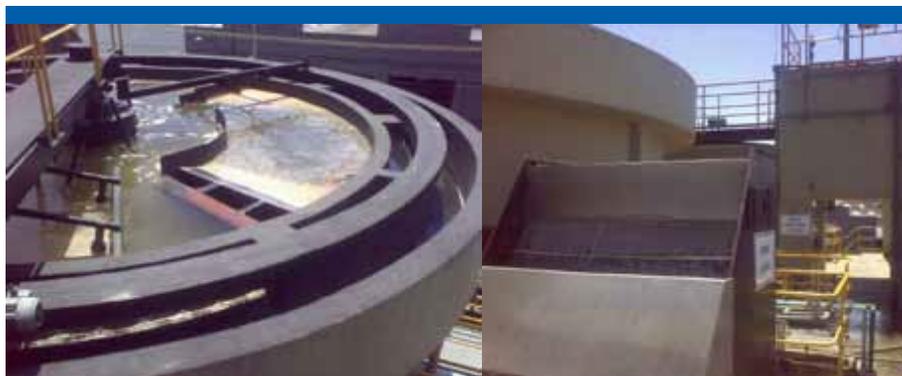


INDUSTRIAL

SAO PAULO, BRAZIL

CMFF® technology

Project Name:	Dairy
Location:	Sao Paulo, Brazil
Type of Plant:	Industrial
Consultant:	Acqua Engenharia
Technology Used:	CMFF® (MBBR)
Biomedia Used:	BWT35 media
Operational Since:	August 2010



DAF

Primary Treatment Stage



CMFF® Tank

The Challenge

The customer is a producer of dairy products including: Milk, cheese, sour cream, butter and yogurt. In Sao Paulo City as in many large cities, the industries have to pay to discharge to the municipal wastewater system. This dairy was no exception. The immediate challenges they were facing were scaling issues and the lack of space to expand their treatment plant.

The Design

The customer's existing process was equalization and DAF flotation, one tank and a DAF that was out of service. Unfortunately there was no room for additional tankage. Biowater assessed the situation with their partner in Brazil, Acqua Engenharia. It was decided that the Biowater CMFF® Moving Bed Biofilm Reactor process was chosen because of its small footprint and low maintenance. The one tank was divided into two covered CMFF® tanks. The existing DAF is now used as a secondary DAF.

Achievements

By choosing the Biowater CMFF® process combined with DAF separation the client was able to build the plant as compact as they had planned and still achieve the effluent quality that they were aiming for. At start up the plant started having wave problems so the crew had to open up some “breathing holes” which stopped the waves. In addition, foaming occurred which was predicted. Anti-foam products were used and handled the problem.

PARAMETER	DESIGN LOAD		EFFLUENT REQUIREMENTS
	US	INTL.	
FLOW	0.237 MG/D / 9,000 gal/hr	37,5 m ³ /h / 900m ³ d	
BOD	3,564 lb/d	1800 mg/l / 1620 kg/d	150 mg/l
COD	5,940 lb/d	3000 mg/l / 2700 kg/d	450 mg/l
TEMPERATURE	77°F	25°C	



Biofilm carrier with solids.

CMFF® (MBBR) is a concept where moving plastic carriers with fixed biofilm remove organic and inorganic substances in the water.

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Biowater Technology is an innovative company with over forty years of experience in the Biological treatment field. Our focus is on saving energy and resource recovery, with water as our major resource.