

Case study 322

Digestion plant kept functional

Anaerobic digestion is becoming more and more commonplace in the UK and involves the breakdown of biodegradable material in the absence of oxygen. This process is now regularly used in industrial situations to produce fuels and considered to be extremely environmentally friendly due to the depollution that occurs.

Waste products such as feedstock, manure and other commodities are heated in large digesters up to 55°C – the optimum temperature for bacteria to grow. This then produces methane gas which can in turn be used to generate electricity via gas turbines, or even further refined to be used for vehicles or an alternative to natural gas. Once the development is complete, the remaining sludge is pumped to pasteurising vessels before being sold as fertiliser.

The sludge temperature then needs to be reduced in temperature in order for it to be transported without damaging pumps on the vehicles. It therefore needs to be cooled almost instantly to prevent a backlog which would drastically affect the digestion plant's continued operation.

Having been made aware of the requirement, Andrews Chillers recommended a 100kW fluid unit and a 150kW air handler, which were sited next to one of the digesters. Hot water was first passed through the air handler, and then a 100kW plate heat exchanger, eventually bringing the temperature down to the desired condition. Andrews cooling solution met and achieved the required temperature and helped restore the necessary conditions for the plant to continue functioning as expected. Due to the success of the cooling equipment supplied the customer placed an order for two other sites underlining the efficacy of both our equipment and service.



Nominal cooling duty 100 kW
Power supply 415 V 3 ph Run 60 A
Noise level (max) 58 dBA @ 10 metres
Weight 1,560 kg
Dimension 3,090 x 1,330 x 2,775mm
Control Automatic programmer
Plug type BS4343 63 A 5 pin
Average power consumption 33 kW/hr
Generator size 75 kVA
Nominal heating duty (HP version) 100 kW
Water connection 50 mm (2" Bauer)



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