FREIA Status Report

Follow-up Meeting UH2015/06 (vertical cryostat, Gersemi)

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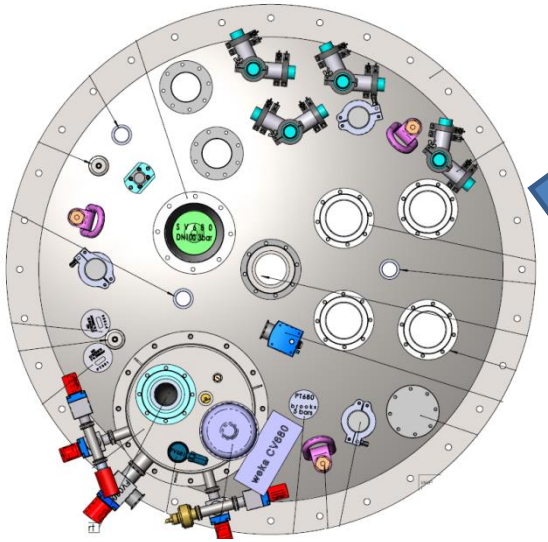
Ongoing work at FREIA

- Working on the interfaces for the new TLs
  - LN2 line modification
  - TL from ICB to ESS CM
  - Two (2) exhaust TLs from CM to FREIA's recovery system
- Ongoing discussions with CERN regarding the magnet and the cavity inserts
- Preparing HNOSS for the arrival of Germaine (double spoke) with power coupler in August
- Testing of the 2nd RF power station

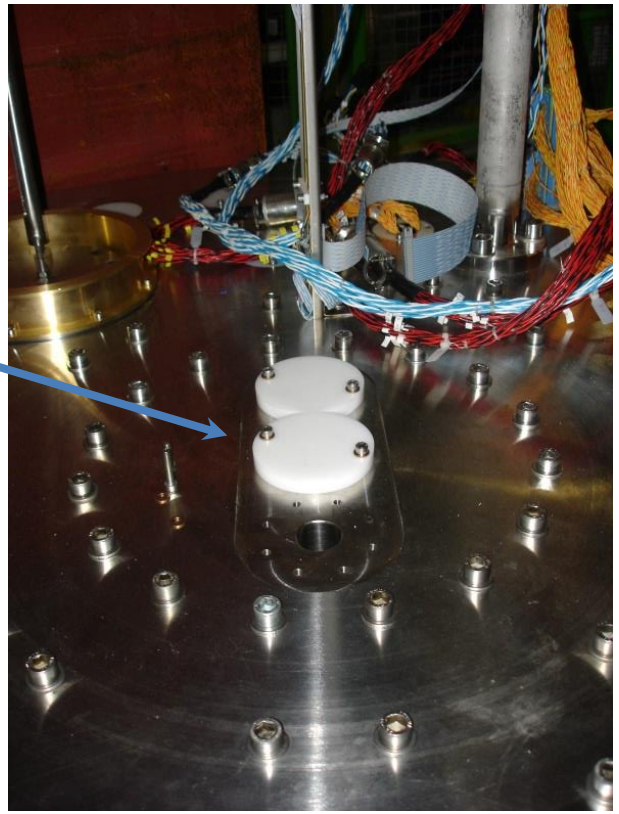
Input from Magnet Workshop at CERN (1/3)

- No need for 80 K measurements: no need to redefine piping to accomplish this temperature in the VCS
- Need more openings in the top flange and in the λ-plate



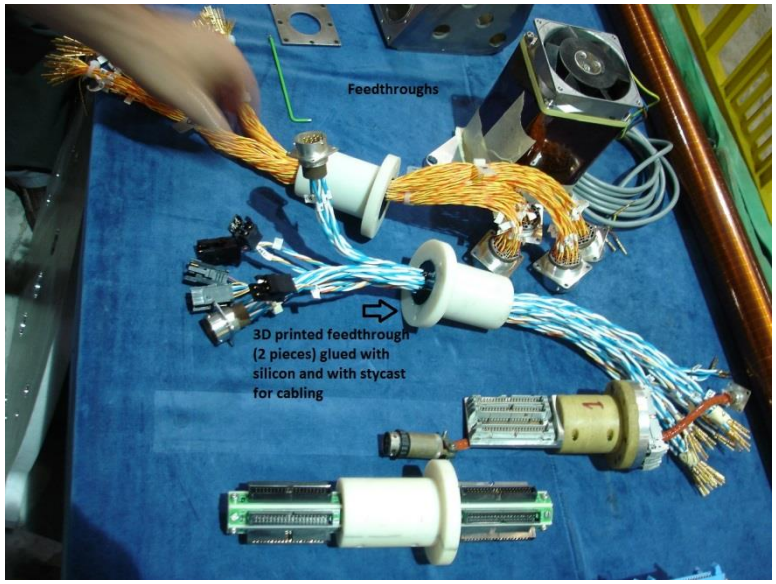
Missing
- burst disk
- mole shafts (x3)

