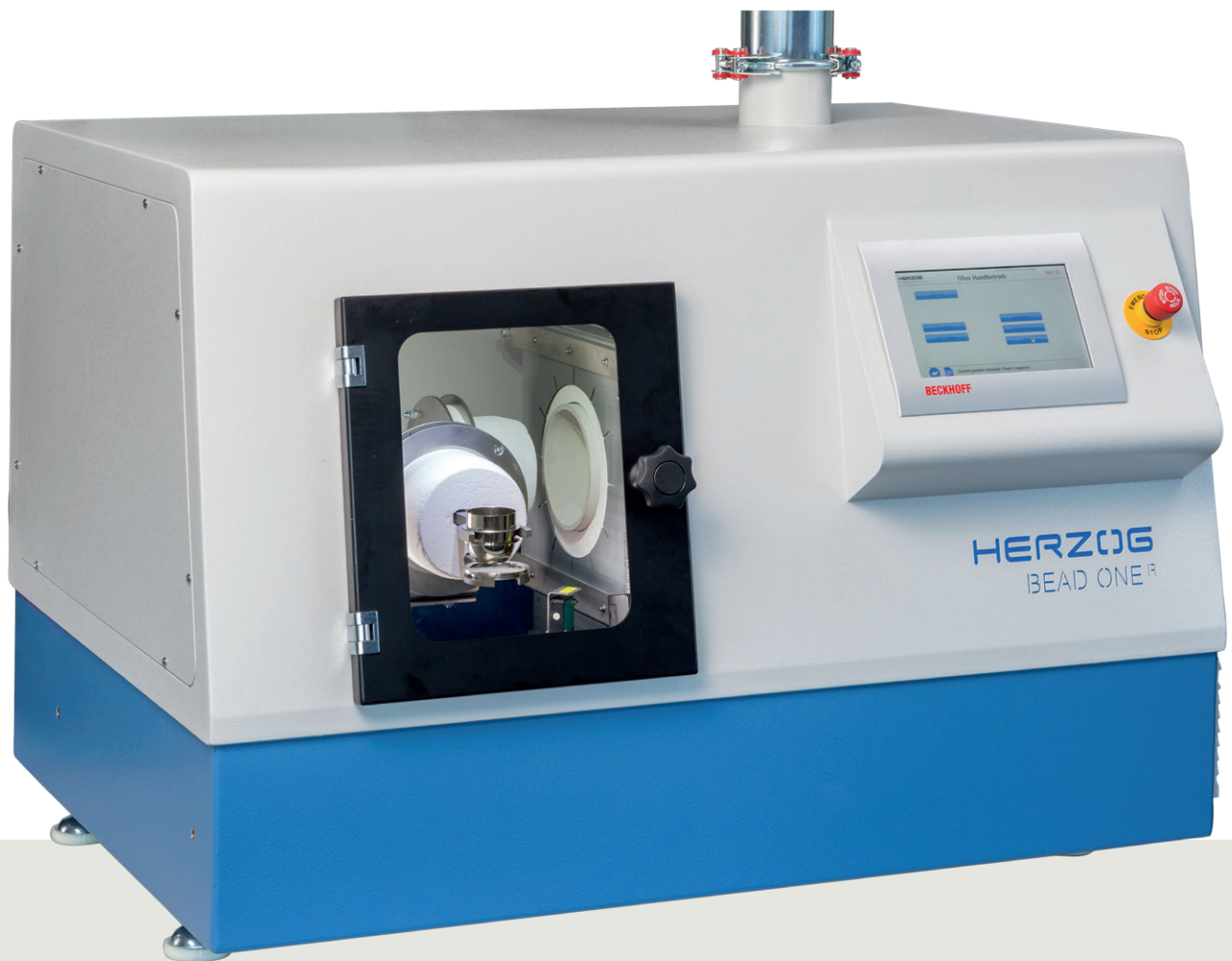
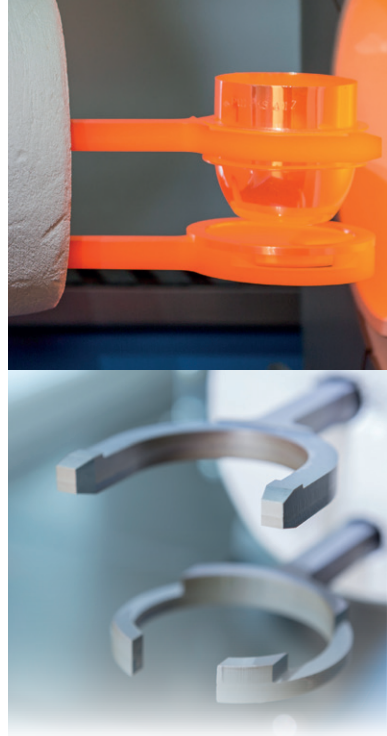


# Bead One R

Benchttop fusion  
instrument



**HERZOG**

## Bead One R – Benchtop fusion instrument

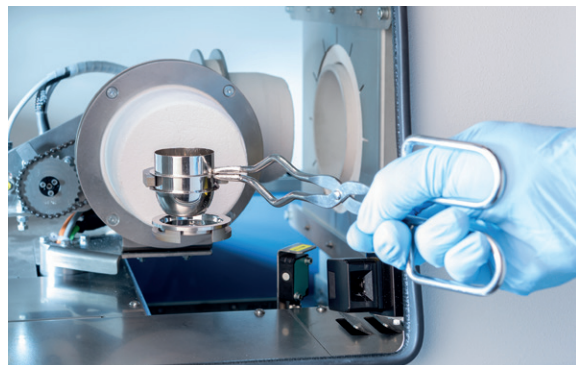
The Bead One R combines highly repeatable and accurate analysis results with easy-to-use interfaces and maximum safety measures. Precisely controlled temperature and fusion parameters as well as the optional automatic magazine makes the Bead One R to the future-proof instrument for your analytical excellence.

