

HSM
Pulverizing mill

HTP
Pellet press



HERZOG

Optimal sample preparation of powder material



HSM 100 P with pneumatic clamping device (option)



HSM 100 with flap open



HSM 100 H with manual clamping device

At a glance

- The HERZOG pulverizing mill HSM and pellet press HTP offer the full benefits of program-controlled sample preparation for x-ray fluorescence analysis.
- Pulverizing and pelletizing with the HERZOG HSM and HTP significantly increase reproducibility and accuracy of sample preparation.
- The HSM and HTP are fully encapsulated, insulated against noise, and have safety cutouts for operator protection. Dust and noise burden are reduced, and safety enhanced.
- The HERZOG pulverizing mill and pellet presses are high-quality, precision engineering products with compact dimensions. They are ideally suited for laboratory requirements.

PULVERIZING MILL HSM

Short grinding times – long life span

The HERZOG HSM vibration disk mill is suitable for pulverizing of minerals, slags, ferro-alloys and other basic material. The high-speed of the drive motor enables the grinding of even hard materials with short process times. Due to the robust design with twin eccentric disk bearings the HSM mill achieves a long service life with a minimum of maintenance.

Complete flexibility

The pulverizing parameters of the Herzog HSM mill are controlled by a PLC program. This allows an easy operation of the machine and complete flexibility in selection of processing parameters. A wide variety of different sizes and materials can be selected for the grinding vessels – according to the requirements of the customer.

Set of different grinding vessels



PELLETIZING PRESS HTP

Optimum quality of pressed pellets

The HERZOG hydraulic HTP press produces high-quality pressed pellets with a mirrorlike surface necessary for optimal XRF results. The HSM achieves the desired homogeneity and stability of each individual pellet with a maximum of reproducibility.

The HTP 40 reaches press forces of 400 kN, the HTP 60 of up to 600 kN even with larger sample diameters.

Easy handling

A swing-out cross-head makes filling and cleaning of the die quick, simple and safe. A number of pressing variables can be selected, depending on the press tool employed. Precision press tools with a range of diameters and materials permit free pressing, pressing in aluminium shells, and pressing in steel rings.

Precise control of the pelletizing process

The pelletizing process of the HSM is controlled by the PLC program. This leads to substantial improvement in reproducibility of sample preparation and consequently more precise analysis results. Pelletizing parameters such as total pressing force, incremental increase and decrease of pressure as well as pressure holding time can be preset on the HMI panel.

The pressure increase and decrease during pelletizing are controlled such that inner stresses within the sample are reduced. This allows the production of perfect pellets even with complicated sample material.



HTP 40/HTP 60



Swing-out cross-head for easy machine handling

Manual cleaning device for steel rings (option)



Set of different press tools

Technical data

Model HSM 100 H/HSM 100 P/HSM 250 H/HSM 250 P

- Color: Blue/white
- Labeling text: English
- Instruction manual: 1 copy English

Dimensions L x W x H

Machine:	550 mm x 750 mm x 1,000 mm
Machine including packaging crate:	1,000 mm x 1,050 mm x 1,350 mm

Weight

Machine:	250 kg
Machine including packaging crate:	360 kg

Electrical power supply and consumption

Voltage:	400 V, 50 Hz, 3-phase, or other as required
Neutral conductor:	Not required
Power consumption:	2 kVA

Pneumatic supply and consumption

Version	250 P/100 P (pneumatic clamping facility)
Pressure:	Min. 5 bar, max. 10 bar
Consumption per sample:	Approx. 10 dm ³

Electrical switchgear cabinet (integral)

Programmable controller:	Simatic S 7-1200
Control Voltage:	24 V DC
Degree of protection:	IP 54
Insulation class:	B

Control parameters

Duration of grinding:	1-900 s
-----------------------	---------

Sample types

Material:	A range of materials, e.g. raw cement meal, cement, clinker, slag of different types, ores, ferro alloys and other basic material
Grain size:	10 mm
Hardness:	Max. 9 Mohs
Temperatur:	Max. 100 °C

Options:

- Pneumatic clamping device (HSM 100 P, HSM 250 P)
- Grinding vessel chromium steel (10, 50, 100, 250 ccm), tungsten carbide (10, 50, 100, 250 ccm), colmonoy (100, 250 ccm), agate (100 ccm)
- Continuously variable rotation speed (750–1,500 rpm)

Model HTP 40/HTP 60

- Color: Blue/white
- Labeling text: English
- Instruction manual: 1 copy English

Dimensions L x W x H

Machine:	550 mm x 620 mm x 1,250 mm
Machine including packaging crate:	900 mm x 1,050 mm x 1,550 mm

Weight

Machine:	340 kg
Machine including packaging crate:	470 kg

Electrical power supply and consumption

Voltage:	400 V, 50 Hz, 3-phase, or other as required
Neutral conductor:	Not required
Power consumption:	4 kVA

Pneumatic supply and consumption

Only required with pneumatic ring cleaning device	
Min. 5 bar, max. 10 bar	
Consumption per sample:	Approx. 15 dm ³

Electrical switchgear cabinet (integral)

Programmable controller:	Simatic S 7-1200
Control Voltage:	24 V DC
Degree of protection:	IP 54
Insulation class:	B

Pressing process

Pressing in steel rings Standard 40 x 35 x 14 mm or 51.5 x 35 x 8.6 mm	
Pressing in aluminium shells, standard diameter 40 mm, free pressing diameter 15–50 mm	

Control parameters

Pressure build-up/pressure decrease	
Pressure holding time	
Press force	

Options:

- Press tool 40 mm diameter for free pressing
- Press tool 40 mm in aluminium cups
- Press tool 40 mm for pressing in steel rings
- Press tool 51.5 mm for pressing in steel rings
- Cleaning device, manual
- Cleaning device, pneumatic

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, Japan

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

Phone +86 21 50375915
Fax +86 21 50375713

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



The design of the machine complies with the applicable accident prevention and VDE (German association of electronic engineers) regulations. We reserve the right to make technical changes.

HSM/HTP/11_2014-E-1

HERZOG