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Gammacell[®] 40 Exactor

Low Dose-Rate Research Irradiator

Technical Specifications

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Low Dose-Rate Research Irradiator

2 Unrivalled Precision and Versatility

The Gammacell[®] 40 Exactor Low Dose-Rate Research Irradiator is used in labs throughout the world to explore elements of cell biology, and advance the scientific study of various areas of cancer and stem cell research.

Source Activity and Central Dose Rate for the Gammacell 40 Exactor

Number of Sources	Nominal Source Activity		Central Dose Rate \pm 15%	
	TBq	(Ci)	Gy/min	(rad/min)
2	122.2	(3300)	1.1	(110)

Notes:

- Each Caesium¹³⁷ source has a nominal activity of 1650 curies.
- Central Dose Rate above measured in an empty sample container.
- Dose Rate and dose distribution can be measured in an empty or polystyrene filled sample container as per customer request.

Quality and Safety Standards

All units are manufactured to comply with US FDA Good Manufacturing Practices, are CE Marked and CSA certified. Best Theratronics[®] is ISO 9001 and ISO 13485 certified.

Safety Controls

The microprocessor is powered by a 12V DC battery. This main power source is continuously charged when the unit is connected to AC power. In the event of a power failure, the system allows you to complete the irradiation cycle in progress and multiple additional cycles before power must be restored.

Irradiator Details

Installed Weight	2994 kg (6,600 lb.)
Height	1496 mm (58.9 in.)
Width	924 mm (36.4 in.)
Length	1229 mm (48.4 in.)
Floor Loading Area	1.13 m ² (12.2 sq. ft.)
Floor Loading	2715 kg/m ² (540 lb./sq. ft.)
Power	110/120 60 Hz 100 or 230 VAC 50/60 Hz with ground
Dose Uniformity (typical)	\pm 7% over a 260 mm (10.14 in.) diameter and a 100 mm (3.9 in.) height

Sample Container

Height (internal)	105 mm (4.1 in.)
Diameter (internal)	312 mm (12.3 in.)
Volume	8.0 L (486 cu. in.)

Shipping

The Gammacell 40 Exactor is shipped in three parts:

- Two radioactive materials (RAM) packages containing the radiation shield assembly and the caesium sources which meet international transportation and safety regulations.
- The third package contains the cabinet, control system and related parts.

Certification and Documentation

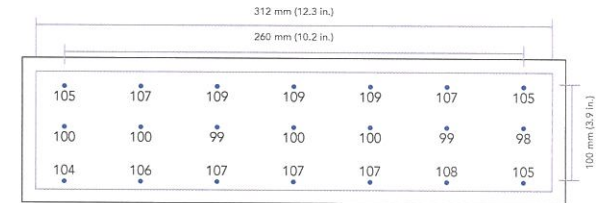
Each Caesium¹³⁷ source meets the IAEA requirements for Special Form Radioactive material and is certified to be leak tight. A complete documentation package, including a unit specific dose map, and a measurement certificate of activity and central dose rate accompanies every Gammacell 40.

Customer Requirements

Customers need to obtain a radioactive materials possession license (or equivalent) before the Gammacell 40 Exactor can be shipped. Best Theratronics[®] helps prepare license submission documents required for radioactive materials possession. When applying for a license, customers should quote 4000 curies.

Typical Absorbed-Dose Distribution

(all values in percent are relative to the dose at the geometric centre of the chamber)



Note: There will be slight variations in uniformity from unit-to-unit.

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