



Parts Cleaning. Systems and Solutions.



Grasl Pneumatic-Mechanik GmbH:  
Safely and quick  
clean and dry



## User report

### Safely and quick clean and dry

**Better cleaning results with ultrasonic spray-flood parts cleaning:** Grasl Pneumatic-Mechanik GmbH manufactures safety-relevant turned and milled parts made of different materials as drive components for smoke and heat extraction systems. MAP PAMMINGER put together a package consisting of a MAFAC JAVA spray-flood cleaning system with an integrated ultrasonic cleaning and baskets and cleaning agents matched to it. With perfect cleaning results before surface treatment and a high level of operational efficiency, this contributes to the company's future security.

Smoke and heat extraction (SHEVS) can save lives, because they ensure that smoke and heat are removed from the building in the event of fire. This keeps escape routes and access routes for emergency services smoke-free.

#### It also works without smoke

Grasl Pneumatic-Mechanik GmbH (Grasl) has an expertise in the development, production and sale of pneumatic and mechanical assemblies and devices for SHEV systems and for automated daily ventilation. The main products of the company, which was founded in 1963 and has around 85 employees, include pneumatic and electric drives with which windows, skylights or flaps are opened automatically.

Grasl sells these throughout Europe to manufacturers of SHEV devices and installers of SHEV systems, supplemented by the SHEV product portfolio of its German partner company K + G Tectronic GmbH.

The drive components manufactured in Sitzenberg-Reidling in

central Lower Austria are mainly pneumatic cylinders and electric drives. The majority of the components for these are produced in the company's own production facilities on a total of five 3- and 4-axis machining centres, some of which are equipped with robots and 13 lathes. The latter also produces parts on a contract basis. SHEV parts are made of stainless steel and brass, among other materials. Grasl manufactures the majority of the parts from aluminium in annual batch sizes of 1,00 to 20,000 pieces. They are then anodised.

#### Cleaning before anodising

For anodising, the aluminium parts must be reliably free of chips, cooling lubricants and oil. Parts cleaning is therefore an important issue for Grasl. Until now, the smaller parts were cleaned in a MAFAC SF 60-40 single-bath spray cleaning system.

"This cleaning system was put into operation in 2000 and its spray cleaning process with aqueous-based cleaning chemicals has proven its worth," explains Benjamin Reisinger, deputy production manager at Grasl. "The plant was already in place when I started my apprenticeship here in 2007 and it has performed its tasks very satisfactorily. Today's much stricter cleanliness requirements, however, demand a quantum leap in cleaning quality."

#### Customised overall package

To cope with the increased quantities and quality demands, Grasl was therefore looking for a more modern replacement for the ageing



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**Benjamin Reisinger**

Deputy Production Manager at Grasl Pneumatic-Mechanik GmbH

*Photo: Peter Kemptner*



Grasl Pneumatic-Mechanik GmbH develops, produces and distributes pneumatic and mechanical assemblies and devices for SHEV systems.

*Photo: K + G Tectronic GmbH*

parts cleaning machine. Benjamin Reisinger turned to MAP PAMMINGER. “Besides the quality of the existing plant, the decisive factors for this choice were the excellent consulting and support by the experts from Gmunden”, the foreman explains his choice. “After a thorough analysis of our situation, the manufacturer-independent party cleaning specialists put together a customised overall package.” This consists of the system, the appropriate cleaning baskets and an individually coordinated process chemistry as well as services.

### Leading by spray-flood US cleaning

To cope with the increased requirements and quantities, MAP PAMMINGER again recommended a MAFAC system, but this time a MAFAC JAVA with spray-flood cleaning process. 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, about two thirds of the washing chamber can be flooded. As the nozzles also spray

under water, the cleaning fluid penetrates into all cavities and is agitated there. This means that hydro-mechanical 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 complex geometry and heavy contamination with coolants/lubricants, the spray-flood cleaning process of the MAFAC JAVA double-bath system demonstrates its superiority”, explains Gerald Leeb, Managing Partner at MAP PAMMINGER. “Since many Grasl parts have poorly accessible, very small bores, we chose the version with switchable, integrated ultrasonic cleaning.”

