Product description

The 3M™ PELTOR™ Optime™ Earmuffs are available in headband, neckband, foldable or helmet mounted version. These products are designed to provide moderate to very high levels of attenuation that meets the needs of an extensive range of industrial applications.

Providing attenuation value ranging from SNR 26dB to SNR 35dB they can meet the needs of a wide range of noisy environments.

The helmet mounted version is designed to fit a wide range of industrial safety helmets (see below for further details).

Key features

- Low profile light-weight design (lightest version 165g)
- Sealing rings are available as combination fluid and foam in most models or soft foam cushion only – see model type for more information
- Stainless steel headband design helps maintain constant pressure during wear time
- Large space inside cup helps reduce moisture and heat build-up
- Soft wide cushions help reduce pressure around the ears and improves comfort and wearability
- Replaceable cushions and inserts are available separately to extend the life of your earmuffs
- Helmet mounted version fits directly to many industrial safety helmets without the need of any adapter
- 3M™ PELTOR™ Optime™ Earmuffs feature a double cup design that helps improve attenuation at lower frequencies
- Some models are available in a high visibility colour for enhanced visibility in at risk environments
### Helmet mounted version approved combination:

<table>
<thead>
<tr>
<th>Helmet brand</th>
<th>Model number</th>
<th>P3 Adapter</th>
<th>3M™ PELTOR™ Optime™ I Earmuffs</th>
<th>3M™ PELTOR™ Optime™ II Earmuffs</th>
<th>3M™ PELTOR™ Optime™ III Earmuffs</th>
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<tbody>
<tr>
<td>3M</td>
<td>Airstream AH1, AH4</td>
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*Protector Style 300 includes all 300-versions of this helmet.*
### Mass

<table>
<thead>
<tr>
<th>Model</th>
<th>Mass (grams)</th>
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<tr>
<td>3M™ PELTOR™ Optime™ I Earmuffs (H510A)</td>
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<td>3M™ PELTOR™ Optime™ I Earmuffs (H510F)</td>
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<td>3M™ PELTOR™ Optime™ I Earmuffs (H510B)</td>
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<tr>
<td>3M™ PELTOR™ Optime™ II Earmuffs (H510P3)</td>
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<td>3M™ PELTOR™ Optime™ II Earmuffs (H520A)</td>
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### Standards and approvals:

The 3M™ PELTOR™ Optime™ Earmuffs are type approved against the European Regulation (EU) 2016/425 by Finnish Institute of Occupational Health (FIOH), Topeliuksenkatu 41A, FIN-00250 Helsinki, Finland (Notified Body number 0403). These products meet the requirement of the Harmonised European Standard EN 352-1:2002 (for headband and neckband version) and EN 352-3:2002 (for helmet mounted version). The applicable Certificate(s) and Declaration(s) of Conformity are available at www.3M.com/Hearing/certs.

### Material listing

<table>
<thead>
<tr>
<th>Headband, neckband and foldable version</th>
<th>Helmet mounted version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headband/neckband and cover/sleeve</td>
<td>Stainless steel wire, PVC, Acetal</td>
</tr>
<tr>
<td>Helmet attachment arm</td>
<td>N/A</td>
</tr>
<tr>
<td>Cups</td>
<td>Stainless steel, acetal, polyamide</td>
</tr>
<tr>
<td>Insert (liner)</td>
<td>ABS</td>
</tr>
<tr>
<td>Insert (liner)</td>
<td>Polyether foam</td>
</tr>
<tr>
<td>Cushions and cushion covers</td>
<td>Polyether/Glycerine. (applies to 3M™ PELTOR™ Optime™ I Earmuffs and 3M™ PELTOR™ Optime™ II Earmuffs only)</td>
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<tr>
<td>Cushion cover</td>
<td>PVC</td>
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### Helmet mounted version approved combination:

<table>
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<tr>
<th>Helmet brand</th>
<th>Model number</th>
<th>P3 Adapter</th>
<th>3M™ PELTOR™ Optime™ I Earmuffs</th>
<th>3M™ PELTOR™ Optime™ II Earmuffs</th>
<th>3M™ PELTOR™ Optime™ III Earmuffs</th>
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<tbody>
<tr>
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## Accessories/replacement

The cushions and inserts on the 3M™ PELTOR™ Optime™ range can be replaced with the hygiene kits listed below for improved comfort and reassured protection.

### Hygiene kits:

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<tr>
<th>Earmuff model</th>
<th>Hygiene kit</th>
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<td>3M™ PELTOR™ Optime™ I Earmuffs (H510A, H510F, H510B, H510P3)</td>
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In addition, HY100 sweat pads are also available that can be placed on the cushions to help absorb moisture and sweat.

### Attenuation values

#### 3M™ PELTOR™ Optime™ I Earmuffs (H510A headband)

<table>
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<th>250</th>
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<th>1000</th>
<th>2000</th>
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<tbody>
<tr>
<td>Mf (dB)</td>
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<td>11.6</td>
<td>18.7</td>
<td>27.5</td>
<td>32.9</td>
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<td>sf (dB)</td>
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SNR = 27dB  H = 32dB  M = 25dB  L = 15dB

#### 3M™ PELTOR™ Optime™ I Earmuffs (H510B neckband)

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SNR = 26dB  H = 30dB  M = 24dB  L = 15dB

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SNR = 26dB  H = 32dB  M = 23dB  L = 15 dB

#### 3M™ PELTOR™ Optime™ I Earmuffs (H510P3 helmet mounted)

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SNR = 37dB  H = 37dB  M = 35dB  L = 27dB
Attenuation values

3M™ PELTOR™ Optime™ II Earmuffs (H520A headband)

