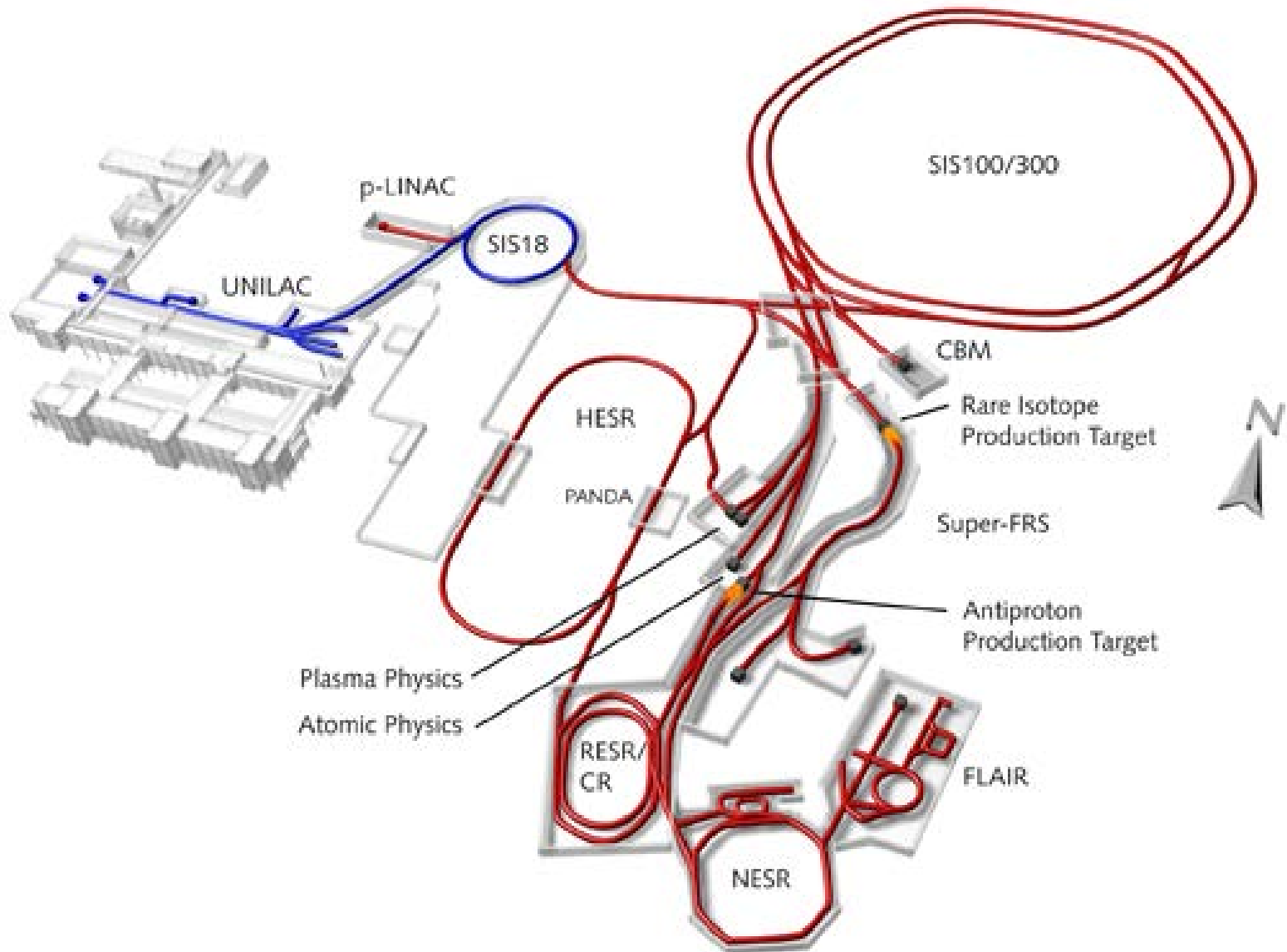


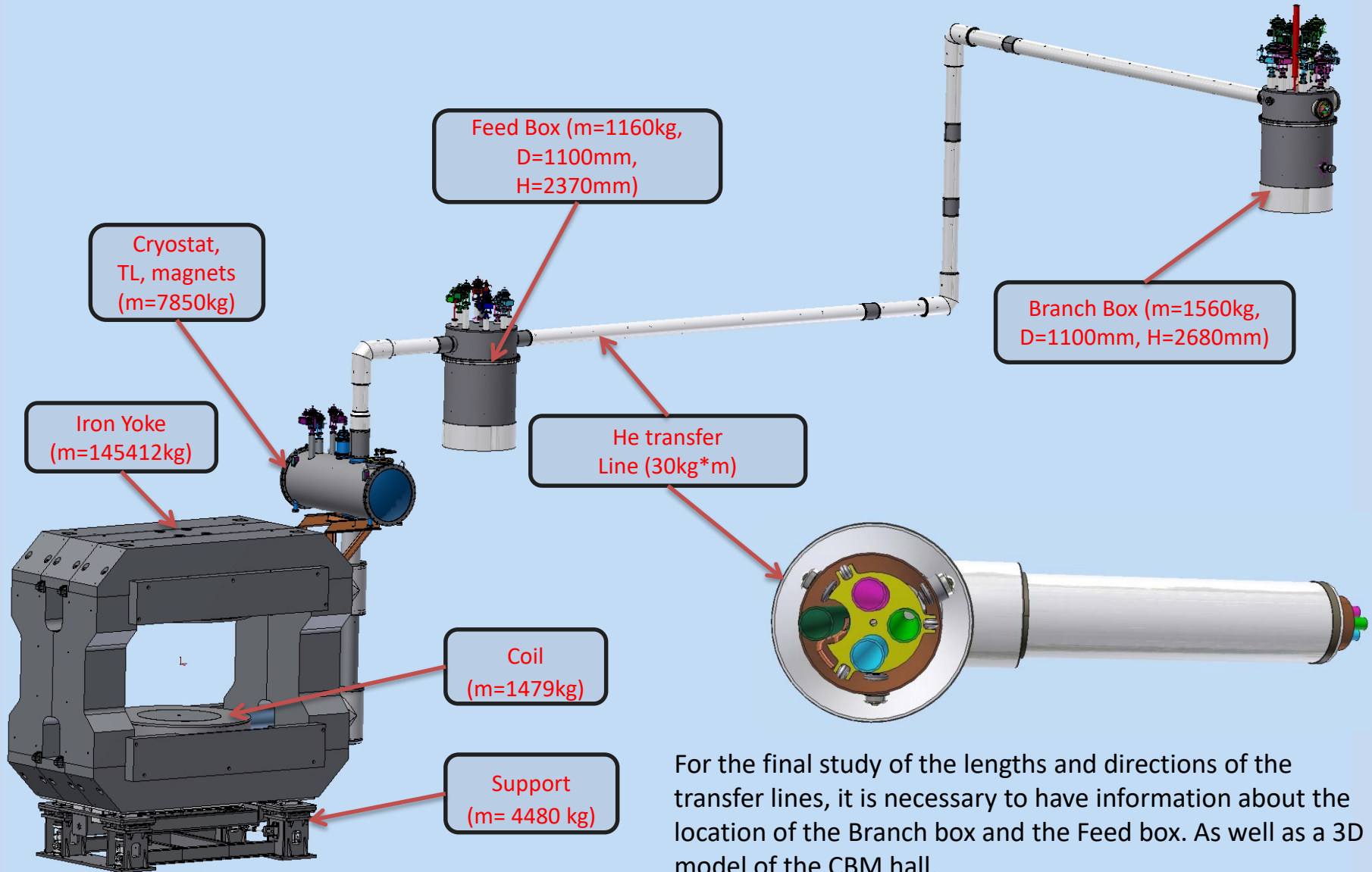
# CBM Iron yoke and support design

11 2019, BINP, M.Kholopov, A.Bragin, S. Pivovarov.

