

OUR SOLUTIONS. YOUR SUCCESS.



DATA SHEET / Acoustic Levitator L800)

for high-temperature and high-pressure applications

L800)



ADVANTAGES

- contact-free measurements of droplets even under harsh conditions
- avoidance of distortions by elimination of wall-contact between sample and cannula
- droplet-shape is controllable (disc-shape or spherical-shape)
- accurate and more realistic measurements
- plug & play apparatus with intuitive control
- short initial training phase
- easy cleaning

FUNCTIONS

- ideally suited for mass-transport, particle formation, gelation and crystallization measurements
- observation of reactions and crystal growth inside the droplet
- automatic determination and documentation of the droplet-volume over time
- upgrading with spectroscopic devices is possible to measure e.g. concentrations and phase equilibria
- work area
pressure = 0.1 MPa - 20 MPa, temperature = 253 K - 453 K

SINGLE-DROPLET MEASURING APPARATUS

The laboratory device L800) is well-suited for accurate measurements of mass-transport mechanisms of acoustically levitated droplets.

The specifically developed software detects the levitated sample automatically and analyzes the contour of the droplet. With this information the volume of the rotationally symmetric sample can be measured and documented.

After every measuring a data sheet with all important parameters (e.g. time, temperature, pressure, volume, horizontal and vertical droplet-diameter etc.) and picture material (pictures or a video) of the droplet will be stored on the PC.

With the help of the measured and stored volume-time-diagram it is possible to calculate valuable physical properties regarding the mass transport. These include:

Diffusion- and mass transport coefficients.

Measurements and studies of gas hydrates, crystallizations, particle formation, gelation and melting processes can be done due to the large working range of the L800).

COMPONENTS L800)

- 1 x measurement-cell (1.4571)
- 1 x acoustic levitator (titanium alloy)
- 3 x sapphire-crystal windows
- 1 x droplet-injection-unit
- 1 x thermal insulation
- 1 x measurement-cell mounting bracket
- 1 x three-way-valve
- 1 x analog pressure indicator,
fine-control-valve and bursting-disc holder
- 1 x pressure transmitter
- 1 x thermocouple
- 1 x manual spindle-press
- 1 x rotating joint
- 1 x LED backlight
- 1 x camera
- 1 x zoom-objective, 12 x zoom, 12 mm fine focus
- 1 x positioning table x, y, z for the camera
- 1 x frequency generator
- 1 x amplifier
- 1 x PC incl. Microsoft Office package
- 1 x SOFTWARE LM's –
Levitation and Measurement software
- 1 x touchscreen display (27", full HD)
- 1 x safety glass sliding door
- 1 x complete set of sealing gaskets
- 1 x bursting-disc
- 1 x aluminum-housing, powder-coated



L800) opened



L800) closed

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