

CAPEL[®]-105M

Capillary electrophoresis system



METHOD

High performance capillary electrophoresis [HPCE]

PRINCIPLE OF OPERATION

Based on the differential migration of components of aqueous samples within a narrow fused silica capillary driven by an electric field. Separated solutes are quantified by high sensitive spectrophotometer detector.

ADVANTAGES OF CAPEL[®]-105M

Extended instrumental options	Spectra scanning facilitates peak identification Broad range of controlled injection pressures allows analysis of viscous samples. Reverse sample injection under vacuum: ultra-short analysis time (less than 1 min) and sample stacking to decrease detection limit
Precise liquid temperature control of capillary ($\pm 0.1^\circ\text{C}$)	Extended range of applied buffers, increased efficiency in separation
User friendliness	Complete control of the instrument from a PC Standard Eppendorf type vial (1.5 mL)
Powerful software package "Elforun [®] "	Increased flexibility in performing analysis of various complexity Any kind of complex runs are possible including those with pre-programming of changes in analysis conditions Customized report, data export to other programs
Unique design of the CE instrument	Capillary cassette change just in a few seconds Lower Detection Limit due to the optimized optical scheme



ADVANTAGES OF HPCE METHOD

- ❖ Unique separation power (up to 1000000 TP)
- ❖ Extremely low reagents and samples consumption
- ❖ Very low analysis cost
- ❖ Fast analysis time

EQUIPMENT AND OPTIONS

- ❖ Capillary electrophoresis system CAPEL®-105M
- ❖ Spare capillary cassette
- ❖ Elforun® software package
- ❖ Kits for analysis [by request]; most of CE-kits of any manufacturers are compatible with CAPEL®-105M

WARRANTY

All CAPEL®-105M HPCE systems are covered by a 12-month warranty.

SERVICES

Installation of LUMEX instruments can be carried out at a Customer's site by our service engineers. Personnel training specific to the Customer needs can be also provided.

APPLICATIONS

Environmental analysis	Surface, ground and waste water (Br^- , I^- , NO_2^- , NH_4^+ and other inorganic and organic ions)
Quality control of food and beverage	Tap and bottled water (Ca^{2+} , Cl^- , F^- , Mg^{2+} , NO_3^- , K^+ , Na^+ , SO_4^{2-} and other inorganic and organic ions) Beverages and juices (inorganic cations and anions, sweeteners, antioxidants, vitamins, organic acids) Wines and brandies (inorganic cations and anions, aromatic aldehydes, organic acids, phenolcarbonyl acids, amino acids) Beer (inorganic cations and anions, hop and bitter acids (humulones and isohumulones), amino acids, organic acids, vitamins) Tea, coffee (theanine, caffeine, polyphenols) Foodstuff (amino acids, synthetic dyes, organic acids, amines, proteins, melamine)
Pharmacology and biochemistry	Technological monitoring and product quality analysis Enantiomers separation Determination of inorganic cations and anions, amino acids and proteins in biological fluids Quality control of therapeutic recombinant proteins Pharmacokinetics studies Protein separation
Forensic studies	Analysis of explosives Drugs analysis Analysis of writing paper components
Chemical industry	Technological monitoring Raw material testing and control of intermediate products

SPECIFICATIONS

Detection wavelength	190–400 nm, light source – deuterium lamp
Analysis	Reversible constant voltage 1–25 kV in 1 kV steps Current 0–200 μA Pressure gradient 0–99 mbar programmable changing of wavelength, pressure and voltage during analysis
Injection	By voltage 1–25 kV; by pressure 1–99 mbar
Rinsing	By pressure, 1000 or 2000 mbar
Capillary	Length 30–100 cm Internal diameter 50, 75, 100 μm
Temperature control of capillary	Liquid thermostating, from -10 up to +30 °C from ambient temperature, $\pm 0.1^\circ\text{C}$
Sampler	Autosamplers for 10 inlet and 10 outlet vials
Power requirements	110/220 Vac, 50/60 Hz
Power consumption	200 W
Dimensions/Weight	500x500x500 mm, 25 kg
Control	Elforun® software

The information and specifications in this publication are subject to change without notice.

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