



Your Partner –
for automatic sample preparation

HERZOG



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System Experience

„Made by HERZOG“: Ever since HERZOG was founded, our customers all over the world have been placing their confidence in intelligent solutions and the quality of our first-class products. As a leading supplier of laboratory systems, we develop innovative future-orientated machines for the world market.

We see ourselves as a partner of the international primary industry, offering our customers consulting and engineering from a single source with everything from the supply of high quality machines to full laboratory automation.

Satisfied customers and outstanding products are to a great extent the achievement of our motivated and highly qualified employees. As a family business with tradition, we feel a very special commitment to our employees as well as to our customers. Social responsibility and sustainability are by no means mere theoretical terms for HERZOG – they are part of the dynamic entrepreneurship which we practice every day.

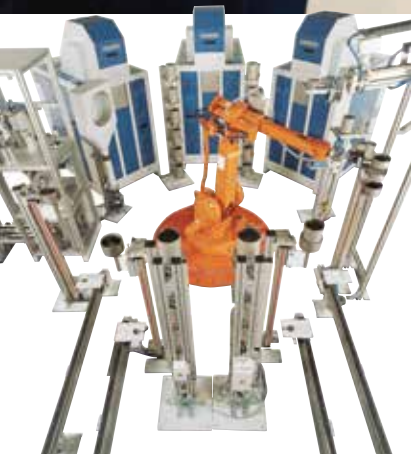




Single Source Solutions



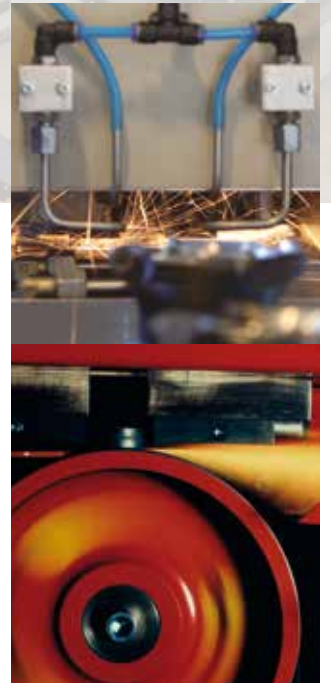
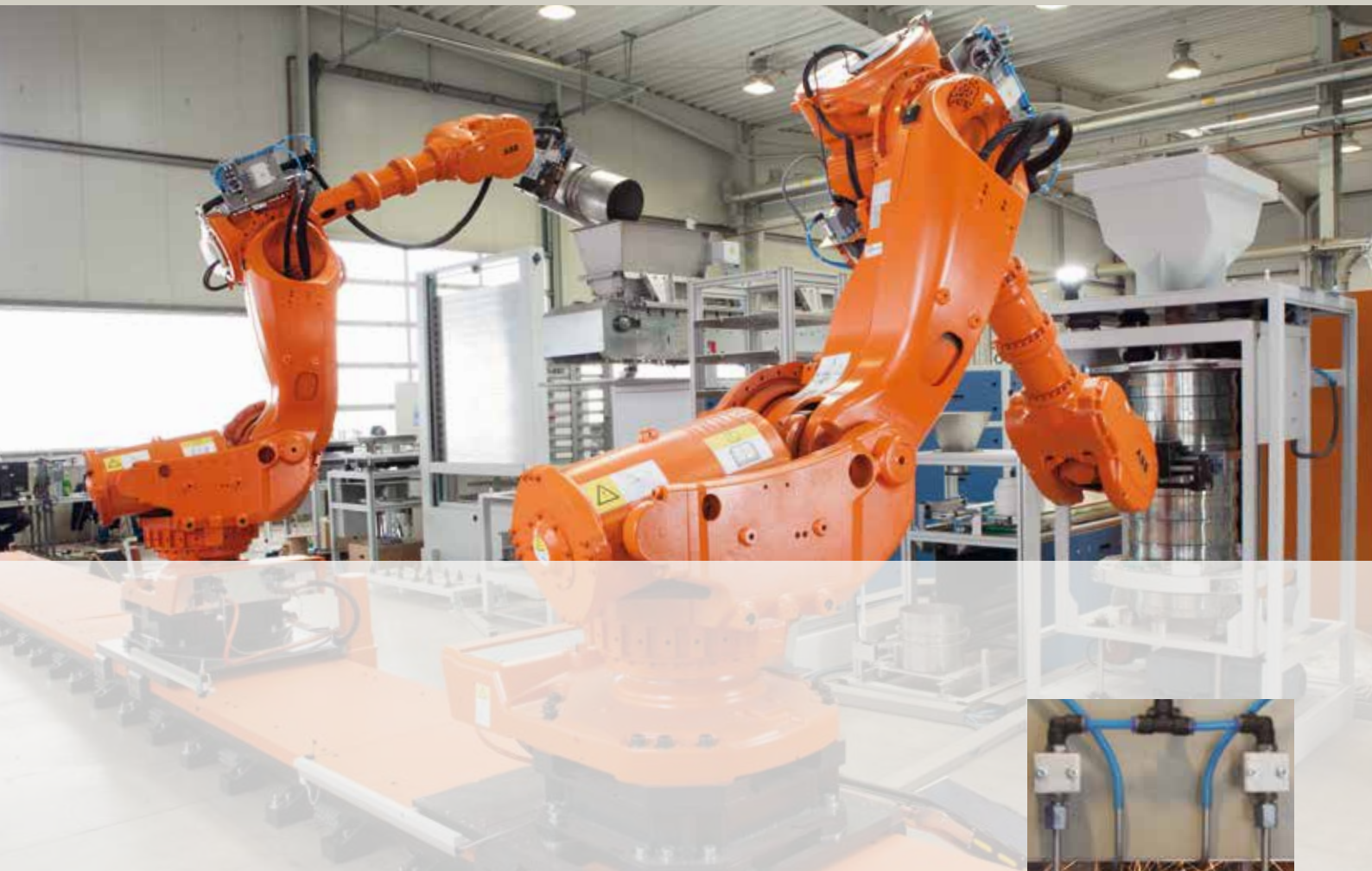
HERZOG offers complete solutions from the idea to the implementation. Our concepts extend from manual stand-alone solutions via linear systems to robot-controlled automation.



