Status and developments of the dummy septum TPS15 for the CERN PS Multi-Turn Extraction

Current Proposal

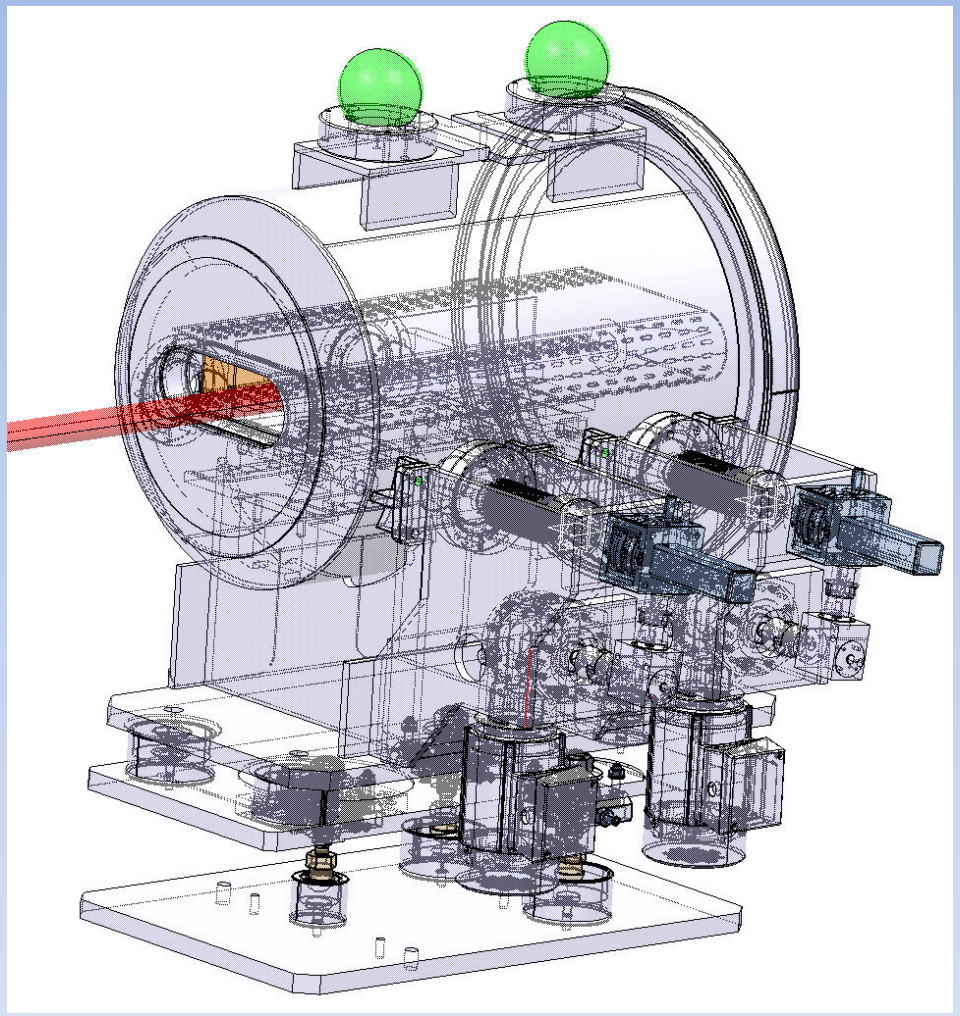
The new dummy septum, 40 cm long, 3.88 cm high and 3 mm thick blade inside the beam tube.
Tungsten

The wall thickness of the vacuum chamber is 4 mm, and the material is stainless steel 316 LN.

Diameter 394/402mm (Wall thickness 4 mm)

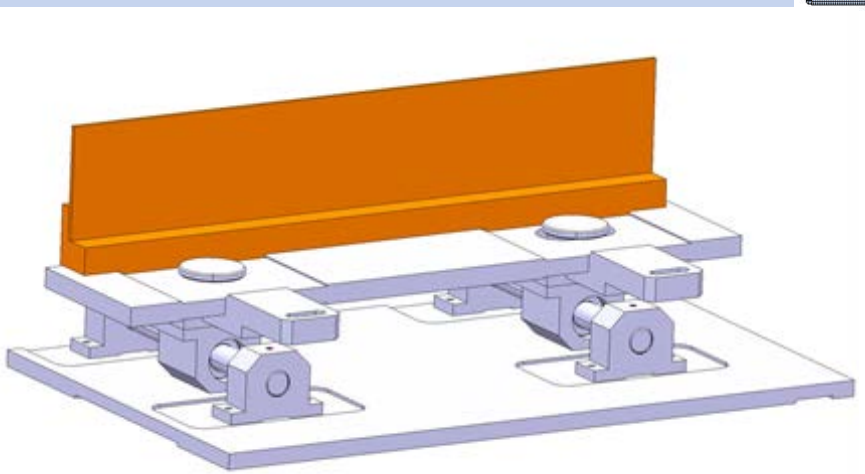
Main tank length 644mm and downstream chamber of 410mm which in total is 1054mmfor the complete assembly.

