



Agilent 7100 Capillary Electrophoresis System

Highest sensitivity. Highest productivity. Minimal footprint.

Capillary Electrophoresis (CE) offers fast separations with exceptional efficiency and resolution for analytical challenges that often can only be met with difficulty by LC. Used in stand-alone mode, as the separations component of a CE/MS, or as a complementary, orthogonal technology to LC, the Agilent 7100 CE system brings unprecedented HPLC-like sensitivity to a wide range of analytical challenges. In addition, CE offers the advantage that several separation modes can be run on a single instrument. This makes CE a very versatile technique for a broad range of applications and separation challenges.

Application Areas

CE is used to separate, identify, quantify and fractionate compounds in:

- Environmental analysis
- Food safety
- Forensics
- Pharmaceutical discovery, development, and QA/QC
- Life Sciences



Features

- Most sensitive CE system on the market
- Replenishment system allows high throughput and unattended operation
- Easy maintenance and automated instrument diagnostics
- Plug & play connectivity to all Agilent MS systems
- Easy method setup data analysis
- Regulatory compliance tools
- Comprehensive offering of accessories and consumables
- Partner solutions for LIF and electrochemical detection

Benefits

- Best in class analytical performance
- Broadest selection of detectors in the industry
- Legendary Agilent reliability
- Reverse-compatible with the Agilent HPCE
- Increased uptime
- Flexible separation modes including capillary electrochromatography
- CE-MS support from the leading vendor with the longest CE-MS experience
- Broad application coverage
- Complete solution for charged sample analysis



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Specifications Agilent 7100 Capillary Electrophoresis System

Pressure system

Programmable with -100 to +100 mbar on inlet
Flushing with 1 bar or with high pressure 2-12 bar
Vial pressurization with high pressure 2-12 bar on inlet and/or outlet

Injection modes

Self correcting injection system with injection from inlet or outlet
Programmable range: up to 10,000 seconds
Pressure: -100 to +100 mbar
Electrokinetic: -30 to +30 kV

Autosampler/ fraction collector

50-position carousel
All vials are randomly accessible from inlet or outlet end of capillary.
Temperature control with external waterbath with vial temperature from 10-40 °C.
(Non-condensing conditions, minimum waterbath temperature +1 °C).

Replenishment

Satellite station for refilling of inlet or outlet buffer vials with fresh buffer for automatic, continuous operation. Selectable buffer levelling.

Vials

100 µL (polypropylene or glas) with resealing snap caps
1 mL (polypropylene) with resealing snap caps
2 mL (glas) with resealing snap caps

Capillary cassette

High-speed forced-air cooler with Peltier element
Temperature range: 10 °C below ambient, up to 60 °C (min. 10 °C cassette temperature)
Minimum total capillary length: 33 cm
Capillary compatibility 365 µm o.d.

Detector

Real time UV-Visible diode-array detector (190-600 nm)
Temperature controlled
Wavelength resolution: 1 nm
Response time: 0.025 to 10 s
Light source: prealigned deuterium or high brightness lamp
Signals: up to eight signals simultaneously, full spectral acquisition with Agilent ChemStation
Sensitivity: 1 µM 4-hydroxy-aceto-phenon injected at 50 mbar • 5 sec, 3 x 50 µm bubble cell capillary, signal/noise >6* (20 mM borate buffer pH 9.3, 25 kV)
Baseline noise: <50 µAU
Linear dynamic range: 1 x 10⁴ (3 x 50 µm bubble cell capillary)*

Raw data channels

Detector signals and spectrum, voltage, current, leak current, power, cassette temperature, pressure, lamp voltage and detector temperature

Diagnostic functions

RFID tag for lamp, early maintenance feedback, supported by Agilent Lab Advisor software with integrated diagnosis test suite

Safety features

Current leak detection: low current limit
Liquid leak sensor
Safety sensors at door and cover disabling high voltage
Vial sensor

Environment

Temperature: 5-40 °C
Humidity: up to 80 % rel. humidity at 31 °C (non-condensing)

System control

Operating with graphical user interface under Windows XP (SP3)
Time programmable parameters: voltage, current, power, polarity, pressure, inlet and outlet vial, capillary temperature, pre and post-run conditioning with pressure and/or voltage, Replenishment, fraction collection**

CE specific software

Mobility report, time corrected areas, pl calibration and bio polymer size calibration.

Physical Specifications

Dimensions

Width: 35 cm
Height: 59 cm
Depth: 51 cm
Weight: 35 kg

Interfaces

LAN, CAN, RS232, remote control, analog in (1V, 20 bit, integrated A/D converter), analog out

Power requirements

Line voltage: 100-240 V, max. 300 W
Line frequency: 50-60 Hz

Electrophoresis power

Voltage range: setable 0 to ± 30 kV supply
Current: setable 0 - 300 µA
Power: setable 0 - 6 W operation under constant voltage, current or power

* typical value

**upgradeable

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