

3M Optime 105 Behind-the-head

3M PELTOR Optime 105 Behind-the-Head Hearing Protection Earmuffs User Manual

Model: Optime 105 Behind-the-head

1. INTRODUCTION

The 3M PELTOR Optime 105 Behind-the-Head Hearing Protection Earmuffs are designed to provide effective hearing protection in environments with high noise levels. These earmuffs feature double-shell technology and a Noise Reduction Rating (NRR) of 29 dB, making them suitable for various industrial and occupational applications such as assembly, sanding, and grinding. The behind-the-head design offers compatibility with other personal protective equipment like hard hats.



Image 1.1: Front view of the 3M PELTOR Optime 105 Behind-the-Head Earmuffs.

2. SAFETY INFORMATION

Always read and understand all instructions before using this product. Failure to follow instructions can result in

hearing damage. This product is intended for industrial and occupational use by trained individuals. It is not intended for consumer use.

- **Noise Reduction Rating (NRR):** The NRR for these earmuffs is 29 dB. The NRR indicates the potential noise reduction achievable when the hearing protector is worn correctly. Higher NRR values denote greater potential for noise reduction.
- **Proper Fit:** Achieving a proper fit is crucial for effective noise reduction. Refer to the 'Setup' section for detailed fitting instructions.
- **Limitations:** Hearing protectors reduce exposure to noise but do not eliminate it. The actual noise reduction experienced may vary depending on individual fit, skill, and motivation.
- **Legal Disclaimer:** 3M industrial and occupational products are intended, labeled, and packaged for sale to trained industrial and occupational customers for workplace use. These products must be selected and used in compliance with applicable health and safety regulations and standards (e.g., U.S. OSHA, ANSI), as well as all product literature, user instructions, warnings, and other limitations. Misuse of 3M industrial and occupational products may result in injury, sickness, death, or property damage. For help with product selection and use, consult your on-site safety professional, industrial hygienist, or other subject matter expert. For additional product information, visit www.3M.com.



Noise Reduction Rating (NRR) 29 dB*

*U.S. EPA specifies the NRR as the measure of hearing protector noise reduction. However, 3M makes no warranties as to the suitability of the NRR for this purpose. 3M strongly recommends personal fit testing of hearing protectors. Research suggests that users may receive less noise reduction than indicated by the attenuation label value(s) on the packaging due to variation in fit, fitting skill, and motivation of the user. Refer to applicable regulations for guidance on how to adjust attenuation label values. It is recommended that the NRR be reduced by 50% to better estimate typical protection.

Image 2.1: The Noise Reduction Rating (NRR) of 29 dB for the Optime 105 earmuffs.

3. SETUP

Follow these steps to properly set up and wear your 3M PELTOR Optime 105 Behind-the-Head Earmuffs:

1. **Inspect Earmuffs:** Before each use, inspect the earmuffs for any damage, cracks, or wear on the earcups, cushions, or headband. Ensure the cushions are soft and pliable.
2. **Adjust Headband:** The Optime 105 features a behind-the-head design with an adjustable stainless-steel headband. Gently pull the earcups apart to adjust the headband width to fit comfortably around the back of your head.
3. **Position Earcups:** Place the earcups over your ears, ensuring they fully cover your outer ears. The earcups are designed to tilt, allowing for a personalized fit that seals against your head.
4. **Secure Top Strap:** The earmuffs include a top strap that goes over the crown of your head. Adjust this strap to provide additional support and help keep the earmuffs securely in place.
5. **Check Fit:** Once positioned, ensure a snug and comfortable seal around your ears. There should be no gaps between the ear cushions and your head. If you wear safety glasses, ensure the temples of the glasses do not break the seal of the ear cushions.
6. **Compatibility with Hard Hats:** The behind-the-head design is specifically engineered for easy use with hard hats and other head-mounted PPE. Ensure the earmuffs do not interfere with the proper fit or function of your hard hat.

