ORTEC

MPC-9604

Four-detector alpha/beta counter for high sample throughput

Alpha/beta counter with four gas-flow detectors for applications that need high sample throughput and low detection limits. Each detector has its own sample drawer with independent start and stop and true “Count to MDA”; detectors and electronics are reached from the front and a window is changed in under 10 minutes without stopping the other detectors. Controlled from a computer with Vista 2000.



Detector type
Four pancake-style gas-flow proportional detectors, Ø5.7 cm, with cosmic guard detector [1]

Weight
544 kg (shipping 635 kg); the support surface must bear 1,200 lb per unit [1]

Specifications

DETECTOR

Detector type	Four pancake-style gas-flow proportional detectors, Ø5.7 cm, with cosmic guard detector	[1]
Window	Aluminised, 80 µg/cm²; changed in under 10 minutes without interrupting the other detectors	[1]
Sample geometry	Planchets Ø5.1 cm (2 in), 1/8, 1/4 or 5/16 in deep	[1]
Detector uniformity	95% over active area	[1]

PERFORMANCE

Typical detection efficiency	Top (~1 mm from window) / 1/8″ / 1/4″ / 5/16″ bottom: ^{239}Pu 35/31/25/24%, ^{90}Sr/Y 55/47/40/39%, ^{99}Tc 35/33/28/26%, ^{63}Ni 15/11/7/5%	[1]
Background rate	Alpha, shielded and guarded: warranted <0.1 cpm, typical <0.05 cpm (natural background 8 µR/h)	[1]

MEASURING RANGE

Count rate and dead time	300,000 cpm with <1.5% dead time	[1]

COOLING

Sample capacity	4 samples, manual; each detector has its own drawer with independent start and stop	[1]

SOFTWARE & DATA

Software	Computer controlled; data export with Vista 2000	[1]

CONNECTIVITY & INTERFACE

Communication	USB computer control (the unit is operated from a computer)	[1]

POWER & BATTERY

Power supply	110–240 V AC, 50–60 Hz; <2 A at 110 V AC, <1.0 A at 240 V AC	[1]

MECHANICAL

Dimensions	16 × 32 × 22 in (H × W × D)	[1]
Weight	544 kg (shipping 635 kg); the support surface must bear 1,200 lb per unit	[1]

ENVIRONMENT & RATINGS

perating temperature	10–40 °C	[1]
Humidity	20–90%, non-condensing	[1]

ORDERING & ACCESSORIES

ptions	MDS control pack ORT-MDS-CTRL (Vista 2000, RS232/485 interface, null m odem cable and gas regulator); ORT-MDS-RACK rack for two MPC-9604 un its	[1]

GENERAL

Count modes	Alpha only; alpha then beta; alpha/beta simultaneously	[1]
Cross talk	Alpha to beta <0.1%; beta to alpha <0.1%	[1]
Plateau	Alpha <1.5%/100 V, length >1000 V; beta <5%/100 V, length >200 V	[1]
Counting gas	P-10, nominally 60 cc/min with a critical flow orifice, inlet pressure 10 psi (±2 psi); Gas-Pro halts counting on a gas fault	[1]
Lead shielding	10.16 cm (4 in) low-background lead	[1]

Sources

[1] **ORT-MPC-9604 Alpha/Beta Counting Multi-Detector System**
ORTEC (AMETEK) · product-page · Overview; Specifications; Instrument Specifications · checked 2026-10-16
https://web.archive.org/web/20261016000000/https://www.ortec-online.com/products/systems/gross-alpha-beta-me...

Every value is taken from the manufacturer's own document; the number after the value refers to the source list. Always check against the latest datasheet before ordering.

The data comes from the manufacturer's published documents. Manufacturers may change specifications; the current configuration and performance are confirmed in the quotation.