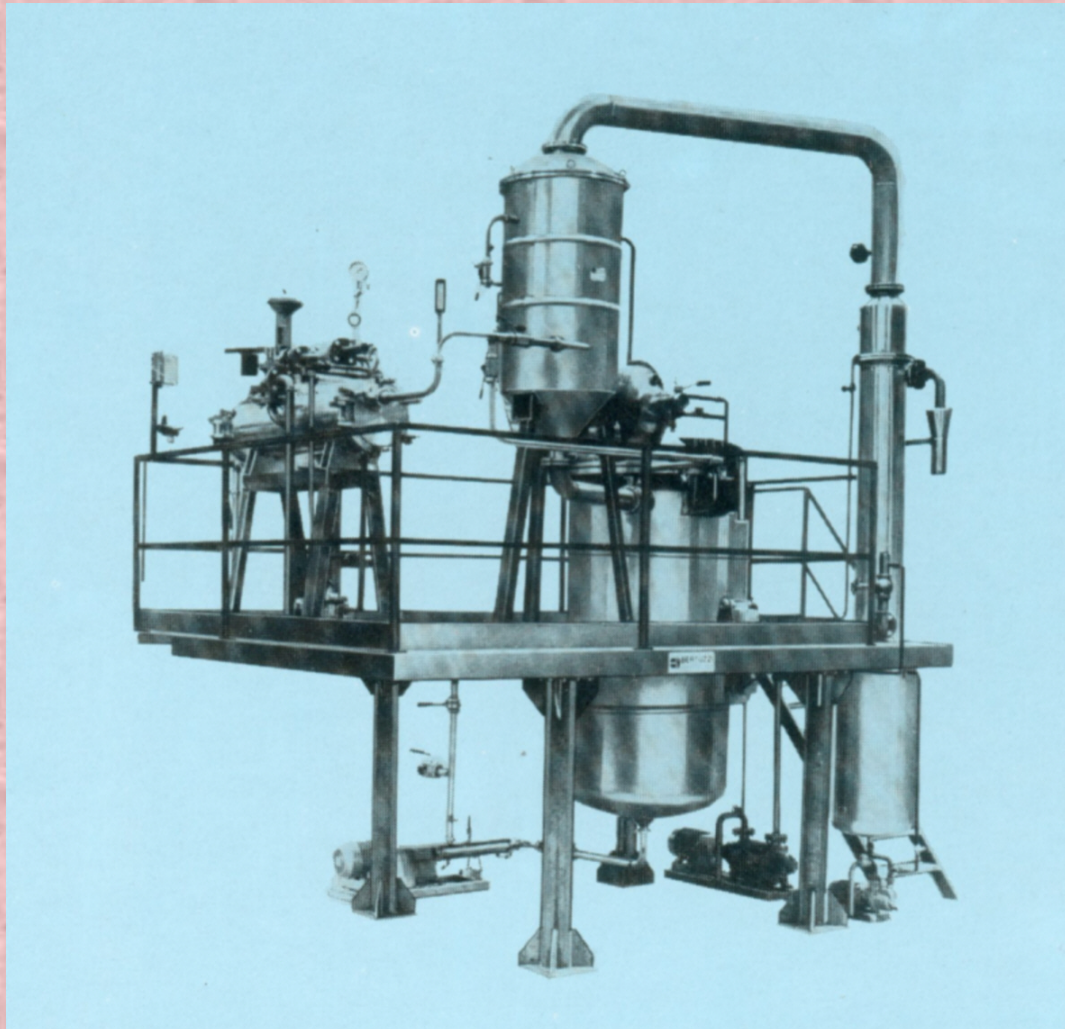
Contactors



Bertuzzi « Kandimat »



