

**ENTRY NO:** CU26  
**Date:** 03 Feb 2005 07:22:01  
**Machine Name:** NIH JSW-1710  
**Institution:** National Institutes of Health  
**Address:** Bldg 10, Rm 1C401, Bethesda, Maryland, USA  
20892-1  
**Telephone:** 301-496-0345  
**Fax:** 301-402-6361  
**Web Address:** www.nih.gov  
**Person in Charge of Cyclotron:** Paul S. Plascjak  
**Person Reporting Information:** Paul S. Plascjak  
**E-mail Address:** pp5s@nih.gov

#### History

**Designed by:** Japan Steel Works, Ltd  
**Construction Dates:** 1985  
**First Beam Date:** 1985  
**Characteristic Beams**  
p 17.5 (MeV)  
d 9.8 (MeV/n)  
**Transmission Efficiency (source to extracted beam)**

**Typical (%):**  
**Best (%):**  
**Emittance**  
**Emittance Definition:**  
**Vertical (pi mm mrad):**  
**Horizontal (pi mm mrad):**  
**Longitudinal (dE/E [%] x RF[deg.]):**

#### USES

**Basic Research (%):**  
**Development (%):** 5  
**Therapy (%):**  
**Isotope Production (%):** 90  
**Other Application (%):**  
**Maintenance (%):** 5  
**Beam Tuning (%):**  
**Total Time (h/year):** 600

#### TECHNICAL DATA

**(a)Magnet**  
**Type:** compact  
**Kb (MeV):**  
**Kf (MeV):**  
**Average Field (min./max. T):**  
**Number of Sectors:**  
**Hill Angular Width (deg.):**  
**Spiral (deg.):**  
**Pole Diameter (m):**  
**Injection Radius (m):**  
**Extraction Radius (m):**  
**Hill Gap (m):**  
**Valley Gap (m):**  
**Trim Coils**  
**Number:** x2  
**Maximum Current (A-turns):**  
**Harmonic Coils**  
**Number:** xNsectorsx2  
**Maximum Current (A-turns):**  
**Main Coils**  
**Number:** x2  
**Total Ampere Turns:**  
**Maximum Current (A):**  
**Stored Energy (MJ):**  
**Total Iron Weight (tons):**  
**Total Coil Weight (tons):**  
**Power**  
**Main Coils (total KW):**  
**Trim Coils (total, maximum, KW):**  
**Refrigerator (cryogenic, KW):**

#### (b)RF

**Acceleration**  
**Frequency Range (MHz):**  
**Harmonic Modes:**

**Number of Dees:**  
**Number of Cavities:**  
**Dee Angular Width (deg.):**  
**Voltage**  
**At Injection (peak to ground, KV):**  
**At Extraction (peak to ground, KV):**  
**Peak (peak to ground, KV):**  
**Line Power (max, KW):**  
**Phase Stability (deg.):**  
**Voltage Stability (%):**

**(c)Injection**  
**Ion Source:**  
**Source Bias Voltage (kV):**  
**External Injection:**  
**Buncher Type:**  
**Injection Energy (MeV/n):**  
**Component:**  
**Injection Efficiency (%):**  
**Injector:**

**(d)Extraction**  
**Elements, Characteristic:**  
**Typical Efficiency (%):**  
**Best Efficiency (%):**

**(e)Vacuum**  
**Pumps:**  
**Achieved Vacuum (Pa):**

#### REFERENCES

#### EXPERIMENTAL FACILITIES

#### COMMENTS