

• new controller

## Lifumat-Met-series



Lifumat-Met-3.3T Vac

The units are used for preparation of metallic samples with homogeneous composition for emission and X-Ray spectrometric analysis, for, e.g., alloy development as well as metal scrap recycling, ... They consist of a 0.8 - 1.5 MHz high-frequency generator with an output power of 3.3, 6.6, 7.7 or 20 (30) kW together with an induction melting and centrifugal casting unit working under air respectively vacuum or vacuum with protective gas.

### Advantages:

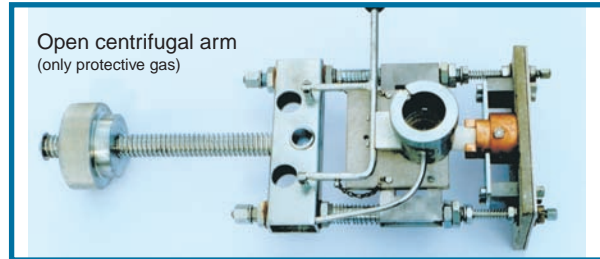
- Highest reproducibility due to induction melting. Eddy currents produce ponderomotive forces (bath movement) which guarantee homogeneous distribution of elements within samples
- High melting speed provided by induction melting and modern control system
- Prevention of element losses by using vacuum and/or protective gas
- Overheating up to any desired casting temperature is possible
- High RF-power transfer is generated by robust tube generators to avoid matching difficulties and to enable safe re-melting of metals with high melting temperature
- Centrifugal casting to avoid sealing problems and additional handling in comparison to vacuum pressure casting
- Little post-processing (grinding of analysis side before spectrometer measurement)
- Suitable for low melting metals such as lead up to high melting metals like titanium, platinum or ferro alloys
- Sample weight depending on furnace type from 10 g up to 2000 g (e. g. Fe)
- Suitable for different sample disc sizes
- Suitable for production of calibration standards (cross-sectional samples)
- Optimized crucible systems for a broad range of metals and alloys
- Standard moulds from 35 - 70 mm (special moulds from 8 - 250 mm) in copper, graphite or stainless steel
- 7"-Touch screen control and program storage for highest user friendliness
- Service friendly circuit board technology
- Documentation according to german QM-standard, CE compliant
- Easy to handle, short cycle times
- Little space requirement
- High energy efficiency
- High, proven quality (more than 5.000 units installed worldwide)
- Variety of options



## Emission, AAS, ICP, X-Emission

The new **controller SE-702** is an universal device which can be optimally adapted to the required control functions. Analogue device functions, programmer, limit values etc. can be adapted directly to the device without external aids. An external graphic editor enables a system visualization for a good overview of the unit. There are several new possibilities if the controller SE-702 is used:

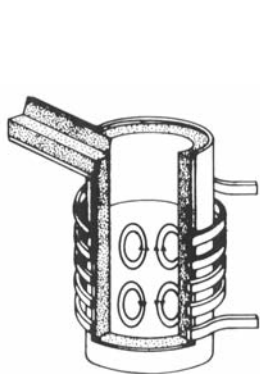
- Interface modules: USB (optional Profinet, Profibus)
- 250 programs with 64 digital marks
- 20 control zones
- SPS statement list with max. 1600 commands
- SCADA system (Data logger...)



### Technical Data / max. weight of castings

model	outside-dimensions mm	RF max. kW	Fe	Al	Sample sizes
Lifumat Met-3.3T	680 x 680 x 1530	3.3	80 g	50 g	Ø 40 / 60 mm
Lifumat Met-6.6T	920 x 920 x 1530	6.6	750 g	300 g	Ø 80 mm
Lifumat Met-7.7T	920 x 920 x 1530	7.7	1200 g	500 g	Ø 80 mm
Lifumat Met-3.3T Vac	680 x 680 x 1530	3.3	80 g	50 g	Ø 40 mm
Lifumat Met-6.6T Vac	920 x 920 x 1530	6.6	750 g	300 g	Ø 80 mm
Lifumat Met-7.7T Vac	920 x 920 x 1530	7.7	1200 g	500 g	Ø 80 mm
Lifumat Super	1500 x 1500 x 2100	20 (30)	2000 g	900 g	Ø 60 - 120 mm
Lifumat Super Vac	1500 x 1500 x 2100	20 (30)	2000 g	900g	Ø 60 - 120 mm

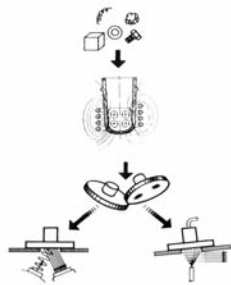
Options for all furnaces: Circulation cooling unit, pyrometer with different measuring ranges, interface for PC.  
Options for vacuum furnaces: Vacuum up to  $5 \times 10^{-4}$  mbar, protective gas overpressure up to 2.5 bar in vacuum chamber, overpressure display: digital / analog.



Principle of high frequency induction heating



Analysis samples and crucibles



Process steps for sample analysis



Lifumat-O-2.0T



Lifumat-O-Semi-4.0T-35



Lifumat-C-3.3T-Vac

Sample preparation units also available for oxide materials as well as combination types.



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