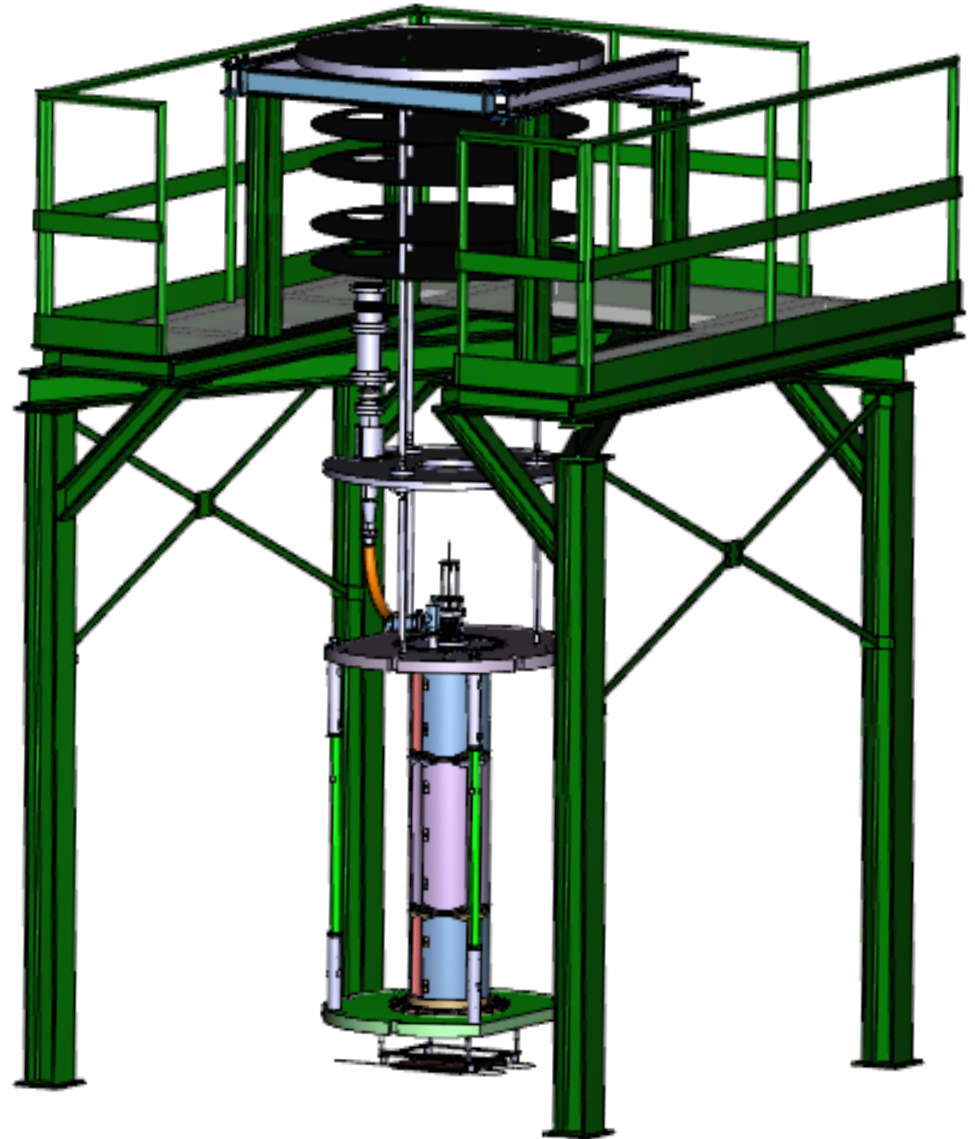


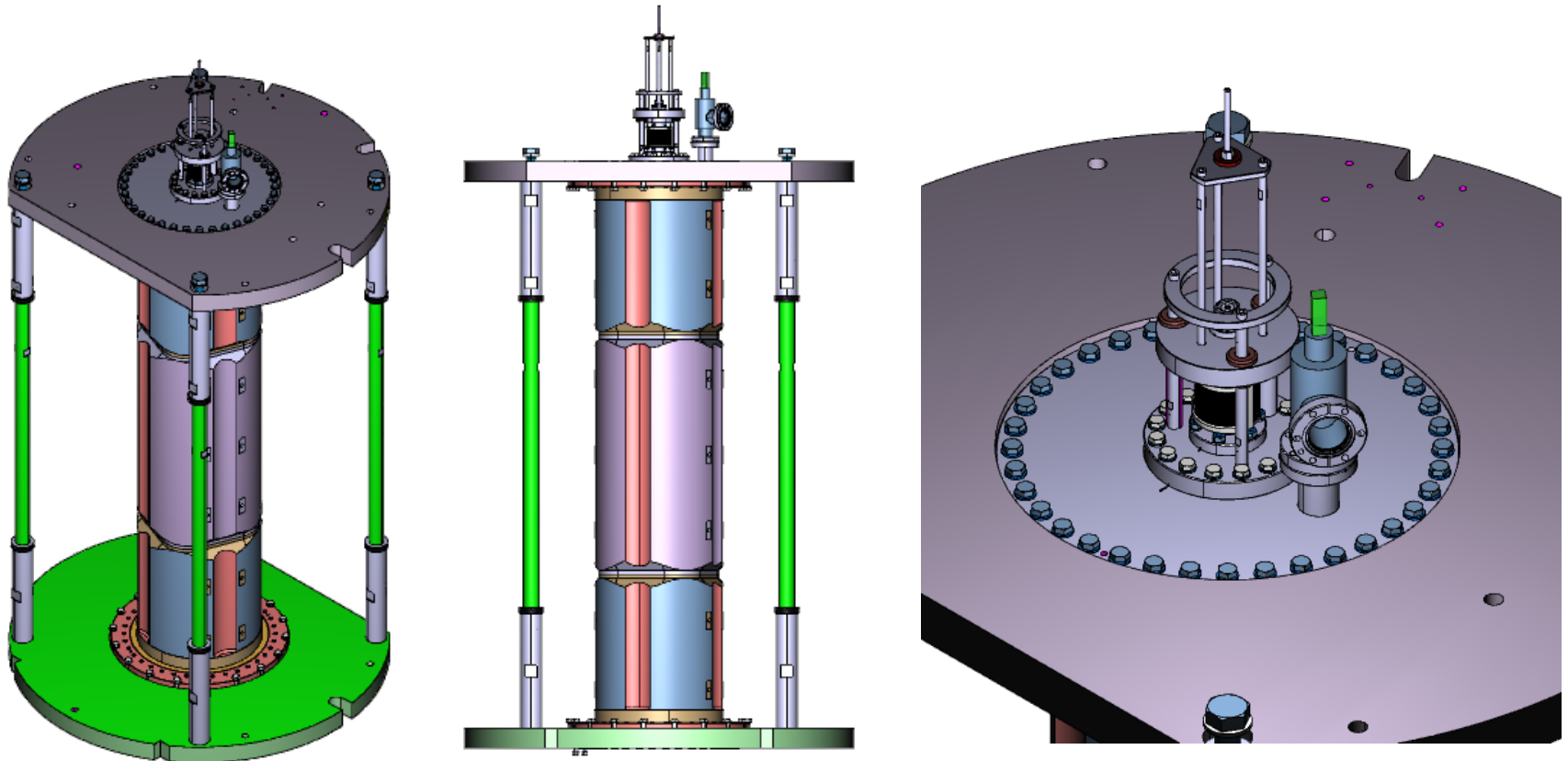
# WOW SM18 Insert Preparation

**Alick Macpherson**  
BE-RF-SRF



