

WA105 Purges on Top of Cryostat

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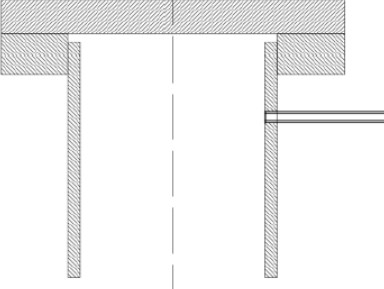
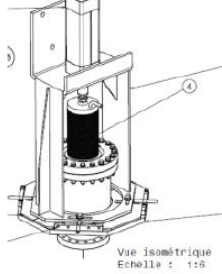
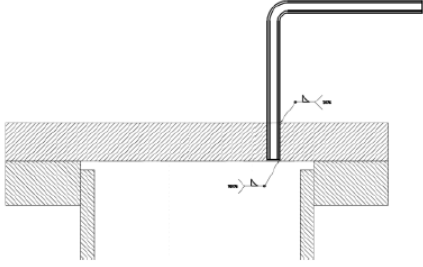
11.08.2017

- Draft [NP 02 00 00 – CEPM -00046 Cryostat and Warm Piping NP02 draft](#) is uploaded at the indico
- Proposal design of the purges at the Crossing pipes according to J.Creus Prats suggestion:
 - Signal chimneys FTS → 3.1 to 3.12 with Interface Type A*
 - All cryogenic with Interface Type A* → 10.x to 14.x

* Interface type according to the draft Document: [NP 02 00 00 – CEPM -00046 Cryostat and Warm Piping NP02 draft](#)

- Proposal for the required bellows at the purges for 4 different detector Fts
 - Slow control Chimneys [2.1 to 2.4]
 - Tank Instrumentation [9.1 to 9.2]
 - Field Cage Suspension [1.1 to 1.16]
 - Anode suspension FTS [4.1 to 4.16]

- Purges are defined in 3 basic configuration → Type A, B and C
- HVFT is not at the moment included → is considered as special Type connection.

Name	Pipe	Stroke	Drawing	Figure
A	Ø10/12mm	No	Basic, CEN105xxSGFT	
B	Ø10/12mm	Yes, 80mm	SM1- DRW00000	
C	Ø10/12mm	No	Various,	

