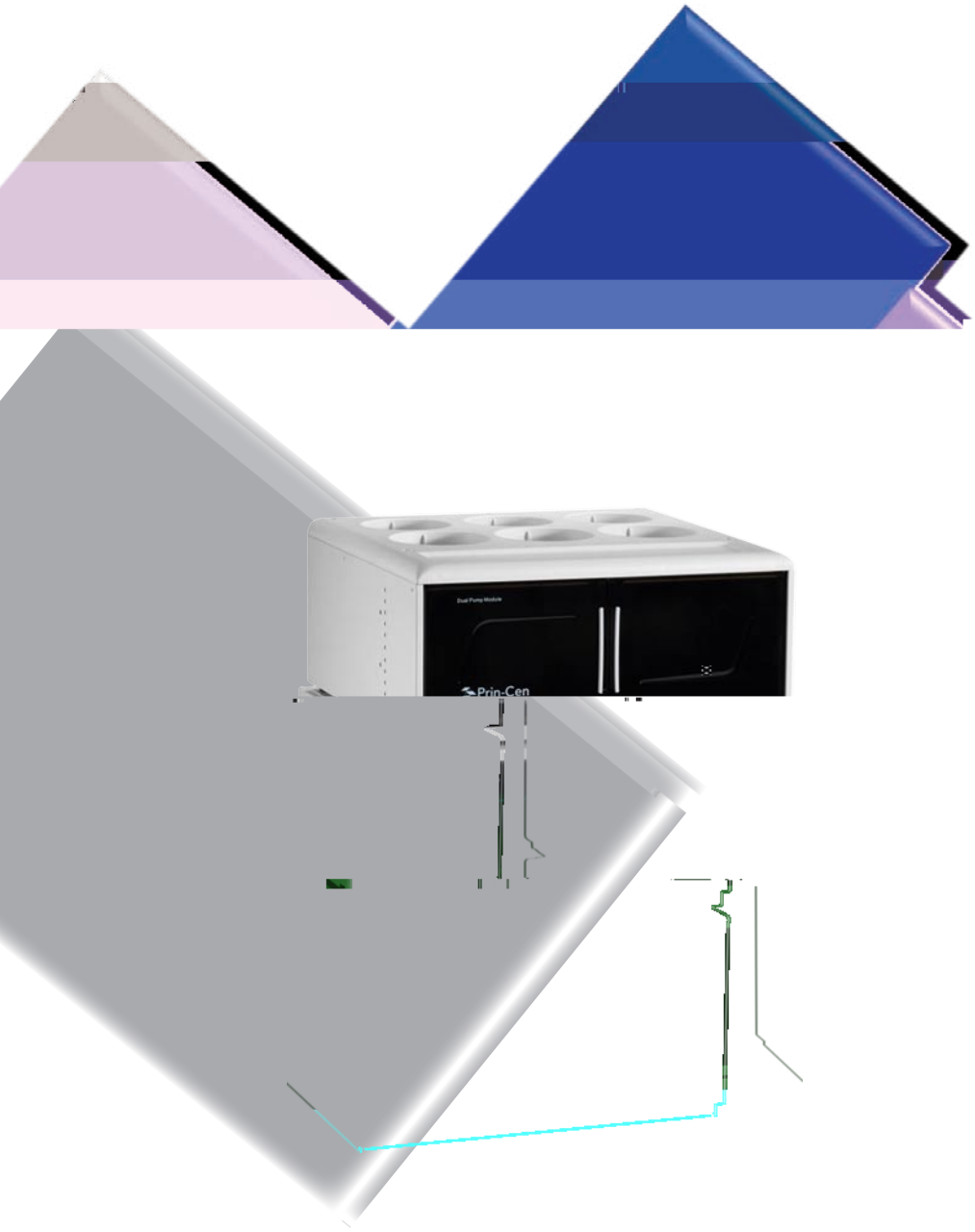
Prin-Cen
make hard thing easy

Automated Ultra-trace Chromium (VI) Analyzer

The Science of Speciation

Reliable Solution for EN71-3:2019 ISO17075





Automated Ultra-trace Chromium (VI) Analyzer

TOY & LEATHER

The Automated Ultra-trace Chromium (VI) Analyzer is developed based on the internationally recognized post-column derivatization ion chromatographic technology (IC-UV/VIS). After separted by the ion exchange column, chromium (VI) will mix with derivatizing reagent (1,5-diphenylcarbazide). Since chromium (VI) is strongly oxidizing, it oxidizes 1,5-diphenylcarbazide in an acidic environment forming a purple-red complex. Absorbance at 540 nm is measured for constructing calibration curve and determining unknown sample concentration.

PRIN-CEN's Automated Ultra-trace Chromium (VI)

pump system. Hence, derivatization reagent delivery is implemented by high-performance IC pump so as to lower pulsation effect and further improve detection limits. The unique design of Trace Light Detector (TLD) provides superior interference resistance resulting in unsurpassed sensitivity.

