

Application story



Humidifying Malt Beds

Location	UK	Hydra-Cell model	G03XKBTDFECA
Type of application	Humidifying Malt Beds	Flow rate	Variable to 10 l/min (2.6 gpm)
Liquid	Water	Pressure	70 bar (1000 psi)
Application details	At a large-scale grain malting plant in the UK, the G03 Hydra-Cell pump replaced and outlasted high-pressure piston pumps on a system delivering a fine spray mist of clean water to the grain to control water content during germination. The product is held in a circular vessel, forming a deep granular mass of up to 200 tonnes which is turned and kept loose by a blade revolving at 1 rev/12 hours. Nozzles are mounted in a chamber below the bed in each germination vessel (60 nozzles for each vessel, arranged in banks of 40 and 20, giving 3 levels of humidification to suit conditions). Flow to the nozzle banks is switched on or off selectively by solenoid valves in the pressure line. Working virtually 24/7, the humidification pump maintains system pressure at 70 bar for fine spray atomisation. Flow rate, up to 10 l/min, is variable via VFD speed controller to satisfy system demand according to the number of nozzles in use. Although handling clean water, piston pumps in this role proved to be 'high maintenance', needing frequent oil changes and seal replacement. "It's important," said maintenance manager Alan Francis, "that our high-pressure pump is not taken out of service at inconvenient times. Piston ring seal wear lowers performance and before long needs attention on the workshop bench. The pump we replaced had its seals changed three times, and each time the new set wore sooner. The Hydra-Cell does not use seals." Two years later he reported that the G03 had worked round the clock, recording more than 19,000 hours, with no problems and no parts replaced. The oil in the drive end had been changed once.		
Advantages of Hydra-Cell pump on this application	Seal-less design – not subject to rapid wear. Able to handle non-lubricating liquids. Reliability. Low maintenance.		

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