ENTRY NO. 36

NAME OF MACHINE CS-30 (TCC) DATE 8/20/78

INSTITUTION Nihon Medi-Physics Co., Ltd.

ADDRESS 4, 2-1, Takatsukasa, Takarazuka, Hyogo, Japan

IN CHARGE M. Hazue REPORTED by S. Nakamoto

HISTORY AND STATUS

DESIGN, date _____ MODEL tests _____

ENG. DESIGN, date _____

CONSTRUCTION, date 1974 Aug.-Nov.

FIRST BEAM date (or goal) Nov., 1974

MAJOR ALTERATIONS Addition of yoke iron, Dec., 1976

OPERATION, _____ hr/wk; On Target _____ hr/wk

TIME DIST., in house 100 %, outside 0 %

USERS' SCHEDULING CYCLE 0 weeks

COST, ACCELERATOR -

COST, FACILITY, total -

FUNDED BY in house

ACCELERATOR STAFF, OPERATION and DEVELOPMENT

SCIENTISTS _____ ENGINEERS 3

TECHNICIANS 2 CRAFTS _____

GRAD STUDENTS involved during year _____

OPERATED BY _____ Res staff or x Operators

BUDGET, op & dev _____

FUNDED BY in house

RESEARCH STAFF, not included above

USERS, in house _____ outside _____

GRAD STUDENTS involved during year _____

RES. BUDGET, in house _____

FUNDED BY _____

FACILITIES FOR RESEARCH

SHIELDED AREA, fixed 87 m^2

movable _____ m^2

TARGET STATIONS 3 in 1 rooms

STATIONS served at same time, max 0

MAG SPECTROGRAPH, type _____

COMPUTER, model _____

OTHER FACILITIES _____

REFERENCES/NOTES

MAGNET

POLE FACE diameter 96 cm; R extraction 42 cm

GAP, min _____ cm; Field _____ kG
max _____ cm; Field _____ kG
} at _____ X 10^6 ampere turns

AVERAGE FIELD at R ext 17.5 kG

CURRENT STABILITY _____ parts/10^6; $B_{max}/\langle B \rangle$ _____

NUMBER OF SECTORS 3 ; SPIRAL, max _____ deg

POLE FACE COIL PAIRS: AVF _____ /sec;

Harmonic correction _____

Rad grad _____ /sec or Circ coils 6

WEIGHT: Fe ~20 tons; Coils _____ tons

CONDUCTOR, Material and type Alminum

STORED ENERGY _____ MJ

COOLING SYSTEM Circulated demineralized water

POWER: Main coils ~40 max, kW

Trimming coils ~1 max, kW

YOKE/POLE AREA _____ %

SECTOR ANGLE (Sep Sec) _____ deg

ION ENERGY (Bending limit) E/A = _____ q^2/A^2 MeV

(Focusing limit) E/A = _____ q/A MeV

ACCELERATION SYSTEM

DEES, number 2 angle 90 deg

BEAM APERTURE _____ cm; DC BIAS _____ kV

TUNED by, coarse _____ fine _____

RF _____ to _____ mHz, stable ± _____ /10^6

Orb F _____ to _____ mHz; GAIN, max _____ kV/turn

HARMONICS, RF/Orb F, used _____

DEE-Gnd, max 25 kV, min gap _____ cm

STABILITY, (pk-pk noise)/(pk RF volt) _____

RF PHASE stable to ± _____ deg

RF POWER input, max ~25 kW

RF PROTECT circuit, speed _____ μsec

Type gap tube shortening

FREQUENCY MODULATION, rate _____ /sec

MODULATOR, type _____

BEAM PULSE, width _____

VACUUM SYSTEM

PUMPS, No., Type, Size one 25cm, one 10cm diffusion pump

OPERATING PRESSURE 10 μTorr,

PUMPDOWN TIME 0.5 hrs

ION SOURCES/INJECTION SYSTEM

PIG type

EXTRACTION SYSTEM

Electrostatic deflector + mag. channel

CONTROL SYSTEM

manual

ENTRY NO. 36 (cont.)

CHARACTERISTIC BEAMS

	Particle	Goal (MeV)	Achieved (MeV)
ENERGY	p		26
	d		15
	He-3		38
	He-4		30
CURRENT		(μA)	(μA)
Internal	p	200	200
	d	200	200
External	p	50	50
	d	50	50
		(part/s)	(part/s)
Secondary			

BEAM PROPERTIES

	Measured		Conditions			
Pulse Width	____	RF deg	____	μA of ____	MeV	____
Phase Exc, max	____	RF deg	____	μA of ____	MeV	____
Extract Eff	60	%	60	μA of 26	MeV	p
Res, ΔE/E	____	%	____	μA of ____	MeV	____

Emittance

(mm-mrad) { ____ axial / ____ radial } ____ μA of ____ MeV ____

OPERATING PROGRAMS, time dist

Basic Nuclear Physics	%
Solid State Physics	%
Bio-Medical Applications	%
Isotope Production	95 %
Development	5 %
	%
	%

PLAN VIEW OF FACILITY, NOTEWORTHY FEATURES, OPERATION SUMMARY, ADDITIONAL REFERENCES