Prin-Cen
make hard things easy

IC-20 Ion Chromatography

Accurate results, meet your analytical challenges

Exceptional ion chromatography equipped with world-class pumps and detectors

Dual-piston in-series pumps driven by independent dual motors

Dual motor independent drive technique is a popular technique to drive and control pumps used in high-end liquid chromatography. Each piston rod is driven by an independent motor and controlled electronically by programming. This technique enables monitoring and calibration up to millisecond and microsecond levels and ensures that the movement of the piston rod is completely controlled to achieve accurate flow rates and extremely low pressure pulses. In addition, the piston rod is driven along a straight path, rather than through precession from cam rotation. This design eliminates the wear of seals caused by lateral friction associated with rotation, thus improving long-term stability while extending the service life of seals. The fully PEEK-lined flow path endures high pressure, acid and alkali chemicals, and is compatible with 0–100% organic solvents. It is also equipped with a self-cleaning function for the piston rods.

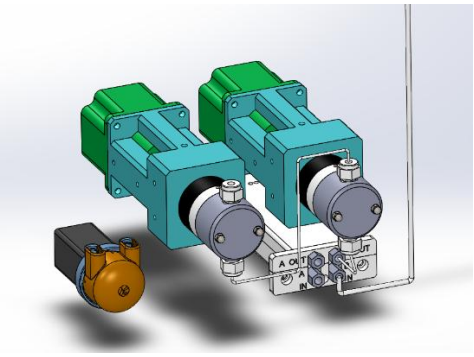


Fig. 1. Three-dimensional structure of a dual-piston in-series pump driven by independent dual motors.

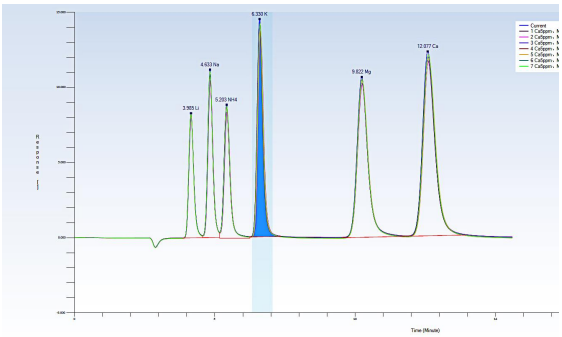


Fig. 2. Exceptional reproducibility of retention time and peak area from 9 repeated injections.(x-axis: time (min); y-axis: response)

Digital conductivity detector with 32-bit analog-to-digital converter (ADC) chip

Measurement Range: 0–20,000 µS/cm with automatic range conversion that does not require a fixed gear or manually shifting gears. Option to expand the range to 0–100,000 µS/cm is also available.

Resolution: 0.001 nS/cm

Temperature control and compensation function, with measurement accuracy of 0.001 °C

Conductivity cell pressure resistance beyond 10 MPa

Our systems have high sensitivity and high stability, and are extremely flexible in performing simultaneous analysis of samples containing components in a wide range of concentrations, such as concurrent analysis of high-concentration ions (Cl^-, SO_4^{2-}) and trace level ions during the direct injection of seawater.

