

FREEVENT[®] XtraCare[™] *Mini*



Effective filtration along with good humidification for daily protection.

Atos

Breathing—Speaking—Living
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Freevent XtraCare Mini is a new HME with a highly effective electrostatic filter for daily use that provides protection against airborne particles, including viruses and bacteria, with a filtration efficiency of more than 98%^{1,2*}. It is intended for pediatric patients spontaneously breathing through a tracheostoma.

Humidification and filtration are lost with a tracheostomy

A tracheostomy bypasses the upper airways, and when breathing through a tracheostomy tube, the important, natural humidification and filtration functions are mostly lost. The tracheostomy creates an open portal of entry for unconditioned air, viruses, bacteria and other fine airborne particles into the lower airways.

Respiratory conditions

Tracheostomized children have a high risk of respiratory infections. This is due to the naturally protective oral and nasal passages being bypassed, allowing microorganisms into the lower airways more easily. Also, the use of a tracheostomy tube can irritate the mucosa of the trachea, further increasing infection risk. It has been found that children with a long term tracheostomy tube often have colonization with microorganisms of the airways, predisposing them to more frequent infections^{3,4,5}.

Bacterial pneumonia is the most common reason for hospitalization in tracheostomized children³.

The most common reasons for hospitalizations among children with preexisting tracheostomy³

Major organ systems	Frequency (%)
Respiratory	50.8
Pneumonia	15.4
Bacterial Pneumonia	9.6
Neurological	8.4
Ear, Nose and Throat	8.4
Gastrointestinal	7.7
Infectious Diseases	4.7
Musculoskeletal	4.1



An efficient HME with a high filtering capacity

Freevent XtraCare Mini combines an HME with an electrostatic filter that reduces the inhalation of airborne particles containing e.g. viruses and bacteria (HMEF).

Freevent XtraCare Mini provides:

- Good humidification
- Effective filtration of bacteria >99%^{1*}
- Effective filtration of viruses >98%^{2*}

Freevent XtraCare Mini has a compact design, tailored for pediatric patients. It's fitted with a transparent connector to facilitate monitoring of secretions and is compatible with tracheostomy tubes with

an ISO 15 mm connector. Freevent XtraCare Mini can be used 24/7 and should be changed at least once a day and more often if e.g. breathing resistance increases due to saturation with mucus.

If supplemental oxygen is needed Freevent XtraCare Mini can be combined with Freevent O₂ Adaptor Mini.

Freevent XtraCare Mini helps to protect tracheostomized children by effective filtration of inspired air and their direct surroundings by effective filtration of the child's expired air.



Performance and Facts

Moisture loss at VT = 250 ml	12.6 mg/l
Moisture loss at VT = 1000 ml	21.9 mg/l
Bacterial filtration efficiency (BFE)	>99% ¹ (15 l/min)
Viral filtration efficiency (VFE)	>98% ² (15 l/min)
Dead space	6.1 ml
Pressure drop 10 l/min	45 Pa
Pressure drop 15 l/min	72 Pa
Pressure drop 30 l/min	170 Pa
Tidal volume range	30-250 ml (approx. 7 to 30 kg)
Oxygen supply	Freevent O ₂ Adaptor Mini
Made in	Sweden

Single patient use only, disposable. Individually packed products



Excellent filtration of viruses and bacteria

The electrostatic filter in Freevent XtraCare Mini effectively filters small airborne particles, e.g. bacteria, viruses, dust, and pollen, irrespective of the direction of airflow through the device. The effect of such a filter is achieved by electrostatic charges that attract viruses, bacteria and other airborne particles. In addition, particles collide and adhere to the filter fibers. The combination of these mechanisms of filtration in an electrostatic filter enables the excellent filtration efficiency of Freevent XtraCare Mini.

A traditional HME humidifies the inhaled air, but does not effectively filter the inhaled air, to prevent viruses, bacteria and other airborne particles from entering the airways through the tracheostoma.

