

Pre-injector Upgrade Updates (12 May – 26 May 2010)

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26 May 2010

Purchasing 101

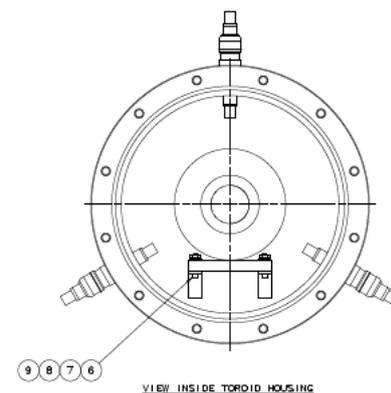
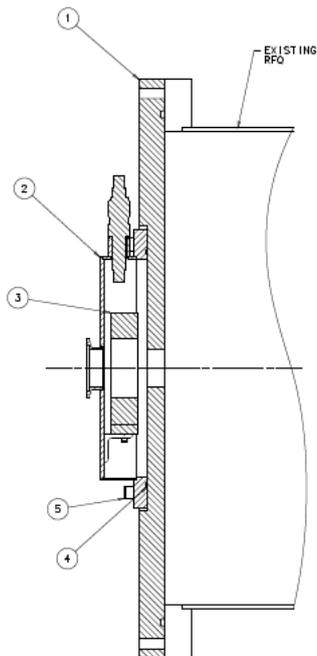
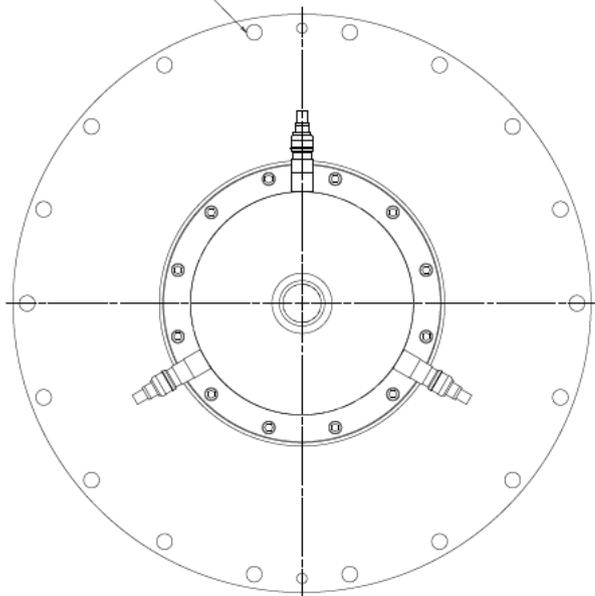
- **DO NOT TELL THE SELLER HOW MUCH YOU ARE WILLING TO PAY!**
- Learn how to use email.
- Learn what exchange rate means.

Updates

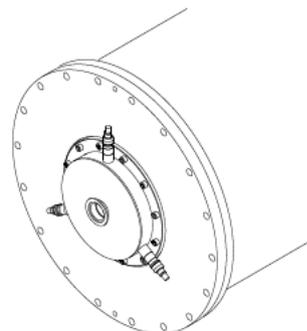
- Schempp was here on Sat 15 May 2010.
 - PO sent out on 19 May 2010. (PO approved on 05 May 2010).
 - Showed him test area.
 - Showed him our MEBT and LEPT design.
 - Confirmed that RFQ will have at least 1% energy acceptance.
 - Toroid position inside RFQ tank structure is unworkable.
 - Tank will be copper plated with the ports already welded.
 - Our RFQ is not a challenge.

HINS Toroid

USE EXISTING HARDWARE
AND O-RING



Fit downstream of our
RFQ?