Purge at the crossing pipes

Purge at the movable FT

Purge at the Top Flange
of the FT --> fixed

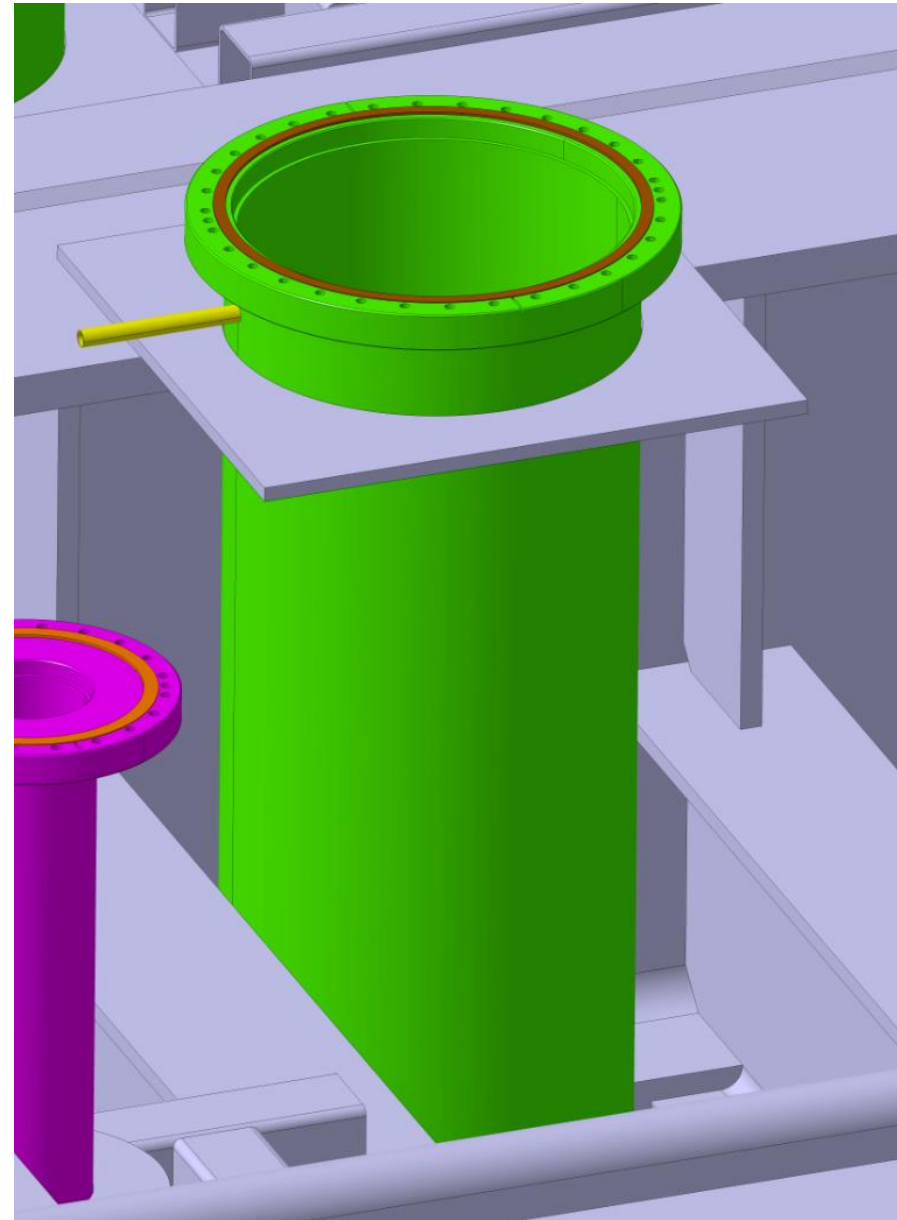
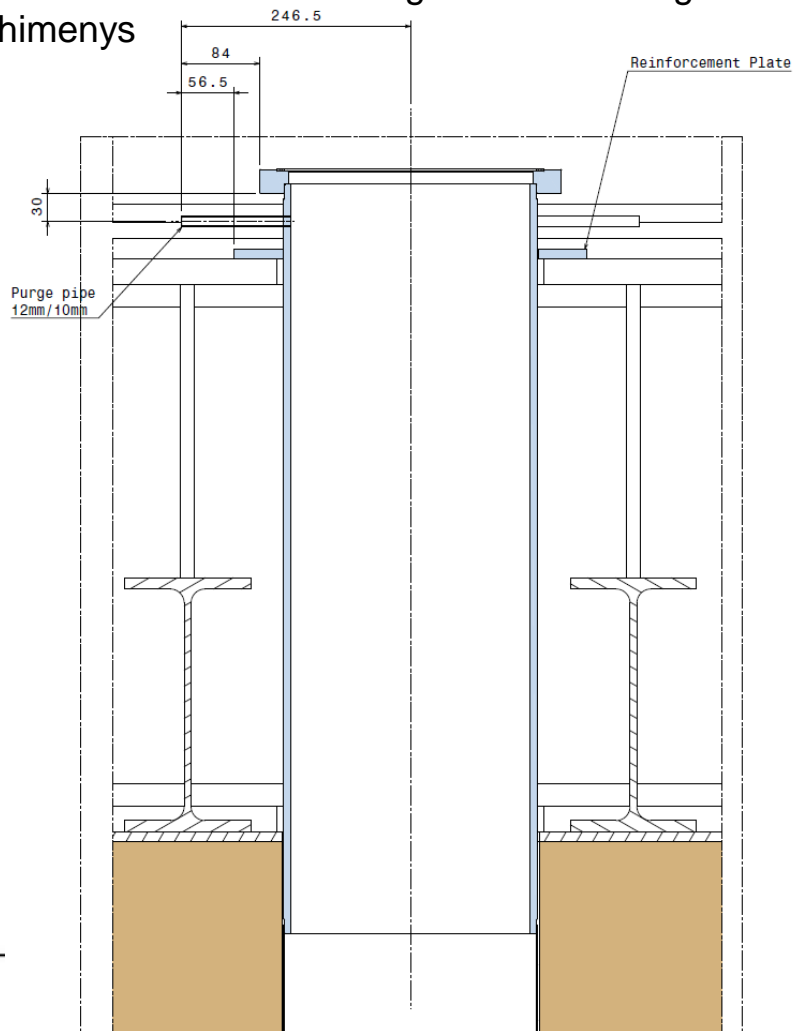
Suggestion for the orientation:



