

## Beef abattoir

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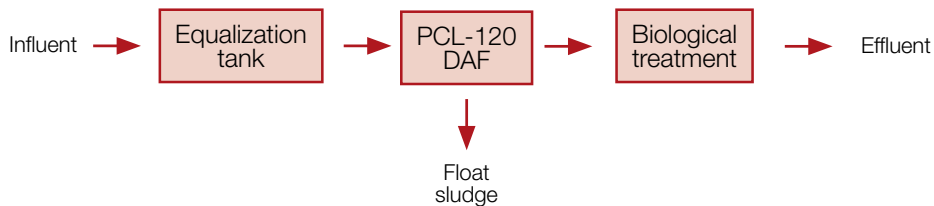
**The beef abattoir plant processes several thousand head of heavy cattle per day to produce meat products for export and domestic distribution.**

The generated wastewater is laden with fatty, oily, and gritty materials that are washed down the drain during normal processing procedures and plant sanitation. A chemical-free DAF system was installed to process over 295.3 m<sup>3</sup>/h of wastewater for removal of TSS and FOG.

The nature of the solids in the wastewater grants separation without chemical addition. Combined with the high effluent temperature and density of the solids, the DAF unit operates at an extraordinarily high solids loading rate and achieves extremely high dry solids concentration thanks to the DAF system's dewatering grid.



**Solution delivered**



**Equipment supplied**

- PCL-120 DAF
- Odor control DAF cover
- U-shaped catwalk

**DAF sizing calculations**

**Hydraulic surface loading rate**

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

$$= \frac{295.3 + 47.7 \text{ m}^3/\text{h}}{x \text{ m}^2} = 2.4 \text{ m}^3/\text{m}^2/\text{h}$$

$$= 143 \text{ m}^2 \text{ required}$$

**Solids loading rate**

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

$$= \frac{1'769 \text{ kg/h}}{x \text{ m}^2} = 171 \text{ kg/m}^2/\text{h}$$

$$= 10.3 \text{ m}^2 \text{ required}$$

	Design parameters	Discharge requirements
Flow	7.079 m <sup>3</sup> /d	
TSS	6'000 mg/l	75% reduction
FOG	6'500 mg/l	85% reduction
TEMP	60°C	