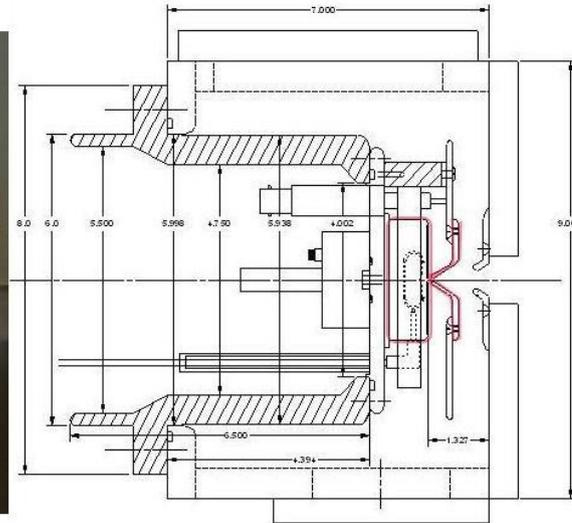
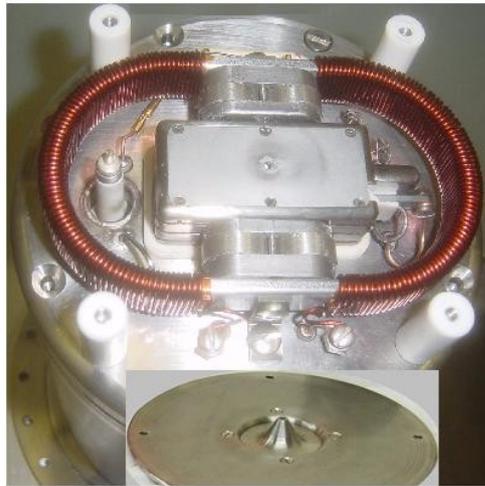


REV	DESCRIPTION	DRN/APP APPROVED	DATE
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ITEM	PART NO.	DESCRIPTION OR SIZE	QTY.
9		NO. 6 HEX NUT	2
8		NO. 6 LOCK WASHER	2
7		NO. 6 FLAT WASHER	2
6		NO. 6-32 X 3/4 LONG SHCS S.S.	2
5		5/16-24 UNF X 3/4 LONG SHCS S.S., SILVER COATED	12
4		O RING	1
3		TOROID	1
2	MD-460962	TOROID HOUSING WELDMENT	1
1	MD-460956	RFQ END PLATE HEE W/ TOROID	1

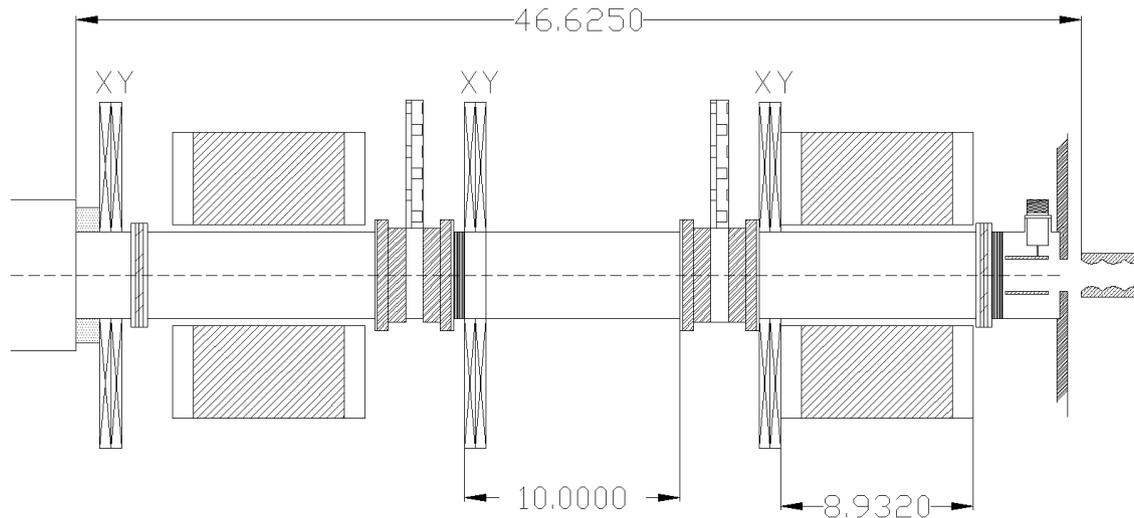
PARTS LIST			
UNLESS OTHERWISE SPECIFIED: ORIGINATOR I, DUEL 21-DEC-2006			
W	ANALOG	DR/APP	B. POPPEP 21-DEC-2009
± .005 ±	± .1"	CHECKED	
1. BRUSH ALL SHARP EDGES	APPROVED:	USED ON:	
2. DO NOT SCALE DIMENSIONS			HINS BEAM LINE
3. DIMENSIONS BASED UPON			
4. MAT - ALL HOUS. SURFACES			MATERIAL AS NOTED
5. DIMENSIONS METRIC			
 FERMILAB NATIONAL ACCELERATOR LABORATORY UNITED STATES DEPARTMENT OF ENERGY			
HINS - FRONT END RADIO FREQUENCY QUAD (RFQ) TOROID HEE FLANGE ASSEMBLY			
SCALE	DRAWING NUMBER	SHEET	REV.
1:2	5520.000-MD-460963	1 OF 1	
OPERATED WITH: Icdoss1201Series GROUP: ACCELERATOR MECH. SUPPT.			

