

KNAUER Wissenschaftliche Geräte GmbH

The Company

The KNAUER Company is one of the technology leaders in the field of chromatographic systems and is recognized as a worldwide provider for research and development, quality control and production laboratories. Pharmaceutical and medical research, the analysis of foods, petrochemical products and environmental topics would be unthinkable without these systems. Since our devices are also used in the purification of fine chemicals, active ingredients, plant extracts and proteins, they are also of great importance for cosmetic research and product development.

For well over 50 years, the medium-sized family owned business from Berlin-Zehlendorf has been developing and building laboratory equipment which is marketed worldwide. Our success is based on years of experience, innovative thinking and passion for this specific field. Researching, analyzing and developing new products – this is only possible with curiosity!

Development, production and sales are consolidated and working hand in hand within KNAUER's own building.

With this approach, KNAUER has gained an excellent reputation for offering high-quality, easy-to-use laboratory instruments at a reasonable price.



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The family business is now run by Alexandra Knauer, daughter of the founder Dr. Herbert Knauer. She continues to lead the company in the tradition of constant renewal. A novel multi-process purification system (Contichrom), which was created in cooperation with a Swiss startup company, for example, can purify vaccines now in a much more cost effective way than before.

The product can be obtained with high purity and high yield simultaneously - something that was previously considered not feasible. This performance was rewarded in 2013 with the coveted Innovation Award Berlin Brandenburg.

The Product Portfolio

KNAUER's product world extends over 12,000 products for the high performance liquid chromatography (HPLC), chromatographic product purification and osmometry.

Our chromatography systems can be used to determine mass concentrations in liquid mixtures, to purify substance mixtures, or to gain a pure substance. The equipment allows separating complex samples into their individual components, and to identify or quantify them.

Among others, the following use cases relevant for the cosmetic industry:

- Analysis of chemical and physical UV filters;
- Determination and verification of skin care substances;
- Identification of ingredients of cosmetic products or raw materials;
- Checking of products for impurities (e.g. pesticides);
- Purification of complicated substances, oils and extracts with high purity and yield.

Some products in detail

- **AZURA** - HPLC systems with optimized components exploit the power of modern high performance separation columns and enable high-resolution analyses. The AZURA HPLC systems consist of combinable modules and can be configured for numerous applications. The solutions range from automated analysis systems to semi-preparative systems for valuable substance purification.
- **PLATINblue** - UHPLC system for high resolution and fast liquid chromatography (up to 10 times faster than conventional HPLC), which can be ideally combined with mass spectrometry.
- **HPLC columns** for numerous applications, including BlueShell® columns with ultra-

modern core-shell particles for best separation results with a very low back pressure, BlueOrchid® UHPLC columns with particles less than 2 microns, special materials such as Eurocel® for the separation of chiral substances or Eurokat for the solvent-free analysis of carbohydrates and organic acids.

- **Preparative HPLC** - Modular AZURA HPLC systems with components for flow ranges up to 1000 ml / min - ideal for component purification and valuable substances.
- **SMB (simulated moving bed)** - a continuously operating chromatography method, in which the continuous operation achieves a very high efficiency (up to 90% solvent savings with the best utilization of the stationary phase).
- **Contichrom** - is a multi-process purification system which allows combining the advantages of preparative batch HPLC as well as versatility and gradient ability with the high separation efficiency of SMB. Contichrom is the only commercial LC system worldwide that offers the MCSGP separation process.
- **Bio LC** - a number of systems and components for biochromatography. These include the biocompatible equipped chromatography systems, pressure-resistant Bioline HR glass columns, and the stationary phases of the matched BioFox series.

Quality and sustainability

Quality and sustainability are the hallmarks of our company. Starting in the early development phases of our appliances, our designers focus on using primarily materials that are durable, allow maximum maintenance intervals and minimal downtime. Furthermore, we treat energy and material efficiency in the production and operation of our products with high priority. Additionally, we care about an environmentally friendly disposability of our products and the materials used with them.

Each built-in part and each original spare part meets our strict standards for design, material and safety. This is governed and guaranteed by our quality assurance program. If something needs to be replaced or

repaired with original spare parts from KNAUER it will be as good as new again.