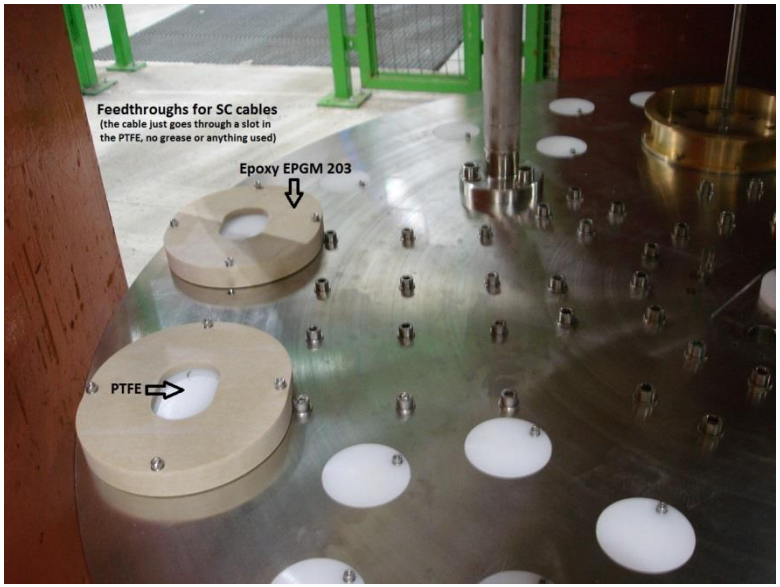
In general, add as many feedthroughs as possible (on both top flange and through λ-plate)



Input from Magnet Workshop at CERN (2/3)

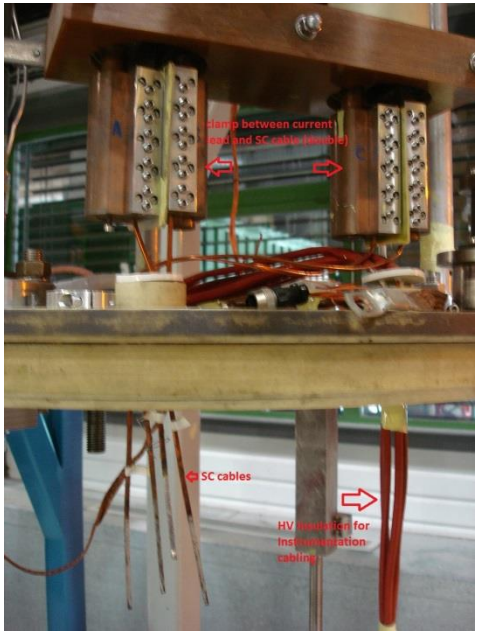
- The weight of the insert is very important
  - The crane will be upgraded to max. 7 ton
    - The magnet weight is 5.2 ton
    - Thus the insert containing all equipment (current leads, connectors, valves, etc) **must** be lower than 1.8 ton
- The flatness of the round collar where the λ-plate sits and the λ-plate itself (0.1 mm) is an issue
  - For the round collar first weld and then machine
- The feedthroughs are also an issue and grease must not be used





