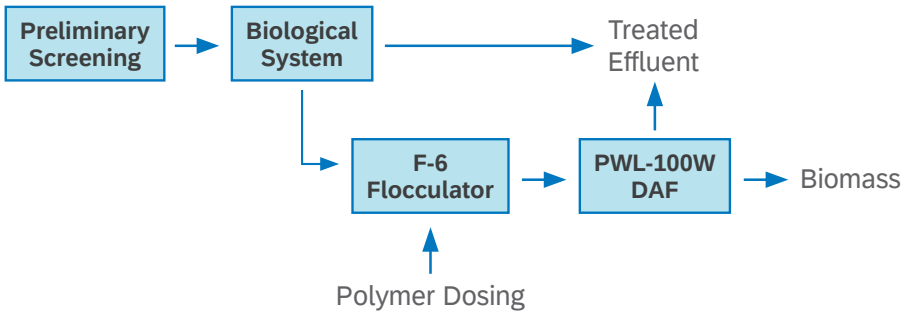
Case Study

WASTEWATER SOLUTION

Yogurt Production

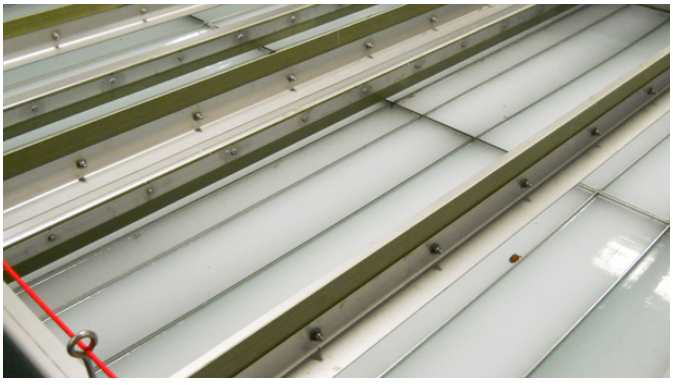
A Sulzer Brand



The dairy processing plant in upstate New York produces a variety of yogurt products for distribution in grocery stores around the country.

In the wastewater treatment process a preliminary screen removes bulky solids before the water is treated biologically in a continuous waste activated sludge system. As the biomass grows and is wasted from the system, a DAF tank separates the solids from the water and concentrates them to 3-5% dryness in preparation for conditioning and dewatering.

The effluent from the DAF unit is devoid of solids and is combined with the effluent from the aeration basin for discharge into the sewer line.



	Design Parameters	Discharge Requirements
Flow	920,000 GPD	
MLSS	3000 mg/L	150 mg/L

Source Water

Activated Sludge System

Equipment Supplied

PWL-100W DAF Unit
F-6 Short Flocculator
Electrical Control Panel
Pneumatic Controls
Access Catwalk

DAF Sizing Calculations

Hydraulic Surface Loading Rate

$$= \frac{\text{Feed Flow + Recycle Flow in gpm}}{\text{Effective Surface Area in sqft}}$$

$$= \frac{430 + 210 \text{ gpm}}{\text{x sqft}} = 2 \text{ gpm/sqft}$$

$$= 320 \text{ sqft required}$$

Solids Loading Rate

$$= \frac{\text{Weight of TSS in feed in lbs/hr}}{\text{Free Surface Area in sqft}}$$

$$= \frac{868 \text{ lbs/hr}}{\text{x sqft}} = 2.5 \text{ lbs/sqft/hr}$$

$$= 348 \text{ sqft required}$$