

Physical

MPC-1000 Specifications

Sample Detectors: 2.25" diameter Hemispherical style gas flow proportional sample detector
Guard Detector: 1 large area gas flow proportional cosmic guard detector
Gas-PRO™: Failsafe P-10 monitoring system senses breaches in gas flow.
Gas Flow: Adjustable flow meter 60 cc/min (window detector) 150 cc/min (windowless detector).
Nominal inlet pressure 10 psi (15 psi recommended maximum)
Window: Aluminized window with nominal density of 80 µg/cm² or Windowless Operation
Size: 23" W x 24" D (58.42 cm W x 60.96 cm D)
Sample Size: 2" diameter planchets 1/8, 1/4, 5/16 inch deep
Weight: Installed 380 lbs (99.79 kg)
Shipping 490 lbs (222.2 kg)
AC Power: 117Vac, < 2.0A 50/60 Hz; 230 Vac, <1.0A, 50/60 Hz
Environment: 10-40°C; 20-90% humidity, non-condensing

Performance

Background:	Alpha	Beta
Typical	0.05 cpm	0.7 cpm
Warranted	0.1 cpm	0.9 cpm

(Background values are dependent on environment and altitude. Warranted values are as measured at factory under controlled conditions).

Efficiency:	Typical	P _O ²¹⁰	Windowless	Window	Sr ⁹⁰ /Y ⁹⁰	Windowless	Window	Th ²³⁰	Windowless	Window
			Am ²⁴¹	Cs ¹³⁷		Tc ⁹⁹				
			45%	40%		55%	55%		45%	40%
			45%	40%		45%	40%		45%	35%

(Efficiencies are typical values; energy and geometry dependent; as measured at factory under optimized conditions with factory specified sources and P-10 gas)

Plateau:	Alpha	Beta
Slope	<1.5% / 100V	<2.5% / 100 V
Length	>1000V	>200V

(Plateau measurements use point sources at optimum geometry using P-10 counting gas. Alpha plateaus use Po²¹⁰ Beta plateaus use Sr⁹⁰/Y⁹⁰)

Crosstalk:	Alpha to Beta	Beta to Alpha
Instrument Induced	<0.1%	<0.1%
Naturally Occurring	Source Dependent	Source Dependent

(Refer to Applications Note AN-0108)

Detector Uniformity: >95% over active area

Dead Time Correction: Tested to 300,000 cpm with < 1.5% dead time loss.

Count Modes: Alpha Only, Beta Only and Simultaneous Alpha + Beta

MPC-1000 Ordering Information

Include gas line fittings and tubing and two-stage gas tank regulator†. 5 stainless steel carriers (specify depth for 1/8", 1/4" and 5/16") . (planchets are not included).

1 Year Warranty.

†Tank regulators use a US standard tank thread (CGA-350 .825"-14NGO-LH-EXT) and may require adapters not supplied by Protean.

Options

120-008: Ultra-Thin (80 microgram/cm²) detector window

700-0007: 2 x 1/8" Stainless Steel Planchets (Set of 100)

700-0008: 2 x 1/4" Stainless Steel Planchets (Set of 100)

700-0009: 2 x 5/16" Stainless Steel Planchets (Set of 100)

140-115SS-1/8: Extra set of 10 sample carriers at 1/8" depth

140-115SS-1/4: Extra set of 10 sample carriers at 1/4" depth

140-115SS-5/16: Extra set of 10 sample carriers at 5/16" depth

Vista 2000 Software: Radiochemistry Applications and Control Software for use in operating the system from a computer.

120-0011-ACC02: Wheeled cart

Extended Warranty: Extra 1 year

Installation: On-Site Installation and introductory training. Two days on-site. All labor and travel expenses included.

(All specifications are subject to change without notice.)