MAFAC

Parts Cleaning. Systems and Solutions.

Hirschmann GmbH uses the MAFAC ELBA to clean motor racing parts

HIRSCHMANN

MAFAC

Parts Cleaning. Systems and Solutions.

User report

Hirschmann GmbH

Aqueous cleaning - the uncomplicated solution

At Hirschmann GmbH, the MAFAC machine ELBA is used to clean motor racing parts.

“Working with an aqueous system is an uncomplicated, straightforward and effective solution,” says factory manager Klaus Brebeck. In autumn 2016, MAFAC installed its two-tank parts washer ELBA at Hirschmann GmbH in Fluorn-Winzeln. It is part of an overall project the mechanical engineering company has implemented for a Swabian sports car manufacturer. The parts cleaner is directly connected - via a roller conveyor - to a fully automatic, highly complex machining centre. Only the work pieces for chassis joints that are subjected to industrial machining in this system pass through the ELBA. For this process, parts are inserted into pallets specifically manufactured for this purpose.

The company Hirschmann

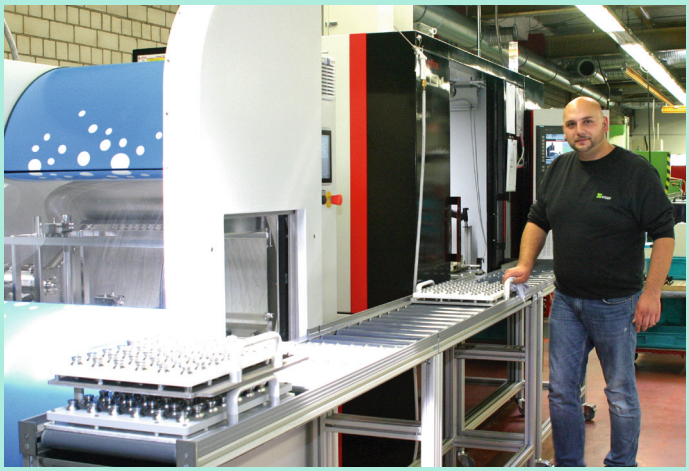
The company Hirschmann in Fluorn-Winzeln can look back on 60 years of company history. It all started in 1957 with the inception of Carl Hirschmann AG & Co in Stuttgart as distributor for floating bearing elements imported from the USA. In 1961, the company moved to its own building in Fluorn-Winzeln, where a steadily increasing amount of floating bearings, rotary indexing tables and clamping systems have been developed and produced since 1966. Today the company is a worldwide leading manufacturer of rotary indexing tables, including the complete clamping technology for the eroding technology. The joint bearings and joint heads manufactured in Fluorn-Winzeln are time-tested design elements for static and dynamic power transmissions. They are manufactured both in large volumes and in lot size “one”. The group of customers includes well-known companies in the automotive industry (sports cars, racing cars, special-purpose vehicles). In addition, the floating bearing elements are used in the aerospace industry, for which sector Hirschmann has been certified for many years.

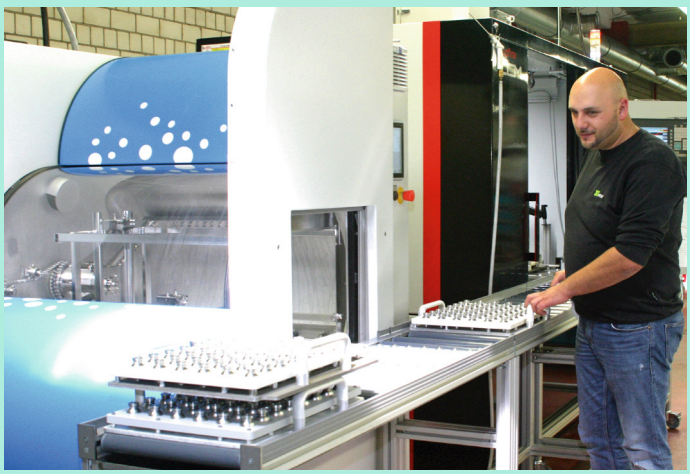
Good experience with MAFAC

The ELBA has been purchased in connection with a project for a leading Swabian sports car manufacturer. Those responsible at Hirschmann deliberately opted for a MAFAC machine, since they could look back on good experiences gained with the experts for aqueous parts cleaners from Alpirsbach. A SF 60.40 from MAFAC has already been running at the mechanical engineering company since 2003. The one-bath system sticks out like an island between the individual production machines. It is used by employees from all departments - primarily to carry out interim cleaning before continuing with further processing of the respective parts.

Used to clean inner races

But the ELBA serves a completely different purpose. It is exclusively used to clean parts for chassis joints required in sports car construction. To begin with, these workpieces are subjected to industrial machining inside a state-of-the art machine. During this process, oils and grinding residues are deposited on the parts. These must afterwards be removed in the ELBA so that the parts





are prepared for the following process steps in an optimum manner.

Just a few minutes of cleaning and drying

The machining centre and parts cleaner are connected via a manual roller conveyor. To avoid any idle time, the two systems run in parallel. While the industrial machining process is ongoing, parts that have already been processed are cleaned. The two fluid tanks of the ELBA are used in the order cleaning-rinsing. The first wet phase, the actual cleaning process, only runs for a few minutes. A cleaning agent is added to the water from tank one. The one minute rinsing process starts after a short drip-off and blow-off phase - using water from tank two to which no cleaning agent is added. The entire process ends with the drying stage, which consists of the combined pulse and hot air blowing procedure. The workpieces are first blown off in a pulsed manner using highly pure compressed air. Next, ultra-finely filtered hot air is applied to the parts.

The spraying system rotates - the basket receptacle system rocks.

The spherical bearing parts that are cleaned in the ELBA are all of the same geometry, but their sizes differ. As they are very delicate, they need to be fixed for cleaning in workpiece holders that are specifically manufactured for this purpose. The spray cleaning method developed by MAFAC is used for the cleaning process: The spray frame rotates around the basket receptacle system. The movement of the basket receptacle system, which could theoretically rotate in the opposite direction to the spray system, is reduced to a minimal rocking movement. “This is the only way in which we can guarantee that the parts do not get damaged,” says Klaus Brebeck. The same applies to the drying process. In this instance too, the blowing system rotates around the basket receptacle system, which is producing minimal rocking movements.

Useful bath life of six months

Several hundreds of parts are “washed” in the parts washer on a daily basis. Like the machining centre, it runs in two-shift operation. Despite the hard water in the Fluorn-Winzeln region, the useful bath life is six months. “The reason for this is the MAFAC machine’s excellent filtration system,” states Roland Keller, Group Manager Final Processing. The ELBA is equipped with a coalescence oil separation system with integrated floating suction device in fluid tank one and with main stream ultrafine filtration to filter out fine dirt particles in tank 1 and 2.

Serkan Gaygisiz is one of the specially trained employees at Hirschmann, who loads both the machining centre and the ELBA parts washer.

MAFAC
Parts Cleaning. Systems and Solutions.

MAFAC - E. Schwarz GmbH & Co. KG
Max-Eyth-Straße 2, D-72275 Alpirsbach
Phone + 49 (0) 74 44 / 95 09-0, Fax 95 09 - 99
E-Mail: info@mafac.de, www.mafac.de

You can find more user reports on our website **www.mafac.de**