



# **ITS3 activities in Bari**

## **BBM6**

# BBM6 TTA - SUMMARY TABLE

COMPONENT	DESIGN STATUS	PRODUCTION STATUS
L0, L1, L2 mandrels	AVAILABLE (ver. 29/02/2024)	@Gigotti, expected by 1 month
Bending/bonding setup	AVAILABLE	
Half-rings and longerons alignment/gluing tools	AVAILABLE (ver. 17/05/2024)	@Bari, expected by 1 month
Layer-to-layer alignment/gluing tools	AVAILABLE (ver. 17/05/2024)	@Bari, expected by 1 month
L0, L1, L2 carbon foam half-rings	AVAILABLE (ver. 11/04/2024)	@CERN, expected by 1 month
L0, L1, L2 carbon foam longerons	AVAILABLE (ver. 02/04/2024, modified with holes for PT1000 wires)	@CERN, expected by 1 month
L0, L1, L2 3d printed half-rings for FPC	AVAILABLE (ver. 11/04/2024)	@Bari, soon printed
L0, L1, L2 heaters + powering cables	AVAILABLE	under production by Rui and Swissflex Microcircuits AG
L0, L1, L2 air ducts	AVAILABLE (ver. 11/04/2024)	@INITIAL, to be discussed
Beam pipe simulator + extensions	AVAILABLE (ver. 12/02/2024, from BBM4)	AVAILABLE + @Bari, soon printed
C-side air collector	AVAILABLE (ver. 12/02/2024, from BBM4)	
CYSS	AVAILABLE (ver. 12/02/2024, from BBM4)	@Gigotti, material under definition
Conical shell	AVAILABLE (ver. 11/04/2024, adapted from ITS3 assembly)	@INITIAL, to be discussed
Patch-panel	AVAILABLE (ver. 11/04/2024, from ITS3 assembly)	??
PT1000 sensors + cables	—	
Covering plexiglass	AVAILABLE (ver. 12/02/2024, from BBM4)	@Bari
Assembly support	AVAILABLE (ver. 12/02/2024, from BBM4)	@Bari

## BBM6 TTA - SUMMARY TABLE

Air ducts and Conical shell production:

- Elisa contacting INITAL for printing

CYSS production:

- in Bakelite granted 100 um precision
- in PEEK granted few hundreds um precision

Patch panel production:

