

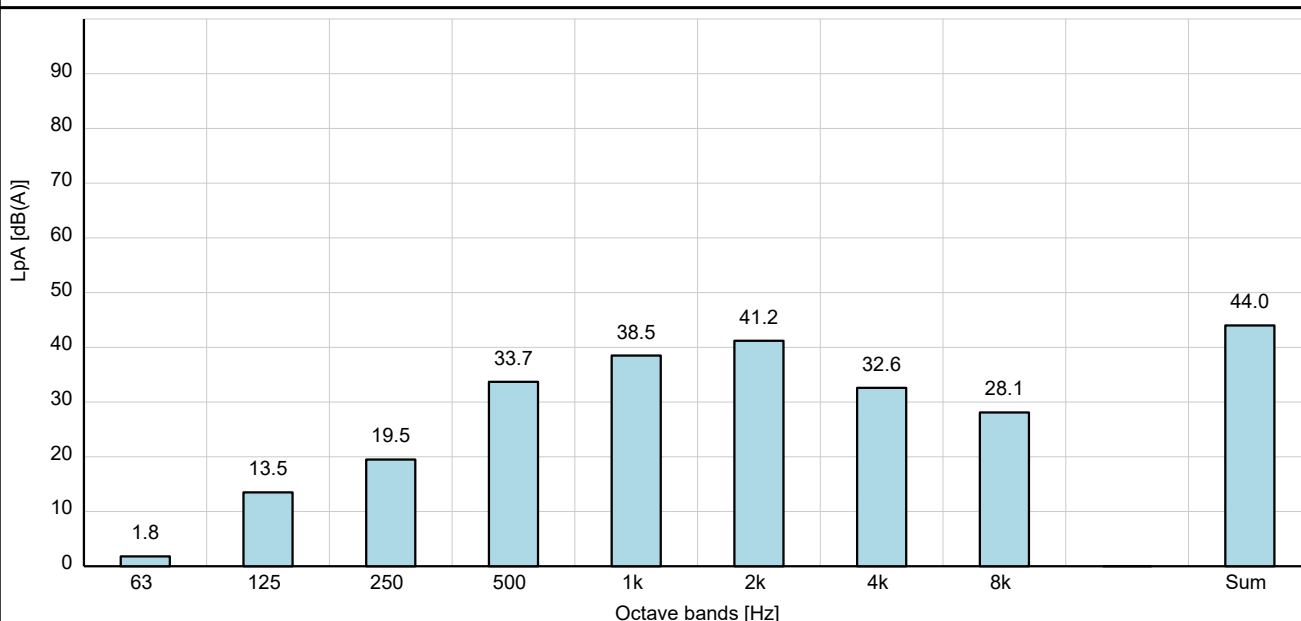
# SOUND MEASUREMENT REPORT

## ISO 3745

**Object:** Motor type: MLE90D  
U: 3 x 440-480 [V]  
f: 50/60 [Hz]  
P2: 2.2 [kW]  
n: 3480 - 4000 [rpm]

**Test conditions:** Load: No load / Idle  
Sound test: 400 [V]  
f: 50 [Hz]  
P2: 0 [kW]  
n: 1500 [rpm]

**Comments:**



**Sound pressure level  $L_{pA}$  : 44.0 [dB(A)]**

**Sound power level  $L_{WA}$  : 56.0 [dB(A)]**

### Notes:

- Sound power values  $L_{WA}$  determined according to IEC 60034-9, ISO 3745 and ISO 4871.
  - Associated uncertainty  $K_{WA} = 3$  [dB(A)]
  - "The sum of measured noise emission values and its associated uncertainty represents an upper boundary of the range of values which is likely to occur in measurements".
- Sound power evaluated at rated speed and no load as specified in IEC 60034-9.
  - "The sound power levels, under full load condition, are normally higher than those at no-load. Generally, if ventilation noise is predominant the change may be small; but, if the electromagnetic noise is predominant the change may be significant".
  - Additionally - as outlined in IEC 60034-9 Amendment 1 - an increase in the noise level may also occur on variable speed drives due to increased level of higher harmonics and potential coincidence between these and structural resonances.
- The equivalent sound pressure level  $L_{pA}$  at 1 m distance are determined from the sound power level via ISO 11203 method Q2
  - The observer surface area  $S$  is given by a box shape enveloping the source – and here calculated for a specified distance of 1 m between the source and the observer surface.
  - The emission sound pressure level obtained with this method represents the average sound pressure level over the surface of area  $S$  in environmental conditions approximating to a free field over a reflecting plane".

