

ENTRY NO. CM22 Date
Machine Name MC60 PF
Manufacturer Scanditronix
Address Husyborg, S75229, Uppsala, Sweden
Tel 46.18.18.07.00 Telex
Fax 46.18.53.72.76 EMAIL
In Charge: Reported by: Jonas Modéer

HISTORY AND STATUS
DATES: Design 83 First Machine 84
SALES: No. Sold/Operational 1 / 1 Currently Available X
COST: Accelerator Facility

MAGNET
POLE PARAMETERS:
Diameter 160 cm R_{extract} 65 cm R_{inject} cm
HILL PARAMETERS: Gap (min) cm B_{max} 2.05 T
(0 AT) Gap (max) cm B_{min} T
VALLEY PARAMETERS: Gap (min) cm B_{max} T
(0 AT) Gap (max) cm B_{min} T
AVERAGE FIELD: < B >_{min} T < B >_{max} 1.75 T
NUMBER OF SECTORS: compact/separated 3 /
sector angle deg. spiral (max) 60 deg.
FIELD TRIMMING: Trim Coils 2
Harmonic Coils 4
Other
CURRENT: Main Coils 900 Amps Stability
Trim Coils Amps Stability
Stored Energy (cryogenic) MJ
WEIGHT: Iron 120,000 kg Conductor
ION ENERGY: Bending Limit E/A = q²/A² MeV/u
Focussing Limit E/A = q/A MeV/u

ACCELERATION SYSTEM
FUNDAMENTAL ACCELERATION:
Description: Driven System
No. of Gaps/turn 4 dE/dn(max) 0.1 MeV/q
Voltage(max) 0.04 MV Harmonic f_{rf}/f_{ion} 1
Freq 25 MHz Power in(max) 0.05 MW
Stability: Phase Voltage

VACUUM SYSTEM
OPERATING PRESSURE: 10⁻⁵ 10⁻⁶
PUMPS: No. and type 2 x 4000 l/sec diff. pump

ION SOURCE(S)
Type Intensity (mA) $\epsilon_n = \beta\gamma\epsilon$ (mm mrad) Ion Species
(a) PIG 0.1
(b)

INJECTION SYSTEM
Efficiency %

EXTRACTION SYSTEM
Efficiency 80 %

CHARACTERISTIC BEAMS
Accelerated Ions E/A (MeV/u) Current(part. μ A)
Internal External
(a) B 60 100 35
(b)
EXTRACTED BEAM PROPERTIES:
For μ A of MeV/u ions
 $\Delta E/E$ % $\Delta\phi$ °rf
 $\epsilon_n = \beta\gamma\epsilon$ x π mm mrad z π mm mrad

REFERENCES/NOTES
(a)
(b)

ENTRY NO. CM23 Date 2/7/92
Machine Name OSCAR
Manufacturer OXFORD INSTRUMENTS
Address OSNEY MEAD
Tel 44 865 269500 Telex
Fax 269690 EMAIL
In Charge: Reported by: M. KRUIP

HISTORY AND STATUS
DATES: Design 86-88 First Machine 90
SALES: No. Sold/Operational 3 / Currently Available YES
COST: Accelerator Facility

MAGNET
POLE PARAMETERS:
Diameter 50 cm R_{extract} 21 cm R_{inject} 1.3 cm
HILL PARAMETERS: Gap (min) 2.9 cm B_{max} 3.1 T
(0 7.6x10 AT) Gap (max) cm B_{min} T
VALLEY PARAMETERS: Gap (min) / cm B_{max} 1.7 T
(0 AT) Gap (max) cm B_{min} T
AVERAGE FIELD: < B >_{min} 2.36 T < B >_{max} T
NUMBER OF SECTORS: compact/separated 3 /
sector angle 54 deg. spiral (max) / deg.
FIELD TRIMMING: Trim Coils /
Harmonic Coils /
Other
CURRENT: Main Coils 360 Amps Stability (PERSISTENT MODES)
Trim Coils Amps Stability
Stored Energy (cryogenic) 0.55 MJ
WEIGHT: Iron 1.5 TON Conductor NbTi, 250 kg
ION ENERGY: Bending Limit E/A = 1.2 q²/A² MeV/u
Focussing Limit E/A = q/A MeV/u

ACCELERATION SYSTEM
FUNDAMENTAL ACCELERATION:
Description: 3 x 60°, AXIAL $\lambda/4$ STEMS
No. of Gaps/turn 6 dE/dn(max) 0.2 MeV/q
Voltage(max) 0.033 MV Harmonic f_{rf}/f_{ion} 3
Freq 108 MHz Power in(max) 0.01 MW
Stability: Phase 1° Voltage 10⁻³

VACUUM SYSTEM
OPERATING PRESSURE: 5 x 10⁻⁷ mbar
PUMPS: No. and type 2 TURBO

ION SOURCE(S)
Type Intensity (mA) $\epsilon_n = \beta\gamma\epsilon$ (mm mrad) Ion Species
(a) MULTICUSP 1 0.16 H⁻
(b)

INJECTION SYSTEM
AXIAL, SPIRAL Efficiency ~10 %

EXTRACTION SYSTEM
STRIPPING Efficiency ~100 %

CHARACTERISTIC BEAMS
Accelerated Ions E/A (MeV/u) Current(part. μ A)
Internal External
(a) H 12 100 100
(b)
EXTRACTED BEAM PROPERTIES:
For 50 μ A of 12 MeV/u H⁺ ions
 $\Delta E/E$ % $\Delta\phi$ °rf
 $\epsilon_n = \beta\gamma\epsilon$ x 1.5 π mm mrad z 3 π mm mrad

REFERENCES/NOTES
(a)
(b)