# MPC-900-DP



Instrumer

## **Overview**

The MPC-900-DP is a convenient and versatile "benchtop" counter equipped with a dual phosphor scintillator type detector that supports gasless operation and easy portability. Cosmic background radiation reduction is possible with the optional Anti-Coincidence Guard Detector. DUO Express software allows for easy system programming, data management, and control chart maintenance. Multiple instruments can be connected for user

convenience. This sample counter is ideal for standard Health Physics applications such as smears and air filters.

## **Features**

- $\Rightarrow$  Manual Single Sample Gross Counter
- ⇒ Dual Phosphor Scintillator Detector
- ⇒ Touch Screen Interface
- ⇒ Lightweight Portability
- ⇒ 2 in. (5.1 cm) Standard Planchet Diameter
- ⇒ Radon Compensation for Air Filters
- ⇒ Optional Anti-Coincidence Scintillation Guard Detector
- $\implies$  Optional Lead Shielding to Reduce Background Levels



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### MPC-900-DP

#### Optimized for Lower Energy Betas \_\_\_\_

Typical Efficiency				
Source	Тор	1/8" Bottom	1/4" Bottom	5/16" Bottom
Pu-239	41%	34%	27%	24%
SrY-90	53%	46%	39%	37%
Tc-99	34%	28%	24%	22%

Background				
Condition	Warrant	ed (cpm)	Typical (cpm)	
Condition	Alpha	Beta	Alpha	Beta
With Lead & Guard	<0.2	<25	0.05	20
With Guard No Lead	<0.2	<30	0.06	27
With Lead No Guard	<0.2	<55	0.09	43
No Guard No Lead	<0.2	<65	0.08	49

Instrument Specifications		
Category	Specifications	
Sample Size	2 Inch Diameter (5.1 cm)	
Capacity	1	
Depth	1/8, 1/4, or 5/16 Inch	
Data Export	USB Flash Drive, USB PIC Link	
Interface	Touch Screen	
Count Modes	Alpha Only, Alpha/Beta Simultaneously	
Power	110-240 Vac, 50-60 Hz Input	
Window Aluminized, 80 μg/cm²		
Operating Temp	10°C to 40°C (50°F to 104°F)	

Instrument Specifications		
Dimension	Size	
Height*	20.25 Inches	
Width	9 Inches	
Depth	16 Inches	
Weight	40 lb	
Guard Weight	7 lb	
Shield Weight	50 lb	

- Efficiency determined using 2 inch NIST traceable distributed source.
- Environmental background reads 8 μR/hr.
- Provided sample carrier size can be altered at time of order.
- All specifications are subject to change without notice.
- ROHS compliant (lead by exemption)
- Alpha then Beta count mode available with Simplicity software.
- Optimization performed by adjusting instrument voltage.

#### Optimized for Higher Energy Betas

Typical Efficiency				
Source	Тор	1/8" Bottom	1/4" Bottom	5/16" Bottom
Pu-239	40%	33%	27%	24%
SrY-90	50%	43%	37%	35%
Tc-99	27%	22%	19%	17%

Background				
Condition	Warranted (cpm)		Typical (cpm)	
Condition	Alpha	Beta	Alpha	Beta
With Lead & Guard	<0.2	<25	0.05	15
With Guard No Lead	<0.2	<30	0.05	19
With Lead No Guard	<0.2	<55	0.05	34
No Guard No Lead	<0.2	<65	0.05	39

Instrument Options			
Option	Order Part Number		
1/8 Inch Planchet	700-0007		
1/4 Inch Planchet	700-0008		
5/16 Inch Planchet	700-0009		
2 Inch X 1/8 Inch Sample Carrier	140-0278-1/8		
2 Inch X 1/4 Inch Sample Carrier	140-0278-1/4		
2 Inch X 5/16 Inch Sample Carrier	140-0278-5/16		
Centering Ring	140-0045		
Lead Ring	120-0010-DP		
Guard Detector Assembly	120-0084		
Extended Warranty	108-0001		
Service Contract	Service Contract		
Installation	Install		
Computer System	Computer		
Simplicity Software Package	Simplicity		

Accessories Supplied		
Accessory	Quantity	
PIC Link Cable	1	
5/16 Inch Sample Carrier	2	

<sup>\*</sup>Guard detector option adds approx. 2.5 inches in height.