

# HB 3000

Grinding Machine



**HERZOG**

## Optimized sample preparation for spectroscopic analysis



HB 3000

Easy parameter programming from the operator terminal, with storage of the parameters and protection by password, ensures fully automatic processes and precise reproducibility. The control system is tailored to use in laboratories.

### Precise analyses at reduced time and cost

The fully automatic HB 3000 cup wheel and abrasive belt grinding machine permits automated sample preparation for spectroscopic analysis, with all its advantages. Operation with program-controlled grinding processes results in a considerable improvement in the reproducibility of sample preparation and therefore consistent analysis results at reduced time and cost.

### Exact grinding of widely differing iron and steel samples

The HB 3000 is characterized by its rapid and precise grinding of iron, steel and particularly high-alloy steel samples in a wide range of geometries, the temperature of which may reach 800°C.

A pneumatic clamping unit enables symmetrical samples with a diameter of up to 60 mm to be gripped reliably in a defined manner.

### Better results, simplified processes

The HB 3000 is equipped with program-controlled intermediate cooling during the grinding processes to ensure optimum grinding results. This cooling system enables incandescent samples to be processed.

### Cup wheel and abrasive belt grinding for optimum sample preparation and flexibility

In conjunction with the abrasive, grain and hardness, the integration of cup wheel and abrasive belt into a single machine ensures that preparation of the sample meets the requirement of analysis perfectly. The abrasive belt, for example, is suitable for absolutely exact fine grinding of high cost calibration samples. Conversely, optimum service life is achieved with coarse grinding by means of the cup wheel.

Fine grinding on the 200 mm-wide abrasive belt offers advantages which are evident in the quality, service life, and low costs of abrasives. The width of the abrasive belt enables different samples to be ground on a number of tracks, which reduces material costs and saves time owing to the reduced wear on the abrasive belt and the increased intervals between belt changes. The facility for preselection of abrasive belt zones prevents the transfer of material from one sample type to another and the consequent falsification of the sample characteristics. In addition, the HB 3000 enables the cup wheel and abrasive belt to be used not only in combination, but also separately as programmed by the user.



# HERZOG HB 3000 grinding machine for steel and ferrous metal test specimens

## Program control prevents maloperation and ensures reproducibility

Parameters required for sample processing are programmed and saved on an operator terminal. The processes are controlled completely automatically by the program controller. The processes can therefore be reproduced exactly.

Improper use and incorrect settings are no longer a potential source of error. The preselected program parameters are protected by means of a password function.

## Safe, clean working conditions

The machine is completely enclosed and conforms to the applicable accident prevention and VDE regulations.

A connecting sleeve is provided on the machine by means of which a grinding dust extraction facility can be connected, ensuring clean working conditions.

## Ease of cleaning

Abrasive residue is collected in a removable drawer within the machine housing, and can therefore be removed easily.

The water reservoir for the cooling facility can be removed easily and quickly from the housing for cleaning.

## Modular design permits tailor-made installations

HERZOG products such as the HB 3000 cup wheel and abrasive belt grinding machine have been specially developed for the preparation of samples for spectroscopic analysis. With their high engineering quality combined with compact dimensions – the cabinets for electrical and pneumatic equipment are integrated in space-saving fashion within the HB 3000 machine housing – they meet all requirements for laboratory use.

The great advantage of HERZOG products is however their modular design, which paves the way to fully automatic sample preparation with all its associated advantages, such as ultimate accuracy and exact reproducibility.

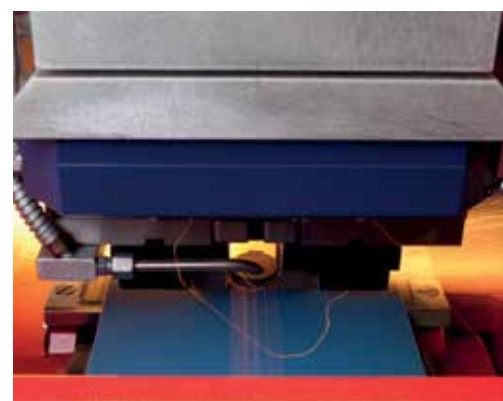


Optimized machine exploitation by integration of the cup wheel and abrasive belt: in combination or separately



Simple and safe sample input is guaranteed by an automated locking device

The advantages of the 200 mm-wide abrasive belt: grinding of different sample types on preselected zones without material transfer leading to falsification. This guarantees quality, and the long service life reduces the cost of abrasives



# Technical data HB 3000

<b>Colour</b>	blue/white
<b>Text</b>	English
<b>Instruction manual</b>	one copy, English
<b>Dimensions L x W x H</b>	
Overall dimensions of the machine	790 x 1,500 x 1,500 mm
Mounting surface area of the machine	790 x 980 mm
<b>Machine weight</b>	1,050 kg
<b>Power supply and consumption</b>	
Voltage	400 V, 50 Hz, 3-phase or special voltage
Neutral conductor	not required
Power consumption	10 kVA
<b>Pneumatic supply and consumption</b>	
Pressure setting	6 bar
Consumption	approx. 750 dm <sup>3</sup> /N per sample
<b>Waste disposal connection Water</b>	
Location of the waste water discharge connection	outside diameter = 40 mm, at rearside of machine
Waste water pressure	not under pressure
<b>Waste disposal connection Dust extraction</b>	
Location of the dust extraction connection	Rear of the machine, right-hand side
Diameter of the discharge connection	outside diameter = 120 mm/nominal bore 120
Requisite extraction delivery	15 m <sup>3</sup> /min at 2100 Pa
<b>Electrical switchgear cabinet</b>	
Programmable logic controller	SIMATIC S7
Control voltage	24 V DC
Ingress protection	IP 44
Insulation class	B
<b>Sample insertion and discharge</b>	
Insertion method	manual, into sample insertion mask
<b>Options</b>	
<ul style="list-style-type: none"><li>- Chain magazine with 10 positions</li><li>- Sample transport systems to external equipment</li><li>- Integration in robot automation</li></ul>	
<b>Sample clamping facility</b>	
Design	2 clamping jaws, selfcentring and with parallel clamping surfaces
Sample dimensions	Dependent upon the sample geometry (see separate data sheet)
Thickness of clamping range	8–60 mm
<b>Processing parameters</b>	
Max. grinding depth	2 mm
Number of processing programs	8, directly accessible from start buttons
<b>Samples which can be processed</b>	
Max. hardness	64 HRC
Max. temperatura	800° C

**CE**  
The design of the machine meets the applicable accident prevention and VDE regulations. We reserve the right to make technical changes.

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## HERZOG Maschinenfabrik GmbH & Co. KG

Auf dem Gehren 1  
49086 Osnabrück  
Germany

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

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

## HERZOG Automation Corp.

16600 Sprague Road Suite 400  
Cleveland, Ohio 44130  
USA

Phone +1 440 891 9777  
Fax +1 440 891 9778

info@herzogautomation.com  
www.herzogautomation.com

## HERZOG Japan Co., Ltd.

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

Phone +81 3 5907 1771  
Fax +81 3 5907 1770

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

## 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

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