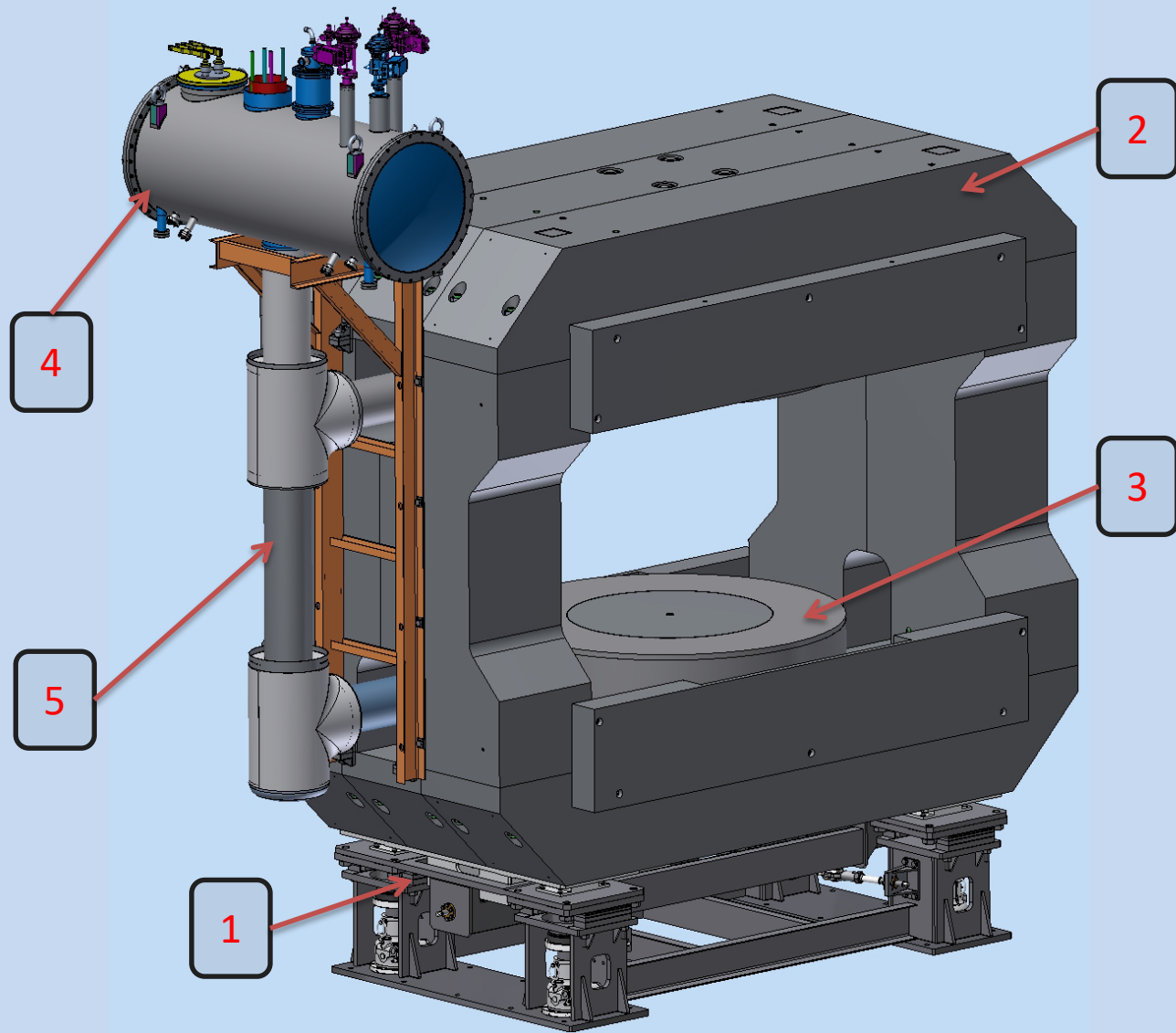
# FAIR



## 3D Model of CBM Magnet and cryosystem

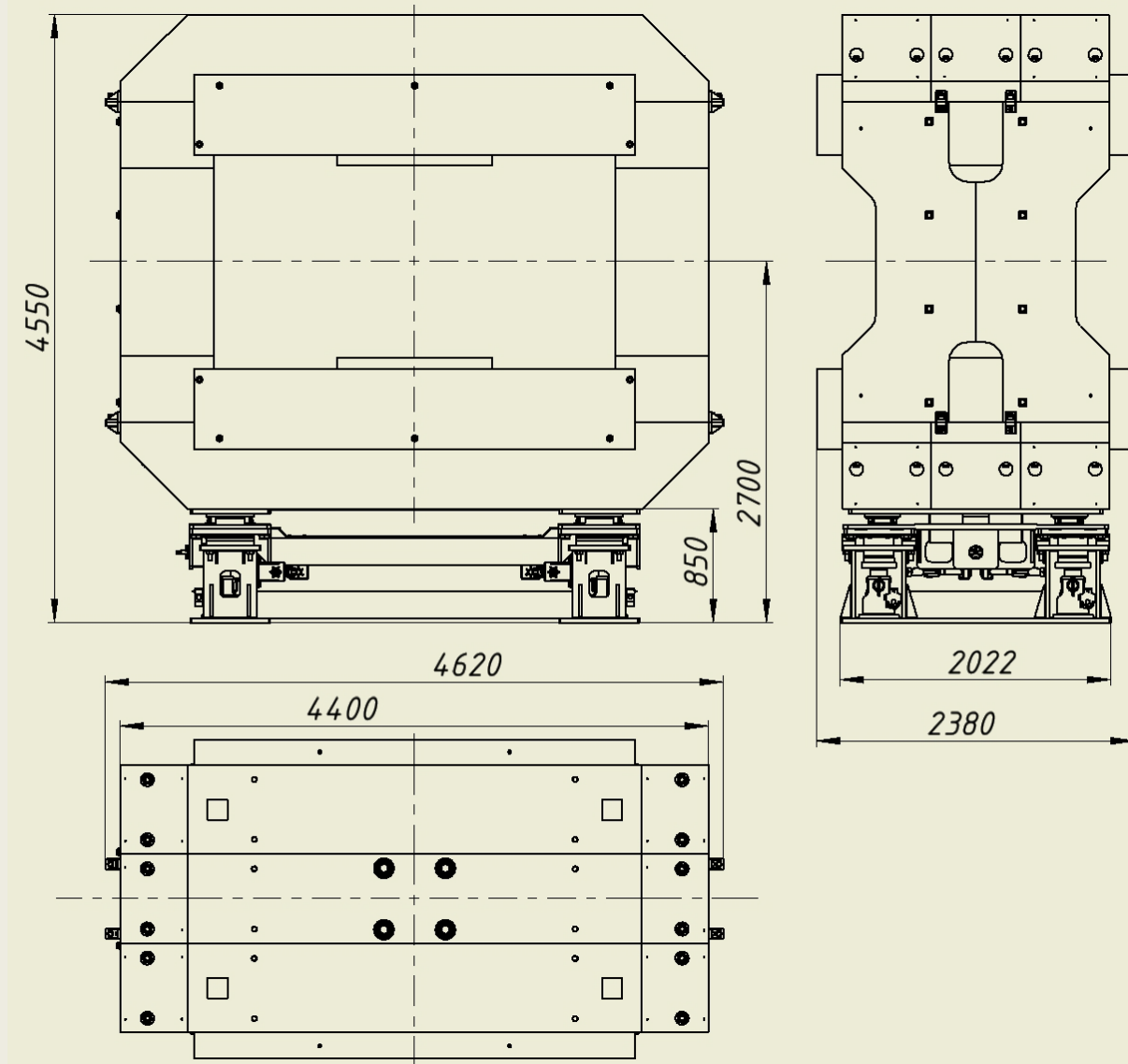


# Parts of CBM Magnet



- 1. Support      m= 4480 kg
  - 2. Iron Yoke    m=145412kg
  - 3. Coils        m=3100kg
  - 4. Cryostat     m=940kg
  - 5. Cryostats TL m=710kg
- The support's load – 154 tons