# Cavity Unit: State prior to insert assembly

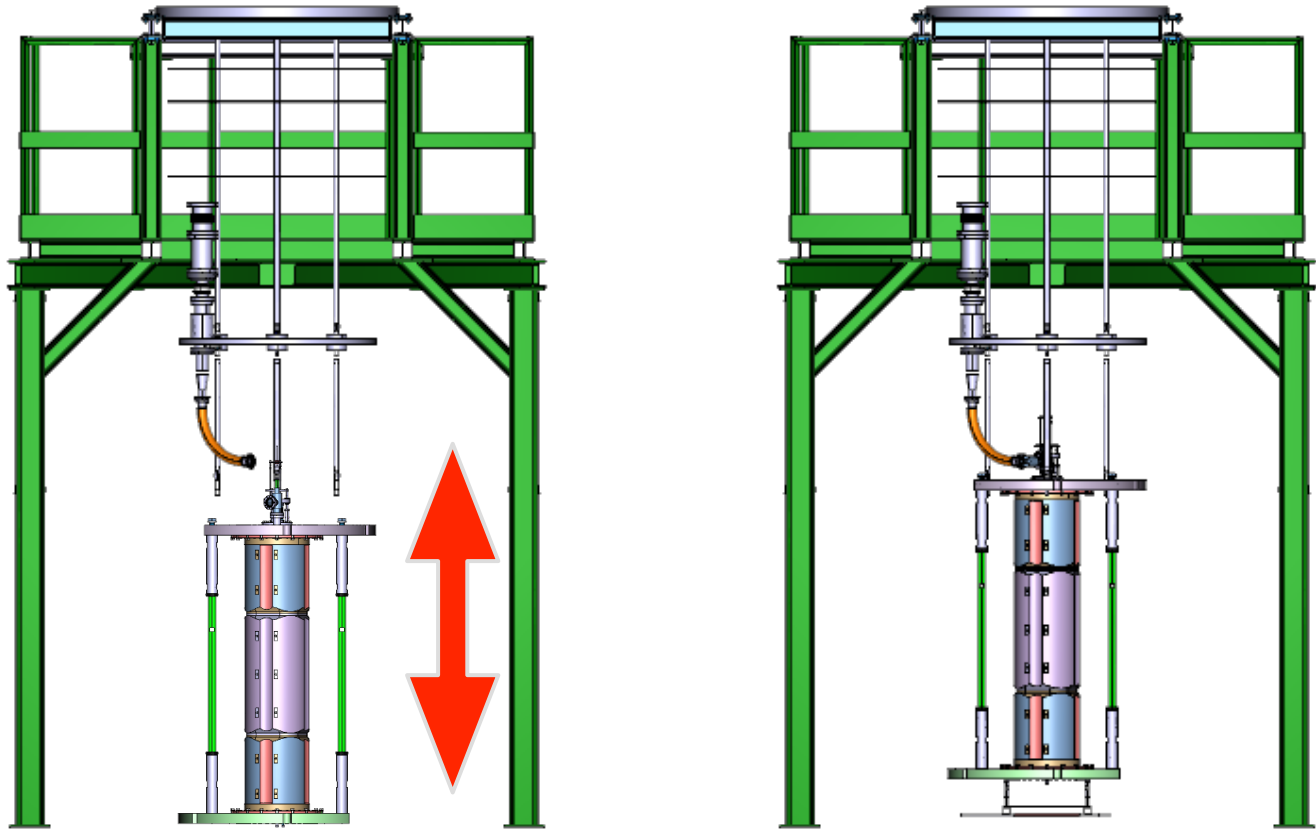
- **Rigid structure: preassembled in cleanroom**
  - Cavity sealed with N2 atmosphere inside (1 Bar)
  - Vacuum line closed with all metal angle valve
  - If mobile coupler used => mounted in cleanroom
    - Needs to be protected when transported



