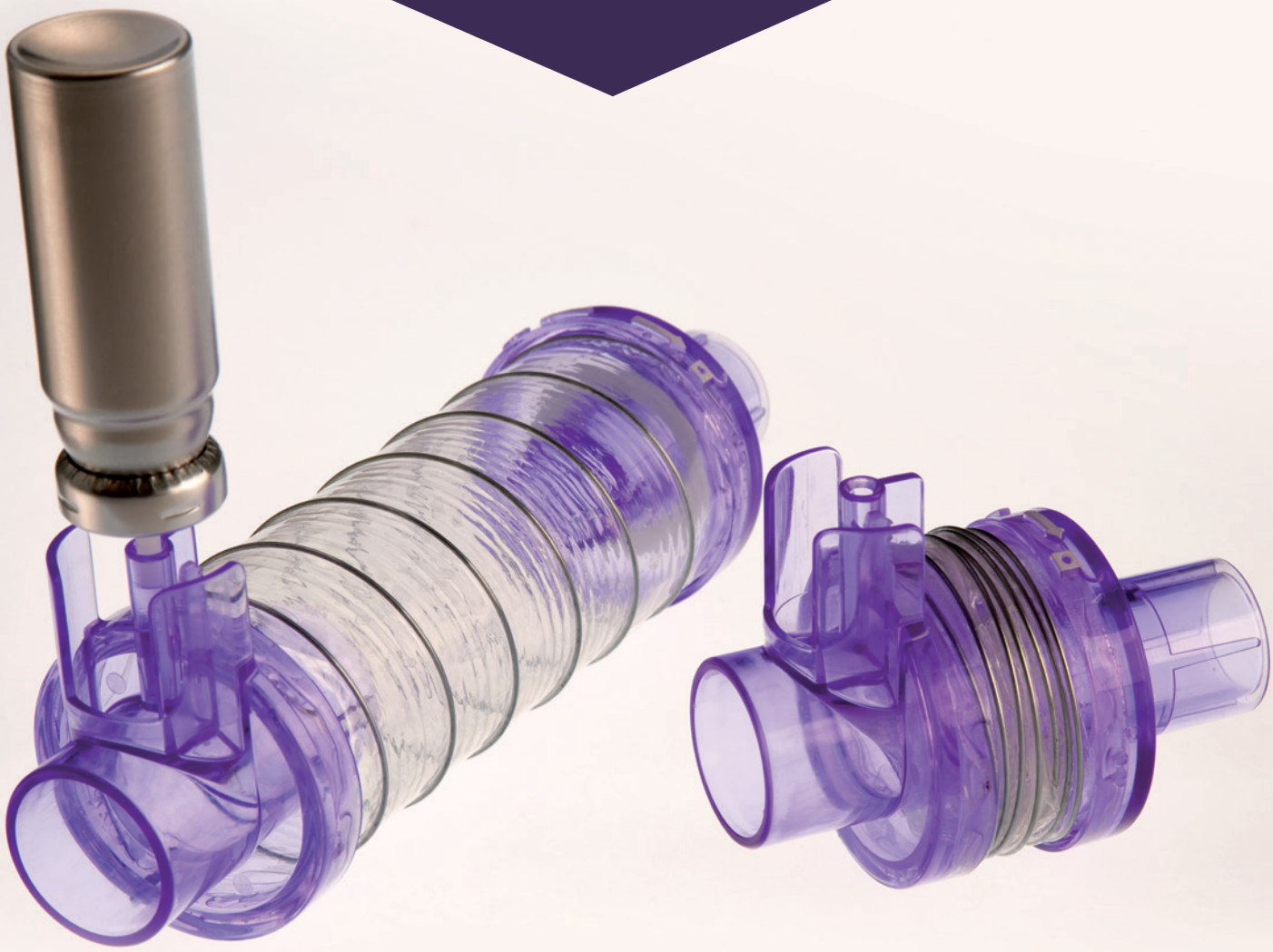
Armstrong Medical

Spirale®

Invasive & Non-Invasive Ventilation



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Creating Support for **Life**

Spirale®

In previous outbreaks (SARS, H1N1 and MERS) the World Health Organisation highlighted that Aerosol generating procedures increased risk of pathogen transmission. Spirale® drug delivery system is an alternative to nebulisation for bronchodilator therapy.

Spirale® drug delivery system is a collapsible volumising chamber designed to deliver aerosolised micro-drug particles from a Metered Dose Inhaler (MDI) canister, specifically intended for delivery of pulmonary medication. Spirale® can help to reduce the risk of pathogen transmission, as the product is intended to remain in the breathing circuit, therefore, removing the risk of environmental contamination of the breathing circuit and clinical setting.

