AdheResp Platform Technology



Mature and reliable mesh technology with Pd alloy mesh membranes



Bluetooth connectivity technology and NFC activation to monitor adherence



Flexible customization platform and professional advice for product development

We also support feasibility and customization aerosol performance studies in our state-of-the-art laboratories, including:

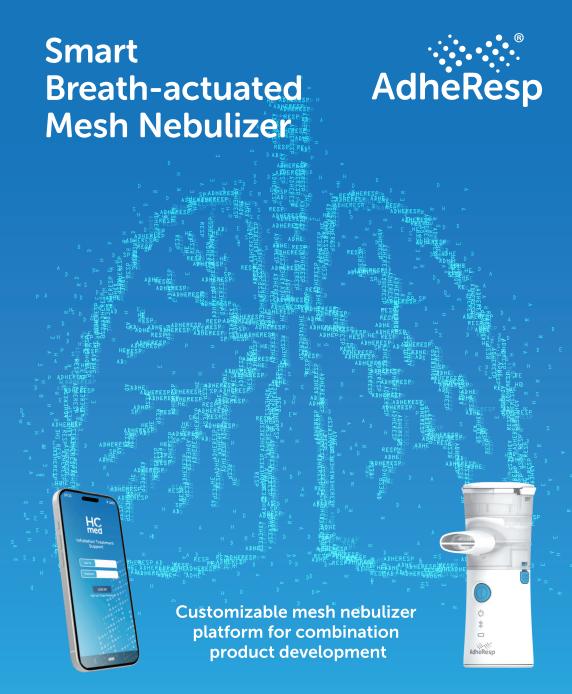
- Aerodynamic particle size distribution (cascade impactor)
- Droplet particle size distribution (laser diffraction particle size analyzer)
- Total drug substance delivered (breath simulator)
- Delivery rate and residue tests

AdheResp® Standard Platform Specifications

| Model | HCM-ADP-01 |
|-------------------|---|
| Dimensions | Approx. 91 mm (L) x 55.5 mm (W) x 133 mm (H) |
| Weight | Approx. 170g (including battery) |
| Battery | Li-ion (up to 300 min in one charge - USB-C port) |
| Power consumption | Approx. 1.2W |
| Battery voltage | 3.5-4.2V |
| Min. fill volume | 0.5mL |
| Max. fill volume | 8.0mL |
| Nebulization rate | \geq 0.25mL/min (tested in continuous output) |









The AdheResp® Smart Breath-actuated Mesh Nebulizer is the exceptional delivery platform to develop your inhaled combination product



Connectivity

Bluetooth connectivity for treatment data transmission



Breath Actuation

Suitable for children and adults (tidal breathing)



Lock and key

Activation system that allows the use of the device with a specific medication





Easy to clean

Practical design to allow ease of cleaning



Tactile and Visual Feedback

LED indicators and vibration feedback

We offer an integrated development path for your drug-nebulizer development





Feasibility Study

In-house formulation-device performance assessment

Customization and Development

Development of customized device to target delivery and use requirements



Supply, regulatory, and traning support during clinical phase









Commercialization

Steady supply of customized device and post-market surveillance

Regulatory Support and Scale Up

Support for combination product filing and robust scale up of customized product

Deliver a wide range of formulations, including difficult-to-deliver drugs such as biologics and suspensions

Solutions¹

Terbutaline Sulfate 5 mg / 2 mL



Delivered dose: 88% Delivery rate: 442 μg/min MMAD: 3.47 μm FPF: 64.75±0.36%

Suspensions²

Fluticasone Propionate 2 mg / 2 mL



Delivered dose: 72% Delivery rate: 139 µg/min MMAD: 3.47 µm FPF: 69.13±4.06%

Biologics³

Interferon Beta-1b 0.15 mg / 1 mL



Delivered dose: 86% Delivery rate: 16.8 µg/min MMAD: 4.59 µm FPF: 55.93±1.46%

Together we develop the optimal drug-nebulizer product for your inhaled formulation, using the different customization levels of the AdeheResp® Platform



Hardware

- Indicators (visual, tactile, acousfic)
- Reservoir fill volume
- PCB assembly
- User Interface



Mesh

 Mesh selection for pore size range



Firmware

- Triggering span
- Liquid detection
- Activation count and length
- Bluetooth connectivity



Sources:

- $1\ \mathsf{Drug}\ \mathsf{Delivery}\ \mathsf{to}\ \mathsf{the}\ \mathsf{Lungs}\ \mathsf{Conference}.$ Volume 32, 2021: 119-122
- 2 ONdrugDelivery. Issue 127, Nov. 2021: 38-41.
- 3 Respiratory Drug Delivery 2022. Volume 1, 2022: 235-240.