



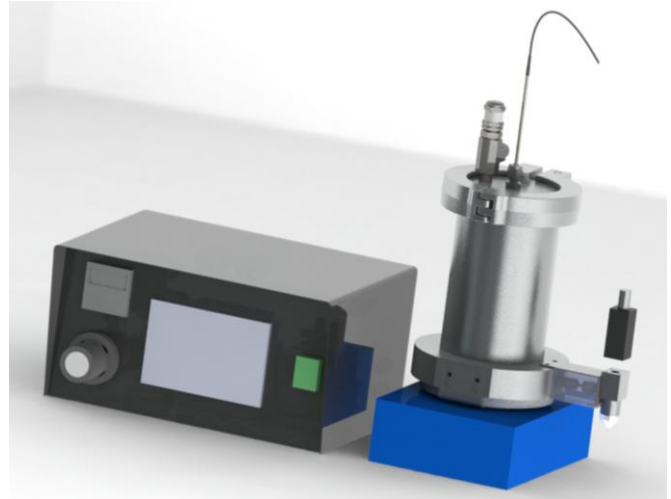
*Scientific Instruments*

## Peira PrillDrop

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### PROBLEM

In order to avoid overdosing of drugs, pharmacologists will design formulations around API's that result in a controlled sustained release profile. While lipid based dosage forms have been processed using techniques such as solid lipid extrusion, extrusion/spheronisation, melt granulation, melt pelletization and spray – congealing, prilling has received limited attention from the pharmaceutical industry as a technique to efficiently incorporate drugs in a multiparticulate lipid-based solid dosage form. Researchers are looking for an alternative set up to the existing process that makes use of a prilling tower in which spherically shaped droplets are cooled during their fall down the tower.



### SOLUTION

The Peira PrillDrop is a custom-made prilling equipment to conduct formulation experiments on laboratory scale. After melting the fatty acid and heating the melt to 90 respectively 100 ° C, the active molecule is added to the melt under stirring. Droplet formation starts after complete dissolution of the drug in the molten matrix (e.g. stearic or behenic acid). By applying air pressure to, the mixture is fed toward the thermostated nozzle equipped with a valve and a needle. Drop time and air pressure are set in function of the targeted formulation in order to have consistent and uniform droplet formulation. After droplet formation at needle end, the 'prills' are quench cooled in liquid nitrogen in order to obtain solid spherical particles.

### TECHNICAL DATA

Dimensions (LxWxH):	300 x 600 x 450 mm
Weight:	21 kg
Power:	500 W
Volts:	230VAC
CE:	The PrillDrop fully complies with all CE and EMC equipment guidelines relative to mechanical and electrical safety and electromagnetic compatibility.