

TWO-WAY HUMIDIFICATION SYSTEM (TWS)

D'Addario brings you Boveda's® patented, automatic, two-way humidity control technology as part of our instrument care line. Boveda's technology maintains a constant 45%-50% relative humidity (RH) level inside your instrument case. Based on scientific principles, the patented humidification system completely eliminates the guesswork and anxiety around maintaining your instrument's proper humidity level.

No more dripping sponges or manual adjustments due to seasonal changes, geographic locations, temperature, or other factors. Unlike all refillable humidifiers, this humidification system provides true "two-way" humidity control by releasing or absorbing purified water vapor to maintain a constant 45%-50% RH within a sealed environment (your instrument case) — the ideal climate for wooden instruments.

WHAT ARE SYMPTOMS OF A DRY INSTRUMENT?

- Sharp fret ends
- Neck bow
- Sunken top
- Lifted bridge
- Lower string height/notes start to buzz
- Cracking of the neck and/or body
- Change in tone of instrument

DOES MY GUITAR NEED TO BE HUMIDIFIED?

YES!!! It is essential to humidify all wooden instruments. In fact, lack of humidity is the number one cause of all instrument repairs.

HOW DO I USE THE SYSTEM?

Simply place two packets in the included sound-hole pouch and one packet in the included headstock pouch. Hang the soundhole pouch inside the guitar between the two middle (G and D) strings. Lay the headstock pouch in the top compartment of the case under your guitar's headstock. Close the case and THAT'S IT! Note: At no time should you puncture, tear or open the packets exposing the inner contents. In case of a puncture or tear, immediately discard the packet and replace it. When playing your instrument, leave the pouches inside the instrument case and secure the lid. This will maintain the proper humidity level inside the case and allow you the maximum life of the humidification packets. As long as you can press the packets with your fingers and feel movement of the contents, the packets are working. Once the packets become solid, discard

and replace with TWS replacement packets.

I AM A FIRST TIME USER, IS THERE ANYTHING I SHOULD KNOW?

YES. The TWS is a humidity "maintenance" device. If your guitar has not been previously humidified and/or is showing signs of lack of humidity, the packets will dispense at an increased rate due to the fact that the instrument is in a dry condition and will soak up the moisture it desperately needs to reach equilibrium. As an example, a properly humidified acoustic guitar holds about 8-10 grams of water yet restoring a dry guitar to the proper level can take 30-60 grams of water/vapor. This is not including the case which needs to be properly humidified as well, and will take additional water/vapor (up to an additional 40 – 60 grams). If your instrument is showing signs of lack of humidification, you should pre-condition the guitar before using the TWS in order to receive all the benefits and maximum life of the product.

There are two ways to pre-condition your instrument and case. The first is to use the two-Way Humidification Conditioning Packets (PW-HPCP-03). Use these packets as directed before using the packets that came with your System. The conditioning packets safely dispense vapor at an accelerated rate to equalize the humidity of your instrument and case.

Another method is to pre-condition your instrument using the D'Addario Acoustic Guitar Humidifier (GH) with the following procedure:

1. Moisten the sponge as per the directions of the D'Addario GH and install into the instrument. Place the instrument in its case and secure the case latches (This is very important).
2. Check the humidifier 24 hours after installation. If the sponge is dry, moisten the sponge once again as per the directions and check the guitar again in another 24 hours.
3. Repeat steps 1 and 2 until the sponge is still moist when you check the humidifier after 24 hours. This may take 1-2 weeks of daily maintenance.
4. When the sponge is still moist after 24 hours, the guitar has reached equilibrium. Discontinue use of the GH humidifier and start using the TWS according to the instructions.

HOW LONG WILL THE PACKETS LAST?

On average, the packets will last 2-4 months depending on the geographic location and the conditions of which the instrument is exposed to. This is calculated on using the TWHS year round. You may experience months where the packets last longer and months where the packets dispense faster. For example:

- Climatic/seasonal conditions — During the coldest winter months where the humidity is constantly below 20%, you may only get 4-5 weeks before the packets are fully dispensed. On the flip side, during the spring and into the summer when the humidity is at a comfortable level, the packets can last 4-5 months or longer.
- Geographic regions — Extreme conditions such as a desert or high mountain environments will also shorten the life of the packets. In such locations, the packets will dispense quicker, as a strong demand is put on the packets to keep the humidity at a safe level. In this type of situation, the packets may only last 4-5 weeks during the dry season. If you are in an area experiencing extreme conditions, it may be necessary to use a sponge type humidifier along with the TWHS in order to maintain the proper humidity level.
- Instrument/Case condition — The condition of the instrument when you start using the TWHS will have an effect on the packets life as well. If the instrument has not been previously maintained and is severely lacking humidity, it will absorb the moisture content on the packets faster than if the instrument was at the proper humidity level to begin with. And don't forget about the case — unless the case is properly humidified, it will soak up moisture as well. You will get the most life from the packets by consistent use of the product along with starting with a properly humidified instrument/case.

*Remember: When playing your instrument, keep the TWHS packets in the case with the lid closed and secured for the maximum product life.

SOMETIMES THE PACKET CONTENTS HAVE A DIFFERENT CONSISTENCY. WHY?

It really depends on a few factors: how much water content they have, if they have been sitting for a while, and the environment they have been exposed to among others. A new packet can feel slightly firm to liquidly. If a new packet feels firm, it's usually because the contents have settled. If you gently squeeze the packet you will it feel it loosen up. If the packet feels looser than when you first purchased it, it just means that the packet has absorbed some moisture. As long as you can lightly

press on the packet and feel the contents move, the packet is still functional. Once the packet becomes solid, remove it from the instrument case and replace it with a TWHS Replacement Packet (PW-HPRP-03).