- Only remark I noticed is regarding the penetration 12.3.
- If there are no objections I would orient the purge on the opposite direction in order not to have the Main I-beam exactly in front.
- For the moment 12.3 is kept in the proposed orientation from Joaquim

Signal chimneys FTS → 3.1 to 3.12 :

- Signal Chimneys 3.1 , 3.6 , 3.7 and 3.12 have the reinforcement at the highest position.
- According to those I propose the purge at 30mm from the bottom of the flange for all the Singal Chimenys

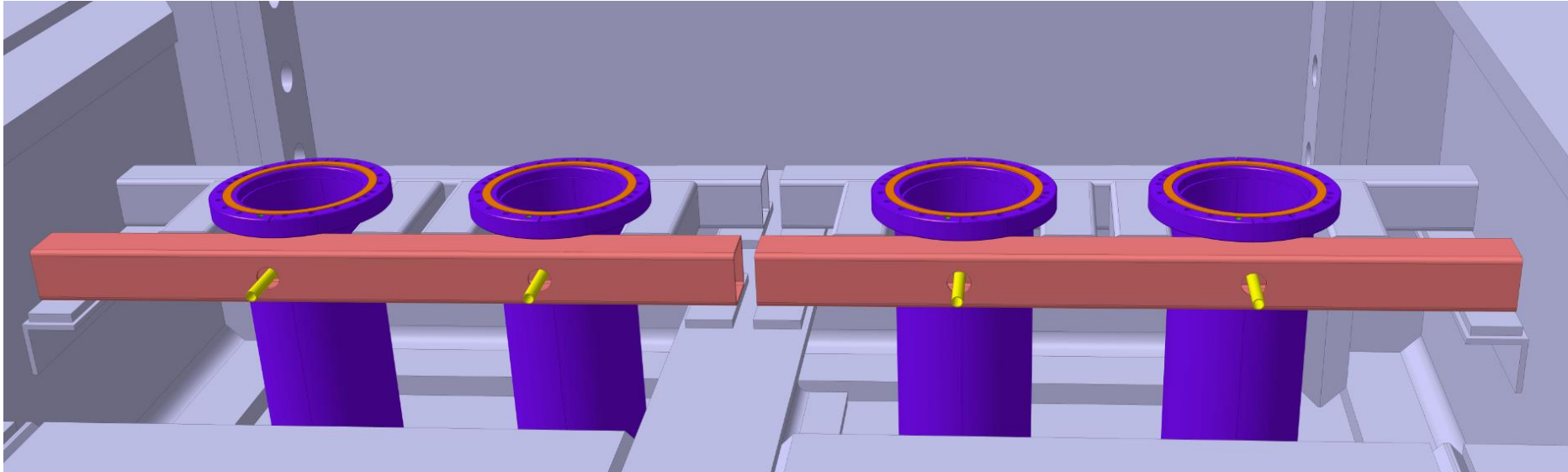


All cryogenic → 10.x to 14.x :

- There are some Crossing pipes that have reinforcement Square profiles 60x60mm under the flange
- Proposal is to have all the purges at 30mm from the Bottom of the Flange
- Concerning the Crossing pipes with reinforcement this would be exactly in the middle of the Square profiles
- I would propose to have a hole of 25mm diameter in the square profile for the purge.



