

ENTRY NO: CU-7
Machine Name: Scanditronix MC32-NI
Date: 5/29/01 5:46:49 AM
Institution: Rigshospitalet
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HISTORY

Designed By: Scanditronix
Construction Dates: 1991
First Beam Date: 1992

CHARACTERISTIC BEAMS

ions	/ energy(MeV/N)	/current(pps)	/power(w)
H-	16-32	100	
d-	8	80	
Alpha	8	30	

transmission efficiency(source to extract beam)

typical: 75% - **best:** 90%

tranverse emittance

emittance definition:

vertical: π mm mrad

horizontal: π mm mrad

longitudinal: (Δ) E/E)%xdeg RF

USES

basic research: 0%	therapy: 0%
development: 2%	isotope production: 90%
other: 3%	maintenance: 5%
beam tuning: 0%	Total Time: 2000h/year

TECHNICAL DATA

a)magnet: **type:** Coneventional spiral sector focused

Kb: MeV/A **Kf:** MeV/A

average field (min/max): 1.6 T

number of magnet sectors: 4

hill angular width: hill angular width

spiral (max): deg

pole parameters

diameter: 1 m

injection radius: m

extraction radius: 0.5 m

hill gap: m **valley gap:** m

trim coils

-number: 5x2

-current(max): A-turns

harmonic coils

-number: 2xNsectorsx2

-current(max): A-turns

main coils

number: 1x2

total ampere-turns: A-turns

current: 600 A

stored energy: MJ

weight - iron: 58t **coils:** t

power

main coils (total): 60 kW

trim coils (total max): kW

refrigerator (cryogenic): kW

b)RF

acceleration

frequency range: 24MHz

harmonic modes: 1, 2

number of dees: 2

number of cavities:

dee angular width: 90degrees

voltage

at injection: 35kV(peak to ground, max)

at extraction: 35kV(peak to ground, max)

peak: kV(peak to ground, max)

line power(max): 50kW

stability

phase: < 1 deg

voltage: <2%

injection

c)ion source: Two channel penning

external injection:

components:

source bias voltage: kV

injection energy: MeV/N

buncher:

injection efficiency: %

d)injector:

e)extraction

Two carbon foil strippers at varaible radius and azimuth

efficiency

typical: 95%

best: 100%

f)vacuum

pumps: Baltzer oil diffusion

achieved vacuum: 5 e-7Pa

REFERENCES

Very similar to DKFZ-heidelberg machine. However 2 strippers and two beam lines.

EXPERIMENTAL FACILITIES

None

COMMENTS