

MACHINE TOOL COOLANT

Quick

STUDY

Hydra-Cell
Seal-less Pumps

www.Hydra-Cell.com

Location:	India
Application:	Machine tool cooling in automotive components manufacture
Media:	• Cutting oil • Coolant emulsion
Model No.:	D10XKCTHFEYA
Flow Rate:	8 gpm (30 l/min)
Pressure:	870 psi (60 bar)
Hydra-Cell Advantages:	• Seal-less design • Easy maintenance • No contact between coolant liquid and drive • Can maintain constant pressure • Sustained performance • Energy cost savings



Machining of Common Rail Diesel Injectors

A manufacturing facility concentrated on the production of common rail diesel engine injectors is one of five automotive component plants operated in India by a global manufacturer of engineering products.

The customers in India are leading vehicle manufacturers. All five plants are extensive users of Hydra-Cell machine tool coolant pumps, which by stages are replacing seal-reliant types such as gear, screw, vane and piston pumps in the machining centers.

The common rail injector, controlling the input of fuel, is one of the most critical precision elements in a diesel engine. Accurate machining is essential. But operations such as the drilling of deep narrow holes in the injector nozzles and other components cannot be performed accurately unless the coolant liquid, pumped "through tool" to the work surface, is delivered at sustained pressure for effective cooling and swarf removal.

Internal pump wear is a threat to sustained performance and productivity - also increasing energy costs. Despite fine filtration it was found that the original pumps at this plant could not stay efficient when handling recycled coolant liquids and fine particles not caught by the filters.

Such factors do not affect seal-less Hydra-Cell pumps. D10 pumps installed at the injector plant have performed consistently, maintaining high pressure regardless of the flow requirement, liquid viscosity, or type of coolant. They have proved easy to maintain, economical in power consumption and reliable - all while operating on 24/7 duty cycle.

Characteristics of Fluid Pumped:

☒ Contains Abrasives ☐ Corrosive ☐ Solids in Suspension ☐ High-temp. (>158°F/70°C) ☐ Non-lubricating ☒ High-viscosity (>500 cPs)