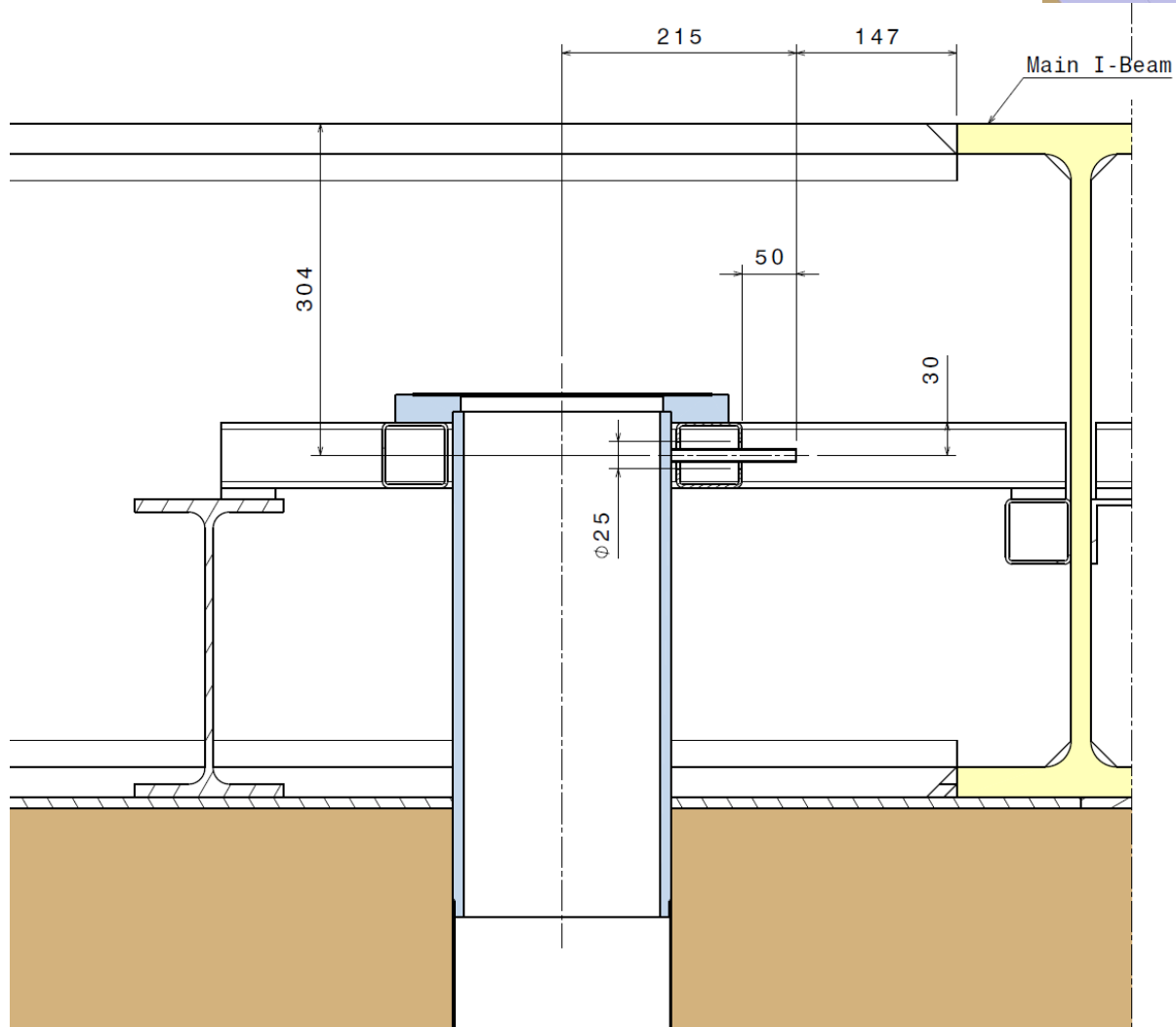
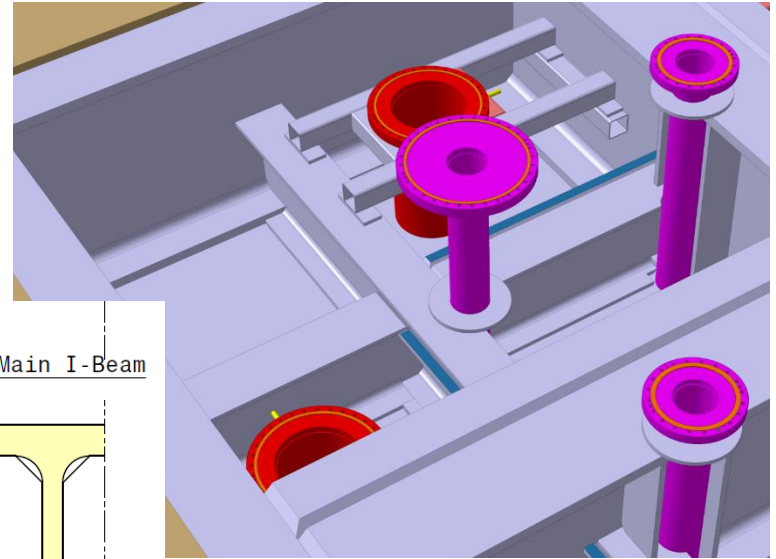
- Example for penetrations 11.2 to 11.5



