

## ND-SP Ultrasonic spray coater

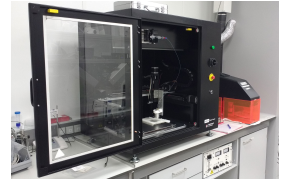
<https://labfacilities.wur.nl/SearchDetail.aspx?deviceid=ef654554-e2dd-49fa-a036-1eda6e19d295>

### **Brand**

Nadetech Innovations

### **Type**

ND-SP



### **Contact**

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### **Organisation**

Agrotechnology & Food Sciences Group

### **Department**

Shared Research Facilities

### **Description**

Polymer thin film coatings are of interest for a large number of applications. Their use ranges from photovoltaic cells to chemical and biological sensors to biomedical applications. In comparison with other coating techniques, such as drop casting, spin coating, inkjet printing, and screen printing, spray coating has the advantage of being able to coat three dimensional micro structures.

Conventionally, air pressure is used for atomization, i.e. to break up the liquid into tiny droplets. Alternatively, ultrasonic atomization uses high frequency sound vibration to generate a fine mist of droplets. Ultrasonic spray coating is generally preferred for high tech applications, since it generates smaller, more uniform droplets, enabling precise and reproducible conformal coating on planar and (micro)structured surfaces.

This equipment is located at Surfex (Plus Ultra, Bronland 12, Wageningen Campus). Are you interested in using this equipment or would you like to know more? You can contact Wout Knobens (Surfex) for information about the availability, technical details and possibilities for your specific application.

### **Technical Details**

The spray coating system includes a syringe pump, ultrasonic generator and nozzle. It is also equipped with a hotplate (max. 100 °C) and a laser pointer. The system is enclosed by a ventilated cabinet.

- Maximum sample size 250x250 mm<sup>2</sup>
- Nozzle distance: 5-70 mm
- Nozzle speed: 20-2000 mm/min
- Spray width: 10-80 mm\*
- Flow rate: 0.01-20 ml/min\*
- Maximum viscosity: 30 cPs
- Droplet size: 15-40 µm

\* range depends on nozzle type

More information: Nadetech innovations: <https://www.nadetech.com>

### **Applications**

Ultrasonic spray coating can be used for depositing polymer thin film coatings for various applications, e.g.:

- Energy (fuel cells, solar cells)
- Electronics and MEMS
- Medical devices and sensors