

PowdAir

An easy to use, simple and efficient capsule-based dry powder inhaler with high performance.



In it for life

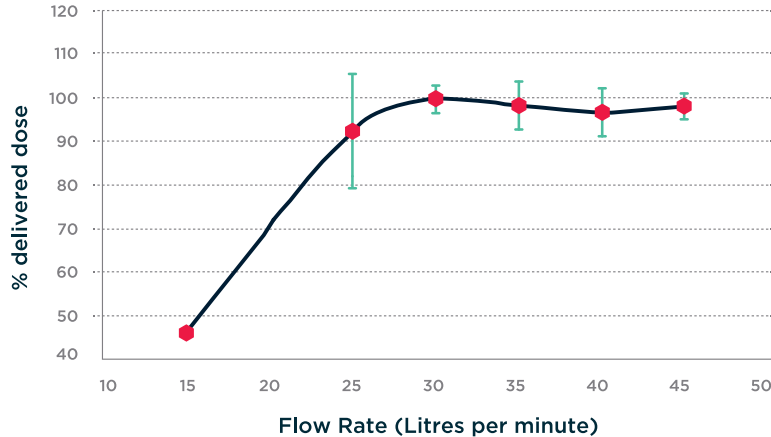
Hovione 

PowdAir a 3-step device to inhalation. Simple, effective and economic.

An easy to use, simple and efficient capsule-based dry powder inhaler with high performance.

PowdAir can deliver lactose-based or particle-engineered powders in a capsule. Hovione has effective experience in both types of formulations, from proof of concept, to optimization, robustness and compatibility tests, scale-up, method validation, stability studies, clinical supplies and commercial supply.

EFFECTIVE DELIVERY



The minimum flow rate at which the PowdAir has been shown to deliver 95% of the nominal dose is 30 litres per minute of airflow. Above 30 litres per minute, performance is unaffected.

Drug doses ranging from micrograms (carrier based formulation) to as much as 50 mg have been successfully delivered.

COMPREHENSIVE INTELLECTUAL PROPERTY POSITION

The PowdAir is a patent protected device and has been filed in over 40 countries.

COUNTRY	APPLICATION NUMBER	DATE OF FILING	STATUS	YEAR OF EXPIRATION
Portugal	105065	2010.04.26	Granted	2032
Europe	11716635.5	2011.04.26	Granted	2033
Canada	2791149	2011.04.26	Granted	2033
Hong-Kong	not yet allocated	2011.04.26	Granted	2033
Malaysia	2012700744	2011.04.26	Granted	2033
South Africa	not yet allocated	2011.04.26	Granted	2033
Singapore	not yet allocated	2011.04.26	Granted	2023*
Colombia	12191328	2011.04.26	Pending	*
Pakistan*	16434-D	2012.11.01	Pending	*
PCT	87/GB2011/050760	2011.04.26	Pending	
South Korea	2012-7026794	2011.04.26	Pending	
Taiwan	10114493	2011.04.26	Pending	
USA	20110259328	2011.04.26	Pending	
Argentina	P110101431	2011.04.26	Pending	
New Zealand	601830	2011.04.23	Pending	
India	7454/CHENP/2012	2011.04.26	Pending	
Australia	2011247073	2011.04.26	Pending	
Brazil	BR112012027254-3	2011.04.26	Pending	
Chile	2970-2012	2011.04.26	Pending	
China	201180021233.4	2011.04.26	Pending	
Indonesia	WO-00201204394	2011.04.26	Pending	
Israel	not yet allocated	2011.04.26	Pending	
Japan	2013-506742	2011.04.26	Pending	
Mexico	not yet allocated	2011.04.26	Pending	
Philippines	not yet allocated	2011.04.26	Pending	
Russia	2012141640	2011.04.26	Pending	
Thailand	1201005584	2011.04.26	Pending	

*Utility model patents

SIMPLICITY IN OPERATION



1 PowdAir with cover. Before use.



2 Open tray and insert capsule.



3 Close tray, ready for inhalation.
Simple.

Operation is simple and quick

Drug delivery is visible through transparent capsule

Full delivery can be visually confirmed

Very cost-effective on a global scale

APPLICATIONS

The PowdAir is simple, multi-unit dose, low-cost device. This DPI is indicated for applications where a chronic or a medium term acute capsule based delivery of an API is needed. Examples include anti-virals and antibiotics for lung infection, analgesic drugs, pulmonary hypertension drugs, as well as respiratory therapy drugs.

LICENSING AND SERVICES

PowdAir is available for clinical/industrial supply and licensing.

Hovione can provide all formulation development services as well as PowdAir devices. As an integrated inhalation products developer, Hovione has the most complete service offering, from API through particle design to formulation development and clinical supplies, for development, scale-up and industrial manufacturing, including full analytical support.

INTEGRATED INHALATION DRUG PRODUCT DEVELOPMENT

ALL YOUR NEEDS FROM A SINGLE COMPANY



Integrated Inhalation Services

From APIs through Particle Design to Formulation development and clinical supplies.

The broadest range of inhalation development services.



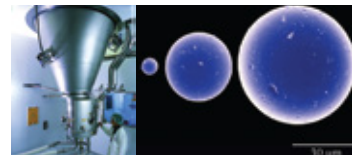
cGMP Manufacturing

Inspected facilities located in Portugal, Macau and Taizhou (China), New Jersey (US) and Ireland.



API manufacturing

Process development, scale-up, validation and industrialization under cGMP manufacturing.



Particle Engineering

A wide range of technologies to design particles to specification maximizing lung deposition and stability.



Analytical Support

Methods development and validation for API, particles and drug product. ICH/FDA Stability studies and Microbiological Support.



Formulation

Powder formulations to maximize deposition performance or matching an existing product. For NCEs, NBEs or ANDAs.



DPI

Over 10 years' experience in developing and patenting powder inhalation devices, for specific indications.



Clinical supplies

Inhalation capsules and filled devices, including packaging, for Phases I-III.

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