



ONESTEP HVAC APPLICATION

THE ARCHIVES



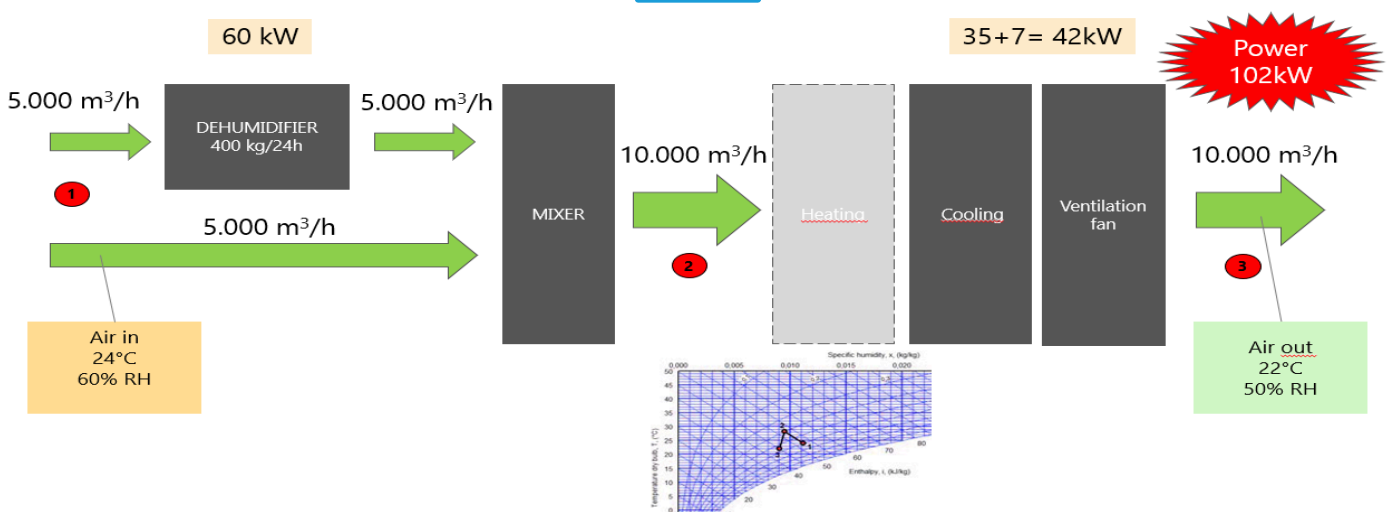
Traditional installation



OneStep HVAC

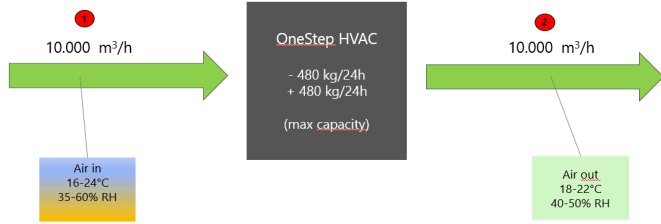
- An archive following the Swedish regulation RA-FS 2013:4 (Riksarkivet) wanted to keep humidity in the 40-50% RH range at a temperature of 18 - 22°C.
- The existing multistep HVAC installation was old and needed replacement – floor space was limited due to rebuilding plans. Energy (in particular electricity) consumption was a key requirement in the project.
- In the traditional solution a dehumidifying step was followed by a cooling battery (During winter season a heating battery and humidifier, not shown below, was employed).

EXISTING TRADITIONAL INSTALLATION

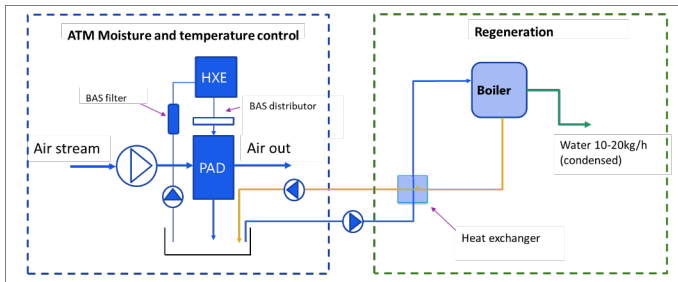


The building was supported by a standard FTX system providing basic input air (mix of outside air and recirculated air).

