

# 40 Years of Berghof

## 40 Years' Competence in Digestion and Microwave Technology

**For exactly 40 years now, the Berghof Group has been implementing the results of scientific research work in serial products for industrial and laboratory applications. At the same time Berghof Products + Instruments GmbH is celebrating the 10th anniversary of its microwave digestion systems, marketed today under the brand name of speedwave.**

Prof. Georg Zundel founded the laboratory under the name of Privates Forschungsinstitut für Auftragsforschung und Entwicklung 40 years ago in the cellar of his home at Berghof in Tübingen. It has since developed into the Berghof Group comprising four individual companies and with its major areas of activity in automation technology, laboratory and environmental technology. The original idea behind founding a private R&D company was taken up by the then research team, who brought it to life with development projects in the fields of membrane filtration, electrochemistry and fluoroplastic technology.

Berghof Products + Instruments GmbH operates on the laboratory market supplies innovative products, although processing fluoroplastics still remains one of its core competences. Besides special, frequently customer-specific, solutions made from fluoropolymers, the range of products includes pressure digestion systems, microwave digestion devices, subboiling devices and high pressure reactors. All of these products are developed and produced in Germany. The worldwide marketing, service, applications support and customer training is coordinated from the company's head office in Eningen near Reutlingen.

On the occasion of the company anniversary GIT spoke to Dieter Gutwerk, Head of Laboratory Instruments, about the most important innovations and future prospects for the company's development. Dr. Margareta Dellert-Ritter posed the questions.

**Berghof has made a name for itself in the analytics sector. Dr. Gutwerk, what do you consider to be the reasons for this success?**

**D. Gutwerk:** From the past many analysts still today associate the name of Berghof with PTFE laboratory products, pressure digestion bombs and PTFE-lined high pressure reactors. Building on this image, in the past four years we have completely overhauled our range of products in the laboratory market and made it more attractive to our customers, both in terms of the

technical features and the design. Today, in addition to the familiar high pressure reactors and pressure digestion bombs, we offer microwave digestion systems that are increasingly becoming our main product. This, coupled with the high quality of our products and competent advice on applications, is the key to our success.

**What is the motto behind your company philosophy?**

**D. Gutwerk:** The special characteristic of the Berghof Group is definitely its development from a pure research institute, financed exclusively by R&D projects to a group of companies chiefly involved in automation, laboratory and environmental technology. The enormous variety of products ranging from the service laboratory and engineering firm and the laboratory products already mentioned all the way through to automatic testing systems for railways and the automotive industry and including software solutions in automation technology still bear witness to the early, very varied, research and development activities. This illustrates that we endeavour to work in close association with science and to implement the results in the form of innovative serial products for industrial and laboratory applications because we are convinced that in the long run only innovative products can be successful.

**What distinguishes your range of products in the field of laboratory instruments?**

**D. Gutwerk:** As I say, our objective is to introduce innovative products to the market. Consistent with this, we only put products on the market that have at least one unique feature. It goes without saying that these are always features that are of greater benefit to the customer. Examples of this are the unique PTFE-lining on our high pressure reactors, the patented sensor technology for gauging temperature and pressure in microwave digestion, the unique service life of our microwave digestion vessels, incidentally this permits us as the only manufacturer to



**Dr. Dieter Gutwerk, Berghof Products + Instruments GmbH**

include these vessels in the warranty, to mention only the most important special features of our product range.

**Which product do you look back on with special pride in this connection?**

**D. Gutwerk:** There can be no doubt about it: our speedwave MWS-3Plus microwave top loader. Just a single glance at the device and any customer will immediately be aware that Berghof is treading new paths in microwave technology. The unique top loader design, paired with the aforementioned sensor technologies and durable, very simply structured vessels, makes for significantly simpler handling, optimised process control and hence safety. The durability of the vessels also means very low operating costs.





ent customers and different industries. At the moment, and this will continue over the next few years, we are concentrating on marketing the products and opening up new target markets abroad.

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### **For which markets are these systems of particular interest and which new areas of application do they give access to?**

**D. Gutwerk:** The interesting thing about our microwave systems is precisely the fact that we do not open up any new areas of application or markets with them. However, our systems do overcome some of the problems of microwave technology, hence the increased benefit to the customer we have already discussed.

We supply our microwaves exclusively for the digestion of samples for the subsequent determination of the elements, e.g. by means of atomic spectroscopy or ICPMS. So it is a classic method for preparing samples in analytical chemistry. Hence the devices are used in virtually all industries, be it for the purpose of trace analysis, for example in environmental and food analysis or for performing content analyses, for example in the manufacture of ceramics, in steel production or the pharmaceuticals industry etc.

By comparison, our high pressure reactors are far more restricted in their scope of application. They are chiefly used in the field of chemical synthesis and therefore in the chemicals and pharmaceuticals industries. However, owing to our PTFE-lining they are now in use in special applications in corrosive media as they dispense with the necessity of using extremely expensive nickel alloys such as Hastelloy C as a construction material.

### **Where do you generally envisage the markets of the future?**

**D. Gutwerk:** At present we are noticing that all industries are picking up and we can see enormous development potential for ourselves in

our target markets. It goes without saying that we also closely observe the developments in new markets, for example the life science or nanotechnology sectors, to see where interesting new applications for our products may arise.

### **How do you assess the development prospects in Germany and worldwide?**

**D. Gutwerk:** Overall we are seeing fast growth in our target markets all over the world and slight, albeit clearly more lively, growth this year in Germany. Our business with laboratory microwaves and high pressure reactors is growing worldwide driven among other things by the growth markets in Asia, Eastern Europe and the CIS states. Despite everything, we have succeeded in significantly increasing our sales over the past few years in Germany, so all in all we are looking optimistically into the future.

### **Which regions are you focused on?**

**D. Gutwerk:** Currently we are mainly focused on the regions in Asia and Eastern Europe. It will be our goal to stabilise these markets and build up new ones.

### **What can we expect of Berghof in the future? Which strategies will you use to pursue which goals?**

**D. Gutwerk:** In view of the fact that we have completely renewed our range of products over the course of the past four years, our business with the two product lines, high pressure reactors and digestion products, is now firmly established because these products address differ-