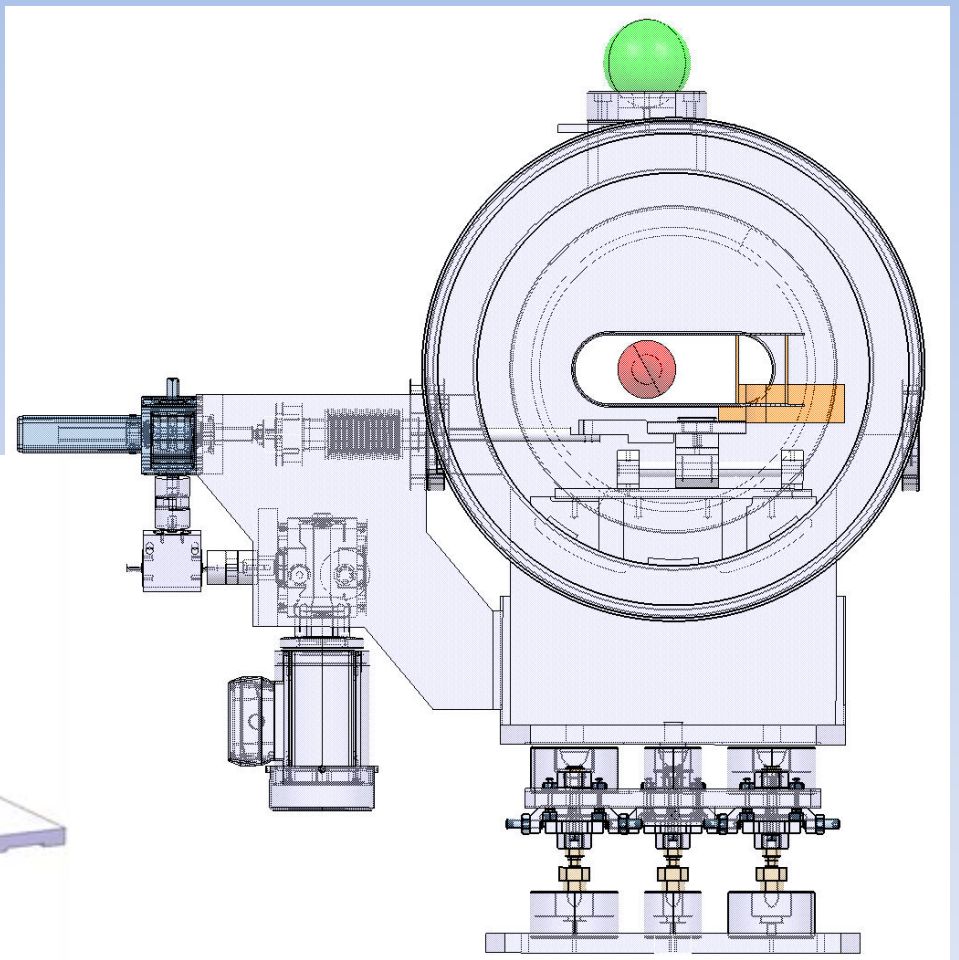
All flanges are OD 332 mm and have maximum available aperture in horizontal and 70mm in vertical