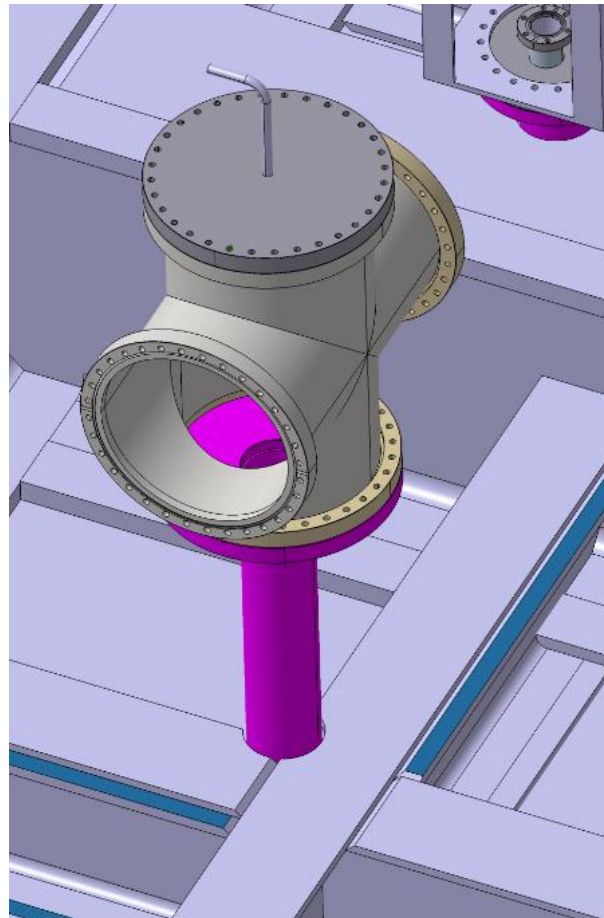
- Purge pipe (12mm/10mm) can be welded first
- Flange will be welded from the top
- Reinforcement would be installed by sliding the purges into the 25mm holes

Cryogenic Penetration 12.3:

