



Experience
the Blom-Singer®
Difference

INHEALTH®
TECHNOLOGIES

Heat and Moisture Exchange



Blom-Singer™
HME SYSTEM

Breathe Healthy. Speak Confidently.

■ Introducing The Blom-Singer™ HME System



The Blom-Singer HME System consists of our new HME cartridge and our TruSeal® adhesive housing.*

The new HME cartridge contains:

- Our HumidiFilter® foam filter for heat and moisture exchange with an antimicrobial agent to inhibit bacterial growth on the filter.
- Our innovative **EasyTouch™** speech button for more confident speaking.
- An integrated **MucusShield™** occluder to protect the HumidiFilter from mucus secretions and provide an air-tight seal closure (occlusion) for speech.

Putting your HME device together each day is no longer a concern. That's because the new Blom-Singer HME cartridge is a daily-disposable device that comes fully assembled. You simply put on a new one each day.

*TruSeal housing available separately.

“Using an HME has improved my quality of life by helping me create a better voice, because I don't have as much mucus buildup in my lungs. Using it has given my voice greater clarity.”

— Steve Martin

- We've given it just the right touch...
the *EasyTouch*[™] speech button.



HME side view



HME top view

A sophisticated, low profile and translucent material helps the HME discretely blend with the Blom-Singer TruSeal[®] adhesive housing, so it is less noticeable.

*The new Blom-Singer HME System features our innovative **EasyTouch**[™] speech button that makes stoma occlusion simple. Just push the **EasyTouch** speech button with minimal, manual force and it closes to produce voice.*

*The fingertip, tactile response is immediate. You'll feel it's completely closed, so you can speak with more confidence. Upon manual release, the **EasyTouch** speech button instantly returns to its open, breathing position. The **EasyTouch** speech button lets you manually switch between the open and closed positions.*

The feeling is definite. You'll know the speech button is either open or closed.

open



closed

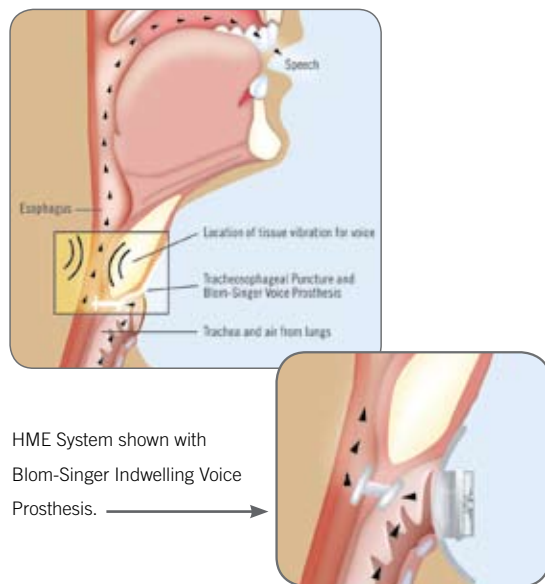


The **EasyTouch**[™] speech button gives immediate tactile response. You'll feel the difference.

■ How The Blom-Singer HME System Works

The Blom-Singer HME System may be used by all laryngectomees.

- *Esophageal speakers*
- *Electrolarynx users*
- *Tracheoesophageal prosthesis users with manual occlusion*



Healthier Breathing. Less Mucus and Coughing.

The Blom-Singer HME System helps users improve their quality of life by serving as a partial replacement for lost nasal functions. It does so by filtering and exchanging cool, dry air for warm and moist air. It's critical to breathe in air that contains the proper heat and moisture content to protect the trachea and lower airway from drying and cooling without obstructing the ability to breathe or speak.¹

Daily, consecutive use of the Blom-Singer HME System contributes to a healthier respiratory tract, restores airflow resistance, and helps to maintain optimal lung ventilation.¹ The result of which can be:

- Less coughing
- Up to a 60% reduction in mucus¹

The Blom-Singer HME System is a two-piece unit that consists of an HME cartridge and a TruSeal adhesive housing. The HME contains a HumidiFilter foam filter for heat and moisture exchange, and a speech button for speaking.

The HME System is placed over the tracheostoma for inhaled and exhaled air to pass through. However, it does not obstruct the user's ability to breathe or talk. The diagram opposite provides a cross view of the Blom-Singer HME, and briefly describes each of its components.

"I pretty much do everything today wearing an HME that I did before my laryngectomy. Sure, there are adjustments I have to make. But that's just it. They're adjustments. You make them, and you go on."