### Analytical Flexibility

The Bead One R prepares glass beads for XRF analysis or borate or peroxide solutions for AA and ICP analysis. The fusion process can be exactly controlled by the parameters temperature, duration, heating rate and crucible rocking speed. After the melting process the material can be either discharged into the casting dish or remain in the crucible until solid. Alternatively, the melt can be poured into acid solution cup which is positioned on a magnetic stirring device. The Bead One R is prepared to perform different sample preparation processes in an inert gas or oxygen atmosphere.

### Heating Chamber

The tube furnace with a maximum operating temperature of 1350°C is made from high-quality components. The well-dimensioned high-grade SiC rods with heating from two sides guarantee uniform temperature distribution and high energy efficiency. The persistent PtRh-Pt thermocouple is located within the working tube for immediate temperature measurement. Wear-free and noiseless thyristors are used for very precise temperature control. The multilayer furnace insulation consists of high-purity aluminum oxide sheets and allows for high temperature shock resistance. The working tube is designed for protection of machine components from aggressive vapors and is easily exchangeable.



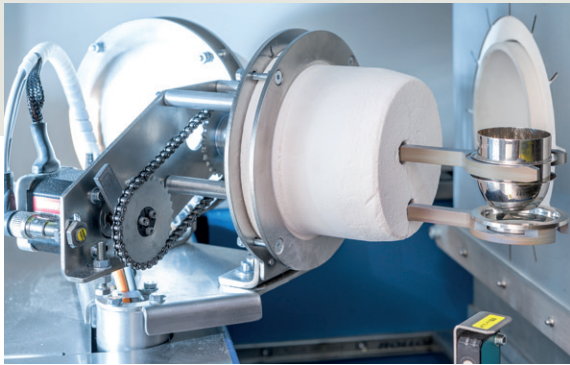
**Ergonomic machine operation**



**Precise sample preparation**



Bead one R with an automatic magazine for unmanned preparation of up to nine samples.  
The magazine can be added to the basic machine at any time.



**Powerful handling system**



**HMI panel**

## User Interface

The clearly laid out HMI touchscreen provides you with a quick overview about operation mode and process parameters. The software comes with a set of 10 defined preparation methods. New recipes can be easily programmed, added and stored. For more efficient time utilization timers can be set for preheating and switch-off. TCP/IP and USB Interfaces allow the potential remote access to the instrument and data export for further analytical usage.



**Efficient magazine management**

## Safety

The safety door is locked during the entire fusion and cooling process. Pouring is fully-automatically without need for intervention. Therefore, the operator never comes into contact with hot vessels. The machine is certified according to CE and CSA. The furnace complies with EN 746 (industrial thermoprocessing equipment) and ZH 1/498 (safety rules for industrial furnaces).

## Magazine

As an option, the Bead One R can be combined with a fully automatic magazine that can be easily retrofitted at a later date. The magazine has a capacity of up to nine crucibles and corresponding casting dishes. Samples are registered in desired order on the HMI of the Bead One R – no additional panel or control unit is needed. The handling system within the magazine automatically transports crucible and casting dish to the Bead One.

After fusion, pouring and solidification of the melt crucible and casting dish are transferred to an extra cooling position and the Bead One is ready to accept a new sample from the magazine. When the vessels are completely cooled down they are transported to their magazine positions and can be removed by the operator for the analysis.

The magazine software enables an easy sample registration process with setting of sample order and fusion parameters. It provides the operator with an overview of the magazine status and excludes mix-up of samples.

The Bead One R magazine is designed for maximum safety. The safety door prevents operator's interference with the magazine handling device. The covered extra cooling position guarantees a cool-to-cool operation.

### At a glance

- Benchtop fusion instrument (resistance heating technology) for preparation of glass disks for XRF as well as borate and peroxide solutions for AA and ICP analysis.
- Highly accurate and precise analysis results for a wide range of different applications.
- High-quality furnace (max. operating temperature 1350°C) with optimized design and high-precision control for excellent fusion conditions
- Optional magazine for automatic and completely unmanned processing of up to nine samples. This releases the operator's workforce for more efficient and responsible tasks.
- Maximum safety measures including safety door locking and cold-to-cold operation for Bead One R and the magazine.

# Technical data

## Bead One R

**Colour** RAL 5007 / 7035 / 7005

### Dimension and Weight

(LxWxH) Approx. 874 x 670 x 770 mm  
Weight Approx. 125kg

### Power supply and consumption

Voltage 1 x 230 V, 50 Hz 1/N/PE  
Power consumption Approx. 2 kVA

### Oven

**Power consumption** 1.5kW

- High-quality SiC heating elements equally fitted in heat chamber
- 3-times PtRh - Pt – thermocouples for temperature control

### Control system

Beckhoff Panel PLC 7”  
Language German/English

### Cable connection at the machine

Terminal

### Compressed air

Not required

### Connection for exhaust

Top of machine Ø 80mm

### Sample dimensions and cooling

Cooling type Electrical fan

### Options

#### • Magazin

Capacity for 9 samples  
(LxWxH) Approx. 357 x 627 x 608mm  
Weight machine Approx. 40kg

#### • Casting options

into Pt-dish (various diameter available)  
or into acid + stirring



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

Bead One R/03.2017-E-1

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