METERING

Quick STUDY

Hydra-Cell® Seal-less Pumps

www.Hydra-Cell.com

Location:	Hungary
Application:	HPLC - metering "mobile phase" into separation columns
Media:	• Ethyl acetate • Methanol
Model No.:	M03XKSJSHSHA
Flow Rate:	13 - 52 gph (50 - 200 lph)
Pressure:	70 - 140 to 350 psi (5 - 10 to 25 bar)
Hydra-Cell Advantages:	• High-pressure capability • Minimal pulsations

Metering Mobile Phase in "HPLC"

This Hungarian plant is engaged in R&D and manufacture of sterile pharmaceutical products, making use of industrial-scale High Performance Liquid Chromatography (HPLC). HPLC is a separation process in which, typically, an impure compound is injected into a solvent stream (called the mobile phase) and forced through a column packed with a solid sorbent - resulting in the separation of the compound into its constituent parts. The operation calls for high-pressure pumping combined with pulse-free flow.

A traditional metering pump at first considered for the application was rejected in favor of the Hydra-Cell M03. As a multi-diaphragm pump, the design of the Hydra-Cell M03 means that its output flow is smooth, with minimal pulsation. On this system the customer did install pulsation dampeners, but of a size much smaller than would have been needed for a traditional metering pump of similar maximum flow rating.

The customer benefited in several ways: system cost savings, higher pressure capability, and the avoidance of problems that a large dampener could cause in the elution process.

Characteristics of Fluid Pumped:

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