

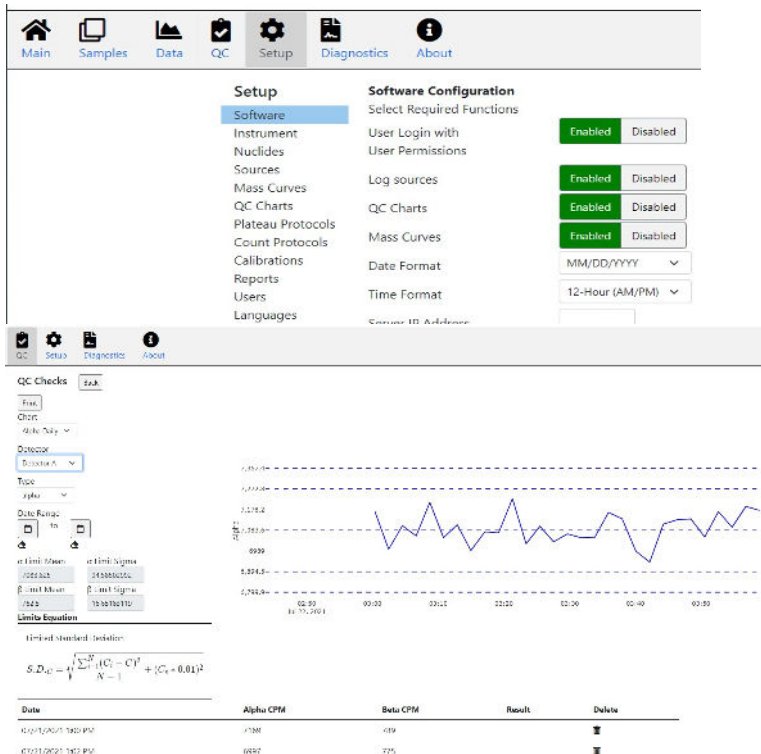
D2000A



Overview

The D2000A marks the next dimension of low background alpha/beta counting systems. It can be used for both health physics and radiochemistry applications. The D2000A is built upon the proven mechanical and detector designs of the Protean Instrument product line, and enhances that design with advanced electronics, electronic gas flow control monitoring, advanced QA/QC tracking and RFID technology. Alpha/Beta Dimensions, a web based operating platform, is built upon an embedded computer that can be accessed via a web browser on the network or a computer connected directly to the instrument. The included Alpha/Beta Dimensions software allows for easy system setup, data management, and control chart maintenance. Integral system sensors track humidity, temperature, Barometric Pressure-Altitude, all system voltages, sample position and status.

Protean Instrument



D2000A



Features

- Dual Gas Flow Proportional Detectors give 2X the throughput of standard automatic sample changers. 2.25" (5.7 cm) gas flow proportional detectors
- 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 storage.
- 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
- Standard 50 Sample Capacity (with a 100 Sample option)
- 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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D2000A

| 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 | <1.0 | 0.05 | 0.7- 0.8 |

| 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 ", 1/4 I", or 5/16 " | 140-0305 |
| Mobile Cart | 120-0011 |
| 50 Sample Stack, Stand, and Carrier Set | 120-0075-50 |
| 100 Sample Stack, Stand, and Carrier Set | 120-0075-100 |
| Standard Carrier Set (1-50 + QC + Routine) | 120-0033 |
| Carrier Set of 50 (Any Sequence) | 120-0034 |
| 100 Sample Stack Option | 120-0036 |
| 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) |
| Capacity | 50 (100 Optional) |
| Depth | 1/8, 1/4, or 5/16 Inch |
| Data Export | Via Network |
| Interface | Web Browser |
| Count Modes | Alpha Only, Beta Only, Alpha then Beta 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) |
| 2 end plates, 2 skip plates, 12 Routine Plates, 4 QC plates | 1 Set |

| Instrument Specifications | |
|---------------------------|----------------------------|
| Dimension/Item | Size |
| Height* | 33 Inches (84 cm) |
| Width | 23 Inches (81 cm) |
| Depth | 29 Inches (64 cm) |
| Installed Weight* | 830 lbs ((195 kg) |
| Shipping Weight | 1000 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.

*100 Sample option adds approx. 18 inches in height and 10 pounds in weight.