### References:

(IEC 60034-9, ISO 3745 & 4871)  
(IEC 60064-9; Clause 8)  
(ISO 4871; Section B2)  
(IEC 60034; Clause 5.2)  
(IEC 60034-9; Clause 6, Note 2)  
(IEC 60034-9 amd 1; Clause 7)  
(IEC 60034; Clause 5.2)  
(ISO 11203; Clause 6.2.3)

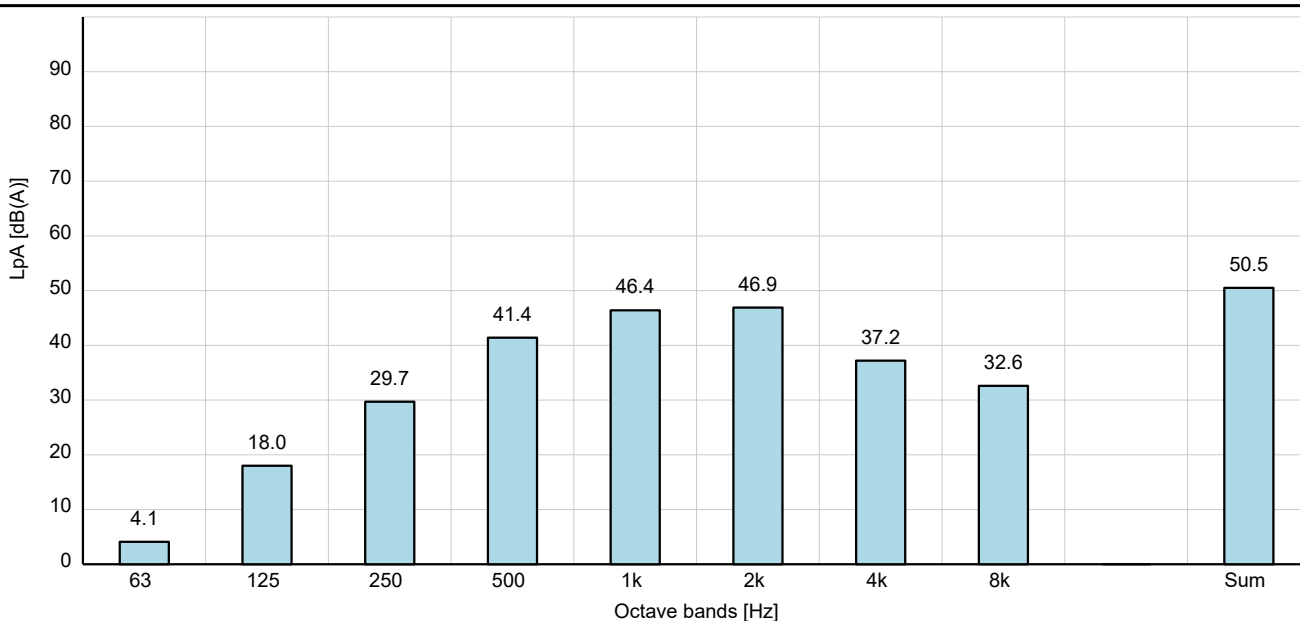
# SOUND MEASUREMENT REPORT

## ISO 3745

**Object:** Motor type: MLE90D  
U: 3 x 440-480 [V]  
f: 50/60 [Hz]  
P2: 2.2 [kW]  
n: 3480 - 4000 [rpm]

**Test conditions:** Load: No load / Idle  
Sound test: 400 [V]  
f: 50 [Hz]  
P2: 0 [kW]  
n: 2250 [rpm]

**Comments:**



**Sound pressure level  $L_{pA}$  : 50.5 [dB(A)]**

**Sound power level  $L_{WA}$  : 62.5 [dB(A)]**

### Notes:

- Sound power values  $L_{WA}$  determined according to IEC 60034-9, ISO 3745 and ISO 4871.
  - Associated uncertainty  $K_{WA} = 3$  [dB(A)]
  - "The sum of measured noise emission values and its associated uncertainty represents an upper boundary of the range of values which is likely to occur in measurements".
- Sound power evaluated at rated speed and no load as specified in IEC 60034-9.
  - "The sound power levels, under full load condition, are normally higher than those at no-load. Generally, if ventilation noise is predominant the change may be small; but, if the electromagnetic noise is predominant the change may be significant".
  - Additionally - as outlined in IEC 60034-9 Amendment 1 - an increase in the noise level may also occur on variable speed drives due to increased level of higher harmonics and potential coincidence between these and structural resonances.
- The equivalent sound pressure level  $L_{pA}$  at 1 m distance are determined from the sound power level via ISO 11203 method Q2
  - The observer surface area  $S$  is given by a box shape enveloping the source – and here calculated for a specified distance of 1 m between the source and the observer surface.
  - The emission sound pressure level obtained with this method represents the average sound pressure level over the surface of area  $S$  in environmental conditions approximating to a free field over a reflecting plane".

### References:

(IEC 60034-9, ISO 3745 & 4871)  
(IEC 60064-9; Clause 8)  
(ISO 4871; Section B2)  
(IEC 60034; Clause 5.2)  
(IEC 60034-9; Clause 6, Note 2)  
(IEC 60034-9 amd 1; Clause 7)  
(IEC 60034; Clause 5.2)  
(ISO 11203; Clause 6.2.3)

