ENTRY NO: CU27
Date: 03 Feb 2005 07:23:15
Machine Name: NIH - CS30
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History
Designed by: The Cyclotron Corporation
Construction Dates: 1985
First Beam Date: 1986
Characteristic Beams

ions	energy(MeV/N)	current(pps)	power(w)
p	26.5		
d	14.8		
He-3	38.1		
He-4	29.6		

Transmission Efficiency (source to extracted beam)
Typical (%):
Best (%):
Emittance
Emittance Definition:
Vertical (pi mm mrad):
Horizontal (pi mm mrad):
Longitudinal (dE/E[%] x RF[deg.]):
USES
Basic Research (%):
Development (%): 5
Therapy (%):
Isotope Production (%): 90
Other Application (%):
Maintenance (%): 5
Beam Tuning (%):
Total Time (h/year): 800

TECHNICAL DATA
(a)Magnet
Type: compact
Kb (MeV):
Kf (MeV):
Average Field (min./max. T):
Number of Sectors:
Hill Angular Width (deg.):
Spiral (deg.):
Pole Diameter (m):
Injection Radius (m):
Extraction Radius (m):
Hill Gap (m):
Valley Gap (m):
Trim Coils
Number: x2
Maximum Current (A-turns):
Harmonic Coils
Number: xNsectorsx2
Maximum Current (A-turns):
Main Coils
Number: x2
Total Ampere Turns:
Maximum Current (A):
Stored Energy (MJ):
Total Iron Weight (tons):
Total Coil Weight (tons):
Power
Main Coils (total KW):
Trim Coils (total, maximum, KW):
Refrigerator (cryogenic, KW):

(b)RF
Acceleration
Frequency Range (MHz):
Harmonic Modes:
Number of Dees:
Number of Cavities:
Dee Angular Width (deg.):
Voltage
At Injection (peak to ground, KV):
At Extraction (peak to ground, KV):
Peak (peak to ground, KV):
Line Power (max, KW):
Phase Stability (deg.):
Voltage Stability (%):

(c)Injection
Ion Source:
Source Bias Voltage (kV):
External Injection:
Buncher Type:
Injection Energy (MeV/n):
Component:
Injection Efficiency (%):
Injector:

(d)Extraction
Elements, Characteristic:
Typical Efficiency (%):
Best Efficiency (%):

(e)Vacuum
Pumps:
Achieved Vacuum (Pa):

REFERENCES IEEE Trans, Nucl. Sci. NS-14, 70-71 (1967) IEEE Trans, Nucl. Sci. NS-16, 500-503, (1969) Eleventh Intl. Conf. on Cyclotrons and Their Applications,Ionics Publ., pp 685-688, Tokyo (1987)

EXPERIMENTAL FACILITIES
Internal target system External beam line, 5 legs, multiple target changer on center leg. 6 hot cells for radiochemistry

COMMENTS