Bertuzzi



Continuous process

1 Flow of foodstuff conveyed by the brine and a conveyer belt.

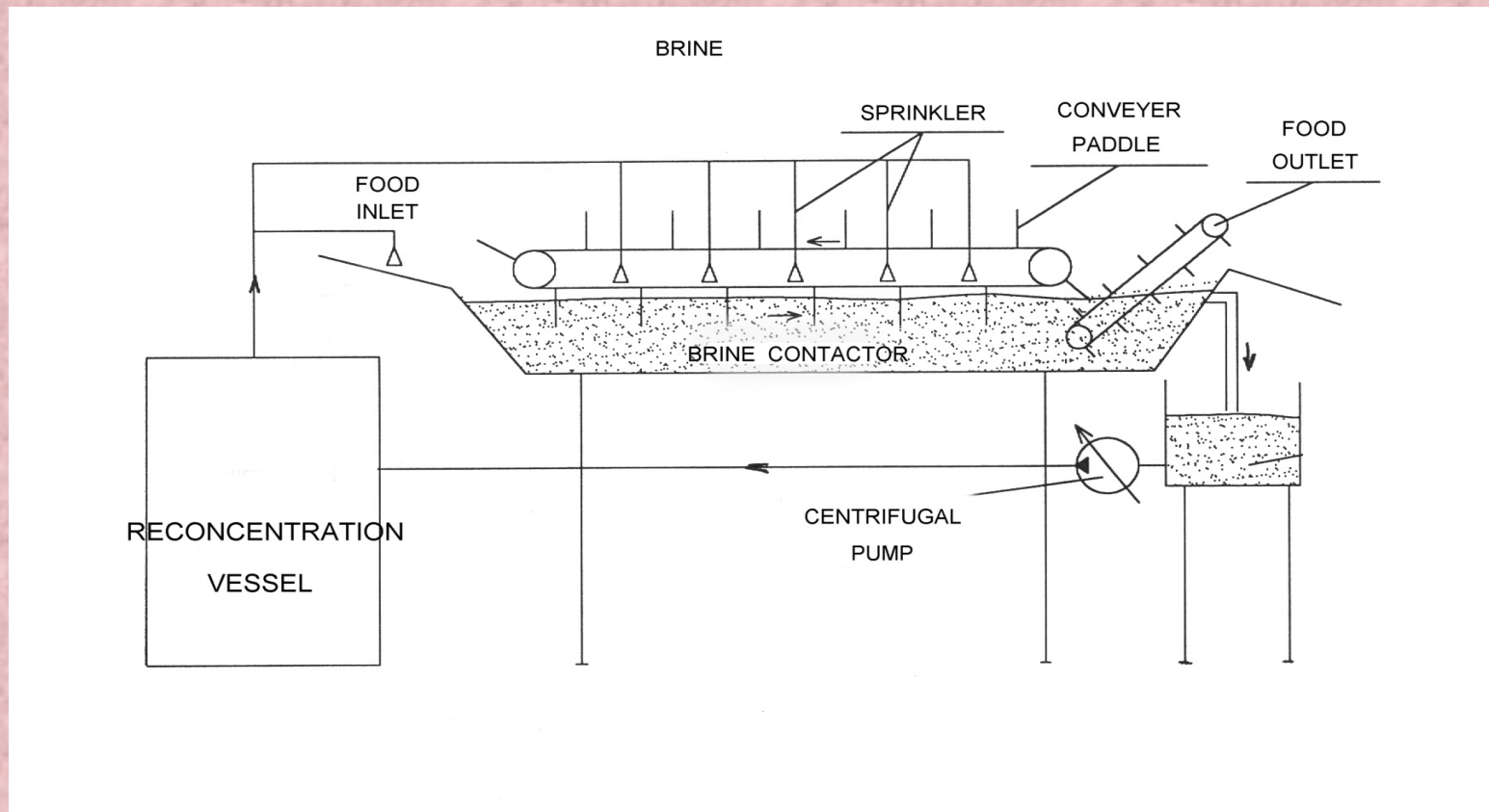
For example : AFOS equipment for herring brining. 1 ton/hr.
Treatment duration : 10 to 20 min.

2 Showering of the fish on trays.

For example : ARBOR equipment for fish-salting. Saturation in salt, 100 - 500 g sugar/kg water. 400 kg/h herring. 30 min. to 3 hrs (salmon). Complete regeneration of the brine.

Continuous brining

(AFOS/ herring)

