

## **A new spin on industrial filtration**

**C**URRENT industrial filtration methods often require costly maintenance, and filter membrane replacement on an ongoing basis.

However, Tshwane-based Rand Technical Services (RTS), offers a robust, highly-effective Inertial Spin Filter technology for industrial dust and exhaust separation, which is virtually maintenance-free. This is according to Ian Fraser, Managing Director of RTS.

Says Fraser: "Spin Filter units are a high-efficiency application of cyclone technology. Air to be separated is blown through a module that consists of a series of small vortexes. The Air flow is induced to spin by fixed vanes at the entry to the vortexes, and centrifugal force then drives the dirt particles to the outside of the vortex."

The dirt laden air is purged through vents built into the outside of each aperture. A purge fan is used to keep the dirt laden waste air in flight, from where it is either dispersed or collected as required. Clean air then exits to process.

"In some applications, including

materials handling, where material is lost into the atmosphere, it is particularly useful for reclamation, as the environment is protected and, at the same time, valuable fines are recovered that would otherwise be lost," Fraser said.

Unlike conventional filter membranes, which clog due to pressure build-up after a period of use, the pressure drop across the Spin Filter module never increases. The units are self-cleaning, and do not block when correctly installed - thereby offering consistent performance with constant resistance. They are highly energy-efficient too, as only the auxiliary purge fans that direct the 'dirty' air out of the air stream require power.

"Not only is pressure constant for the life of the unit, but the unit itself has an exceptionally long working life. We have installations still going strong that are 23 years old. The sturdy, high density polypropylene construction of the blocks is highly resistant to erosion. Consol Glass has utilised this technology on many air intake installations for over 10 years," notes Fraser.

According to Fraser, the Spin

Filters are constructed in modules that can be built up into large panels, sized to match required air flow and so offering an unlimited capacity on engineered systems. The smallest available unit, containing one Inertial Spin Filter block, handles from 1000 to 2500 Nm<sup>3</sup> per hour with ease, and upper range capacity is only determined by the application, and the available space.

"Ninety-eight percent of particles 15 microns and larger are removed by this simple process," he observes.

Delivering a rapid return-on-investment, the Spin Filter system has an excellent track record in industries such as power stations, glass plants, cement factories, steel mills and platinum mines.

Thomas Coetzee, consulting engineer to Consol Glass notes: "For the mould cooling process, Inertial Spin Filters are more cost-effective than conventional filtration methods. Consol Glass pioneered the use of this system in South Africa in the early 1990's. The technology has now become an integral part of the Consol Glass production system.

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