

ENTRY NO. CU127 Date 02-OCT-95
 Name of Machine JSW 1710 (Japan Steel Works)
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HISTORY

MILESTONE DATES:
 Design 1981 Model Tests 1981
 Construction 1981 First Beam 1982
 DESIGN/CONSTRUCTION BY:
 in house other Japan Steel Works
 COST: Accelerator 860,000 Facility 1,100,000
 FUNDED BY: DOE

STATUS

STAFF: Machine
 Scientists 1 Engineers
 Technicians 1 Students
 Research (in house/external)
 Scientists / Engineers /
 Technicians / Students /
 BUDGET: Machine Funded by
 Research Funded by
 TIME DISTRIBUTION:
 Basic Research (in house/external) 100 % / %
 Applied Program (in house/external) 100 % / 0 %
 Maintenance % Development %

MAGNET

POLE PARAMETERS:
 Diameter 105 cm R_{extract} 42 cm R_{inject} 0 cm
 HILL PARAMETERS: Gap (min) cm B_{max} T
 (@ AT) Gap (max) cm B_{min} T
 VALLEY PARAMETERS: Gap (min) cm B_{max} T
 (@ AT) Gap (max) cm B_{min} T
 AVERAGE FIELD: $\langle B \rangle_{\text{min}}$ T $\langle B \rangle_{\text{max}}$ T
 NUMBER OF SECTORS: compact/separated 4 / 0
 sector angle deg. spiral (max) deg.
 FIELD TRIMMING: Trim Coils 3
 Harmonic Coils
 Other
 CURRENT: Main Coils Amps Stability
 Trim Coils Amps Stability
 Stored Energy (cryogenic) MJ
 WEIGHT: Iron 35 tons Conductor Cu hollow
 ION ENERGY: Bending Limit E/A = q^2/A^2 MeV/u
 Focusing Limit E/A = q/A MeV/u

ACCELERATION SYSTEM

FUNDAMENTAL ACCELERATION:
 Description: 2 Dees @ 450
 No. of Gaps/turn $dE/dn(\text{max})$ 0.180 MeV/q
 Voltage (max) MV Harmonic f_H/f_{ion}
 Freq 43.5 - 47 MHz Power in(max) MW
 Stability: Phase Voltage
 OTHER CAVITIES (Flattopping or otherwise):
 Description:
 Region of Influence: R_{min} cm R_{max} cm
 No. of Gaps/turn $dE/dn(\text{max})$ MeV/q
 Voltage (max) MV Harmonic f_H/f_{ion}
 Freq MHz Power in(max) MW
 Stability: Phase Voltage

VACUUM SYSTEM

OPERATING PRESSURE: 5×10^{-6}
 PUMPS: (No. and type) Diffusion 8"

ION SOURCE(S)

Type	Intensity (mA)	@ $\epsilon_n = \beta\gamma\epsilon$ (π mm mrad)	Ion Species
(a)			
(b)			
(c)			
(d)			

INJECTION SYSTEM

Hot Cathode Axial Source Efficiency %

EXTRACTION SYSTEM

Electrostatic Efficiency 40 %

CHARACTERISTIC BEAMS

Accelerated Ions	E/A (MeV/u)	Current (part μ A)	
		Internal	External
(a) H^+	17	60	40
(b) D^+	10	50	30
(c)			
(d)			

Secondary Particles	E (MeV)	part/sec
(a)		
(b)		
(c)		

EXTRACTED BEAM PROPERTIES:

For μ A of MeV/u ions
 $\Delta E/E$ % $\Delta\phi$ °rf
 $\epsilon_n = \beta\gamma\epsilon$ $\times$ π mm mrad z π mm mrad

FACILITIES FOR RESEARCH

SHIELDED AREA: Fixed: 60 m² Moveable 0 m²
 Target Stations: 1 No. Served At Same Time: 1

MAGNETIC SPECTROMETERS:

OTHER FACILITIES:

REFERENCES/NOTES

(a)
 (b)

PLAN VIEW OF FACILITY, COMMENTS