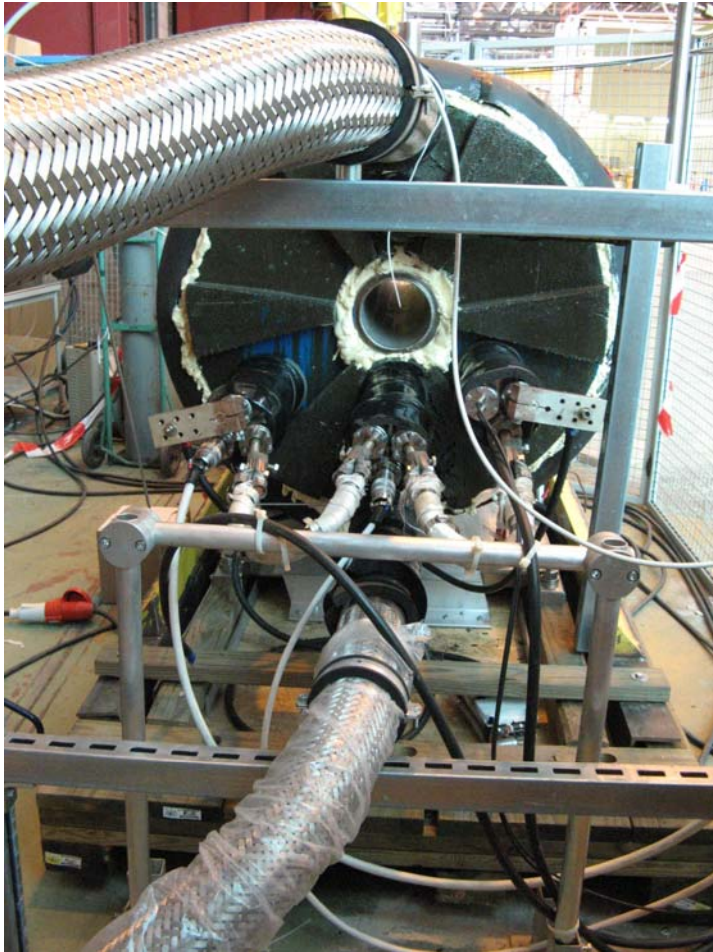


MERIT Solenoid

Work log – Tuesday April 24th

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Solenoid test – building 180

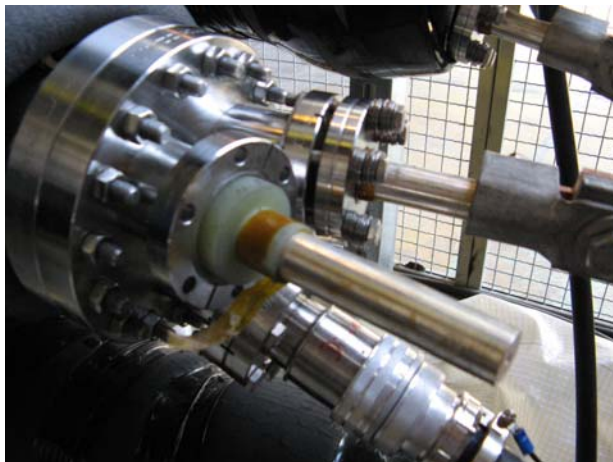
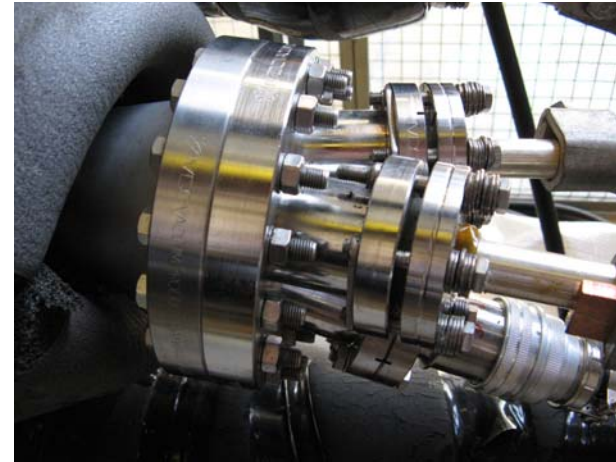
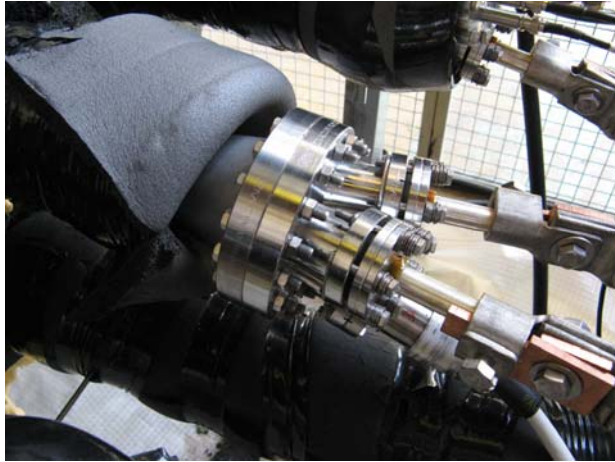


