

### StandFAST II. . . a Major Advance in Rapid Screening

StandFast II is a stand-up whole-body counter system for rapid screening of workers in order to identify and quantify fission and activation product radionuclides within the body. It represents the most significant innovation in whole-body counters in a decade.

- Hexagonal walk-through shield design fits neatly in a corner and provides efficient throughput of subjects
- Computer-optimized shielding provides maximum interior space (accommodates the 99% standard man with ease), achieves improved detection limits over other designs, yet results in an overall LIGHTER weight than previously available counters
- Windows®-based system software, with integral subject database facility, easily interfaced to other computer systems if required; subject prompting and interleaving for maximum throughput during periods of high demand such as reactor outages.
- Quality Assurance function guarantees result validity
- Gain stabilized, computer-controlled electronics
- One-minute count time readily meets screening requirements of ANSI N13.30 and NRC guidelines at throughput rates exceeding 45 subjects/hour
- Segmented design allows assembly in cramped areas without overhead cranes



The system consists of three major parts: the counter (shield and detector), application software, and signal processing hardware (electronics and PC).

The hexagonal shape of the StandFAST II Counter is more than a cosmetic feature; it is the shape predicted as optimum by the powerful DOE Monte Carlo code, MCNP, for advanced computer modeling of radiation shielding.

Combined with the optimized shield, dual 4" x 4" x 16" NaI detectors in a shielded column at the front of the counter deliver the best solution for typical fission and activation product counting.

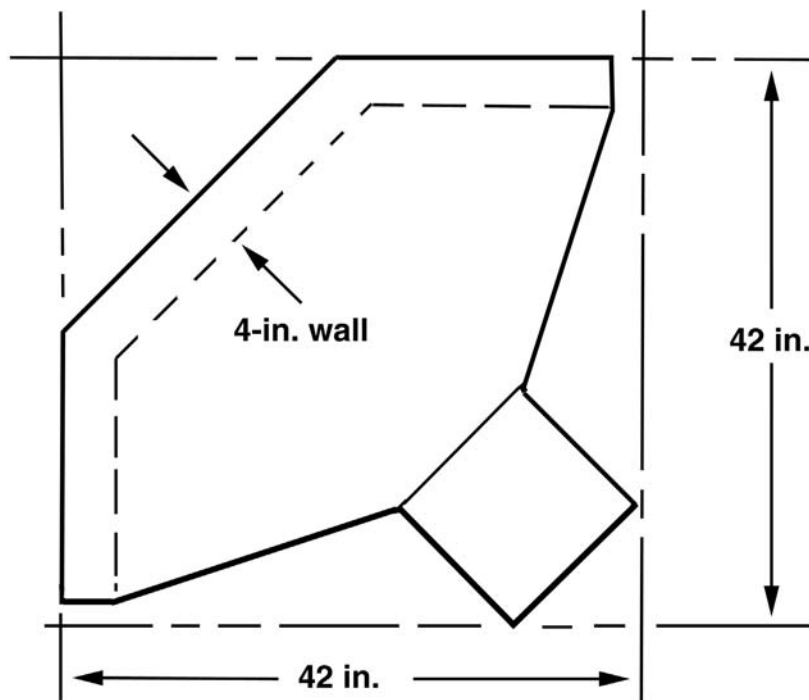
The two large NaI detectors are mated to PMT preamplifier bases with integral high-voltage supplies, entirely eliminating long HV cable runs. The analog signals are processed allowing separate spectrum storage and providing digital spectrum stabilization.

### System Operation

StandFAST II is capable of processing subjects at a rate of more than 45 per hour, while still meeting the requirements of ANSI N13.30. In a nominal 28-second analysis time, spectra from both detectors are analyzed. Data for one subject can be analyzed while a count is in progress for the second subject, and while a third subject is being processed into the system for counting.

Supervisor and Operator modes with password protection provide data security. An 'EASY-CALIBRATION' procedure makes StandFAST II simple to set up, while the built-in Quality Assurance utility program guarantees result validity.

Subject results are automatically stored in the industry-standard Subject Database, so that recounts are easily achieved with minimum data entry. Results may be easily transferred to other remote systems (typically via Ethernet), and products such as FoxPro®, and Microsoft Access® may be used to generate custom reports directly from the database.



Compact Footprint; Better Ergonomics, Fits Neatly in a Corner  
(1116 square-inch footprint)

**Table 1. Typical Detection Limits**

	CI FastScan* 60 sec Std Man (nCi)	StandFAST II 60 sec Std Man (nCi)	StandFAST II 60 sec Std Man CI FastScan Method (nCi)	StandFAST II 60 sec Empty (nCi)
<sup>60</sup> Co	4.0 [148 Bq]	4.9 [181 Bq]	2.7 [100 Bq]	4.0 [148 Bq]
<sup>137</sup> Cs	5.6 [207 Bq]	3.9 [144 Bq]	2.2 [81 Bq]	3.7 [137 Bq]
<sup>134</sup> Cs	4.8 [178 Bq]	3.2 [118 Bq]	1.8 [67 Bq]	3.0 [111 Bq]

\*From Canberra Systems Catalog, Edition 9

# StandFAST II

## Stand-Up Whole-Body Counter

### Specifications

Composed of selected low-background materials (including virgin DOE RUN lead, virgin plastic, <sup>60</sup>Co-free steel, and OFHC copper). Easy-to-clean, epoxy-painted outer surfaces, cleanable, or easily replaceable, interior plastic liner.

#### SHIELD

**Total Weight:** 3855 kg (8500 lb.)

**Heaviest Item:** 1043 kg (2300 lb.)

**Overall Height:** 221 cm (87 in.)

**DETECTORS:** Dual 4" x 4" x 16" NaI(Tl) detectors including ORTEC's latest NaI electronics.

**CONTROL LIGHTS:** Highly visible control lights indicate "Ready to Count," "Counting," and "Alarm Condition."

**MAXIMUM SEPARATION BETWEEN SHIELD AND COMPUTER:** ~30 m.

### Ordering Information

Model No.	Description
StandFAST II	Includes shield, 2 NaI detectors (4" x 4" x 16"), ORTEC's latest NaI electronics, PC, Printer, and RENP-B32 software

#### Options

Installation and Training	
Microsoft Access	
Calibration	
Phantom	Polyethylene constructed to model the 95% man
Sources	Based on type of counter (HPGe or NaI) and energy range of interest
Upgrade	Upgrade existing stand-up counter to modern PC and software (exact details depend on existing system)

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## Stand-Up Whole-Body Counter

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Specifications subject to change  
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**ORTEC**<sup>®</sup>

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