

ENTRY NO: CU-15
Machine Name: CYPRIS HM-18
Date: 5/30/01 1:29:23 AM
Institution: National Institute of Radiological sciences
Address 4-9-1,Anagawa Inage-ku,Chiba,263-8555
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HISTORY

Designed By: Sumitomo Heavy Industries
Construction Dates: 1994
First Beam Date: Mar. 1994

CHARACTERISTIC BEAMS

ions	/ energy(MeV/N)	/current(pps)	/power(w)
p	18	3E+14	900
d	10	3E+14	900

transmission efficiency(source to extract beam)

typical: 90% - **best:** 100%

tranverse emittance

emittance definition:

vertical: π mm mrad

horizontal: π mm mrad

longitudinal: (Δ) E/E)%xdeg RF

USES

basic research: %	therapy: %
development: %	isotope production: 93%
other: %	maintenance: %
beam tuning: 7%	Total Time: 1288h/year

TECHNICAL DATA

a)magnet: **type:** compact
Kb: MeV/A **Kf:** MeV/A
average field (min/max): 1.56 T
number of magnet sectors: 4
hill angular width: 60hill angular width
spiral (max): 0 deg
pole parameters
diameter: 1.04 m
injection radius: m
extraction radius: 0.46 m
hill gap: 0.036m **valley gap:** 0.154m
trim coils
-number: 4x2
-current(max): 1600 A-turns
harmonic coils
-number: xNsectorsx2
-current(max): A-turns
main coils
number: 1x2
total ampere-turns: 97200 A-turns
current: 180 A
stored energy: MJ
weight - iron: 27t **coils:** t
power
main coils (total): 24.3 kW
trim coils (total max): 2.82 kW
refrigerator (cryogenic): kW
b)RF
acceleration
frequency range: 45MHz

harmonic modes: 2, 4
number of dees: 2
number of cavities: 1
dee angular width: 35degrees
voltage
at injection: kV(peak to ground, max)
at extraction: kV(peak to ground, max)
peak: kV(peak to ground, max)
line power(max): kW
stability
phase: deg
voltage: 0.1%
injection
c)ion source: Cold Cathode PIG
external injection:
components:
source bias voltage: kV
injection energy: MeV/N
buncher:
injection efficiency: %
d)injector:
e)extraction
Carbopn foil stripper
efficiency
typical: 90%
best: 100%
f)vacuum
pumps: TMP + CRYO
achieved vacuum: 3E-5Pa

REFERENCES

EXPERIMENTAL FACILITIES

The experimental facilities Include the NIRS-Chiba Isochronous cyclotron facility.

COMMENTS