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WEG Automated exhaust system allows reduction of CO2 emissions

Automated exhaustion system uses WEG solution to produce 50% energy savings and reduce CO2 emissions by 23 tons

Major environmental and financial benefits were achieved by WEG with the implementation of an automated exhaust system in one of its Foundry plants in Brazil.

The solution has resulted in a reduction of CO2 by 23.63 tons per year, which is equivalent to a 53% drop when compared to the original emission amount and represents a 50% energy savings on the exhaust system. It is estimated that five trees are required to absorb each ton of CO2 from the atmosphere. To absorb the amount of CO2 resulted from WEG's initiative, 118 trees are required in a year.

Applied to any exhaust system using bag filters, this solution is part of the company's policy towards environmental protection. The same solution is already under study to be implemented also in cement, aluminum and at steel industry customers.

This is what has been done

The exhaust system with bag filter in this Foundry plant works 24 hours a day, 269 days a year. Due to process variations and demand, at least three deburring machines remain out of operation for about 12 hours a day, resulting in unnecessary extraction from such machines.

A combination of two WEG products were applied on this solution: the WMAGNET (permanent magnet) motor for energy saving from the exhaust systems. Design with constant torque along the whole speed range, this motor keeps the exhaust systems within its operational characteristics. The second product used is the DPFREG20, which is intended for exhaust system control.

In a joint effort with Renner Textil (textile company), the bag filters life time was extended since they are now made of synthetic fibers, hence less subject to damage. This improvement results from pressure and flow setting required by the process, and it minimizes the possibility of occurring defected in these filters and reduces the emission of particles into the atmosphere. The increase of the bag filters life time, the maintenance cost reduction and the significant decrease in energy consumption on this solution are all factors much appreciated by industries due to the current availability and electric energy cost.



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