Detail of Assembly

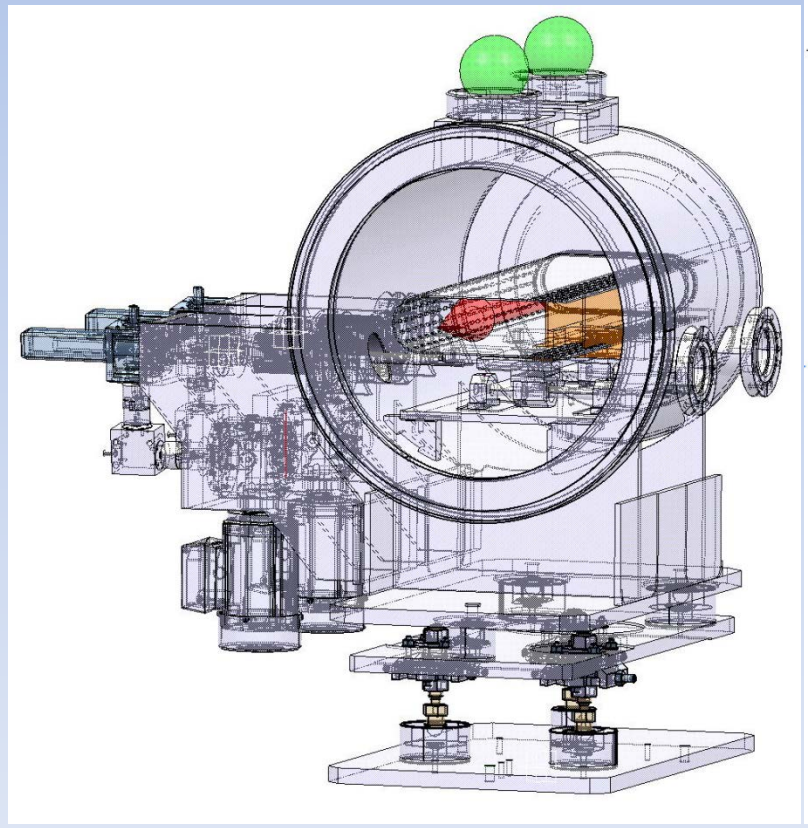
Sferax type stainless steel bearings,
2 precision shafts

