

**ENTRY NO:** CU-26  
**Machine Name:** NIH JSW-1710  
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**Institution:** National Institutes of Health  
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**HISTORY**

**Designed By:** Japan Steel Works, Ltd  
**Construction Dates:** 1985  
**First Beam Date:** 1985

**CHARACTERISTIC BEAMS**

ions	/ energy(MeV/N)/current(pps)/power(w)
p	17.5
d	9.8

**transmission efficiency(source to extract beam)**

**typical:** % - **best:** %

**transverse emittance**

**emittance definition:**

**vertical:**  $\pi$  mm mrad

**horizontal:**  $\pi$  mm mrad

**longitudinal:**  $(\Delta) E/E) \% \times \text{deg RF}$

**USES**

<b>basic research:</b> %	<b>therapy:</b> %
<b>development:</b> 5%	<b>isotope production:</b> 90%
<b>other:</b> %	<b>maintenance:</b> 5%
<b>beam tuning:</b> %	<b>Total Time:</b> 600h/year

**TECHNICAL DATA**

**a)magnet:** type: compact  
**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**

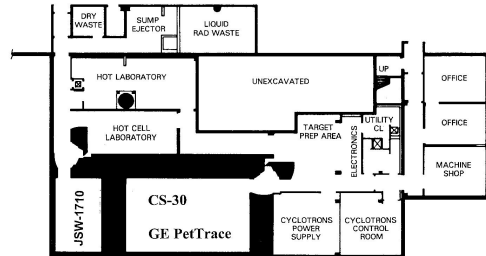
**frequency range:** MHz  
**harmonic modes:**  
**number of dees:**  
**number of cavities:**  
**dee angular width:** degrees  
**voltage**  
**at injection:** kV(peak to ground, max)  
**at extraction:** kV(peak to ground, max)  
**peak:** kV(peak to ground, max)  
**line power(max):** kW  
**stability**  
**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**

**efficiency**  
**typical:** %  
**best:** %

**f)vacuum**  
**pumps:**  
**achieved vacuum:** Pa  
**REFERENCES**

**EXPERIMENTAL FACILITIES**

**COMMENTS**



NIH CYCLOTRON FACILITY B-3 LEVEL