

MPC-9604



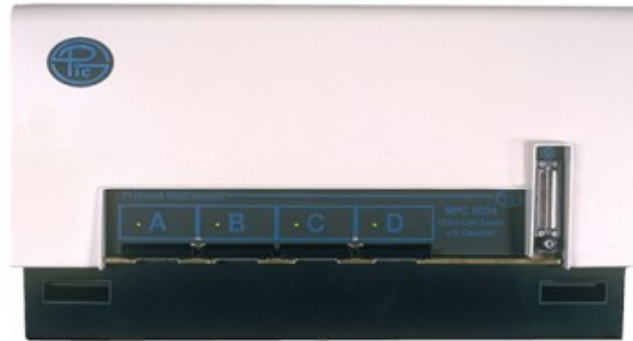
Overview

The Protean MPC-9604 Manual Alpha/Beta Counter incorporates four (4) gas-flow proportional detectors and a cosmic guard detector allowing the user to count four (4) samples simultaneously to optimize sample throughput for both environmental and health physics applications.

USB enabled communications allows control of the counter from a PC running the various analysis and control software packages. Detector windows can be changed in less than 10 minutes, without interrupting any other detector in the system.

Features

- ⇒ Manual 4 Sample Counter
- ⇒ Cosmic Guard Detector
- ⇒ Easy Window Replacement
- ⇒ 4" (10.16 cm) thick low background lead shielding
- ⇒ 2" (5.1 cm) Standard Planchet Diameter
- ⇒ Low Background Counter
- ⇒ No Pb Brick Lifting for Detector and Window Access
- ⇒ Radon Progeny Compensation for Air Filters
- ⇒ GasPro™ Failsafe Gas Conservation and Gas Loss Detection
- ⇒ Four (4) 2.25" Diameter pancake-style gas flow proportional detectors
- ⇒ Independent sample start and stop



Protean Instrument

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Efficiency Top (~1 mm from window) Others: bottom of planchet ¹				
Source	Top	1/8"	1/4"	5/16"
Pu-239	35%	31%	25%	24%
Sr/Y-90	55%	47%	40%	39%
Tc-99	35%	33%	28%	26%
Ni-63	15%	11%	7%	5%

Typical Efficiencies (Distributed/Point Source) ¹			
Source	Efficiency	Source	Efficiency
Po-210	31% / 42%	Am-241	31% / 42%
Sr/Y-90	47% / 55%	Th-230	31% / 42%
Tc-99	35% / 43%	Cs-137	32% / 40%

Instrument Options & Accessories	
Option	Order Part Number
1/8 Inch Planchet (set of 100)	700-0007
1/4 Inch Planchet (set of 100)	700-0008
5/16 Inch Planchet (set of 100)	700-0009
Set of 4 sample inserts at 1/8" depth	TBD
Set of 4 sample inserts at 1/4" depth	TBD
Set of 4 sample inserts at 5/16" depth	TBD
Ultra-Thin (80 microgram/cm ²) detector window	120-0008
Instrument Rack	120-0039
Mobile Cart	120-0011
Extended Warranty	108-0001
Service Contract	Service Contract
Installation	Install
Computer System	Computer System
Software Package	VISTA 2000

Accessories Supplied	
Accessory	Quantity
PIC Link Cable	1
1/8" and 5/16" or 1/4" inserts (Specify at time of order)	4 each
Two Stage Regulator & Tubing	1

Factory Measurement Conditions

- 4 π efficiencies for distributed area sources determined using a NIST traceable area sources. "Typical" 4 π efficiencies are for comparison with other vendors using point sources vs area sources at close window geometries.
- Background measurements in a natural background of 8 μ R/hr. Warranted values are taken under controlled conditions & vary with altitude/bkg.

Background ²				
Configuration	Warranted (cpm)		Typical (cpm)	
	Alpha	Beta	Alpha	Beta
Shielded & Guarded	< 0.1	< 1.0	< 0.05	< 0.7

Instrument Specifications	
Category	Specifications
Sample Size	2 Inch Diameter (5.1 cm)
Detector Uniformity	95% over active area
Capacity	4 Samples
Cross Talk Instrument Induced	Alpha to Beta < 0.1% Beta to Alpha < 0.1%
Depth	1/8, 1/4, or 5/16 Inch
Data Export	VISTA 2000
Interface	Computer
Count Modes	Alpha Only , Alpha then Beta, Alpha/Beta Simultaneously
Plateau	< 1.5 %/100 V alpha Length >1000V < 2.5 %/100 V Beta Length >200 V
Power	110-240 Vac, 50-60 Hz Input; <2A at 110 ; <1.0A @ 240 VAC
Gas Flow Rate & Pressure	Nominally set to 60 cc/min with a critical flow orifice. Nominal Inlet pressure 10 psi (\pm 2psi)
Window	Aluminized, 80 μ g/cm ²
Operating Temp Range	10°C to 40°C (50°F to 104°F)
Humidity	20-90 % Non-condensing
ROHS & CE	Certificates of Compliance Available
Shielding	4" (10.16 cm) Low Background Pb
CPM / Dead Time	300,000 / < 1.5%

Instrument Specifications	
Dimension	Size
Height	16" (47cm)
Width	32" (95.3 cm)
Depth	22" (55.9 cm)
Weight Installed	1200 lbs (544 kg)
Weight Shipping	1400 lbs (635kg)
Lead Shielding	4" (10.16 cm)