

Humidity for a better life



Humidity Control for Musical Instruments

Strings, Woodwinds, Brass, Percussion and Keyboard Instruments

Humidification, Dehumidification and Evaporative Cooling





The air humidity to which such an instrument is later exposed and how much time it has to adjust has a major influence on its longevity, playability, sound and, last but not least, its appearance.



Brass instruments, contain components made of wood or cork. Proper humidity levels help preserve the integrity of these materials.

Why Humidify for Musical Instruments?

Instruments require close monitoring of humidity in the air surrounding them. This is essential to the preservation of all chambers, wooden sound boards and sliders. Dry air extracts vitality and humidity from the material which damages the object's sound quality and financial value in the process.

Experts say that proper humidity levels of between 40-60% RH are best for any environments in which musical instruments will be in such as manufacturing facilities, retail spaces, classrooms, and concert halls. Anything less can cause damage to the instruments.

Many instruments, such as guitars, violins, and pianos, are crafted from wood, a material highly susceptible to changes in humidity. When the air becomes too dry, the wood can shrink and crack, resulting in structural damage and a compromised sound. By maintaining an appropriate level of humidity, typically between 40% and 60%, instruments are protected from excessive moisture loss. Proper humidification helps to stabilize the wood's moisture content, ensuring that it remains in optimal condition, maintains its tonal qualities, and avoids costly repairs.

Maintaining Proper Humidity Levels for your Instruments

Maintaining proper humidity for musical instruments is crucial for their well-being. To avoid the problem of unregulated humidity, consider investing in a hygrometer, a compact device used to measure atmospheric humidity. Many instrument cases come equipped with built-in hygrometers, allowing you to stay informed about the humidity conditions within your case. Having this knowledge is a significant step towards addressing the issue.

Furthermore, there are various case humidifiers available on the market. Once you have a hygrometer, select a suitable case humidifier based on its indications. This way, you can take proactive measures to maintain the desired humidity levels within your instrument case.

Humidifying your instruments' case is just the start. Ensuring the room where your instrument is store or where you practice or perform has a humidity range of 40-60% RH is important for you and your instrument. Condair humidity control solutions can be tailored to your needs. These systems automatically respond to fluctuations in humidity by either reducing or releasing moisture, ensuring that the humidity remains within the ideal range. This option offers a low-maintenance solution, alleviating the need for constant monitoring and adjustment.



Sharp fret edges and a rippled / warped surface on your guitar are a clear indication of excessively dry air. Left untreated will cause damage to the guitar.



The ideal relative humidity (RH) for pianos generally falls between 40% and 50%. This range helps to minimize the negative effects of humidity fluctuations on the instrument.

5 Benefits of Humidity Control for Instruments

Humidity plays a crucial role in maintaining optimal performance of musical instruments, particularly those made of wood and protecting your health. Here are some benefits of humidity for musical instruments:

- 1. Wood Stability:** Wood naturally expands when it absorbs moisture and contracts when it dries. Adequate humidity prevents excessive drying or moisture absorption, reducing the risk of warping, cracking, or other structural damage to the instrument.
- 2. Tone Quality:** Humidity can affect the tone quality of instruments, particularly stringed instruments. When the humidity is within an appropriate range, the wood remains in a stable condition, allowing the instrument to vibrate and resonate optimally. This can enhance the instrument's tonal richness, projection, and overall sound quality.
- 3. Playability and Comfort:** Instruments respond better to musicians when humidity levels are well-balanced. Inadequate humidity can cause discomfort to the player, as dry conditions may lead to sticky or rough fingerboards, stiff bow hair, or other issues that hinder smooth playability. Optimal humidity ensures that the instrument remains in a state that is comfortable and responsive to the player's touch.

4. Longevity and Preservation: Maintaining the right humidity levels can significantly contribute to the longevity and preservation of musical instruments. Proper care and humidity control help prevent irreversible damage caused by excessive drying or swelling of the wood. By preserving the structural integrity, instruments can last longer and retain their value over time.

5. Consistency: Stable humidity conditions provide consistency in the instrument's performance. Fluctuations in humidity can cause the instrument to go out of tune more frequently, affecting musicians' ability to play accurately and creating challenges during performances. Maintaining a suitable humidity environment helps ensure consistent tuning and reliable performance.



Areas where humidity control is needed in the music industry include: instrument manufacturing, retail stores, storage facilities, practise rooms, concert halls, recording facilities, and instrument cases.



“The ideal conditions for your guitar (and your violin, cello or piano for that matter) are between 64°F-75°F and between 45%-55% relative humidity. These conditions are the same as those in the factory or workshop where the instruments were built. Keeping instruments within this range will ensure that the wood will not release or absorb moisture.”

- Source: long-mcquade.com -

Where Our Products Are Used in the Music Industry

Our humidification, dehumidification, and evaporative cooling products can be used in a wide variety of music applications including:

- Alexandra Palace, UK
- Christ’s Hospital School, UK
- Dusty Strings, USA
- Opera North’s Howard Assembly Room, USA
- Royal Albert Hall, UK
- Sydney Opera House, Australia
- The Royal Opera House, UK
- Walt Disney Studios - Sound Stage, USA

About Condair

Condair Group, founded in 1948 and based in Switzerland, is the global leader in humidification, dehumidification and evaporative cooling. Supported by science, we engineer individual, holistic solutions that customers can trust through the entire lifecycle. With optimal humidity, we increase productivity and create healthier built environments.

Condair Group has production sites in Europe, North America and China, its own sales and service organizations in 22 countries, and representatives in 50 locations worldwide. You can rely on our comprehensive portfolio of innovative technologies for air humidification, dehumidification and evaporative cooling for the entire lifecycle of each product.