



Image: Wandres

For the past four decades Wandres has been delivering on a core promise: 'We provide the best cleaning technology wherever particles and dust on surfaces cause flaws and rejects during production.' To achieve the best performance, the company is committed to continuous improvement and development of their technology including the blank cleaning machine Evomat Evo 500.

# Effective removal of dust and particles from blanks

Small particles can cause a great deal of trouble and need to be removed effectively. For the past 40 years, Wandres has been providing solutions to fix this issue and to ensure that blanks are impeccably clean.

**ANDREA RUTZ**

Different types of sheet metal and blanks are cleaned by highly specialised machines before rolling, levelling, galvanising and forming to effectively remove particles that would otherwise cause disruption. Due to faster and faster cycle times, and the increasing automation of industrial production, inline cleaning systems that use the Sword Brush Technology developed by Wandres have become an essential element of stable and economical operations in 24/7 production.

This year, Wandres GmbH Micro-Cleaning is celebrating the 40th anniversary of the company.

## Self-cleaning and cost-effective

The Evomat Evo 500 cleans dry lube aluminium blanks as well as oily steel blanks from above and

Brush cleaning systems have replaced conventional blank washers on numerous press lines.

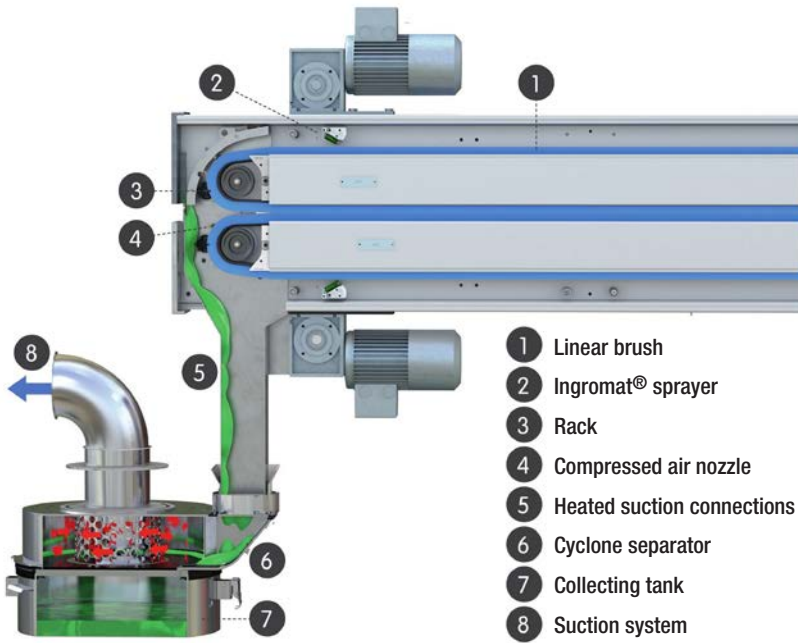
below. The blanks are conveyed in precise position through the cleaning machine by pneumatically adjustable transport and pressure rollers.

In a large number of stamping plants, cleaning installations that use this brush cleaning technology have already replaced conventional blank washers, not least because the Evomat delivers a truly impressive performance with consistently high quality cleaning results despite considerably lower operating and maintenance costs. Thanks to a compact footprint and narrow installation depth, the Evomat can be easily integrated into existing production lines.

A self-cleaning feature of the brushes means switching between aluminium and steel blanks is straightforward. The linear brushes are permanently refreshed during the cleaning process and can be

Any residue is easily removed by a thermal self-cleaning unit which liquifies any residual, wax-like dry film lubricant. This enables trouble-free switching from aluminium to steel and vice versa.

Image: Wandres



- 1 Linear brush
- 2 Ingromat® sprayer
- 3 Rack
- 4 Compressed air nozzle
- 5 Heated suction connections
- 6 Cyclone separator
- 7 Collecting tank
- 8 Suction system

deployed without the slightest difficulty in 24/7 plant operations.

**The Cevomat tackles metal strip**

Continuous metal strip with dry film lubricant or oil can be cleaned by the Cevomat using brush cleaning technology before levelling, before or after galvanising or before applying a protective film or foil. Coils made of steel, aluminium and other materials are cleaned during transport at high speeds of up to 800 m/min from above and from below by a total of four Sword Brushes.

The brushes are mounted on a flexible pressure buffer and are therefore able to adapt perfectly to accomodate wavy surfaces.

**800**

**METRES**  
per minute is the speed of steel or aluminium on the coil feed line

At the periphery of the metal strip, the linear brushes are raised slightly and only meet the surface again after having passed the sharp edges of the sheet metal. This feature extends the service life of the brushes.

