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 D12XKCTHFEYA H25XKCTHFEYA
Flow Rate:	D10/D12 30 l/min 8 gpm (30 l/min) D25 18 gpm (70 l/min)
Pressure:	D10/D12 800 psi (55 bar) H25 1000 psi (69 bar)
Hydra-Cell Advantages:	• Seal-less, leak-free design • Minimal, easy maintenance • No contact between coolant liquid and drive • Can maintain constant pressure • Sustained performance • Energy cost savings

Machining of Diesel Engine Components

As part of major additions to its production facilities in India, a leading Japanese vehicle manufacturer planned a new production line for diesel engine components. Machine tools originally brought in from Japan, or purchased in India for this expansion, incorporated high-pressure coolant delivery systems equipped with piston pumps.

Meanwhile the company searched for alternative pumps that could run reliably for long periods on virtually continuous 24-hour duty. Screw pumps from a German manufacturer and centrifugal pumps from another well-known European supplier were among the options considered.

Discussions with the Hydra-Cell distributor in India on the advantages of a seal-less design alerted plant engineering to features of particular interest to the company: (1) low maintenance; (2) sustainably low power consumption.

Initially replacing two piston pumps and establishing that seal-less Hydra-Cell pumps performed to expectations, the company bought more Hydra-Cell units. All new machine tool coolant systems are now fitted with Hydra-Cell pumps, while additional Hydra-Cell pumps are running in other applications such as auto parts wash.

As of May 2014, more than thirty Hydra-Cell pumps (models D10, H25 and the vertically- mounted D12) are operating on machine tool coolant systems.

Characteristics of Fluid Pumped:

● Contains Abrasives ○ Corrosive ○ Solids in Suspension ○ High-temp. (>158˚F/70˚C) ○ Non-lubricating ○ High-viscosity (>500 cPs)