WHAT IS THE SOLUTION MADE OF? IS IT SAFE?

The solution is made from a combination of water, salts and gum that acts as a thickener. All of the ingredients are approved by the U.S. Food and Drug Administration as food additives. While the solution is completely safe and will not cause harm, we do recommend keeping packets away from small children and animals.

WHAT ELSE CAN I DO?

On top of using the Two-Way Humidification System you should also:

- Monitor the area where you store your instruments. D'Addario offers a humidity/temperature sensor (PW-HTS) that is perfect for monitoring a room or instrument case.
- Provide the most stable environment possible. During the winter months, you may need to use a room humidifier, while during the summer months a dehumidifier may be needed to keep your environment stable.
- Maintain a consistent temperature in the room where your instruments are stored. Anywhere in the range of 70-76 degrees Fahrenheit is ideal.
- Store your instrument in its case when not being used. The instrument's case acts like a buffer to the outside environment, which can change quickly.
- Store instruments away from direct sources of heating and air conditioning.
- Store instruments away from direct sunlight.

If you have any additional questions, please contact D'Addario/Planet Waves at consumersupport@daddario.com

TWO-WAY HUMIDIFICATION SYSTEM

D'Addario's Two-Way Humidification System utilizing Boveda's patented technology completely eliminates all the guess work and anxiety from maintaining your instrument's proper humidity level.

No more guessing if or when to refill the humidifier, and no more manual adjustments based on seasonal changes, geographic location, temperature, or other factors. Unlike other refillable humidifiers, the D'Addario Humidification System provides true "two-way" humidity control by adding or absorbing moisture as needed to maintain the ideal climate for wooden instruments: 45% to 55%* relative humidity.

Standard packets have the capacity to provide 26 grams of vapor per packet to the instrument and case. At the same time, they have the capacity to absorb more than 15 grams of vapor. Using the complete system as instructed will provide your instrument with the perfect environment, preventing string buzz, warped necks, cracks, and other structural damages associated with a lack of humidification.

SCIENCE MADE PORTABLE

The humidification packets consist of a formulated salt, water, and gel solution contained in a leak-proof water vapor-permeable membrane. Based on scientific principles, the saturated solution will maintain a constant level of 45% to 55% relative humidity within a sealed environment, like your instrument case, without damaging fluctuations in humidity. The packet's membrane itself ensures purity and allows for quick water vapor transmission. The membrane acts much like the filtration used in water purification systems by inhibiting the passage of soluble substances (like salt) and by allowing only pure water vapor to pass in and out of the membrane. The membrane also allows for a fast rate of water vapor transmission or absorption as the solution responds to the changes in the ambient environment.

GUITAR MAINTENANCE MADE SIMPLE, SAFE, AND EFFECTIVE

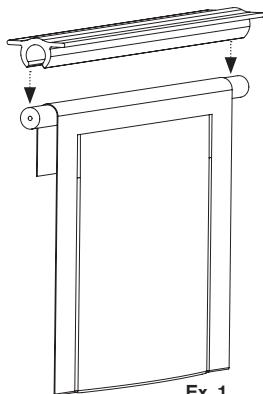
NOTE: The Two-Way Humidification System is designed as the ultimate humidity maintenance device for your instrument. However, if your guitar has not been previously humidified or is in a known dry condition, it is highly recommended that you properly humidify your instrument before using the Two-Way Humidification System in order to get the maximum life of the product.

It can take from 20 to 100 grams of water or more to restore a dry instrument to its proper humidification level. And that's only the guitar. The case by itself can hold up to 400 grams of water weight when properly humidified. The Two-Way Humidification System will do a great job of re-humidifying a dry instrument; however, these conditions will deplete the packets of their moisture content quickly and it may take multiple packet sets

for the guitar and case to reach equilibrium. The Two-Way Humidification Conditioning Packets allow you to safely restore an instrument and case that is in a known dry condition or has previously not been humidified to the proper humidity level without danger of over humidification. **For instructions on how to properly humidify a dry instrument before using the Two-Way Humidification System, please visit the FAQ section at daddario.com/humidification.**

Once your instrument is properly humidified, place two packets in the included double-sealed soundhole pouch and fasten clip (Ex 1), and one packet in the included headstock pouch. Place the soundhole pouch inside the guitar by hanging it between the middle G and D strings, allowing the plastic closure to rest on top of the strings. (Push plastic clip towards bridge so that it is not resting on fretboard.) The soundhole pouch can also be laid in the space behind the heel joint or cutaway of the instrument. Lay the second headstock pouch in the top compartment of the case under your guitar's headstock. Close the case, and THAT'S IT! Avoid direct pressure to the packets when case is closed.

NOTE: At no time should you puncture, tear, or open the packets exposing the inner contents. In the case of a puncture or tear, immediately discard the packet and replace it.



When playing your instrument, leave the pouches inside the instrument case and secure the lid. This will maintain the proper RH level inside the case and allow you the maximum life of the humidification packets. The packets should last 2 to 4 months under normal circumstances. As long as you can press the packets with your fingers and feel movement of the contents, the packets are working. Once the packets become solid, discard and replace with fresh packets (PW-HPRP-03).

Be aware that extreme temperatures can damage your instrument as quickly as extreme wet or dry conditions. Temperature changes will also have a direct effect on your instrument's humidity level. It is recommended to maintain an average temperature of 70° Fahrenheit (21° Celsius) where you store your instrument.

*45% to 55% is the typical range of the Two-Way Humidification System. Due to extreme climatic conditions and the quality of the instrument case, you may sometimes experience results outside of this range. Also, note that most hygrometers have an accuracy of +/- 5% which can affect your readings. Results from 40% to 60% are generally accepted to be safe for your instrument.

For more information on humidifying your instrument, please visit daddario.com/humidification