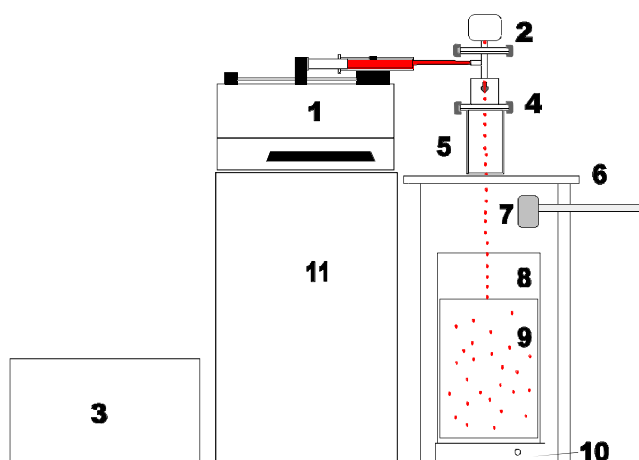


VAR D: SHORT PRODUCT DESCRIPTION



Overview



Short Description

This is an electromagnetically driven single nozzle unit based on the laminar-jet-break-up. The open version of the encapsulation system is especially suitable for the determination of the physical parameters (e.g. flow rate, vibration frequency and amplitude) or for non sterile encapsulation processes. An open unit ensures you fast access to the beads, minimising time required for the optimisation of the parameters. Due to the modularity, the unit can be extended to a closed, sterile one.

Legend

- 1 Syringe pump
- 2 Vibration unit
- 3 Control cabinet
- 4 Head with single nozzle
- 5 Stroboscopic light
- 6 Support for the head
- 7 Bypass system

- 8 Glass for hardening solution
- 9 Hardening solution with beads
- 10 Laboratory stirrer
- 11 Support for syringe pump

Pos. 1 and 8–11 are options (not part of scope of supply)

Applications

For a large number of applications (e.g. enzyme/drug immobilisation, cell encapsulation, cosmetic applications and many more), microencapsulation opens new technological possibilities.

Principle

The unit has a single vibrating nozzle (frequency and amplitude can be adjusted digitally). A syringe pump produces a steady pulsation free flow through the vibrating nozzle. The generated drops can be observed by means of an LED-stroboscopic light as a stationary chain of drops. The stroboscopic light is automatically synchronised with the adjusted vibration frequency. Monodisperse beads of the size between 0.2 and 1.5mm can be generated. The deviations between the applications mainly depend on the viscosity and the surface tension of the matrix. Roughly you can estimate that the smallest achievable drop diameter is 1.5 to 2 times larger than the used nozzle diameter. The average productivity per nozzle is 400ml per hour, whereas this can significantly differ in function of the nozzle diameter and the jet speed.

Control Cabinet

Rack with display, four lines x 16 characters, programmable micro controller for vibration control and stroboscopic light

Power supply between 110 V and 240 Volt, automatically adjusting

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