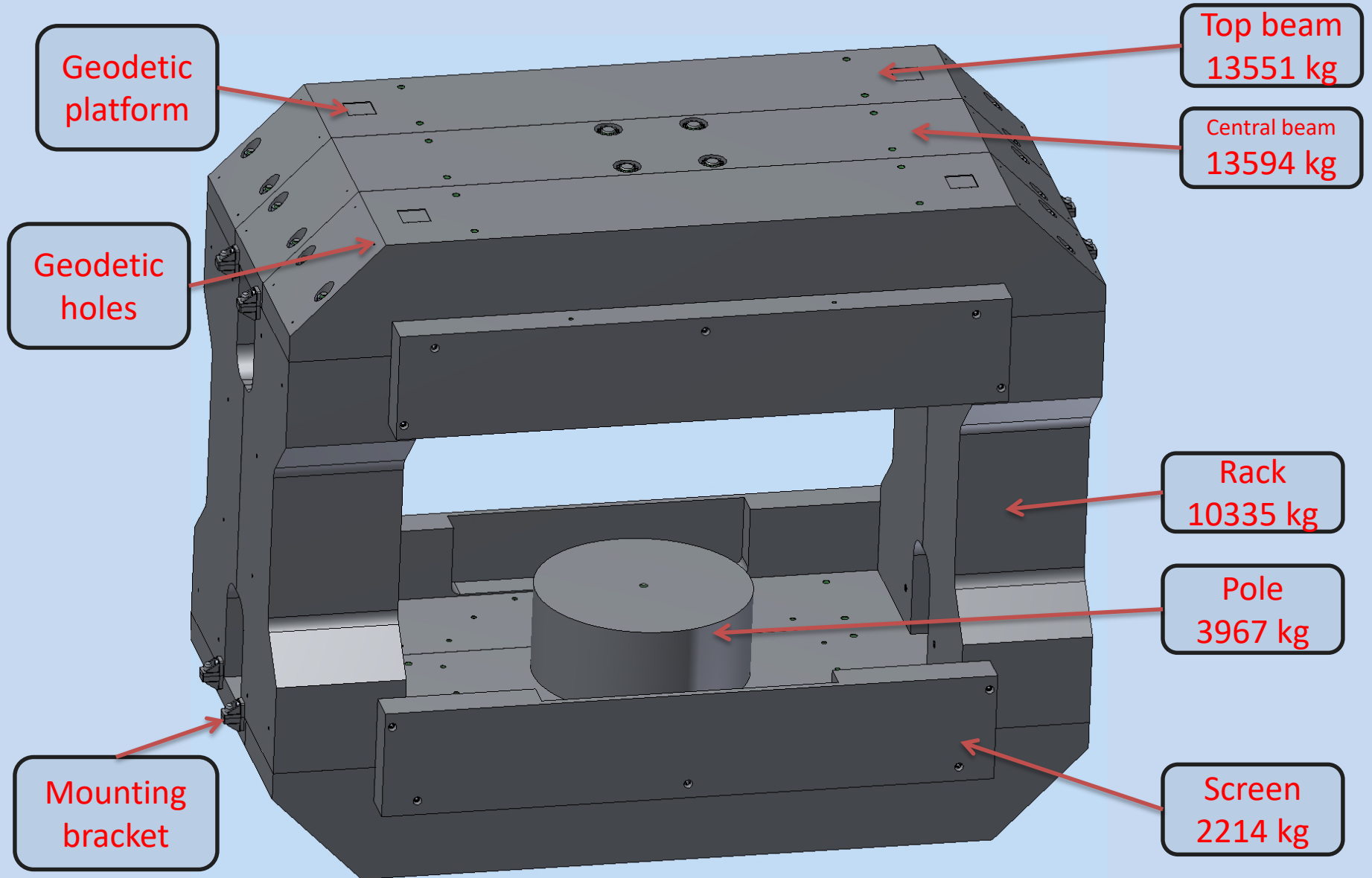
# Iron Yoke and supports drawing



## Weight and size

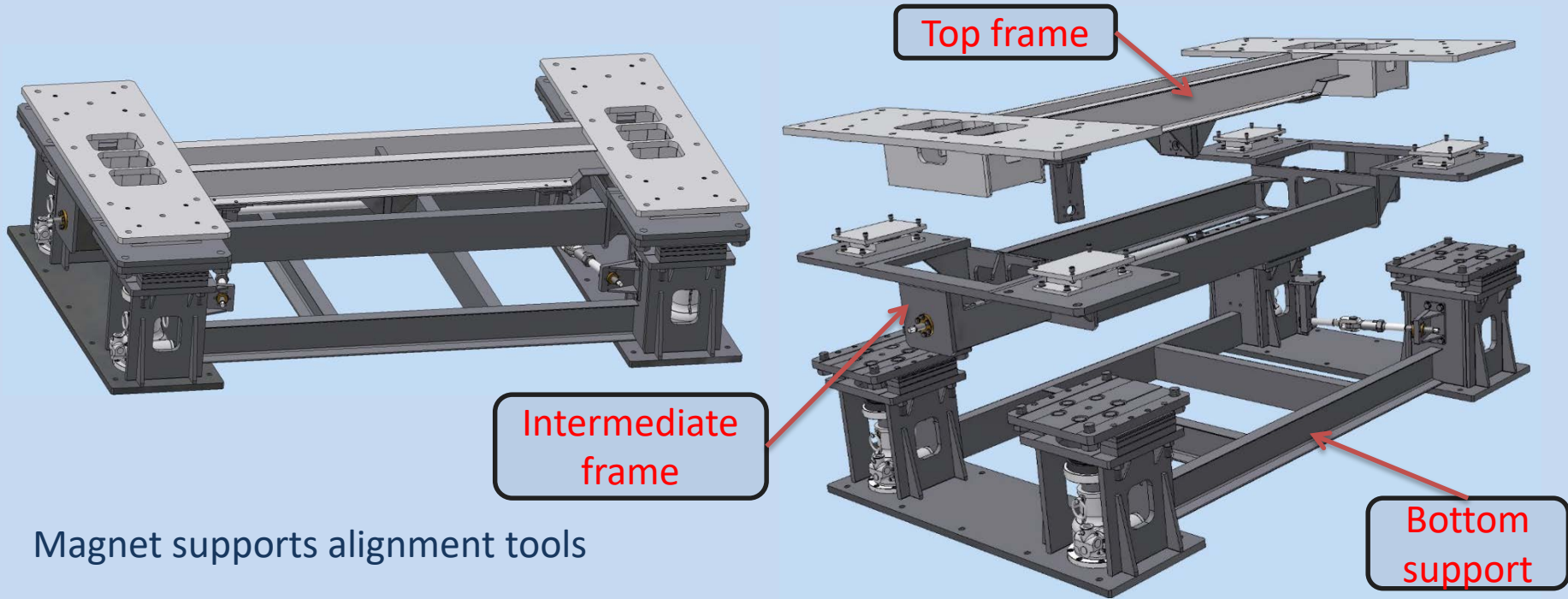
- $m = 150000$  kg
- $L = 4620$  mm
- $W = 2380$  mm
- $H = 4550$  mm

# Iron Yoke 3D Model

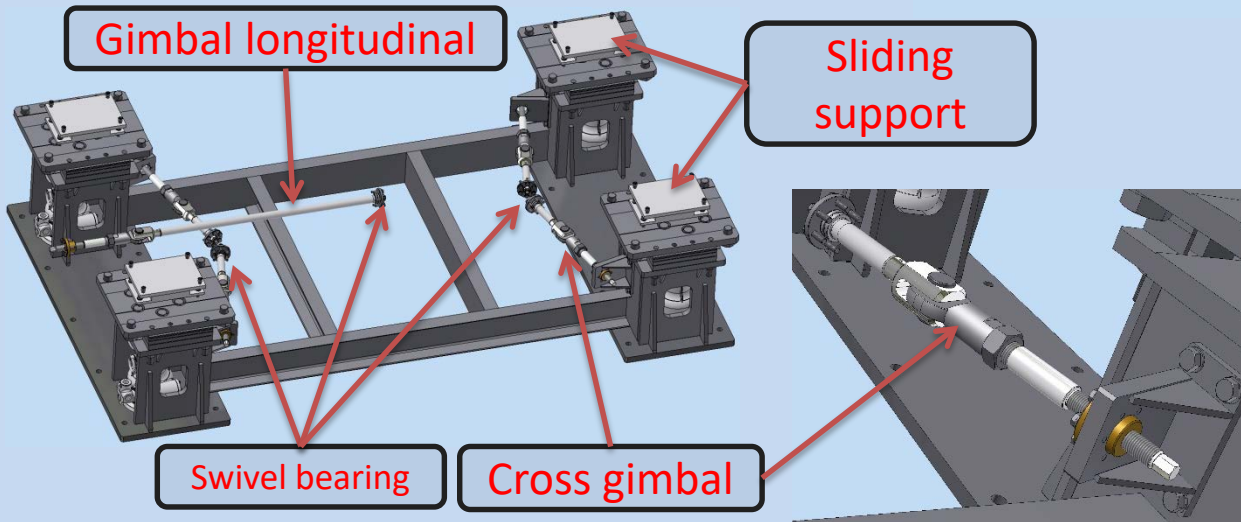




# CBM Magnet support



## Magnet supports alignment tools



## Weight and size

- m= 4480 kg
- 2022x3470x850mm
- move in 3D  $\pm 40$ mm
- Rotation top frame  $\pm 4^\circ$
- Loading capacity 200000 kg
- strength class of fasteners - 8.8

