

TOLL MANUFACTURING/PILOT PLANTS



INNOVATION

ENGINEERING

OPTIMIZATION

Our pilot plant produces for you: Trial quantities and small-scale production 24 hours a day, 7 days a week

Our Service ...

In the youngest of our pilot plants (commissioned in 2000) a wide range of equipment using the latest technology is available for manufacturing your product. There, we can produce quantities for premarketing and sampling on a kilogram scale but also manage longer term smaller quantity production runs.

We are particularly well equipped for thermal separation methods such as distillation/rectification and extraction. We also specialize in membrane technology and chromatographic separation methods. You simply supply the product, for instance from a reaction, in crude form and we separate the end product according to your specifications. Our pilot plant runs 24 hours a day, 7 days a week.

In addition to custom manufacturing in the narrower sense, i.e. product manufacturing to meet your specifications, our specialists can also help develop the most efficient separation method. The results from simulations are generally verified on a laboratory scale before being transferred to our pilot plant.

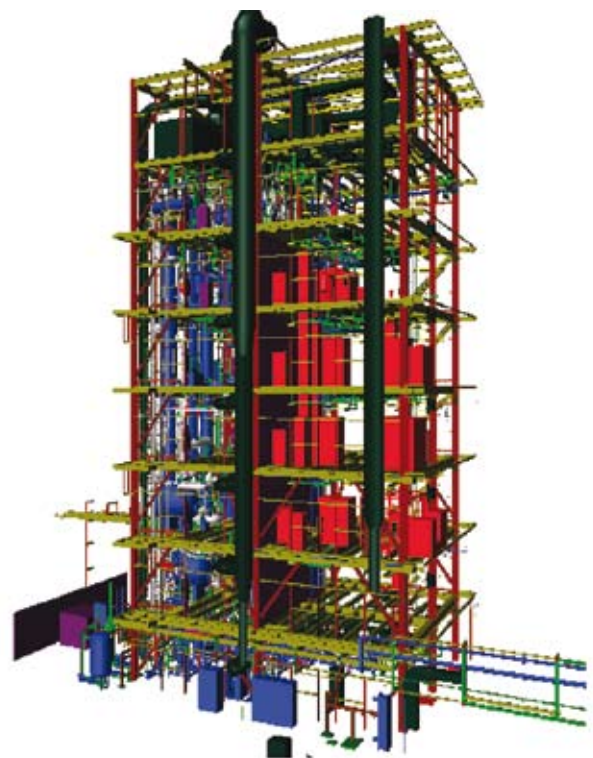
We have many years of experience working on laboratory and pilot plant scale and we use the latest computer technology to ensure reliable scale-up for a complete process and plant concept.

... is your gain.

We provide trial quantities of products – from kilogram units up to several tons – within the shortest time and suiting the required quality standard for market penetration purposes, customer sampling and application tests. This allows you rapid access to the market and reduces the cost and risk associated with investment in your own plant.

We also offer the following services:

- Contract distillation for products that present problems, are temperature-sensitive or high-boiling
- Quality improvement to your products, e.g. through very high separation efficiencies (50 theoretical stages)
- Data collation to provide an improved basis for further scale-up decisions
- Flexibility regarding pilot plant set up and custom manufacturing of your products



Bayer Technology Services
Powering Your Performance

What sets us apart from the competition

In addition to our state of the art technology, we can also tap the process and safety engineering expertise of Bayer Technology Services. This allows us not only to deliver the product, but also the engineering for the construction of a suitable separation plant.

- Many years of experience in the finishing of fine chemicals and life science products
- Latest equipment and separating methods
- Finishing know-how for products that are difficult to separate by distillation alone using hybrid processes
- Commissioned as a multi-purpose plant, including a tank farm for handling large volumes of solvent
- Expert services for chemical and physical analyses.

Our highly qualified staff is adept at handling all substances relevant to the chemical industry, including hazardous materials. We can carry out research and developmental work for more demanding separation tasks utilizing complex design and simulation programs. The work is supervised by experienced specialist personnel and carried out by a highly flexible team of well trained employees.

Moreover, we provide all of the advantages associated with being part of a large company.

Our approach

The set up of the pilot plant and manufacturing process are generally carried out as laid down in the contract specifications or the corresponding end product specification. If required, we can also establish physical and technical data for the process, the necessary safety engineering data and the optimal separation method.

Our new pilot plant occupies an area of over 1,300 m², and includes distillation columns for continuous and batch operation:

Diameters:	DN80 – DN800
Pressure range:	1 mbar – 30 bar
Separation efficiency:	up to 50 theoretical stages
Temperature:	-20°C – 230°C
Throughput:	5 kg/h – 2 t/h
Materials:	stainless steel, Hastelloy, enamel, glass
Products:	liquids and melts from the chemical/pharmaceutical industries
Infrastructure:	tank farm, clean room, explosion protection

Special processes and equipment, such as extractive distillation, re-active distillation, stripping columns, thin layer technology and hybrid methods, are used for product manufacturing. The plant's modular design ensures optimum flexibility. The columns are equipped with alternating cold traps and optionally with thin layer evaporators. The finished product can be filled into tanks or drums.

All processes are supported by modern simulation methods and are carried out by personnel with specialist experience in laboratory methods and chemical analyses.

References

In the past our customer base was primarily made up of companies of the Bayer Group. But we can now additionally offer our services to external customers.

To date, our activities were primarily located in the fields of fine chemistry and life sciences, such as:

- Distillation of pharmaceutical pre-products
- Separation of isomers
- Recovery of solvents
- Finishing of fine chemicals ensuring low thermal history