- Test setup
- During the cool-down done in week-16 LN leak was detected in the middle feedthrough and slight gas leak in the left feedthrough
- Extended icing prevented detecting the exact location of the leaks
- The magnet was then heat up to 324-337 K

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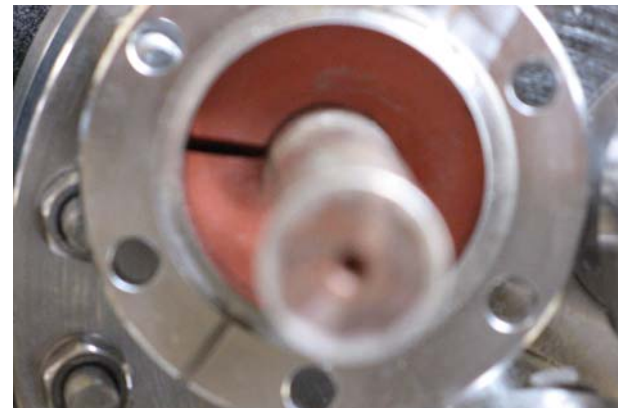
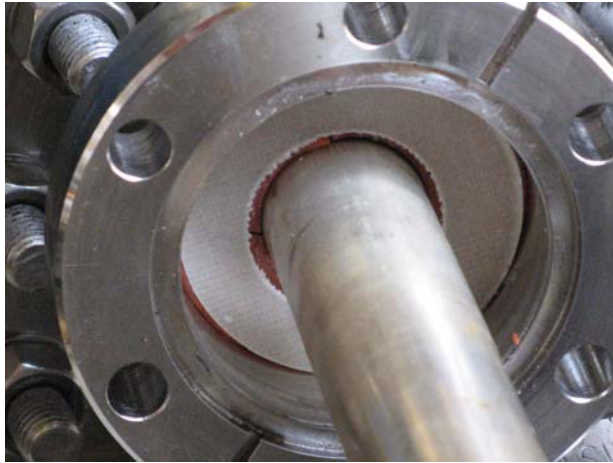
Middle feedthrough – left lead (1)



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Middle feedthrough – left lead (2)



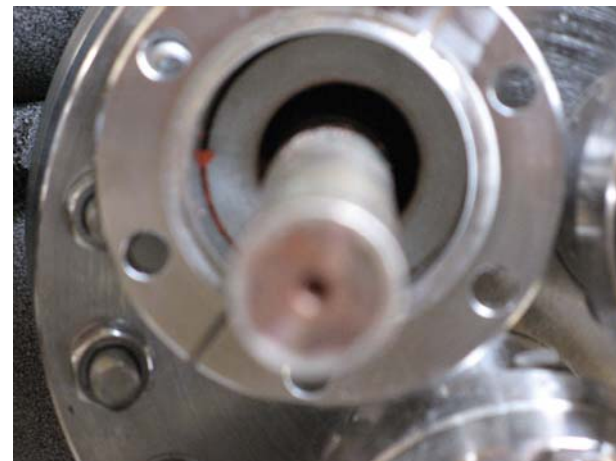
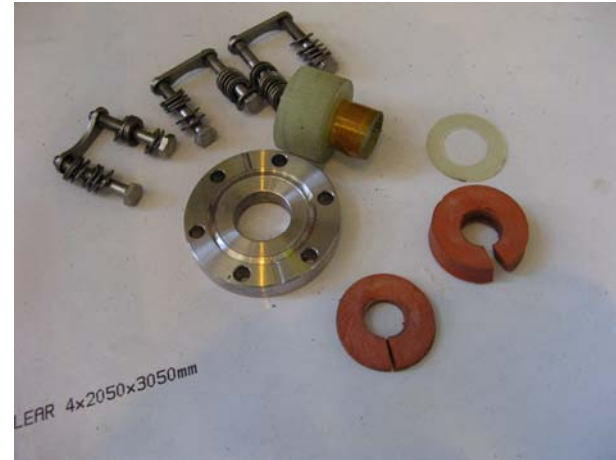
Taking out the G10 and looking at the first (left) and second (right) rubber ring