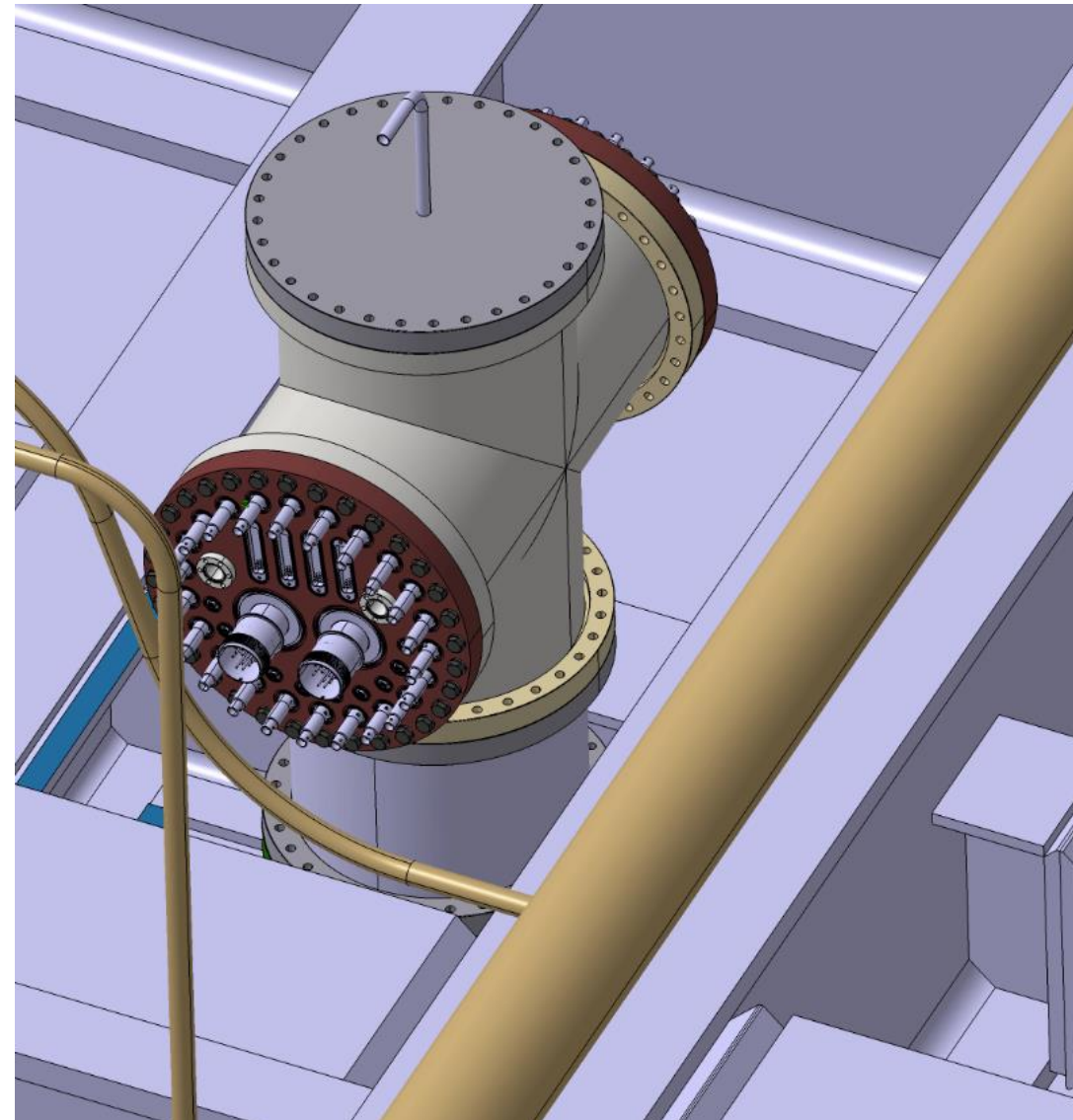
- According to the drawing below the orientation of the purge can be decided
- Vertical position and length for the other purges is same as for purge at 12.3



