

Fast extraction system slashes cleaning duties for powder coater

One of the most efficient powder coating facilities on the Gold Coast has completely upgraded its dust handling system to optimise occupational health and safety standards for employees, plus gain a system that is largely self-cleaning.

Bundall Powder Coating and Sandblasting, which has operated for 20 years, recently took steps to ensure its extraction system kept pace with world's best practice and the expectations of modern industry, according to Director, Peter Brown.

"Donaldson Australasia analysed our requirements and worked out how to provide the necessary airflow across our two booths with a single Torit DCE dust extraction system," said Mr Brown.

"Previously, the system was made up from two older style cyclone units and what they didn't extract ended up going into the air and spreading around the factory. It was effective for its era, but with the newer technology we knew we could gain efficiencies by reducing clean up time, while simultaneously improving air quality. As we have always had the objective of being an innovator within the industry, and to maintain our leading position in the industry in South East Queensland, we came to the conclusion that we had to upgrade."

Donaldson's Product Manager, Mr Doug Freeman, in conjunction with engineer Peter McGough from DCE Environmental, used a Downflo Oval DFO 4-16 (a sixteen cartridge style) dust control unit as the hub of the solution, combined with a redesign and implementation of new plenums for the powder



coating booths to guarantee the correct velocity and air movement.

"This entailed extracting only the excess powder coat, as too much suction would actually pull the powder off the work rather than letting it adhere via its electrostatic charge. We also supplied a differential pressure control with an off-line cleaning feature, so that automatic filter cleaning occurs at the end of shifts rather than at regular intervals. This means the noise from the reverse pulse doesn't occur unexpectedly during operating times, and thus provides for a quieter and more comfortable working environment," said Mr Freeman.

"This is a busy operation and we have been successful in designing a system that reduces downtime. Now staff has less cleaning to do and don't need to physically clean the cartridges. All that is required is for a plastic bag containing the excess powder to be removed twice a week. The integrated DFO unit removes all respirable dust away from the booth quickly and safely."

Downflo Oval Series (DFO) of patented dust collectors utilises oval shaped cartridges to allow large amounts of air flow through the collector without damaging the filters. Donaldson use FLUENT design software, which minimises high velocity points in the cartridge and housing design, resulting in a lower potential for media abrasion and increased filter life.

"Our new system has enabled us to keep the place cleaner a lot more easily," said Mr Brown.

"We believe we now have the cleanest and most advanced powder coating facility on the Gold Coast, all of which helped towards our being accredited by Dulux, PPG and Jotun powder manufacturers. This means we have been approved and authorized to apply their high durability coatings and can provide warranty work when required."

"We attract clients from the higher end of the market and deliberately set up a dust handling and control system expected by such Companies that require consistent, quality work."