

AirOne / AirOne Flex

Ultrasound nebulisation as the best treatment
for airway complaints



Airway diseases in horses

Acute, chronic or allergy-related coughs are now one of the most common health problems affecting horses. There can be many reasons why respiratory diseases develop.

These include:

- Stabling problems: Too much dust in the stable, lack of exercise, too little fresh air (harmful gases such as ammonia)
- Previous infections that may not have been picked up on or treated correctly
- Allergies to fungal spores from hay and straw or to pollen from flowers
- Viruses, bacteria (occasionally also parasites)
- Genetic predisposition

In most cases, several causes simultaneously lead to a weakening of the immune system, resulting in respiratory diseases. Prompt diagnosis, rapid treatment from the vet and supportive measures can help to cure many diseases of the airways.

A healthy horse has its own type of self-purifying mechanism. Horses' airways are lined with fine ciliated hairs (cilia) and these are in turn moistened by a fluid secretion. Inhaled harmful substances, such as dust particles, stick to the uppermost layer of this secretion and are transported up the airways and outwards thanks to the wave-like movement of the hairs, and are eventually coughed out.

Inflamed or irritated airways, however, can interfere with this mechanism. Mucus production is stimulated and this thick mucus is no longer able to be coughed up and transported away, which in turn leads to airway problems. Any impairment of the self-cleaning mechanism can, if it persists, lead to severe, chronic lung damage.

Initially, a distinction is made in horses between acute and chronic cough, also known as equine asthma.



Performance needs intact respiratory organs!

Acute bronchitis

Acute coughs are commonly caused by viral infections, but often a secondary infection can develop from bacteria. In bronchitis, the following symptoms are usually seen, for example:

- Cough
- Nasal discharge
- Loss of appetite
- Reduced performance, fatigue
- Fever (normal temperature for adult horses: 37.0 °C - 38.0 °C)
- Swelling of the lymph nodes in the head area

The first signs of a cough should not be ignored. Occasional coughing, especially at the start of a physical situation such as when trotting, may be indicative of a developing disease. The rapid initiation of therapeutic measures can prevent the condition from becoming chronic.

Equine asthma

Several factors often play a role at the same time as triggers for a chronic cough. In many cases, it is preceded by acute bronchitis that has not been treated consistently. The irritated mucous membranes that this condition brings with it provide the perfect breeding ground for infection with viruses or bacteria. In addition to cold and dry air, especially in the winter months, the daily care of the horses (mucking out, bedding, sweeping and feeding) is a challenge for the entire respiratory system. Horses kept indoors during the winter are particularly affected (permanent exposure to dust, ammonia gases, mould spores and lack of exercise).

Typical symptoms of equine asthma (previously also called COB) are:

- Cough (in the morning and/or at the beginning of a work phase)
- Reduced performance through to apathy
- Increased respiratory rate (normal value: 8-16 breaths per minute)
- Nostril flaring at rest
- Little nasal discharge
- Difficulty breathing up to increased abdominal breathing (heave line)
- Blue discolouration of the mucous membranes due to oxygen deficiency

Without treatment, an acute cough can develop into equine asthma.

What measures can be taken if the horse has airway problems?

Before changing husbandry or other conditions, we recommend consulting the veterinarian. This is the only way to ensure that the environment the horse lives in can be included in the diagnosis.

Irrespective of this, it has been shown in many cases that even simple measures - like those listed below - can have a positive effect on the horse's state of health.

- Humidification of dry, dusty hay
- Use of high quality roughage
- Sufficient fresh air in the stables with simultaneous avoidance of draughts
- Use of dust-free bedding
- Sufficient daily exercise for your horse
- Avoidance of dust during stable work
- Effective inhalation through ultrasound devices with high nebuliser output

If bronchospasm persists, the airways narrow and the horse can only breathe with difficulty.

The right inhalation as a targeted therapy for airway diseases in horses

Unfortunately, a change in husbandry conditions is not always enough. To loosen the stuck mucus, one of the most effective treatment methods is inhalation. However, not all inhalations are the same. A wide variety of systems and products are available, from saline chambers and mesh inhalators to highly effective dual-chamber ultrasound nebulisers.

