



Parts Cleaning. Systems and Solutions.



A close-up photograph of numerous small, metallic, cylindrical components, likely precision parts or tools, arranged in several parallel rows on a light-colored surface. The background shows a dark, textured metal mesh. Overlaid on the middle-right portion of the image is a white rectangular box containing text.

Feinguss Blank GmbH:
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User Report

Feinguss Blank GmbH

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The application for which the MAFAC ELBA is put to the test at Feinguss Blank GmbH in Riedlingen is not an everyday task. However, the dual-bath system by MAFAC masters the challenge.

This year, the company Feinguss Blank GmbH in Riedlingen celebrates its 50-year anniversary. From humble beginnings, the precision-casting specialist company, today run in the second generation as a family-owned enterprise, has developed to become a supplier of complex components for all types of metal-processing industries. All leading automotive manufacturers are among its customers, along with companies from the mechanical engineering, energy, medical engineering, and electronics sectors. At the company headquarters in Riedlingen, a staff of 400 employees carry out all precision casting processes from steel precision casting over vacuum precision casting and aluminium precision casting up to copper-based precision casting. Feinguss Blank uses more than 180 different steel alloys and super-alloys and a multitude of different aluminium- and copper-based alloys. Furthermore, the company offers all kinds of mechanical processing and surface treatment up to mounting of ready-to-install assemblies. A large development department creates the customized solutions and helps with their implementation.

„The ELBA was the only cleaning system which fulfilled our specifications under serial conditions,“ says Technical Director Torsten Wolf, member

of the management board. A conventional cleaning process was not sufficient to meet the requirements „with very, very narrow tolerances“. Accordingly, a new cleaning system had to be procured. The company took two-and-a-half years to make its decision. Then, it opted for the ELBA by MAFAC, which „in spite of a multitude of requirements, shows excellent results under production conditions, leaving the competitors far behind,“ says Alexander Augustin, Head of Production Equipment Planning. Already in the preliminary tests with small series, the cleaning machine convinced in terms of cost and quality. Another plus was that it cleans the parts on an aqueous basis, thus meeting the precision casting company's environmental principles. The ELBA installed in the premises of Feinguss Blank cleans machined parts made of high-alloy steel and nickel-based materials. For the components, this is not the first but the most important cleaning process. Having been cleaned once before, they show only minor contaminations such as dust from storage, or oils from skin contact. However, these must be completely removed because the parts will go to a highly sensitive machining process after cleaning. „It sounds simple but proved to be a highly complex task. MAFAC was the only manufacturer that took our problem seriously, and they were able to reach optimum cleaning results,“ Alexander Augustin comments.

Top cleaning as scheduled

The Head of Production Equipment Planning says that the excellent cleaning results were primarily due to the interaction of temperature and technology. The ELBA installed in the



Blank factory has three programs which are enabled via the MAFAC operating concept „Maviatic“. All three programs use the patented process technology of spray-flood cleaning developed by MAFAC. The spray system with its full-spray nozzles counter-rotates to the loading system, which is likewise rotating. Sensitive parts with highly complex geometries are fixed in special loading frames; more robust parts are loaded as bulk goods. The complete cleaning process takes about seven minutes. Around two thirds of this time fall to the wet phase divided in a cleaning and a rinsing process. Between cleaning and rinsing, the cleaning system is blown off to prevent carry-in of dirt. After cleaning, drying follows which is a similarly important component of the overall process. The parts are dried via hot air pulse blowing. The parts are blown off with warm compressed air in a pulsed manner, followed by application of heated warm air. During this process, the loading system counter-rotates to the rotating blowing system. Blank uses the two holding tanks of the

ELBA in a cleaning – rinsing sequence. For this reason, a cleaning agent mixed with a corrosion protection agent is added to the 475-litre holding tank 1; the holding tank 2 with a capacity of 300 litres remains without additives. The bath service lives of the two holding tanks are around ten work days.

The quality of the fluid in both tanks is checked every day. The weekly throughput is around 25,000 cleaned parts. For coarse and fine separation of surface contaminations, a coalescence separator with floating suction device is provided. The separated oils and greases are collected in a separate container. Both holding tanks have a single-stage pre-filtration and are fed with deionised water. The DI water is stored in a separate tank behind the ELBA. The ELBA installed in the Blank factory is equipped with special optional modules which allow the DI-water tank to be connected to the cleaning machine so that it can be used as a second rinse bath if required.

