HOF AT A GLANCE

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HOF FREEZE DRYING SYSTEMS
THE SPECIALIST FOR INDIVIDUAL SOLUTIONS

INNOVATIVE
POWERFUL AND EFFECTIVE IN SERVICE
FUTURE-LOOKING

A SIMPLE MAXIM:
ALWAYS THINK ONE STEP AHEAD

With over 25 years' experience, HOF Sonderanlagenbau GmbH is the leading specialist in the manufacture of individual freeze drying systems, loading and unloading systems, as well as freeze-thaw units for the pharmaceutical and biotechnological industry. At our company location in Lohra, near Marburg, Germany, highly motivated and specially qualified employees work on the company's own production floor of some 12,500 m². A flexible service team keeps close contact with our customers both nationally and internationally, providing support for the entire life of the system.

In the pharmaceutical and biotechnological environment, quality and reliability are the decisive parameters in determining whether a company will be successful or not. This is guaranteed by using HOF's customized systems, but also because the company's systems technology is developed with an eye on the requirements of the future.

The company, a specialist in individual solutions since its founding, distinguishes itself by offering only the highest quality in all stages: from the idea to the fully developed plan, all the way to the scrupulous manufacture of the system, which is customized and convincingly reliable. HOF systems are always a good investment for the future.
CONSISTENTLY INNOVATIVE ... 

As a national and international level, HOF is a pioneer company for many new developments in the field of freeze-drying systems. One of our oldest aims is to acquire and expand this role as innovative pioneer as well as our technologies not for technology’s sake, but to meet our customer requirements. Innovation—changing systems, flexible shelf adjustment, the use of liquid nitrogen and natural refrigerants, control integration of advanced measuring systems such as NIR and mass spectrometers, HOF SynchroFreeze and vacuum insulation: these are some examples for the company’s innovative potential and solutions to take new approaches.

EXPERIENCED IN LOOKING FOR THE BEST SOLUTION ... 

In a large number of projects, HOF has worked with international companies in the pharmaceutical industry on the development of special applications with the aim of finding the best system solution.

HOF systems represent state-of-the-art technology and comply with the regulatory certification standards of the European Union, the GMP rules and standards of the FDA as well as with the GAMP rules and standards of the ISPE.

THE SPECIALIST, A DESIRED PARTNER FOR INDUSTRY AND RESEARCH ... 

HOF has an excellent reputation as a specialist for customized solutions and as a reliable partner to the pharmaceutical and biotechnological industry. The productive efficiency of HOF systems, the service and the adherence to deadlines are firmly established and known quantities in the company.

Alongside the company’s own innovative potential and experience, HOF relies on close contact and cooperation with well-known technical colleges, universities, research facilities, technical universities, pharmaceutical companies and long-standing suppliers. As a result of this, HOF also focuses on the common research projects. This ensures that innovations can be transfer to daily practice in a professional way.

THE SPECIALIST – A DESIRED PARTNER FOR INDUSTRY AND RESEARCH 

Innovation—changing systems, flexible shelf adjustment, the use of PAT equipment and ground-breaking designs help our customers to successfully achieve their goals.

THE BEST SOLUTION 

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EXPERTISE

Knowledge can only be put to good use when it’s alive in the minds of people. As a technological pioneer, HOF has a large pool of specialists, who know how to fulfil the future requirements of pharmacy and biotechnology in their specific areas of expertise. Their high levels of expertise are constantly advanced and deepened through both internal and external training and further education options. Top research facilities of colleges and universities act as partners in providing this further education.

As a result, the needed expertise in order to design, plan and implement complex, customer-oriented systems is continually deepened - always to the complete satisfaction of the customer.

LETTING KNOWLEDGE GROW

HOF develops suitable, project-related solutions. Numerous proprietary patents reflect the innovative energy of the company. HOF’s highly-qualified employees carry out invaluable work, giving our customers a clear advantage. The intense dialogue with research institutes and partners from the industry can make even the most technically demanding visions reality.

TO THE POINT: THE ENGINEERING

HOF takes care of the entire plant layout, from the first design and concept studies, to drafting a layout and pressure vessel construction, all the way to the manufacture drawing of individual parts and the creation of a P&ID. All work is done by HOF in-house – on time and to the highest quality.

MECHANICAL ENGINEERING

Suitable software is one of the most important requirements of research and production in the pharmaceutical and biotechnological industries. HOF accompanies the development and generation of the software, from the design phase to the project work, initial operation and qualification, all the way to service support provided by our own software specialists. In the end, a solution is always found with the greatest possible standardisation, which also fully satisfies the individual software requirements.

PRACTICE

The specialists at HOF are working together with pharmaceutical and biotechnological companies for many years now and can offer advice in all of the most important areas: Automation & software, qualification, process technology & process development, mechanics and design, as well as electrical engineering. Our experienced staff accompanies HOF’s customers with their specific expert knowledge from the initial idea all the way to the running of the lab and production operation, regardless of whether it’s a new facility, expansion to existing facilities or modification.
Manufacturing at HOF comprises the areas of metal processing, refrigeration technology & service, electrical assembly & insulation in which the electrical and mechanical assembly work and individual production jobs are taken care of by the company's own workers. The construction of the switch cabinet is just as much a part of this as the cabling of the system, the insulation and full function testing with the respective documentation. HOF’s employees create the entire wiring documentation including circuit diagrams, cabling diagrams, parts lists, terminal diagrams and much more for your projects.