— Melanie Griggs

Additional Features and Benefits

*In addition to our innovative **EasyTouch™** speech button and **MucusShield™** occluder, the new Blom-Singer HME includes extra features designed to help users breathe easily and speak with confidence.*

HumidiFilter® Foam Filter

Provides heat and moisture exchange and inhibits bacterial growth on the filter for a more hygienic environment.

EasyTouch Speech Button

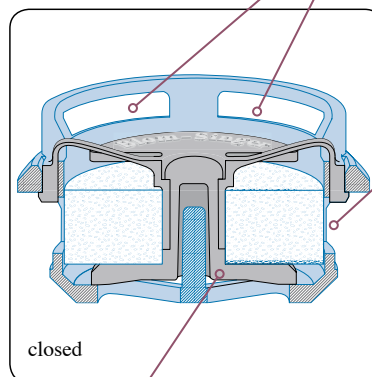
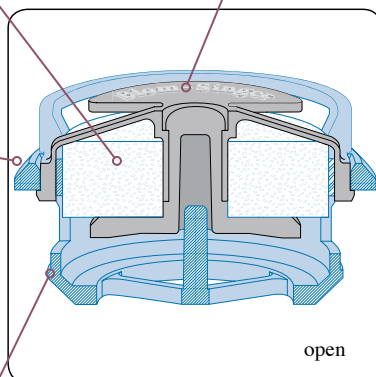
Easy, fingertip stoma occlusion for speaking allows the user touch-feel confidence that the speech button is completely closed to produce voice. Upon manual release, the speech button instantly returns to its open, breathing position.

Front and Side Airflow Vents

Maximizes airflow for easy breathing. Side vents provide additional airflow and prevent clothing from obstructing breathing.

Finger Lip

Provides easy removal of the HME cartridge from the tracheostoma housing for coughing or cleaning.



Lower Airway Ports

Maximize airflow to the HumidiFilter.

Snap-fit Retention Collar

Forms a snap-fit seal within the tracheostoma housing to prevent air leakage.

MucusShield Occluder

Provides an air-tight seal closure (occlusion) for speech while protecting the HumidiFilter from direct contact with mucus secretions.

Heat and Moisture Exchanger (HME) — What You Should Know

At InHealth, we understand the physical and psychological challenges laryngectomees face every day. That's why for over 19 years we've been deeply committed to helping them regain and preserve a vital part of their lives — their voice.

Our customers' courage and perseverance inspired us to develop our new Blom-Singer HME System, so they can speak and move more freely through everyday life with comfort and confidence.

■ How Do We Know The EasyTouch™ Speech Button Makes Speaking Easier? We've Proven It.

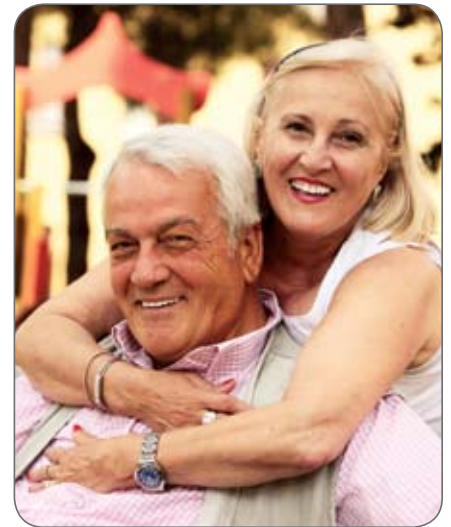
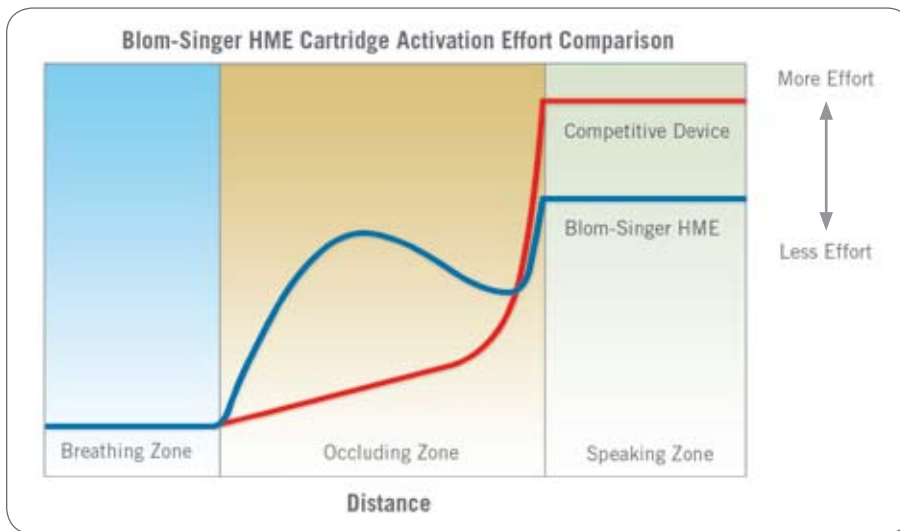
It's a fact. The EasyTouch™ speech button requires less effort to press into its closed position. The feedback you receive is immediate. You'll know the valve is completely closed, so you can speak freely and confidently.