Innovative power, flexibility and quality are distinguishing features of our international business. HERZOG not only manifests competence and many years of experience in the planning and implementation of laboratory systems for optimum control of production processes. But in the development of our innovative products, we also respond to the requirements of the world market and orient ourselves according to the technologies of the future.

Thus HERZOG systems meet the needs of tomorrow's market.





Constantly changing requirements keep HERZOG dynamic and flexible. This flexibility is constantly applied in the close cooperation we practice with our customers. Together, we develop solutions which are specially tailored to their individual requirements. Our customers can always rely on a fast and dependable service.

Furthermore, a stringent quality policy according to ISO 9001 is a natural matter of course for HERZOG. This enables us to provide high quality machines with a long service life and which comply perfectly with our customers' requirements.



HERZOG Steel

Process Innovation





HERZOG is the leading supplier of sample preparation systems in the iron and steel industry. HERZOG systems are used by the world's leading steel manufacturers for quality assurance and process control in the production process.

Innovative HERZOG steel solutions are oriented according to customers' requirements and are based on an excellent collaboration with the world's leading steel producers.





The particularly robust spindle of the HS-FF2000 permits uncomplicated and fast processing of even the hardest of samples from the iron and steel sector.

Flexible – Fast

HERZOG systems are flexible and can be ideally adapted to the individual processes of any steel production.

Processing of different steel and iron qualities: HERZOG systems enable the optimum preparation of every sample surface from raw iron samples to high-alloyed specialty steels.

Processing of different sample forms: HERZOG systems can be adapted to suit any individual sample form and consequently guarantee optimum analysis results.

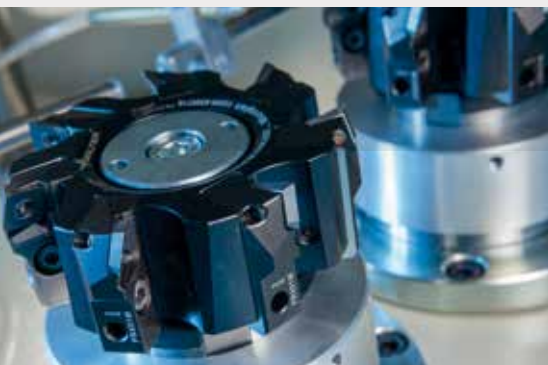
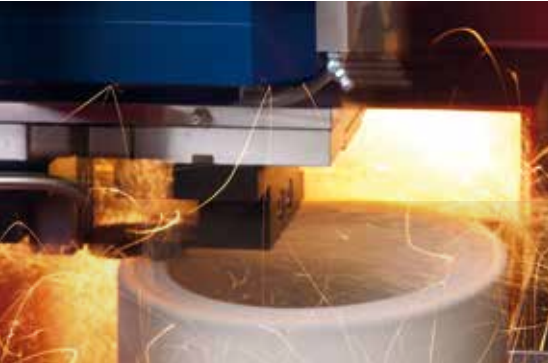
Management of different sample figures: HERZOG systems can be configured according to the desired sample capacity and include manual solutions for just a few samples as well as complete automation arrangements for thousands of samples per day.

