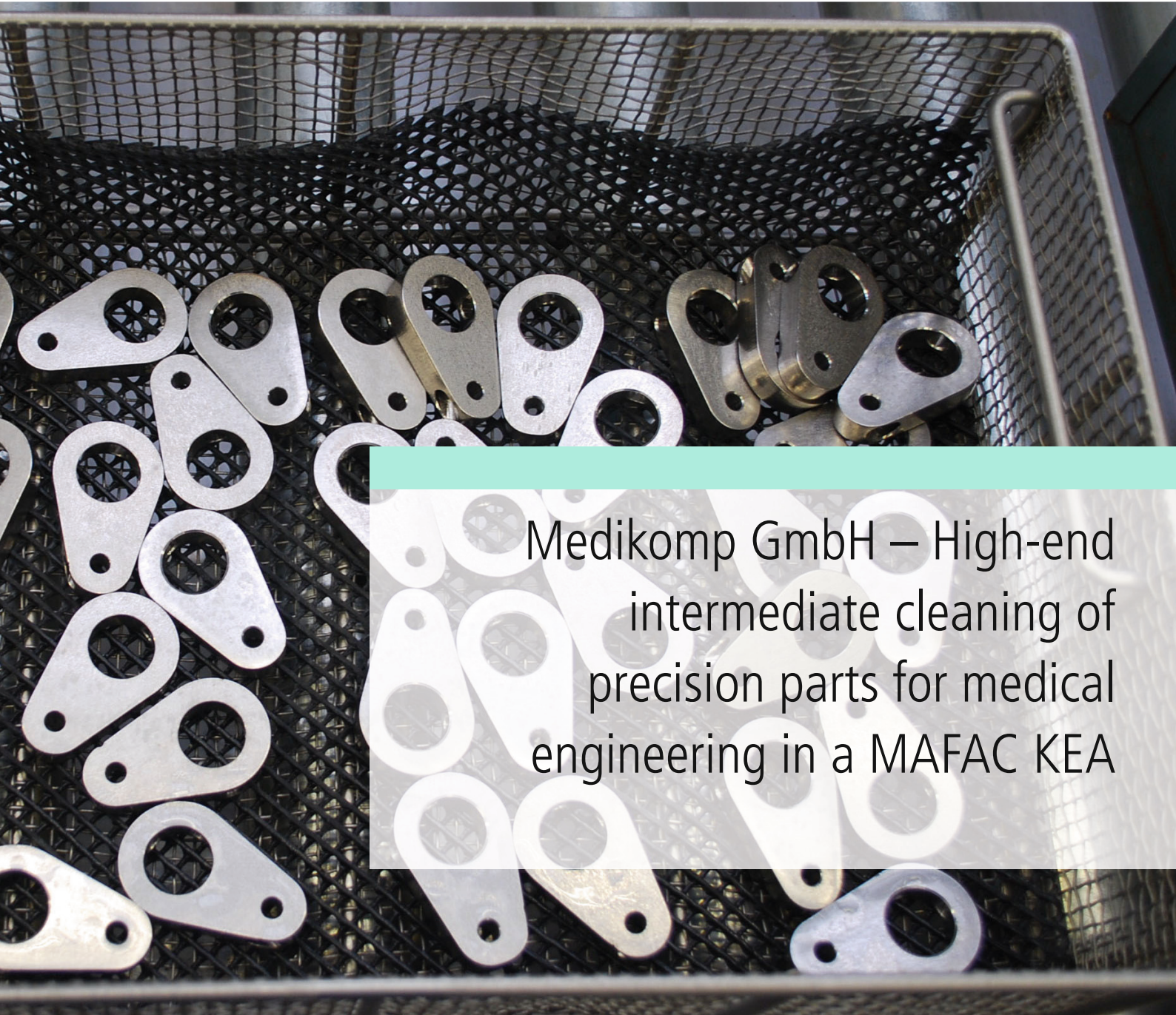




Parts Cleaning. Systems and Solutions.



Medikomp GmbH – High-end
intermediate cleaning of
precision parts for medical
engineering in a MAFAC KEA

MediKomp
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User Report

MediKomp GmbH

Medikomp GmbH – High-end intermediate cleaning of precision parts for medical engineering in a MAFAC KEA

MEDIKOMP GmbH, a Rastatt-based contract manufacturer for the medical engineering industry, bets on its cleaning machine KEA by MAFAC for intermediate cleaning of precision parts.

When a company wants to purchase a cleaning machine, the focus is primarily on the cleanliness requirements and then on the purchasing price and operating costs. The goal is to get as many benefits as possible for the lowest possible price. This was also true for Alexander Hörig, Head of Manufacturing at MEDIKOMP GmbH, and his team colleague Tobias Zoller. In addition to excellent cleaning results and low costs, simple machine handling was important for the two engineers. From among the many systems offered on the market, they opted for the MAFAC KEA, a single-bath machine with rotating spray system.