- to be checked if possible in Bari

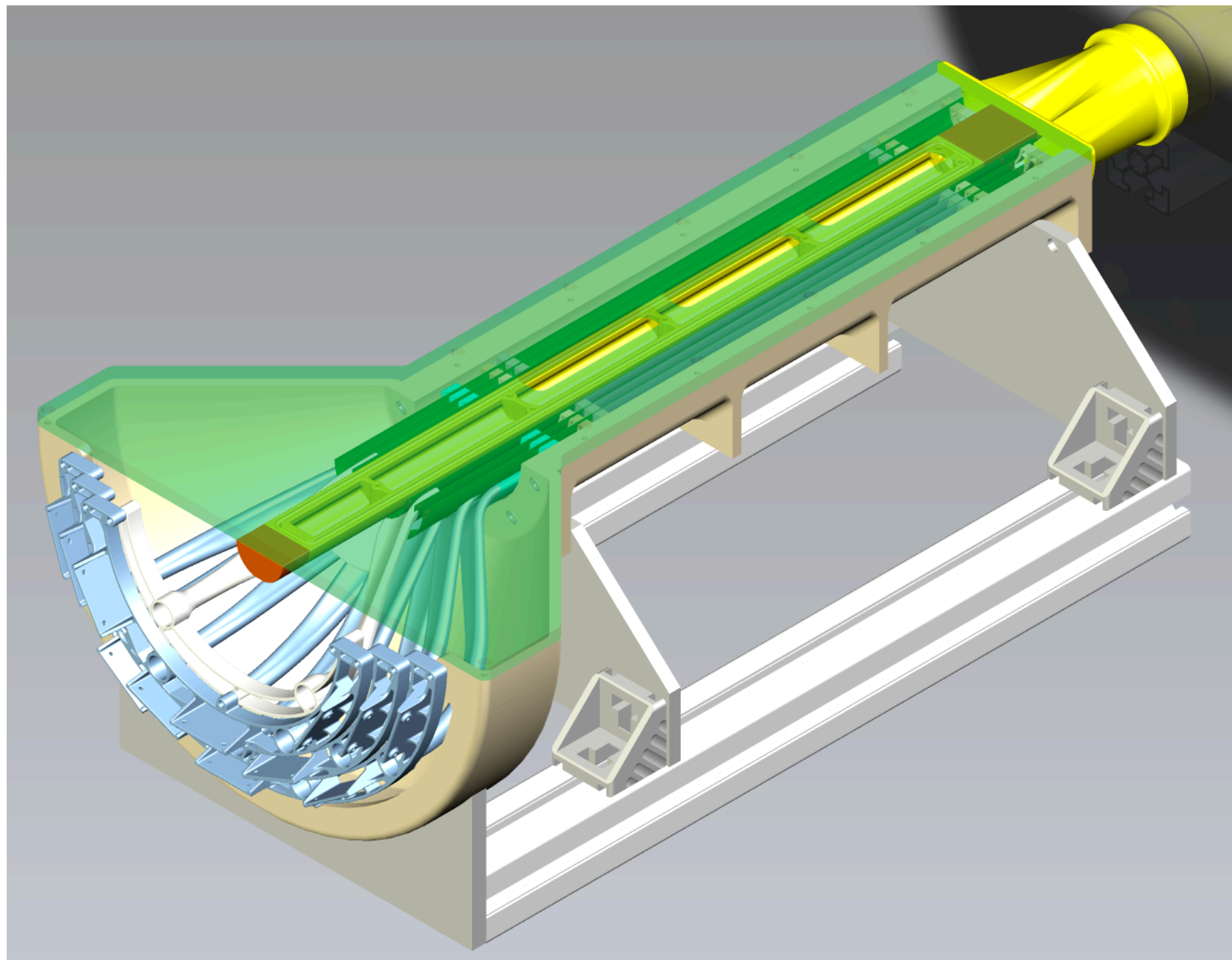
# BACKUP





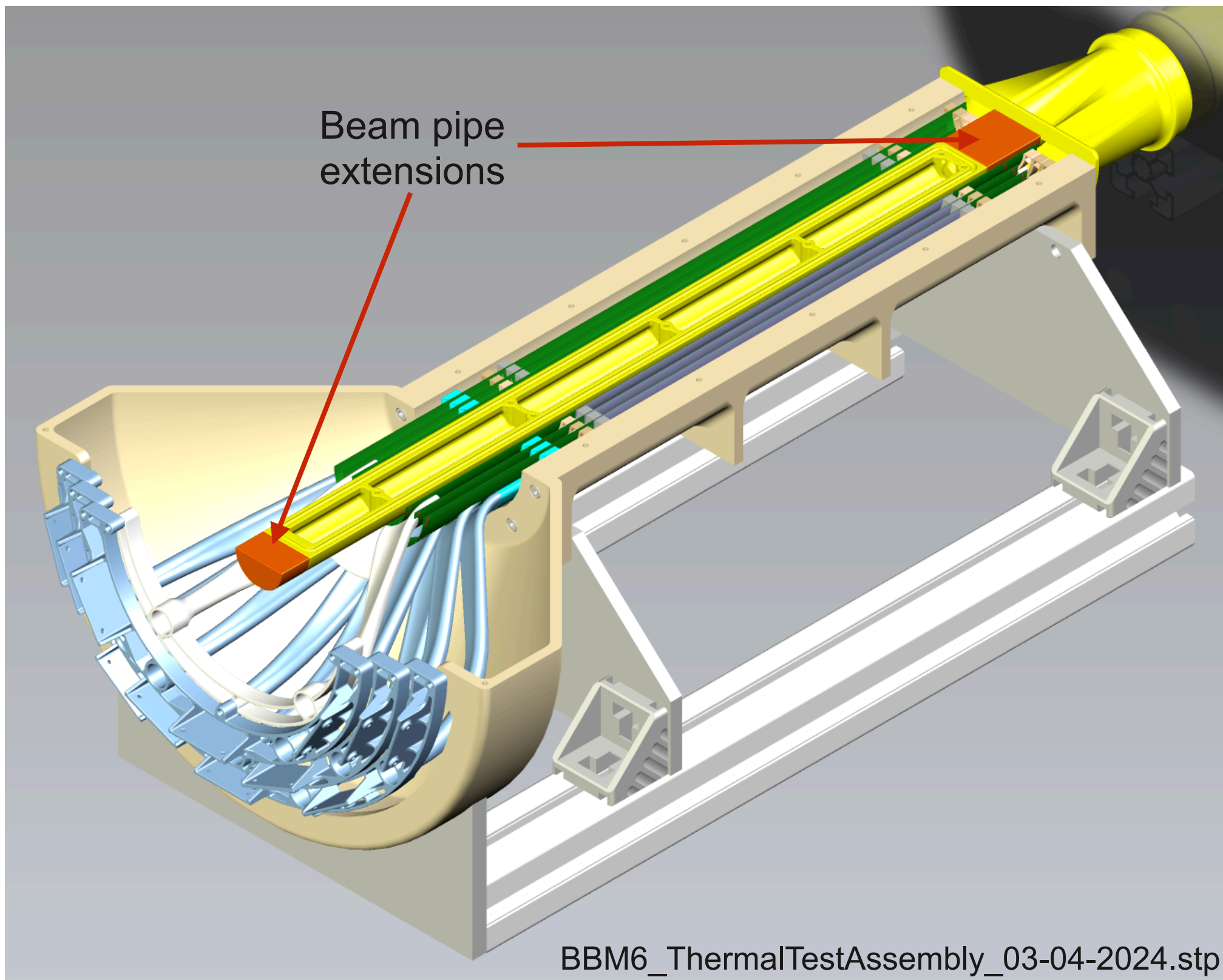


# BBM6\_ThermalTestAssembly\_03-04-2024.stp

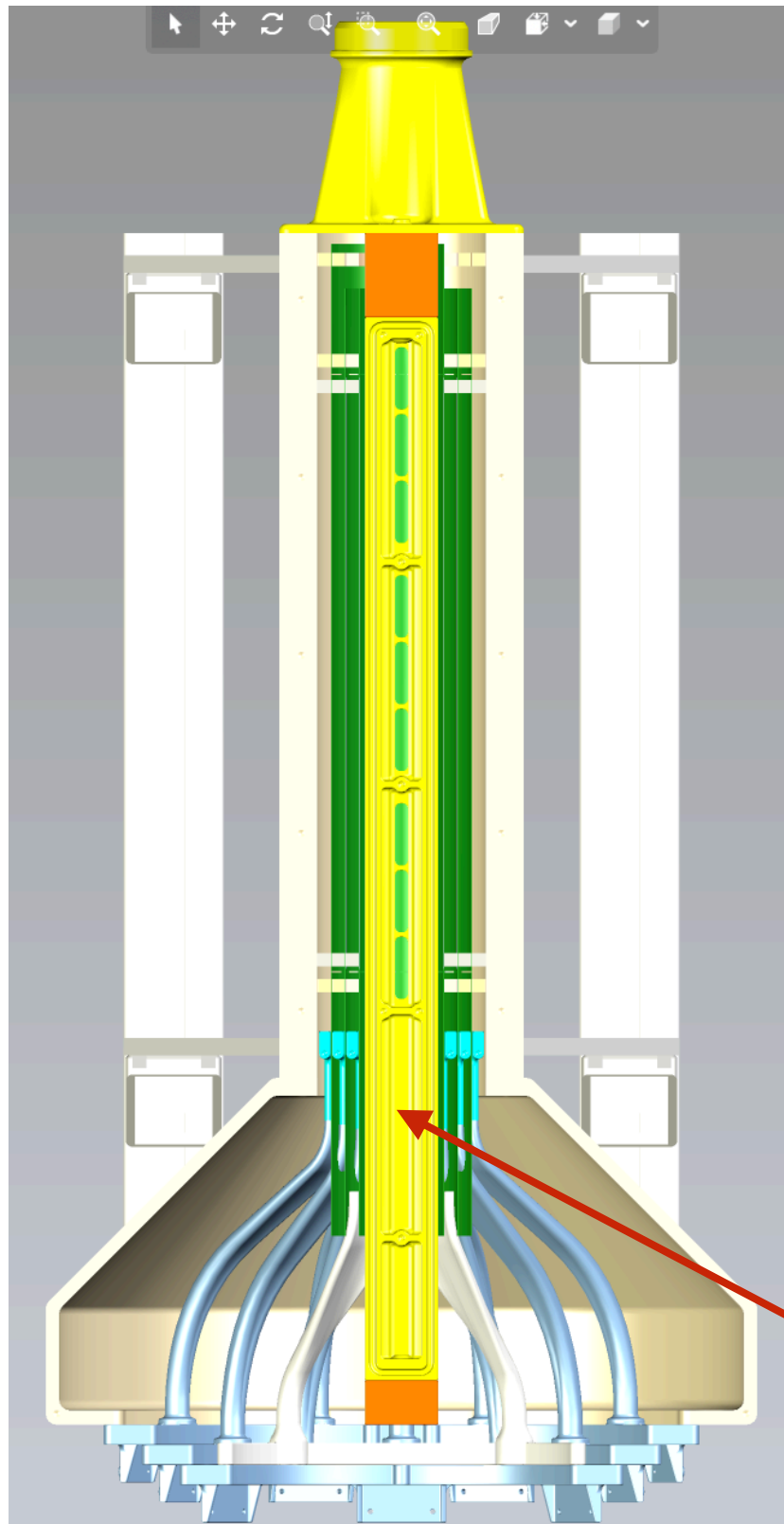




# 1) BEAM PIPE POSITION



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Is the positioning of the beam pipe (and particularly of the windows) fine with you?  
Present position is entering windows in the sensor area.

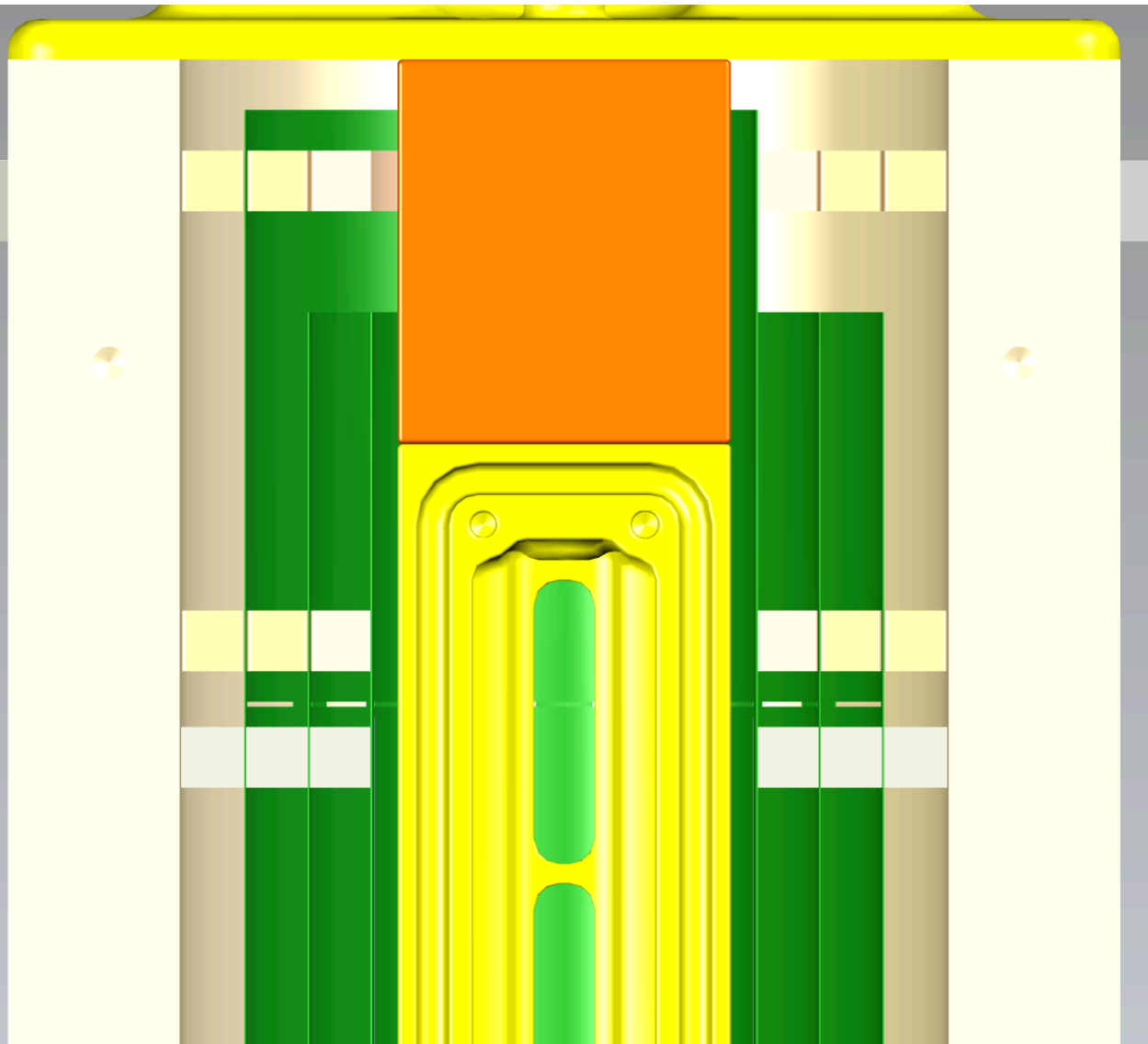
Alternative solution, if you need to have windows also in the FPC are, is to shift everything on the C-side and open windows in the last beam-pipe section.

Fixing of the extensions to the beam-pipe not yet defined in the CAD.

