

ENTRY NO: CU06
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History

Designed by: TRIUMF & Ebco Technologies Ltd.
Construction Dates: 1992
First Beam Date: 1993
Characteristic Beams
ions / energy(MeV/N)/current(pps)/power(w)
protons 13 100 microAmp
Transmission Efficiency (source to extracted beam)

Typical (%) : 6

Best (%) :

Emittance

Emittance Definition:

Vertical (pi mm mrad):

Horizontal (pi mm mrad):

Longitudinal (dE/E[%] x RF[deg.]):

USES

Basic Research (%) :

Development (%) :

Therapy (%) :

Isotope Production (%) : 100

Other Application (%) :

Maintenance (%) :

Beam Tuning (%) :

Total Time (h/year): 200

TECHNICAL DATA

(a)Magnet

Type: compact

Kb (MeV):

Kf (MeV):

Average Field (min./max. T): 1.2(1.9/0.55)

Number of Sectors: 4

Hill Angular Width (deg.): 40-44deg.

Spiral (deg.):

Pole Diameter (m): 1.14

Injection Radius (m):

Extraction Radius (m): .44

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): 73.3

Harmonic Modes: 4

Number of Dees: 2

Number of Cavities:

Dee Angular Width (deg.): 45

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: multicusp

Source Bias Voltage (kV): 25

External Injection:

Buncher Type:

Injection Energy (MeV/n):

Component:

Injection Efficiency (%): 6 % (source to 1MeV typical)

Injector:

(d)Extraction

Elements, Characteristic: carbon foil efficiency

Typical Efficiency (%): 99

Best Efficiency (%):

(e)Vacuum

Pumps: cryo

Achieved Vacuum (Pa): 3E-5 (typical)

REFERENCES

EXPERIMENTAL FACILITIES

COMMENTS

Used almost exclusively for PET isotope production