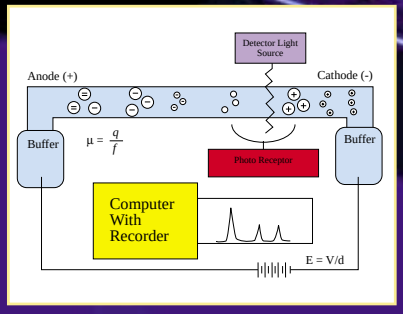
separations technology

PRINCE TECHNOLOGIES

Tailor made CE and CEC Solutions



Prince Technologies

Company Profile

Prince Technologies systems utilise Capillary Electrophoresis (CE), Capillary Gel Electrophoresis (CGE) and Capillary Electro Chromatography (CEC), a powerful separation technique which brings versatility, speed and high resolution to the combined fields of electrophoresis and chromatography.

To answer specific needs of today's scientific community, Prince Technologies introduced the PrinCE System. The truly modular approach of the PrinCE System enables easy connection to any existing detector techniques (i.e. UV-VIS, DAD, µLIF, Fluorescence, Conductivity, MS), but also rapid and easy implementation of future hardware developments such as specific CE detectors, CE-MS interfaces, sample preparation devices and fibre optics technology, whilst guaranteeing flexibility and upgrading to future needs without outdating existing equipment.

Years of Excellence

In the last few years Prince Technologies has developed from a small company that focused solely on the development, manufacturing and sales of capillary electrophoresis products, to a company offering tailor-made solutions to technical challenges. We have sold over 700 units worldwide over the last decade.

Our highly skilled, enthusiastic R & D and manufacturing teams not only offer their services to our own capillary electrophoresis product line but also to third parties. For example we have built the Crystal CE instrument for almost a decade.

Development

Prince Technologies is dedicated to serving customers needs with a strong commitment to problem solving through innovation. Combining in-house research with strategic alliances, Prince Technologies sets a new standard in Capillary Electrophoresis by offering total flexibility in instrument configuration and software, combined with innovation, applications assistance and unsurpassed excellence in CE, CGE and CEC-separations.

Let Prince Technologies be your partner in Capillary Electrophoresis and discover what it means to have a system matched to the needs of today and ready for those of tomorrow, with complete freedom to choose the chemistries and complementary hardware to suit every application. Our key markets are: Universities, Routine & Research-Laboratories, Industrial process control and Hospitals.

The Future

The primary goal of Prince Technologies is customer orientation. We listen to our customers and understand their requirements.

We intend to relieve our customers of the understandable fear of depending on a single manufacturer. Quality and top performance will lead our customers, and ourselves, to continuing success.

One of our main activities is product development and customer lead improvement to guarantee our continuing success. For example in the past we have built integrated µLIF PrinCE systems as well as designing special CE-cells to combine with comercialy available detectors to our PrinCE systems.

The basic model PrinCE 250

Company Philosophy

After Sales Support

Prince Technologies service support is dedicated to keeping your instruments running throughout their lifetime. With our extensive service and support worldwide you can be assured of a comprehensive package.

All new PrinCE products carry a full 12 months warranty and refurbished products have 6 months. After this period, for your continued peace of mind, upon request you can select from a range of service contracts to ensure the continuing trouble free operation of your instrument.

We do more

Continuous training ensures that our employees are informed about the latest technical advances in their fields and that our PrinCE product range is always state-of-the-art.

For our customers and our distributors, we provide a comprehensive range of Prince Technologies Training courses. These cover all aspects of instrument operation and maintenance and also detailed training in specific techniques. We can arrange training either on site or at one of our regional laboratories - the choice is yours.

On request comprehensive user training can be organised as part of the delivery of the new PrinCE System.

Quality

Prince Technologies has demonstrated a quality management system, which complies with the requirements of the standard: NEN-EN-ISO 9001.

Our quality management system has been evaluated according to TüV Netherlands QA's certification scheme for the following scope: design, development, manufacturing, sales and support of instrumentation of chemical laboratories.

CERTIFIED TÜV NEDERLAND QA B.V. SYSTEM

ISO 9001

All our PrinCE systems are manufactured to EC safety requirements under an ISO 9001 Quality Assurance System.

The PrinCE System

PrinCE Capillary Electrophoresis Systems offer you high performance separation tools for analysis based on differences in molecular size, shape and charge, as well as entangled polymer solutions, or selected stationary phases used in chromatography. The applications are endless, with PrinCE offering the modules and programmable parameters to fit individual needs.

