

Physical

IPC-650HP 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 +/- 2 psi

Window: Aluminized window with nominal density of 80 µg/cm² or Windowless Operation

Shield: 4" (10 cm) thick selected virgin lead.

Size: 22" W x 34" D x 27" H (55.88 cm W x 86.4 cm D x 68.6 cm H)

Sample Size: 2" diameter planchets 1/8, 1/4, 5/16 inch deep

Weight: Installed 427 lbs (193.6 kg)
Shipping 550 lbs (249.5 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

Sample Transport: 50 Sample automatic changer with barcode reader with sample range 1 - 999

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	S _r ⁹⁰ /Y ⁹⁰	Windowless	Window	T _h ²³⁰	Windowless	Window
			45%	40%		55%	55%		45%	40%
		Am ²⁴¹	45%	40%	Cs ¹³⁷	45%	40%	T _C ⁹⁹	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	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 and Simultaneous Alpha + Beta

IPC-650HP Ordering Information

Include gas line fittings and tubing, and two-stage gas tank regulators†. 50 stainless steel sample carriers (specify depth for 1/8", 1/4" and 5/16"). (planchets are not included). 12 Routine Plates, 4 QC Plates are also included. Sample loading stand.

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

120-0011-ACC02: Wheeled cart

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

Computer: PC with Monitor and Laser Printer.

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.)