Other HME devices have a spongy feel as you press the speaking valve. This means you can't feel certain it's sealed, and holding it in place requires more effort.

With the EasyTouch™ speech button, the fingertip response is precise. You can feel the valve is sealed—and keeping it closed requires minimal effort.

Can We Show You The Proof?

That's Easy Too.



This graph clearly demonstrates that when compared to the competitive device, the EasyTouch™ speech button requires less effort to occlude the stoma and hold in the speaking position.

"I have severe arthritis in my hands, which has made it impossible to digitally occlude my stoma for TE speech. I was speaking intermittently with esophageal voice, but was communicating via gestures most of the time. When the new Blom-Singer HME System was attached, I was immediately able to occlude my stoma with the EasyTouch™ speech button, and it immediately produced an excellent voice."

— Robert S.

■ HME Defined / Health Benefits

Prior to having a laryngectomy, the air you breathe is warmed, moistened and filtered by tissues in your nose and throat before it reaches your trachea and lungs.

An HME is designed to help laryngectomees regain some of these lost respiratory functions. When placed over your tracheostoma, an HME captures warm and moist air in a filter as it is exhaled from your body.

The cool, dry air you breathe in passes through the filter where it is warmed and moistened as it enters your body.

Use of an HME helps to protect your trachea and lower airway from drying and cooling. To maintain a healthy respiratory tract, it's critical to breathe in air that is filtered and contains the proper heat and moisture content.

An HME should be used daily for as long as possible to receive the following benefits from its use.

Reduced Mucus

Many laryngectomees suffer from involuntary coughing and excessive mucus production due to loss of their larynx. Studies indicate patients using a Blom-Singer HME have experienced a 60% reduction in mucus when using the device for at least seven consecutive days. This amount of time is needed to allow the airway sufficient time to recognize the benefits of the HumidiFilter.^{1,2}

Humidified and Filtered Breathing

When using an HME, a large percentage of the moisture and heat in every breath is conserved and returned to the bronchi and lungs. This helps reduce coughing, dryness and mucus secretions. Clinical studies also report improvements in shortness of breath, fatigue and malaise, sleep problems, anxiety and depression levels.^{3,4}

Increased Airway Resistance

Using an HME aides in resistance to airflow, a role normally played by your nose. It is important for your lungs to benefit from good airflow resistance to supply the body with oxygen effectively, and eliminate carbon dioxide from your blood. Daily use of an HME has been demonstrated to have a positive effect on tissue oxygen saturation and optimal lung ventilation.^{6,7}

Antibacterial Inhibition on the Filter

The HumidiFilter foam filter is treated with an agent to inhibit bacterial growth on the filter for a more hygienic environment.

Improved Quality of Life

Reduced mucus, less coughing, and improved voice quality can increase your self-confidence, and give you more freedom in social situations by reducing the discomfort that comes with feeling as though your condition is drawing unwanted attention.^{4,5}

Inserting The Blom-Singer HME Cartridge*



Daily Use of The Blom-Singer HME System

The disposable Blom-Singer HME is designed for daily, one-time use. Never clean or remove the HumidiFilter foam filter from its cartridge. To maintain proper function of the HME system, it should be replaced at least once a day.

TruSeal® Adhesive Housing Attachment

A properly attached HME system provides an airtight seal around your stoma. Before you insert an HME cartridge, a TruSeal adhesive housing must first be attached to the skin surrounding your tracheostoma (Figure 1) according to the supplied user instruction manual.

- Insert the HME cartridge into the TruSeal adhesive housing, and gently push the cartridge until it snaps into place.
- A properly inserted HME cartridge will sit flush and snug inside the TruSeal housing (Figure 2).



Breathing

Breathing through the HME cartridge should be comfortable and easy. If it isn't, remove the HME system and consult your medical professional for assistance. When you begin using the Blom-Singer HME system, a slight increase in airflow resistance will be felt.