PrinCE Automated Sample Injection System
This unique programmable and automated injection system, designed for both research and routine method development, generates highly accurate sample injection quantities using the unique patented Dynamic Compression Injection (DCI) principle. This allows positive and negative injection pressures to be controlled, programmed and applied without the use of external sources and valves.

Controlled pressure/voltage ramping gives unsurpassed accuracy and linearity with injection volumes down to 1nl.

The PrinCE automated injection system also offers capillary temperature control using recycling airflow, thermostatically regulated by Peltier elements, to provide an environment virtually independent of outside temperature fluctuations.

PrinCE Autosampler and Fraction Collector
The modular system design allows the PrinCE to be configured to individual needs. Options include a 4-position sample tray or a random access carrousel with accommodation for 30-48 sample/buffer vials and Peltier control of temperature to protect samples from evaporation and degeneration.

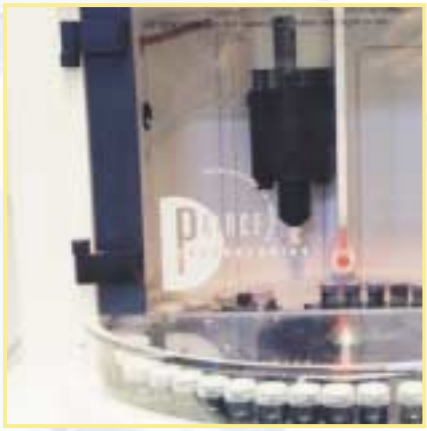
PrinCE High Voltage Power Supply (HVPS)
This versatile polarity-switching High Voltage Power Supply is designed to combine with the PrinCE Injector/ Autosampler of your choice.

The PrinCE-HVPS enables voltage or current profiles to be programmed and accurately controlled, and has a fast polarity switching feature, either pre-programmed or activated during injection or run situations, to give fast and efficient separations.

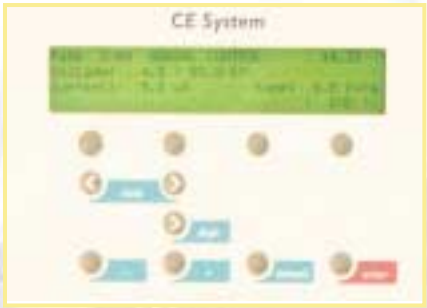
PC-control
WinPrinCE system software operates in Windows environment to give functional control of several parameters, including pressure, voltage, current, temperature, timed events and detectors.

CE-specific data handling hardware and software is also incorporated to ensure optimum performance on all applications.

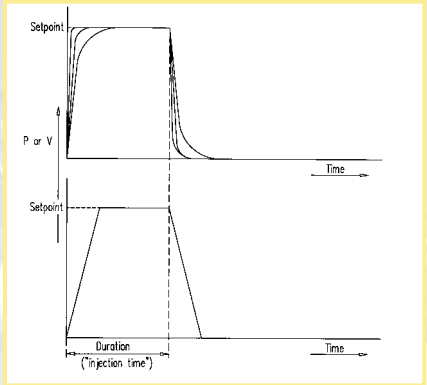
View upon the double barrel compression syringe.



PrinCE Single Lift Autosampler.



PrinCE functional key board design



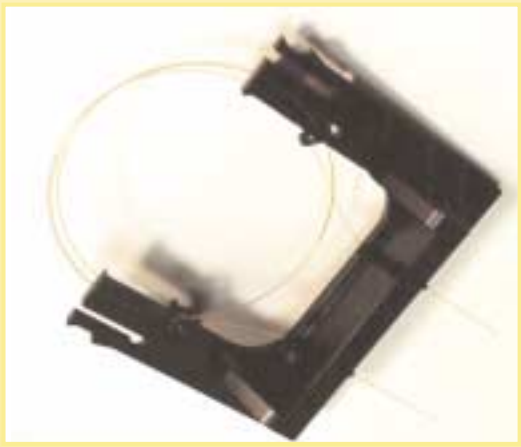
Uncontrolled versus controlled voltage ramps

