

DELIVERY RECORD

Client: University of Tsukuba

Facility: iBNCT (Ibaraki Boron Neutron Capture Therapy)

Location: Ibaraki, Japan

1 October 2018

 **MITSUBISHI HEAVY INDUSTRIES MECHATRONICS SYSTEMS, LTD.**

Machinery Systems Sales Department

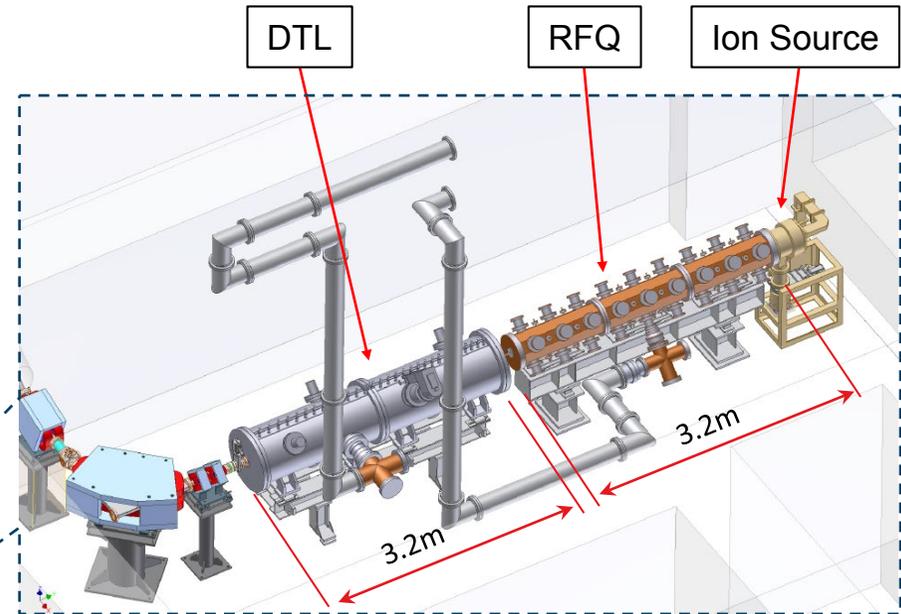
MHIMS0115010

- 1. OVERVIEW**
- 2. RADIO FREQUENCY QUADRUPOLE (RFQ)**
- 3. DRIFT TUBE LINAC (DTL)**

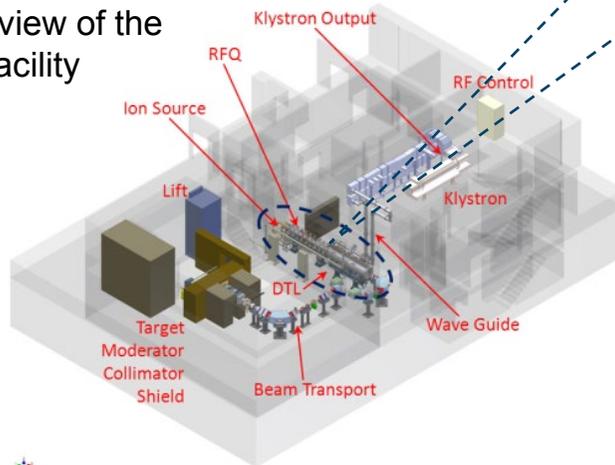
1. OVERVIEW

Linac Parameters

Particles	H ⁺
Output Energy	8MeV
Peak Current	50mA
Beam Width	1msec
Repetition Rate	200pps
Beam Duty	20%



