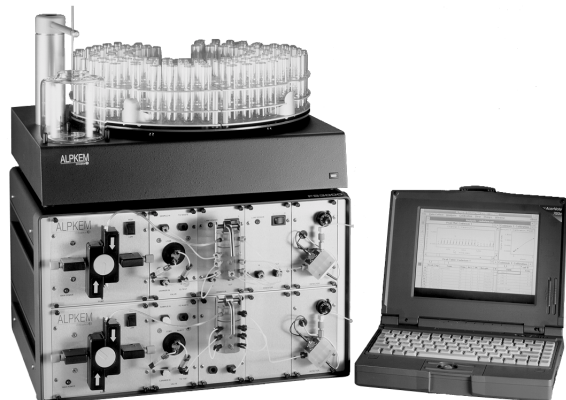


CNSolution™ Model 3000



Cyanide Analysis System

- No distillation required.
- Available for CATC cyanide analysis in 90 seconds.
- Total cyanide via UV digestion.
- Eliminates pyridine and barbituric acid.
- No interference from sulfide or thiocyanate.
- WinFLOW™ Windows®-based software.
- 120-place Random Access Autosampler.
- 2 ppb minimum level (ML).
- 0.5 ppb method detection limit (MDL).
- Up to four analytical channels possible.

The CNSolution™ is OI Analytical's high throughput system for cyanide measurement. Incorporating a single or dual channel analyzer, WinFLOW™ software, and a random access autosampler, the CNSolution uses an innovative gas diffusion ligand-exchange procedure to measure available cyanide or cyanide amenable to chlorination (CATC) species in 90 seconds. Ultraviolet irradiation of the sample can be added to measure total cyanide every two minutes. Available, CATC, and total cyanide can be measured accurately down to 2 µg/L (ppb). The CNSolution complies with all USEPA Method OIA-1677 requirements.

Principle of Operation: CNSolution operation involves the initial injection of the sample into a carrier stream. Once injected, the sample is segmented and acidified to release hydrogen cyanide (HCN), which passes through a hydrophobic membrane. The HCN is absorbed into a basic acceptor solution and directed through a low-dead volume flowcell where the cyanide is measured amperometrically at a silver working electrode. The signal generated by the detector is sent to the WinFLOW software package for analysis and final report generation.

Principal Applications:

- USEPA OIA-1677 (Available CN-/CATC)
- Total Cyanide
- Wastewater
- Surface water
- Soil extracts
- Industrial waste
- Drinking water
- Industrial process solutions

Product Specifications

General Specifications

Dimensions

- 22" H x 20" W x 20" D
(56 cm x 51 cm x 51 cm)

Weight

- 25 lbs (11 kg)

Performance Specifications

Minimum Level (ML)

- 0.002 mg/L (2 ppb) CN⁻

Minimum Detection Limit (MDL)

- 0.0005 mg/L (0.5 ppb) CN⁻

Dynamic Range

- 0.002–5 mg/L CN⁻
- Range adjustable upward

Sample Preparation

- Reagent addition to sample
- No distillation required

Sensitivity

- 0.002 mg/L (2 ppb) CN⁻

Sample Size

- 40–200 µL

Sample Throughput

- Available cyanide, 40 samples/hr
- Total cyanide, 30 samples/hr

Instrumentation Specifications

- Pump: Variable speed, 8 channels/
pump tubes
- Injection valve: 10-port, variable
volume dual bypass loops
- Detector: Amperometric @ 0.00 V
- Flowcell: Silver working electrode,
Ag/AgCl reference, flow-through SS
counter electrode
- UV Digestor: Long wavelength (total
CN⁻)
- User Interface: Personal computer
with WinFLOW™ software

Requirements

Power Requirements

- 110 (±10%) VAC 60 Hz
- 220 (±10%) VAC 50 Hz

Computer Requirements

Parameter	Minimum	Recommended
Computer	IBM Compatible	IBM Compatible
Processor/Speed	Pentium 133 or better	Pentium II
Memory (RAM)	32 MB	64+ MB
Free hard drive space	120 MB	120 MB
Operating System	Windows 95	Windows 95/98/NT
DOS version	n/a	n/a
Mouse	Bus mouse	Bus mouse
Graphics	VGA adapter card with 1 MB RAM on-board	VGA adapter card with 1 MB RAM on-board
Monitor	Color VGA	Color SVGA
Disk Drive	CD ROM	CD ROM
Com ports (*)	1–2 free high speed 16550 com port	1–2 free high speed 16550 com ports
Math coprocessor	Not required	Not required

Notes:

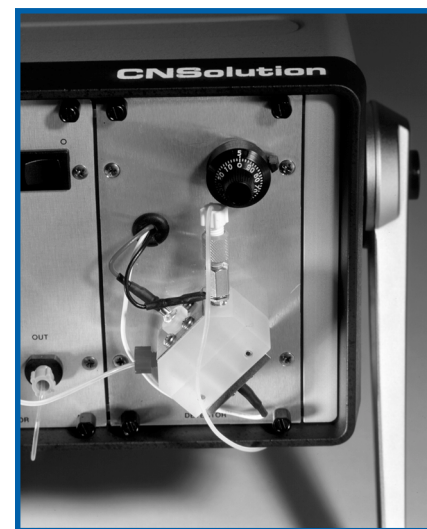
(*) Requires 1 unused 9-pin RS-232 com port or 25-pin RS-232 com port with a 25- to 9-pin adapter. The IRQ associated with this port must not be used by any other device, including the mouse or a modem. Requires 2 free high speed 16550 com ports for data collection on greater than 6 channels simultaneously.

Options

- RA Autosampler (replaces 120-
position sampler)
- MicroSTEP Autodilutor (requires RA
Autosampler)

Cartridges

- Available cyanide/CATC
- Total cyanide
- Cyanide post-distillation



Amperometric Detector/Flowcell