

Apparatus for producing a radioisotope comprising means for maintenance of said apparatus (dual foil flange)



Country	Application Number	Patent Number	r Filing Date	Grant date	Expiration Date
BE	11722805.6	2578066	31-05-11	30-04-14	30-05-31
DE	11722805.6	2578066	31-05-11	30-04-14	31-05-31
FR	11722805.6	2578066	31-05-11	30-04-14	31-05-31
US	13/701294	9414479	31-05-11	09-08-16	31-05-31

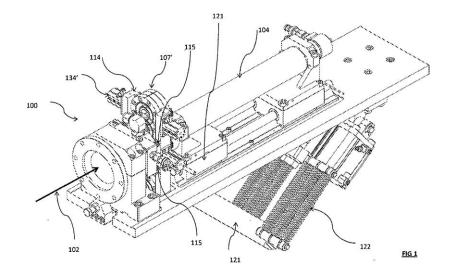
Owner: Ion Beam Applications SA

Google patent link: <u>EP2578066B1</u>

Indicative value (Patsnap): 210000 \$

Summary:

Apparatus for producing radioisotopes by irradiating a target fluid with a particle beam. The apparatus includes a housing with an opening for the fluid, a dual foil flange for closing the opening, and guiding means for positioning the flange. The apparatus also includes means for transferring the flange from a stand-by position to an in-line position. The invention also includes a method for replacing the flange in case of leakage. The apparatus allows for faster replacement of the irradiation foil without the need for extensive disassembly of parts.



Magnet structure for an isochronous superconducting compact cyclotron



Country	Application Number	Patent Numbe	r Filing Date	Grant date	Expiration Date
JP	2014-555235	6277135	01-02-13	19-01-18	01-02-33
US	14/376100	9093209	01-02-13	28-07-15	01-02-33

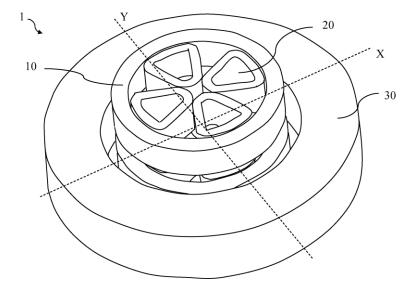
Owner: Ion Beam Applications SA

Google patent link: <u>US9093209B1</u>

Indicative value (Patsnap): 190000 \$

Summary:

The invention relates to a magnet structure for a superconducting isochronous cyclotron for use in particle therapy. The cyclotron according to the invention is using two sets of three or more superconducting sector coil elements for generating an azimuthally varying magnetic field across the acceleration region. Each sector coil element has legs for leading a current in different directions. With this azimuthally varying field a high flutter amplitude can be obtained and hence an optimum beam focusing can be obtained. In this way, high-field (e.g. above 4 T) isochronous cyclotrons are provided which do not suffer the problem of a low flutter amplitude.



Compact superconducting cyclotron



Country	Application Number	Patent Numbe	r Filing Date	Grant date	Expiration Date
BE	13161884.5	2785154	29-03-13	21-10-15	29-03-33
DE	13161884.5	2785154	29-03-13	21-10-15	29-03-33
FR	13161884.5	2785154	29-03-13	21-10-15	29-03-33
US	14/227423	8947184	27-03-14	03-02-15	27-03-34

Owner: Ion Beam Applications SA

Google patent link: <u>EP2785154B1</u>

Indicative value (Patsnap): 170000 \$

Summary:

A cyclotron comprising:

an upper and lower magnet pole, symmetrically placed with respect to a median plane; an upper and lower superconducting coil arranged around each of the magnetic poles;

an upper and lower superconducting coil arranged around each of the magnetic poles;

a ring-shaped magnetic return yoke, placed around the poles and the coils, configured to form a magnetic circuit;

a beam chamber between the upper and lower magnetic poles, comprising one or more electrodes configured to accelerate ions moving substantially in the median plane, under the influence of a magnetic field oriented perpendicularly to the median plane, the field being generated by running an electric current through said coils; and

a cryostat,

wherein the ring-shaped magnetic return yoke and the coils form a cold mass contained within the cryostat, and wherein the cryostat does not contain the upper and lower poles.

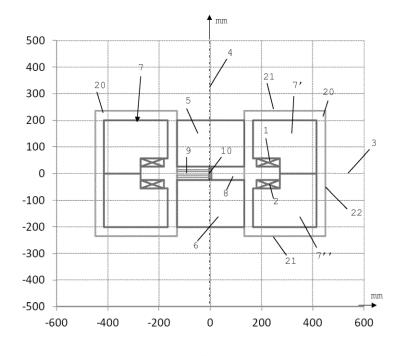


FIG. 1



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