Due to the large number of products on the market, the following checklist will help you to choose the right device:

Inhaled quantity per time unit

The enormous size of the horse's lung requires a correspondingly large amount of inhaled inhalation solution. Whether a lot or a little inhalation solution reaches the horse's lungs depends on the device and its technology. Therefore, when buying an inhalator, make sure that between 10 to 15 ml/min of inhalation mist is produced.

Particle size of the inhalation solution

In order to achieve optimal wetting of the lungs and alveoli, it must be possible for the inhalation device to produce particles with a size between 0.5 and a maximum of 6 µm in diameter.

Effective inhalation by the horse

The nebulised inhalation solution can be inhaled/exhaled by the horse without loss due to a well-fitting and closing mask. This ensures effective inhalation. The chimney effect enhances optimised inhalation.

Suitability for many inhalation solutions

Due to the many preparations and medications available on the market, the inhalator should be compatible with as many agents as possible in order to be able to use it for all therapeutic measures.

Dual-chamber cold nebulisation

Ultrasound technology, and those with a dual-chamber system, ensures the nebulisation of all inhalation solutions that can be combined with water.

Frequency of maintenance and care

The inhalation device should be easy to use and maintain and, if possible, should be maintenance-free or at least require little maintenance. Filters or similar objects that have to be replaced after each treatment increase the maintenance costs.



Ultrasound Inhaler for Horses AirOne

AirOne sets the standard in equine respiratory treatment and therapy. When inhaled at rest, optimal wetting of the bronchial area is facilitated.

- one of the most effective inhalation devices on the market for decades
- maximum nebuliser output combined with optimal particle size ensures effective inhalation
- very simple operation and almost maintenance-free operation
- splash-proof construction (IP54) and impact-resistant materials ensure safe operation
- transparent horse mark for easy control of correct inhalation
- optimised fit of the mask thanks to soft and flexible rubber seal
- mask is easy to clean thanks to removable valves
- Fault indication in case of low water level or overheating
- permanent operation through 230 Volt operation



• nebuliser performance up to 15 ml/min and 2-5 ml/breath • particle size between 0.5-6 µm • 2-chamber cold nebulisation



Includes 3211800 / 3211802: AirOne Nebuliser 230 Volt, elastic connection hose, Wall bracket for Nebuliser, Contact liquid, 30 x nebuliser cups, protective transport container, Operating instructions

Made in Germany

Size guide:

Bit size	Mask size
< 11,0 cm	Shetty / foal
11,0 - 12,0 cm	Pony
12,5 - 14,5 cm	warmblood
> 14,5 cm	coldblood



Use disinfectants with care. Always read the label and product information before use.

Ref. no.	Description		€
3211800	AirOne without Mask	1	
3211802	AirOne incl. Warmblood Mask	1	

Ref. no.	Description	Contents	€
3211810	Inhalation Mask incl. Accessories Shetty mask for AirOne	1	
3211861	Inhalation Mask incl. Accessories Pony mask for AirOne	1	
3211807	Inhalation Mask incl. Accessories Warmblood mask for AirOne	1	
3211809	Inhalation Mask incl. Accessories Coldblood mask for AirOne	1	
3211818	Nebuliser cup 30 items	1/75	
3211819		1.000 ml	1/24
299310		1.000 ml	1/12



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Battery Ultrasound Inhaler for Horses AirOne Flex

The AirOne Flex is the first battery-operated, ventilation-dependent lung inhalation device. All of the advantages of the original with mains connection have also been included in the battery-powered version. When inhaled at rest, optimal wetting of the bronchial area is facilitated.

- very simple operation and almost maintenance-free operation
- splash-proof construction (IP54) and impact-resistant materials ensure safe operation
- transparent horse mark for easy control of correct inhalation
- optimised fit of the mask thanks to soft and flexible rubber seal
- operation independent of power supply due to powerful Li-Ion batteries
- Fault indication in case of low water level or overheating
- mask is easy to clean thanks to removable valves

• nebuliser performance up to 15 ml/min and 2-5 ml/ breath • particle size between 0.5-6 µm • 2-chamber cold nebulisation



Includes 3211804 / 3211805: AirOne Flex Nebuliser 14.4 Volt, elastic connection hose, Wall bracket for Nebuliser, Contact liquid, 30 x nebuliser cups, protective transport container, Operating instructions



Technical data	
Voltage	14,4 V
Battery technology	Li-Ion
Battery charge time	120 min
Period of use	60 min

Size guide:

Bit size	Mask size
11,0 - 12,0 cm	Pony
12,5 - 14,5 cm	warmblood
> 14,5 cm	coldblood



Use disinfectants with care. Always read the label and product information before use.