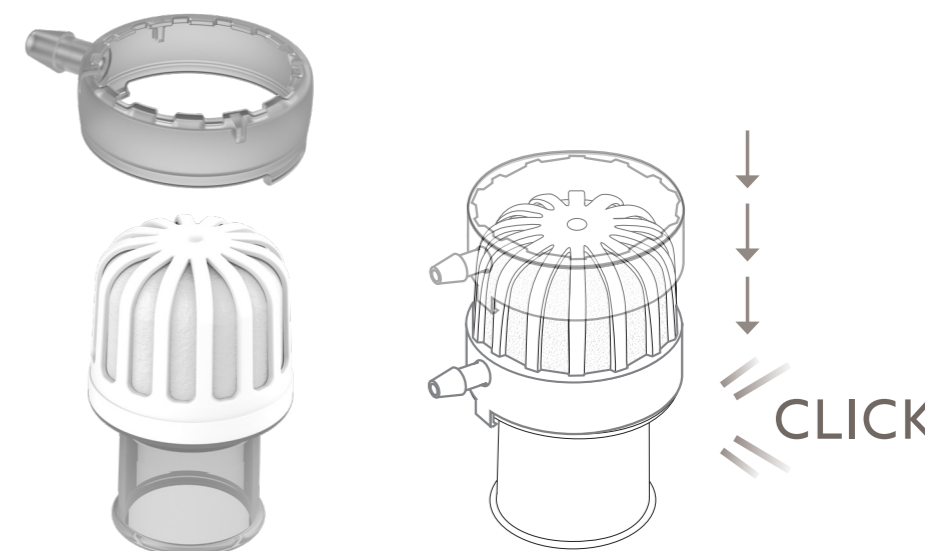
Filtration efficiency*		
	Filtration of bacteria (average)	Filtration of virus (average)
Freevent XtraCare Mini	>99%	>98%
T-shaped HME with paper	14%	33%
T-shaped HME with foam	57%	51%
Chimney shaped pediatric HME	40%	55%

If supplemental oxygen is needed

Freevent XtraCare Mini can be combined with Freevent O₂ Adaptor Mini to administer supplemental oxygen.

The Freevent O₂ Adaptor Mini:

- Connects to the HME with an audible click to confirm it's securely in place
- Fits with an oxygen tubing of 1/8 inch (3.2 mm) diameter
- Should be replaced at least every 24 hours, or when it becomes dirty, contaminated or shows any signs of damage
- Can be removed and used again within 24 hours for the same patient, if needed
- Is for single patient use only
- Products are individually packed








Effective filtration along with good humidification for daily protection.

A tracheostomy means that the natural humidification and filtration functions are mostly lost. Combining an HME with an electrostatic filter provides tracheostomized children with humidification and filtration of inspired air and those around them with filtration of expired air.

Freevent XtraCare Mini is intended for spontaneously breathing tracheostomized children and provides:

- Good humidification
- Effective filtration of bacteria > 99%*
- Effective filtration of virus > 98%*
- Transparent connector to facilitate monitoring of secretions

Order information		REF
	Freevent XtraCare Mini White, 30 pcs	8004
	Freevent XtraCare Mini Blue, 30 pcs	8005
	Freevent XtraCare Mini Pink, 30 pcs	8006
	Freevent XtraCare Mini White, 5 pcs	8008
	Freevent O2 Adaptor Mini, 10 pcs	8007

Contact us for more information

We develop products in close cooperation with leading institutions, doctors, physicians, nurses, speech-language pathologists, and patients from all over the world, to improve patients' quality of life through smart and innovative solutions.

For more information about the Freevent assortment and Instructions for Use, please visit www.atosmedical.com.

*Please note: Since pathogens can enter and leave the human body in other ways, (such as the mouth, nose, and eyes), Freevent XtraCare Mini can never guarantee complete protection. Please read the Instructions for Use for guidance.

References:

1. Bacterial Filtration Efficiency (BFE) GLP Report, Nelson Laboratories, Salt Lake City, USA
2. Viral Filtration Efficiency (VFE) GLP Report, Nelson Laboratories, Salt Lake City, USA
3. Zhu H, Das P, Roberson DW, Jang J, Skinner ML, Paine M, Yuan J, Jay Berry J. Hospitalizations in children with preexisting tracheostomy: a national perspective. *Laryngoscope*. 2015 Feb;125(2):462-8
4. Woods CR, Isaacson GC, Kaplan SL and Torchia MM. Tracheal infections associated with tracheostomy tubes and endotracheal intubation in children. 2013. UpToDate.com
5. Cline JM, Woods CR, Ervin SE, Rubin BK and Kirse DJ. Surveillance tracheal aspirate cultures do not reliably predict bacteria cultured at the time of an acute respiratory infection in children with tracheostomy tubes. *Chest*. 2012 Mar;141(3):625-631

Head office:

Atos Medical AB,
Hyllie Boulevard 17,
SE-215 32 Malmo, Sweden

Manufacturer:

Atos Medical AB,
Kraftgatan 8,
SE-242 35 Horby, Sweden

Tel: +46 (0) 415 198 00,
Email: info@atosmedical.com