

Does your house of worship have a pipe organ or piano? Those instruments are beautiful additions to your services. They were a big investment that you rightly want to protect.<sup>i</sup>

If you're responsible for paying your congregation's utility bills, you may have noticed they keep going up and wondered, "Can we adjust the thermostat when the sanctuary or temple is empty to cut costs? Would it affect our organ? Or piano?" This guidance answers those questions. First, we'll discuss the impacts of heating and cooling on pipe organs. Then, we'll address pianos.

**Key Note:** Once you are monitoring humidity in or near your organ and keeping it relatively stable, the temperature of its space can be set back when unoccupied. Just allow enough time for the room temperature to stabilize before the organ is tuned or played.

## Pipe Organs Are Built to Last

The pipe organ's roots go back 2,000 years. Introduced as an aid to worship in Europe over 1,000 years ago, organs survived for centuries in churches that were hardly heated, if at all. It was with the advent of modern heating that organs began to suffer, as excessive heat dries out the wooden components. Indeed, Pete Webber of Webber Organ Builders in Louisville says that turning the temperature down to 60° F in winter during the week typically will not trouble a pipe organ at all.

However, it *is* very important to manage the humidity in your sanctuary. While most pipes are made of metal and thus not susceptible to changes in humidity, some pipes are made of wood. Those pipes, the wood in the organ chambers and the keyboards can swell or shrink as the humidity increases or decreases. These wood parts are especially affected over time by dry, artificially heated conditions.<sup>ii, iii, iv</sup>

## Follow These Simple Rules to Cut Your Costs—and Carbon Footprint—Without Affecting Your Pipe Organ

1. Maintain the humidity between 40% and 60%.<sup>v</sup>
2. Decide your thermostat setpoints for services/events vs unoccupied times, including lower ones for the heating season and higher ones for the cooling season.<sup>vi</sup>
3. Always allow the room to stabilize at that service/event temperature before tunings.
4. After a tuning, service or event, allow the temperature to drop or rise to its unoccupied thermostat setpoint.
5. Avoid HVAC vents or fans blowing directly towards the pipework.

## Pianos Also Don't Like Dry Air

Pianos differ a little. According to expert piano technician Matt Grossman, conventional wisdom says to keep the thermostat constant. But he finds that the opposite is true. “Cooler thermostat settings in the winter and warmer settings in the summer (when the space is not in use) reduce the extremes of humidity fluctuation and help to decrease the destructive forces of expansion and contraction on pianos,” says Matt.<sup>vi</sup> As with a pipe organ’s wooden air handling chambers, relative humidity is key, especially to soundboards. It is prolonged exposure to low humidity that can damage the wood in a piano (and pipe organ).

## Conclusion

Of course, no two houses of worships are entirely alike. They have different dimensions, are built of different materials, have more or fewer windows, etc. Pipe organs likely experience hotter, drier air if they’re in a loft rather than on the main floor. Weigh the factors, talk to your tuner and keep an eye on the humidity! The bottom line, according to organ builder David Schroth is, “Each individual situation is different, and all factors should be weighed and considered before making a decision about making changes to the climate in the room.”

## Play It Again, Sam

Sam Hodges, who was Music Director and/or organist for seven different churches over 50 years of service, said, “None of those churches kept their sanctuaries at service temperature. They couldn’t afford to heat and cool all the time. I don’t recall any of the organs playing out of tune, since tuning at least once a year, typically after a change of seasons, sufficed.”

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<sup>i</sup> The Associated Pipe Organ Builders of America reports that a new pipe organ for a small- or medium-sized church can cost \$200,000 to \$850,000. A high-quality grand piano can cost well over \$80,000.

<sup>ii</sup> For more on the topic, see “Temperature and the Pipe Organ: A Practical Guide to Achieving Stability,” by David Schroth, <https://dcschroth.com/2016/04/23/temperature-and-the-pipe-organ-a-practical-guide-to-achieving-stability/>

<sup>iii</sup> From the American Guild of Organists: <https://www.agohq.org/?s=temperature>

<sup>iv</sup> The Associated Pipe Organ Builders of America has excellent resources at <https://apoba.com/resources/>

<sup>v</sup> See this, “Ask the Organ Builder,” essay by Keith Williams of Buzard Pipe Organ Builders in Champaign, IL, at <https://www.agohq.org/?s=temperature>

<sup>vi</sup> LCAN recommends a) installing a WiFi-enabled thermostat, b) programming it to your schedule and temperature setpoints and c) checking it at least every evening against adjustments. Afraid to push the envelope with unoccupied limits? Use 60° F during the heating season and 80° F during the cooling season.

<sup>vii</sup> Read more about Matt’s work at <https://www.thepianoshop.net>