### Quickly to clean, dry parts

Guaranteed dry parts are just as important for anodising as the cleaning result. The cleaned parts are dried in the MAFAC JAVA with preheated compressed air pulses from the dry air outlets, which can also be rotated. Therefore, the very compact machine does not require vacuum drying. In order to remove

as much dirt as possible with the first bath, a blow-off process also takes place between the cleaning and rinsing cycles.

After the parts have been delivered from the CNC machines by their machine operators, a separate employee takes care of everything else. Depending on the type of parts, he loads them as set goods or bulk goods into cleaning baskets, which hold sized parts in position and are closed at the top. The baskets come from the German manufacturer Kögel and, at 660 x 480 x 340 mm, have a 35 larger capacity than the previous 600 x 400 x 300 mm.

The MAFAC JAVA supports the cleaning staff with a user-friendly touch panel control. This ensures convenient and fast reprogramming and thus facilitates the use of optimised programmes for different groups of parts.

„Despite the larger quantity of parts and the additional process step, cleaning does not take any longer than in the previously used system,“ confirms Benjamin Reisinger. „At the same time, we achieve a much better cleaning result, and that already after the first run, whereas the old system sometimes needed a second one.”

### So that the chemistry also fits

When the MAFAC JAVA was commissioned, the process chemistry was also changed to the one-component concentrate from WIGOL. This ensures a reliably high quality of the cleaning result.

„Our parts always leave the plant equally clean and dry and, in contrast to before, do not show any roughness,“ Benjamin Reisinger is pleased to say. „At the same time,

the changeover increased the service life of the cleaning agent from previously 2 to 3 weeks to 2 to 3 months.”

The process chemistry now used also reduces the maintenance effort, for example because the degree of saturation can be determined very easily by titration measurement. A large media tank, the integrated coalescence oil separator and an extremely fast media drain also contribute to the reduction of unproductive downtime. „The increased media service life not only reduces effort, costs and environmental pollution due to the disposal of the used cleaning agent“, explains Manfred Grafinger, Sales at MAP PAMMINGER. „It also improves machine availability by greatly reducing maintenance-related downtime.”

Maintenance, service and servicing are central concerns of every machine and plant operator. Therefore, they were also at the centre of MAP PAMMINGER’s recommendation for this MAFAC plant and its equipment. The maintenance of the plant itself is carried out directly by the manufacturer as required. An employee of MAP PAMMINGER visits Grasl every quarter and checks the cleaner concentration with the Wigol titration kit. In this area, too, the chemistry fits.

The MAFAC SF 60-40, which is now used for container cleaning, has also been converted to WIGOL cleaning chemistry. „The now equipment with two MAFAC cleaning systems and products and services matched to them contributes to the future security of our company through excellent cleaning results and high operational efficiency,“ Benjamin Reisinger sums up positively.



The user-friendly touch panel control of the MAFAC JAVA facilitates the use of optimised programmes for different groups of parts.

Photo: Peter Kemptner



The parts are cleaned before surface treatment in a MAFAC JAVA with spray-flood cleaning process and switchable, integrated ultrasonic cleaning.

*Photo: Peter Kemptner*



Cleaning is carried out as set goods or bulk material in Kogel cleaning baskets.

*Photo: Peter Kemptner*



Benjamin Reisinger, Deputy Production Manager of Grasl Pneumatic-Mechanik GmbH, is very satisfied with the cleaning result in a conversation with Gerald Leeb, Managing Partner of MAP PAMMINGER GMBH.

*Photo: Peter Kemptner*



„The increased media life reduces the effort, costs and environmental impact of disposing of the used cleaning agent and improves machine availability by greatly reducing maintenance-related downtime.“

**Manfred Grafinger**  
Distribution, MAP PAMMINGER GMBH

*Photo: Peter Kemptner*

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