Behind the head design allows for easy use with hard hats



Image 3.1: The behind-the-head design allows for easy integration with hard hats.

Adjustable earcups tilt to help create a personalized fit



Image 3.2: Adjustable earcups tilt to create a personalized and effective seal.

4. OPERATING

The 3M PELTOR Optime 105 earmuffs are passive hearing protectors and do not require power. Their operation is straightforward:

- **Wearing:** Always wear the earmuffs continuously in noisy environments. Even brief periods without hearing protection can significantly reduce the overall effectiveness.
- **Noise Reduction:** The double-shell technology and foam-filled cushions work together to block out high levels of industrial noise, providing a Noise Reduction Rating (NRR) of 29 dB.
- **Compatibility:** The behind-the-head style is ideal for use with other head-worn personal protective equipment, such as welding helmets, face shields, and hard hats, without interference.
- **E-A-Rfit Compatibility:** These earmuffs are compatible with the 3M E-A-Rfit Dual-Ear Validation System, which allows for quantitative fit testing to help ensure workers are receiving adequate protection. Consult your safety professional for more information on fit testing.



Double-shell technology boosts its noise blocking ability

Image 4.1: Double-shell technology enhances the earmuffs' noise-blocking capability.

5. MAINTENANCE

Proper maintenance ensures the longevity and effectiveness of your hearing protection:

- **Cleaning:** Clean the earmuffs regularly with mild soap and water. The care instructions specify "Hand Wash Only." Do not immerse the entire earmuff in water. Wipe surfaces clean and allow to air dry completely before storage.
- **Inspection:** Regularly inspect ear cushions for signs of wear, hardening, or damage. Inspect the headband for cracks or deformation. Replace any damaged parts immediately.
- **Storage:** Store earmuffs in a clean, dry place away from direct sunlight and extreme temperatures. Avoid storing them in areas where they might be crushed or damaged.
- **Replacement Parts:** Ear cushions and foam inserts should be replaced periodically, typically every 6 months or more frequently with heavy use, to maintain optimal hygiene and acoustic performance.

6. TROUBLESHOOTING

If you experience issues with your earmuffs, consider the following:

- **Reduced Noise Blocking:**

- **Poor Fit:** Re-adjust the headband and earcups to ensure a tight seal around the ears. Ensure no hair, clothing, or other objects are breaking the seal.
 - **Worn Cushions:** Inspect ear cushions for hardening, cracks, or flattening. Replace worn cushions to restore acoustic seal.
 - **Interference:** Check if safety glasses or other PPE are interfering with the ear cushion seal. Adjust their position if necessary.
- **Discomfort:**
 - **Headband Pressure:** Adjust the headband to relieve excessive pressure. The stainless-steel construction is designed to resist bending and warping, but minor adjustments for comfort may be possible.
 - **Ear Irritation:** Ensure ear cushions are clean. If irritation persists, consider replacing cushions or consulting a medical professional.
 - **Damaged Components:** If any part of the earmuffs is visibly damaged (e.g., cracked earcup, broken headband), discontinue use and replace the unit or affected components.

7. SPECIFICATIONS

Feature	Description
Model	Optime 105 Behind-the-head
Noise Reduction Rating (NRR)	29 dB
Technology	Double-shell
Headband Material	Stainless Steel
Cushion Material	Soft, foam-filled
Compatibility	3M E-A-Rfit Dual-Ear Validation System
Care Instructions	Hand Wash Only
Origin	Made in the USA (with globally sourced materials)



**Stainless-steel headband
designed to help resist bending,
warping, and twisting**

Image 7.1: The stainless-steel headband is designed for durability and resistance to deformation.

8. WARRANTY AND SUPPORT

For information regarding product warranty, technical support, or to purchase replacement parts, please contact 3M directly or visit their official website.

- **Official Website:** For additional product information and support resources, visit www.3M.com.
- **Customer Service:** Refer to the 3M website for contact details for customer service and technical assistance in your region.