HS-F3000: HERZOG 3-axis milling machine for automatic, analysis-ready preparation of iron and steel samples.



Modern production processes require fast and thorough monitoring of the manufacturing process. HERZOGSteel systems have been designed as **high-speed solutions to guarantee an optimum process performance:**

- Fastest possible transport via HERZOGAirtube
- Speedy unpacking and transfer of samples
- High sample handling speed by means of optimized handling systems
- High milling and grinding speeds
- Intelligent sample management supported by our control software (PrepMaster)



The HS-FF2000 has been constructed in such a way that it can be integrated in any robot automation.



Individual – Integrated

The individual components of HERZOGSteel have been developed for the requirements of the steel industry and adapted to suit each in the best possible way.

Milling: Due to their exceptional solidity, our machines guarantee handling of all different sample types, highest possible reproducibility and maximum range of lifetime.

Grinding: Core characteristics of our grinding machines are compact construction, the option for manual and automatic operation, optimum surface preparation by means of coarse and fine grinding, sample water cooling, as well as an optional milling device.

Separating and stamping: Our sophisticated separating and stamping techniques enable optimum processing of specimens and pins for further investigations such as CNS analysis.

Pulverizing and pressing: Slag preparation involves special requirements to which we respond by wet cleaning of the pulverizing vessel, magnetic separation or blank sample dosing.

HERZOGSteel solutions can be adapted perfectly to suit the requirements of any customer.



HERZOG Nonferrous

Specialized
construction





The HN-FF has been specially designed for the non-ferrous metal area. Due to its automatic functions and adaptable milling processes, the HN-FF guarantees fast and reproducible analysis results.



HERZOG has many years of experience in the treatment of surfaces in the area of non-ferrous metals, e.g. aluminium, copper, brass and titanium. Our systems distinguish themselves by means of high flexibility and can also process a high number of different sample forms.

Our non-ferrous metal milling machines can be adapted according to the different properties of the non-ferrous metal. They are fast and feature outstanding rotational properties of the milling head. Their modular construction permits easy integration of functions such as sawing, tool cooling or direct connection to the analysis instrument.

Magazines are available for almost all requirements to enable automatic execution of a large sample series. Automatic measuring equipment enables reproducible production of analysis samples from different casting molds.

HERZOG Nonferrous solutions can be realized via means of stand-alone machines as well as by fully-automated robot systems, including transport tubes and sample handling systems.



HERZOG Minerals

Cement for the Future





Automation and intelligent sample management are outstanding features of HERZOG-Minerals.

HERZOG is one of the cement industries' leading partners in the development and establishment of laboratory systems. Innovative production processes as well as the increasing differentiation of cement types automatically involve higher demands on laboratory systems. HERZOG Minerals meets these demands with an exceptionally stable construction principle, a machine portfolio specifically designed to comply with the demands of the cement industry as well as the offer of integrated, complete laboratory solutions.



The HP-DT2 for efficient and precise dosage.

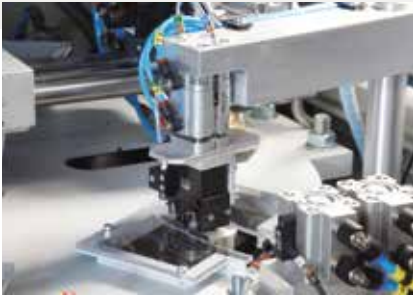


HERZOG Minerals



The HP-MP is a compact pulverizing mill and tablet press practically combined in one machine – and optimally designed for production control in the cement industry, for example.

Solid. Ideal. Reliable.



The harsh conditions within a cement production plant make it essential to use highly robust machines. HERZOG machines are constructed in such a way that they can withstand the extreme temperatures and the dusty environment without any problems. This is a prerequisite for several decades of reliable operation with a minimum of maintenance.

Every single step of the production control, from the sample taking process to transferring samples to the XRF or XRD analyzing apparatus, complies with the specific demands of cement production.

