

Case Study

Blower package with variable speed



Waste Water Treatment Bordeaux—France

2011

Two Hibon[®] positive displacement blowers (+ one in stand-by) type VSF 4.70 PC (SNH870) with synchronous motors—LSRPM[®] (Hybrid permanent Magnet Motor) are used with variable speed for the aeration of biological basin (Air Process BIOFORS[®]) in a waste water treatment plant (serving to 447 000 inhabitants).

Customer Overview

Starting in 1975, the water-treatment plant "Louis Fargue" of the urban community of Bordeaux, was the object of last technological evolutions to become a water-treatment plant of high environmental quality. It is capable of treating 280 000 m³ of the rainwater a day at present poured in the lake of Bordeaux or in the Garonne and has the capacity to manage the refusals discharges of 447 000 inhabitants.

Challenge

Biofor[®] filters are aerobic or anoxic process biological reactors that use attached growth technology for application in municipal or industrial waster water treatment.

The effluent to be treated enter continuously from the bottom of the reactor and then passes through the filter media which retain the suspended solids. Carbonaceous and nitrogenous pollution is eliminated through the high concentration of fixed-film biomass which is retained on the filter media during the filtration cycle. Process air is introduced continuously into the lower part of the reactor by air diffusers.

The numbers of filters is according to the flow entering the plant. During low flow periods, off-duty filters are aerated periodically to maintain the biomass in optimum condition. Blowers running in variable speed are easily adapted to variable flows and pollution loads in this process.

Solution

We provided two Hibon[®] positive displacement blowers (+ one in stand-by) type VSF 4.70 PC (SNH870) with synchronous motors.



VSF 4.70 PC

Detail

Gas : air

Differential pressure : 670 mbar at inlet conditions

Flow at inlet conditions : 6118 / 5372 m³/h

Flow at 0°C, 0m alt, 0% : 5100 Nm³/h

Shaft blower power : 144.5/127.7 kW

Outlet temperature : 117 / 77 °C

Minimum flow at inlet conditions : 2759 / 2423 m³/h

Minimum Flow at 0°C, 0m alt, 0% : 2300 Nm³/h

Maximum speed : 1900 rpm

Blower : SNH870

Motor : LSRPM 280M

Po : HIBON- 00123064



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