Bird's-eye overview of the Ibaraki BNCT facility



2. RADIO FREQUENCY QUADRUPOLE (RFQ)

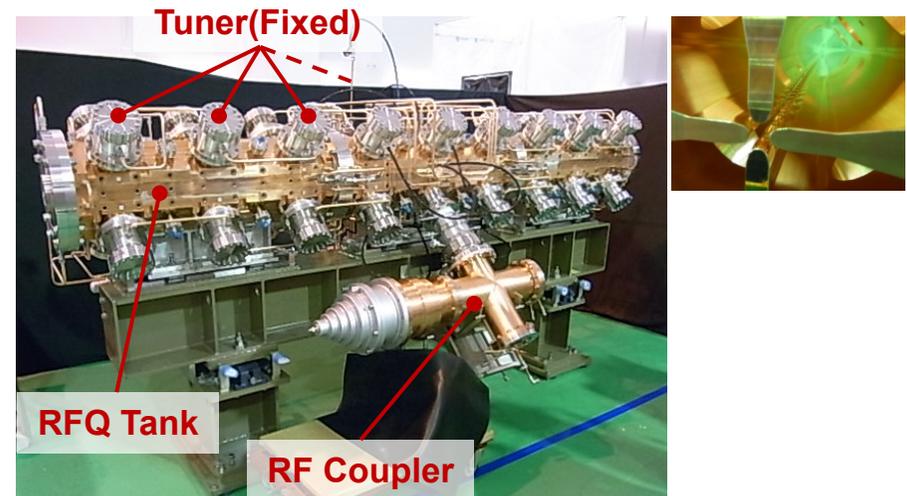
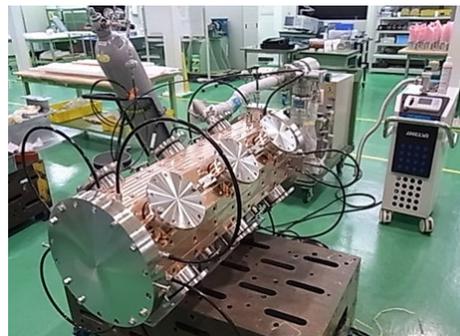
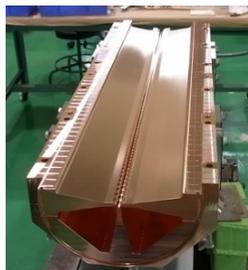
Manufacturing Process



Machining



Assembling



Main Parameters

Structure	4-vane type RFQ
Injection Energy	50keV
Output Energy	3MeV
Length	3.2m
RF Frequency	324MHz
RF Power	330kW (peak), 20% duty

3. DRIFT TUBE LINAC (DTL)

Main Parameters	
Structure	Drift Tube Linac
Injection Energy	3MeV
Output Energy	8MeV
Length	3.2m
Number of Cell	31
DT Type	Permanent Magnet
RF Frequency	324MHz
RF Power	320kW (peak), 20% duty

Manufacturing Process



DT Cell and Permanent Magnet



Assembling of Drift Tube



Chemical Polishing



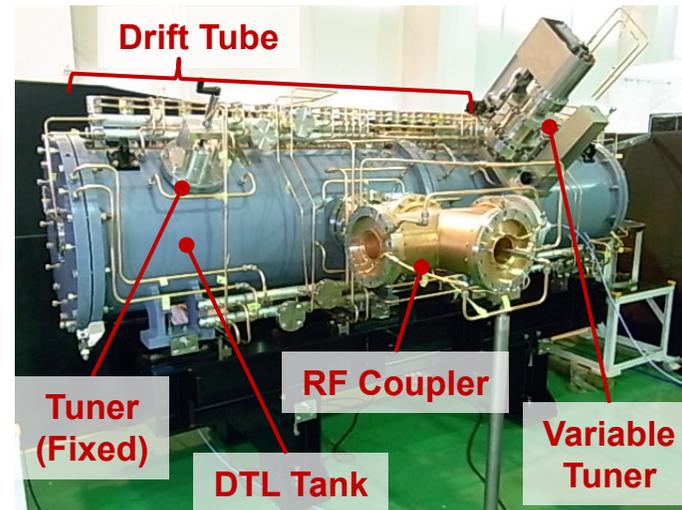
Machining and Welding



Copper Plating



Electro Polishing



Inside View of DTL



Drift Tube

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