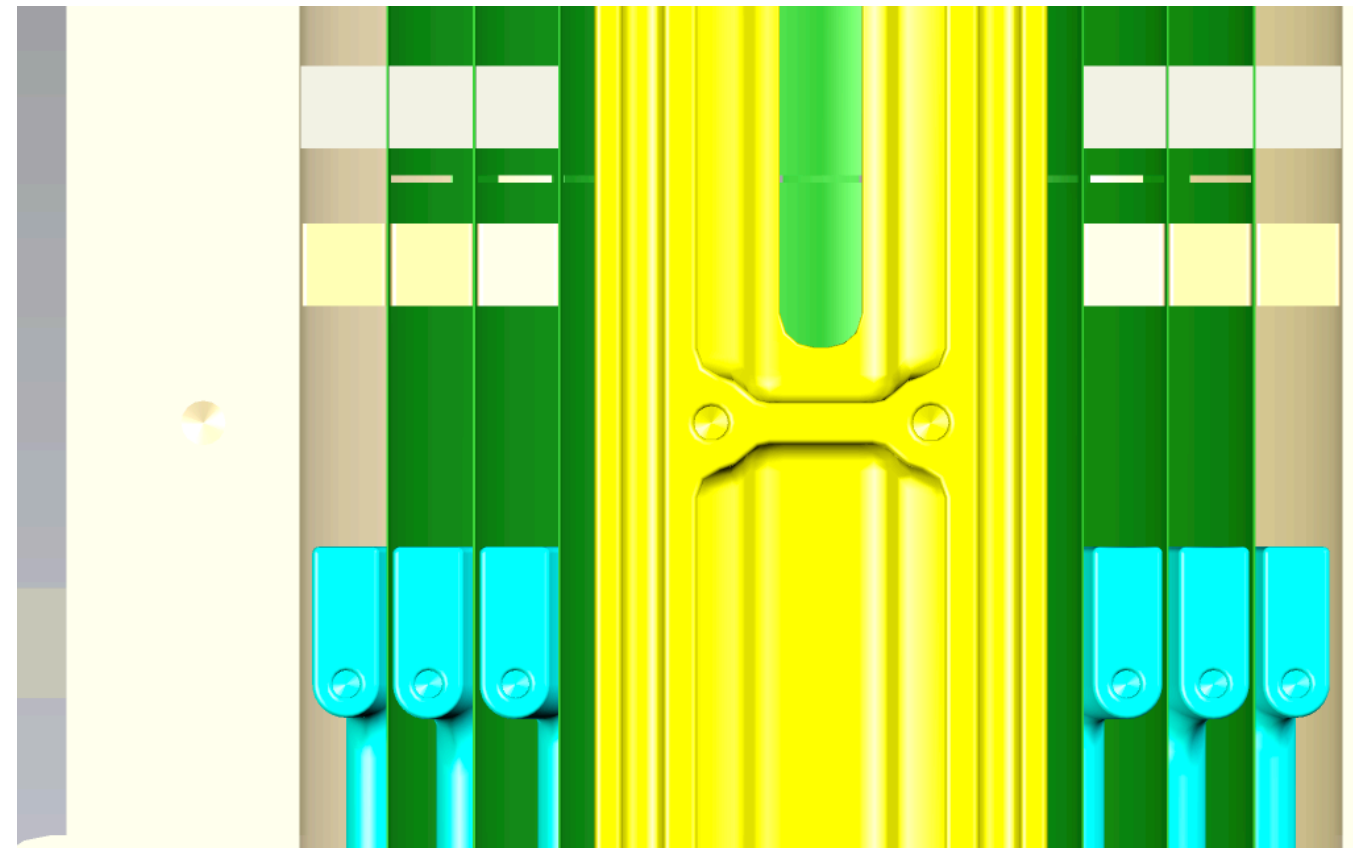
Potentially, open new windows here

# 1) BEAM PIPE POSITION

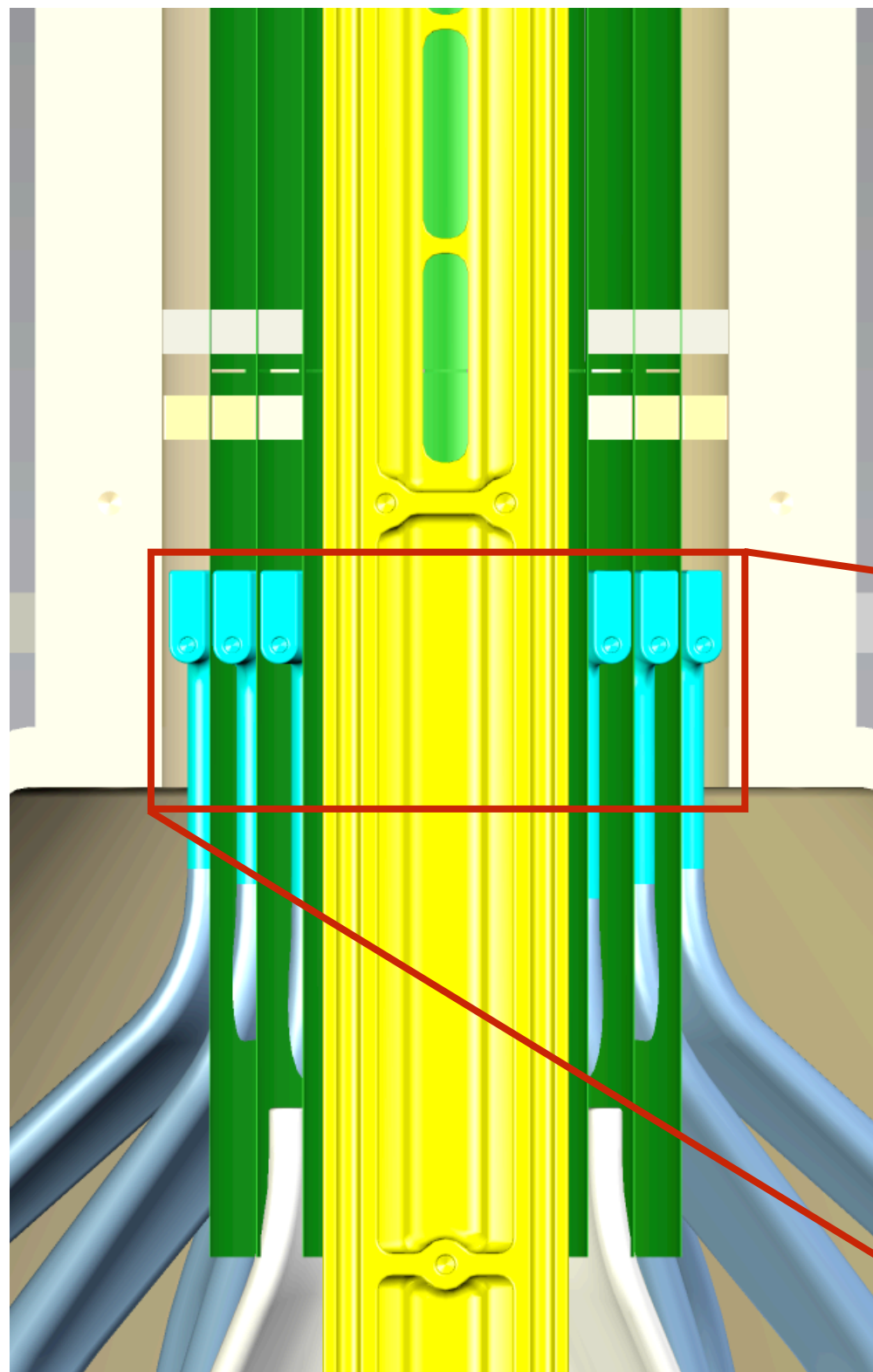
C-side



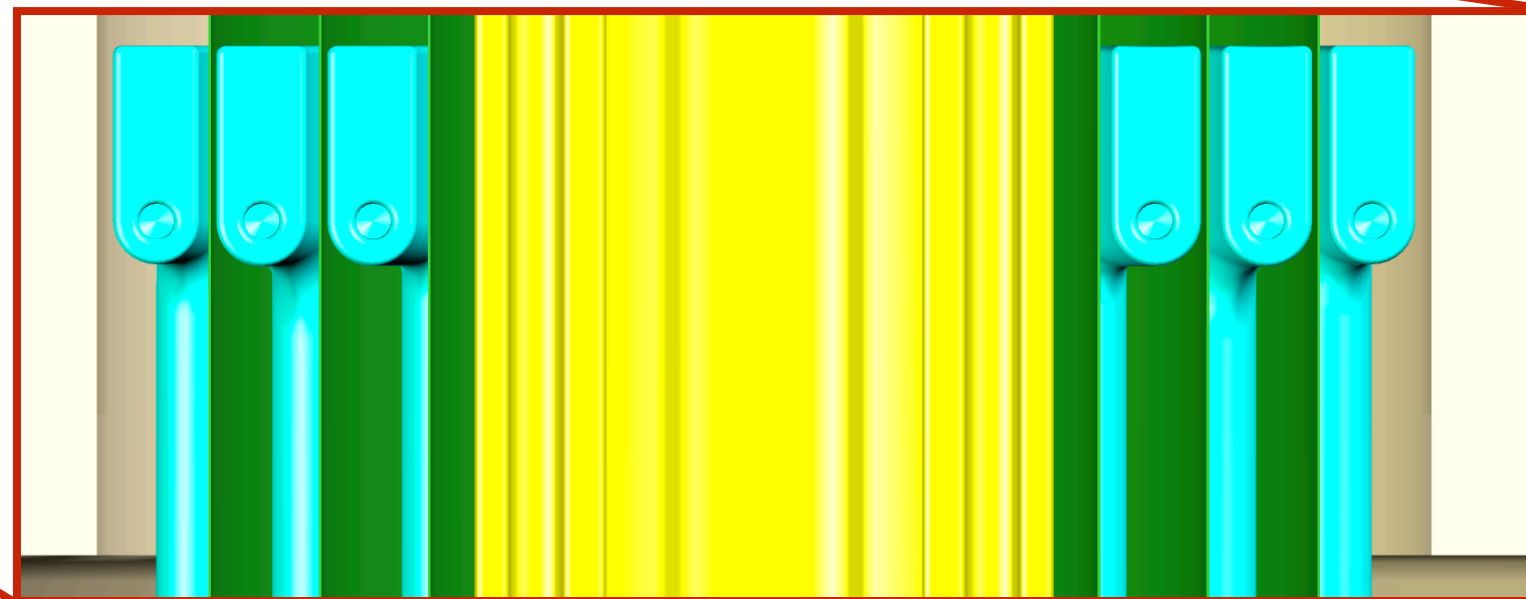
A-side



## 2) AIR DUCTS

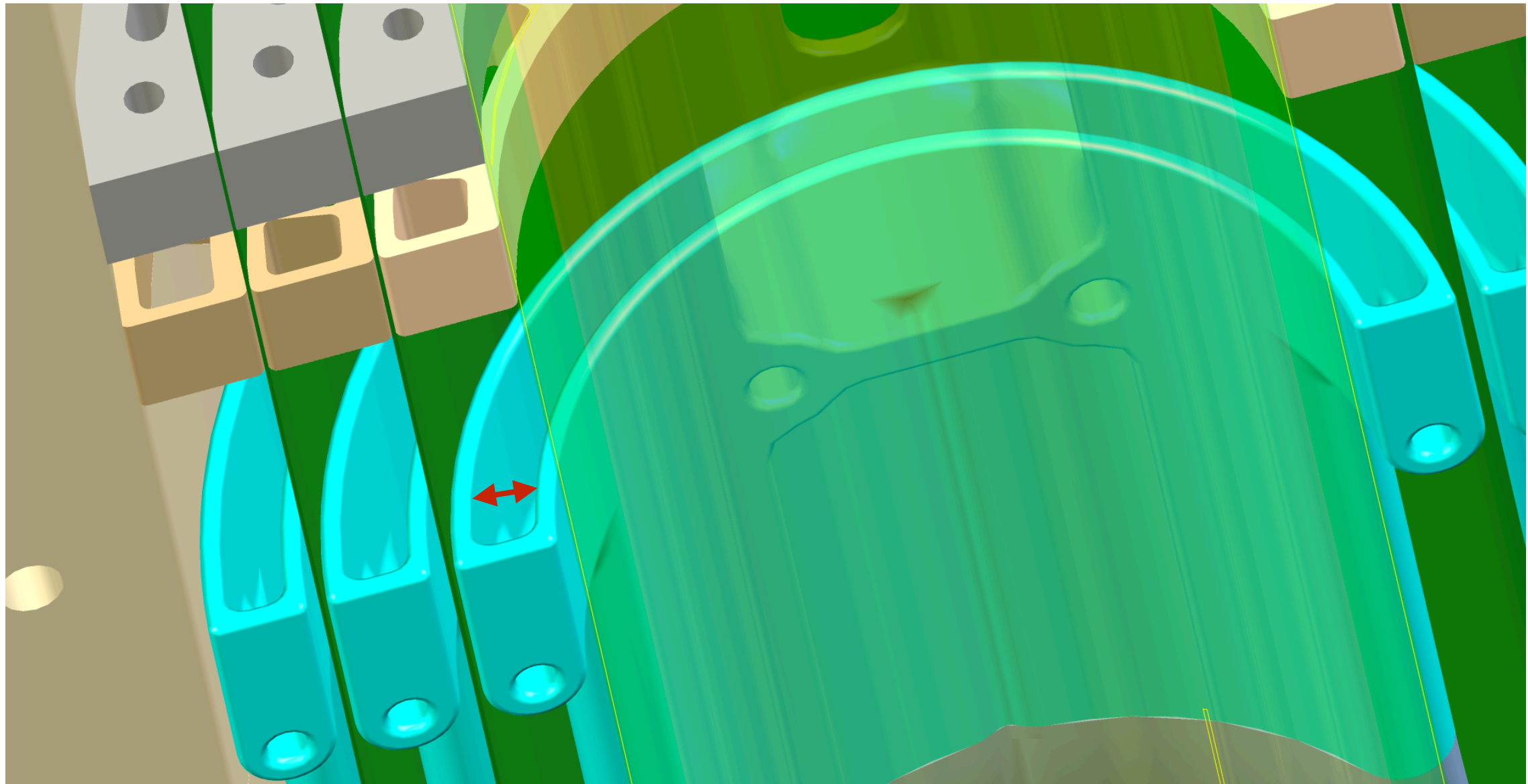


