

S2C2P Synchrocyclotron

ASG Superconductors has been awarded a contract for the design and the construction of the prototype of superconducting coils for a 230 MeV proton superconducting synchrocyclotron used for therapy of cancer by beams of protons. This prototype system is composed of superconducting coils in NbTi, cryogen free.

The magnetic circuit has basically a symmetry of revolution. The poles are surrounded by the cryostat of the coils, acting as a vacuum chamber for the cyclotron. The cryostat containing the superconducting coils is located in the space between the poles and the return yoke. The average magnetic field in the return yoke is around 2.2 T.

The superconducting coil system is made of two coils located symmetrically to the median plane of the cyclotron. The two coils are co-mounted to support the attractive force between the coils inside the cryostat and are installed inside a single cryostat. The computed stored energy is approximately 11 MJ.

The superconducting magnet is used for the cyclotron (beam production system) that provides the 230 MeV proton beam to the compact beam delivery system, including the treatment room.



Assembly of the magnet inside the yoke at the Customer's site



3D simulation of IBA ProteusONE™ is a single-room compact proton therapy solution.

ProteusONE is the brand name of a new configuration of the Proteus 235. The marketing approval will be subject to review by competent authorities (FDA, Notified bodies, et al ...)