Precision parts for medical engineering

MEDIKOMP GmbH was founded 1999 as a spin-off from the prefabrication of MAQUET GmbH, a leading provider of medical systems. Since then, the company has been manufacturing elements and housings for high-end products for the medical engineering, food, pharmaceutical, and laboratory industries under compliance with strict regulations such as the Medicinal Devices Act DIN EN ISO 13485. The parts are largely stainless steel, aluminium, brass or grey cast components in sizes ranging from very small to me-

dium-sized assemblies. One feature they all have in common is their complex geometry, sometimes with several undercuts and blind bores. The parts are cleaned to prepare them for subsequent machining after milling and deburring. This includes the complete removal of all chips and traces of coolants and lubricants, as well as thorough drying. The parts are then conveyed to the painting, blasting or electropolishing stations. Since the day MEDIKOMP GmbH has been certified as a contract manufacturer, the company has experienced a significantly wider and more differentiated range of components. Likewise, the order situation is variable: "Our busiest season is from March to December. During this time, all the processes including cleaning must run smoothly so that we can manage the high volumes," Tobias Zoller says.

Timely cleaning of different parts

The existing single-tank machine by another manufacturer was not able to reliably clean the highly variable parts portfolio. Because it happened again and again that parts were damaged during spraying, the entire cleaning process had to be monitored at all times. "When we were unable to meet the customer's requirements, this caused problems in the further processing of the cleaned parts. Furthermore, the long loading times were unacceptable during peak times," Alexander Hörig remembers. When this happened, the parts had to be re-cleaned; sometimes the whole batch had to be reworked or even scrapped in worst case. To avoid these losses and the resulting time delays, one employee was fully assigned to the machine.



Consequently, this person was no longer available to do other tasks. "In total, the cleaning process was severely affected our work flow," Tobias Zoller says. Before this background, MEDIKOMP started to look for a flexible and reliable cleaning machine which perfectly meets the current requirements while offering easy adaptation to increasing demands or changing applications.

Effective cleaning process with a wide range of applications

At the parts2clean, the two engineers came across the MAFAC KEA. This single-bath machine offered all they wished for: compact design for decentralised integration in the production, an effective cleaning process on aqueous basis, and suitability for a wide range of applications. "We immediately knew that this machine will allow us to concentrate on what is really important, and will give us leeway for future requirements," Alexander Hörig explains. The decisive criterion for the purchase was the cleaning principle of the MAFAC KEA, i.e. spray cleaning with co- or counter-rotating basket-and-nozzle rotation. It gives the operating company the freedom to adjust the cleaning process to the

degree of contamination and the sensitivity of the components. For MEDIKOMP, it was important that the basket rotation can be switched off so that only the spray system rotates around the parts to be cleaned. This ensures gentle cleaning of all sides of the components – and protects the sensitive surfaces of the parts from damage. "MAFAC is to only manufacturer to offer this principle," says Tobias Zoller.

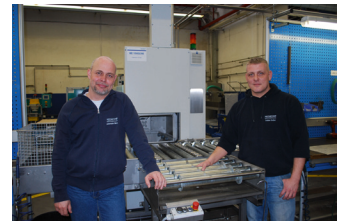
Before MEDIKOMP opted for the KEA, test cleaning runs were done in the Alptribach MAFAC Technikum to find the optimum combination of the machine and the cleaning agents used by MEDIKOMP. The experienced MAFAC application engineers specified a detailed cleaning program to find a common denominator for all parts and requirements to ensure clean results in terms of efficiency and of economy.

Another plus was parts drying via a rotating hot air pulse blowing system. For this, the KEA is by default equipped with two alternating pipes for the blowing process. The machine delivered to MEDIKOMP was equipped with an additional pipe in the lower part of the cleaning chamber. "The advantage is that we can do without additional hot air drying and still achieve premium

drying result within the specified time."

Process optimisation and resource saving

The acquisition of the KEA was accompanied by an optimisation of the process sequence. The work steps deburring, cleaning, and drying were combined in one line so that two deburring stations can use the cleaning machine alternately. To implement this change, the compact KEA was connected in the middle of a T-shaped roller conveyor and equipped with an automatic lift gate. This means that the components can be loaded into the machine faster. "This was MAFAC's idea. They came up with it during the planning phase, and it significantly improved our throughput time," says Alexander Hörig. With a volume of 320 litres and a coalescence oil separator with floating suction device, the service life of the cleaning bath in the large-volume holding tank has increased from formerly four weeks to now twelve months. This reduced the maintenance and staff costs to a minimum while the cleaning process and the results improved significantly. "With the MAFAC KEA, we found a solution where small efforts achieve



premium results. What's more, every employee is able to operate the machine even though it is based on a highly sophisticated process technology. We are pleased to find that it requires so little maintenance," is Tobias Zoller's conclusion.

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