

New technology for rotating nozzles cuts noise and compressed air use

Cleaning systems using air technology tend to involve excessive consumption of compressed air and high levels of noise. Newly developed rotating nozzles - adjustable to specific application requirements - provide the solution.

Sawing, milling or drilling of all different kinds of materials leave behind large amounts of particles on surfaces. During automated production in CNC machining centres, foreign particles can easily disrupt operations or even cause costly shutdown. By retrofitting or upgrading with modern rotating nozzles, cleaning systems can be adapted to meet specific application requirements and the consumption of compressed air minimised. Typical applications that could benefit include profile machining centres in the wood working and metal processing industry.

The Tornado Nozzle Janus 50 D rotates at constant speed. Two nozzles, equipped with a variable-speed drive, guarantee a consistent rotation, even under conditions with a fluctuating flow of compressed air. Dual, drum-like nozzle heads can be adjusted tool-free to fit the most common

standard diameters (0.8/1.1/1.4/1.6 mm). The blowing direction of the air jet is also adjustable with different modes available - for instance to blow off cylindrical forms or flat surfaces.

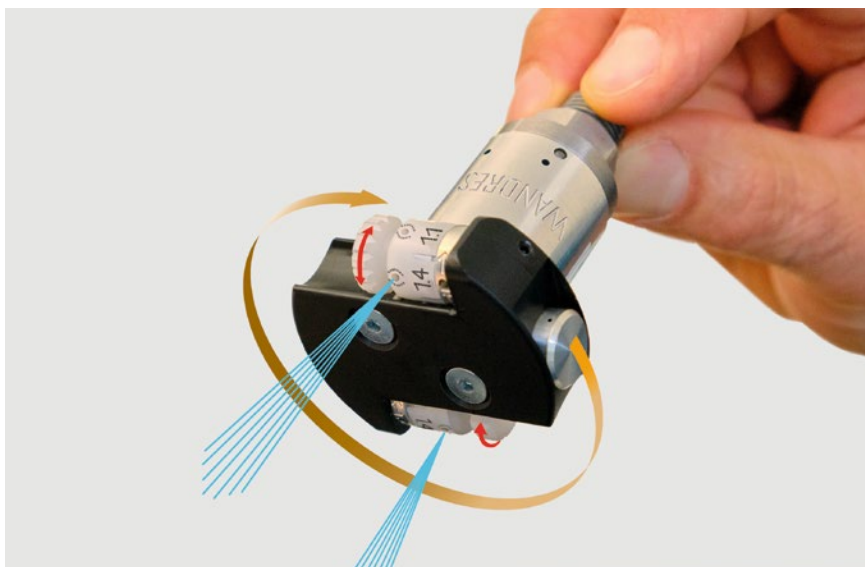
Moreover, the compact and lightweight nozzle is ideal for the manual cleaning of work pieces. Without the usual necessity of moving the air gun back and forth to achieve an optimal cleaning result, the operator can use the air blow gun for hours without fatigue. Thanks to the rotating nozzles, the work piece is automatically cleaned in all corners.

Electrostatic discharge

Some materials build up high charges of static electricity which increases the accumulation of particles. In this case, the use of rotating nozzles with additional ionisation technology is recommended.

Due to an electrode positioned at the centre of the rotating nozzle disc, static build-up is eliminated from the surface which helps ensure a reliable cleaning process. This procedure is the preferred choice for applications such as the cleaning of injection-moulded plastic parts.