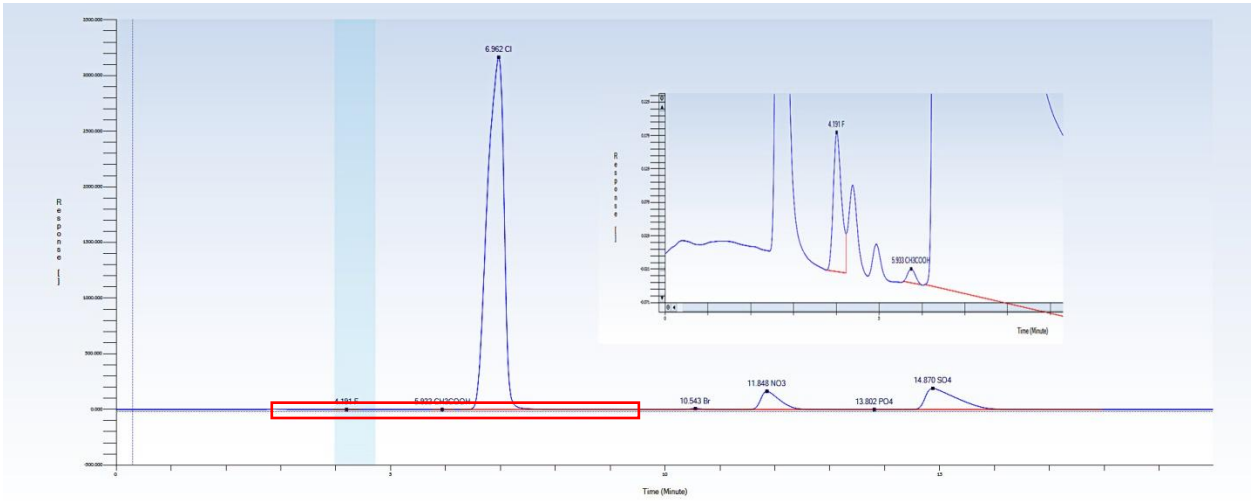


Fig. 3. Chromatogram of seawater sample, which was automatically diluted and injected, showing simultaneous analysis of Cl^- at approximately 2% and 50 ppb bromate (spiked). Accurate quantitation was achieved despite the vast difference in peak height with peak height ratio exceeding more than 300,000 times.

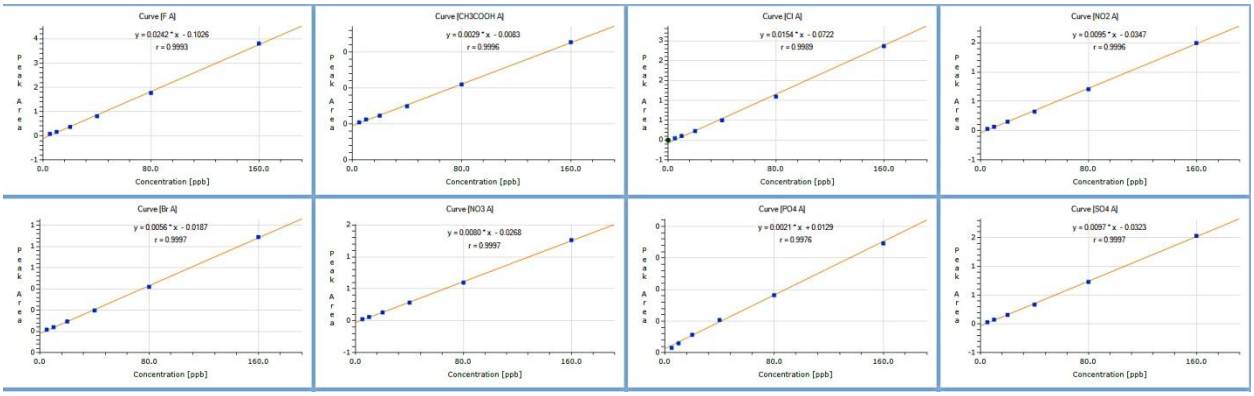
High-performance high-throughput autosampler

Accurate injection volume is essential for reliable results in ion chromatography. Autosamplers eliminate human error and achieve unattended automated analysis, rendering this device the top option for batch analysis. PRIN-CEN's EAS-2 autosampler performs a suite of tasks such as random adjustment of injection volumes through software settings, automatic sample dilution, and automatic standard curve plotting. In addition to preventing cross-contamination, the pre-wash and pre-sampling functions also shorten the idle time between injections, thus truly achieving high-throughput analysis.

