



GSR C1
Blood irradiation

Irradiation unit

Technical Specifications

Height	1.305 mm
Width	680 mm
Length	710 mm
Weight	2.150 kg
Floor loading	5,2 t/m ²
Radiation protection	Surface dose rate < 5 µSv/h

Rod sources

Radionuclide	Cesium-137
Activity range	40 - 120 TBq
Dose rate in water	approx. 3 Gy/min +/- 10% (in the centre with 3 sources)

Irradiation canister

Diameter	130 mm
Height	290 mm
Volume	3,8 l
Rotation speed	approx. 18 rpm

Manufactured by:



Gamma-Service Medical GmbH

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Germany
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Fax: +49 341 / 463 72 822
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Sales by:



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Gamma-Service Medical GmbH



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The main fields ...

... of GSR C1 comprise gamma-irradiation of:

- Blood and blood derivatives
- Cell cultures
- Transplants.

Gamma-irradiation prevents the partitionability of immuno-competent cells. The transmission of these cells, without irradiation, can cause serious and often mortal complications – Graft-versus-host-disease (GVHD) – for immuno-deficient patients.

Other fields of application ...

... exist in the scope of radiobiological research:

- In-vitro-analysis of radiosensitivity of peripheric and modulated blood cells,
- Identification of histocompatibility via an analysis of the lymphocyte culture,
- Analysis – after irradiation – of the molecular mechanism in the case of diseases which are connected with a defect of the enzyme system.

Standard equipment

The self-shielded GSR C1 contains up to 3 Cs-137 sources with a maximum total activity of 120 TBq. The half-life period of Cs-137 is about 30,2 years.

Radiation protection

The dose rate of < 5 μ Sv/h at the surface of the irradiation device is far below the regulated limit value.

Our customer service ...

... includes:

- Maintenance according to § 66 StrfSchV
- Dosimetry
- Control of medical electrical devices according to EN 62353 (DIN VDE 0751-1).

Operation

The user positions the irradiation good in the 3,8 l containing aluminium irradiation canister and puts it in the rotatable irradiation chamber. The complete closure of the door and the position of canister are checked automatically. The opening of the door is not possible during irradiation.

At the operator panel you set the irradiation parameters. After the manual starting of irradiation the irradiation drum rotates 180° and the canister is located directly in front of the radiation sources. Parallel, the electronic control starts the rotary motion of the canister with ca. 18 rpm. Thus a homogeneous dose distribution in the irradiation canister is guaranteed. After operation time the irradiation chamber drives into the starting position and the rotation of the canister is stopped. The door can be opened and the canister can be taken out.

Delivery

The irradiation device is delivered in a licensed B(U) type transport packaging.

Scope of delivery

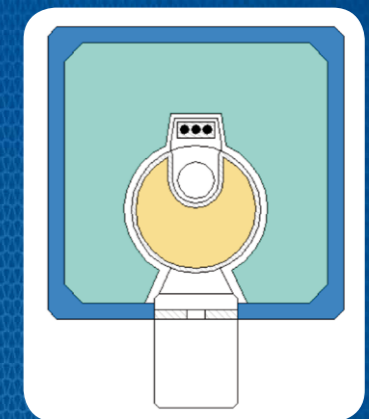
- Manual
- Dosimetry protocol
- Certificate of the radioactive source(s) with control of leak tightness
- Special form certificate
- 2 irradiation canisters

Installation

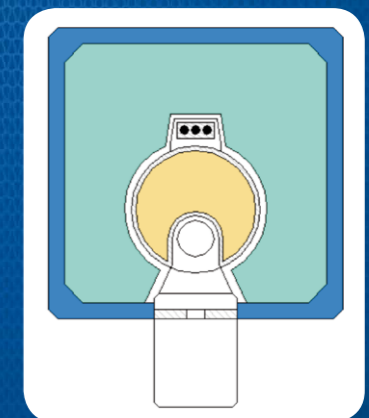
The installation inclusive dosimetry is accomplished by authorised service technicians. Regarding the assembly a room size of minimum 2,5 m x 2,5 m is required. The floor loading is about 5,2 t/m².

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Medical device of class IIb
(according to the European directive about medical devices RL 93/42/EWG with a CE-label 0044)



Irradiation position



Loading position