Taking of samples and transfer: HERZOG supplies sampling arrangements for every single element of the production chain and includes e.g., screw samplers, air-slide samplers and piston samplers or samplers for clinker and hot meal, which can be connected directly to the transport tube system.

Breaking, Pulverizing, Pressing: Design and programming of the machines ensure the highest level of machine quality and time requirement. Breaking in the HERZOG jaw crusher makes fast and reliable crushing of the clinker possible and provides ideal conditions for the pulverizing process.

HERZOG pulverizers are designed for use in the cement field. The pulverizing result is optimized by adding additives. The parameters of HERZOG presses can be freely adjusted to suit our customers' requirements. Furthermore, HERZOG offers presses specially designed for preparation for X-ray diffraction.





The HA-HF16 is a compact model within our range of separation systems and particularly suitable for the cement industry. The fully automatic operation of the melting and cooling process ensures optimum results.

Fusion process: The fusion process is a reliable method for analysing cement and clinker components. The special fusion technology developed by HERZOG is a highly effective method which is also economical as well as gentle on the materials.

The individual components are perfectly aligned and ensure a smooth laboratory operation with reproducible and high-precision test results

Our collaboration with you means we can find the best solution.



HP-M100 P is suitable for the finest pulverization of minerals, slags and ferrous alloys of all kinds. The compact design, the low noise level, as well as a minimum of operator's time and maintenance meet all of the requirements of a modern laboratory.

HERZOG Mining

Leader in the Mining Industry





HERZOG Mining offers complete solutions for sample preparation in the mining industry and is one of the world's leading suppliers of laboratory systems e.g. for the iron ore, gold, copper and phosphate industry.

HERZOG systems are optimized for the control of all production steps in the mining industry and are used for the analysis of geological, concentration and flotation samples. They are scalable according to the customer's requirements and are implemented as manual on-site laboratories, fully-automatic central laboratories or port laboratories.

In the development of our systems we collaborate with chemists, geologists and metallurgists in order to be able to respond effectively to the broad spectrum of customer requirements.



The HP-M1500 is designed particularly for the pulverizing of geological samples. One of its special features is the cleaning with quartz or compressed air as well as the easily removable pulverizing unit which facilitates maintenance work.



Unique. Compatible.

Drying: The material can be dried for further processing according to different techniques in compliance with customer specifications. Measuring devices record the humidity of the material and the results are used for calculating drying times. In this context all ISO standards are fulfilled, of course.

Breaking: Depending on material demands, different grinding methods from mortar to jaw crushers can be implemented and combined.

Separating: Our separators meet the ISO and GHOST standards respectively and can handle large material quantities.

Filtering: Liquid materials have to be enriched by special filtering techniques. HERZOG systems are leading in this field and are applied principally in the phosphate industry.

Pulverizing, pressing: HERZOG supplies mills for handling large sample quantities and which have been especially designed for mines. In addition to the particularly robust design, the easily exchangeable pulverizing vessel and the very accessible engine room, these mills offer a large variety of combination possibilities. HERZOG has developed a special diffractometer press for structural analysis.





Determination of grain size: The grain size fractions of the material can be measured by means of our sieve towers. In combination with the robot technology, fully automatic operation including cleaning of the sieves is possible.

Fusion process: The fusion process technology increasingly prevails as the gold standard, especially in the iron ore industry. All options are available, starting from simple, manual operated table device through to the fully automatic multi-unit device.

Fire-Assay: On the basis of our extensive experience, we provide perfect fire assaying for quantitative precious metal analysis.

Auto-potting: Our systems for the automatic embedding of samples for later examination using an electron microscope are unique. Complete automation guarantees the highest sample quality.

Every single component is fully compatible. This provides unique solutions tailored to suit the individual operator.

The HP-M5000 is suitable for fine pulverizing of large sample quantities particularly from the mining industry. In addition to easy handling, particular emphasis has also been placed on the ease of integration into automatic robot systems.



HERZOG Airtube

Reliable Transport



HERZOG Airtube creates the connection from the production plant to the analysis laboratory. The fully automatic handling of the tube dispatch carriers with our robot systems enables fastest possible further processing of the analysis samples.



Our airtube system enables fast and reliable transport of the samples to the laboratory. Decades of experience in this sector enable us to install the system under difficult spatial circumstances or over greater distances. The automatic integration of the sample information takes place via the sending and receiving stations into the LIMS (laboratory and management system) and our PrepMaster control software.

