

## The right temperature for a 300-year-old church

3 years ago



“Steam usually maintains a high pressure and temperature in our assignments, but in the beautiful church of Kättilstad in Östergötland Sweden, the pressure is no higher than under the lid of a kettle on the stove when everything is as it should be. That was the challenge,” says Johan Söderberg at [FVB](#), who has worked on a somewhat unusual project.

“For some reason, air collected in the cooler parts of the system and built up a counter pressure back there. The problem had grown slowly over a long time without anyone thinking about it, until the day the system could no longer run,” says Johan Söderberg.

How do you best heat a church that is almost three hundred years old so that the interior, paintings, and pipe organ are not harmed? The solution has been for the church to be heated briefly, only when needed, which makes the visitors feel like the church is warm and cozy.

The painted wooden barrel vault is the key to it working so well. During the renovation in 1932, the church was equipped with a heating duct, but with beautiful cast iron radiators along the walls instead of elements under the pews. When the wooden radiator covers are heated up, moisture is added to the church room. When the heating system is at rest, the radiator covers instead absorb the same amount of moisture. The short-term increases in temperature with indirect heat is very gentle on the interior.

“With the choice of low-pressure steam, there is no risk of anything freezing, and at the same time the effect is as high as possible once the system is in operation. The necessary controls can be limited to ensure that the system is running for different lengths of time depending on how cold it is, which is something that has been handled by the booking system for a few years now,” Johan Söderberg explains. He continues:

“The result is that the Kättilstad church is one of the churches with the most sustainable heating in Sweden, even though the boiler is fired with oil. Only 5-30 liters of oil are burned before each church service, and soon it will be converted to bio-oil.”