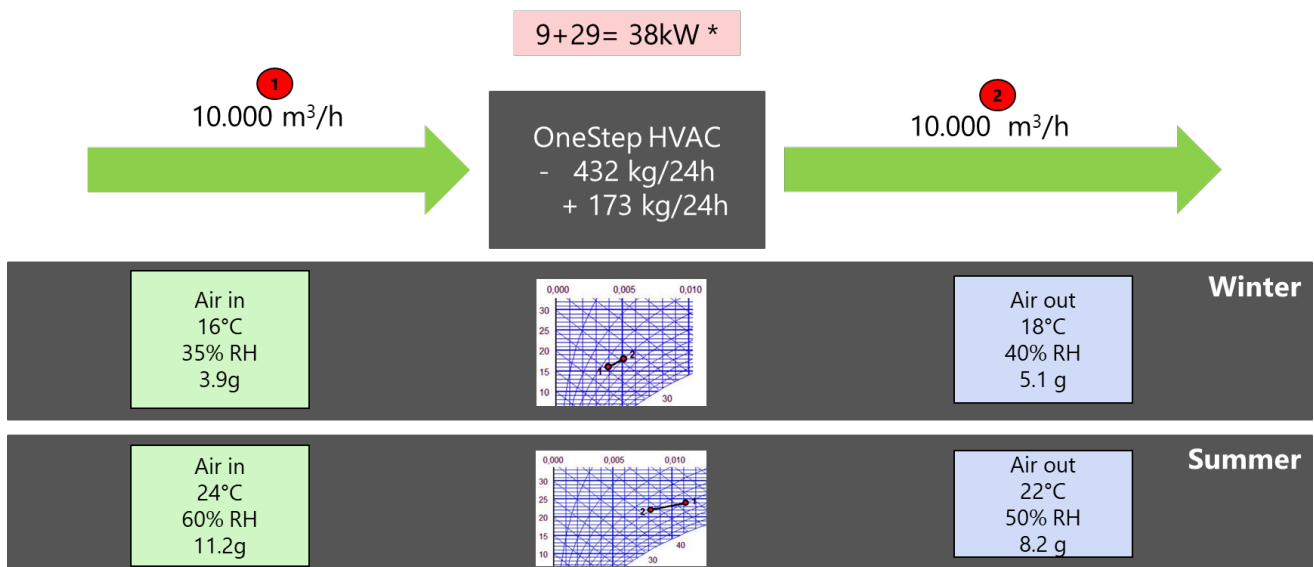
A multistage HVAC system had been installed in the basement (no electrical equipment allowed within the archive itself).



- The AWG OneStep HVAC was installed as the only air treatment unit. Depending on input air the unit acts as a dehumidifier/cooler or humidifier/heater.
- During dehumidification the regeneration energy was recovered and deployed in the local heat water system.



- The CVP (controlled vapor pressure) system operates in two separate processes.
- In the ATM/Adsorber module moisture is removed/added to the air stream and simultaneously the air temperature is set with a heat exchanger (HXE).
- In the Regeneration module humidity is removed from the desiccant – or added if in humidification mode.



RESULTS:

- A perfect stable climate (temperature and humidity) in the entire archive to within a set area $T = 18-22^{\circ}\text{C}$ and $\text{RH} = 40 - 50\%$
- Climate variation is only a few % over the day and year
- The equipment was installed with limited floor space making areas free for other usage.
- Overall power consumption was significantly reduced.

ABOUT US

Airwatergreen design, manufacture and sell air treatment products for all climatic conditions.

Dehumidifiers to control the air humidity and products to maintain a stable indoor climate controlling both the humidity level and the temperature.

Our products are designed using our patented methods. Methods that generate a range of unique advantages.

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