ENGINEERING PROJECT

Reverse osmosis for acid whey concentration

Dairy processing · Yoghurt production

Design feed flow	Design daily feed	Design temperature
45 m³/h	900 m³/d	45 °C

01

The challenge

Yoghurt production generates 900 m³ of pasteurised acid whey a day. The aim was to reduce the volume for disposal and recover water from the whey.

02

The solution

Reverse osmosis concentrates the whey in three recirculation loops. The design also includes a two-pass configuration for polishing the permeate.

01 **Acid whey** → 02 **Whey concentration RO** → 03 **Permeate polishing**

03 / PROCESS DESIGN

15% or 20% total solids

With polishing, the design balance gives 510 m³/day of recovered water at the 15% solids target and 584 m³/day at 20%, over 20 production hours.

- 48 or 60 main RO elements
- 25-element polishing stage
- Flow-based concentration control

Water after polishing

At 15% solids	510
At 20% solids	584

Design · m³/day in 20 h

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