Thickness of the air ducts to be fixed.



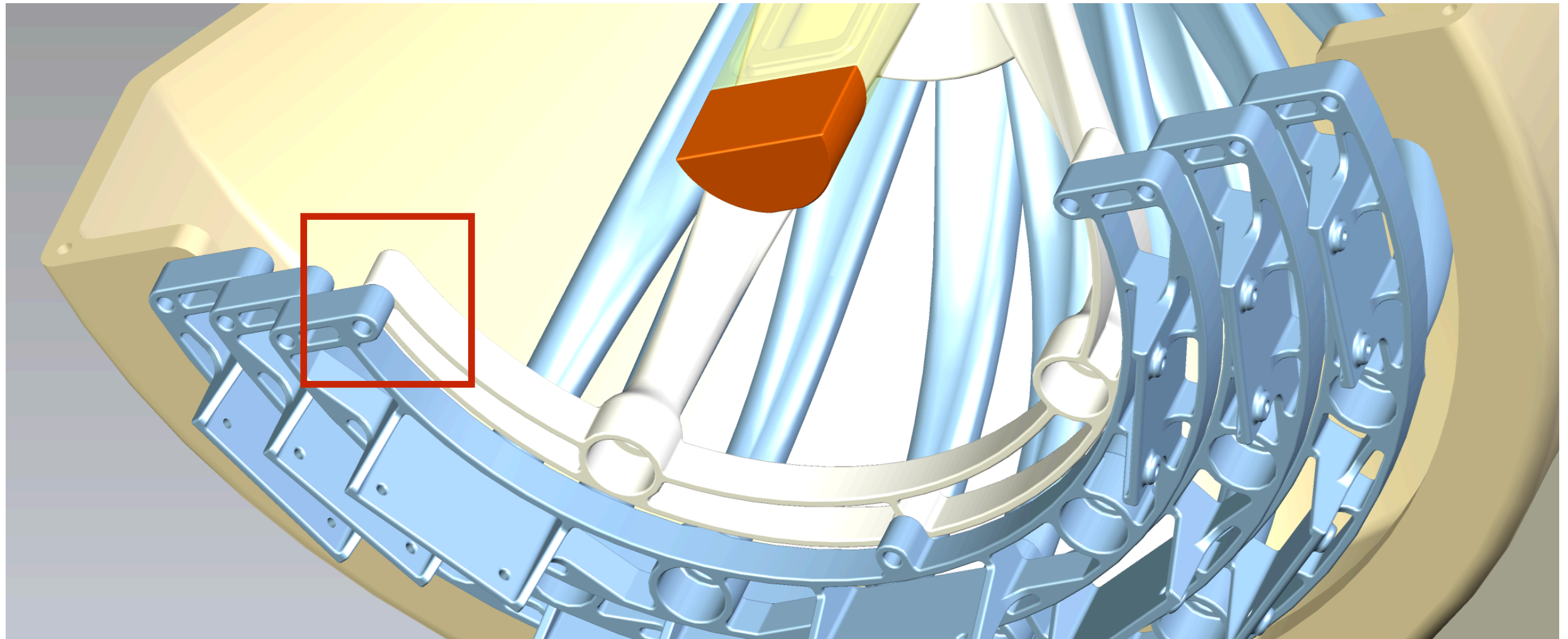


## 2) AIR DUCTS



If no update from Gael, proposed solution is to keep fixed internal dimension and make thicker wall from external side, filling the missing volume.

