

DELIVERY RECORD

Client: Tohoku University

Facility: ELPH (Research Center for Electron Photon Science)

Location: Sendai, Japan

1 October 2018

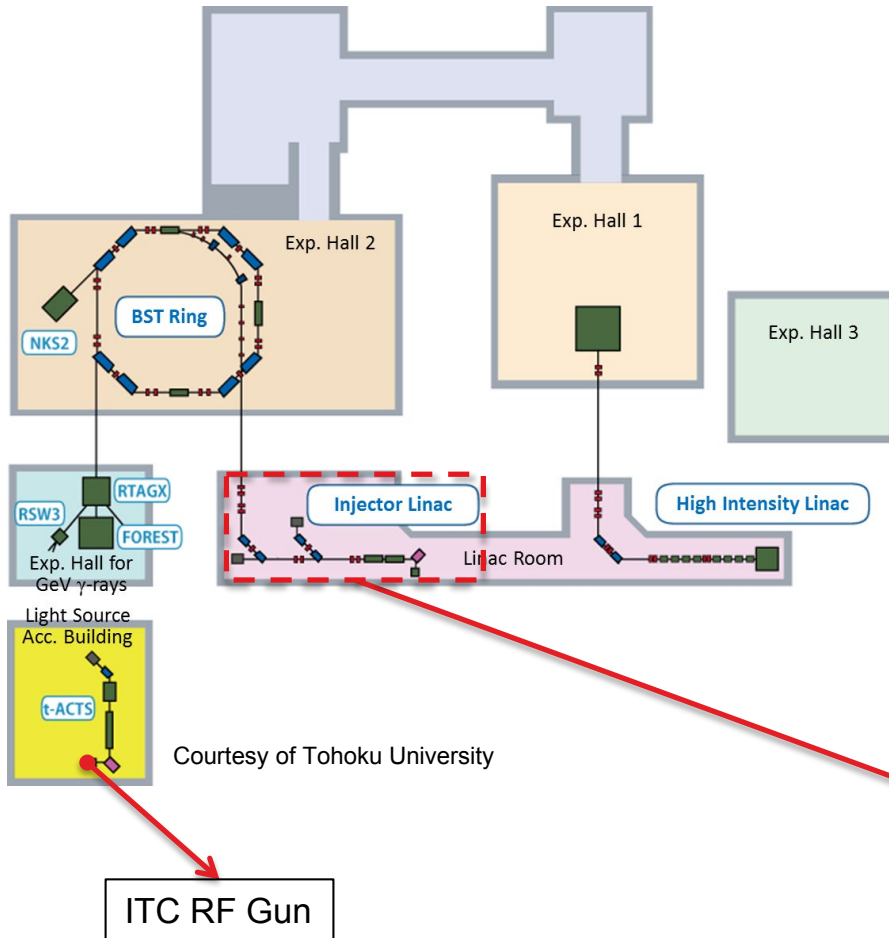
 **MITSUBISHI HEAVY INDUSTRIES MECHATRONICS SYSTEMS, LTD.**

Machinery Systems Sales Department

MHIMS0115011

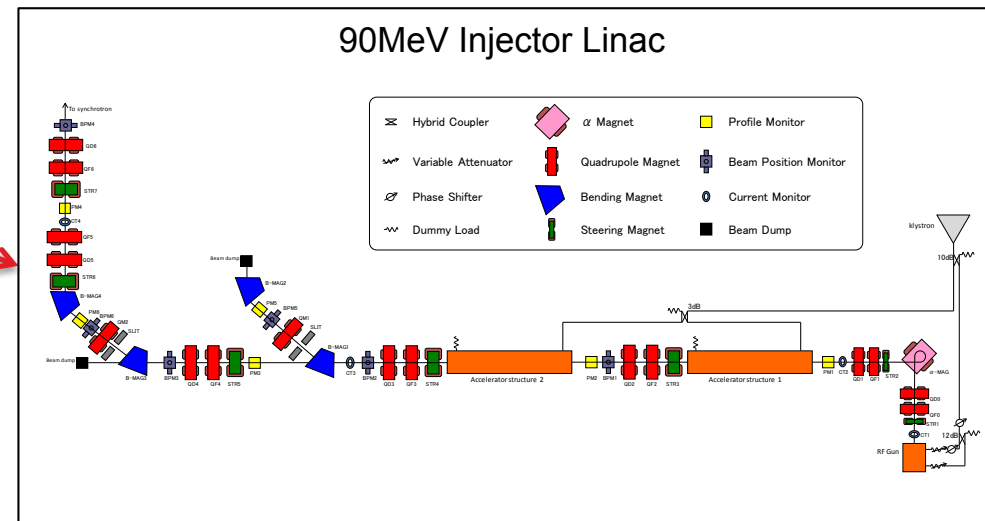
- 1. OVERVIEW**
- 2. 90MeV INJECTOR LINAC**
- 3. ITC (INDEPENDENTLY TUNABLE CELLS) RF GUN**