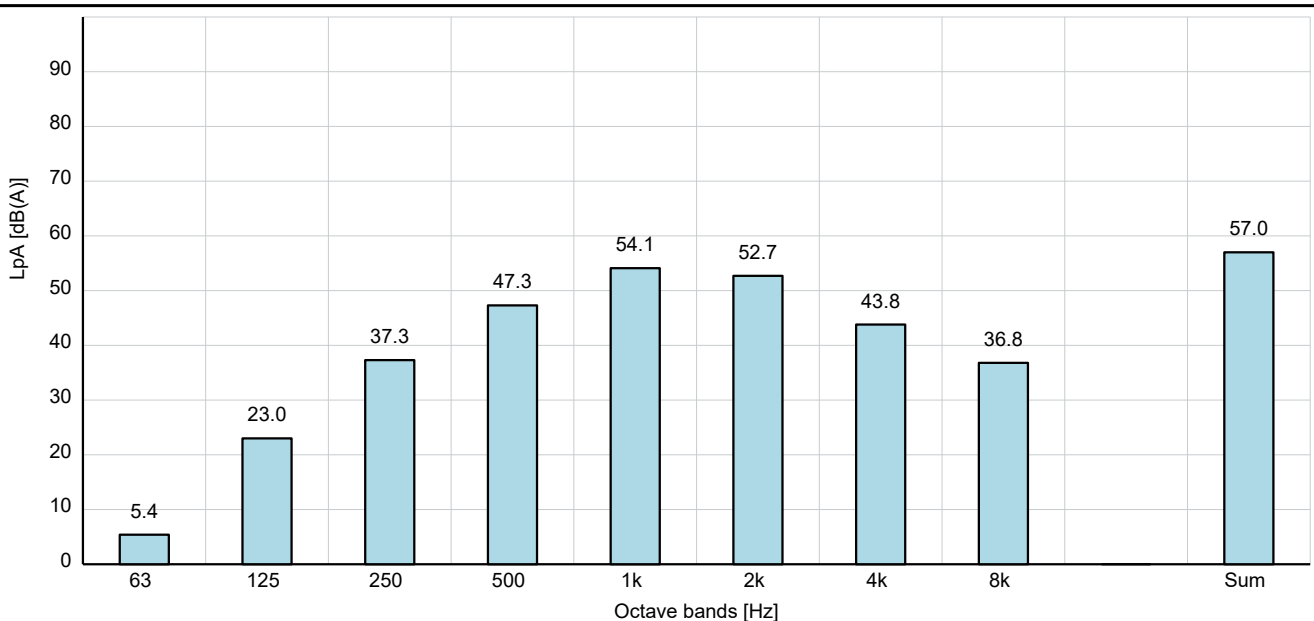
# SOUND MEASUREMENT REPORT

## ISO 3745

**Object:** Motor type: MLE90D  
U: 3 x 440-480 [V]  
f: 50/60 [Hz]  
P2: 2.2 [kW]  
n: 3480 - 4000 [rpm]

**Test conditions:** Load: No load / Idle  
Sound test: 400 [V]  
f: 50 [Hz]  
P2: 0 [kW]  
n: 3000 [rpm]

### Comments:



**Sound pressure level  $L_{pA}$  : 57.0 [dB(A)]**

**Sound power level  $L_{WA}$  : 69.5 [dB(A)]**

### Notes:

- Sound power values  $L_{WA}$  determined according to IEC 60034-9, ISO 3745 and ISO 4871.
  - Associated uncertainty  $K_{WA} = 3$  [dB(A)]
  - "The sum of measured noise emission values and its associated uncertainty represents an upper boundary of the range of values which is likely to occur in measurements".
- Sound power evaluated at rated speed and no load as specified in IEC 60034-9.
  - "The sound power levels, under full load condition, are normally higher than those at no-load. Generally, if ventilation noise is predominant the change may be small; but, if the electromagnetic noise is predominant the change may be significant".
  - Additionally - as outlined in IEC 60034-9 Amendment 1 - an increase in the noise level may also occur on variable speed drives due to increased level of higher harmonics and potential coincidence between these and structural resonances.
- The equivalent sound pressure level  $L_{pA}$  at 1 m distance are determined from the sound power level via ISO 11203 method Q2
  - The observer surface area  $S$  is given by a box shape enveloping the source – and here calculated for a specified distance of 1 m between the source and the observer surface.
  - The emission sound pressure level obtained with this method represents the average sound pressure level over the surface of area  $S$  in environmental conditions approximating to a free field over a reflecting plane".

### References:

(IEC 60034-9, ISO 3745 & 4871)  
(IEC 60064-9; Clause 8)  
(ISO 4871; Section B2)  
(IEC 60034; Clause 5.2)  
(IEC 60034-9; Clause 6, Note 2)  
(IEC 60034-9 amd 1; Clause 7)  
(IEC 60034; Clause 5.2)  
(ISO 11203; Clause 6.2.3)

