

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<sub>extract</sub> 65 cm R<sub>inject</sub> cm  
HILL PARAMETERS: Gap (min) cm B<sub>max</sub> 2.05 T  
(0 AT) Gap (max) cm B<sub>min</sub> T  
VALLEY PARAMETERS: Gap (min) cm B<sub>max</sub> T  
(0 AT) Gap (max) cm B<sub>min</sub> T  
AVERAGE FIELD: < B ><sub>min</sub> T < B ><sub>max</sub> 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 = q<sup>2</sup>/A<sup>2</sup> 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<sub>rf</sub>/f<sub>ion</sub> 1  
Freq 25 MHz Power in(max) 0.05 MW  
Stability: Phase Voltage

VACUUM SYSTEM  
OPERATING PRESSURE: 10<sup>-5</sup> 10<sup>-6</sup>  
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.  $\mu$ A)  
Internal External  
(a) B 60 100 35  
(b)

EXTRACTED BEAM PROPERTIES:  
For  $\mu$ A of MeV/u ions  
 $\Delta E/E$  %  $\Delta\phi$  °rf  
 $\epsilon_n = \beta\gamma\epsilon$  x  $\pi$ mm mrad z  $\pi$ 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<sub>extract</sub> 21 cm R<sub>inject</sub> 1.3 cm  
HILL PARAMETERS: Gap (min) 2.9 cm B<sub>max</sub> 3.1 T  
(0 7.6x10 AT) Gap (max) cm B<sub>min</sub> T  
VALLEY PARAMETERS: Gap (min) / cm B<sub>max</sub> 1.7 T  
(0 AT) Gap (max) cm B<sub>min</sub> T  
AVERAGE FIELD: < B ><sub>min</sub> 2.36 T < B ><sub>max</sub> 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 q<sup>2</sup>/A<sup>2</sup> 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<sub>rf</sub>/f<sub>ion</sub> 3  
Freq 108 MHz Power in(max) 0.01 MW  
Stability: Phase 1° Voltage 10<sup>-3</sup>

VACUUM SYSTEM  
OPERATING PRESSURE: 5 x 10<sup>-7</sup> 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<sup>-</sup>  
(b)

INJECTION SYSTEM  
AXIAL, SPIRAL Efficiency ~10 %

EXTRACTION SYSTEM  
STRIPPING Efficiency ~100 %

CHARACTERISTIC BEAMS  
Accelerated Ions E/A (MeV/u) Current(part.  $\mu$ A)  
Internal External  
(a) H 12 100 100  
(b)

EXTRACTED BEAM PROPERTIES:  
For 50  $\mu$ A of 12 MeV/u H<sup>+</sup> ions  
 $\Delta E/E$  %  $\Delta\phi$  °rf  
 $\epsilon_n = \beta\gamma\epsilon$  x 1.5  $\pi$ mm mrad z 3  $\pi$ mm mrad

REFERENCES/NOTES  
(a)  
(b)