# Cavity installation on insert

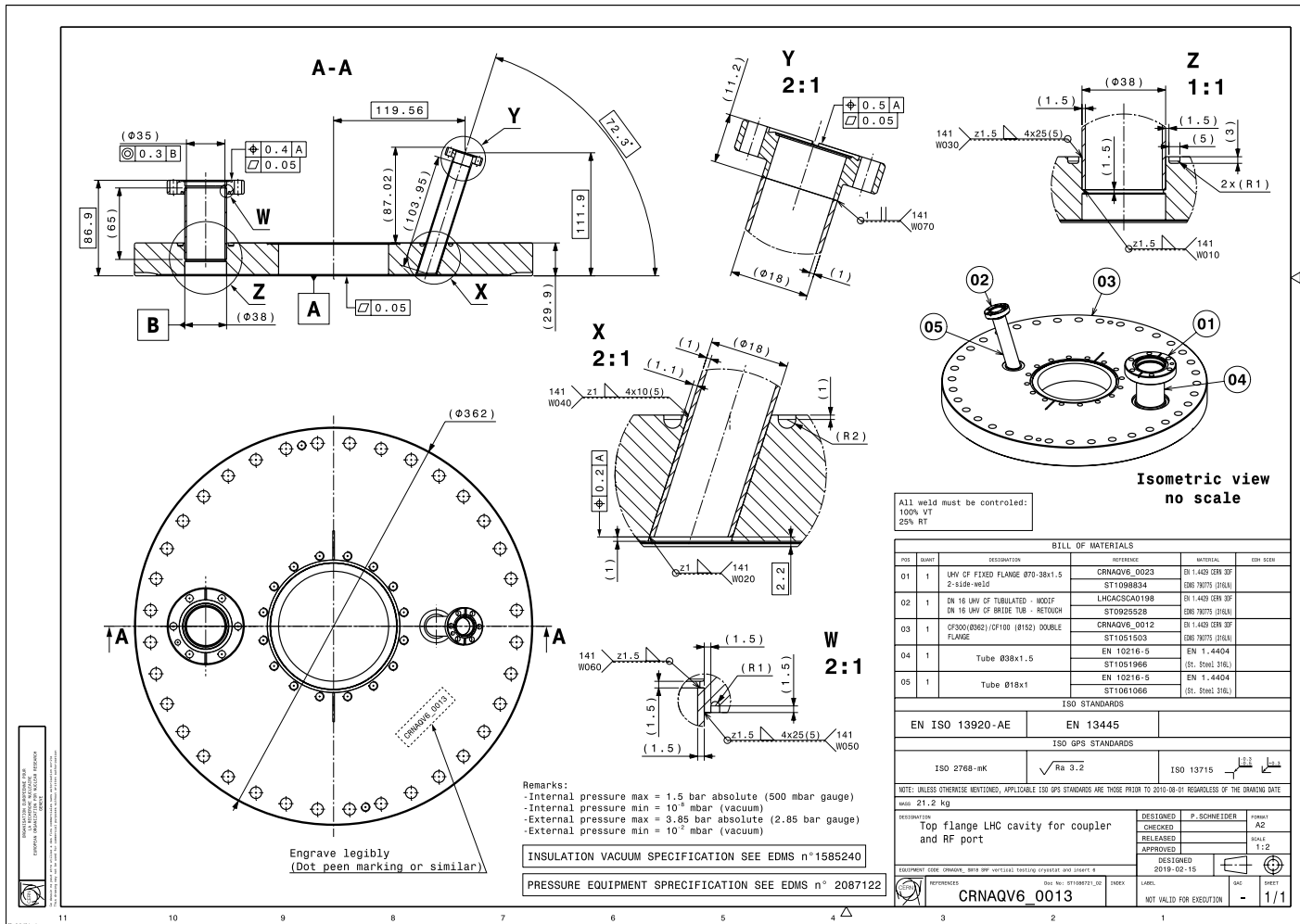
- **Assembled vertically on insert**

- Cavity positioned under insert and raised vertically.
  - Cavity required to be on chariot at right height
  - Gerber capable of 500kg in vertical lift
    - Cavity unit/Gerber interface is at bottom
- Pumping line connected using mobile cleanroom

