

ALPHA BETA SAMPLE COUNTING SYSTEM

Model - STG-ABS-42

FEATURES:

- PORTABLE / TABLE TOP
- STANDARD LIGHTWEIGHT, HAND CARRY OR **OPTIONAL:** 2" LEAD SHIELDED SYSTEM BY CART
- COMBINES ALPHA AND BETA DUAL SCINTILLATION DETECTORS
- DRAWER SYSTEM FOR SAMPLE POSITIONING.
- WINDOWLESS OPERATION WITH LIGHT-TIGHT HOUSING
- AUTOMATIC HV CUTOFF WHEN DRAWER IS OPENED.
- DESIGNED FOR EASY CLEANING
- PLANCHET PACK OF 50 SHEETS
- **IP 52**

ELECTRONICS – PRS-2F

- 5 DECADE RANGE ELIMINATES NEED FOR AUTOMATIC RANGE CHANGER
- DUAL ALARMS: ALPHA & BETA, INDIVIDUALLY SETTABLE
- BATTERY OPERATED – OPTIONAL RECHARGEABLE BATTERIES
- USER SETTABLE COUNT TIME
- UNITS USER SETTABLE: cps, cpm (Bq based on calibration constant)
- RS-232 PORT
- **IP 64**

APPLICATION:

Model **STG-ABS-42** is especially well suited to counting Alpha & Beta emissions from air sampler filters.

DESCRIPTION:

The **STG-ABS-42** Alpha Beta Scintillation System combines Alpha and Beta Dual Scintillation Detector plus drawer system for sample positioning. In this detection system, the protective window and grill are deleted to enhance sensitivity to Alpha and low energy Beta radiation.

Sensitivity: of the **STG-ABS-42** to 5 MeV Alphas is typically 80%-85% of 2 Pi.

Background: can be less than one count per minute.

Sample Diameter: 2"

Sample Cavity Depth: (2) options: (1) 0.4". (1) 3/16" user specified.

Alpha / Beta Dual Scintillation Detector: 4" diameter. The 90 cm² face of the probe allows shorter count times plus high sensitivity.



**STANDARD DRAWER SYSTEM
NO SHIELDING**



**DRAWER SYSTEM WITH
2" SHIELDING**



**TECHNICAL ASSOCIATES
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Divisions of  US NUCLEAR CORP

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SPECIFICATIONS: STG-ABS-42 DETECTOR

	Alpha	Beta
Photomultiplier Tube:	2" (51mm) dia. 10-stage.	
Scintillator:	ZnS(Ag).	Plastic Scintillator, 0.02" thick.
Plateau:	200 Volt long.	
Slope:	Less than 5% per 100V.	
Efficiency:	Greater than 75% of 2 Pi. Pu ²³⁹ & Am ²⁴¹	Cs ¹³⁷ 75% pf 2 Pi. Sr ⁹⁰ Y ⁹⁰ 100% of 2 Pi. C ¹⁴ is 24% of 2 Pi. Tc99 is 35% of 2 Pi.
Typical Background	Less than 3 cpm	Less than 60 cpm

Weight & Dimensions – Standard Drawer System

Dimensions: 7" wide x 14" deep x 16" high

Weight: 16 lbs

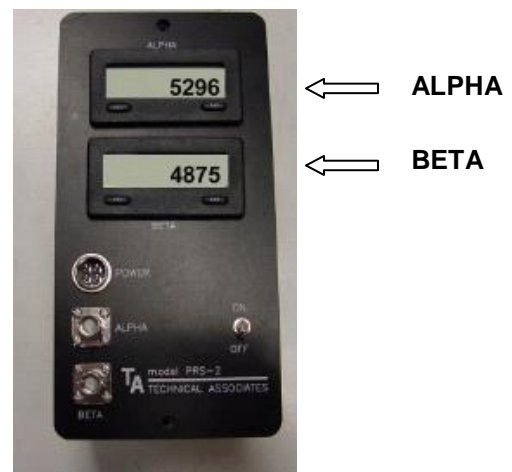
Weight & Dimensions – 2" Shielding Drawer System

Dimensions: 16" wide x 12" deep x 15" high

Weight: 90 lbs

SPECIFICATIONS - PRS-2F ELECTRONICS

- DUAL DISPLAY - ALPHA & BETA
- BATTERY OPERATION
- DUAL ALARMS: ALPHA & BETA, INDIVIDUALLY SETTABLE
- 2 SEPARATE SCALE FACTORS FOR RATE & INTEGRATED UP TO 30 MINUTES
- HIGH VOLTAGE 400V-1200V DC
- 0.1-99 sec TIME CONSTANT FOR RATEMETER
- 8 DIGIT LCD BRIGHT BACK LIT DISPLAY
- USER SETTABLE UNITS: cps, cpm, Bq
- RS-232 SERIAL OUTPUTS
- RECHARGEABLE BATTERIES WITH AC ADAPTER



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SPECIFICATIONS - PRS-2F ELECTRONICS continued

- Detector:** Mates scintillation detectors
Detector connector: BNC - Standard
Detector Bias Supply: 400 V DC to 1200 V regulated and filtered - other voltage levels-optional.
- Alarm:** Alarm circuit with red LED and audio alarm
Dual Alarms User Settable - ALPHA & BETA
- Display:** Reads out 2 separate signals simultaneously from detector:
ALPHA & BETA
Energy discrimination
- Power:** Batteries: in-place rechargeable batteries.
- Battery Life:** 100 hours
- Construction:** All plug in circuit cards, essentially no wires. Rugged, lightweight

WEIGHT & DIMENSIONS – PRS-2F ELECTRONICS:

- Dimensions:** 3-1/4" H, 4-1/4 W, 7-1/4" long excluding probe holder and handle.
- Weight:** 2 lbs. 4oz.
- Options:** Other connectors - MHV etc

Digital Display	RATEMETER	SCALER INTEGRATER
Range	6 digit LCD	8 digit LCD
User Settable Scale Factor	0.1 - 20,000 count/sec	0-10,000,000 Total counts
Time Constant	0.01 to 99 seconds Display Refresh Rate	Free Running 1 sec – 30 minutes

TOTAL WEIGHT STG-ABS-42 DETECTOR & PRS-2F

- Standard System: 28 LBS**
2" Lead System: 90 LBS



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