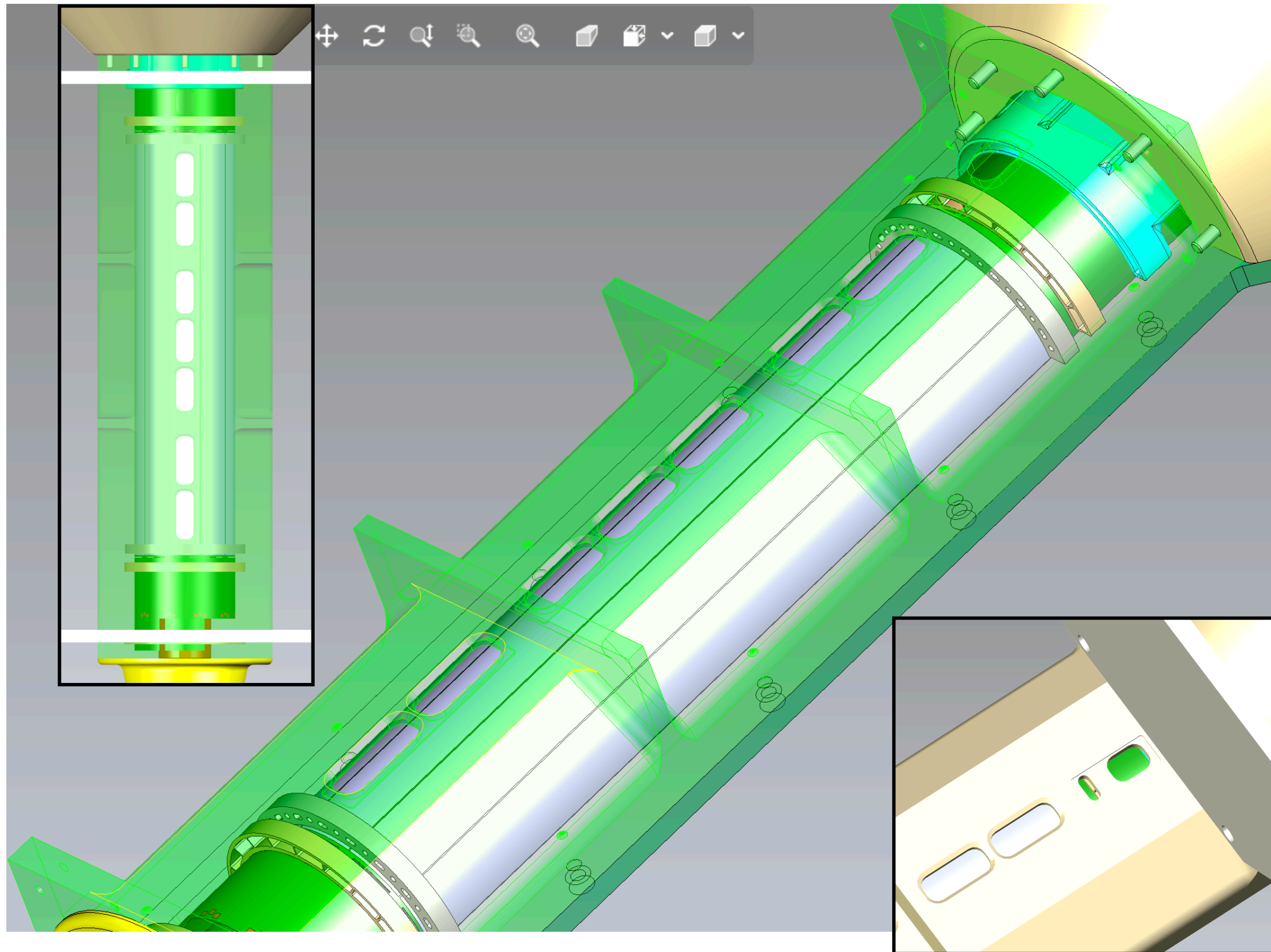
### 3) AIR DUCTS CONNECTION TO THE SHELLS



Can you give us details about the connection between the end of air ducts and the patch panel?

Do we actually need to have the patch panel?