Ref. no.	Description		€
3211804	AirOne Flex without Mask	1	
3211805	AirOne Flex incl. Warmblood Mask	1	

Ref. no.	Description	Contents	€
3211862	Inhalation Mask incl. Accessories Pony mask for AirOne Flex	1	
3211816	Inhalation Mask incl. Accessories Warmblood mask for AirOne Flex	1	
3211817	Inhalation Mask incl. Accessories Coldblood mask for AirOne Flex	1	
3211818	Nebuliser cup 30 items	1/75	
3211819	Contact liquid	1.000 ml	1/24
299310	cit Surface Disinfection Spray Erazer RTU	1.000 ml	1/12



Masks from the AirOne family

An inhalator can only develop its full effect if the inhalation solution also reaches the horse's lungs. This is only possible with a mask that allows perfect ventilation. This is guaranteed by the specially developed inhalation and exhalation valves in the "hippomed" masks.

But our masks are not only unique because of the valves:



Easy disinfection and cleaning thanks to removable valves and fixing screws on the rubber straps (AirOne Flex). The silicone rim can also be easily removed and cleaned.

Mask type	AirOne	AirOne Flex
Shetty mask	✓	*
Pony mask	✓	✓
Warmblood mask	✓	✓
Coldblood mask	✓	✓

* There is no special shetty mask for the AirOne Flex. In this case, the AirOne Flex is used with the standard shetty mask and the long tube.

Use explained using the AirOne Flex



Fig. 1
Fill chamber 1 with contact liquid.



Fig. 2
Insert chamber 2 (filled with inhalation liquid).



Fig. 3
Put on the nebulising chamber lid.



Fig. 4
Secure the mask with rubber straps and attach the connection tube.

