

Case study 331

Waste management firm seeks temporary chiller

Anaerobic digestion offers companies operating in a waste-to-product business with a wide range of tangible benefits – including energy cost savings and a reduced carbon footprint. Each year, more and more organisations are turning to biogas and other renewables instead of more traditional alternatives. Organic waste material can be naturally broken down but in order for this process to be successful, accurate temperature control is imperative.

Chiller failure can therefore have immediate repercussions for a waste recycling process and affect long-term output targets if not addressed quickly. This was the situation one of the country's largest waste companies was faced with after their temperamental cooling apparatus broke down on site. As an environmentally-conscious enterprise specialising in curbing greenhouse gas emissions, our client needed a tailored chiller hire package that would enable their day-to-day operations to continue until a permanent replacement was available.

Prior to our invention, processed waste was left running at 50°C – approximately 10°C warmer than the conditions required for bacteria to produce gas. We guided the customer towards a practical and cost-effective solution comprising of a 375kW fluid chiller, 200kVA generator and a 3000 litre fuel tank. Our chiller unit was connected to an existing heat exchanger via temporary hoses and commissioned for use within hours of an engineer arriving on site.

By reducing temperatures we were able to ensure the sustained production of gas could feed turbines located on the plant. Our swift service was therefore crucial in helping to maintain a constant power supply and process an average of 90,000 litres of waste per day.



Nominal cooling duty 375 kW
Power supply 415 V 3 ph Run 199 A
Plug type Hard wire (4 x 95mm²)
Noise level (max) 70 dB @ 10 metres
Weight 5,220 kg
Dimension 6,058 x 2,438 x 2,591mm
Control Automatic programmer
Average power consumption 99 kW/hr
Generator size 200 kVA
Water connection 100 mm (4" Bauer)
Nominal water flow 17.5 l/s
Low temperature -12C



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