

A Case Study:



Proctor and Gamble Mariscal Plant, Mexico

Background

Proctor & Gamble is one of the largest worldwide products manufacturers. In 1993, they built a state of the art facility to manufacture different varieties of shampoo and other consumer products. The facilities included a wastewater treatment plant to provide preliminary effluent treatment.

Problem

The plant's removal of soluble organic matter by the existing effluent treatment system was not sufficient to comply with regulations. The wastewater's organic content varied because of the production of different products. Proctor & Gamble's management needed a process that was capable of handling fluctuations in both flow and strength, and that was also capable of producing a quality secondary effluent within the discharge parameters.

Solution

Ecosistemas Industriales, the engineer and designer for the new plant, approved the 10HP HURRICANE Submersible Aerator from AEROMIX. The HURRICANE Aerator is all stainless steel and submersible, making it ideal for a Sequencing Batch Reactor (SBR).

The HURRICANE Aerator was capable of providing the combined pattern of fine bubble aeration and spiral mixing that was necessary to achieve reliable oxygen transfer. The aerator was also perfectly suited to the application because it is compact, and



the Proctor & Gamble plant had little space to work with. Process tanks were inoculated, and within three weeks, a healthy biomass was developed. The aerators run intermittently for a variable react period of up to 24 hours and are then stopped to allow sludge settling and supernatant decanting.

Oxygen transfer and homogenization are very effective because significant concentrations of dissolved oxygen remain within the reactor during the settle/decant periods, avoiding problems of bulking sludge.

Since the installation, there have been no problems with the aerators. In 1997 the facility was expanded, and Proctor & Gamble ordered two more HURRICANE Aerators for a new biological reactor and aerobic sludge digester.