Fig. 4. EAS-2 autosampler

Sample	Type	Position	Volume	Level
5 ppb	Standard	4	5	1
10 ppb	Standard	4	10	2
20 ppb	Standard	4	20	3
40 ppb	Standard	4	40	4
80ppb	Standard	4	80	5
160 ppb	Standard	4	160	6

Fig. 5. Calibration curve prepared by automatic dilution, linearity >0.999



Various parts

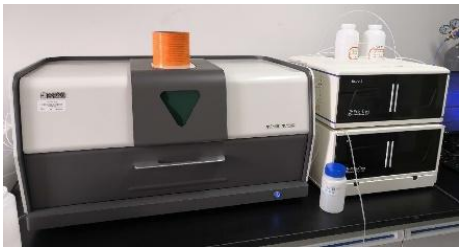
Multi-functional color touchscreen

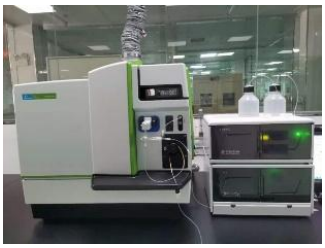
Eluent generator

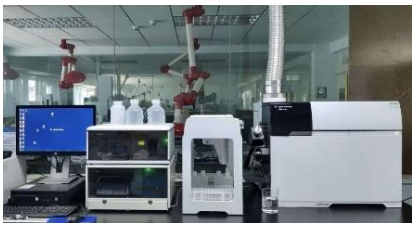
Self-regenerating electrolytic micro-membrane suppressor.

Chromatography columns

Various hyphenated techniques

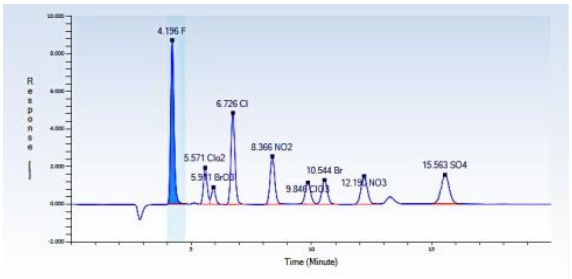




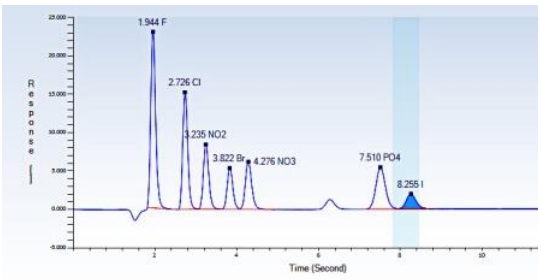


Chromatography workstation with friendly interface and powerful functions.

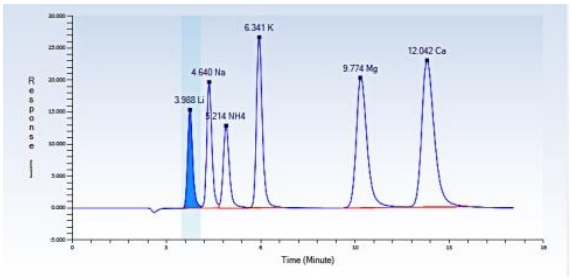
Common applications are listed below. For further information, please contact us on the Prin-Cen WeChat (public account) or contact your local service department.



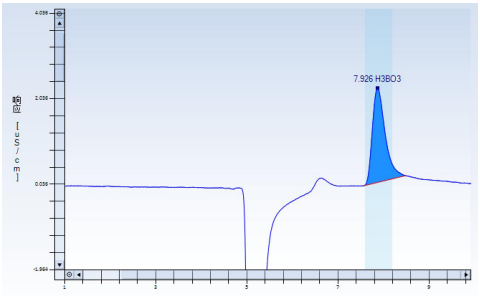
Analysis of drinking water



Rapid analysis of halides and sulfate



Analysis of common cations



Analysis of boric acid in cosmetic products

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