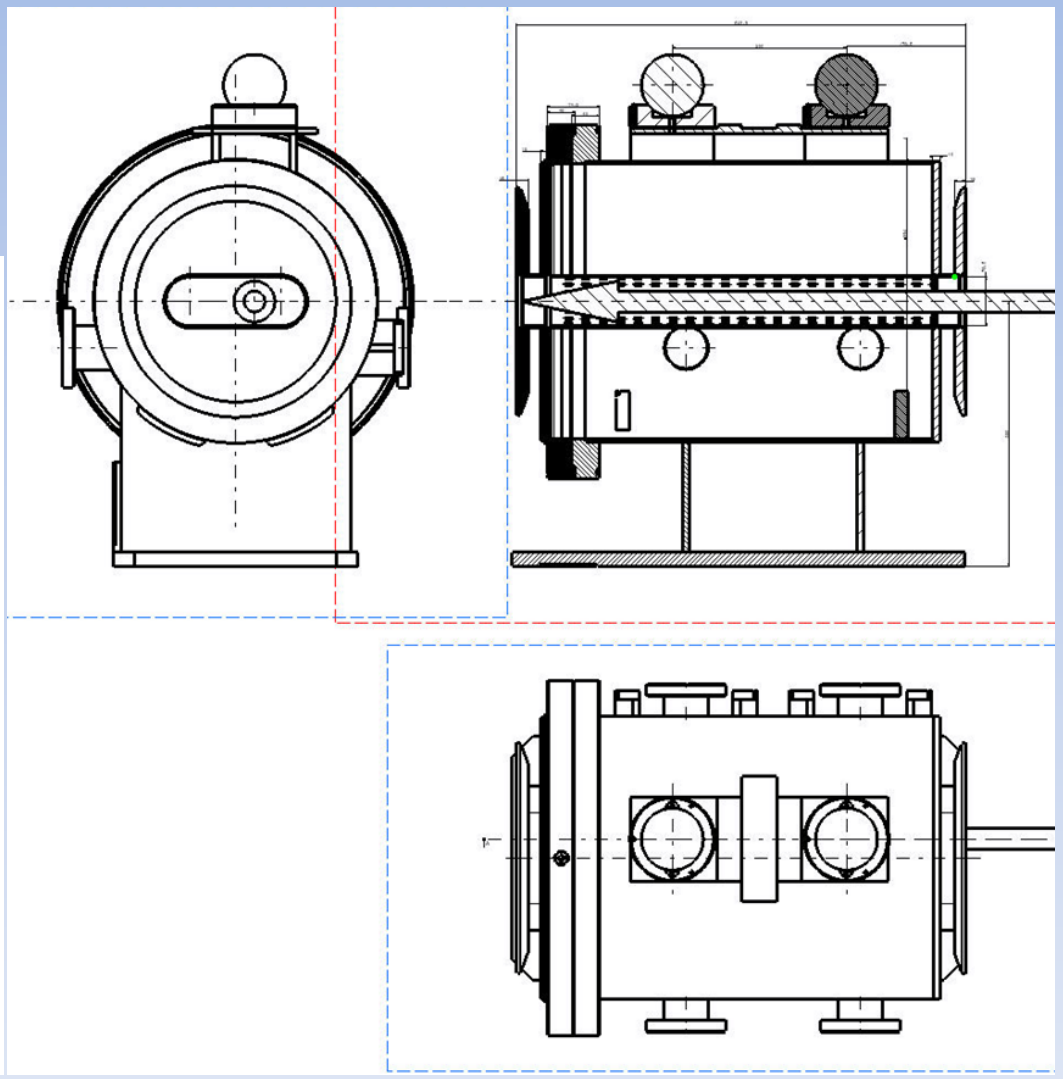




Tank Design

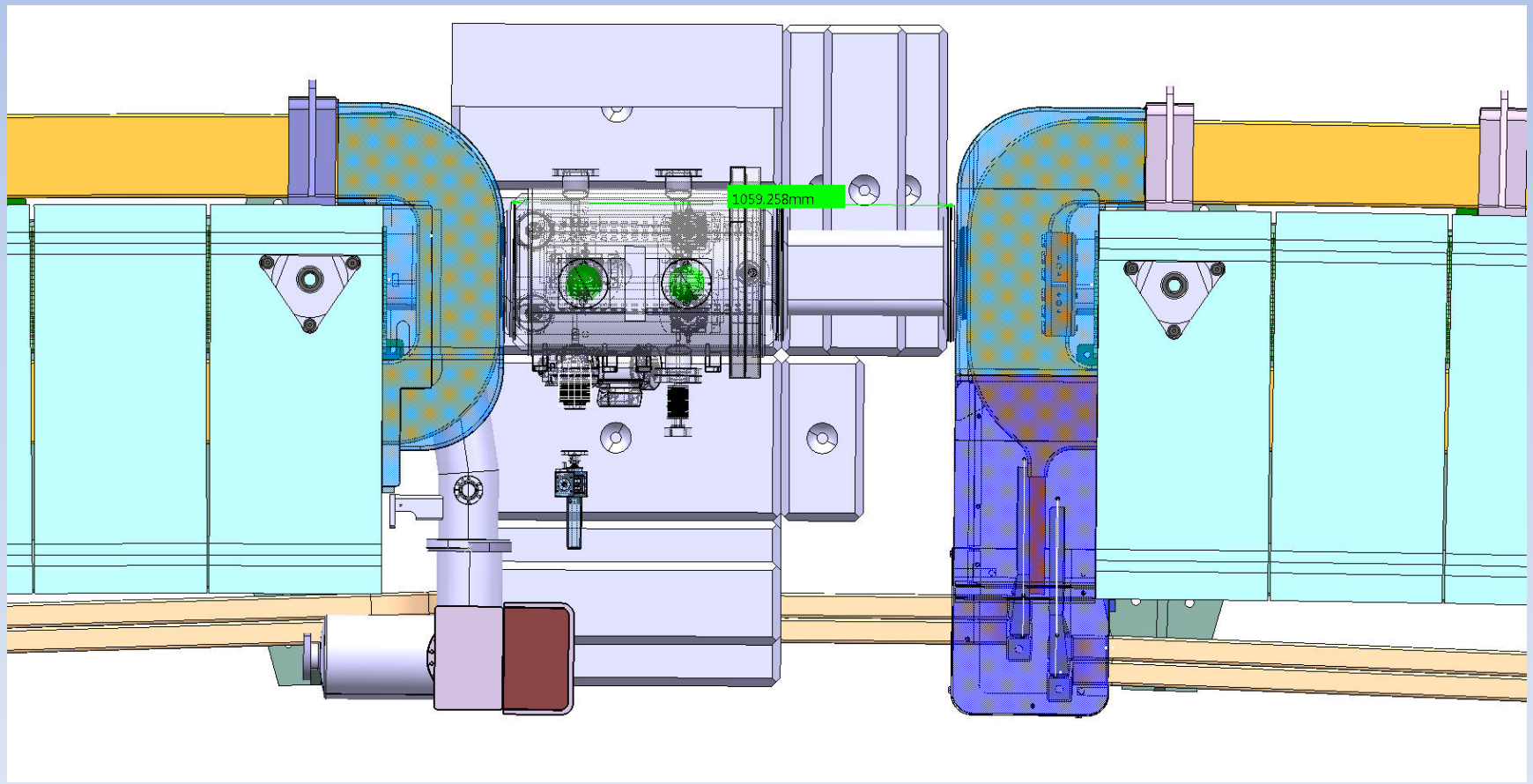
Tank dimensions have been fixed.
Downstream end of tank has full size demountable cover and upstream end is sealed.
All active mechanisms are on inside of ring.



