

S2C2 SYNCHROCYCLOTRON



MAGNETS
FOR FUSION



MAGNETS FOR HIGH
ENERGY PHYSICS



MAGNETS FOR
MEDICAL
APPLICATIONS



SYSTEMS
FOR ENERGY



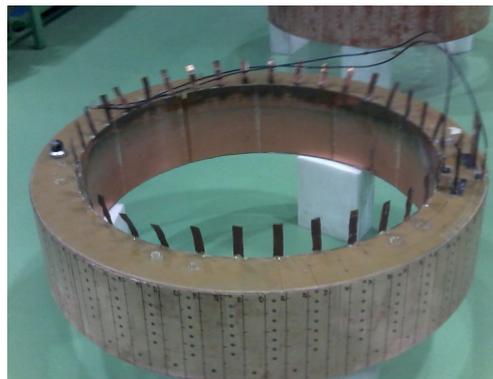
SERVICES & REPAIRS

ASG Superconductors has been awarded a contract for the manufacturing of a series of superconducting coils for a 230 MeV proton superconducting synchrocyclotrons used for therapy of cancer by beams of protons. This 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 approximatively 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.



NbTi superconducting coil



Assembly of the magnet inside the yoke



S2C2 cyclotron at customer site



IBA Proteus One treatment room