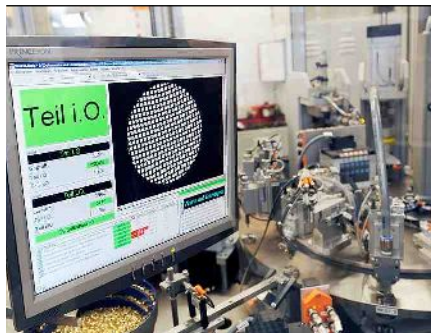




Perfect filteri

Utilizing quality and efficiency to be world-class" is the maxim of Karl Kufner KG, an absolute specialist in filter screens and weaving reeds of all types. Their high quality standards are ensured by manufacturing "Made in Germany", with a high proportion of in-house production and qualified personnel, as well as modern production and testing processes. In order to secure its leadership position on the global market in the long term, the family-owned company combines modern and proven methods to perfection: more than half a century of experience and the Japanese Kaizen principle.

Transposed to our contemporary management system, Kaizen introduces a continuous improvement process into companies. In accordance with this principle, Karl Kufner KG has since 2007 been working on continuous improvement of its employee-oriented management, staff training, optimised process orientation and the consistent further development of its quality management. Quality assurance extends throughout the entire process, beginning at the design stage. Worker self-checking and modern technology are in use with respect to all production and testing processes. Thanks to image processing systems, reject rates in the sub-ppm range do not represent any



Comprehensive quality assurance, including integrated camera monitoring (centre left) and moulded part inspection under the microscope (centre right). The versatile injection machine range covers a variety of different concepts, such as ALLROUNDERS with swivelling clamping unit (right) for example.

problem. The application areas for Kufner products are extremely varied and highly complex. Filter screens are installed wherever liquids or gases have to be filtered in order to protect sensitive or safety-relevant components from damage or failure. For historical reasons, the automotive sector currently predominates, with a share of around 70 percent. An impressive fact in this context is that there is virtually no car in the world that is not equipped with a Kufner filter.

Because the actual purpose of a filter is not the decisive factor, but much rather the competence that goes into its development and production, the company is not tied to a single sector. In future, the company will place greater emphasis on the building services, aerospace and medical technology

sectors. Pioneering medical technology projects aimed at opening up completely new dimensions in diagnostics are already under discussion. Moreover, the product segment is also to be expanded, and the fields of fully-plastic moulded parts and non-metallic screens made from nylon mesh, for example, are to be ramped up or reintegrated in production.

Global just-in-time supply of the products is achieved through a sophisticated internal and external logistics network. All the processes are perfectly structured and organised, everything is tidily kept in its place and close at hand for when it is required. There are only small storage areas, whether for plastic granulate, finished products or consumables. "Kaizen", or continuous "change for the better" is ubiquitous. Accordingly, the guiding principle at Kufner is also the ongoing improve-





küfner
Siebe
Webeblätter

ng guaranteed



Photos: Küfner

ment of all processes in terms of economy, quality and logistics. This includes breaking down batch volumes and minimising throughput times, which have been reduced from an average of 38 to nine days.

At the Truchtelfingen location, research, development and production are complemented by design and the construction of in-house moulds and special machines. The latter is an important area of competence for the company, with an in-house production ratio of 95 percent. This clearly demonstrates that in addition to manufacturing in Germany, a high proportion of in-house production plays an important role.

The parallels between Küfner and ARBURG in this respect are striking. It therefore comes as no great surprise that the two companies have been working together successfully since 1964. The fact most valued by Hanno Camphausen, authorised representative and Production & Logistics Manager, is "that the approach at ARBURG is always solutions oriented." This is particularly important in view of the high requirements placed on the products and consequently on the moulds and injection moulding machines. For example, the encapsulation of the wire mesh requires the highest precision, which in the case of Küfner means compliance with tolerances in the hundredth of a millimetre range.

