



Best 30p Cyclotron (Upgradeable)

Type Of Cyclotron

- Negative hydrogen ion (H⁻)
- External ion source, multi-cusp 5 mA
- Simultaneous dual beam extraction (multiple foil extraction cartridge)
- On cyclotron targetry (4 beam lines)
- Optionally upgraded to Best 35p

Beam Current

- 400 μ A combined beam current

Beam Line

- Fixed energy extraction
 - Two 30 MeV beams on either side of the cyclotron
- Beam transport
 - 30 MeV beams directly onto production target
- Beam diagnostics
 - 30 MeV beams, use target collimation and isolation

Isotope Production Capabilities

- **Iodine-123** — Low dose imaging agent, replacing I¹³¹
- **Iridium-111** — Blood cell labelling
- **Gallium-68 (generator)** — Blood-brain barrier integrity, tumor localization
- **Thallium-201** — Myocardium functional assessment
- **Krypton-181m (generator)** — Gas for ventilation imaging or in solution for perfusion imaging
- **All isotopes produced by the B15** — including Carbon-11, Nitrogen-13, Oxygen-15, Fluorine-18 (aqueous & gas), Copper-64, Iodine-124, Gallium-67, Technetium-99m and Palladium-103

Magnet

Magnet coil ~101 kAT
 Magnet weight ~50 tons
 Geometry 4 sector, deep valley

RF System

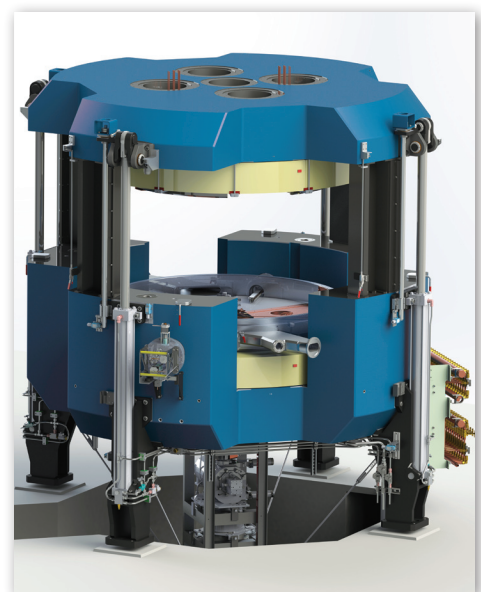
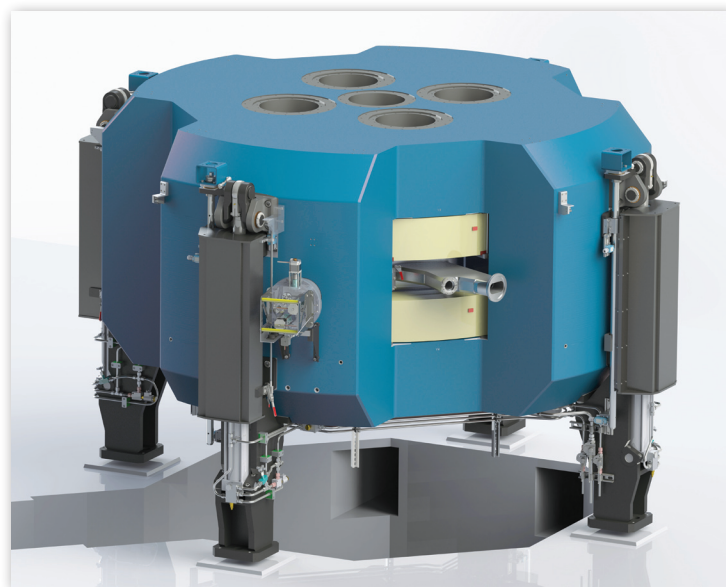
Resonator 2 Dees
 Dee voltage 60 kV
 RF frequency 65 MHz, 4th harmonic
 Power required 22 kW (nominal)
 Energy gain per turn 240 keV

Vacuum System

Base pressure..... <2 x 10⁻⁷ Torr
 Operating pressure <1 x 10⁻⁶ Torr
 Pumps Cryogenic pump system

Automated Control System

Computer System Standard PC, Windows-based OS
 Controllers Siemens Industrial PLC Modules
 User Console Color monitor
 Interface Graphical user interface
 Networking Standard thin-wire Ethernet hardware



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