Source Status



Device	Status	Comments
Source	65mA extracted @25kV extraction voltage, 7.5Hz, 500us	Einzel lens at "correct" polarity.
Pulser		Rebuilt using BNL design

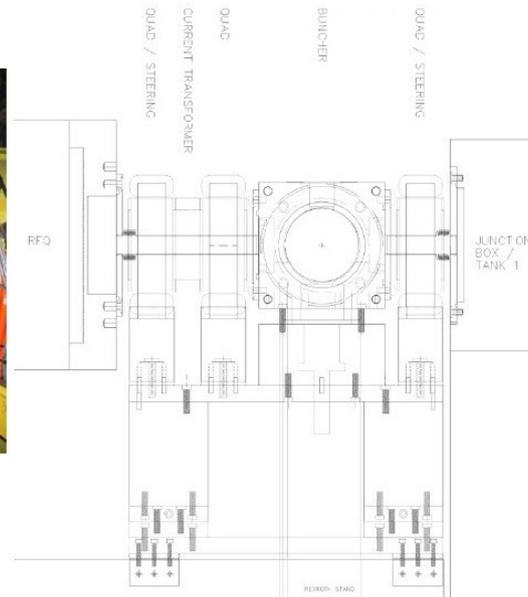
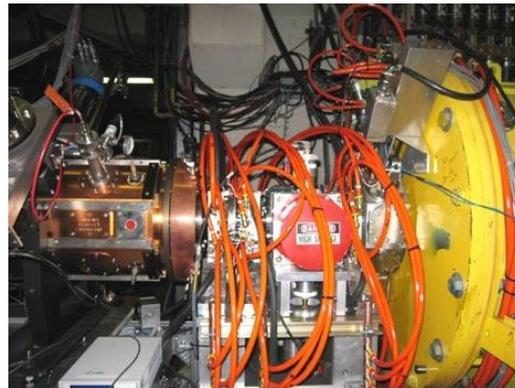
LEBT Status



Design change

Device	Status	Comments
Power for solenoids		Off the shelf supplies (500A)
Correctors	Bdl=186.5 gauss inches	Vendor sought
Einzel Lens		Beam shot at it at >35kV. No sparking
Pulser for Einzel	Waiting for spec sheet.	Behlke switch \$11.5k.
Solenoids		3D drawing done. 2D will take another month Need to discuss mounting
Toroid	2 nd one before solenoid 2	Cannot be inside tank

MEBT Status



Device	Status	Comments
Quads	Have laminations vendor. Simulations being checked at TD	\$30 to 40\$k per magnet
Buncher	Buying from Japan with BNL	Maybe
Power for quads	Must have specs ok from (TD)	Use linac quad supplies?
Power for buncher		Use present buncher supply in the line.

RFQ Status

- PO sent on 19 May 2010.
- Some modifications to toroid placement.
- PS for RFQ is here. Tops need to be chopped off to fit in area outside test area.
- Source test area has been cleared.

Test Stand

- Room has been cleaned up.
 - After beam line layout (progress?)
 - Water – Bob Slazak
 - Electrical – Jim Ranson
- Need to test LEBT before RFQ connection
 - Wires, toroids at the end of the LEBT, same position as the RFQ.

Safety

- When can the beam line layout in test area be done?

Controls

- Mike Kucera will need to be involved.

RFQ reminders

- Schempp is vendor
 - Make sure that the vanes are cleaned! See ISIS email.
 - Some cleaning details supplied by ISIS.
 - Review and verify on site mechanical design and construction (already in contract).
- Add current transformers at beginning and end of RFQ. (Save space in MEBT).
 - Once vendor is finalized, we have to design “ends” of the vacuum structure.