

MACHINE TOOL COOLANT

Quick

STUDY

Hydra-Cell
Seal-less Pumps®

www.Hydra-Cell.com

Location:	Denmark
Application:	Pumping coolant for high-speed machining
Media:	• Machine tool coolant
Model No.:	D10XKBTHFEHA
Flow Rate:	7 gpm (28 l/min)
Pressure:	1000 psi (69 bar)
Hydra-Cell Advantages:	• High-pressure capability • Compatibility with coolant liquid • Tolerance of small particles



Machine Tool Coolant Gets Pressure Boost

An early convert to Hydra-Cell pumps for coolant delivery on high-speed machine tools was a Danish machining sub-contractor. The company's rapid growth was being hindered by ineffective chip removal and inefficient cooling on machines capable of high running speeds but fitted with low pressure (290 psi max.) coolant pumps.

Working in aluminum, with machines designed for through-spindle and "through-tool" coolant feed, the pipes and coolant channels often became blocked with small chips. Also coolant delivery pressures were sometimes too low to overcome the centrifugal forces of the fast-running spindles. Tool life was short, surface finish quality uneven and too many parts had to be rejected.

After installing a Hydra-Cell pump along with a new filter system, these problems vanished. Coolant fluid was maintained in the cutting zone and chips forced out. Following this successful retrofit, the company adopted a general requirement that future machines should be delivered already fitted with Hydra-Cell pumps.



Characteristics of Fluid Pumped:

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