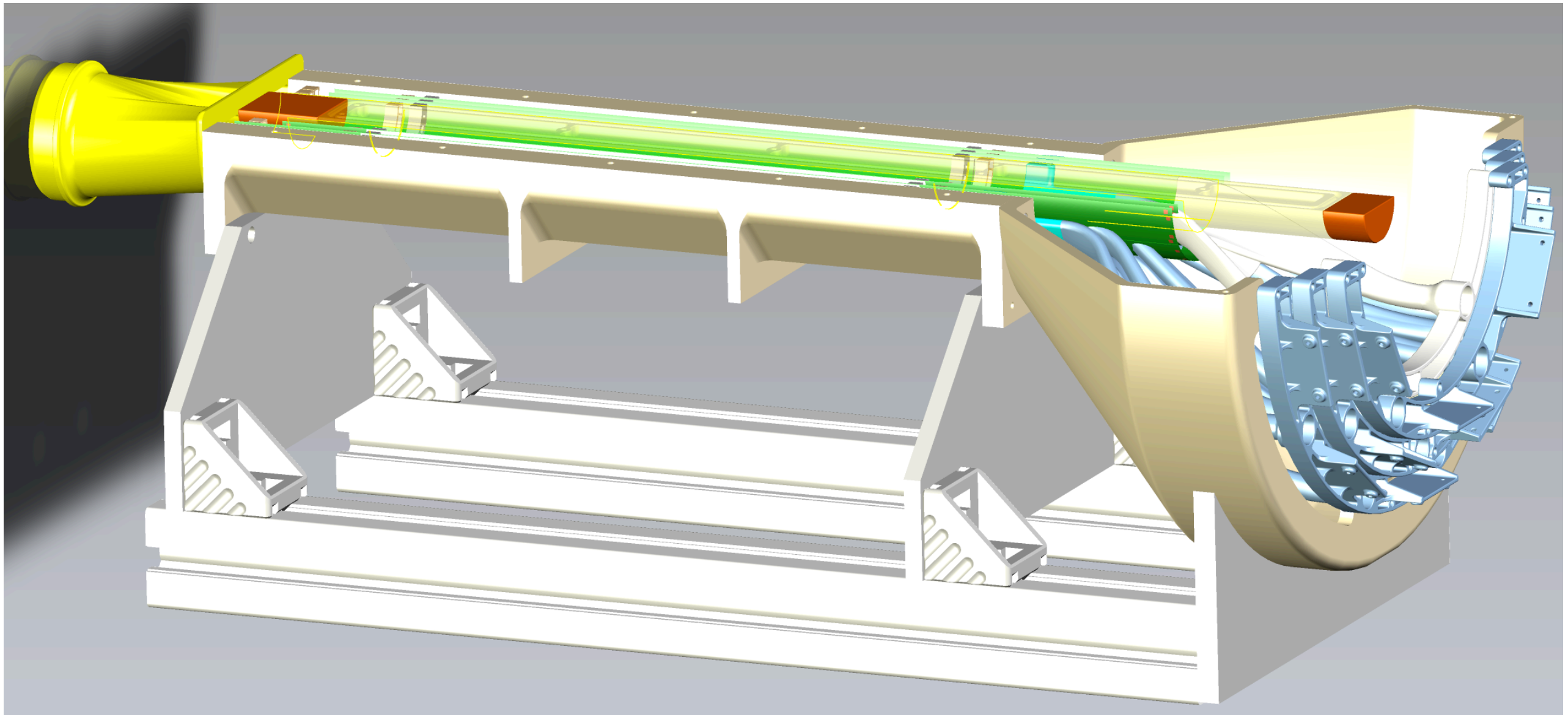
## 4) WINDOWS POSITION IN THE CYSS



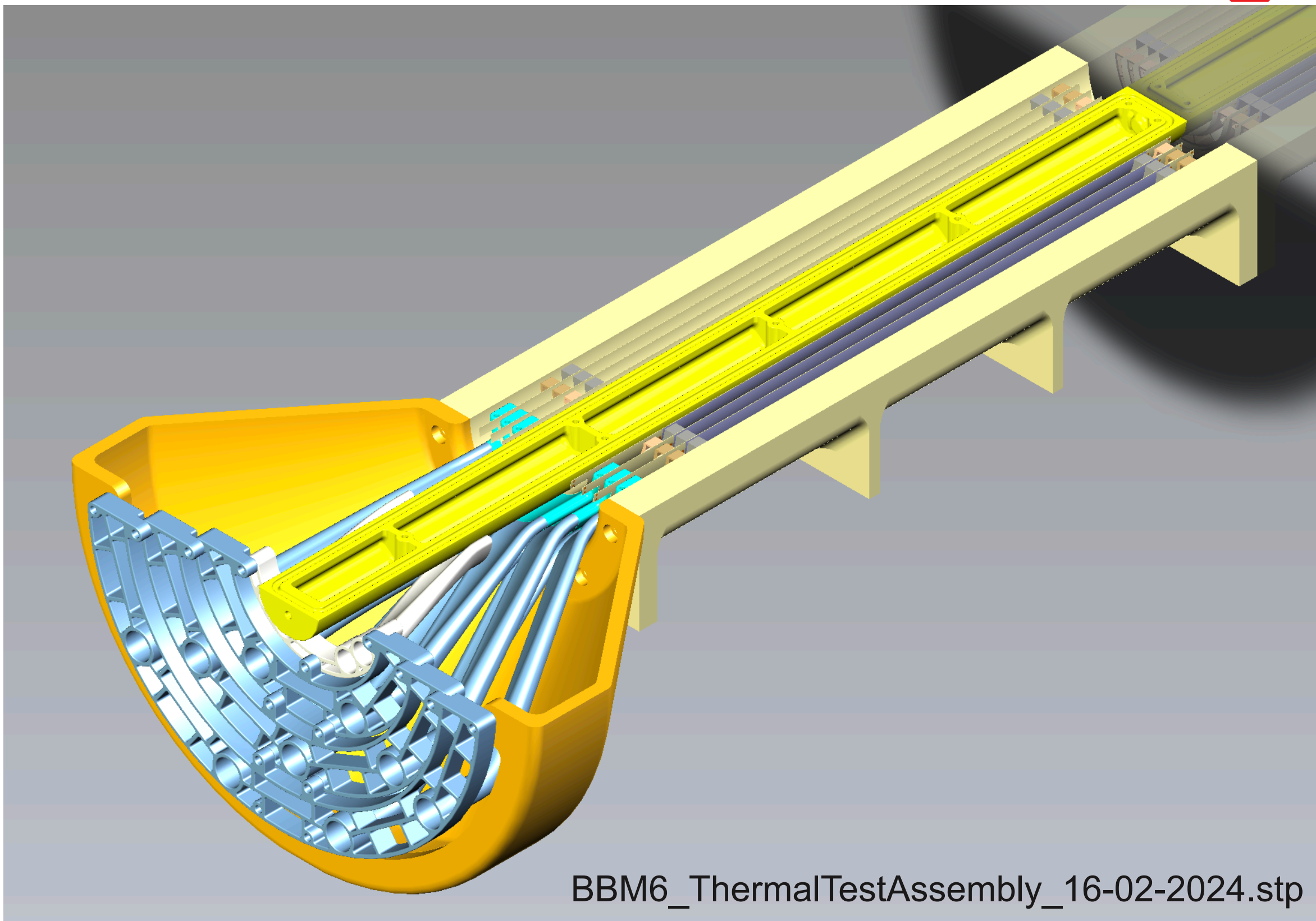
All the windows positioned in the agreed places



## 5) SUPPORT STRUCTURE

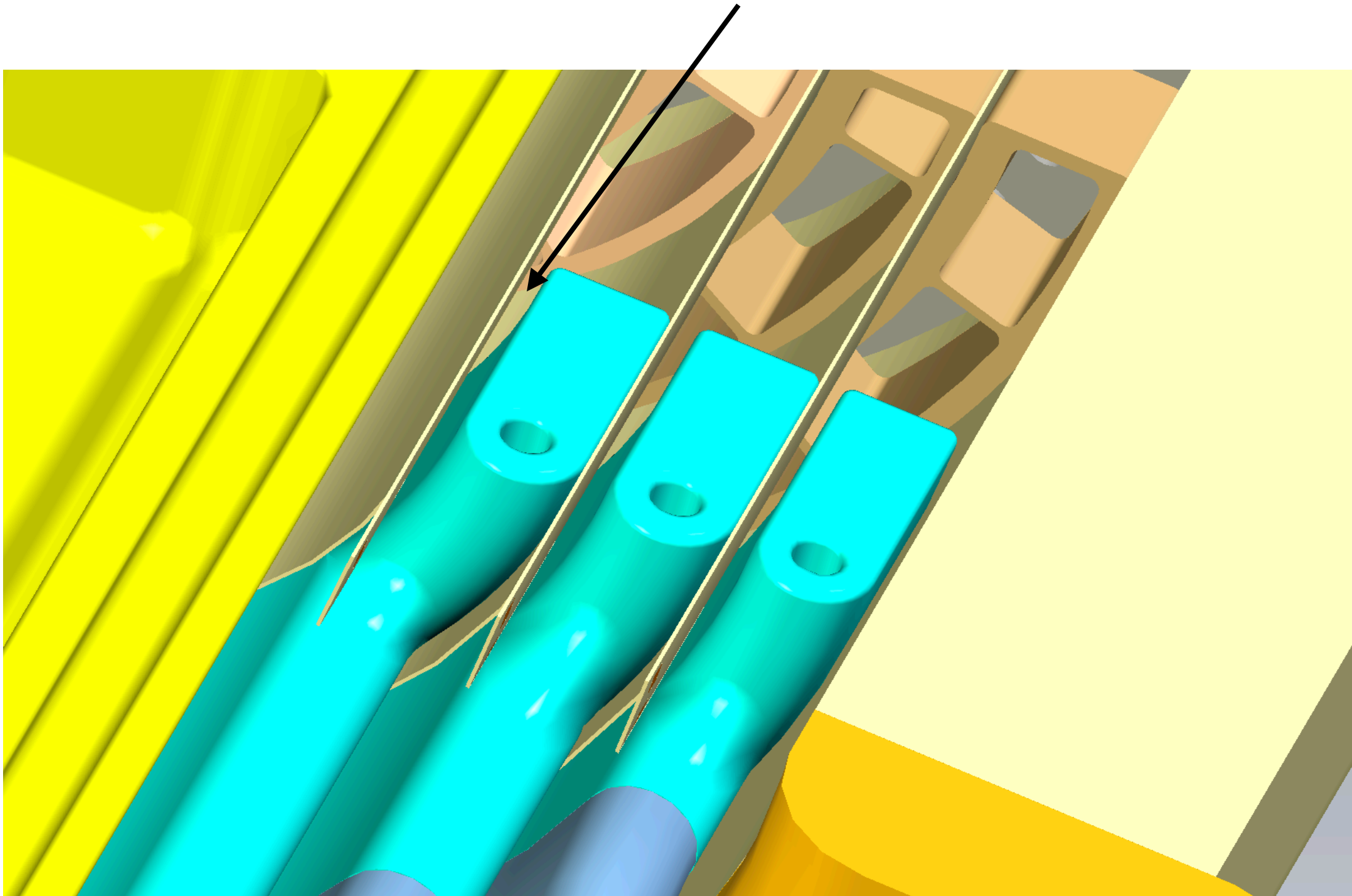


Is this solution compatible with wind tunnel?

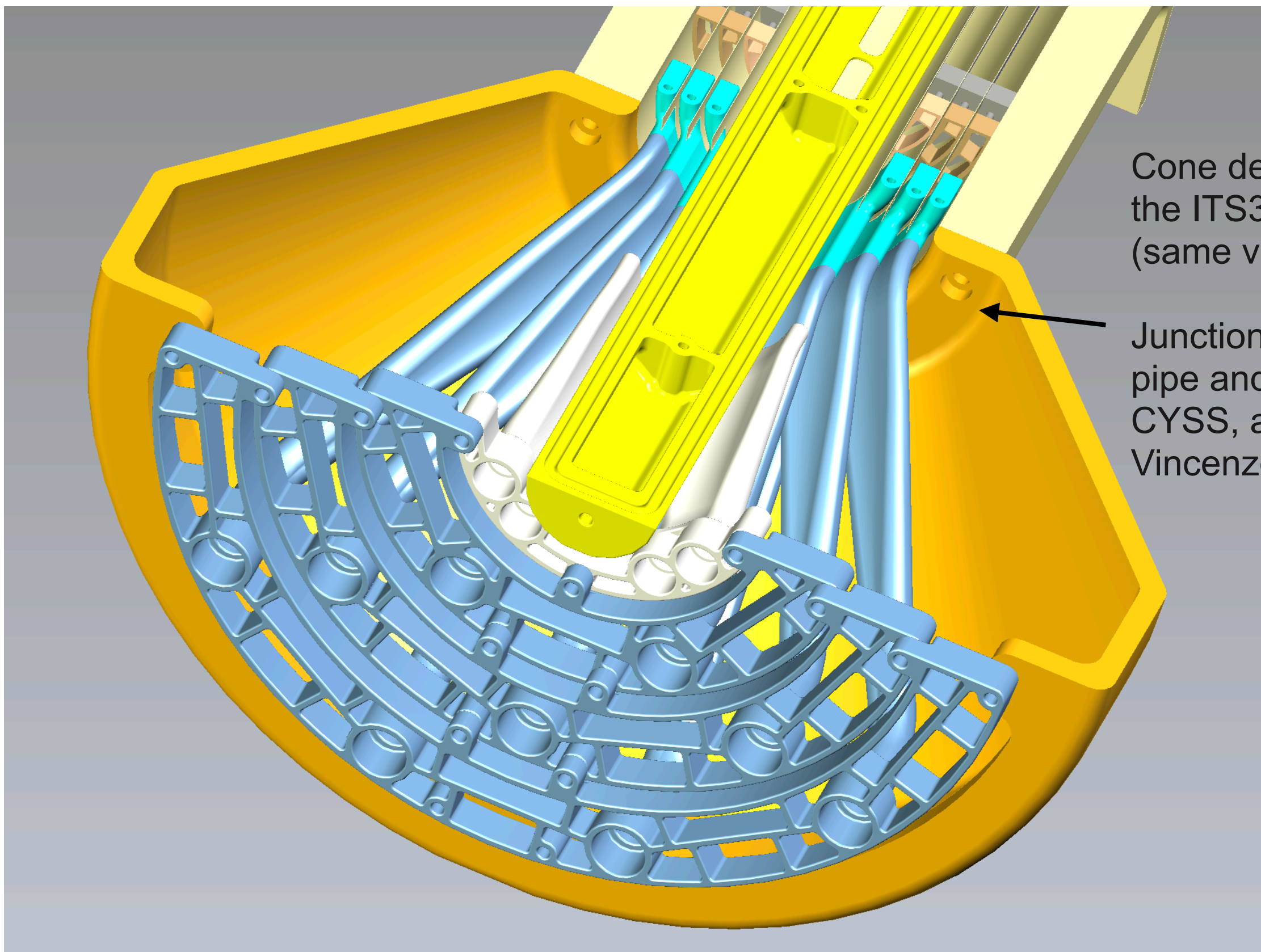


BBM6\_ThermalTestAssembly\_16-02-2024.stp

Changing layers radii and layers separation distance the cooling pipe thicknesses need to be adjusted