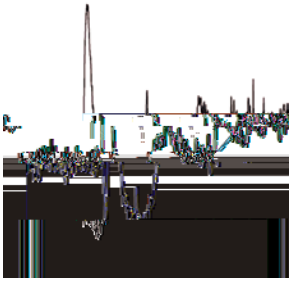
Dual IC PUMP Module

PEIN-CEN's pioneering dual IC pump module combines chromatographic separation and post-column derivatization. The module includes two indenpendently controlled dual piston tandem reciprocating pumps, one for transporting mobile phase and the other for transporting post-column

makes the pump compatible with strong acid, strong base mobile phases and different sample martrices.

As the heart of an IC system, performance of the pump directly affects baseline noise, long-term stability and detection limits. PRIN-CEN uses a hight-performance dual piston tandem reciprocating

pulsation and ultra-low dead volume.



Comparison of sensitivity between IC-TLD (right) and conventional IC-UV/VIS system (left). Sensitivity of IC-TLD is 5 times higher than that of IC-UV/VIS.

Trace Light Detector

The TLD detector is an advanced diode array detector (DAD). DAD and UV/Visible detector are commonly used optical detectors in conventional HPLC and IC systems. DAD permits real time access to full spectrum that helps to show if any interference is present, which cannot be realized by UV/Vis detector. DAD has high interference removal abiltity, especially when dealing with complex colored sample matrices that potentially cause spectral interference.

However, conventional DAD optical path design leads to high noise level and thus compromising the sensitivity. As a pioneer of turnkey solution for chromium (VI) determination, PRIN-CEN understands how to meet the stringent requirements of the EN71-3:2019 under toys safety directive and engineered the Trace Light Detector (TLD). Thanks to the high

[1],

the TLD gives you detection limits never before seen with other IC systems.

162, EN 71-3 - Proposal for Chromium (VI) test method.

Only Water Kit

REAGENT & OLUMN

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A series of chromatography columns, including interference removal column, preconcentration column, high performance separation column and FAST separation column, were developed by PRIN-CEN for chromium (VI) analysis. Different combinations can be mad according to the needs of user.





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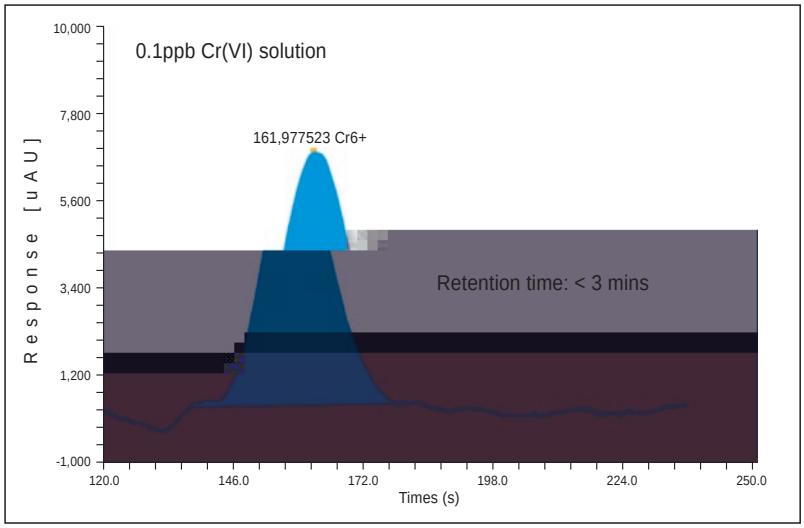
The reagent preparation process is critical for metal analysis at trace level as reagents can easily be contaminated from environment. In order to eliminate

KIT, including mobile phase solution, derivatization reagent, column regeneration solution, and sample pretreatment rreagents. Only ultrapurre water is needed to dilute the reagents before beginning the analysis.

make hard things easy

Short Analysis Time
Exceptional Sensitivity
Highly Reliable System

make hard things easy



SNo.	RT	Element	Peak Area	Peak Hight	Conc	Unit	Equation
1	101.977523	Cr6+	133016.049363	6602.459175	0.101156	PPB	5390. 6669

Sample Name	Volume (uL)	Concentration (ppb)
0.1ppb Cr(VI) Standard-1	1000	0.099594
0.1ppb Cr(VI) Standard-2	1000	0.105024
0.1ppb Cr(VI) Standard-3	1000	0.101156
0.1ppb Cr(VI) Standard-4	1000	0.101754
0.1ppb Cr(VI) Standard-5	1000	0.104443
0.1ppb Cr(VI) Standard-6	1000	0.104614
0.1ppb Cr(VI) Standard-1	1000	0.102642

Average value (ppb)	0.1028
SD (ppb)	0.0020
RSD (%)	1.90

Relative Standard Deviation (RSD):< 2%

Key Features

- Retention time fo Cr (VI) less than 3 mins
- Analysis time per run within 4 mins
- Sensitivity of IC-TLD is much better than that of conventional IC-UV/VIS
- Interference of system peak is minimized and even at the same level of baseline
- Exceptional recovery and repeatability