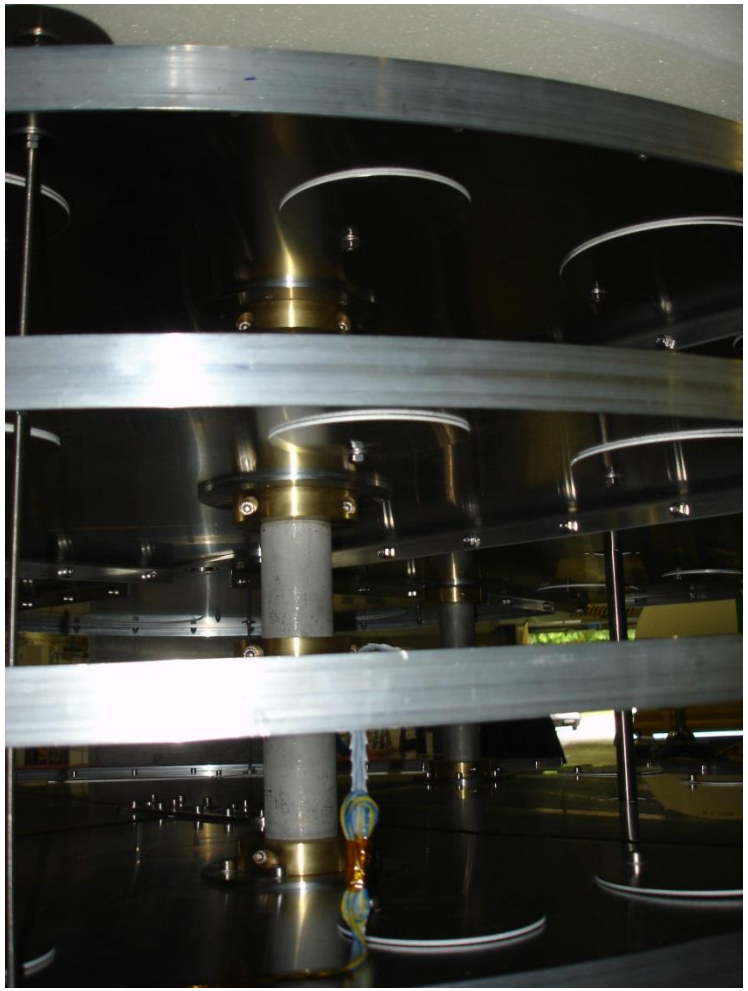
Input from Magnet Workshop at CERN (3/3)

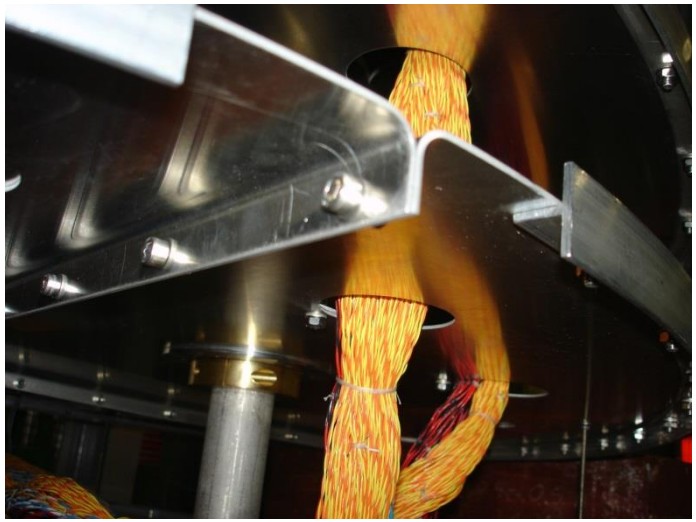
- Because of necessary HV tests for the magnet:
  - All equipment in contact with magnet and ground **must** be able to withstand 500V, but have to be tested at 3 kV for at least one minute
  - Proper HV insulation is needed
  - It **must** be possible to remove all connections from the top of the insert
  - All subsystems (VB, VCS, heater,…) must be properly grounded

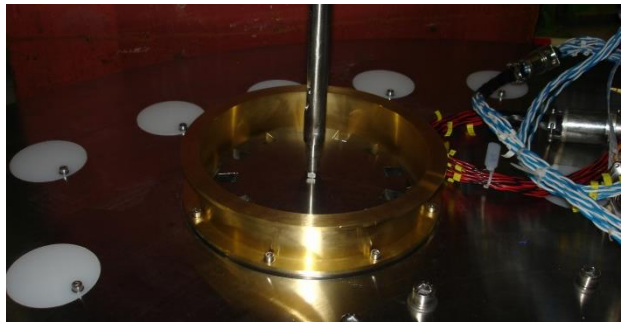


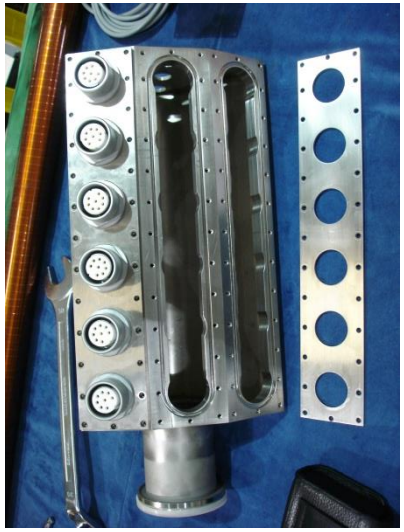
Some Pictures from SM18 (1/2)

Some Pictures from SM18 (2/2)









Q&A