

Application story



Cleaning Crankshafts

Location	UK	Hydra-Cell model	G15XDSGHFEMB x 2
Type of application	Component Cleaning during Production	Flow rate	Up to 40 l/hr (11 gph)
Liquid	Water	Pressure	Up to 170 bar (2465 psi)
Application details	A purpose-designed wash unit for cleaning crankshafts on-line embodies a radical new approach to the fast removal of carbon deposits from the heat-treated components during manufacture. The new unit, designed and built in the UK and now operating in a Mexican automotive engine plant, breaks with tradition by using high-pressure wash jets instead of relying on arbour-mounted nylon brushes that would be expensive, need frequent replacement and also continual CNC controlled readjustment to compensate for wear. Even with the fine adjustment there would be an element of inconsistency and risk of over or under compensating for brush wear. The production line is required to work 24/7, with a new crankshaft arriving at the cleaning station every 55 seconds, following the heat treatment and dipping out in oil that have left difficult-to-shift deposits. The wash system incorporates 2 Hydra-Cell G15 pumps feeding 12 spray nozzles via a manifold. Hydra-Cell pumps were chosen following crankshaft cleaning trials at Wanner International. Seal-less design was a critical advantage for the OEM, who was already aware that high-pressure piston pumps were susceptible to seal wear and would need filtration to 5 or 10 micron, whereas on this project the process itself only calls for a 50 micron filter unit. The OEM, a leading builder of bespoke wash units for the automotive industries, has identified a number of other applications that could use high-pressure jetting, although they may only need 70-80 bar. The company is looking at further opportunities to utilise Hydra-Cell technology. On the present project, by using jets which are non-contact and no-intrusive, it has simplified the cleaning operation and reduced operating costs, targeting a tooling and maintenance expenditure "close to zero".		
Advantages of Hydra-Cell pump on this application	Seal-less design. No need for ultra-fine filtration. High-pressure capability. Low maintenance.		

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