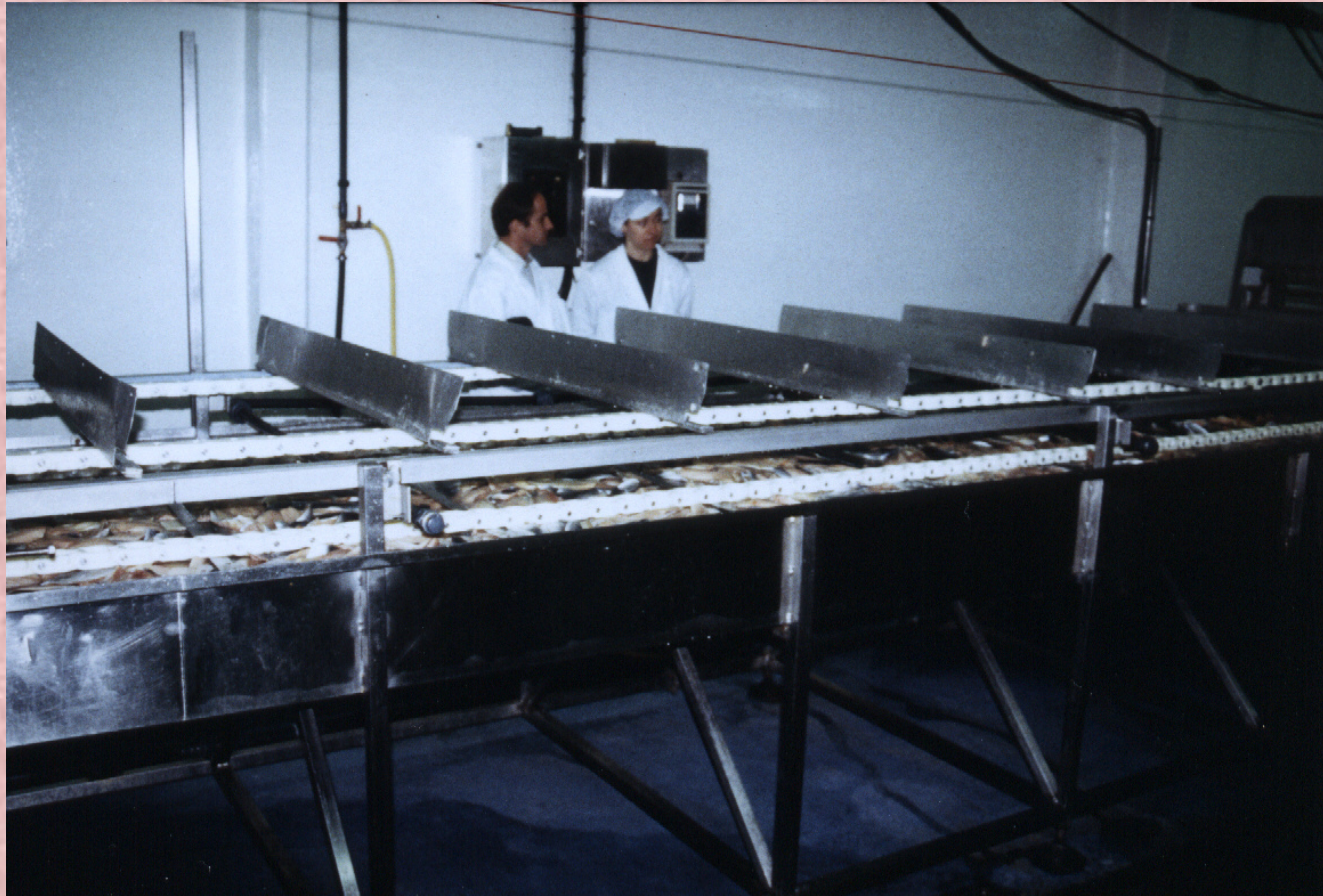


Continuous brining (AFOS)