However, this resistance is a normal function of the device that may require some getting used to. Using an HME aides in resistance to airflow, a role normally played by your nose. It is important for your lungs to benefit from good airflow resistance to supply your body with oxygen effectively, and eliminate carbon dioxide from your blood. The HME cartridge also contains side and top airflow vents to maximize airflow for easy breathing and prevent clothing from obstructing your breathing.

Voicing

If you speak using a tracheoesophageal voice prosthesis, voicing with the Blom-Singer HME System is produced by depressing the speech button. Simply place your finger on top of the **EasyTouch™** speech button and press down lightly. Hold the button completely down in this position until you've stopped speaking.

When depressed for speech, the speech button gives users assurance that the device is completely closed (Figure 3). When you release your finger pressure, the speech button instantly returns to its open, breathing position (Figure 4). Users of other voicing methods should follow the voicing instructions provided by their medical professional.



Coughing

It is highly recommended that the HME cartridge be removed from the TruSeal adhesive housing prior to coughing. To remove the cartridge, hold down the TruSeal housing with one hand while grasping the finger lip on the cartridge with your other hand.

Pull the cartridge carefully until it releases from the housing. Be careful not to separate the TruSeal adhesive housing from your skin. This will cause air leakage around the stoma.

The HME cartridge contains an integrated **MucusShield™** occluder that helps protect the foam filter from direct contact with secretions. The cartridge may be wiped with a dry cloth if cleaning is necessary.

However, if the cartridge should become heavily soiled, remove it and replace it with a new one. Never wash an HME cartridge with water, soap or cleaning agents.



Sleeping

Prior to sleeping, remove the HME cartridge and discard it. **The Blom-Singer HME System must be removed before sleeping to avoid the potential for airway obstruction.**

*For complete instructions, please refer to the Blom-Singer HME System user instruction manual supplied with the device.

■ Skin Preparation — Accessories

By following the instructions below and using the recommended accessories, placing a TruSeal or Tracheostoma valve housing onto your neck can be a relatively simple process.

1 Gently clean the skin around your tracheostoma with mild soap and warm water.

2 Rinse and completely dry the skin.

3 Gently wipe the skin with an alcohol pad. **Do not inhale the alcohol fumes. Doing so may cause coughing.**

4 Allow skin to completely dry.

5 Apply one to two layers of a protective skin barrier, such as Shield Skin, Skin-Prep or Cavilon. **Carefully apply the skin barrier so it does not enter your tracheostoma, which can cause irritation. Also, avoid inhaling fumes as this may lead to coughing.**

6 Allow the skin to completely dry. **You are now ready to apply the TruSeal Housing or Tracheostoma valve housing.**



How To Get a Good Seal

For a more durable seal, you may want to apply a thin coating of Blom-Singer Silicone Adhesive or Skin Tac to your skin.

“Maintaining a clean, smooth, open stoma surface is also important for preventing skin irritation and infection around the stoma.”

— Karen Bunnell, RN, MSN, ANP-BC
Adult Nurse Practitioner, Head and Neck Cancer Surgical Nursing

Questions & Answers

Does using the Blom-Singer HME System require a prescription?

No. The Blom-Singer HME System does not require a prescription (USA) and comes fully assembled in a 30-day supply. You can circle the same convenient day on your calendar each month to reorder and you do not have to contact your doctor.

Is the Blom-Singer HME System covered by Medicare?

Yes. The Blom-Singer HME System is reimbursable for Medicare patients (USA), which leaves you more money for other personal needs. For your convenience and peace of mind, InHealth has a dedicated Medicare Insurance Specialist on staff who will assist you with this process.

At the time of your purchase, you simply pay InHealth a co-pay fee. Our specialist then submits your Medicare claim for you and makes sure you receive direct reimbursement for your purchase. In addition, we can answer your questions about Medicare benefits and supplemental insurance.

You can always be assured our Medicare Specialist recognizes the many challenges you face, and will go out of her way to treat you with the honor and respect you deserve.

Can I use the Blom-Singer HME System with a Barton-Mayo button?

Yes. The Blom-Singer HME is compatible with inter-stoma style connectors such as the Barton-Mayo™ Tracheostoma Button. Please refer to the manufacturer's instructions for use supplied with that product.

How long does it take to notice a reduction in mucus?

Noticing a reduction in mucus takes just a little bit of patience. In studies using the HumidiFilter heat and moisture exchanger, patients experienced a 60% reduction in mucus when the device was used for at least seven consecutive days. This time period is needed to allow your airway sufficient time to recognize the benefits of the HumidiFilter.

