Soanes Poultry

144 kW Heat Recovery System

During the recent refrigerant gas change Soanes Poultry took the opportunity to fit both heat recovery and suction gas coolers from DK Heat Recovery. The initial installation by local company AK Refrigeration was a 2000 litre tank with eight 18 kW internal heat exchangers.
Two exchangers are manifolded together and connected to each of the four refrigeration plants on the company's bird chillers. Stage two will see the company install a large buffer tank to utilise the system's full capacity.

The initial problem was that the company knew that it used 50,000 litres of hot water per day but didn't know the profile of the usage to be able to select the buffer tank size.
DK fitted a Micronics monitoring unit to establish the water flow and measure the energy saved by the system. This has provided the data to correctly size the buffer tank.

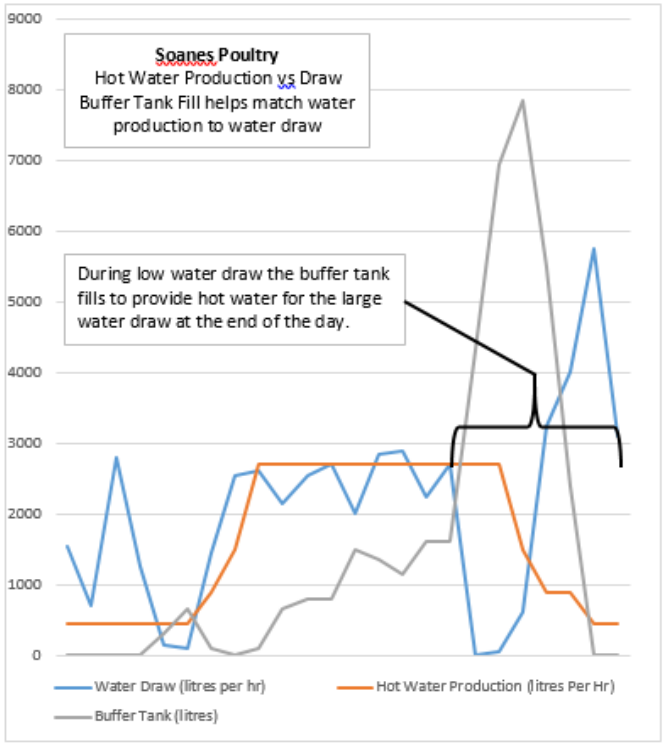
The use of the buffer tank eliminates the problem that some food business's experience, the refrigeration plant operates and produces water but this does not coincide with water usage.

The heat exchangers for the hot water are a twin wall design which ensures that even in a failure situation that the refrigerant and water can never come into contact with one another. This is a legal requirement under EN1717 for any business handling food.
The system is simplicity itself, maintenance free, having no moving parts it is highly efficient due to the innovative design of the heat exchangers.

The system is capable of producing 2900 litres of hot water per hour.
With the refrigeration plant operating an average 13.5 hours per day it will produce **39,000 litre's** of **free hot water each day**

The annual energy saving with the buffer tank and the plant only producing 4 days per week is **428,000 kWh per year**
Saving the company **£16,000 per annum** which will be a **2 year payback**

or put into sustainability terms
92 tonnes of carbon a year



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