Jamaica is more than holiday paradise and home country of the world’s fastest runner – even in Jamaica sophisticated interiors made out of high quality timber are produced. Since 1985 Dougall Flooring Ltd. produces floor coverings, windows and doors out of domestic tropical wood. With the use of modern German and European processing machines and about 40 employees the company generated in 2013 a turnover of 3.5 Mio. US-$.

Together with the experts of Höcker Polytechnik GmbH, Dougall approached in 2013 one of their biggest projects. The extraction unit was very outdated and had to be renewed urgently. The aim was to reduce significant energy costs considerably and to improve air quality at the work places in order to avoid breathing masks for the employees.

A 30 year old cyclone in combination with a raw air fan, 75kW formed the old extraction system. The efficiency of this combination with only about 28,000 m³/h was extremely low with a dusty working area due to the bad separation efficiency. Additionally 15 movable and mostly ineffective extraction units were used. Hence the suction power summarizes of up to 150 kW in total. Since electrical power in Jamaica is quite expensive, every saved watt counts. And inspite of the high energy consumption the employees still had to use breathing masks.

Energy consumption reduced of more than 40% and air quality improved

Höcker Polytechnik GmbH developed an energy saving extraction solution for Dougall Flooring which also significantly improved the air quality in the work-
The extraction technique from Höcker Polytechnik considerably reduced the energy consumption. Even with the reduced power consumption Dougall saves about 50,000 US-$ per year – and the annual costs of 5,000 US-$ for breathing costs can be saved as well. Due to the low following costs a well thought-out system pays-off within a few years. Not to be calculated the profit due to the increased health protection of the 40 employees and the much better product quality.

Modernizing always pays-off within a few years

Residual dust values in the production have been reduced at about 0,1mg/m³/h and are comparable with the air quality in German productions. Breathing masks become obsolete. A MultiStar stirring filter with jet cleaning assures continuous operation. Three clean air fans generate a volume flow of 55,000m³/h and provide even with simultaneous operation of all machines an optimal extraction. The fans have been sound insulated and are positioned on the top floor of the filter. Sound level in the vicinity of the filter is only at 70 db(A) and nearly acoustically perceivable for the employees.

The intelligent PLC system controls the electro pneumatic gate valves and the extraction system. Thus the extraction duct of any processing machine not used will automatically be closed and the frequency converter adopts the speed of the fans. Only as much energy as necessary is used – not any watt more.

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