PERSEE

PF7

ATOMIC FLUORESCENCE SPECTROMETER

The automated PF7 is an ideal instrument for elemental analysis in various market and research industries including:

- Agricultural
- Pharmaceutical
- Food and beverage
- Geological
- Public health
- Metallurgical
- Clinical
- Petrochemical

PERSEE

Affordable Lab Technology

Standard Features

Light source
- High intensity hollow cathode lamps for improved sensitivity and stability.
- Pre-aligned lamp assemblies for trouble free installation.
- All lamps are uniquely data coded offering important information to the PF Win operating software.
- Up to 3 lamps can be installed for simultaneous analysis.

Optical System
- Double beam optical system to eliminate drift from the light source and the detector.
- Shielded optical design greatly reducing light interference.
- Enhanced signal to noise ratio for increased analytical sensitivity.
- Unique optical configuration for increased Fluorescence intensity. Up to twice the intensity found in traditional AFS systems.
- High Quantum Solar Blind detector fitted as standard to ensure optimum stability.

Atomiser System
- High precision quartz tube designed for optimum performance, durability and long life.
- Adjustable height control for improved optimisation.
- Integrated 2 stage, fully sealed, fume exhaust system to decontaminate toxic elements and pollution.
- Gold Mesh fitted to the chimney removes any mercury pollutant.

Hydride Generator
- Integrated continuous flow Hydride System.
- Gas pressure sampling offers maintenance free operation.
- Online auto dilution and multiple auto purge by gas driven sequential injection system.
- Fully sealed reservoir bottles for extended solution life.
- New design Gas Liquid Separator with magnetic stirring for improved repeatability of analytical results.
- Liquid Separator cooled directly by specially designed Peltier system to remove unwanted water in the formed hydride and greatly reduce Fluorescence quenching thus increasing the sensitivity.
- Unique high volume reagent storage positioned outside of the instrument to reduce contamination.
- Connection of carrier and reducer liquids to instrument using long life chemical resistant FEP tubing.
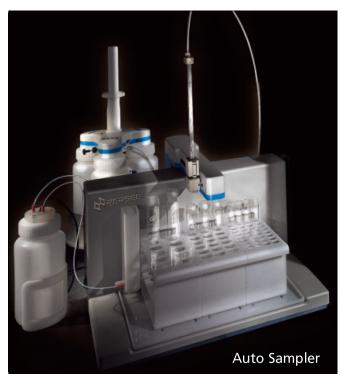
Electronic Control
- High technology electronics and PCB components.
- PF Win 3.0 software offers full control of PF7 instrument and accessories.
- Windows operating software
- New features include: QC functions, online data sharing, self diagnostics, result and resource management.
- Full GLP version available for multiuser group management and log.

Detection Limits

Element	Detection Limit (ug/l)	RSD %
Arsenic (As)	<0.01	<1%
Bismuth (Bi)	<0.01	<1%
Cadmium (Cd)	<0.001	<1%
Germanium (Ge)	<0.05	<1%
Mercury Hg)	<0.001	<1%
Lead (Pb)	<0.01	<1%
Antimony (Sb)	<0.01	<1%
Selenium (Se)	<0.01	<1%
Tin (Sn)	<0.01	<1%
Tellurium (Te)	<0.01	<1%
Zinc (Zn)	<1.0	<1%

Auto Sampler

Accessories

Auto Sampler

- X, Y, Z drive configuration.
- Fully controlled by PFWin software.
- Inert robust probe and FEP tubing.
- Improved probe wash. Simultaneous inner and outer wall wash.
- Large volume standard stock solution.
- Removable inert sample tray and rack.
- 3 sizes of sample racks available to accommodate 10ml, 25ml and 50ml test tubes.

Speciation Analyser

- Built in HPLC pump. Isocratic/gradient
- Fitted with conventional column (optional column oven available).
- Manual or automatic sample input (with optional auto sampler).
- Detect and separate inorganic and organic compounds.
- High separation performance
- Fast analysis < 12min.

Speciation Detection Limits

Element	Specification	Detection Limit (ug/l)	RSD %
As	Arsenite (As III)	0.04	<5%
	Dimethylarsenic acid (DMA)	0.08	<5%
	Monomethylarsenic acid (MMA)	0.08	<5%
	Arcenate (As V)	0.2	<5%
Hg	Inorganic (Hg II)	0.05	<5%
	Methylmercury (MeHg)	0.05	<5%
	Ethylmercury (EtHg)	0.05	<5%
	Phenylmercury (PhHg)	0.1	<5%
Se	Selenocysteine (SeCys)	0.3	<5%
	Selenite (Se IV)	0.1	<5%
	Selnomethionine (SeMet)	2.0	<5%
	Selenate (SE VI)	0.5	<5%
Sb	Sb III	0.1	<5%
	Sb V	0.5	<5%

Specifications

Specifications	PF7
Sample Atomisation	
Atomiser	Quartz furnace tube with auto ignition
Furnace Heating	Computer controlled heating
Hydride Generator	Continuous flow high performance for cold vapour Mercury and hydride determinations of As, Se, Te, Bi, Sb, Sn, Zn, Pb, Cd, Ge
Gas Requirement	High purity Argon gas (99.99%) 30psi
Exhaust System	2 stage filtration to decontaminate pollutants
Sample and delivery	
Carrier and Reagent Delivery	Gas pressure driven system
Gas/Liquid Separator	High efficiency gas/ liquid separator with magnetic stirring and Peltier cooling
Optics	
Optical Design	Short focal length non- dispersive double beam
Light Source	3 channel simultaneous element analysis using computer controlled modulated and pulsed hollow cathode source
Baseline Stability	< 1.5%
Baseline Noise	< 1.5%
Linear Range	$>10^3$
Operating System	
Interface	USB, RS232
Operating Software	PFWin software
Safety	Gas alarm for low pressure and flow
Power Requirements	100 – 240V 50Hz/60Hz 300VA
weight	Net: 35Kg Gross 50Kg
Dimensions	60cm x 57cm x 45cm

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