It's important to note that no two people are exactly the same, so you may experience a reduction in mucus in slightly less, or slightly more time.

Is it difficult to breathe with the Blom-Singer HME System?

Breathing through the HME should be comfortable and easy. However, when you begin using the Blom-Singer HME system, a slight increase in airflow resistance will be felt. Please be aware that this resistance is a normal function of the device that may require some getting used to.

Using an HME aides in resistance to airflow, a role normally played by your nose. It is important for your lungs to benefit from good airflow resistance to supply the body with oxygen effectively, and eliminate carbon dioxide from your blood. Daily use of an HME has been demonstrated to have a positive effect on tissue oxygen saturation and optimal lung ventilation.

Many patients report they easily adapt and get use to breathing through their HME in a week to 10 days, and that the health benefits of less mucus and less coughing make being patient during this time well worth it.

If after this period of time you find breathing to be difficult or arduous, remove your HME system and consult your medical professional for assistance.

How soon can I use an HME?

No two people are the same, and everybody's recovery from a laryngectomy procedure is different. However, the sooner you can begin using your HME the easier it will be to adapt to breathing through it.

Your medical professional will be able to speak with you about your individual circumstances, and provide you specific advice about when you can begin using an HME.

■ Ordering Information

USA

Blom-Singer products may be ordered directly from our friendly customer service representatives by calling (800) 477-5969.

- Monday – Thursday, 9:30 a.m. – 7:00 p.m., E.S.T.
- Friday, 9:30 a.m. – 5:00 p.m., E.S.T.

Our toll-free number may be used from the continental USA, Alaska, Hawaii, Puerto Rico, and the Virgin Islands. You can also order InHealth products from our website at www.inhealth.com

Canada

In Canada, please contact Auto Control Medical at (800) 461-0991, or Fax (800) 699-5936.

International

For a list of international distributors, please contact:
International Healthcare Technologies
1110 Mark Avenue, Carpinteria, CA 93013-2918 USA
Tel: +01(805) 684-9337, Fax: +01(805) 684-8594.

REF	DESCRIPTION
BE1055	Blom-Singer™ HME System Heat and Moisture Exchange Cartridge, box of 30
BE6054	Blom-Singer® TruSeal® Adhesive Housing, box of 30

Please see our InHealth Technologies 2008 ENT Product Catalog for a complete offering of accessory products available for skin care and skin preparation for adhesive housings.

■ Reimbursed by Medicare. No Prescription Necessary.

The Blom-Singer HME System is eligible for Medicare reimbursement (USA). In addition, it does not require a prescription and comes fully assembled in a 30-day supply. So you can circle the same convenient day on your calendar each month to reorder—without having to contact your doctor.



BIBLIOGRAPHY

- 1 Blom, E.D., Singer M.I., and Hamaker, R.C., **Tracheoesophageal Voice Restoration Following Total Laryngectomy**. San Diego: Singular Publishing Group, Inc.1998.
- 2 Grolman, W., Blom, E., Branson, R., Schouwenburg, P., Hamaker, R. (1997) An Efficiency Comparison of Four Heat and Moisture Exchangers Used in the Laryngectomized Patient. **The Laryngoscope**, 107; June 1997: 814-820.
- 3 Ackerstaff AH, Hilgers FJ, et al.(1993) Improvements in respiratory and psychosocial functioning following total laryngectomy by the use of a heat and moisture exchanger. **Annals of Otolaryngology, Rhinology and Laryngology**, 1993, Nov; 102 (11): 878-83.
- 4 Ackerstaff AH, Hilgers FJ, et al.(1995) Heat and moisture exchangers as a treatment option in the post-operative rehabilitation of laryngectomized patients. **Clinical Otolaryngology**, 1995, 20, 504-509.
- 5 Hilgers FJ, Ackerstaff AH, et al. (1991) The influence of a heat and moisture exchanger (HME) on the respiratory symptoms after total laryngectomy. **Clinical Otolaryngology**, 1991, 16, 152-156.
- 6 Blom, Eric D. (1993) Laboratory and clinical investigation of postlaryngectomy airway humidification and filtration. *Proceedings of the 1st EGFL Conference and 5th International Congress on Surgical and Prosthetic Voice Restoration After Total Laryngectomy, Grado, Italy.*
- 7 McRae, D. Young, P., Hamilton, J., & Jones, A. (1996) Raising airway resistance in laryngectomees increases tissue oxygen saturation. **Clinical Otolaryngology**, 21, 366-368.

U.S. PATENT 7,025,784



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