From planning to initial operation, HOF covers all areas: Switch cabinet construction, assembly planning, functional security, security technology and energy optimisation, as well as parts selection are all included. The services provided by HOF include qualified process development and process optimisation, which means that our customers can be provided with greater security in these areas. With the help of extensive equipment and an available lab freeze dryer, we are able to support our customers when it comes to answering questions on process management. It may be possible to reduce process times and optimise the quality of the dried products. Among other things, we have devices for measuring resistance and temperature, as well as a cryomicroscope, which enable a comprehensive examination of the product. EVERYTHING FROM A SINGLE SOURCE: MANUFACTURE

Manufacturing at HOF comprises the areas of metal processing, refrigeration technology & service, electrical assembly & insulation in which the electrical and mechanical assembly work and individual production jobs are taken care of by the company’s own workers. The construction of the switch cabinet is just as much a part of this as the cabling of the system, the insulation and full function testing with the respective documentation.

The high demands we apply to our own work are one of the requirements for the success of HOF. The company processes are certified according to DIN EN ISO 9001:2008. This ensures the quality during both the development and manufacture of the facilities and systems. In order to guarantee quality, all areas are subject to continuous quality testing – from incoming parts, to the various phases of manufacture, all the way to completion. Supplier audits and documented initial operation tests make sure that products always satisfy the highest standards of quality.

The employees of HOF perform validation of the systems in a GxP-regulated environment. The company’s own qualification department generates the qualification and validation requirements of our systems on a case-by-case basis. This includes:
- Functional specification
- Project and quality plan
- System description
- Risk analysis for system-dependent risk scenarios
- Hardware-Design-Specification
- Software-Design-Specification
- Traceability Matrix
- Calibration and SAT (Site Acceptance Test)
- Qualification documentation for IQ and OQ
The core property of the loading and unloading systems of HOF is the safe, optimal and integrated transport of pharmaceutical products and primary packaging. The variety of models for loading freeze dryers range in size from pilot plant to production size and enable the individual customization for any layout. A new design, adapted to customer-specific requirements, was developed. High performance in connection with reliability is a determining factor in this case. The performance range covers manual, semiautomatic or fully automatic systems. Special packages, dual-chamber carpules or dual-chamber syringes are transported. Patents for technologies are held worldwide. The loading and unloading systems are installed and tested in our own production in combination with the freeze dryer or a specific equivalent dummy. All settings and functions can be tested extensively. This has the advantage that the installation and testing times are shorter at our customers site. It is possible to upgrade existing freeze dryers with HOF loading and unloading systems and therefore to meet customer requirements. Depending on the requirement it is possible to couple a freeze-drying plant and loading and unloading system with isolator and RABS technology.

THE LOADING AND UNLOADING SYSTEMS – VERSATILE AND SECURE

Variable freezing speed and full process control are at the top of the list of specifications when it comes to the freeze-thaw units of HOF. All contents are fully and equally frozen irrespective of the bag size. Every product bag has the same process conditions at all times and the same shape in the end. Reliable documentation of temperature and time throughout the whole procedure is a matter of course. The freeze-thaw units of HOF show low energy consumption due to indirect cooling and don’t consume any power when idle. The large doors guarantee the ability for rapid loading and unloading. The inner section of the device is made from stainless steel and is easy to clean.
An Overview of HOF Systems

Vial Production Systems (GMP)

Bulk Systems (GMP)

Loading/Unloading Systems (various degrees of automation)

Laboratory Systems (GLP)

Freeze-Thaw Units

Product-oriented ...

Product Protection and Efficiency – Safety through Redundant Systems ...

Particularly when it comes to sensitive contents, which require reliable product protection, HOF is the right partner.

Absolutely reliable components and power units – integrated redundancy if desired – provide the utmost safety and protect against costly breakdowns.

The high cooling and heating power of the systems also enable optimal process management and reduce response times. An overview of every function can be seen at all times, which means that irregularities can be reported quickly and distinctly. Emergency support via remote monitoring and diagnosis make sure that downtimes are kept to a minimum.

Individual Design and Concept Studies ...

A coherent concept is always the basis of any successful project. As a specialist in individual solutions, HOF provides the most possible integration of freeze drying facilities and systems, both for research purposes and for industry. These are based on customised concept studies as well as 2D and 3D designs which, alongside functionality, also take other important parameters into account:

- Reliability of the system
- Easy access for service and maintenance
- Safety
- Investments and availability of the system
- System capacities

Customer Satisfaction as the Measure of All Things ...

The success of HOF as a leading expert manufacturer of freeze drying systems, loading & unloading systems and freeze-thaw units is also due to the fact that HOF always thinks one step ahead. As such, the highly-qualified HOF employees receive advanced training, both internally and externally. Moreover: Our younger employees are mostly trained in the company itself.

The expert knowledge, practical ability and high level of motivation of our employees, guarantee that any malfunctions during production are kept to a minimum and rectified as quickly as possible. Our teams offer integral and personal support. This means that our teams always assume the full responsibility for the entire system, not just individual work areas.

Specialised Team with Responsibility ...

Every system is supported by the team which was originally responsible for the initial operation, test runs, calibration, qualification and validation, that is, by experts with precise project knowledge. This way, customers of HOF can enjoy the great advantage of always having the same contact person.

24 Hours a Day – Every Day of the Week ...

We attach great importance to offering comprehensive services. We look after your system from the beginning of the project to the successful conclusion. We transport your system, assemble it, put it into operation and qualify it, too. In this way, interfaces can be minimised and problems eliminated.

HOF systems are an important component in pharmaceutical production processes. As such, our employees can be reached 24 hours a day and are ready to go in the case of emergencies. Your HOF team from the Service and Production departments know all the ins and outs of your system and can provide immediate assistance.

What About Spare Parts? No Problem ...

Our own warehouse with over 60,000 articles makes sure that the most essential spare parts for all systems are quickly available at all times, ensuring the product safety. Our emergency service can give you immediate advice if you call +49 6462 9169-0.
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KNOWLEDGE AND EXPERIENCE YOU CAN RELY ON

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