



Parts Cleaning. Systems and Solutions.



Cleaning of turned parts for increasing demands - Otto Kapferer GmbH relies on MAFAC JAVA and MAFAC ELBA



KAPFERER

User report

OTTO KAPFERER GMBH

Cleaning of turned parts for increasing demands

Spray-flood parts cleaning secures process reliability in further processing: rising quantities and increasingly complex parts geometries of turned parts made from different materials have raised the demands on parts cleaning at CNC turning company Otto Kapferer GmbH. With the spray-flood cleaning system MAFAC JAVA, bought via MAP PAMMINGER, the company achieves perfect cleaning results. Used alongside a MAFAC ELBA, proven for many years, it contributes to ensuring the company's future with its high capacity, flexibility and reliability.

Whether it is motorbikes, tractors, machines or electronic devices: machines in which something moves need turned parts. Otto Kapferer GmbH has specialised in their production from aluminium, steel, brass and plastic, with diameters of 6 to 65 mm and lengths of up to 250 mm. On machinery with 26 highly modern CNC turning centres, the 32 employees produce 40,000 to 45,000 pieces every day in the modern production hall of the company, founded in Fulpmes (Tyrol) in 1949.

Turned parts for world champions

The parts have different levels of complexity. "The quality demands of the customers match the respective application, but are generally increasing", says Peter Huter, employee since 1990 and managing partner of Kapferer since 2006. "Our benchmark is Austria's largest manufacturer of motorbikes whose vehicles with our turned parts on board have repeatedly helped motorbike racers to win world championships since the 1980s."

Surface treatment requires clean parts

Before the turned parts are delivered to the customer just in time, they are reworked, assembled, packaged and labelled by us and hardened, polished and surface-finished by partner companies. For this purpose, they need to be reliably cleaned from chips and coolants/lubricants. "That is why parts cleaning has been an important issue for us for several decades", says Peter Huter. "We put our first cleaning system into operation in 1991 after consultation with the manufacturer-independent parts cleaning specialists at MAP PAMMINGER."

This was a top loader workstation system by Austrian manufacturer BUPI Golser which is still used today for cleaning the transport containers.

MAFAC cleaning systems for increasing demands

The aqueous-based spray-cleaning method with chemical cleaning agents had proved successful. However, the rapid growth of the company and the associated increasing quantities made it necessary to purchase a system with a larger capacity in 2003. "Because of our excellent experience with the advice and support provided by MAP PAMMINGER, we turned to the experts from Gmunden again," reports Peter Huter.

The choice fell on a MAFAC SF 60.40. "Although the cleaning machine did a very satisfactory job for many years, being a single-bath machine it had become outdated over the years due to increasingly stricter cleaning requirements", says Gerald Leeb, sales employee and shareholder of MAP PAMMINGER GMBH.



Kapferer manufactures precision turned parts for motorbikes, tractors, machines and electronic devices from aluminium, steel, brass and plastic. Photo: Chris Hasibeder



The often complex turned parts are manufactured on more than 20 CNC turning machines in a modern production hall in Fulpmes. They are hardened, polished and surface-finished by partner companies and reworked, assembled, packaged and labelled by us. Photo: Chris Hasibeder



The turned parts made from different materials are cleaned in a spray-flood cleaning process in a MAFAC JAVA double-bath system. Photo: Peter Kempfner

“In 2007, it was replaced by the then newly developed MAFAC ELBA.”

This compact spray-cleaning system with double-bath technology is optimised for cleaning small parts following machining processes. It reliably cleans bulk material, individual workpieces and batches of stainless steel, steel, cast iron, non-ferrous metal, or plastic items before subsequent surface treatment. With one cleaning and one rinsing cycle as well as the rotating pulse blowing system for parts drying, the system ensures reliable cleaning and drying results.

Incidentally, the predecessor system was passed on to a neighbouring company by MAP PAMMINGER, where it still does a good job every day.

Increase in capacity and reliability

Quantities and requirements kept increasing, as did the complexity of the parts geometry. “Even with long-term products, things are added with each modification”, knows Peter Huter. “Particularly with aluminium parts, additional recesses, chamfers or undercuts with simultaneously tighter tolerances pose completely new challenges to parts cleaning.”

That was why, a few years ago, a new search for a suitable parts cleaning system to cope with the increased

quantities and quality requirements began. “The new system was not meant to replace the existing MAFAC ELBA but complement it and increase reliability”, says engineer Patrick Huter. In his role as plant manager, the son of the Managing Director is involved in these decisions. “That was why we did not have to dimension it for future total quantities.”

