

Encapsulation Unit – Var J1



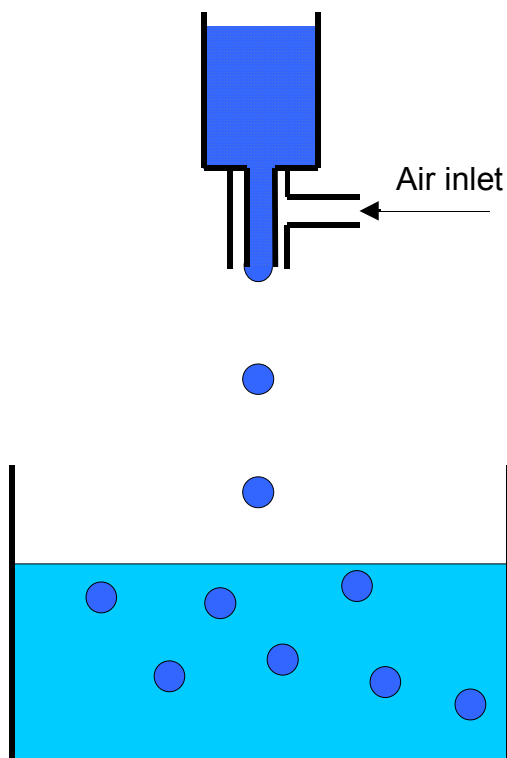
Nisco Engineering AG
Dufourstrasse 110
CH-8008 Zurich, Switzerland

Tel: +41 44 380 06 30
Fax: +41 44 380 06 31
e-mail: mailbox@nisco.ch
<http://www.nisco.ch>

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In most applications involving immobilisation of living cells or other biological materials the bead size needs to be small (<1 mm) and carefully controlled. The reason is mostly because of diffusion limitations of nutrients within hydrogel beads. An easy way for production of small alginate beads in a controllable manner is the use of a coaxial bead generator. The basic principle of the instrument is the use of a coaxial air stream to pull droplets from a needle tip into the gelling bath. The Nisco J1 is designed for production of smaller quantities of spherical alginate beads ranging in size down to around 500 µm.

The bead generator with coaxial airflow is basically made of Polyetheretherketone (PEEK) and can withstand most chemicals and high temperatures, which make the unit very suitable for any disinfecting/cleaning method, typically autoclave cleaning.



Principle of coaxial airflow bead generator



The Unit is equipped with two connections – one for the hose, which feeds the alginate (or other) solution – the other connection is meant for an air-hose with 4 mm OD. The alginate (or other) solution may be fed into the unit with a syringe, using a syringe pump. A magnetic stirrer is placed underneath the gelling bath to keep the beads separated during gelling.