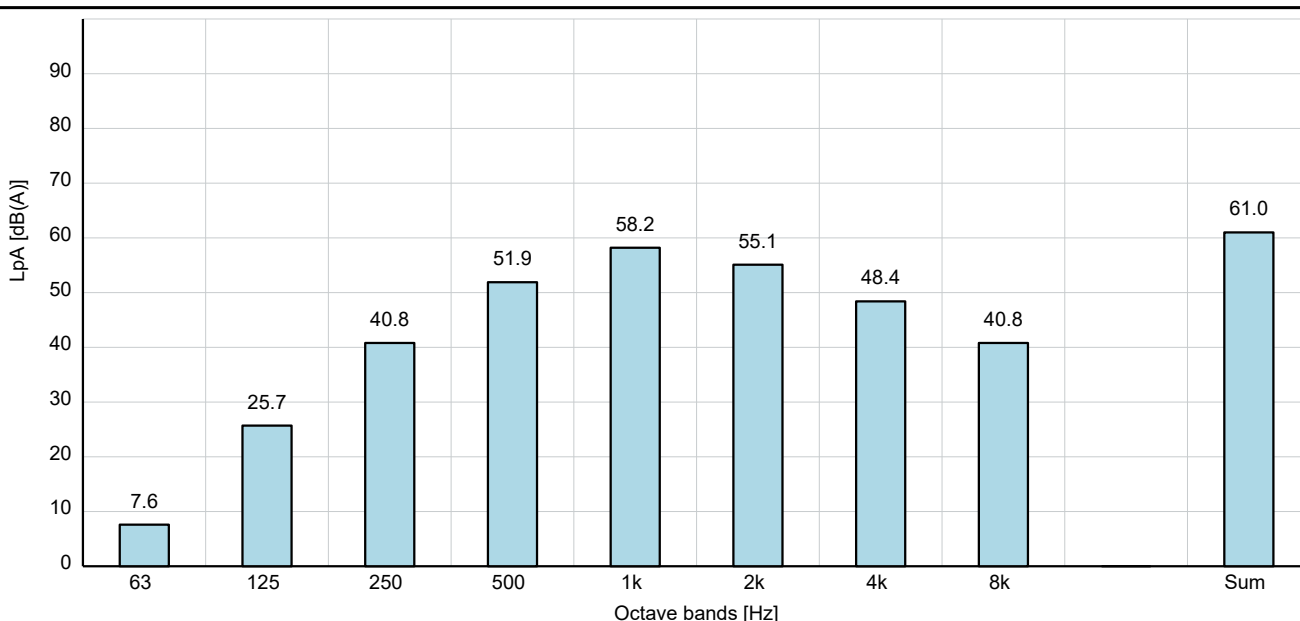
# SOUND MEASUREMENT REPORT

## ISO 3745

**Object:** Motor type: MLE90D  
U: 3 x 440-480 [V]  
f: 50/60 [Hz]  
P2: 2.2 [kW]  
n: 3480 - 4000 [rpm]

**Test conditions:** Load: No load / Idle  
Sound test: 400 [V]  
f: 50 [Hz]  
P2: 0 [kW]  
n: 3600 [rpm]

### Comments:



**Sound pressure level  $L_{pA}$  : 61.0 [dB(A)]**

**Sound power level  $L_{WA}$  : 73.0 [dB(A)]**

### Notes:

- Sound power values  $L_{WA}$  determined according to IEC 60034-9, ISO 3745 and ISO 4871.
  - Associated uncertainty  $K_{WA} = 3$  [dB(A)]
  - "The sum of measured noise emission values and its associated uncertainty represents an upper boundary of the range of values which is likely to occur in measurements".
- Sound power evaluated at rated speed and no load as specified in IEC 60034-9.
  - "The sound power levels, under full load condition, are normally higher than those at no-load. Generally, if ventilation noise is predominant the change may be small; but, if the electromagnetic noise is predominant the change may be significant".
  - Additionally - as outlined in IEC 60034-9 Amendment 1 - an increase in the noise level may also occur on variable speed drives due to increased level of higher harmonics and potential coincidence between these and structural resonances.
- The equivalent sound pressure level  $L_{pA}$  at 1 m distance are determined from the sound power level via ISO 11203 method Q2
  - The observer surface area  $S$  is given by a box shape enveloping the source – and here calculated for a specified distance of 1 m between the source and the observer surface.
  - The emission sound pressure level obtained with this method represents the average sound pressure level over the surface of area  $S$  in environmental conditions approximating to a free field over a reflecting plane".

### References:

(IEC 60034-9, ISO 3745 & 4871)  
(IEC 60064-9; Clause 8)  
(ISO 4871; Section B2)  
(IEC 60034; Clause 5.2)  
(IEC 60034-9; Clause 6, Note 2)  
(IEC 60034-9 amd 1; Clause 7)  
(IEC 60034; Clause 5.2)  
(ISO 11203; Clause 6.2.3)

