



CASE STUDY

INDUSTRY: CANNED VEGETABLES



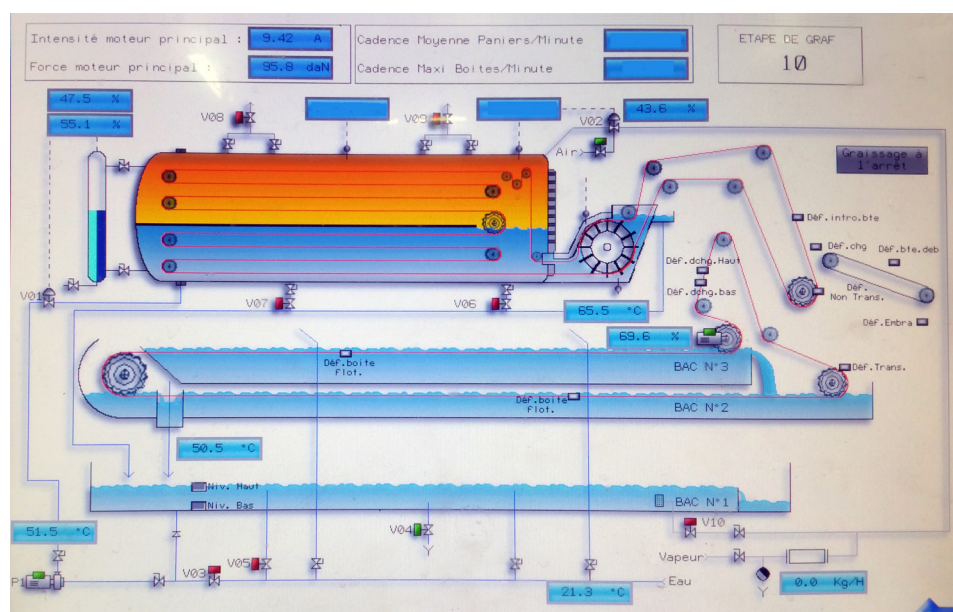
CUSTOMER: Eureden, d'aucy canned vegetables plant

Eureden is a co-operative group that has been created in 2020 following the merger of Triskalia and d'aucy Group. Eureden is Brittany's new leader in agriculture and agrifood, counts 20.000 co-op farmers and 9.000 employees. It includes various brands such as d'aucy canned vegetables, Cocotine brand and many other products under different labels.



LOCATION: Locminé, France

BACKGROUND: Armstrong Service conducted a Thermal Assessment to identify opportunities to recover the heat contained in the cooling water from the sterilizers. Cans continuously pass to horizontal sterilizers, there are several areas : preheating, heating, precooling, final cooling.



To decrease the temperature of the cans after the sterilizing phase, cold water from cooling tower fills the cooling section to maintain cooling water volume. This water catches heat from heated cans and is collected into recovery pits to be pumped back to the cooling tower. On its return, warm cooling water first passes through heat exchangers to preheat process water. Process water temperature is heated to 40-45°C depending of the flow.

SCOPE OF WORK:

Our specialized Engineer conducted a detailed study to design a solution to recover more energy from the warm cooling water before the cooling tower. An industrial **heat pump** has been properly designed to further decrease the cooling water temperature before the cooling and releases it by increasing the temperature of the process water.

Armstrong Service delivered a complete turnkey installation including **600 kW** heat pump with a COP (Coefficient of Performance) of **4**.

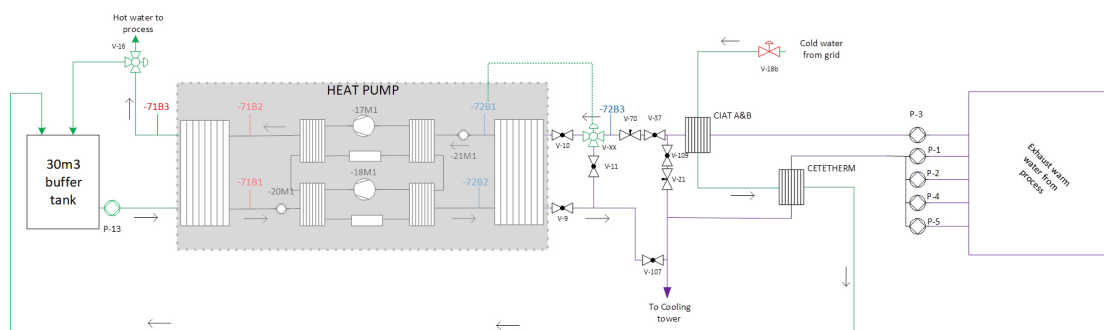
A 30 m³ water tank with a level control system as heat buffer has been installed in addition to a three-way valve and a pump with VFD to control the water flow and the temperature.

Armstrong Service also did engineering and follow-up for mechanical and electrical installation.



BENEFITS:

The solution proposed allows to preheat more the process water but it has also integrated the demand of additional users such as blanchers. 30m³/h of process water is now heated from 40-45 to 50-55°C during 16 hours per day. This quantity of hot water feeds the process water and also the feed water of the deaerator in the boiler house.



The steam consumption of the plant has decreased around 10%.
Overall savings are 3806 MWh HHV/year from gas, 845 T/year of CO₂ emissions.

Electricity increased by 310 MWh.

Overall financial savings is 107000 €/year with 2.6 years payback.