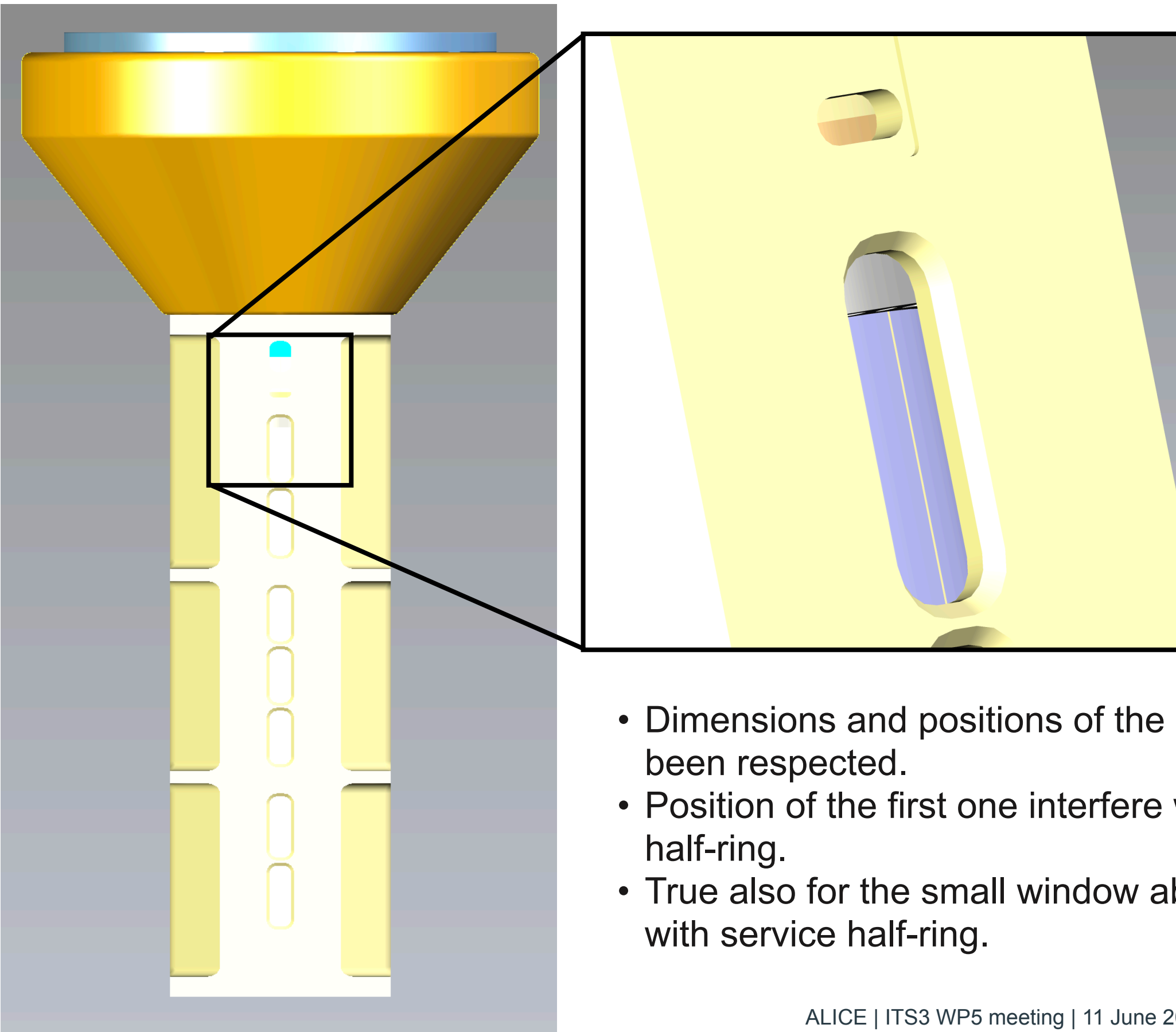




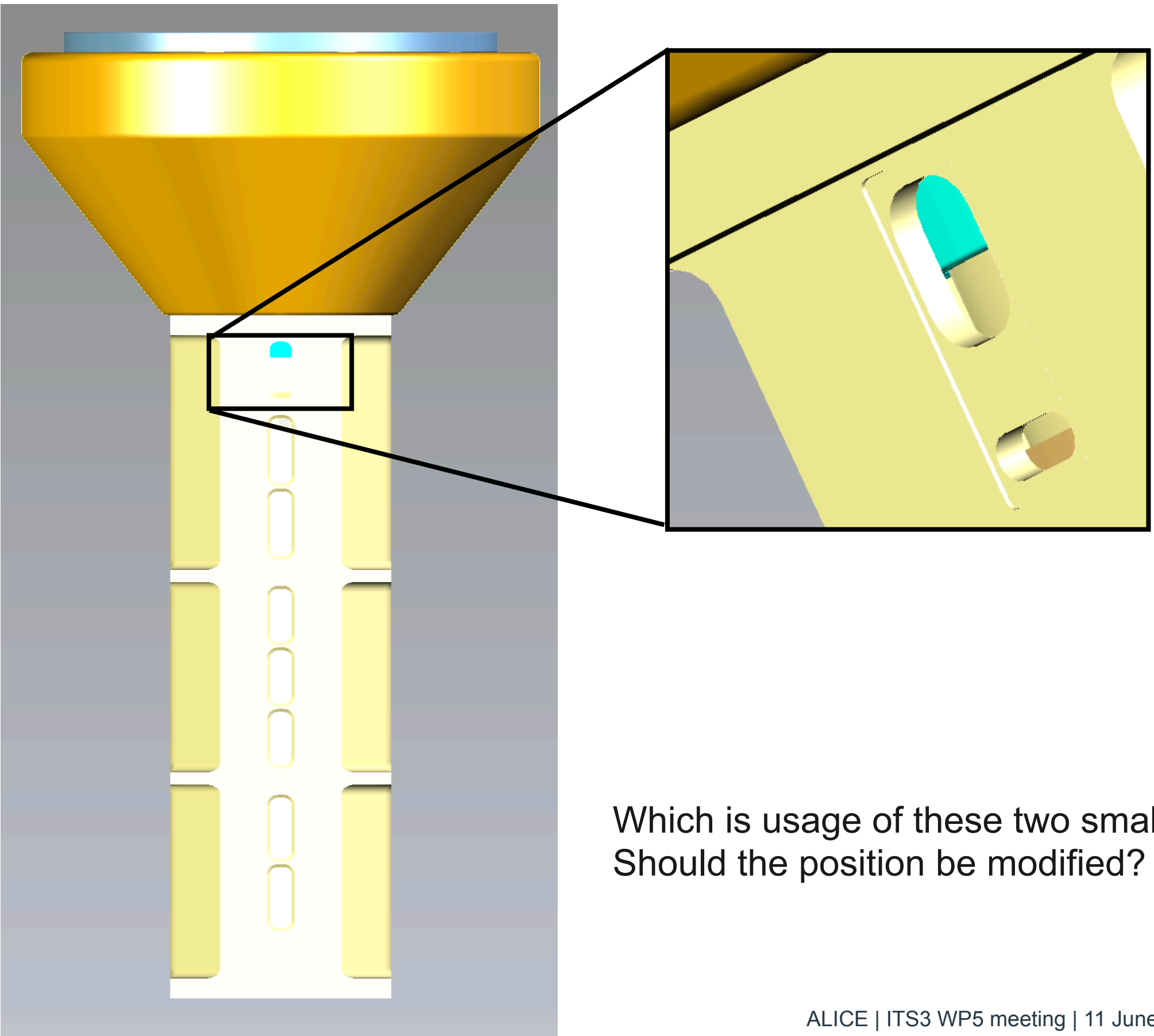


Cone design based on the ITS3 cone model (same volume).

