Best™ Cyclotron Systems

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Best 70p Cyclotron

Type Of Cyclotron

- Negative hydrogen ion (H-)
- External ion source, multi-cusp 15 mA
- Simultaneous dual beam extraction (multiple foil extraction cartridge)
- Up to 6 beam lines, custom design configuration

Beam Current

- 700 µA combined beam current
- Higher currents available (1000 µA)

Beam Energy

- 35 to 70 MeV variable energy extraction

Magnet

- Magnet coil: ~66 kAT
- Magnet weight: ~150 tons
- Maximum magnetic field: 1.6 T
- Geometry: 4 sector, deep valley
- Hill sector angle: 50°
- Hill gap: 6 to 4.69 cm

RF System

- Resonator: 2 Dees (separated resonators)
- Dee voltage: 60 to 81 kV
- RF frequency: 56 MHz, 4th harmonic
- Power required: 20 kW (per resonator)
- Energy gain per turn: 240 to 300 keV

Vacuum System

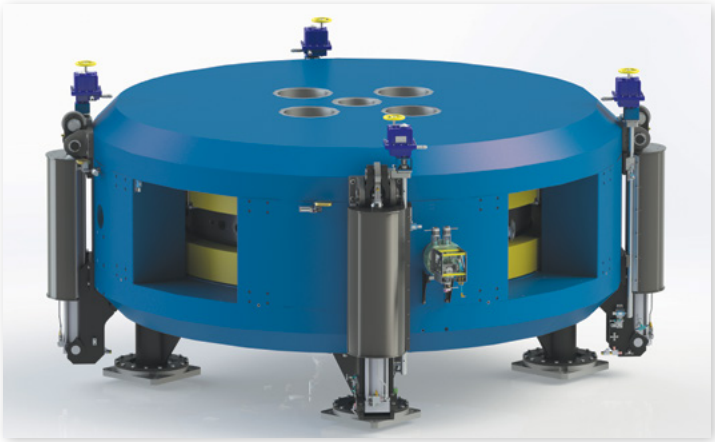
- Base pressure: <1 x 10^{-7} Torr
- Operating pressure: <2 x 10^{-7} Torr
- Pumps: Cryogenic pump system

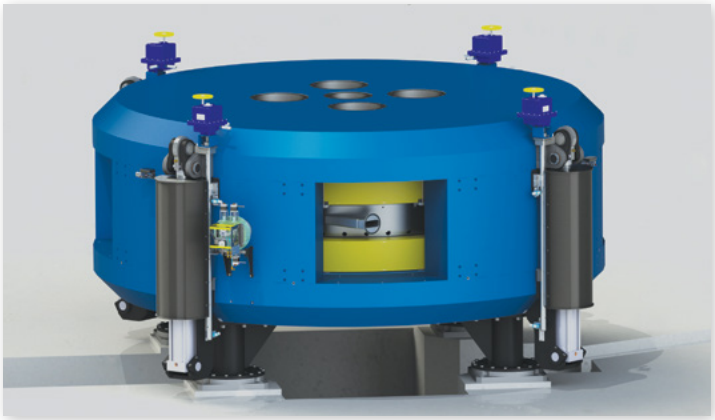
Automated Control System

- 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

External Production Targets

The cyclotron is supplied with high current solid target stations and high current gas target stations.





Isotope Production Capabilities

- Rubidium-82 (generator): Diagnosis of coronary artery disease, coronary stenosis, myocardial infarction imaging, viability, collateral function and cardiomyopathy
- Iodine-123: Low dose imaging agent, replacing I^{131}
- Copper-67: Used in radiotherapy by accumulation in tumor tissue using monoclonal antibodies
- Krypton-81m (generator): Used either in gaseous form for ventilation imaging or in solution for perfusion imaging
- Research: Physics, chemistry, radioactive ion beam, activation energy, etc.

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