

HS-F 3000

Sample preparation machine
for steel and iron samples



HERZOG



HERZOG design –
Quality in sample preparation

HERZOG 3-axis milling machine HS-F 3000 for automatic, analysis-ready preparation of iron and steel samples

Optimum sample preparation as a prerequisite for accurate analyses

The automatic processing cycle ensures extremely fast and reproducible results. Milling parameters optimally adjustable to material grades, combined with a variety of application matched tools, ensure the maximum degree of flexibility.

Safe and operator-friendly

The HS-F 3000 is sealed and sound-insulated. Safety circuits guarantee protection for the operating personnel. Milling swarf is collected in a removable collecting tray.

Easy machine set up due to operator friendly interfaces developed for the operation in chemical laboratories.

Milling spindle with automatic tool changing system

The precision milling spindle can be fitted with milling cutters for a wide variety of steel grades.

The automated tool changing system allows the machine with up to six different tools without the need for operator intervention.

The extremely sturdy spindle bearings allow safe, sustained processing of even the hardest material grades.

A third axis is integrated for highest requirements in sample surface preparation and for deburring of oval, square, round and double thickness samples.

Stored program controller with 18 standard processing programs

The integrated Simatic S7 PLC controller guarantees an error-free automatic processing of the widest possible variety of samples. Up to 18 programs defined by parameters, can be saved and protected by a password.



Automatic tool changing system for
continuous operation without operator
intervention.



Optimized for integration into robot automation.

Fully automatic processing steps

- Sample introduction by operator or automatic feeding system
- Automatic selection of milling cutter
- Sample milling
- Automatic deburring of different sample shapes
- Sample cooling by compressed air
- Sample output
- Multiple milling heads can be used during one program
- Optional collection of milling chips for the purpose of gas analysis.

Milling cutters

The system is designed to allow the use of special milling cutters and different cutter materials, optimally matched to a wide variety of material grades. Tool life times are monitored. Tool change and maintenance intervals are displayed on the machine control panel.



Cost reduction through automation

The machine has been designed to enable easy integration into robot-based automation systems as well as into standard linear systems. The focus of the development engineering of the HERZOG sample milling machine was on the mechanical connections and electronic interfaces. Extremely short processing times and smooth, coordinated operating sequences round off the automation concept.



Technical data

Model HS-F 3000

- Color: blue/white
- Operating manual: 1 copy English
- Labeling text: English
- Accessories: 1 set of wrenches

Dimensions L x W x H

Machine	1,840 mm x 1,360 mm x 1,970 mm
Switchgear cabinet	1,000 mm x 400 mm x 1,400 mm

Weight

- Machine: approx. 3,500 kg
- Switchgear cabinet: approx. 200 kg

Milling cutters

- Various cutters and cutting tips
- Automatic tool changing system
- Geometry selectable according to sample quality
- Magazine for 6 milling tools

Power supply and consumption

Voltage	400 V, 50 Hz, 3-phase, others on request
Neutral conductor	Not required
Power consumption	Approx. 20 kVA

Electrical switchgear cabinet

Programmable controller	Simatic S7
Control Voltage	24V DC
Protection class	IP 44
Insulation class	B

Compressed air supply and consumption

Pressure	Min. 5 bar, max. 10 bar
Consumption	Approx. 750 dm ³ /N per sample
Connection sleeve	Nominal diameter = 19 mm

Processing parameters

Cutting depth	2.0 mm, infinitely adjustable
Processing time	Depending on program 30 – 40 s
Number of processing programs	18

Processable samples

Material	Steel and iron
Shape	Round, oval, square, double thickness, with two parallel clamping faces without pin
Dimensions	Height min 7 mm, max 60 mm
Diameter	Max 60 mm, range: nominal Diameter +/- 14 mm
Hardness	Max. 65HRC depending on cutting tips and material characteristics

Sample cooling

- By means of cooling nozzles
- External Water available
- Cooling medium: compressed air

Sample insertion and discharge

- Manually via the sample input and output device
- Easy access to external automation components: e.g. robots, linear transports, feeding belts, magazines etc.

Options

- Systems for automatic sample processing
- Other options on request
- Chip collecting system for gas analysis

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.

HS-F-3000/04-2014-E-1

HERZOG