Case study 328

Biogas production assisted by Andrews Chillers

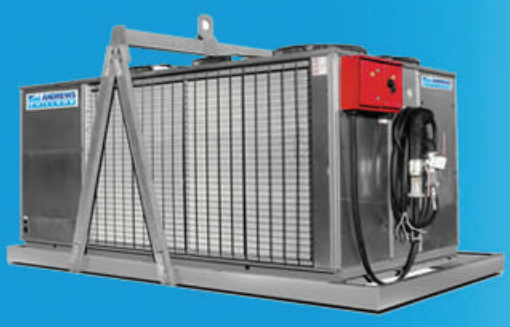
With more and more companies now turning to biogas as a renewable, non-polluting energy source, the UK is seeing an increase in the number of anaerobic digestion plants opening nationwide. Organic waste material is naturally broken down via a series of biological processes and converted into methane and carbon dioxide, before eventually being used to power generators producing electricity.

So when of the industry's largest biogas facility began to fail due to excess heat (thus reducing the amount of gas produced) Andrews Chillers were approached and tasked with implementing an immediate solution. This particular application processes approximately 120,000 tonnes of food waster per year – equating to around 5MW of electricity – and this is then pasteurised at 70°C before being piped into digesters.

It was decided that a 200kW chiller would be connected to the client's existing heat exchanger, with a second 200kW later added to double the cooling capacity. A member of our team visited the site to undertake a technical survey and asses duty required as well as pinpoint the best location for our equipment to be deployed.

The hire package we proposed helped an important waste management and recycling service retain its expected levels of output, and this was the customer's primary concern before the project was undertaken. In total, our chillers remained in situ for around 30 weeks and were collected from the digestion plant once there was no longer any need for them.

Nominal cooling duty 200 kW
Nominal heating duty 200 kW
Power supply 415 V 3 ph Run 120 A
Noise level (max) 53.3 dB @ 10 metres
Weight 3,500 kg
Dimension 4,100 x 2,300 x 2,700mm
Control Automatic programmer
Plug type Hard wired 5 core x 35mm2
Average power consumption 63.2 kW/hr
Generator size 140 kVA
Water connection 75 mm (3" Bauer)
Nominal water flow 10l/s



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