

D6000M



Overview

The D6000M is the next dimension of manual low background alpha/beta counting systems. It is built for radiochemistry, but can be used for both health physics and radiochemistry applications. The D6000M is built upon the proven mechanical and detector designs of the previous WPC-9604 and enhances that design with advanced electronics, electronic gas flow control and monitoring, advanced QA/QC tracking and RFID technology. Alpha/Beta Dimensions, a web based operating platform is built upon an integrated embedded computer that can be accessed via web browser from a network or a directly connected PC. The included Alpha/Beta Dimensions software allows for easy system programming, data management, and control chart maintenance. Integral system sensors track humidity, temperature, altitude, Barometric pressure, all system voltages., and gas flow and conservation controls for individual detectors

Protean Instrument



The screenshot displays the Protean Instrument web interface. At the top, there is a navigation bar with icons for Main, Samples, Data, QC, Setup, Diagnostics, and About. Below this, the 'Setup' menu is expanded, showing options like Software, Instrument, Nuclides, Sources, Mass Curves, QC Charts, Plateau Protocols, Count Protocols, Calibrations, Reports, Users, and Languages. The 'Software Configuration' section is active, showing three toggle switches for 'User Login with User Permissions', 'Log sources', and 'QC Charts', all of which are currently 'Enabled'. To the right, there is a 'Source Library' table with columns for 'Name' and 'Status'. The table contains two entries: 'another-new' with a green checkmark and 'new' with a green checkmark. Below the navigation bar, there is a 'QC Checks' section with a graph showing a fluctuating signal over time. The graph has a y-axis ranging from 0.0000 to 2.0000 and an x-axis with time markers at 00:00, 00:10, 00:20, and 00:30. At the bottom, there is a data table with columns for 'Data', 'Alpha CPM', 'Beta CPM', 'Result', and 'Delete'. The table contains two rows of data: one for '07/21/2012 1:00 PM' with Alpha CPM of 7169 and Beta CPM of 759, and another for '07/19/2012 1:00 PM' with Alpha CPM of 6997 and Beta CPM of 775.

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D6000M



Features

- Dual 2.25" (5.7 cm) Gas Flow Proportional Detectors per drawer provide 6 detectors per layer with up to 4 layers per system.
- A system can be configured with 6, 12, 18 or up to 24 individual detectors in a small footprint.
- Web based interface is standard mouse/keyboard and touch Screen compatible
- Sample Carriers with RFID read/write capability contain sample, protocol/routine and analysis result data.
- Easy Window and Detector Drawer Module Replacement
- Accommodates 2" (5.1 cm) to 2.36" (6.0 cm) Planchet Diameters
- Radon Progeny Compensation for Air Filters via the Pseudo-Coincidence Method
- Cosmic Guard Detector
- Dual Anode Wire Detector Option Available
- Lockout of a Damaged Detector and Maintain Operational Status
- Independent control and gas conservation for each detector
- Digital Processing of Pulses allows for discreet channel adjustment for alpha/beta discrimination
- Virtual Oscilloscope for Signal Diagnostics and Tuning
- Environmental Status Tracking of Humidity, Barometric Pressure/Altitude, Temperature
- Digital Window and Gain Adjustment
- Low voltage UL/CE rated power supply
- Ethernet based communications
- 80 $\mu\text{g}/\text{cm}^2$ detector window

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Typical Efficiency ¹				
Source	Top	1/8" Bottom	1/4" Bottom	5/16" Bottom
Pu-239	35%	31%	25%	24%
SrY-90	51%	47%	40%	39%
Tc-99	39%	33%	28%	26%

Background				
Condition	Warranted (cpm)		Typical (cpm)	
	Alpha	Beta	Alpha	Beta
With Lead & Guard	<0.1	<0.9	0.05	0.7

Instrument Options and Accessories	
Option	Order Part Number
1/8 Inch Planchet	700-0007
1/4 Inch Planchet	700-0008
5/16 Inch Planchet	700-0009
Carrier Inserts, Set of 50, 1/8 in., 1/4 in., or 5/16 in.	140-0305
Mobile Cart	120-0011
Standard Carrier Set (1-50 + QC + Routine)	120-0033
Carrier Set of 50 (Any Sequence)	120-0034
Extended Warranty	108-0001
Service Contract	Service Contract
Installation	Install
Computer System	Computer

Instrument Specifications	
Category	Specifications
Sample Size	2 Inch Diameter (5.1 cm) up to 6.0 cm
Capacity	6, 12, 18, 24
Depth	1/8, 1/4, or 5/16 Inch
Data Export	USB Flash Drive, Ethernet Export
Interface	Web Browser/Touch Screen
Count Modes	Alpha Only, Beta Only, Alpha then Beta and Alpha/Beta Simultaneously
Power	110-240 Vac, 50-60 Hz Input
Window	Aluminized, 80 µg/cm ²
Operating Temp	10°C to 40°C (50°F to 104°F)
CE	Certificate of Compliance Available

Accessories Supplied	
Accessory	Quantity
Ethernet Cable	1
1/8" and 5/16" carrier inserts	55
Standard Carrier Set	1
Two Stage Regulator & Tubing/Fittings	1 (CGA-350 standard)

Instrument Specifications	
Dimension/Item	Size
Height*	Capacity Dependent
Width	32 Inches (81 cm)
Depth	25 Inches (64 cm)
Installed Weight*	430 lbs ((195 kg)
Shipping Weight	635 lbs (288 kg)
Shipping Crate Dimensions	48x40x47" (122x102x119 cm)

- (1) Efficiency determined using 2 inch NIST traceable distributed source.
- Environmental background during measurements: 8 µR/hr.
- Provided carrier insert size can be altered at time of order.
- All specifications are subject to change without notice.