

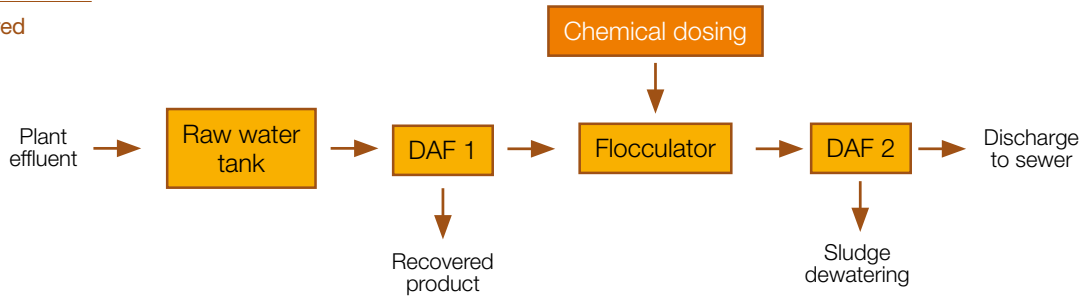
Bakery, cookies and crackers

The industrial complex produces famous cookies and crackers commonly found in household pantries. Rinsing and sanitizing the mixers, kettles, and work areas in the facility generates a relatively small volume of wastewater, however the organic ingredients in the water contribute to high levels of TSS, COD, and BOD.

A dual-stage DAF system was supplied with the first DAF recovering suspended, organic materials without the addition of any chemicals and the second DAF removing colloidal solids with chemical aid to meet discharge permit requirements. This dual stage approach reduces sludge volume and allows for separate sludge disposal rates.



Solution delivered



Equipment supplied

- PCL-3 DAF (2)
- F-2 flocculator (2)
- Chemical dosing panels
- Pneumatic controls
- Maintenance catwalk

DAF sizing calculations

Hydraulic surface loading rate

$$= \frac{\text{Feed flow + recycle flow in m}^3/\text{h}}{\text{Effective surface area in m}^2}$$

$$= \frac{5.7 + 3.2 \text{ m}^3/\text{h}}{x \text{ m}^2} = 2.4 \text{ m}^3/\text{m}^2/\text{h}$$

$$= 3.7 \text{ m}^2 \text{ required}$$

Solids loading rate

$$= \frac{\text{Weight of TSS in feed in kg/h}}{\text{Free surface area in m}^2}$$

$$= \frac{6.8 \text{ kg/h}}{x \text{ m}^2} = 12.2 \text{ kg/m}^2/\text{h}$$

$$= 0.6 \text{ m}^2 \text{ required}$$

	Design parameters	Discharge requirements
Flow	136.3 m ³ /d	
TSS	1'200 mg/l	< 100 mg/l
FOG	1'200 mg/l	< 100 mg/l
COD	4'400 mg/l	
BOD	3'300 mg/l	
pH		6 - 9

