Toyota Altona gives welding fumes the boot

Pneuvay Engineering has recently fitted a high-capacity welding fume extraction plant to the Toyota 'Unit Parts' manufacturing plant at Altona, Victoria. The massive extraction system handles fume at the rate of 200,000m3lhr.

The extraction system was developed in collaboration with Donaldson Australasia.

In what rates as the largest integrated installation of Donaldson Downflo collector technology in Australia, the design and fit-out by Pneuvay utilized a Donaldson Torit DF04-80(x4) collector.

The system incorporates four individual I200mm diameter ducts. Each of these ducts is installed with spark arresters to remove primary particulate. Dust and fume remnant is collected in 200L drum. The system is designed to handle approximately 200,000^{3}mt/hr and incorporates 160 filter cartridges and a duplex 2x150kw fan arrangement.

Toyota's 'Unit Parts' plant is being used to manufacture components for the new lines of Camry and Aurion vehicles.

All ducting and extraction technology supplied by Donaldson Australasia for this project was installed according to Australian Standards as well as Toyota's stringent global benchmark on OH&S and environmental management.

Managing director of Pneuvay Engineering, Michael Francis, said Toyota laid down a strict project brief with a requirement for completely contained extraction of fumes generated by robotic welding.

"The integration of the fume extraction system was paramount in the new building meeting Toyotas strict OH&S requirements," Francis said. "With the plant having capacity to operate on a 24/7 basis, it was imperative to ensure the system engineered completely contains the mist from the moment it is sucked through a collection point to the time it emerges as completely clean air. The entire installation is situated outside the plant and is more than 25 metres long."

Overall there is nearly 300m of ducting throughout the new building that draws fume generated by the robotic welding activity. This fume is drawn up into any one of four spark arrestors through duct lines that are 1200mm in diameter. From there the fume is transferred into a primary manifold and is passed through the filtration process filters. Clean air is discharged, which can go into the atmosphere or be directed back into the building.

Donaldson Torit® DCE Australia
Freecall: 1800 503 878 **Fax:** +612 8713 1333
Email: toritdce@donaldsonfilters.com.au

Donaldson®
Filtration Solutions