

Comprehensive solutions

Expansion gives impetus to moves in advanced film slitting technologies – high influx of orders for Kampf made extension of the assembly areas necessary

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Currently anyone approaching the head office of Kampf Schneid- und Wickeltechnik GmbH & Co KG in Wiehl/D will not be able to miss the giant cranes in the distance. A fleet of construction vehicles has increased the traffic in the rural surroundings. An imposing excavation pit is apparent at the site. No question about it, an extension is being built here on a large scale. Four new assembly shops with an area of more than 4000 sqm (43,055 sqft) including staff facilities are well on the way to completion and can be expected to be occupied by mid-2013.

The continuing high influx of new orders has made the extension of the assembly areas necessary, says Kampf. The main building is also undergoing comprehensive renovation. The outbuildings have already been improved and restored. The investment is not only being made at the Mühlen site; the manufacturing plant in Dohr/Eifel now has several modern production centres, and conse-

and India. By focusing on intelligent, practical technical solutions, Kampf machines have set the standards in the world of slitting and winding machines. Product development is driven by an extensive network of customers, suppliers, producers, universities and professional associations.

The fresh impetus for the company can not only be identified by the building operations at the two sites. Newly created markets also challenge product development; Kampf has presented and installed new machines in the recent past, which satisfy new materials and the demands being made from customers.

Kampf's »think tank« for new solutions comprises two technical centres and a new laboratory for carrying out a demanding series of experiments at the Mühlen site. A highly trained team plans the experimental setups and conducts the tests for and with customers. Training courses are also held regularly.

quently Kampf is equipped to fulfil customers' wishes more flexibly and manufacture parts involving the company's own know-how.

To maintain and continuously enhance expertise in slitting and winding technology has been one of the most important success factors of the specialist mechanical engineer for over 90 years. Kampf lays claim to currently being the largest manufacturer of roll slitters and winders for film and foil in the world. The company has plants and branch offices in China, the USA

The range of experiments is extensive and the technical centres are often fully booked even with six machines currently being available. The data obtained is evaluated and archived, and made available to the relevant operating departments.

The results of these series of tests serve as a basis for the development of new machines, or for optimising models already introduced. New materials are frequently tested before their market introduction. The new laboratory is particularly useful in this context, since the process of making a diagnosis and finding a resolution is simplified and quicker, even in the case of major challenges. The light-optical microscope and the grinding machine are important tools for optimising slitting technology, since even minimal changes to the slitting geometry can have a major impact on the slitting and winding results and, what is more, the overall performance can be affected.

Since 2010, developers at Kampf have been devising solutions for the processing of new, highly demanding materials, such as organic and printed electronics, optical films and battery separator films. These materials have individual characteristics which require individual slitting and winding technologies.

The markets for these new materials are developing rapidly. The energy industry, for example, demands innovative solutions. The consumption of energy is increasing worldwide and the reserves of fossil fuels are diminishing. The demand for alternative energy sources is growing. Even if electricity is reliably generated nowadays from wind power and solar fields, suitable transport and storage media must be made available for it, as required.



Station-type slitter Unislit: flexible and highly efficient.

The Kampf technical centre II.





Lithium-Ion batteries are already used as high-capacity electricity storage devices. For example, they are used in mobile phones and hybrid vehicles. An important part of this allrounder is a so-called separator which constitutes the most expensive subassembly in the cells and consists of a very thin film. This film must be permeable to ions in order that the chemical processes are ensured.

To develop its expertise in a sophisticated area of technology, *Kampf* sought to contact producers of this special film at a very early stage and is engaged in an intensive exchange with institutes and plant manufacturers in addition to battery separator film manufacturers.

The quality of the separator is the most important factor in the design of the Lithium-Ion battery with regard to durability and safety and great importance is therefore attached to the processing of the film. Numerous tests in the technical centre and the intensive exchange with

customers from Asia and Europe have led to individual, customised and, last but not least, future-oriented machine concepts. These are adapted exactly to the respective type of film. This is necessary because the manufacturers produce very different films. All films share the exacting demands made on quality and purity; contamination and scratches must be avoided during the processing. The tendency to form wrinkles and large fluctuations in profile thickness is also challenging.

Kampf sees itself well established in this concept through machines that are already successfully in production. The product range now offers machines for all standard processes for manufacturing and processing of the separator films, nonstop winders, station slitting machines for the primary film cut, slitting machines for converting, equipment for picking and packing activities and supplementary handling systems.

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Kampf has used the expertise gained over many years to develop new machines and to offer comprehensive solutions. The optimisation of process engineering and technology with regard to energy efficiency, sustainability, waste disposal and comprehensive services is a task which has grown in significance in recent years and will remain a key challenge for the future.

Supplementary systems for the machines' periphery are increasingly becoming the focal point and are individually tailored by *Kampf*. They will continue to rely on the partnership-based relationships with the customers' specialists and the mutual enhancement of expertise, to enable the development of customised machine concepts from a basic configuration, through to a complete solution.

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Left: The laboratory hugely extends the possibilities.

Middle: Exchange in the spirit of partnership is the basis for comprehensive solutions.

Right: The Conslit is a Kampf bestseller and offers an extensive catalogue of options.



View of the assembly shop at the Mühlen site.