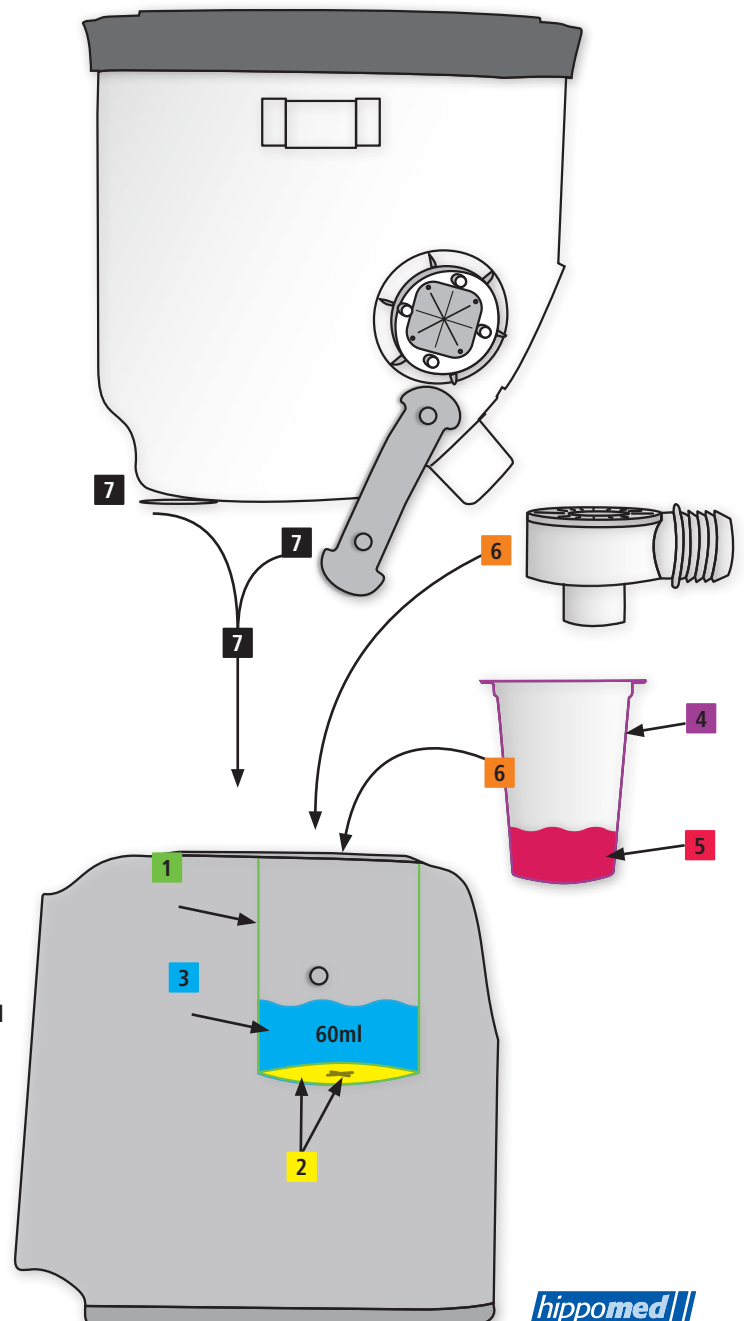
Function of the ultrasonic nebuliser

The AirOne and the AirOne Flex work in exactly the same way. The only difference between the two devices is the housing and the length of the connecting tube to the mask.

See how easily it works (using the AirOne Flex as an example).

- Step 1:** Fill the nebuliser chamber **1** with 60 ml of contact fluid **3** (Fig. 1).
- Step 2:** Fill the medication cup **4** with a maximum of 50 ml and with a water-soluble inhalation solution **5** according to the package insert or consult your veterinarian.
- Step 3:** Place chamber 2 in chamber 1 (Fig. 2) and place the nebulising chamber lid on top **6** (Fig. 3).
- Step 4:** Place the inhalation mask on the AirOne Flex by inserting the back tab of the mask into the recess on the device and attaching the rubber tabs to the side of the device **7** (Fig. 4).
- Step 5:** Connect the short tube to the attachment of the nebulising chamber lid and that of the mask (Fig. 4).
- Step 6:** If the battery of the AirOne Flex has been charged beforehand, it is now ready for use.

- 1** Nebulising chamber 1
- 2** Vibrating base with quartz
- 3** 1. Chamber is filled with 60 ml contact fluid
- 4** Chamber 2 (nebuliser cup)
- 5** filled with inhalation solution, e.g. saline solution or herbal liquid
- 6** Insert chamber 2 into chamber 1, close with the nebulising chamber lid
- 7** Attach the mask securely with the hook-in strap and fixing clip.



Due to the high molecular density of the contact fluid, the vibration generated by the quartz can be transferred to the inhalation solution. The inhalation solution is atomised.

The right choice of inhalation agent

From a therapeutic and prophylactic point of view, saline solution serves as the basis for all inhalation applications.

Saline solution as a sole inhalation agent moistens the airways, loosens mucus and relieves a dry cough.

In many cases, however, the course of the disease varies and requires the use of medication in combination with saline solution.

Suitable medications include bronchodilators, expectorants and/or cortisone-containing preparations.

We recommend that you consult a veterinarian whose advice you trust before use.

In addition to the classic saline solution and prescription medicines, there are now also remedies for use in ultrasound nebulisers that can have a beneficial effect based on herbal essences. The Herbal Liquid developed by hippomed is a product that falls under this category.


Regardless of which inhalation agent is used, it is advisable for the horse to inhale at rest in order to optimally wet the lungs with it.

Herbal Liquid

Herbal water for humidifying the air

Recommendations for use:

- 1 x daily, mix 10 ml of Herbal Liquid with 30 - 40 ml of sterile 0.9 % saline solution and mist or moisten
- the solution is also suitable for use in ultrasonic nebulisers

Composition			
Water, plant extract (marshmallow, ribwort, sage, watercress, Icelandic moss, liquorice, ivy), NaCl, Potassium sorbate, Citric acid			
Ref. no.	Contents		€
3211820	500 ml / Dispenser Bottle	1/14	



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