



ABOUT US

General Datum specializes in Defense, Aerospace, Power, Data Centre, Telecom, Medical, Industrial, Automotive, Oil & Gas, Research & Development of Electro-mechanical products, Engineering, and Software services. We have expertise in Mechanical, Electrical, Electronics, Embedded Software, RF, IoT, Automation, Composites, Structural, Thermal & CFD Analysis.

01

OUR VISION

Our vision is to be a globally respected corporation that provides innovative product design solutions, leveraging technology, delivered by best-in-class engineers.

02

OUR MISSION

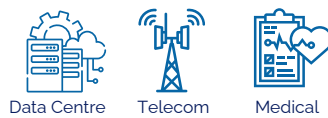
Our mission is to enable our clients to realize their core mission, and to anticipate the needs and exceed the expectations of customers, by dedicating our skills in professional services to the goals and priorities of their institution. We strive relentlessly to improve ourselves, our teams, and our services to become the best.

03

WHY CHOOSE US?

We are a team of 75+ young and dynamic engineers working together to provide Electro-Mechanical & Software engineering services to our customers around the globe.

Domain Expertise



Design Expertise



SCAN FOR CONTACT



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Technology by BARC,
Engineered & Marketed by
General Datum

AUTOMATED ALPHA PARTICLE IRRADIATOR BIOALPHA SUPREME



Precise,
Uniform
Irradiation

Controlled
Exposure

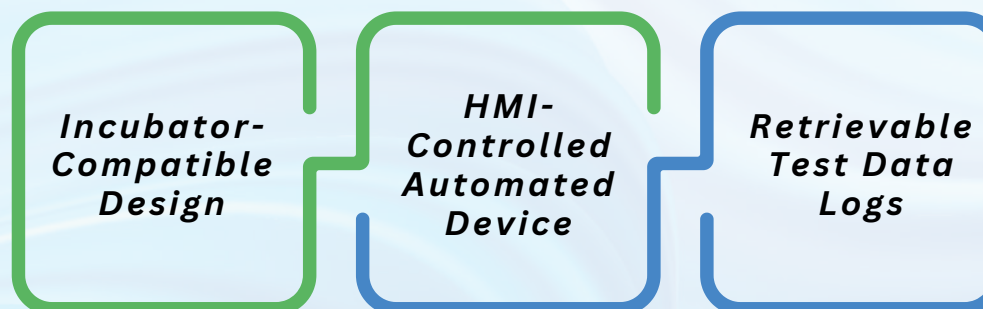
User Friendly
GUI (Touch)

Suitable for
Cell Culture

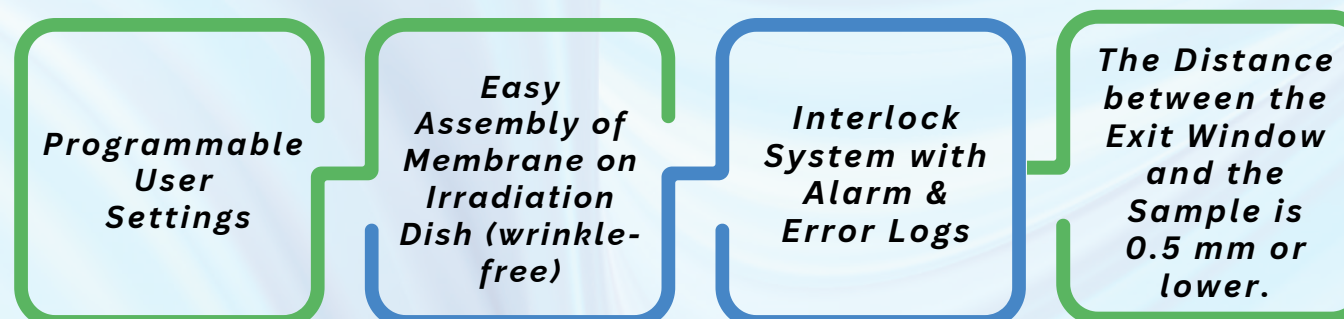
India's first Indigenous
HMI-Controlled Alpha
particle Irradiator

BIOALPHA SUPREME

BIOALPHA SUPREME is the first indigenous HMI-controlled Alpha Particle Irradiator. A controlled, collimated, and uniform alpha irradiation can be achieved using BioAlpha Supreme due to its innovative design. The system is designed to irradiate adherent mammalian cell cultures. However, in principle, the system can be used to irradiate any material or samples either biological or non-biological placed on a thin layer, with a defined time and dose of alpha radiation.



KEY FEATURES



DETAILS	SPECIFICATION
Dimensions (W x D x H)	33 X 30 X 20 cm
Net Weight (Irradiator)	10Kg
Weight of Accessories	4Kg (Power supply with cord, Mass flow controller, Irradiation dishes)
Power Supply	Input: 110V to 230V AC/50-60Hz, 140 to 160 W Output: 24V DC
Operating Temp	10°C to 45°C
Irradiation Dish	Type 1: Single dish Ø55mm exposure area. Type 2: 3 small dishes Ø16.5mm exposure area each.
Collimator Frequency	60-100 oscillations per minute
Source Speed	60-300RPM
Exposure Time	3 seconds to 24 hours
Source	Am-241 or Any Alpha Source
Modes	Manual and Auto
Primary HMI	7" Built-in Touchscreen display
Secondary HMI (optional)	7" External Touchscreen through USB



Technology Potential

- Researching Radiation-Induced Bystander Effects
- Exploring High LET Radiation Biology
- Investigating Low Dose/Fluence Radiation Biology
- Studying Alpha-Particle-Induced DNA damage response
- Enhancing Plant Mutation Breeding