

Assembly and installation guidelines BIOBEAM GM

1. General information regarding the irradiation device

	Weight	Placing area
Biobeam GM 2000	2.200 kg	0,45 m ²
Biobeam GM 3000	2.200 kg	0,45 m ²
Biobeam GM 8000	2.900 kg	0,81 m ²

In order to avoid a point loading we deliver a steel plate which has the dimensions of the placing area. For installation of the Biobeam GM you need a sufficient floor loading capacity of the transport route and at the installation place.

All doors (on the transport route until the installation room) have to be at least 810 mm wide. The route of transport has to be flat, cleared and without any steps. If this requirements are not fulfilled the customer has to arrange these things with Gamma-Service Medical before!
The footprint of the installation room has to be at least 2 m x 2 m and the height of the room has to be at least 2,40 m.

2. Electrical connection

Electrical supply: 100 – 240 V, 50 – 60 Hz
Power consumption: approx. 500 VA

For a proper operation of the irradiation device two separate electric-circuits with according power-outlets are necessary:

Electric-circuit 1: at least one „Schuko“ power-outlet for the operation of the irradiation
Electric-circuit 2: one three-rate „Schuko“ power-outlet near the device for the PC working station
The distance between device and power-outlet should not exceed 1,5 m.

3. Room conditions

Temperature: +15 - +35 °C
Relative air moisture: 30 - 75 % without condensation (In areas with high air moisture we recommend air condition)
Atmosphere pressure: 860 - 1060 hPa
Recommended air ventilation: 5 renewals of air per hour

4. Radiation protection

Dose rate at the surface of the device: < 3 µSv/h (Biobeam GM 3000 < 5 µSv/h)

5. Fire and anti-theft protection

The radioactive source fulfills the requirements according to ISO 2919, Classification: E63545 or E65546 (depends on the source type which will be used). Therefore, you need appropriate fire-resistance walls and doors.

Please pay attention to your own national requirements!

The shielding elements of the irradiation device are capsuled in steel additionally in order to maintain the required radiation protection.

The coordination regarding fire and anti-theft protection with the local fire department as well as with the appropriate authority are obligatory!

6. License for handling with radioactive material

Regarding the export of the Cs-137 source
(activity: 81,4 TBq +/- 20% equivalent to 2200 Ci) which belongs to BIOBEAM GM 3000/8000 or
(activity: 44,4 TBq +/- 20% equivalent to 1200 Ci) which belongs to BIOBEAM GM 2000 we need:

- a) for deliveries in the European Union:
 - a copy of the EURATOM 1493/93 document
- b) for deliveries to third countries:
 - handling license for radioactive material from the end user
 - import license
 - End-Use-Certificate.