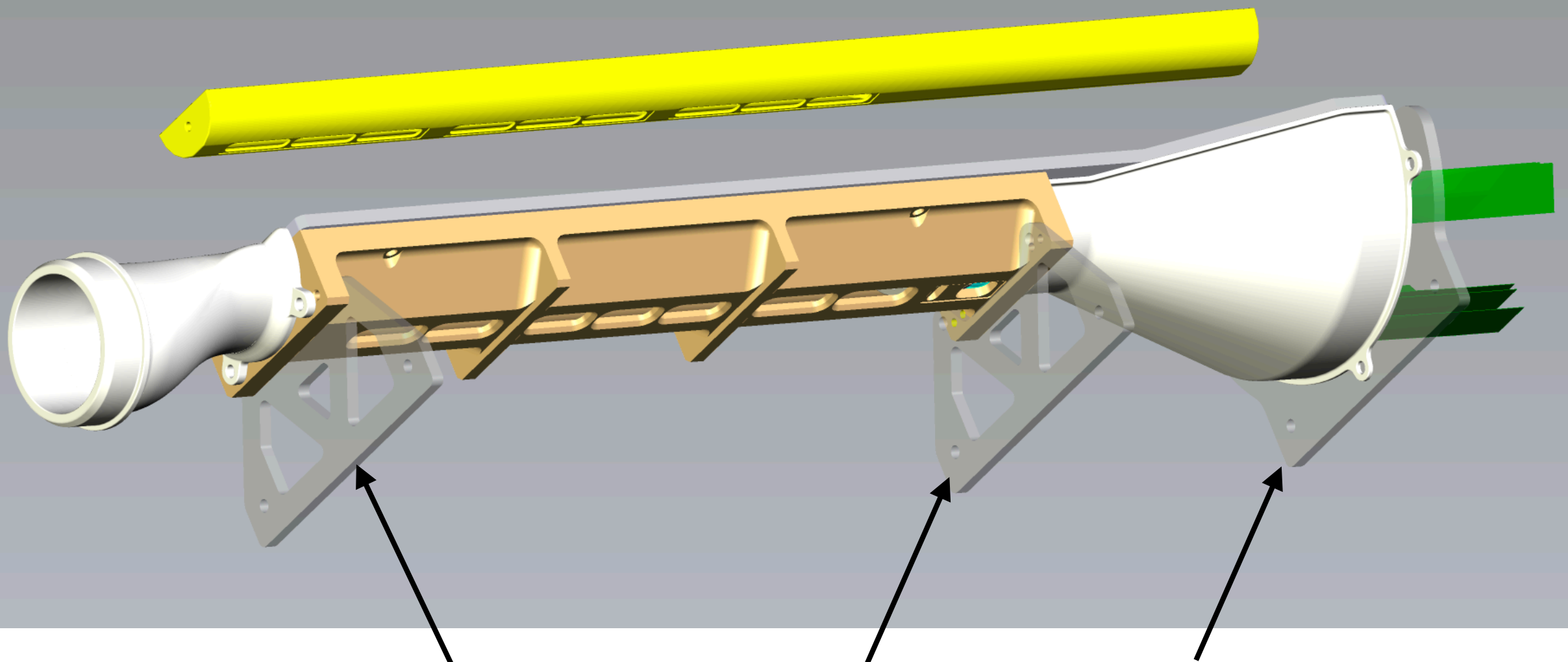
Junctions to the cooling pipe and specific CYSS, added by Vincenzo.



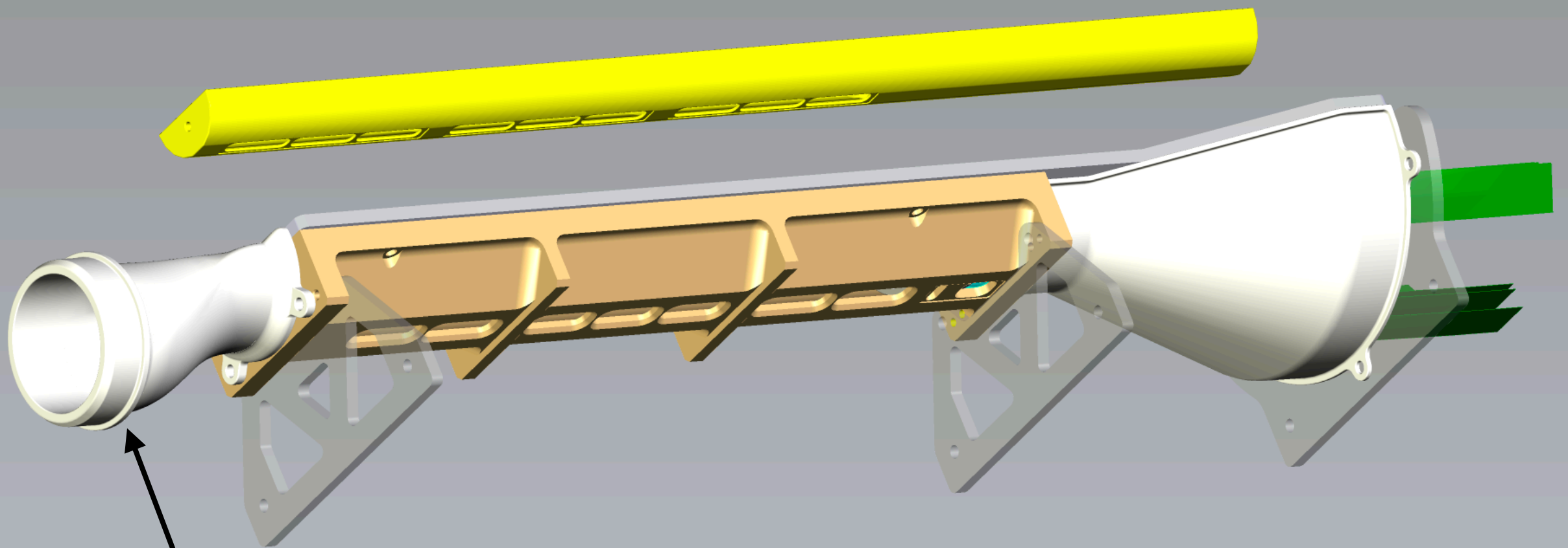
- Dimensions and positions of the big openings have been respected.
- Position of the first one interfere with the below half-ring.
- True also for the small window above interfering with service half-ring.



Which is usage of these two smaller windows?  
Should the position be modified?

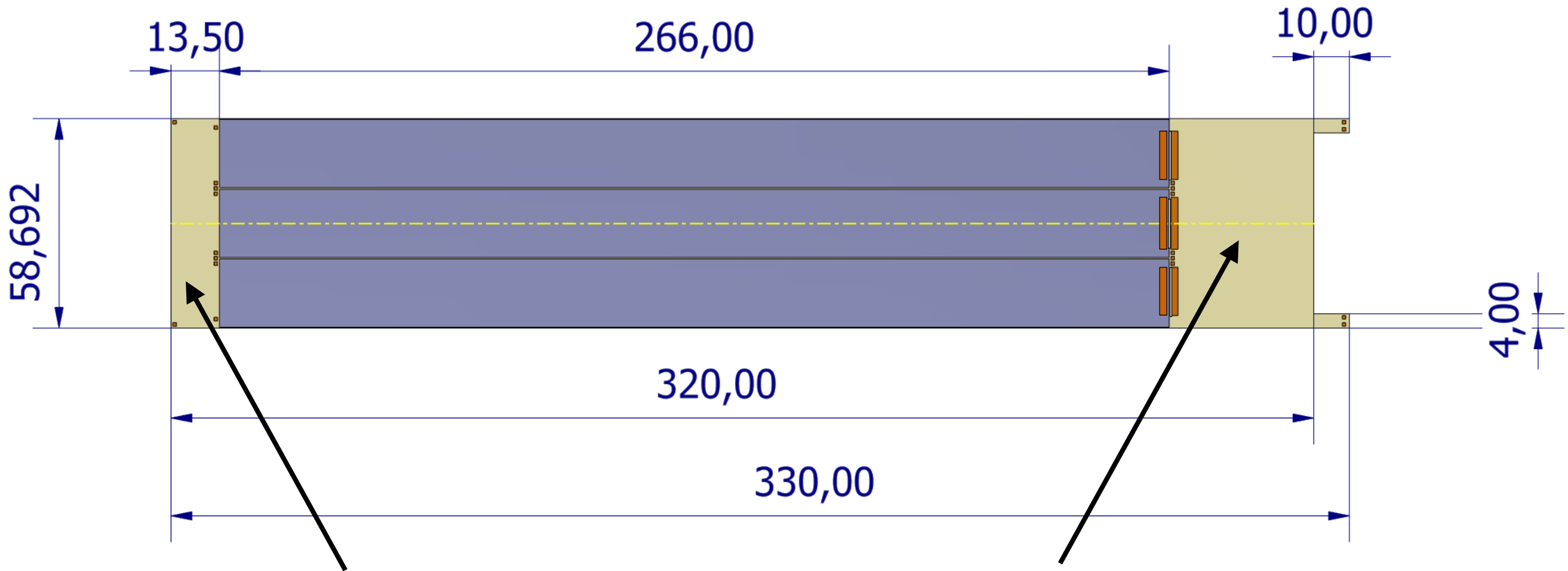


Are these supports used?  
The holes in the bottom part of the supports have a special meaning and should be kept?



This needs to be redesigned.  
Should we do it or you prefer to implement special constrains?  
I assume that the diameter of the output should be kept.





Maybe question to Rui/Serge.

Total thickness in the sensor region 160 um, from Massimo's slides.

What would be the thickness in the region without sensor?

Should we look for a thickness close to the FPC one?