Typical Technical Specifications PrinCE Autosampler

Technical Specifications PrinCE Autosampler

Injection Modes	1 Hydrodynamic injection uses a patented Dynamic Compression Injection (DCI) device to generate and apply a range of positive and negative pressures with controlled ramping, even during electromigration of analytes 2 Electrokinetic injection features controlled ramping in either voltage or current mode
Injection Pressure	Variable from -180 to +250mbar with 1mbar resolution
Flushing/washing	0 to +2500mbar.
Voltage range	0 to +30kV or -30kV, 100V increments
Current range	0 to +200µA and -200µA, 1µA increments, time-programmable
Repeatability	Better than 0.1 % RSD (voltage, current)
Ramping	Programmable voltage or current ramping
Voltage ramp	0,1- 50kV/s PrinCE, resolution 100V/s 0,01- 50kV/s PrinCE-C, resolution 10V/s
Polarity reversal	Programmable during pre-run and run conditions
Autosampler/ Fraction Collector	4-position sample tray or 30/48 position carrousel Vials randomly accessible from inlet and outlet end of the capillary All systems accept variable vial sizes for samples and buffers, including Eppendorf micro centrifuge tubes
Temperature control	Sample/Buffer tray 4 to 40˚C Capillary 5˚C below ambient to 60˚C
Capillary	Flexible in length and diameter depending on application/ configuration
Injection duration	Max 650min, resolution 0,01min
Repeatability of Injected volume	< 1,0% RSD
Power requirements	Mains voltage 115V or 230V Mains frequency 50/60Hz Consumption 300VA
Dimensions Approximately	Height 50cm (20 inch) Width 50cm (20 inch) Depth 54cm (22 inch)

Inside PrinCE 250

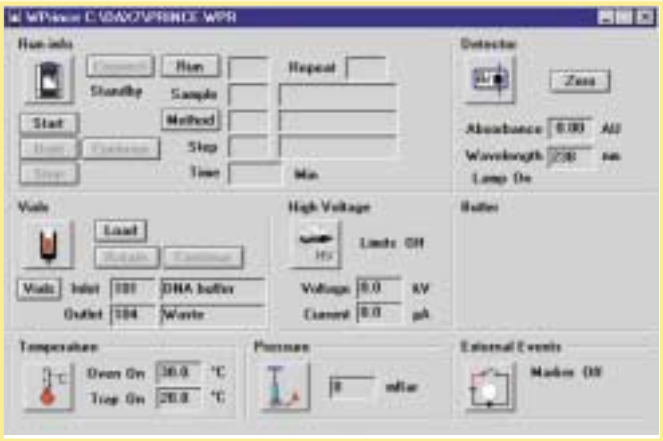


PrinCE Capillary Cassette

WinPrinCE System Control Software

WinPrinCE is a software program which allows full control of the PrinCE Capillary Electrophoresis System from the computer. This software is supplied standard with all PrinCE systems.

Manual control parameters can all be accessed from the WinPrinCE main screen with a single mouse click for ease of use. The control parameters include: Choice of inlet and outlet vial, Pressure applied to the capillary, Voltage or Current settings, System control limits, Detector control, Oven temperature, and Sample tray temperature. Access to stored methods, editing existing methods, creating new methods are available from the run information box. This box also contains the run list and Start/Stop control for a constructed run sequence. Everyting is plainly displayed which allows very easy computer control of the instrument.



WinPrinCE Main Screen

WinPrinCE will also allow the user to program and save complete sets of method parameters. Up to 30 methods can be stored with 99 runs available. Methods allow timed functions of external as well as internal system events. Voltage or current ramping can be included for optimum results and reproducibility.

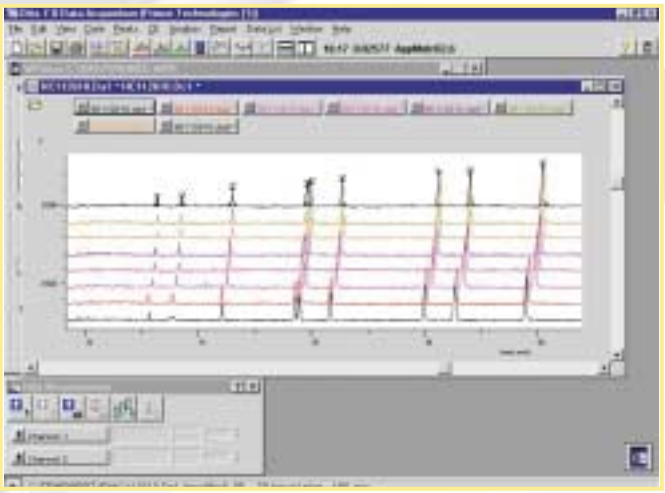
When running a method the main screen will display all the instrument running parameters including which method, step and sample is being run and the time elapsed. The program has been designed to allow total flexibility in system control while maintaining ease of use.

DAx-Data Acquisition and Analysing Software

DAx Data Acquisition

This Windows based software package uses the information in the WinPrinCE worklist to acquire and analyse the data generated from each sample run. The package contains many CE-specific data handling parameters such as mobility values and mobility correction.

