

Waste Water Treatment

Brive la Gaillarde - France

2009

Multi stage blowers V-Centrif 350-08 with synchronous motors – HPM® 250-2*15 (Hybrid permanent Magnet) are used for the aeration of sludge basin in a waste water treatment plant (200 000 eq/hab) .

Customer Overview

Brive-la-Gaillarde is a commune of France. It is a sub-prefecture of the Corrèze department.

This plant which occupies approximately 5 ha, treats all the urban effluents of fifteen municipalities. Its peculiarity is to lean on the process MycET of STEREAU which reduces the volume of sewage sludge with microscopic mushrooms.



Challenge

Reduction of costs installations

Civil works at minimum costs (no specific basement, reduced foot print)

Easy installation (weight less 30% than an usual blower package; on anti-vibration plots)

Energy earnings

Earnings of 200 MW a year representing an annual earnings of 12 000 € (0.06€/kW)

Total return of 95 %, (earnings of more than 10 % with regard to a solution with asynchronous motor / speed increaser with transmission (pulley-belts.)

Less accessories

No inlet butterfly valve which also has an effect on sound level

Solution

We installed 3 multi stage blowers V-Centrif 350-08 with synchronous motors HPM® 250-2*15 (Hybrid permanent Magnet)

Gas: Air

Differential pressure : 920 mbar

Flow: 12 050 Nm³/h

Shaft power :404 kW

Max Speed : 3818 rpm

Temperature : 30°C



Description :

Multi stage centrifugal Units : The cast aluminium impellers have been machined especially in order to lighten it and to shift the critical speed over 3818 rpm. (It stands normally around 3700 rpm for a 350.08). The carbon steel shaft also deviates from a standard one.

Synchronous motors HPM 250-2*15
Motors are B3 types with feet mounted.

	HPM	Equivalent asynchronous 450kW 355
Weight	655 kg	2300 kg
Dimensions	856x530x661	1300x730x935

Frequency converter Leroy Somer MD 600 T
Equipped with RFI filter ; communication profibus with the control panel Max 810 Amps downstream.
Control Panel Telemecanic TSX 37
Speed control
The control of the multistage is done by modulating the speed instead of an inlet butterfly valve.



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