The opposite wiping directions of the two pairs of brushes, positioned one after another, guarantee that the entire width of the strip is cleaned seamlessly. A stable protective frame surrounds the four Sword Brushes.

**Predominantly in-house manufacturing secures independence**

At the heart of the Wandres cleaning systems and brush cleaning technology are linear brushes that

## Surface & Edge



Predominantly in-house production at Wandres creates a large number of interesting jobs and training opportunities

The company in-sources more than 80% of parts and products to remain flexible and retain a higher level of control. Clients benefit from short lead times and high quality standards on a long term basis.



The linear brushes are engineered on specialised machinery to meet stringent quality requirements.

have an incredibly long lifespan. The brushes are engineered to meet the most stringent quality standards by the sister company, Wandres Brush-Hitec, in the Southern Black Forest. Ultimately, these linear brushes will be deployed for over 4000 hours, possibly considerably longer depending on the specific use, in the most challenging applications and harsh environments possible in industrial production. Needless to say, not a single brush filament can be permitted to detach from the closed loop belt during the cleaning process.

The cleaning solutions offered by Wandres for sheet metal are developed and produced at the company's headquarters in Stegen, just outside Freiburg im Breisgau, by more than 140 employees. A unique feature of Wandres GmbH Micro-Cleaning is the unusually high level of insourcing in the company. An in-house production rate of over 80 % means the company remains flexible and in



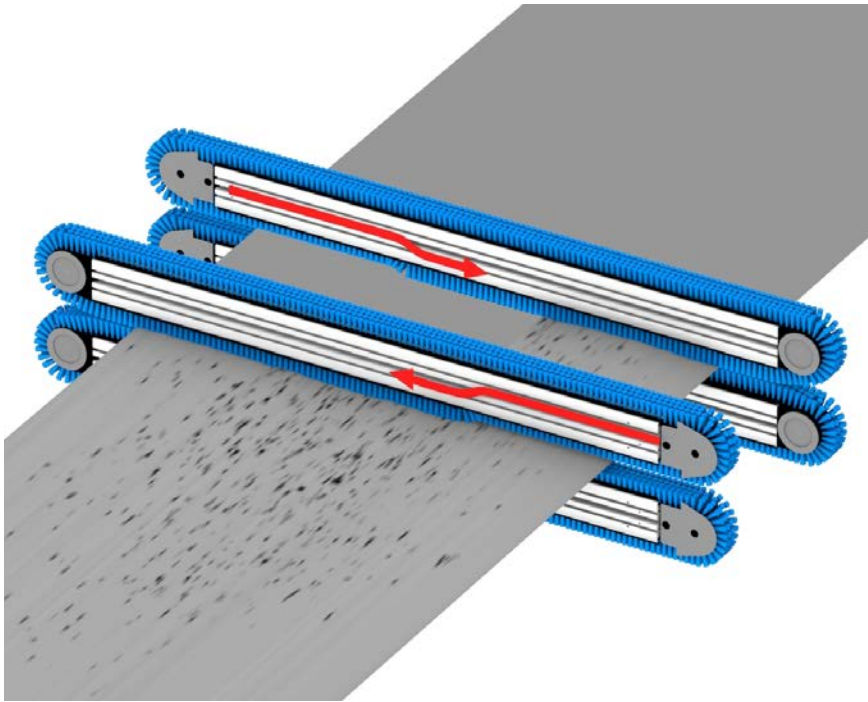


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The Cevomat Principle: two linear brushes wipe in opposite directions on each side of the fast moving strip, delivering high performance cleaning results even for wavy or sharp edged metal strip.

Two pairs of brushes wipe in opposite directions thereby ensuring that the entire width of the metal strip is cleaned seamlessly.

control. As a result, clients profit from short lead times and the very highest quality standards on a long-term basis.

The key components of the systems are constantly undergoing further development on site. Wandres has built a global presence with two subsidiaries, one in the USA and one in China. In addition, the company has established an international network of sales and service partners to offer on-site support with the planning of new installations and with commissioning, servicing and maintenance.

At present, more than 55% of the installations sold are direct exports.

### Reliable removal of particles and reduction in the reject rate

No matter whether metal strip and blanks are made of steel, stainless steel, aluminium or non-ferrous metals, they can be cleaned effectively by the brush-cleaning systems while switching from one material to the other and back is simply trouble-free.

Cleaning systems that utilise Sword Brush Technology can be integrated with very little effort not only into new installations but also into existing systems, for instance rolling mills, cutting lines and press lines. There are scarcely any process steps that would not benefit from an effective cleaning procedure. At the end of the day, deploying the appropriate cleaning machine will usually save costs in a short space of time by guaranteeing a consistently high quality product and reducing the rejection rate.



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