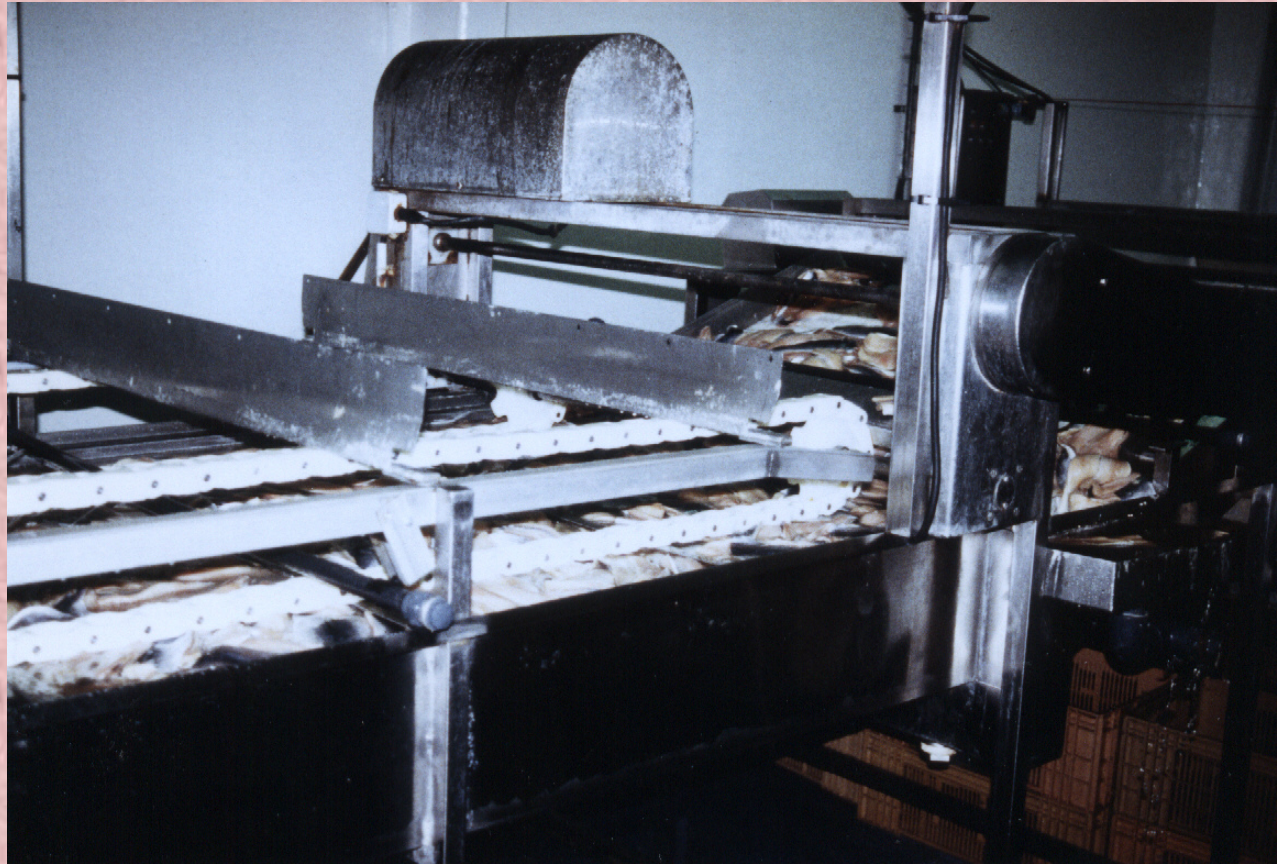
Continuous brining

(herring /AFOS)

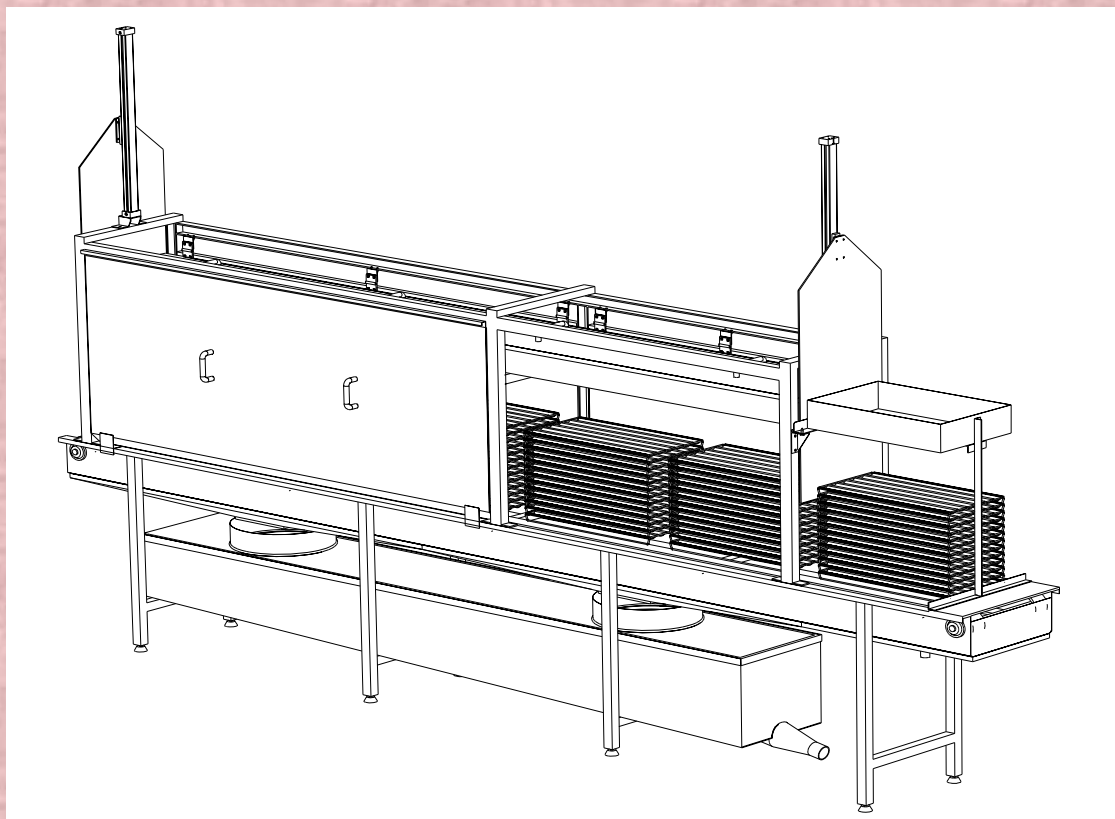


Continuous brining

(herring / AFOS)



Shower-type continuous process (brining - marinades) ARBOR (pat. CIRAD/IFREMER)



Shower type contactor

fish salting/drying



Shower type contactor

salting/drying

