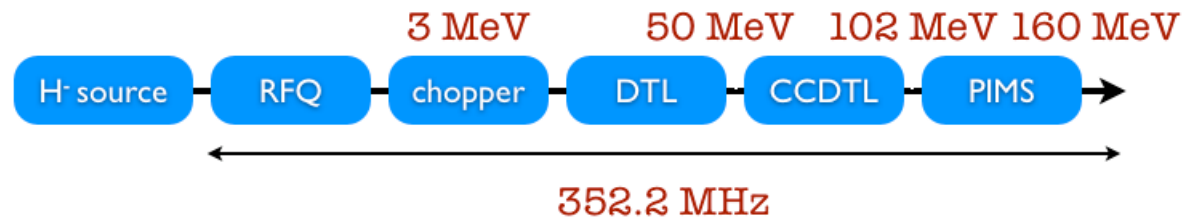


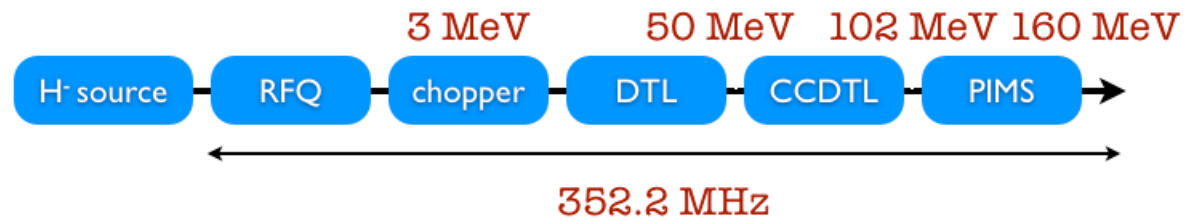
Linac 4 Instrumentation in Intertank Regions

U. Raich

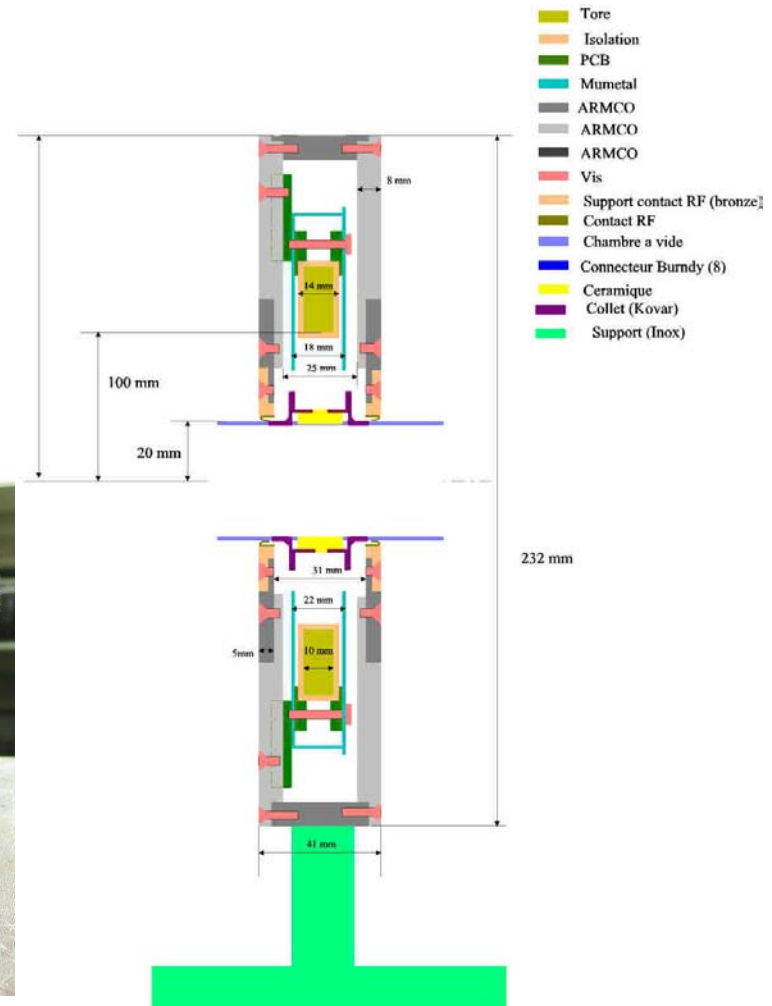
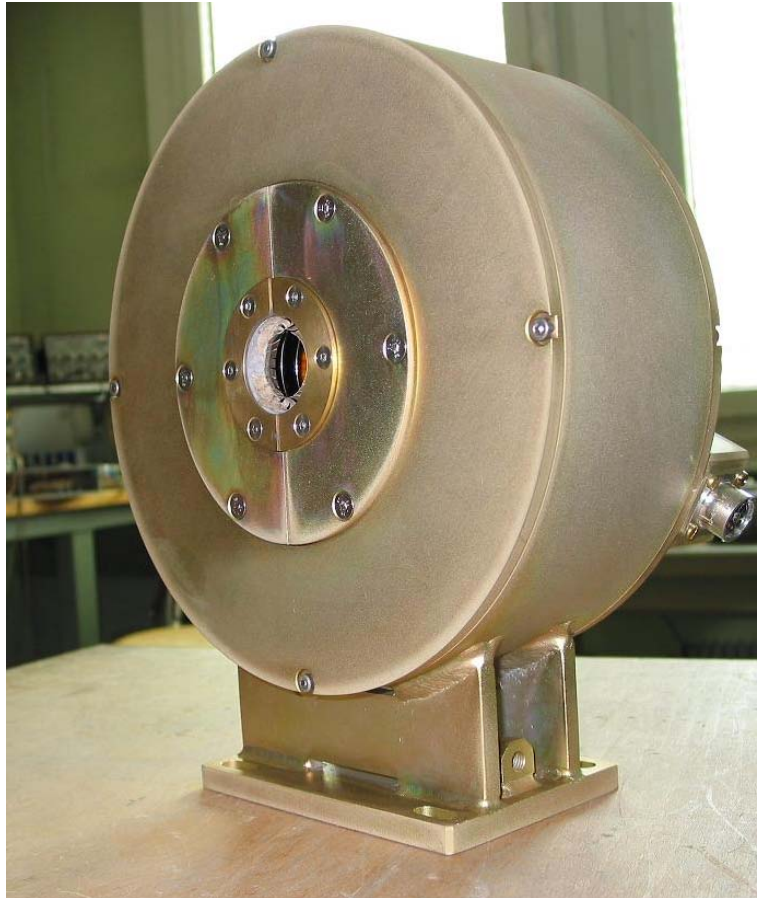