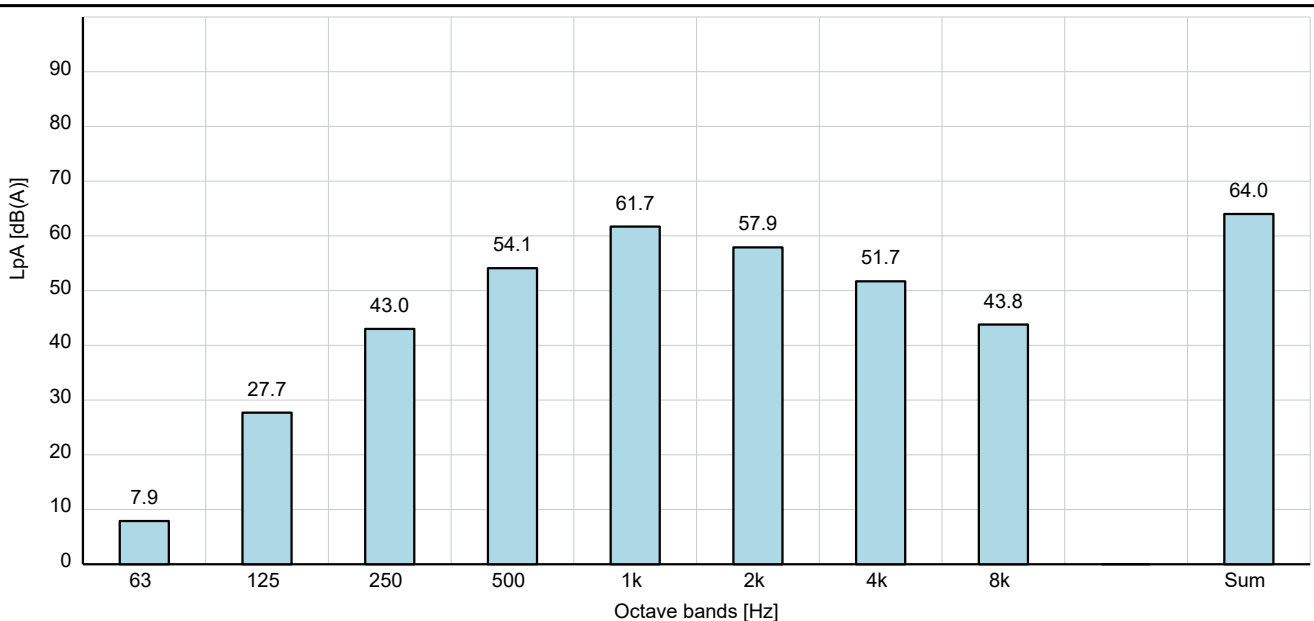
# SOUND MEASUREMENT REPORT

## ISO 3745

**Object:** Motor type: MLE90D  
U: 3 x 440-480 [V]  
f: 50/60 [Hz]  
P2: 2.2 [kW]  
n: 3480 - 4000 [rpm]

**Test conditions:** Load: No load / Idle  
Sound test: 400 [V]  
f: 50 [Hz]  
P2: 0 [kW]  
n: 4000 [rpm]

### Comments:



**Sound pressure level  $L_{pA}$  : 64.0 [dB(A)]**

**Sound power level  $L_{WA}$  : 76.0 [dB(A)]**

### Notes:

- Sound power values  $L_{WA}$  determined according to IEC 60034-9, ISO 3745 and ISO 4871.
  - Associated uncertainty  $K_{WA} = 3$  [dB(A)]
  - "The sum of measured noise emission values and its associated uncertainty represents an upper boundary of the range of values which is likely to occur in measurements".
- Sound power evaluated at rated speed and no load as specified in IEC 60034-9.
  - "The sound power levels, under full load condition, are normally higher than those at no-load. Generally, if ventilation noise is predominant the change may be small; but, if the electromagnetic noise is predominant the change may be significant".
  - Additionally - as outlined in IEC 60034-9 Amendment 1 - an increase in the noise level may also occur on variable speed drives due to increased level of higher harmonics and potential coincidence between these and structural resonances.
- The equivalent sound pressure level  $L_{pA}$  at 1 m distance are determined from the sound power level via ISO 11203 method Q2
  - The observer surface area  $S$  is given by a box shape enveloping the source – and here calculated for a specified distance of 1 m between the source and the observer surface.
  - The emission sound pressure level obtained with this method represents the average sound pressure level over the surface of area  $S$  in environmental conditions approximating to a free field over a reflecting plane".

### References:

(IEC 60034-9, ISO 3745 & 4871)  
(IEC 60064-9; Clause 8)  
(ISO 4871; Section B2)  
(IEC 60034; Clause 5.2)  
(IEC 60034-9; Clause 6, Note 2)  
(IEC 60034-9 amd 1; Clause 7)  
(IEC 60034; Clause 5.2)  
(ISO 11203; Clause 6.2.3)