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Resyca® Pulmospray™
Soft Mist Inhaler

Cutting-edge technology for rapid drug delivery

Combining Bespak's decades of experience and Medspray's proprietary advanced spray nozzle technology, the Resyca® Pulmospray™ soft mist nebuliser is a single-use, CE-marked device designed for simplicity, reliability and precision in clinical settings.

Using the Rayleigh spray principle, the single-use Soft Mist Inhaler (SMI) aerosolises aqueous solution formulations, where numerous micron-sized pores emit liquid jets that break up into droplet trains. These droplets are then entrained into the patient's inhalation airflow as a slow-moving aerosol cloud. Employing this gentle spray principle, our nebuliser safeguards fragile formulations, such as mRNA, from potential damage, delivering effective therapy without the need for propellants.

For other indications, we provide comprehensive support to our customers, offering a complete device dossier tailored to meet regulatory requirements for combination products.

Resyca Pulmospray Soft Mist Inhaler with Respi Lever Drive™
The disposable plastic syringe is filled with the formulation just before application.
The Lever Drive can be synchronised with the patient's breathing pattern.

Fast preparation and breath-synchronised delivery

The Pulmospray is a disposable SMI for the delivery of inhalation solutions to the lower respiratory tract. The device is used in combination with an off-the-shelf sterile syringe, which is filled with the inhalation solution prior to administration, allowing for faster preparation in clinical trials. The syringe is manually actuated by means of the Respi Lever Drive and can be synchronised with patient inhalation.

This system deviates from a conventional SMI, because it does not deliver a metered dose for each puff. Patients can choose whether they want to inhale for 3 seconds, 5 seconds, or longer, for each inhalation. Dosing takes place until the syringe is empty.

Aerosol particle size distribution

	15 L/min Inspiratory flow rate mean (Standard Deviation)	**30 L/min Inspiratory flow rate mean (Standard Deviation)**
Volumetric Median Diameter (VMD) in µm	6.07 (0.09)	4.84 (0.02)
Geometrical Standard Deviation (GSD)	1.46 (0.01)	1.44 (0.01)
10% mass diameter (D10) in µm	3.77 (0.05)	3.05 (0.00)
90% mass diameter (D90) in µm	9.58 (0.05)	7.50 (0.07)
Span in µm	0.96 (0.01)	0.92 (0.01)

Laser diffraction measurements, Bespak, with Resyca's Pulmospray devices. Mao et al, 2022.

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Reducing risks and optimising drug delivery

High lung deposition

- Lung dose is higher (>50% of filled dose) than with conventional devices
- Same clinical effects can be expected with significantly less drug when compared to conventional jet nebuliser

Cost effective

- Efficient drug use (low residual in the device) compared to conventional devices
- Reduction of drug waste offers potential cost savings for health care providers

Reduction of infection risk

- Single-use, low-cost nebuliser reduces risk of cross-infections

Treatment time

- Treatment time for administration of the same dose to the lungs is lower compared to conventional nebulisers
- Fast delivery – no need for cleaning/disinfection

Usability

- Disposable 1 mL syringe, fillable on-site for flexible dosing
- Compact and ready-to-use in hospitals and clinical trials

Your breakthrough. Our capabilities. Ready when you are.
Let's shape the future of soft mist inhalation together.

medspray BESPAK