

# SAMPLING SOLUTIONS



## For Occupational Noise

### Recognition

Occupational noise exposure refers to the level of noise that workers are exposed to in their workplace. Noise is defined as unwanted or harmful sound, and when it occurs at high levels or for prolonged periods, it can have adverse effects on worker health and well-being.

Occupational noise can come from various sources, including machinery, equipment, tools, processes, and the environment itself (e.g., construction sites, manufacturing plants, airports, etc.). Common sources of noise in workplaces include engines, compressors, generators, industrial equipment, power tools, and heavy machinery.

Prolonged exposure to high levels of noise can lead to several adverse health effects, including hearing loss, tinnitus (ringing in the ears), and other auditory problems. Noise exposure can also cause non-auditory health effects such as stress, sleep disturbances, communication difficulties, increased risk of accidents, and reduced overall well-being.

In the United States, [OSHA](#), [ACGIH](#), and [MSHA](#) have regulations and standards to protect workers from excessive noise exposure. This is also true in many other countries. These regulations typically set limits on permissible noise levels and require employers to implement measures to control noise in the workplace. Employers are often required to conduct noise assessments, provide hearing protection equipment, implement engineering controls (e.g., noise barriers, and enclosures), and educate employees about noise hazards.

***See the SKC equipment recommended for measuring and monitoring occupational noise.***

### Evaluation with SKC Sampling Solutions

[SKC Inc.](#) provides comprehensive occupational noise sampling solutions through a range of devices designed for assessing and measuring noise levels in work environments. This equipment is essential for assessing and managing occupational noise exposure, guaranteeing the safety and well-being of workers in environments where they could be exposed to elevated noise levels, and for maintaining a safe and healthy workplace. Choose from SKC personal noise dosimeters and sound level meters to help build your noise monitoring program.

***See reverse side for specific sampling equipment information.***

## Noise Measurement

### Monitoring Solutions

**Noise Dosimeters** are portable, wearable devices worn at the apex of the shoulder with the microphone near the ear. These miniature devices monitor a worker's exposure to noise over an extended period, typically an entire work shift, by regulatory and compliance standards. They continuously measure and record noise levels, allowing for the calculation of noise dose and time-weighted average (TWA) exposure.

**Sound Level Meters** are specialized hand-held instruments for measuring and assessing sound levels in occupational and workplace environments where workers may be exposed to potentially harmful levels of noise during their job tasks. The primary function of sound level meters is to measure the intensity of sound in decibels (dB) and provide real-time measurements of all sound levels, including noise levels as specified by regulations, allowing users to monitor and record exposure for compliance assessments, analysis, and reporting.

### Monitoring Solutions

Type of Exposure	Definition	What to Look for?	Recommended Equipment
Continuous	Consistent and relatively constant noise level over time	<a href="#">Dose</a> in percentage (%) and <a href="#">time-weighted average (TWA)</a> in dBA	<a href="#">NoiseCHEK Dosimeter</a> 701 Series
Peak	Highest instantaneous unweighted sound level reached.	<a href="#">Peak</a> sound pressure level ( $L_{peak}$ )	<a href="#">NoiseCHEK Dosimeter</a> 701 Series or <a href="#">SoundCHEK Essential</a> 702-00X Series
Frequency Bands	Filter sound to measure the sound pressure (as dB) contributed by each frequency to be an octave in width.	<a href="#">Octave Bands</a> in Hz	or <a href="#">SoundCHEK Connect</a> 702-0XX Series
Maximum and Minimum	The highest and lowest time-weighted sound level measured during a given time period.	<a href="#">L<sub>min</sub></a> and <a href="#">L<sub>max</sub></a>	

### Summary

Using a noise dosimeter and a sound level meter correctly is crucial to accurate measurements and effective management of occupational noise exposure. Noise dosimeters like NoiseCHEK provide personalized assessments of individual worker noise exposure over a specified period, typically an entire work shift. Proper placement on the worker and regular calibration with an accurate acoustic calibrator like AcoustiCHEK are essential for reliable results. Dosimeters calculate the time-weighted average (TWA) noise exposure and dose percentage, helping assess compliance with exposure limits.

Sound level meters like the SoundCHEK Series offer real-time sound measurements and are suitable for spot checks in various environments. Choosing the right measurement range, calibration, and understanding features like octave band analysis and peak noise levels are critical for accurate assessments.

Considering the widespread hazard of occupational noise and the deleterious effects of hearing loss, noise surveys and the effective management of occupational noise exposure are crucial for worker health and safety. The accuracy and ease of use of the noise measurement tools you use is key. By opting for SKC's reliable and precision instruments, workplaces can confidently navigate noise surveys, establish robust hearing conservation programs, ensure regulatory compliance, and prioritize the well-being and hearing health of their workforce.

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