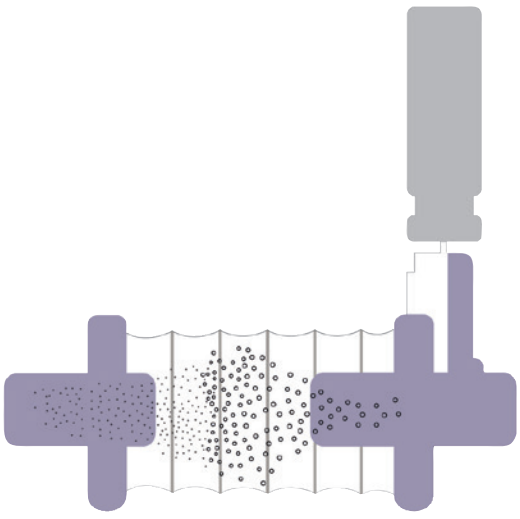
Spirale®

Invasive Ventilation

Spirale® is intended to remain in the breathing system and does not require disconnection from the breathing system for each treatment, reducing the risk of ventilator acquired pneumonia (VAP).
During invasive mechanical ventilation a chamber spacer with a pMDI was up to sixfold more efficient for aerosol delivery. [2]

Effective bronchodilator therapy is pivotal to successful stabilisation and weaning of mechanically ventilated patients. [1]

During mechanical ventilation, larger particles are trapped in the ventilator circuit and endotracheal tube. Devices that produce aerosols less than 2µm are more efficient. [2]



A spacer reduces the velocity of the MDI plume and allows evaporation of the propellant, which increases drug delivery.

Tests performed using Ventolin HFA (Average figure over three tests shown)	MDI output with Spirale®	MDI output with AeroVent
Particle size (MMAD)	1.77µ	1.77µ
Total delivered dose	22.1µg	22.1µg
Total respirable dose	13.6µg	6.5µg
Respirable fraction	61.5%	42.2%
Geometric Std. Dev	2.6	3.16

Spirale®

Non-Invasive Ventilation

Effective bronchodilator therapy is pivotal to successful stabilisation and weaning of mechanically ventilated patients. [1]

"Patients may be adequately oxygenated while receiving NIV but if removed, even for a short period, catastrophic hypoxia may occur."

Patients with acute respiratory failure are often removed from non-invasive ventilation to receive inhaled bronchodilators. [4] Many patients may not tolerate removal of their respiratory support and subsequently their bronchodilator therapy may not be completed.

55% interrupt respiratory therapy for delivery of bronchodilators.

59% have experienced patient desaturation during this period.

92% of clinicians agreed it could be beneficial to deliver MDI bronchodilators without interrupting respiratory support.

* Results from 67 clinicians surveyed at European Society of Emergency Medicine 2014

Cost benefits of Spirale®

Bronchodilators could be given a minimum of 4 times per day and a nebuliser should be disposed of after each treatment.

Using Spirale® instead of a nebuliser could lead to savings of cost and nursing time. [5]

Reduced nursing time		
	Nebuliser	*Spirale®
Total treatment time	19min54s	2min3s
Set-up time	1min38s	23s

*Dead space with Spirale®

Volume, collapsed and locked - 16ml

Volume, fully open and expanded - 133ml

Spirale®

Instructions for Use

Fully expand Spirale® by rotating the two end connectors against each other.

Fully expand Spirale® by pulling the end connectors in opposite directions, taking care not to twist the extending membrane.

Depress MDI canister once during the inspiratory phase of the ventilator cycle (or patient's inspiratory breath if breathing spontaneously) or more preferably, during expiratory pause, just before the start of the inspiratory phase.

Allow a minimum of 30 seconds before any subsequent MDI canister depression, subject to physicians' prescribing guidelines.
After use, immediately remove MDI canister nozzle from the actuator port; collapse Spirale® and lock. Failure to lock the device may cause it to spontaneously expand, creating dead space volume, leading to circuit leaks or poor circuit compliance.

Product **Codes**

Product Code	Product Description	Box Quantity	Case Quantity
AMDN1311	Spirale® DDS aerosolisation chamber, basic.	10	40
AMDN1312	Spirale® DDS aerosolisation chamber kit with adapters for insertion to inspiratory limb of breathing circuit.	10	40
AMDN1311/005	Spirale® DDS aerosolisation chamber, basic, economy packaging.	80	240
AMCM5174/010	Catheter mount with Spirale® DDS with detachable double swivel bronchoscopy elbow, 22mmM (15mmF), and 150mm extendible tubing with 22mmF end connector.	50	150
AMVC1792/195	Universal non-vented face mask size PETITE with Spirale® DDS with CO_2 exhalation valve.		
AMVC1792/196	Universal non-vented face mask size EXTRA SMALL with Spirale® DDS with CO_2 exhalation valve.		
AMVC1792/197	Universal non-vented face mask size SMALL with Spirale® DDS with CO_2 exhalation valve.		
AMVC1792/198	Universal non-vented face mask size MEDIUM with Spirale® DDS with CO_2 exhalation valve.		
AMVC1792/199	Universal non-vented face mask size LARGE with Spirale® DDS with CO_2 exhalation valve.		

References

1. DiBlasi R. M, Clearing the mist from our eyes: Bronchodilators, mechanical ventilation, new devices, locations and what you should know about Bias Flow. Respiratory Care (2010) 55 (7) 942-945

2. Dhand R, Guntar V.P, How best to deliver aerosol medication to mechanically ventilated patients. Clinical Chest Med, (2008) 277-29

3. Dhand R, Aerosol therapy in patients receiving non-invasive positive pressure ventilation, Journal of aerosol medicine and pulmonary delivery (2012) (25) 2 63-68

4. Gotera C, Lobato D, Pinto T, Winck J.C, Clinical evidence on high flow oxygen therapy and active humidification in adults. Pneumologia (2013) 19(5): 217-227

5. Ward J.J, High-Flow Oxygen Administration by Nasal Cannula for Adult and Perinatal Patients. Respiratory Care, (2013) 58 98-122

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Distributed by:

Armstrong manufacture a complete range of disposable respiratory products for anaesthesia and critical care applications. For supply of these products or any product within the Armstrong range, please contact your local representative.

Armstrong Medical

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