

Application story



Deionised Water Injection

Location	Austria	Hydra-Cell model	G25XDCTHFEHH
Type of application	Deionised Water Injection	Flow rate	Up to 4000 l/hr (1057 gph)
Liquid	Deionised Water	Pressure	45 bar (652 psi)
Application details	For injecting hot de-ionised (DI) water into a turbine steam line, an Austrian steel plant chose Hydra-Cell G25 pumps. Compared with the multi-stage centrifugal units originally intended, they were smaller, about 40% less expensive, more energy efficient and cheaper to run. Also potentially easier to control, by means of steam temperature sensor and a frequency inverter to regulate pump speed/flow. Most importantly, they were simple to maintain and carried no risk of seal failure. Temporarily replacing permanent steam conditioning plant during refurbishment, the pumping system had to work reliably 24 hrs/day, 7 days/week over a 3-month period. DI water is non-lubricating, so any pump relying on the pumped liquid to lubricate seals is potentially vulnerable to rapid wear. Steelworks engineers had therefore planned to use two of the multi-stage centrifugal pumps alternating week-by-week – allowing one to operate while the other was maintained. In the event, though two Hydra-Cell units were installed, each fitted with oil cooler to compensate for high liquid temperatures, only one unit was used. The other remained on standby. With minimal maintenance and no reported problems, the 'active' Hydra-Cell pump performed consistently through to the end of the required service period when the temporary system was de-commissioned. Both pumps were retained by the steelworks against any future need.		
Advantages of Hydra-Cell pump on this application	Seal-less design, consistent reliable performance when handling a non-lubricating liquid. Minimal maintenance. Low power requirement (11 kW motor for the G25, compared with 55 kW motor for projected centrifugal unit). Flow not affected by pressure variation.		

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