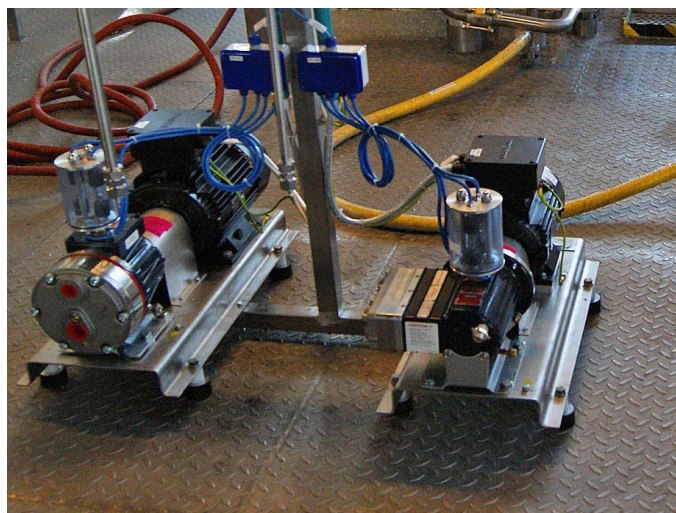


Application story



High Performance Liquid Chromatography (HPLC)

Location	Czech Republic	Hydra-Cell model	G03XKSJHFEMA / G10XKSGSFEMB
Type of application	High Performance Liquid Chromatography (HPLC)	Flow rate	G03 11 l/min (3 gpm) G10 29 l/min (8 gpm)
Liquid	Organic Solvents	Pressure	70 bar (1000 psi)
Application details	Separlab Ltd, a Czech Republic specialist in high-performance liquid chromatography (HPLC), standardised on Hydra-Cell pumps in its industrial-scale systems - using them for delivering 'mobile phase' solvents and injecting sample mixtures. In HPLC, impure compound is injected into a high-pressure solvent stream (the mobile phase) and forced through a column packed with granular sorbent (the stationary phase). The technique exposes molecular and other internal differences within the compound and results in the progressive separation of its constituent parts. Pump specification and performance can be critical factors in this process. Essential features include high-pressure pumping capability, resistance against corrosion and ability to produce precise flow with no pulsation. Consistency is also vital. These requirements broadly apply at every level of HPLC, irrespective of the scale of the process, but scale affects the type of pump available. For laboratory work and for small industrial preparatory systems, Separlab offers purpose-designed high-pressure piston pumps. The highest capacity pump in this range can deliver solvent at 70 bar pressure at flow rates from 100 ml/min to 3000 ml/min (3 l/min). For HPLC on a larger industrial scale flow rates are higher, but flow must still be pulse-free. Pressure requirements remain high, while ease and accuracy of pump control, reliability and easy maintenance are also important. Two Hydra-Cell models are offered as standard equipment in Separlab HPCL systems: the G03 (max flow 11.3 l/min at 70 bar) and the G10 (up to 29 l/min at the same pressure). They are mainly used in continuous delivery of mobile phase, initially pumping low viscosity organic solvents, both polar and unpolar, but not excluding future use of water solutions.		
Advantages of Hydra-Cell pump on this application	Seal-less design. High pressure capability. Pulse-free flow. Compact build. Easy maintenance. ATEX compliance.		

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