

Application story


WANNERTM
HYDRA-CELL[®] PRO
SEAL-LESS PUMP TECHNOLOGIES



High Pressure Coolant for Grinding Turbine Blades (1)

Location	Israel	Hydra-Cell model	G35XDCTHFEYA
Type of application	High Pressure Coolant for Grinding Machines	Flow rate	60 l/min (16 gpm)
Liquid	Synthetic Emulsion	Pressure	80 bar (1160 psi)
Application details	For efficient grinding of turbine blades, coolant must be delivered at high pressure to clean the grinding wheel and prevent build-up of metal particles. The twin-screw pumps originally used on the coolant system could work at pressure but could not tolerate the low viscosity of the coolant fluid (a synthetic emulsion). The fluid also contained fine particles. Labrynth seals in the pumps rapidly wore out, reducing pump efficiency. When a G35 pump replaced one of the twin-screw pumps, trials showed that the Hydra-Cell unit, delivering 60 l/min at 80 bar on a 24 hr duty cycle, was more effective on the application than was the screw pump working at 100 bar and delivering 40 l/min. Moreover, running at under 460 rpm, the G35 was quieter than the twin-screw pump and used less than half the energy. The G35 is operating well within its speed/flow capability – which further extends valve life – and the seal-less design of the pump has relieved the customer of the high replacement cost of labrynth seals.		
Advantages of Hydra-Cell pump on this application	Seal-less design. Ability to pump low-viscosity abrasive liquids. Pressure capability. Low energy consumption. Reliability and low maintenance cost.		

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