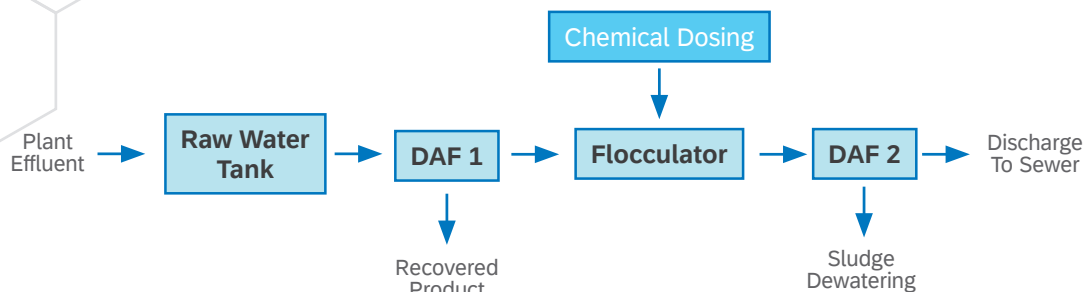


WASTEWATER SOLUTION

Bakery Cookies & Crackers



A Sulzer Brand



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.

	Design Parameters	Discharge Requirements
Flow	36,000 GPD	
TSS	1200 mg/L	< 100 mg/L
FOG	1200 mg/L	< 100 mg/L
COD	4400 mg/L	
BOD	3300 mg/L	
pH		6-9

Equipment Supplied

PCL-3 DAF (2)
F-2 Flocculator (2)
Chemical Dosing Panels
Pneumatic Controls
Maintenance Catwalk

DAF Sizing Calculations

Hydraulic Surface Loading Rate

$$\begin{aligned}
 &= \frac{\text{Feed Flow} + \text{Recycle Flow in gpm}}{\text{Effective Surface Area in sqft}} \\
 &= \frac{25 + 14 \text{ gpm}}{x \text{ sqft}} = 1 \text{ gpm/sqft} \\
 &= 39 \text{ sqft required}
 \end{aligned}$$

Solids Loading Rate

$$\begin{aligned}
 &= \frac{\text{Weight of TSS in feed in lbs/hr}}{\text{Free Surface Area in sqft}} \\
 &= \frac{15 \text{ lbs/hr}}{x \text{ sqft}} = 2.5 \text{ lbs/sqft/hr} \\
 &= 7 \text{ sqft required}
 \end{aligned}$$