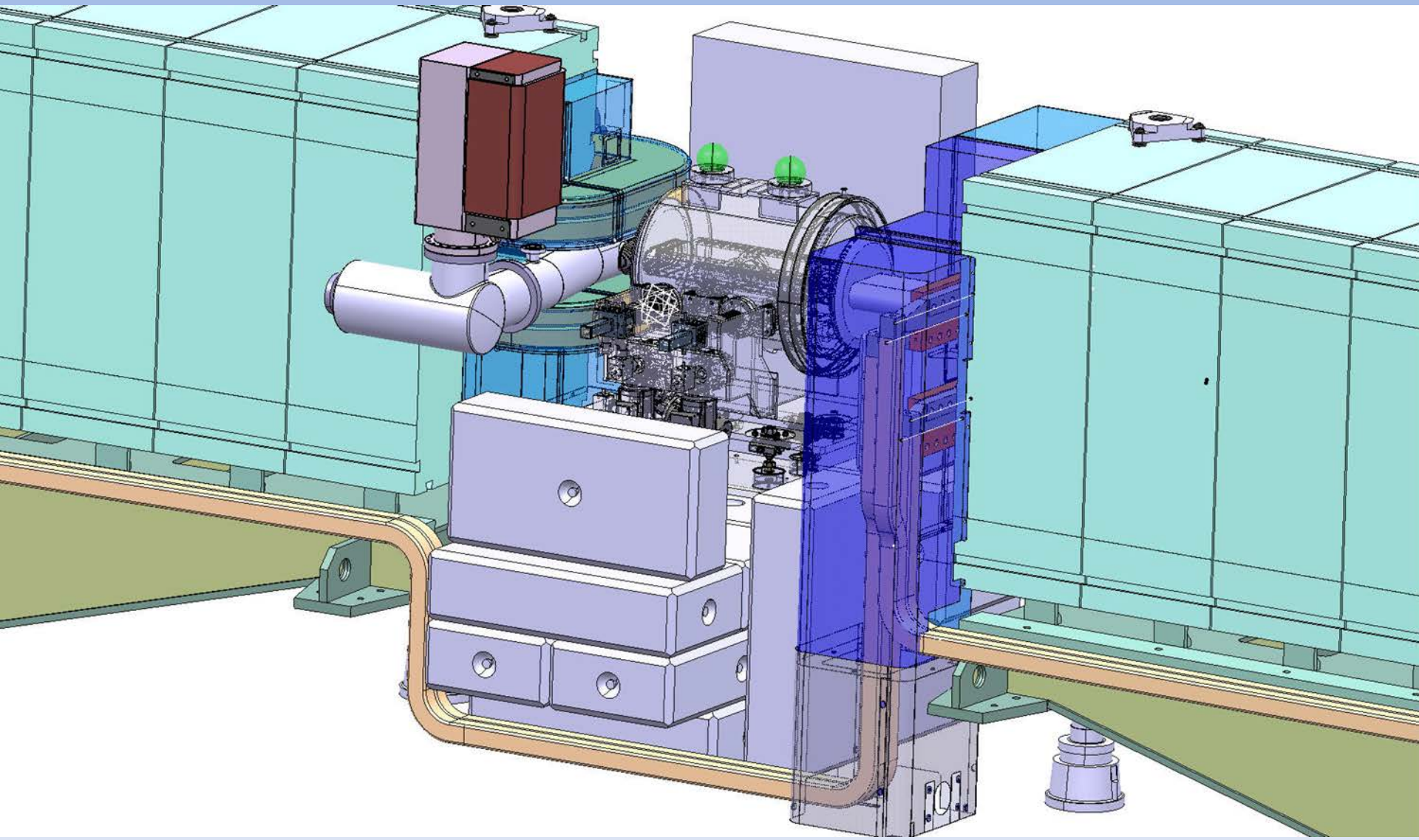


Vacuum Chambers

The 3d model in Catia/Smarteam indicates clearance between flanges of 1060mm
Conflict:
The drawing PS_LM_0040 1 E indicates a distance between flanges of 1045mm
This should be verified !!!



Integration & Shielding SS15



Summary

2 separate chamber sections-allows for access,

Cooling still under study

Standard Shielding - Perhaps some special blocks required

Displacement confirmed 80mm – 130mm (Park)

Questions ??