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Middle feedthrough – left lead (3)

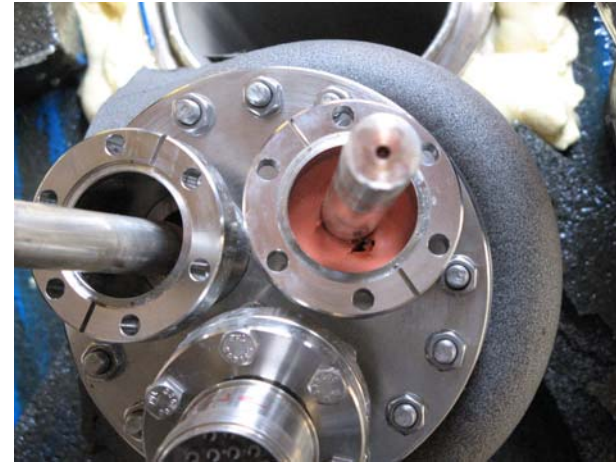
- The top picture shows all the material taken out
- Both rubber rings were broken, which I believe explains the observed leak.
- They are also quite hard and tend to brake easily.
- The current lead is well centered into the flange, and it was quite easy to remove everything without unscrewing the copper lead.



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Middle feedthrough – right lead (1)

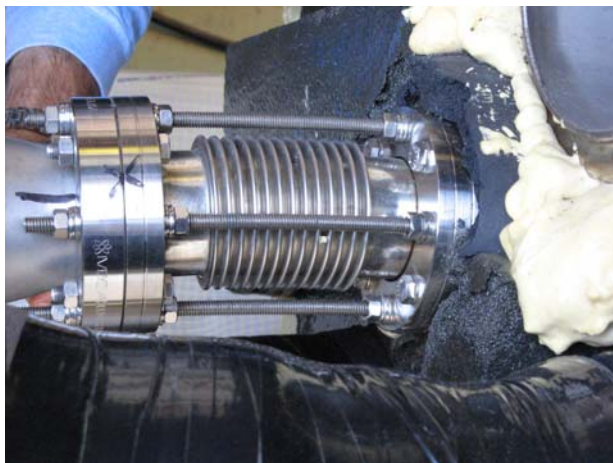
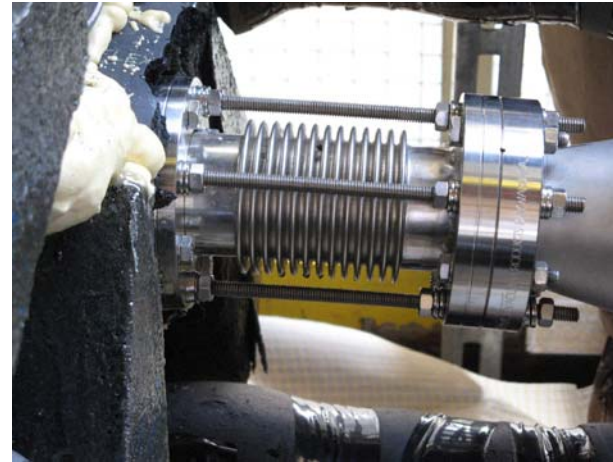
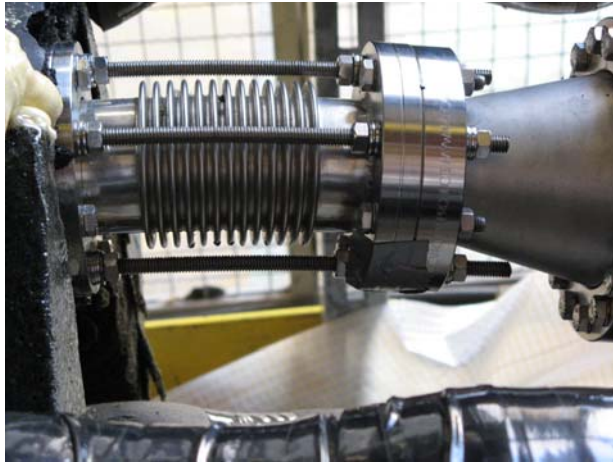


- Again the rubber ring has a hole in the inner radius
- However on the inner G10 ring it is well pushed inside the gap at the inner radius which provides the required tightness
- When everything was removed the current lead did not remain centered but was touching in the upper part

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Correcting the bend in the middle feedthrough



- Unscrewing the outer nuts from the bottom long screws part of the bend was recuperated
- However afterwards from the current leads, the left one was touching up, while the right one was better centered – kind of the opposite situation we had before.

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