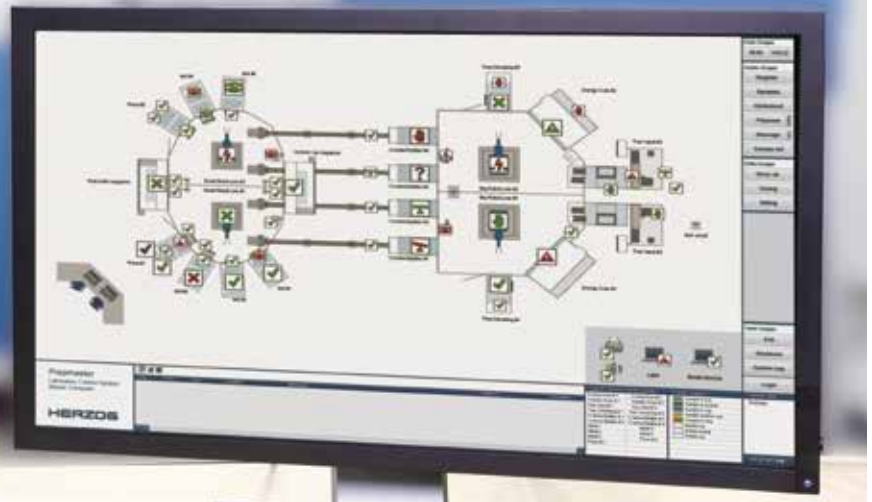
Our transport tube systems fit perfectly with the other system components. Accordingly, our plant stations are equipped with mixers and dosing systems allowing for optimum processing within the laboratory.

For the steel industry, fully automatic processing takes place with unpacking and cooling of the samples in special transfer stations.

The air tube carriers are available for a high variety of application cases.



The tube transport carriers are adapted individually to suit the requirements of our customers.



Intelligence

in Control and Data Administration

Our SCADA system, consisting of PrepMaster and ResultMaster, is a high calibre process visualization system for the uncomplicated and intelligent monitoring of our sample preparation and analysis procedure.

Our PrepMaster is designed to guarantee top functional standards, a user-friendly surface, scalability and openness interfacing with all SPS and spectrometer systems.

Outstanding features of the PrepMaster are:

- **Adaptive and priority-controlled intelligent administration of samples**
- **Sophisticated and flexible alarm systems**
- **Redundancy through backup-systems**
- **Web-based design with remote control and remote maintenance**

The ResultMaster enables storage, visualization and evaluation of the data of the sample preparation and analysis process. Fast and specific monitoring and modification of the sample preparation flow can take place with close feedback to the PrepMaster. The universal program architecture means that the data can easily be transferred to MS SQL databases and superordinate management systems. This makes fast and precise surveillance of the production process possible.

HERZOG



International – close to the customer

HERZOG is an international business with an export proportion of 95 percent. Our subsidiaries are located in Japan, China and the USA. We have an extensive network of distributors in numerous European countries, Russia, Canada, Korea, South Africa, Egypt, Australia, Brazil, Chile and Mexico. Please do not hesitate to contact us.

Further information about our products is to be found under www.herzog-maschinenfabrik.de

Germany

HERZOG Maschinenfabrik GmbH & Co. KG

Auf dem Gehren 1
49086 Osnabrück
Germany

Fon +49 541 9 33 20
Fax +49 541 9 33 232

info@herzog-maschinenfabrik.de
www.herzog-maschinenfabrik.de

USA

HERZOG Automation Corp.

16600 Sprague Road, Suite 400
Cleveland, Ohio 44130
USA

Fon +1 440 891 9777
Fax +1 440 891 9778

info@herzogautomation.com
www.herzogautomation.com

Japan

HERZOG Japan Co., Ltd.

3-7, Komagome 2-chome
Toshima-ku
Tokio 170-0003
Japan

Fon +81 3 5907 1771
Fax +81 3 5907 1770

info@herzog.co.jp
www.herzog.co.jp

China

HERZOG (Shanghai) Automation Equipment Co., Ltd.

Section A2,2/F, Building 6,
No.473, West Fute 1st Road,
Waigaoqiao F.T.Z, Shanghai, 200131,
P.R. China

Fon +86 21 50375915
Fax +86 21 50375713
MP +86 15 80 07 50 53 3

xc.zeng@herzog-automation.com.cn
www.herzog-automation.com.cn

