

Energy and Maintenance Costs Reduced at Food Processing Plant

A Cat Pumps Model 6831 high-pressure pump is cutting energy and maintenance costs at a leading food processing plant in the UK. The triplex positive displacement plunger pump has replaced two aging and troublesome Pitot Tube pumps used for washing filter screens and supplying high-pressure wash-down hoses.

In its first year of operation, the Cat Pumps unit has reduced the energy costs from £45,200 per annum to just £13,300, and maintenance costs from £30,000 per annum to £2,800. Of equal note is that the payback period for this change-out was just 9.9 months.

The original Pitot Tube pumps (one duty and one standby) had been in operation for some time supplying high-pressure water from a holding tank to the filter screen pressure jets and the wash-down lances around the plant. The duty specified was 105 l/min. at 140 bar and the pump installed was running at 5,900 rpm via a geared-up drive. This was fitted with a 132 kW, 3,000 rpm 415/3/50 motor complete with soft start, and was estimated as absorbing 112kW at the duty point. Having been run for a period of time, the pumps had become increasingly unreliable and were suffering two to three failures a year. These failures were costing the food processing company an estimated £30,000 annually in parts and labour.

With annual running costs in the region of £75,200, the food company implemented a project to look into replacing these two pumps with the Cat Pumps triplex pump. Being a true positive-displacement reciprocating pump, this offers excellent energy efficiency, consistent flow rate unaffected by discharge pressure, and field-proven reliability.

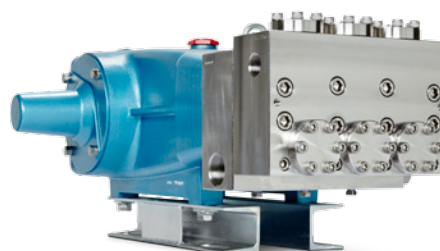
The Model 6831 pump was selected for an enhanced duty pressure of 160 bar at the required flow rate of 105 l/min. and a water temperature up to 45°C, achieved at a shaft speed of just 440 rpm. A further influential factor in the selection of this particular pump was the significant reduction in required footprint area. The complete skid unit was ordered, delivered to site within eight weeks from PO placement, and after initial commissioning adjustments the unit ran without incident.



Application Specifications

Filter Screen Cleaning and Washdown

Cat Pumps Model	6831 (popular choice in the industry)
Pressure	160 bar
Flow	105 l/min
Fluid	Water
Temperature	45° C
Drive	132 kW, 3 phase, electric motor with belt and pulley



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