



Other
Routes



VP7 Technology Platform

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The VP7 spray pump was purpose-designed for the Pharmaceutical industry's prescription drug products.

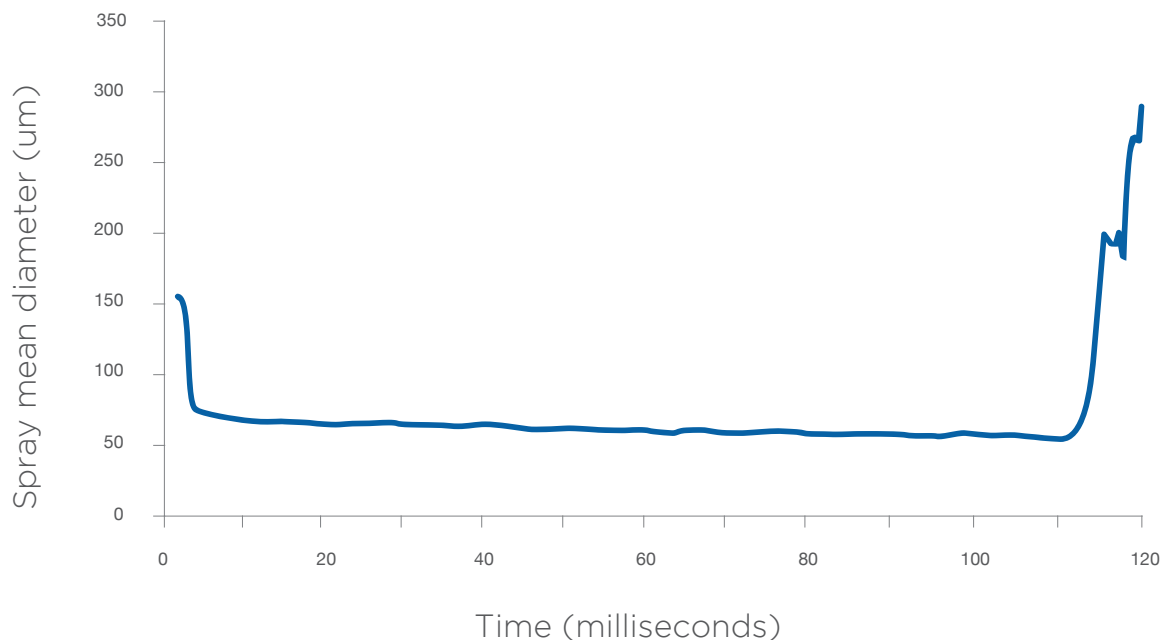
Key Benefits

- Highly efficient pre-compression nasal spray pump
- Consistent spray performance
- Large few droplets and therefore no dripping
- Wide range of dose volumes: 25 μ l to 130 μ l with different closures
- Suitable for liquid solutions, suspensions and viscous drug formulations
- Excellent ergonomics and soft actuation
- Wide range of actuators and accessories available off-the-shelf
- Actuator and cap with child-resistant features

Key Differentiators

- Several prescription drug product references on the European, Japanese and U.S markets.
- *In vitro* Bioequivalence testing
- All plastic materials made from pharmaceutical grade Polyolefin (PP/PE)
- GMP manufacturing using ISO7 clean rooms
- Global footprint
- Ultra-clean gaskets supplied the in-house Elastomer Center







Droplet size distribution and stable phase (with water)





Available Closure Types / Doses


SCREW-ON		CRIMP-ON		SNAP-ON	
DIAMETER	DOSES (µl): 25, 50, 70, 90, 95, 100, 130	DIAMETER	DOSES (µl): 25, 50, 70, 90, 95, 100, 130	DIAMETER	DOSES (µl): 25, 50, 70, 90, 95, 100, 130
18/415 GCM1	■	20 mm	■	20 mm	■


Pump / Actuator / Cap Cross-Reference

							SAFETY CLIP
SKIRT				SHORT	SHORT		
CRIMP-ON				■	■	■	
SNAP-ON	■	■	■			■	■ ***
SCREW-ON	■	■	■			■	■ ***

* Only for pre-clinical tests / ** Available for Asian market only / *** Not available for 161

				■	■	■		
B25A								
	■	■	■					
B63								

	VP7 CRIMP-ON	VP7 SNAP-ON	VP7 SCREW-ON
			■
B62			

CAPS	VP7 CRIMP-ON	VP7 SNAP-ON	VP7 SCREW-ON
		■	
B64			

The VP7 spray pump can be used as a platform for electronic add-on features such as dose counters, lock-out mechanisms and child-resistant systems.

The VP7 spray pump platform is supported by the following associated Services to expedite your drug product development:



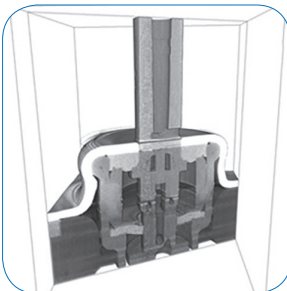
Customized Drug Delivery Solutions

- Specific designs for Rx and OTCs
- Designed and developed by multi-disciplinary project teams with a customer-centric approach
- Quality-by-Design



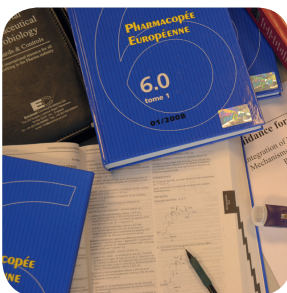
Analytical Laboratories

- Elastomer and plastic extractables, bioburden, silicone oil assay
- Full extractable and toxicology packages to support regulatory filing



Physical Laboratories

- Aerodynamic sizing and spray characterization
- Mechanical, stress and content uniformity testing, moisture content
- Non-destructive 3D tomography imaging
- IV BE Testing
- Fully validated Nasal Casts



Regulatory Expertise

- Dedicated regulatory affairs experts
- 30 DMFs and over 50 pass NDAs and ANDAs generated



Elastomer Center Research & Development

- Ultra clean, highly inert elastomer gaskets supported by validated testing and manufacturing processes
- Optimization of chemical purity
- Surface treatment for improved gasket inertness