The key advantage over conventional nozzles soon becomes apparent in reduced operating costs, as illustrated by the following example. A manufacturer of stamping tools in the mould tool and die sector had previously been using flat jet nozzles to clean sheet metal after blanking. The nozzles were set to operate in two shifts and were therefore active for an average of six hours. After replacing the nozzles with Tornado Nozzles Janus 50 D, compressed air consumption dropped by up to 50%. In only a few months, payback was achieved on the investment. An added



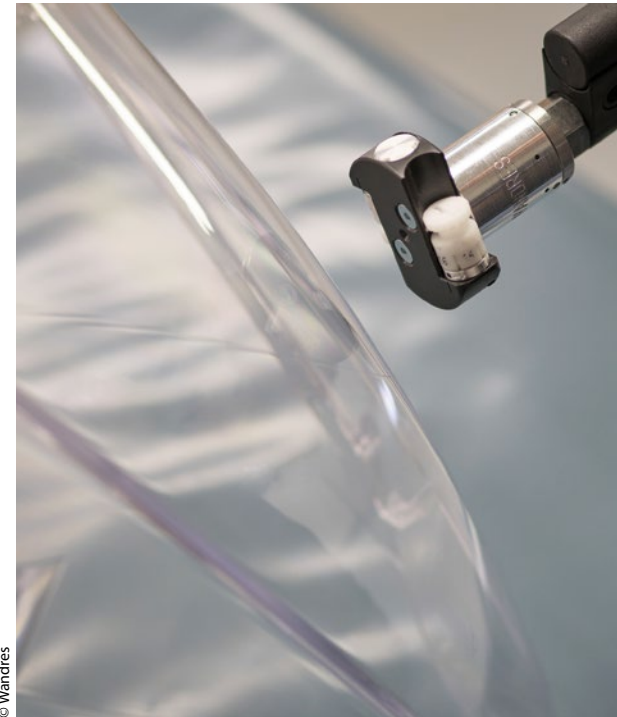
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New rotating nozzles for cleaning procedures that use air technology reduce compressed air consumption and noise levels



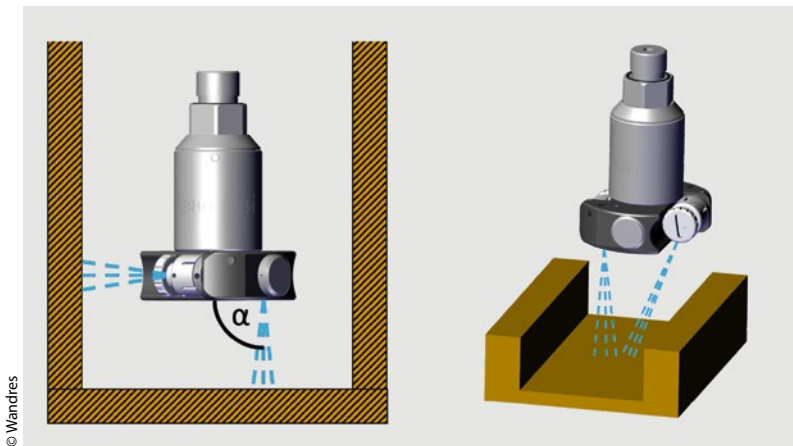
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Retrofitting a profile machining centre with rotating nozzles ensures a more efficient cleaning process



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A transparent plastic casing is ionised during the cleaning process



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Discharge angle is continuously adjustable between 70° and 270° (left: cleaning a container, right: cleaning deep grooves)

benefit is the significantly improved cleaning performance delivered by the rotating jets of air emitted by the new nozzles.

Contribution to noise control

Deploying cleaning technology that uses compressed air almost always results in an increase in noise levels. The sound generated depends on factors such as air pressure, nozzle diameter and the kind of surface involved in the blow-off process. Sound pressure tests should be carried out

for each specific application. The overall sound level can be reduced significantly by installing the adjustable rotating nozzles and thereby avoiding unnecessary noise emissions in the workplace environment.

Easily integrated

Given that the key features of the Tornado Nozzle are versatility and a compact footprint, the device is universally suitable for industrial parts cleaning. Alongside a very economical use of compressed air, the

new Tornado Nozzles deliver not just a comparable but a superior cleaning performance in comparison to regular nozzles. These results easily make the case for retrofitting with Tornado Nozzles in a large number of applications.

Contact

Wandres GmbH micro-cleaning
D-79252 Stegen
sales@wandres.com
www.wandres.com