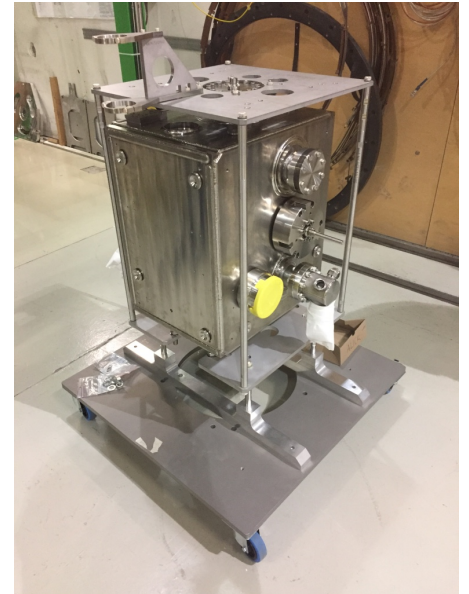


# Beam port flanges

- Top: Custom CF300/CF100 flange => zero length transition
- Bottom: Standard CF300/CF16.
  - DN16 feedthrough for pickup

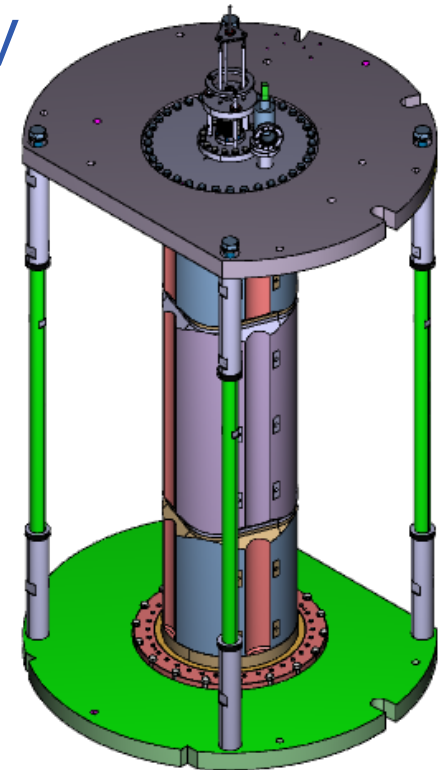
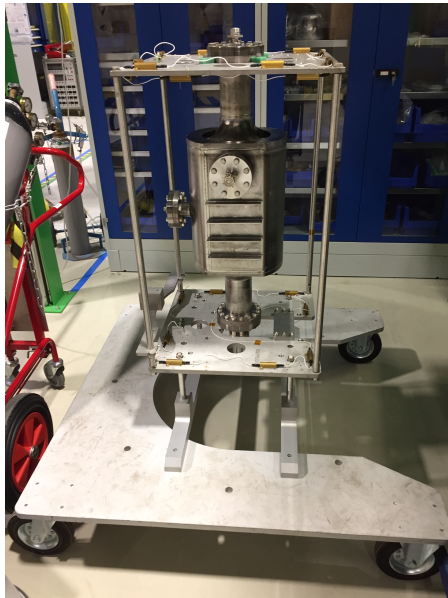


# Assembled cavity manipulation



# Questions

- Assume cavity comes to SM18 in horizontal position
  - How to rotate? Rotation table or WOW specific trolley
  - If rotation table?
    - need to it add interface to cavity unit
    - need clear lifting points both in H & V
  - If use chemistry trolley:
    - Is height compatible with insert?
    -



# Cavity insert

- **Assembly height matches cryostat depth**
- **Space for full set of thermal diagnostics**
  - Can control and measure thermal gradients in cryostat

