

## Fusion Maschine HAG-G

### Optimized Preparation of Oxidic Sample Material For Spectroscopic Analysis

For oxidic powder samples where the demanded analysis precision cannot be achieved with the grinding and pelletizing method, the HAG-G fusion machine makes the fusion process quick, reliable, simple and unproblematical - for reproducible analytical results in less time and at lower cost.

Full automation of the HAG-G allows both the simultaneous performance of several work steps and complete self-monitoring. The HAG-G thus ensures significantly shorter sample preparation times and a trouble-free, fully automated long-term operation without the need for operating personnel. The HAG-G can thus operate in online or magazine mode 24 hours a day, completely independent and absolutely reliable.

The HAG-G is controlled via a PC with software programmed to meet the needs of the fusion process. It controls the whole process, including temperature control and sample recording.

The HAG-G has a direct connection for conveyor belts, mills, pneumatic tube, conveyor stations and for the direct insertion of samples by an external robot.

The precision laboratory scale offers a weighing accuracy of 0,1 mg. It is protected against air currents and vibrations for optimal weighing precision.

The five-axis industrial robot performs the transport of the crucible and casting dish and the insertion and discharge of the sample cup at the sample dosing station.

Four gas / oxygen burners permit the simultaneous processing of two samples. In order to ensure a good mixing of the melts, the crucibles are oscillated over the flame.

Up to five crucibles and casting dishes can be cleaned simultaneously in the ultrasonic cleaning station under program control after the fusion process. They are then available for use again.

A vacuum suction device transports only intact beads to the connected transport systems and the spectrometer.

With its comprehensive and complete automation, including the self-diagnostics, the HERZOG HAG-G fusion machine guarantees precise, reproducible analytical results using the melt fusion process. All modules are integrated into the machine housing and are easily accessible via doors with windows in the upper part of the housing.



### TECHNICAL DATA:

#### Dimensions:

1400 x 960 x 2000 mm

#### Weight:

approx. 850 kg

#### Electrical power supply and consumption:

400 V , 50 Hz, 3 - phase, or other as required

Neutral conductor not required

Power consumption of approx. 7 KVA

#### Electrical switchgear cabinet:

Programmable controller SIMATIC S7 or Allen Bradley

Degree of protection : IP 44

Insulation class : B

#### Precision scale:

Weighing range: 210 g

Precision: 0.1 mg

#### Compressed air supply and consumption:

Pressure setting: 6 bar

Consumption: approx. 400 dm<sup>3</sup> / N per sample

#### Gas and water supply:

Natural gas ( Pressure of approx. 80 mbar)

or

Liquid gas ( Pressure of approx. 50 mbar)

Oxygen ( Pressure of approx. 1.5 bar)

Water ( min. 2 bar, max. 10 bar)

#### Options:

- Insertion magazine for 36 sample cups
- Platinum / gold crucible and mould magazine with up to 36 positions
- 2nd fusion unit
- Linear magazine for 36 prepared samples
- Ultrasonic cleaning bath
- Fluid replacement system with 20 liter storage tank for acid

The design of the machines correspond to the current German accident prevention and VDE regulations.

We reserve the right to make technical changes.



Der fünfsachsige Industrieroboter mit Steuerung übernimmt den Tiegel- und Schalentransport, sowie die Ein- und Ausgabe des Probenbechers in die Probendosierstation.

Vier Gas-Sauerstoff-Brenner sichern die gleichzeitige Bearbeitung von zwei Proben. Um eine gute Durchmischung der Schmelze zu gewährleisten, werden die Schmelztiegel translatorisch über der Flamme geschwenkt.

Bis zu fünf Schmelztiegel und Ausgießschalen können gleichzeitig programmgesteuert nach dem Aufschlussvorgang in der Ultraschallreinigungsstation gereinigt werden. Sie stehen danach wieder dem Arbeitsablauf zur Verfügung.

Ein Vakuumsauger gibt nur intakte Perlen an koppelbare Transportsysteme und das Spektrometer weiter.

Mit Ihrer umfassenden und vollständigen Automation inklusive der Selbstdiagnose mit Fehlerbeseitigung garantiert das HERZOG - Aufschlussgerät **HAG-G** präzise reproduzierbare Analysen im Schmelzaufschlussverfahren.

Sämtliche Module werden im Maschinengehäuse untergebracht und sind durch Türen leicht zugänglich.

Die Ausführung der Maschinen entspricht den geltenden UVV- und VDE-Vorschriften.  
Technische Änderungen vorbehalten.