



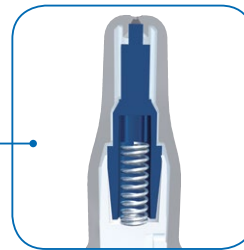
**Advanced Preservative Free**

# Advanced Preservative Free

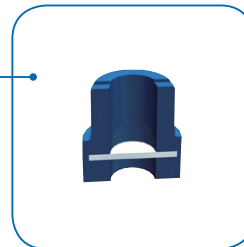
## Gold standard for unpreserved nasal sprays

### Benefits

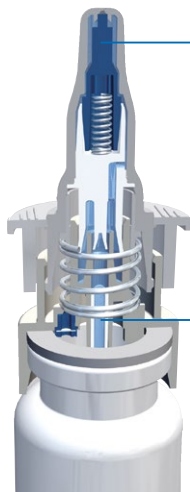
- Soft and gentle mist
- Metal free fluid path
- Sterile according to ISO11137
- Purely mechanical barrier, no additives
- Supporting successful brands globally



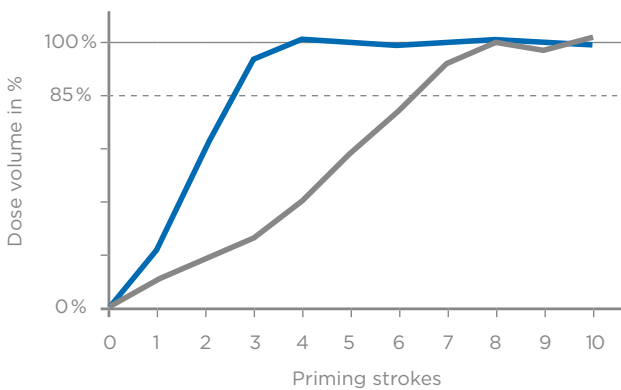
- Spring loaded Tip-Seal mechanism



- Filter membrane in ventilation channel

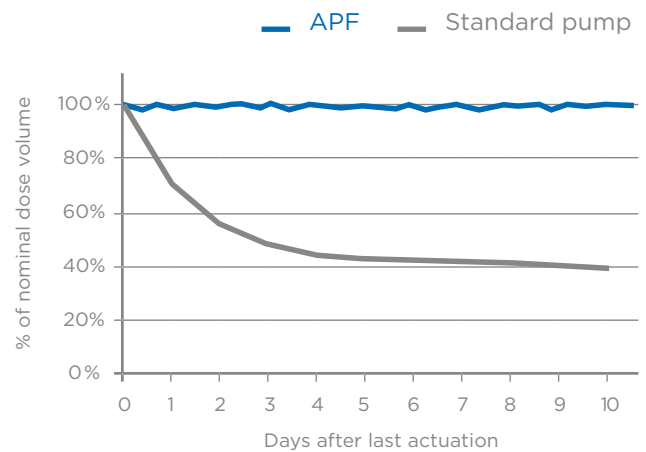


### Outstanding priming performance



#### APF advantages

- Fast priming
- Constant dose volume



#### APF advantages

- Very low loss of weight
- No re-priming necessary

## Proven Microbiological Integrity Protects Your Preservative-free Formulation

- Aptar Pharma's Tip-Seal technology has been qualified by microbial challenge tests and has passed relevant worst-case simulation
- Comprehensive data package



### TSIT 2.0

(Tip Seal Integrity Test)

Submersed actuation in challenge suspension containing *Pseudomonas aeruginosa*, *Staphylococcus aureus* and *Candida albicans*. Reflects most recently updated guidelines in highly regulated markets.



### CVIT

(Closure Ventilation Integrity Test)

Closure and filter challenge with *Bacillus atrophaeus* spores in aerosol chamber.

## Full 360° Functionality

- Unvented preservative free system
- Pouch system allows for 360° use
- Convenient and intuitive handling



## Actuator



Dose volume: 50  $\mu$ l to 140  $\mu$ l

## Closure



Snap-on  
Size: 20 mm



## State of the art production

- 100 % in process control of all critical interfaces
- 100 % in process control of tip-seal integrity
- 100 % in process control of filter integrity

