















## Pulmonary Application System

Propellant- and Preservative-free SMI with high Lung Dose



# Unique inhalation technology for liquid medications

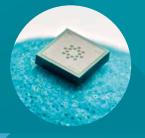
Ecomyst90® and SoftBreezer® combine our systems with innovative technology and patient benefits.

We have pursued our strategy for producing innovative products in launching our first liquid inhaler, which immediately won market acceptance. Our inhaler system's product benefits speak for themselves: NO propellant – NO preservatives – precise dosing.

# Innovative spray nozzle from Medspray

The Spray Nozzle Unit (SNU) ensures innovative ultra-fine spray action. The liquid flows through the nozzle in uniform intervals according to the Rayleigh principle, which ensures an ultrafine and precisely dosed spray mist. This new nanotechnology in the Spray Nozzle Unit is the first of its kind across the world.

FEATURING SOFT MIST TECHNOLOGY







Rayleigh Principle



### **Specs & facts**

- · No propellants no CFCs, HFAs or VOCs
- · Preservative-free
- · Pocketable size
- · Metered dose: 25 mg
- · Emitted mass: > 90 % of metered dose
- · Lung dose: 40 % of emitted mass
- · Deep lung dose: > 20 % of emitted mass
- · Air flow resistance: 20 l/min at -2 kPa
- · MMAD:
- 5,0 7,0 μm (NGI) with aqueous solutions 3,0 – 5,5 μm (NGI) with ranging ethanolic concentrations
- · Activation time: about 2,5 seconds
- · Compatible with 5 and 10 ml plastic and glass bottles
- $\cdot$  Number of doses: 200 (5 ml bottle) or 400 (10 ml bottle)

### Ecomyst90®







A unique preservative and propellant-free liquid inhaler that delivers an ultra-fine and dosed spray for prescription products aimed at lung conditions such as COPD and asthma. One of its kind across the world, this preservative and propellant-free liquid spray delivers a dosed ultra-fine spray for gentle application to the mouth, throat, and bronchial area.



Scan here for product video



## RAYLEIGH PRINCIPLE

The spray nozzle units are based on plain orifice nozzles, creating Rayleigh jets. A 2-micron hole creates a jet, breaking up into mono-disperse (meaning all droplets have the same size) 4-micron droplet trains. The diameter of the droplets is twice the size of the orifice. The hole size can be engineered to meet specific requirements of devices.







Every project starts with an idea. We provide support in turning ideas into plans and visualising them. We provide test products according to customer specifications, ranging from the first hand-made pump samples to smaller batches for stability.



#### **Technical support**

Our laboratory team has specifically been trained to provide extensive advice towards maximising the benefits of integrating our pumps with customer products using innovative testing methods.



#### **Regulatory support**

Supporting documentation leading through every stage of the development process up to market launch is just as important as the product itself. We are also more than willing to provide support in the approval phase.



#### We are looking forward to your request!

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