Leading by spray-flood cleaning

In order to meet existing and future demands, the parts cleaning experts of MAP PAMMINGER again recommended a MAFAC system, this time, however, a MAFAC JAVA using spray-flood cleaning. This provides parts cleaning using several methods at the same time. The nozzles of the patented spraying system rotate around the basket so that their jet is sprayed onto the parts from all sides. At the same time, the washing chamber can be flooded by up to three quarters. As the nozzles also spray under water, the cleaning fluid penetrates into all cavities and is agitated there. This means that hydromechanical cleaning also takes place in cavities that are difficult to access. Depending on the requirements, the basket is fixed, moved in a pendulum motion by the flooding bath or rotated about its own axis. “In particular for parts of a com-

plex geometry and heavy contamination with coolants/lubricants, the spray-flood cleaning process of the MAFAC JAVA double-bath system demonstrates its superiority”, Peter Huter is pleased to note. “Within a very short cleaning cycle it reliably delivers a flawless result.”

Cleaning system as a productivity factor

The dry air outlets of MAFAC JAVA are just as rotatable as the washing nozzles. The cleaned turned parts are dried with pre-heated compressed air pulses. Thus, the highly compact machine does not need vacuum cleaning. “There is a blow-off procedure also between cleaning and rinsing in order to remove as much dirt as possible with the first bath”, Gerald Leeb adds. A large holding tank, the integrated coalescence oil separator and extremely fast media drainage reduce non-productive time.

The user-friendly touch panel control ensures easy and fast programming and operation. The turned parts specialists at Kapferer make extensive use of this by using optimised programs for particular parts groups, thus optimising throughput.

For a number of reasons, MAP PAMMINGER again recommended a MAFAC system. This included service and maintenance. These are provid-

ed directly by the manufacturer, and numerous carry-over parts reduce expenses for stocking spare parts.

Another reason was the cleaning room of the MAFAC JAVA whose design is identical with that of the MAFAC ELBA. This means that the same baskets can be used for parts cleaning in both systems. “This limited our investment to the purchase of the additional machine”, Patrick Huter is pleased to note. “The now two MAFAC cleaning systems contribute to ensuring our company’s future with their high capacity, flexibility and reliability.”



Bild: Peter Kemptner

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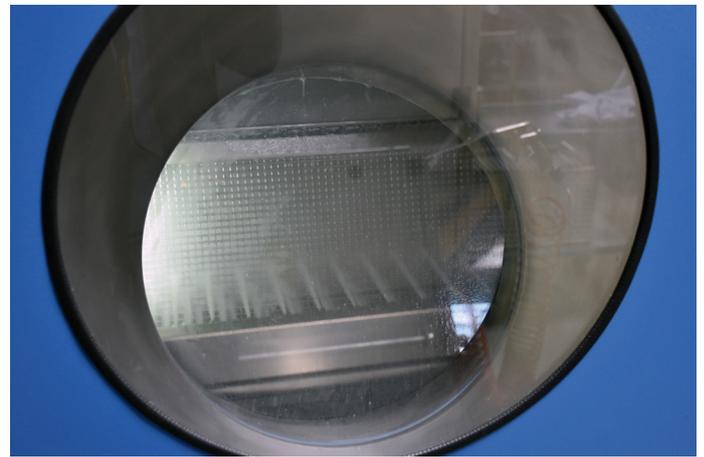
Peter Huber
Managing Partner
Otto Kapferer GmbH



Bild: Peter Kemptner

„The now two MAFAC cleaning systems contribute to ensuring our company’s future with their high capacity, flexibility and reliability.“

Engineer Patrick Huter
Plant Manager
Otto Kapferer GmbH



Thomas Matzak carries out all jobs related to parts cleaning, from parts handling to programming. He appreciates the high user-friendliness of the MAFAC JAVA via the MAVIATIC® control and visualisation via touchscreen. Photo: Peter Kempfner

When the machine is closed, a viewing window on the side provides a good view into the cleaning room. Photo: Peter Kempfner



Peter Huter, Managing Partner, Otto Kapferer GmbH, expresses his high level of satisfaction with the cleaning result talking to Gerald Leeb from MAP PAMMINGER. Photo: Peter Kempfner

In light of the company's steady growth, the MAFAC ELBA spray-cleaning machine, which went into operation in 2007, remains indispensable and continues to perform well. Photo: Peter Kempfner



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