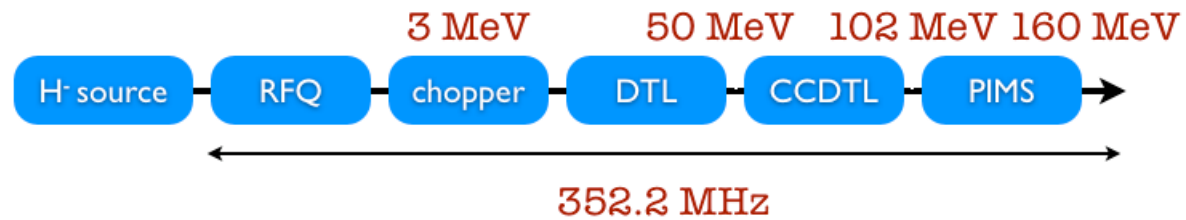
Instruments in the intertank regions

- DTL:
 - Tank1-Tank2: BPM integrated into EMQ
 - Tank2-Tank3: Steerer and BPM
 - after Tank3: SEMGrid, Trafo, BPM
- CCDTL:
 - after Module 1,3,5,7: BPM, Profile (Sem,Wire,S,W)
 - After Module 7: BCT in addition
 - After Module 2,4,6: BPM
- PIMMS:
 - After module 2,4,6,8,10: BPM
 - After module 3,5,9: W,S,W
 - After module 12: BPM,Trafo,SEM



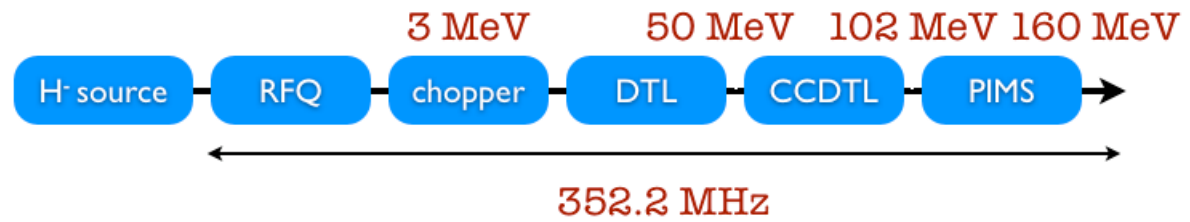
DTL Transformer





Transformer

- Similar design as other transfer line transformers
- Optimized to have a length of only 41 mm
- Only a single μ -metal shielding box
- Modified design for the vacuum chamber with ceramic
- New drawings needed -> increased cost



Technical drawing of a DTL - Pick-up Draft assembly, showing dimensions and components.

Dimensions:

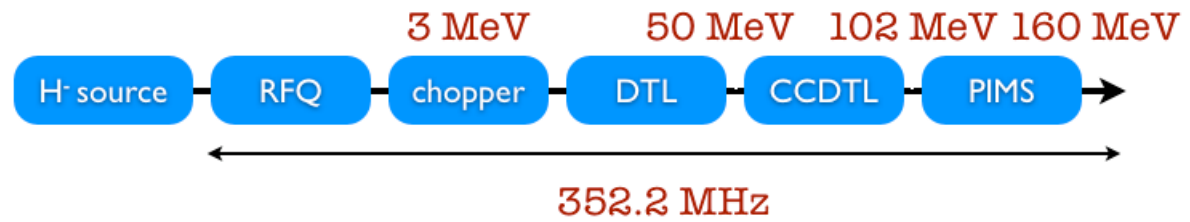
- Overall length: 178.5
- Distance from flange to center: 12.5
- Distance between centers: 130.5
- Flange thickness: 6
- Internal diameters: 103.76, 84, 65, 84, 46.8, 38.8
- Chamfer: 51, 0.5
- End view diameter: $\varnothing 108.8$ (Steerer)
- End view angle: 45°

