

PRATIS HOUSE, WEDDING VENUE IN FIFE



OVERVIEW

- Newly renovated high quality wedding venue accommodation
- System design needed to allow for connection to heat pump at a later date. low system temperatures and challenging demand profile
- New Siemens PXC4 automation station for HVAC fitted providing control for:
 - Oil boiler, charging pump and buffer tank with 3xtemperature sensors
 - 1xUFH circuit, weather compensated
 - 1xRadiator circuit with 3 zones, weather compensated
 - Instantaneous hot water heat exchanger using variable flow control
- Web browser access - available anywhere, anytime
- 3 months of Ventana data to enable the system to be optimised over a range of operating conditions

BACKGROUND

Pratis House is a newly renovated building being used as accommodation for a high quality wedding venue. The accommodation spans 3 floors with a new conservatory and multiple bathrooms.

With a long term plan to develop and heat all buildings on the site using a networked heat pump system, the system had to be 'heat pump ready.'

The challenge of such a system is the variability of the load with a profile of high weekend usage and low weekday usage. Hot water is especially challenging balancing hot water at peak times with the Legionella risk of stagnant stored water with no occupancy.

SOLUTION

The system design was carried out with Solid Future and Haber Ltd. The radiator circuit splits into three circuits and uses appropriately sized radiators for low system temperatures and underfloor heating for the new conservatory. A small condensing oil boiler installed with 500l buffer tank supply the heat and plate heat exchanger with a variable flow primary circuit are used for hot water. Instantaneous hot water production utilises no stored potable water and therefore Legionella risks are virtually eliminated.

A Siemens control system based around the PXC4 automation station was chosen to fulfil the challenging system requirements. The provision of hot water was especially tough given no storage capacity, instantaneous production and highly variable load. A modulating 2 port control valve is under analogue control to provide responsive and accurate primary hot water requiring no further mechanical blending. Hot water priority is achieved by short term ramping down of the heating circuits.

HVA Systems monitoring platform Ventana was used for several months of operation to monitor and log system performance and enable optimisation of controls.

RESULT

The system is providing efficient, reliable and controllable heating and hot water to a high quality wedding accommodation venue. The integration of system design and control has enabled a challenging specification to be met with a small oil boiler and at temperatures enabling a future changeover to a heat pump solution.

The Siemens PXC4 automation station provides a cost effective and reliable system ideal for control of plant rooms and heating systems of any size.

HVA Systems Ventana online monitoring system enabled the controls to be optimised in the 3 month period following commissioning. The one minute data logging interval and visual interface gave a 24 hour monitoring system - essential for checking system performance and monitoring the effect of parameter changes.

System optimisation was carried out using the data collected and displayed on Ventana. The effect of parameter and minor programming changes to system performance was easily monitored and this allowed for the optimal setup.

CUSTOMER COMMENTS

We invested a bit of time and money looking at different design options for Pratis House to ensure we got the right solution. We specified the requirements of the house, knowing that hot water would be needed on demand 24/7, but Dan at Haber Ltd also identified the potential needs for heat and water around the whole site, knowing we would look to develop other buildings in the future.

We have therefore future-proofed Pratis as a whole, by going with what Haber and HVA have designed. Now installed and operational, HVA have given us remote access allowing us to monitor the system, as well as turning the heating and hot water on/off as guests arrive/depart the property, saving on unnecessary fuel usage. The whole package is a great success.

CONTACT

For further information on this case study or to find out how HVA Systems can help your organisation, please contact enquiries@hvasystems.co.uk or call **0771 3628116**.