



## CPS Technology Platform



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CPS is a versatile spray pump. It is designed for the multi-dose delivery of preserved or non-preserved drug formulations for the nasal route. CPS can be used for a range of other applications which include intra-nasal vaccination.

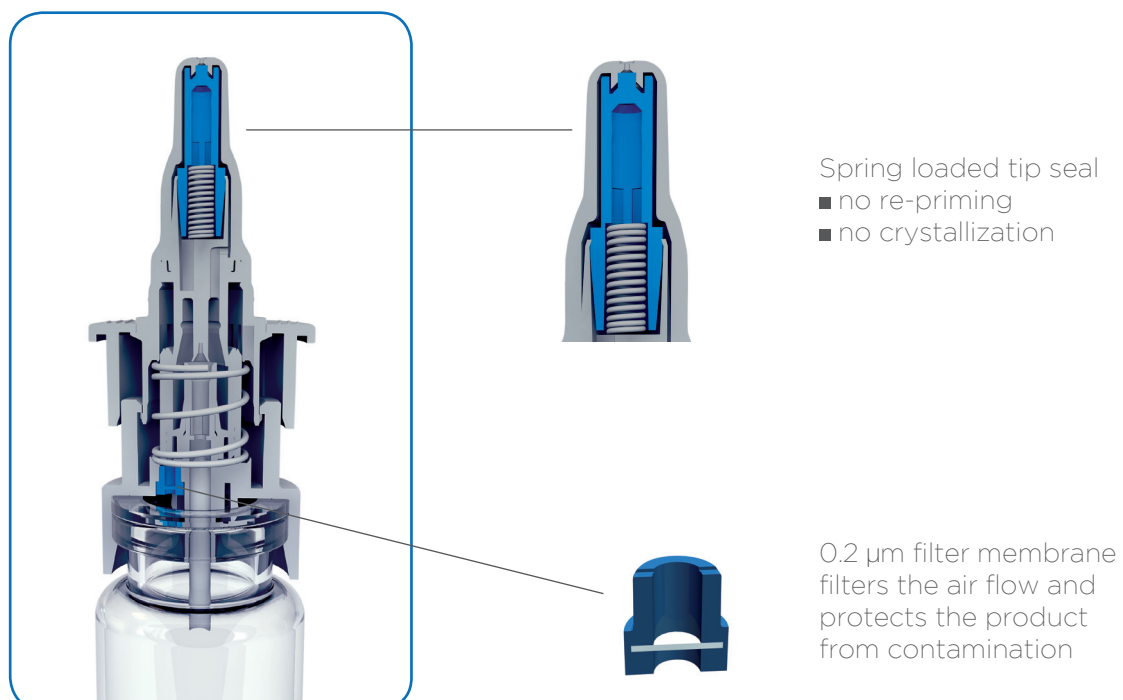
### Key Benefits

- Wide range of dose volumes: 50 µl to 140 µl
- No re-priming needed even when not used regularly
- Can be sterilized by irradiation
- Gentle alternative to injection for intra-nasal vaccination applications
- One-shot mass vaccination cap available

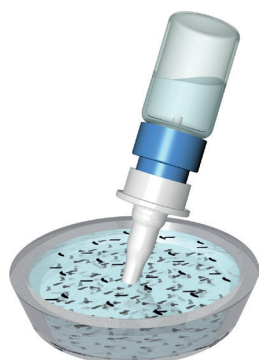
### Key Differentiators

- Anti-clogging tip seal technology to minimize crystallization with high-viscosity and high-volatile formulations
- Proven CPS filter technology avoids entrance of contaminated air into the container
- Fully validated and tested microbiological integrity
- No anti-microbial additives within the pump components
- Metal-free fluid pathway

## Air Filtered Preservative Free System



## Qualified With Challenging Microbiological Tests



**TSIT** (Tip Seal Integrity Test)  
Submersed actuation in  
*Pseudomonas aeruginosa*  
suspension



**CVIT** (Closure  
Ventilation  
Integrity Test)  
Closure and filter  
challenge with  
*Bacillus atrophaeus*  
spores

## Available Closure Types / Doses

### SNAP-ON

DIAMETER

20 MM

DOSES (μl):  
50, 70, 100, 140



### SCREW-ON

DIAMETER

18 MM

DOSES (μl):  
50, 70, 100, 140



## Pump / Actuator / Cap Cross-Reference

SNAP-ON	■
SCREW-ON	■
 PROTECTION CAPS	■
 MASS VACCINATION CAP	■
SAFETY CLIP	■

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



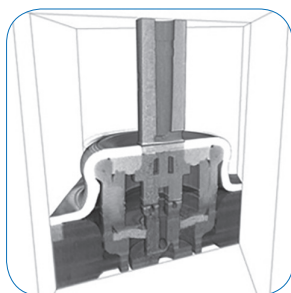
#### Customized Drug Delivery Solutions

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



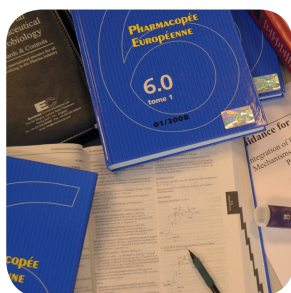
#### Analytical Laboratories

- 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
- Fast approval data packages



#### 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