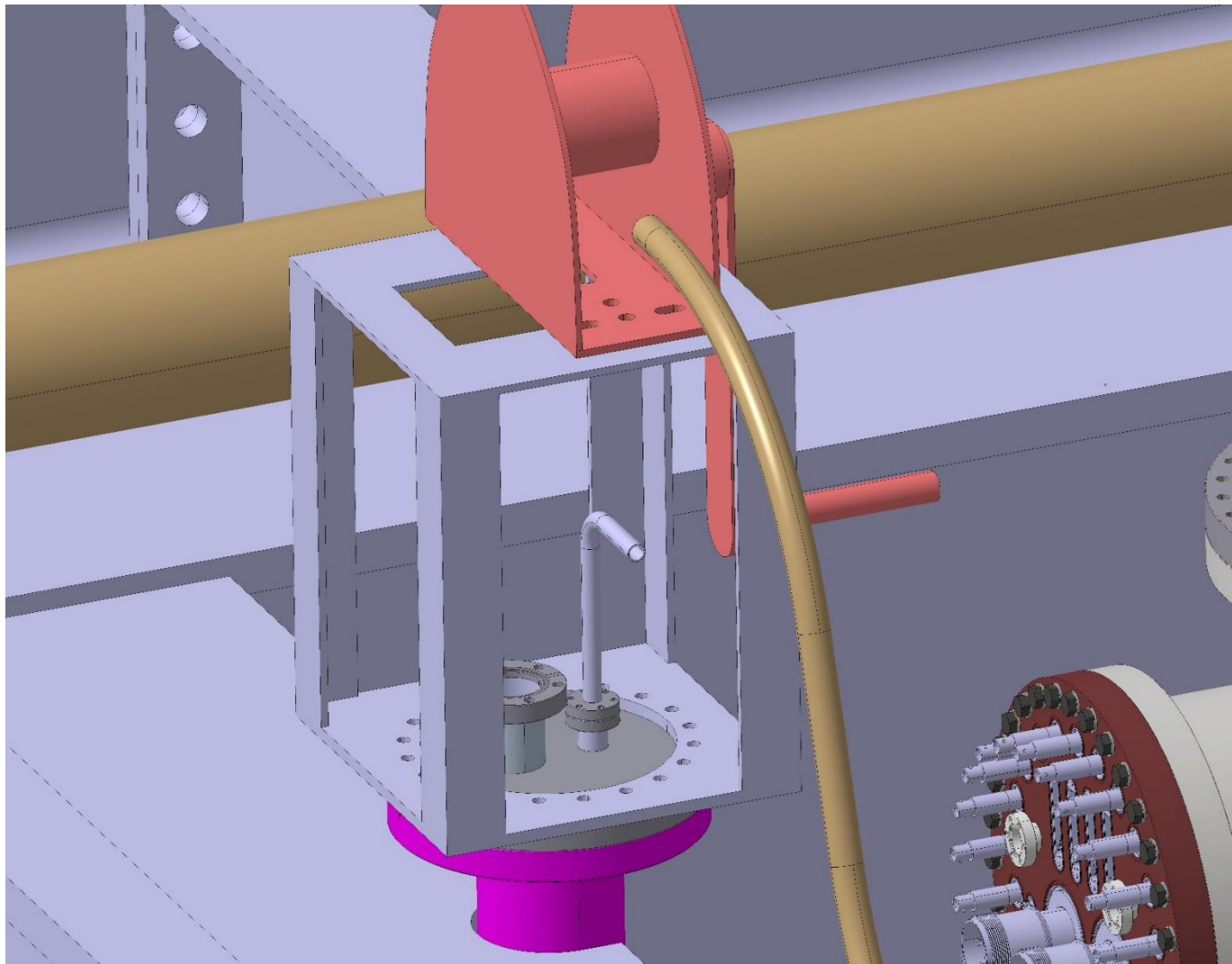
- Slow control Chimneys [2.1-4] → 2 m of bellow in order to remove the top flange and place it on the I-Beam



- Tank Instrumentation [9.1-2] → 2 m of bellow in order to remove the top flange and place it on the I-Beam



- Field Cage Suspension [1.1-16] → 1m of bellow in order to have the CF16 free for Field Cage installation



Bellows @ the FTs

- Anode suspension FTS [4.1-12] → 2 m of bellow for installation and in case of maintenance