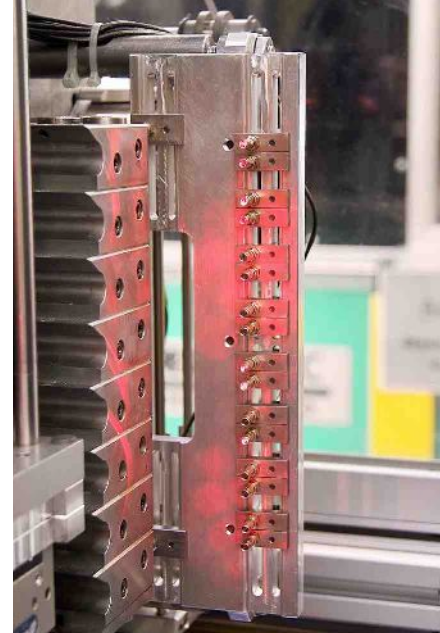
In order to achieve this, highly complex moulds and automation solutions, which are produced in-house by the company, are employed. It is also in order to ensure consistently high quality that piecework is dispensed with. The emphasis is not on quantity, but on one-hundred-percent quality of the products.

The injection moulding sector plays an increasingly important role. Not only are more than 80 percent of the products manufactured in this sector, 60 percent of the value added is also created here. But Küfner offers much more than merely production. Thanks to decades of experience, the company is also a competent partner to its customers around the world.

Its portfolio covers the entire production chain from filter development and the fabrication of prototypes and samples through to volume production. The moulds and special machines required for this purpose are produced in-house. Cassette moulds featuring quick-change inserts are used in order to reduce set-up times. Furthermore, the company is developing its own quick-change system. The rapid set-up capabilities of the special machines also contribute to production flexibility as they can be used for more than one product.



The comprehensive competence at Küfner's disposal, particularly in production, is impressively demonstrated during a plant tour in Truchtelfingen. Machines which have been expanded to meet in-house requirements can be seen in all production areas. In the automation area, ALLROUNDERS with a fixed vertical clamping unit are used, which are so perfectly



integrated in the production line that they are barely noticeable despite their central importance to the production process. The extensive peripherals are made by Kufner. A brief glance around the "normal" injection moulding shop does full credit to the "ALLROUNDER" name: Flexible machines with swivelling clamping units can be found here, as can standard horizontally-operating ALLROUNDERS. But here too, the term "standard" is something of a misnomer. On some of the machines, for example, the wire mesh is rolled, cut, shaped, inserted and finally encapsulated. As simple as this process may sound, its execution is highly complex. The wide range of peripherals required are provided exclusive by Kufner, as is the necessary expertise, which is understandably kept under wraps.

One of the company's specialties are cylindrical plastic filter screens with a wire mesh, which are produced fully automatically. These are used, for example, in ESP, ABS and fuel preparation systems for motor vehicles.

Kufner's innovative strength and know-how are reflected in the registered-design protected V filter, the uses of which range from high-pressure applications in fuel injection systems through to water treatment.

Production takes place in several shifts, which places correspondingly high stresses on the 95 ALLROUNDERS. The company regards these to be robust and extremely reliable. In order to ensure a high degree of availability, preventive

maintenance through the regular servicing of moulds and machines is awarded a high priority. "Although we perform the majority of this work ourselves, we appreciate the extremely rapid service offered by ARBURG", says Hanno Camphausen. In over 40 years, there have never been any delivery problems with regard to new machines or spare parts. "In addition to the flexibility of the machines, their universal SELOGICA control system also represents a significant advantage as it fully meets our requirements in terms of high production quality," adds Camphausen. Looking forward, the company is certain that it will also move in the direction of electric machines and clean room production.



Specialties in Truchteltingen (centre): special machine setups and moulds for the production of filter screens (top) and V filters with optimised flow characteristics (left), the special screen design of which was developed by Kufner.



INFOBOX

Founded: 1951 by Karl Kufner, today managed by Bernd and Markus Kufner

Locations: two in Albstadt-Truchteltingen (Swabian Alp) and one in Ludwigstadt (Upper Franconia)

Employees: 350

Products: Filter screens and weaving reeds

Customers: approx. 500 from the automotive, medical technology, engineering, aerospace, facility management and power equipment sectors

Markets: Mainly Germany and the EU, also major customers in North and South America as well as East Asia

Machine fleet: 95 ALLROUNDERS with clamping forces from 600 to 1,600 kN

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