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<td>Mf (dB)</td>
<td>16.2</td>
<td>14.6</td>
<td>20.2</td>
<td>32.5</td>
<td>39.3</td>
<td>36.4</td>
<td>34.4</td>
<td>40.2</td>
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<tr>
<td>sf (dB)</td>
<td>1.9</td>
<td>1.6</td>
<td>2.5</td>
<td>2.3</td>
<td>2.1</td>
<td>2.4</td>
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<td>2.3</td>
</tr>
<tr>
<td>APVf (dB)</td>
<td>14.3</td>
<td>13.0</td>
<td>17.7</td>
<td>30.2</td>
<td>37.2</td>
<td>34.0</td>
<td>30.4</td>
<td>37.9</td>
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SNR = 31dB  H = 34dB  M = 29dB  L = 20dB

3M™ PELTOR™ Optime™ II Earmuffs (H520A neckband)

<table>
<thead>
<tr>
<th>Frequency (Hz)</th>
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<tbody>
<tr>
<td>Mf (dB)</td>
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<td>sf (dB)</td>
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<td>2.2</td>
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<td>2.4</td>
</tr>
<tr>
<td>APVf (dB)</td>
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<td>12.9</td>
<td>17.8</td>
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<td>37.4</td>
<td>33.8</td>
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<td>37.8</td>
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SNR = 31dB  H = 34dB  M = 29dB  L = 20dB

3M™ PELTOR™ Optime™ II Earmuffs (H520F folding headband)

<table>
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<tr>
<th>Frequency (Hz)</th>
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<tbody>
<tr>
<td>Mf (dB)</td>
<td>16.1</td>
<td>14.5</td>
<td>20.3</td>
<td>32.6</td>
<td>39.1</td>
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<tr>
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<td>2.6</td>
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<td>2.5</td>
<td>2.3</td>
<td>2.7</td>
<td>2.5</td>
</tr>
<tr>
<td>APVf (dB)</td>
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<td>12.7</td>
<td>17.7</td>
<td>30.2</td>
<td>36.6</td>
<td>32.8</td>
<td>32.0</td>
<td>37.3</td>
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</table>

SNR = 31dB  H = 34dB  M = 28dB  L = 20dB

3M™ PELTOR™ Optime™ III Earmuffs (H520P3 helmet mounted)

<table>
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<tr>
<th>Frequency (Hz)</th>
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<td>2.7</td>
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<td>2.6</td>
</tr>
<tr>
<td>APVf (dB)</td>
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<td>37.5</td>
<td>33.6</td>
<td>31.0</td>
<td>36.6</td>
</tr>
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</table>

SNR = 30 dB  H = 34 dB  M = 28 dB  L = 19 dB

3M™ PELTOR™ Optime™ III Earmuffs (H540A headband)

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<tbody>
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<td>Mf (dB)</td>
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<td>17.4</td>
<td>24.7</td>
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<td>2.6</td>
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<td>2.1</td>
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<tr>
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SNR = 35dB  H = 40dB  M = 32dB  L = 23dB
### Attenuation values

**3M™ PELTOR™ Optime™ III Earmuffs (H540B neckband)**

<table>
<thead>
<tr>
<th>Frequency (Hz)</th>
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<th>1000</th>
<th>2000</th>
<th>4000</th>
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</thead>
<tbody>
<tr>
<td>Mf (dB)</td>
<td>20.9</td>
<td>17.5</td>
<td>24.5</td>
<td>34.5</td>
<td>41.4</td>
<td>39.5</td>
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<tr>
<td>sf (dB)</td>
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<td>2.3</td>
<td>2.7</td>
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<td>2.2</td>
<td>2.0</td>
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<td>2.8</td>
</tr>
<tr>
<td>APVf (dB)</td>
<td>17.6</td>
<td>15.2</td>
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<td>32.5</td>
<td>39.2</td>
<td>37.5</td>
<td>42.9</td>
<td>39.2</td>
</tr>
</tbody>
</table>

SNR = 35dB  
H = 40dB  
M = 32dB  
L = 23dB

**3M™ PELTOR™ Optime™ III Earmuffs (H540P3 helmet mounted)**

<table>
<thead>
<tr>
<th>Frequency (Hz)</th>
<th>63</th>
<th>125</th>
<th>250</th>
<th>500</th>
<th>1000</th>
<th>2000</th>
<th>4000</th>
<th>8000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mf (dB)</td>
<td>20.1</td>
<td>17.1</td>
<td>24.5</td>
<td>34.8</td>
<td>40.2</td>
<td>39.6</td>
<td>46.7</td>
<td>43.1</td>
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<tr>
<td>sf (dB)</td>
<td>3.3</td>
<td>2.3</td>
<td>2.8</td>
<td>2.2</td>
<td>2.0</td>
<td>1.8</td>
<td>4.2</td>
<td>2.5</td>
</tr>
<tr>
<td>APVf (dB)</td>
<td>16.8</td>
<td>14.8</td>
<td>21.7</td>
<td>32.6</td>
<td>38.2</td>
<td>37.8</td>
<td>42.5</td>
<td>40.6</td>
</tr>
</tbody>
</table>

SNR = 34 dB  
H = 40 dB  
M = 32 dB  
L = 22 dB

**Attenuation table key:**
- f = Test frequency
- APVf = Assumed Protection Value
- Mf = Mean attenuation value
- sf = Standard deviation
- H = High-frequency attenuation value (predicted noise level reduction for noise with LC – LA = -2dB)
- M = Medium-frequency attenuation value (predicted noise level reduction for noise with LC – LA = +2dB)
- L = Low-frequency attenuation value (predicted noise level reduction for noise with LC – LA = +10dB)
- SNR = Single Number Rating (the value that is subtracted from the measured C-weighted sound pressure level, LC in order to estimate the effective A-weighted sound pressure level inside the ear).

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