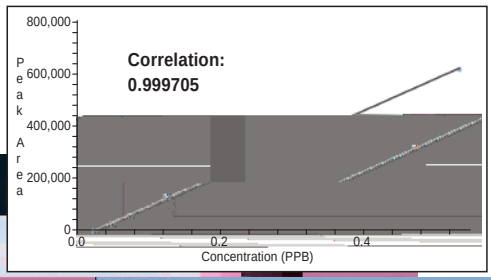
The ruggedly designed autosampler with 120

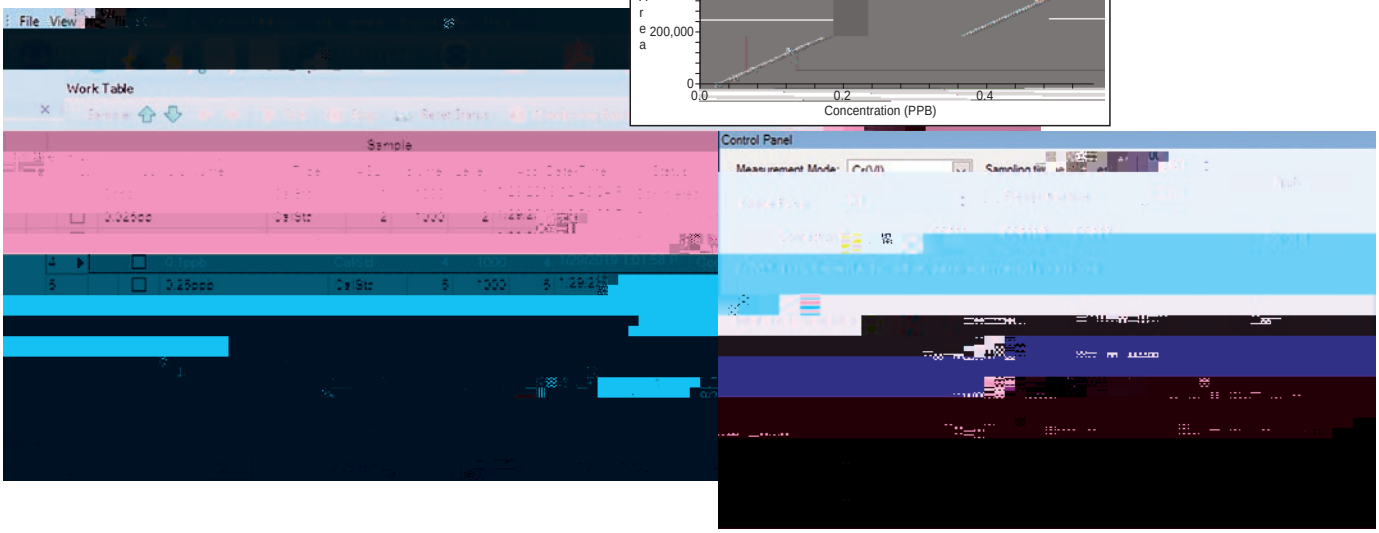
of your laboratory.

Exceptional Interference Removal Ability

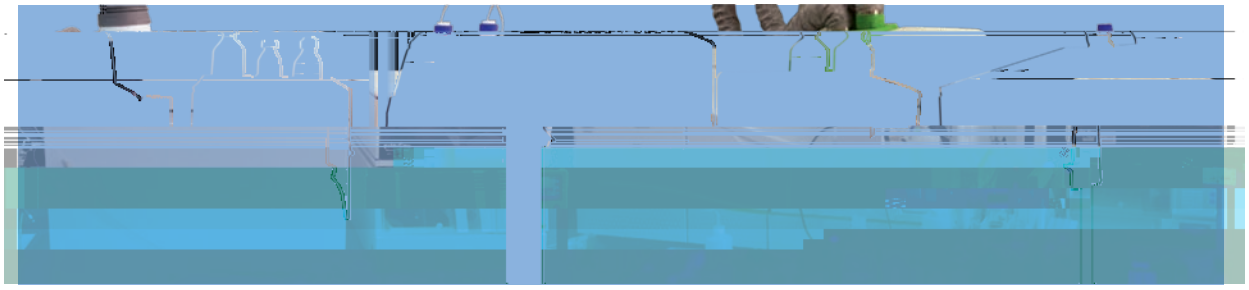
EasySpec Software

The simple-to-use EasySpec software with SOP streamlines batch data acquisition with the highest levels of automation. Data evaluation has never been easier, all the answers can be put on one detail report, it reduces operator training rerquirement. EasySpec also supports different report layouts and output formats. It makes Automated Ultra-trace Chromium (VI) Analyzer the ideal all-in-one system for busy QC labs.





Compatible with ICPMS



[2] of ICPMS to determine metal nitrite and

Hg, Se, Br, Sn, Fe and Mn can also be implemented by IC-ICPMS system.