Data Manipulation



Data Display Window

Filtering with moving average, Savitzky-Golay or optimum (Fourier) filters. Very powerful data overlays for comparison and identification purposes. Overlays can be scaled off set and stretched to give the best data overlap. Data can easily be moved between windows with drag and drop operations

Baselines and Peaks

All the integration parameters can be derived from the measurement data automatically. From the initial measurement data, baselines are constructed then the peaks are easily found above or below the constructed baseline. In addition to this DAx has highly effective options for manual baseline and peak adjustments.

Component Identification

Identification databases can be constructed to automatically identify peak components within a sample. Various qualifying parameters can be used for this including, migration time and apparent or effective mobility

Quantification

Peaks can be quantified using several different parameters: Peak height, Peak area and Migration time corrected area.

Multichannel
DAx is capable of acquiring data from more than one channel at a time. This will allow the user to manipulate data from more than one instrument on one computer. Another useful option is to record the current, voltage or temperature during the run with the electropherogram. This record of current can help in method transfer and as an integrity of the analysis.

GLP
DAx adheres to the standards of Good Laboratory Practice with name registration, data manipulation logging, preservation of raw data and files which cannot be overwritten. An audit trial is available which should give compliance to any regulatory protocol.

PrinCE product range

The PrinCE product range offers a selection of automated and integrated CE-systems to fit your needs. All modular PrinCE systems are upgradable from the basic 200 series up to the advanced PrinCE 600 models.

You can choose from:

* PrinCE 250 or PrinCE-C 255 4-position autosampler
* PrinCE 400 single lift series with optional the choice of sample temperature control and high pressure (CEC)
* PrinCE 500 double lift series with optional the choice of sample temperature control
* PrinCE-C 600 double lift series with standard high pressure (CEC) and optional the choice of sample temperature control
* PrinCE 700 and 800 integrated CE and CEC series

PrinCE 450

Detectors

Prince Technologies offers a large choice of detectors, which gives complete flexibility in all types of analyses.

The PrinCE systems are compatible with many types of detectors - fast and simple to change detectors to suit the analysis, so improving productivity.

Available detection techniques:

* UV/VIS
* Fluorescence
* Diode Array
* Mass Spectrometer
* µLIF
* Conductivity
* New and novel detection techniques to come

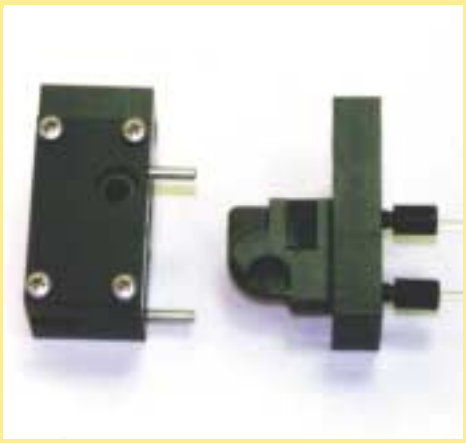
CE-Sure Analytical Kits

Our parent organisation Helena BioSciences have developed a powerful set of guaranteed procedures in the form of conveniently packaged CE-Sure test kits and buffers, to work with the PrinCE product range. These kits and buffers bring the dual benefits of high performance and operator convenience to the field of Capillary Electrophoresis.

Each kit contains all required consumables and reagents for the specified number of tests and optional qualitative/quantitative controls are available to monitor instrument operator performance as required.

For all orders, technical information and application support contact:

Your local distributor is:



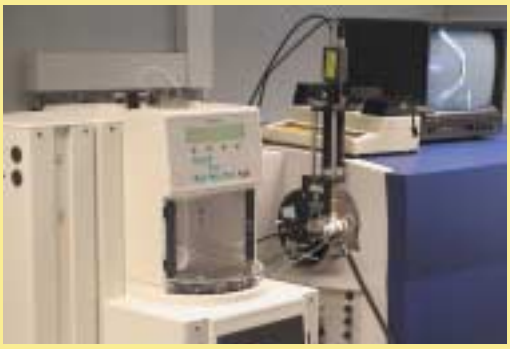
PrinCE Technologies Services

- Direct product support & training
- Application support
- Engineering solutions
- Contract product development
- CE-Sure buffers/ kit & CEC capillaries
- Manufacturing and OEM facilities

www.princetechnologies.com

PrinCE System Characteristic

- The only truly modular CE
- Unsurpassed injection accuracy with patended dynamic compression (< 1% RSD)
- High Pressure for CEC and CGE
- Ideal for CE/CEC-MS
- PC & Keyboard control
- Dedicated data acquisition and analysis software
- Compatible with all detectors (if CE cell is available)



Selection of PrinCE detectors

- UV-VIS
- DAD
- µLIF
- Fluorescence
- Conductivity
- Mass Spectrometer

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