The quality management system and associated work practices are constantly updated and developed. All staff members are familiar with all methods of quality management and its practical implementation. Continuous improvement is one of our main principles formulated in our company objectives.

An essential part of our daily work is based on feedback and suggestions from our customers. They help us to further improve our accuracy, to work even more efficient and more customer friendly.

The Certifications



Our quality management system according to DIN EN ISO 9001 ensures every day that we build products in the best possible quality. In addition, we operate on the basis of an environmental management system according to DIN EN ISO 14001 and make an important contribution to the preservation of a healthy environment.

As a commercial enterprise, we have to prove ourselves in a highly competitive market on a daily basis. The company as a whole can only be successful if every member of our team contributes his share. Measure of our success is the satisfaction of our customers with the quality of our products and services.

Our employees and our customers

With more than 125 employees, we are one of the established manufacturers of HPLC (high performance liquid chromatography) systems and their components, SMB (simulated moving bed chromatography) systems, and osmometry devices. Our products range from one of the smallest HPLC systems in the world to UHPLC systems, analytical and semi-preparative HPLC equipment and SMB systems for the production of up to 1,000 kg of pure substance per year.

We supply our products to the manufacturing industry in the fields of pharmaceuticals, cosmetics, food and feed, raw material development, petrochemical and customers who deal with product testing and environmental as well as institutes and universities.

The cornerstones of our success are our employees, with whom we have developed



For innovation KNAUER focuses on highly trained employees from different disciplines and cooperation with scientific institutions.

together numerous product innovations. Meanwhile, we have won more than 20 awards for innovation.

Our Services

Our experts have years of analytical and preparative HPLC experience and work in a fully-equipped laboratory. Our clients can benefit from their knowledge - guiding you to find the best solutions for your task.

Developing your own HPLC applications or optimizing existing methods is a tedious job. For many laboratories, this kind of work keeps staff from other more profitable tasks. Even if method development is not often on your to-do list, chances are you could benefit from the expertise of our application specialists.

The equipment required for a given purification task can differ largely, for example depending upon purity and yield demands. Sometimes optimizing a batch HPLC method is sufficient, sometimes the problem requires a continuous HPLC approach. KNAUER offers both technologies and has experienced specialists, ready to take on your challenging purification task. We offer a competitive solution, keeping your costs under control.

Our experts are working on advanced and environmentally friendly solutions to help clients around the world.

Innovation awards

In 2014, KNAUER's innovation performance and management was ranked in the Top 100 for the fourth time. For over 20 years the "Top 100" seal of approval stands for innovation, curiosity and team spirit. The ceremony was performed by the popular science journalist and TV presenter Ranga Yogeshwar. On 27 June 2014, Germany's most successful think tanks again received

the coveted award. "Top 100" mentor Ranga Yogeshwar honored KNAUER as part of the German SME Summit in Essen.

In December 2013, KNAUER won the Innovation Award Berlin Brandenburg for our latest technology Contichrom, the multi-process purification system. This prize has been awarded annually since 1992, is associated with prize money and high respect. The aim of the prize is to expose innovative and courageous businesses to a greater audience.

With Contichrom®, substances can be cleaned in a particularly efficient and environmentally friendly way - a very important factor for biopharmaceuticals.

Contichrom is a novel chromatography system that significantly extends the well-known and widely used high performance liquid chromatography. In contrast to the commonly used systems, each designed for a single process, the Contichrom system allows for five different LC process technologies, from which the user can choose the best for each of their separation tasks. With the biocompatible materials used, Contichrom is ideally suited for the purification of sensitive proteins.

Not only in the pharmaceutical and cosmetics sectors, the active ingredients and products are often initially accompanied by unwanted products. The need however is an extremely pure active ingredient. The Contichrom system is able to extract a very pure product from those mixtures in a practically lossless fashion. Application examples range from ingredients for pharmaceutical and cosmetic products to raw materials for computer chips or additives for food production: The demands of modern life require pure substances. Contichrom allows the most effective production of those pure substances. On average, the system allows for 50% more yield than a standard HPLC and achieves a 70% reduction in solvent consumption, requiring only a tenth of the time. ■

We will be happy to assist you!

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