Components and Labels:

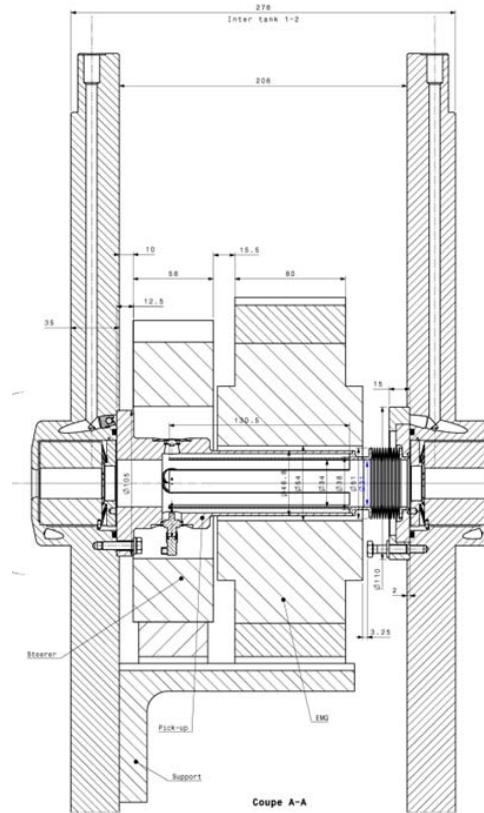
- Coupe A-A
- Coude SMA (Huber+Suhner)
- Passage ceramique CERAMTEC 15310-03-W
- Coupe B-B
- DTL - Pick-up Draft

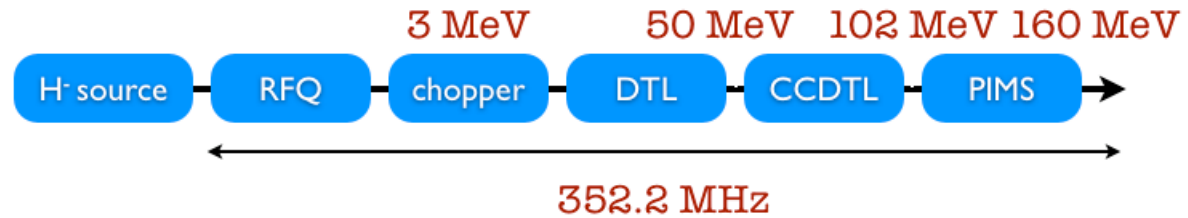
Footer:

Yves CUVET 02/10/2009



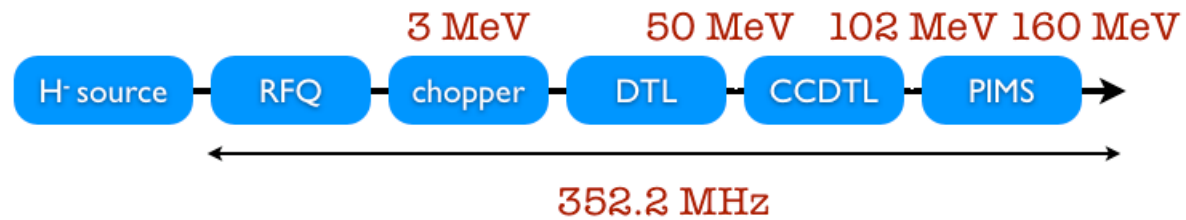
Integration EMQ and BPM



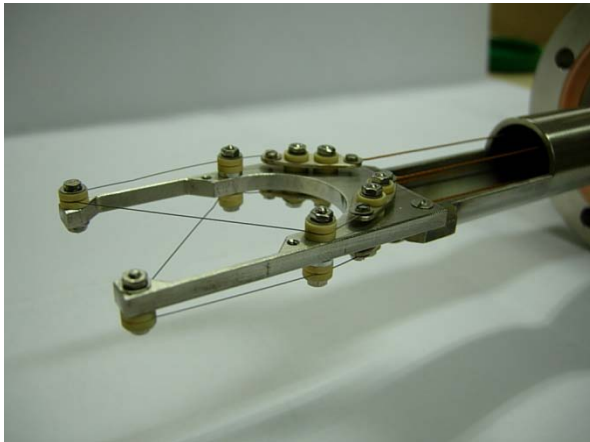


SEMGrids

- U-shapes Grids
- One mechanism per plane
- Movement is interlocked



Wire Scanner



- Original design from LPI
- Mechanically adapted for Linac-4
- Has been mechanically tested in the lab
- New motor control based on PLC foreseen
- Same ADC as SEMGrids for signal acquisition
- 9 wire scanners in total will be built (2 for chopper line)