



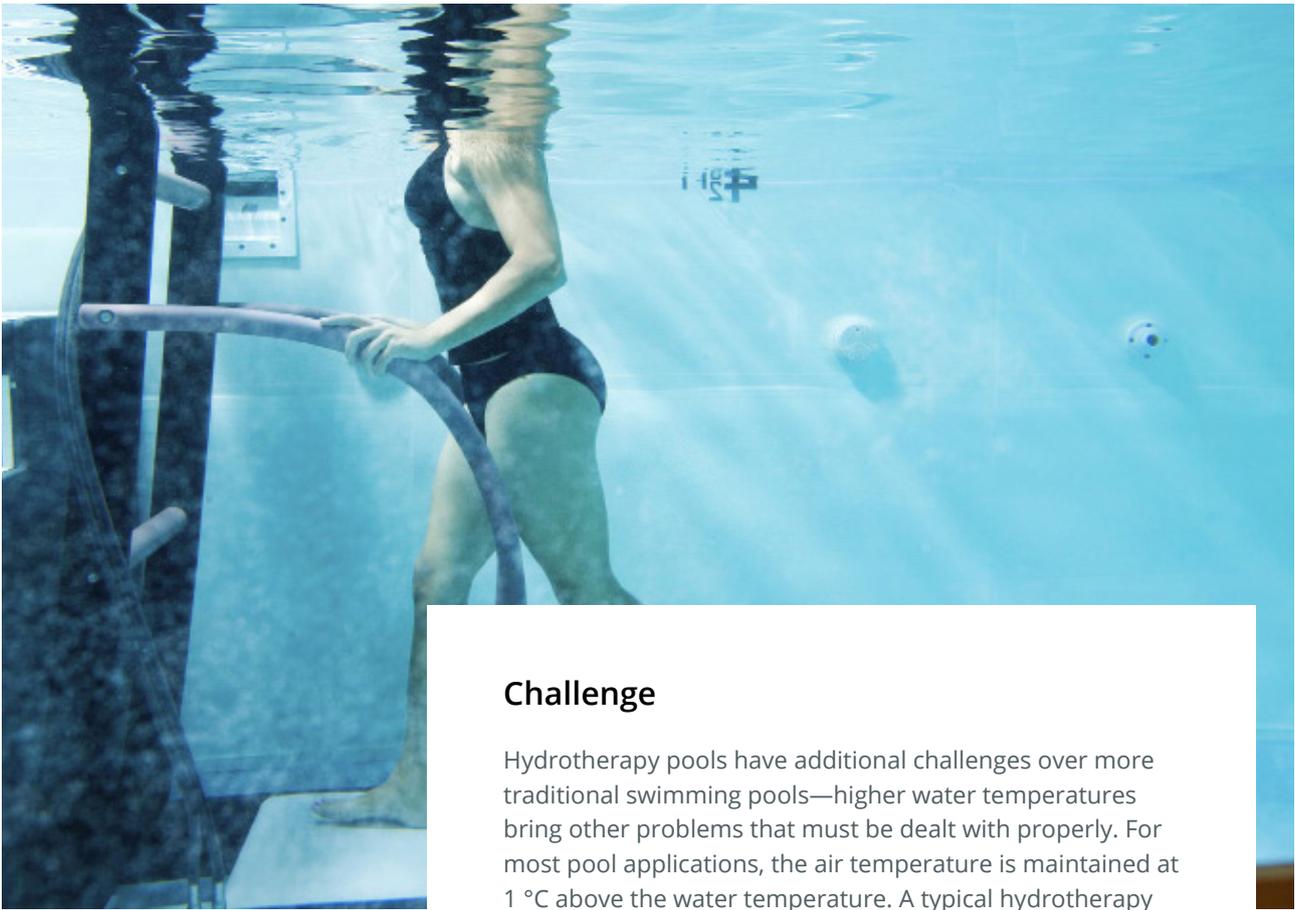
The Angmering School

Case Study

Hydrotherapy pool saves on energy bills

VES engineers were asked to look at the ventilation system serving the hydrotherapy pool at Angmering School. VES faced several challenges, not least of which was the awkward access and tight space to install a new ventilation unit.

Client	The Angmering School
Sector	School
Challenge	AHU replacement in a restrictive space
Success	Energy efficient pool ventilation solution



Challenge

Hydrotherapy pools have additional challenges over more traditional swimming pools—higher water temperatures bring other problems that must be dealt with properly. For most pool applications, the air temperature is maintained at 1 °C above the water temperature. A typical hydrotherapy pool operates with water temperatures of 36 °C so maintaining air temperature at 1 °C above that becomes unmanageable and very uncomfortable for staff.

Greater attention should be paid when designing a ventilation system for hydrotherapy pools as the evaporation rate increases with higher water temperatures but, providing the dew point of the air is below that of internal surfaces, you can supply air at 5 °C below that of the water temperature.

VES engineers have developed a pool ventilation system that can accurately control humidity and temperature in the pool hall, preventing conditions where condensation occurs.



A challenging installation



Existing AHU



Solution

The existing air handling unit (AHU) had failed on numerous occasions and, despite many attempts to repair it, had fallen into a condition beyond repair.

Working with the client, VES planned the AHU replacement around the school summer holidays. Access was awkward and, once in the space, very tight restrictions meant that careful selection of components was critical. It was also important to install an energy efficient solution that would serve the school for many years to come.

VES used the same principle to recover both sensible and latent energy from the pool hall but careful consideration also has to be given to the pool operators in making sure that the conditions are comfortable to work in.

Once the old system had been removed, the ductwork was modified to accommodate the new AHU. Due to the tight access, all components had to be supplied in flat pack form for assembly in situ. A new control package is also an essential part of the system. VES engineers configured the system so that temperature and humidity is accurately regulated by modulating the amount of return air and fresh air.

VES was responsible for the design, manufacture and installation of all works, providing a turnkey solution.



New AHU in situ



New AHU in situ



The air temperature is kept to the desired level, ventilation is improved and humidity is controlled.

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Results

Installation works were completed and the benefits of better quality conditions in the pool have been consistent ever since. Energy savings are difficult to quantify as no records were kept prior to the new unit being installed, however, the school has reported that energy bills are notably lower since the school reopened for the new term.