1. OVERVIEW



List of Main Supplies

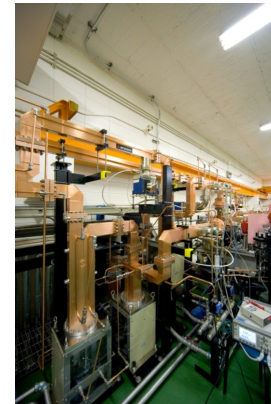
- 90MeV Injector Linac for 1.3GeV Booster Synchrotron
- ITC RF Gun for t-ACTS (Test Accelerator as Coherent THz Source)



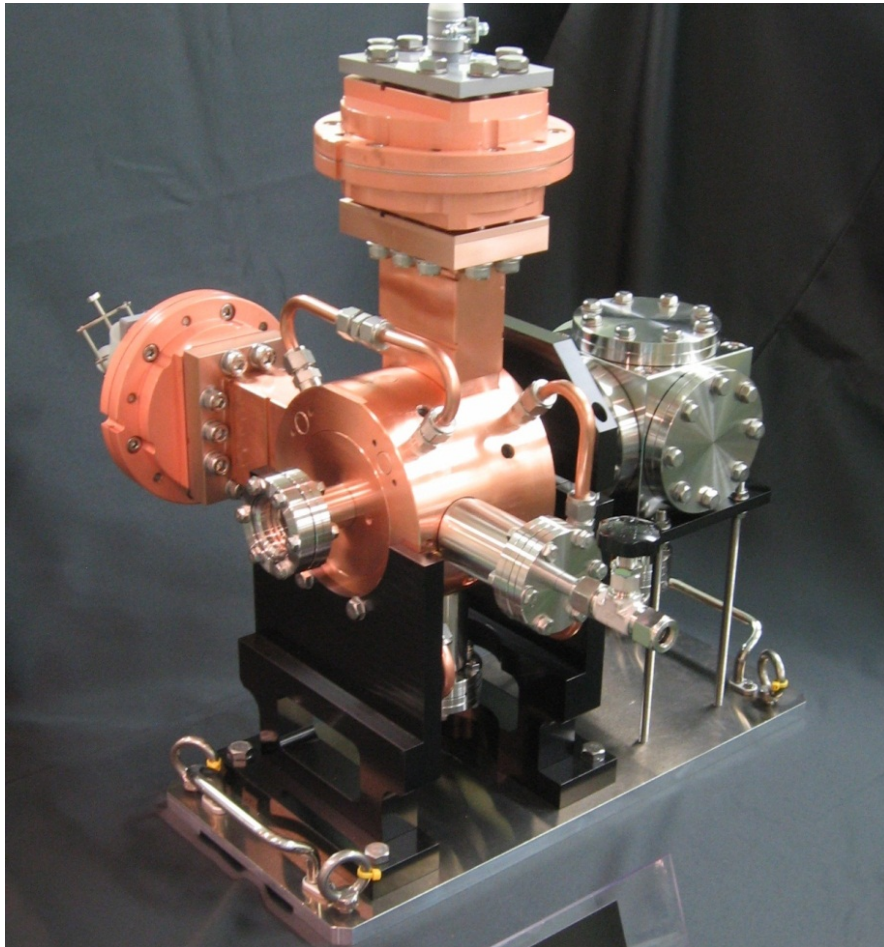
2. 90MeV INJECTOR LINAC

Main Parameters

Beam energy	90 MeV
Beam current	50 mA
RF frequency	2856 MHz
Number of accelerating structure	2
Length of accelerating structure	3 m
Accelerating type	$2\pi/3$ mode C.G.
Number of klystron	1
Maximum power of klystron	50.5 MW
Repetition rate of klystron	12.5 pps
RF pulse length	3 μ s
Control	Local
Interface	Ethernet and RS232C



3. ITC RF GUN



Main Parameters

Frequency	2856 MHz
Material of cavity	OFC-CLASS1
Material of cathode	CeB ₆
Number of cavity	2
Unloaded Q of 1st cavity	7500
Unloaded Q of 2nd cavity	10000
Coupling β	4~5
Shunt impedance of 1st cavity	0.8 M Ω
Shunt impedance of 2nd cavity	1.1 M Ω
Waveguide flange	SLAC type

MOVE THE WORLD FORWARD

**MITSUBISHI
HEAVY
INDUSTRIES
GROUP**