**ENTRY NO:** CU-19
**Machine Name:** Scanditronix MC-17F
**Date:** 5/31/01 5:15:26 AM
**Institution:** PET-Center Groningen University Hospital
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**HISTORY**
**Designed By:** Scanditronix, Uppsala, Sweden
**Construction Dates:** 1990
**First Beam Date:** march 1991
**CHARACTERISTIC BEAMS**

| **ions** | / **energy**(MeV/N)/**curre**nt(pps)/**powe**r(w) | |
|---|---|---|
| p | 17 MeV | > 50 uA |
| d | 8.5 MeV | > 50 uA |

**transmision efficiency(source to extract beam)**
**typical:** 80% - **best:** 90%
**tranverse emmitance**
**emmitance definition:**
**vertical:** $\pi$ mm mrad
**horizontal:** $\pi$ mm mrad
**longitudinal:** ($\Delta$) E/E)%xdeg RF

**USES**
**basic research:** % **therapy:** %
**development:** % **isotope production:** 40%
**other:** standby 50% **maintenance:** 10%
**beam tuning:** % **Total Time:** 2000h/year

**TECHNICAL DATA**
**a)magnet:** **type:** compact, see Scanditronix for specs
**Kb:** MeV/A **Kf:** MeV/A
**average field (min/max):** T
**number of magnet sectors:**
**hill angular width:** hill angular width
**spiral (max):** deg
**pole parameters**
**diameter:** m
**injection radius:** m
**extraction radius:** m
**hill gap:** m **valley gap:** m
**trim coils**
-number: x2
-current(max): A-turns
**harmonic coils**
-number: xNsectorsx2
-current(max): A-turns
**main coils**
**number:** x2
**total ampere-turns:** A-turns
**current:** A
**stored energy:** MJ
**weight -** iron: t coils: t
**power**
**main coils (total):** kW
**trim coils (total max):** kW
**refrigerator (cryogenic):** kW
**b)RF**
**acceleration**
**frequency range:** 24-25MHz
**harmonic modes:**
**number of dees:** 2
**number of cavities:**
**dee angular width:** 90degrees
**voltage**
at injection: kV(peak to ground, max)
at extraction: 45kV(peak to ground, max)
peak: 50kV(peak to ground, max)
**line power(max):** kW
**stability**
**phase:** deg
**voltage:** %
**injection**
**c)ion source:**
**external injection:**
**components:**
**source bias voltage:** kV
**injection energy:** MeV/N
**buncher:**
**injection efficiency:** %
**d)injector:**
**e)extraction**
Electrostatic deflector
**efficiency**
**typical:** 80%
**best:** 95%
**f)vacuum**
**pumps:** Oil diffusion
**achieved vacuum:** 1x E-06Pa
**REFERENCES**
Scanditronix MC-17F standard design without beam line.
**EXPERIMENTAL FACILITIES**
Is in use for the production of 11C, 13N, 15O and 18F exclusively. These radionuclides are used for the labeling of radiopharmaceuticals to be used in Positron Emission Tomography (PET) diagnostic procedures. Next to a radiochemical laboratory 2 PET scanners are in operation.
**COMMENTS**