ENTRY No. 31 BIS

NAME OF MACHINE MC 35 DATE

INSTITUTION Medizinische Hochschule Hannover

ADDRESS D-3000 Hannover 61, Karl-Wiechert-Allee 9

TEL 0511 / 532 2577 TELEX

IN CHARGE REPORTED BY

HISTORY AND STATUS

DESIGN, date Model tests

ENG DESIGN, date

CONSTRUCTION, date

FIRST BEAM, date (or goal) Hannover 21.1.1977

MAJOR ALTERATIONS

COST, ACCELERATOR

COST, FACILITY, total

FUNDED BY

ACCELERATOR STAFF, OPERATION AND DEVELOPMENT

SCIENTISTS 2 ENGINEERS 1

TECHNICIANS 1 CRAFTS

GRAD STUDENTS involved during year

OPERATED BY Research staff or 2 Operators

OPERATION 20 hr/wk, On target 15 hr/wk

TIME DISTR. in house 100 %, Outside %

BUDGET, op & dev

FUNDED BY

RESEARCH STAFF, not included above

USERS, in house 2 outside

GRAD STUDENTS involved during year

RESEARCH BUDGET, in house

FUNDED BY

MAGNET

POLE FACE, diameter (compact) 130 cm, R extraction 51 cm

R injection centre cm

GAP, min 10 cm, Field 20,3 kG
max 18 cm, Field 12,6 kG } at 280

AVERAGE FIELD at R ext 1,7 KG/cm kG ~~Ampere-turns~~

B max/ <B> 800 Amp.

NUMBER OF SECTORS { compact / separated 3 } Spiral, max 50 deg

SECTOR ANGLE (SSC) deg

TRIMMING COILS 4 harmonic
8 circular

CONDUCTOR, material and type Cu

STORED ENERGY (cryogenic) MJ

POWER : main coils 100 max, kW ; current stability 10^{-5}
trimming coils 10 max, kW ; current stability

WEIGHT : Fe 53 tons ; coils 2,3 tons

COOLING system Water

ION ENERGY (bending limit) E/A = q^2/a^2 MeV/amu
(focusing limit) E/A = q /a MeV/amu

ACCELERATION SYSTEM

DEES, number 2 ; angle 90 deg

BEAM APERTURE 2 cm ; DC Bias 10 kV

TUNED by, coarse fine

RF 12 to 24 mHz, stable $\pm$ 2×10^{-8}

Orb F to mHz

HARMONICS, RF/Orb F, used first, second

DEE - Gnd, max 40 kV, min gap cm

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

ENERGY GAIN, max kV/turn

RF PHASE, stable to $\pm$ deg

RF POWER input, max 100 kW

FREQUENCY MODULATION, rate /s

modulator, type

beam pulse, width

VACUUM SYSTEM

OPERATING PRESSURE $< 10^{-5}$ Torr

PUMPS, No, Type, Size

two prevacuum pumps

two diffusion pumps

ION SOURCES

PIG discharge type

INJECTION SYSTEM

Ion source in central region

EXTRACTION SYSTEM

electrostatic and magnetic channels

FACILITIES FOR RESEARCH

SHIELDED AREA, fixed 52 m² ; movable m²

TARGET STATIONS 1 in 1 rooms

STATIONS served at same time, max 1

MAG SPECTROGRAPH, type

COMPUTER model

OTHER FACILITIES

CHARACTERISTIC BEAMS

PARTICLE	ENERGY (MeV) Goal	Achieved	CURRENT (μA) Internal	External
protons		7,5-35		65
deuterons		3,8-18		65
Helium 3		5,6-47		30
Helium 4		7,5-35		30
SECONDARY			(part/s)	

BEAM PROPERTIES

MEASURED	CONDITIONS
PULSE WIDTH RF deg	pμ A of MeV ions
PHASE EXC, max RF deg	pμ A of MeV ions
EXTRACT eff %	pμ A of MeV ions
RESOL $\Delta E/E \leq 1$ %	pμ A of MeV ions
EMITTANCE	
(π mm. mrad) { 50 axial / 50 rad }	pμA of MeV ions

OPERATING PROGRAMS, time distribution

BASIC NUCLEAR PHYSICS SOLID STATES PHYSICS

BIOMEDICAL APPLICAT. ISOTOPE PRODUCTIONS 100%

REFERENCES/NOTES

PLAN VIEW OF FACILITY, NOTEWORTHY FEATURES, COMMENTS

* Note from the editor : this sheet came too late to be inserted at the right place in the list.