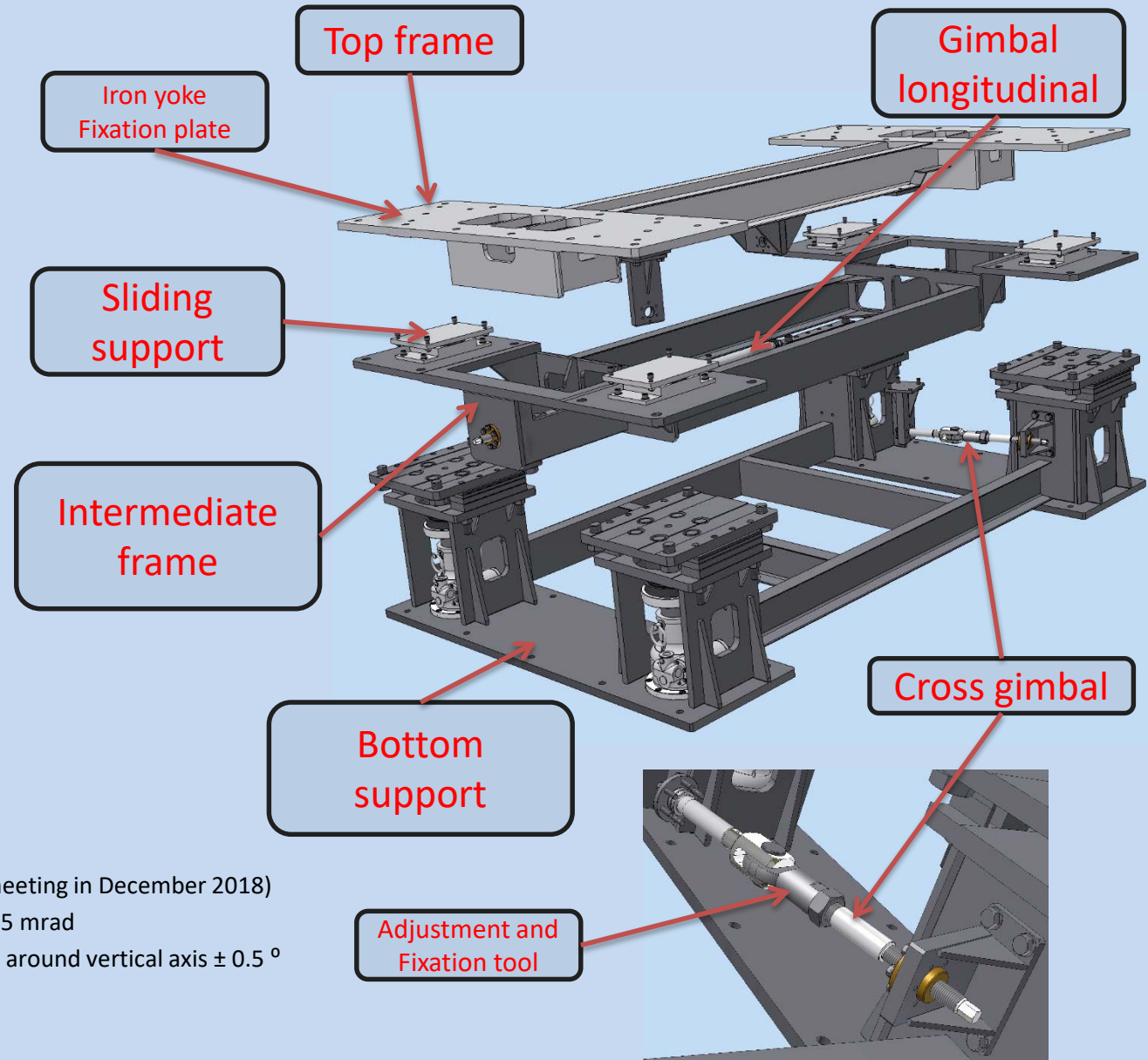
# CBM Magnet suport

- $m = 4480 \text{ kg}$
- $2022 \times 3470 \times 850 \text{ mm}$
- move in 3D  $\pm 40 \text{ mm}$
- Rotation  $\pm 4^\circ$
- Loading capacity  $200000 \text{ kg}$

PGslide® spherical slide bearing with 1 PTFE pad,

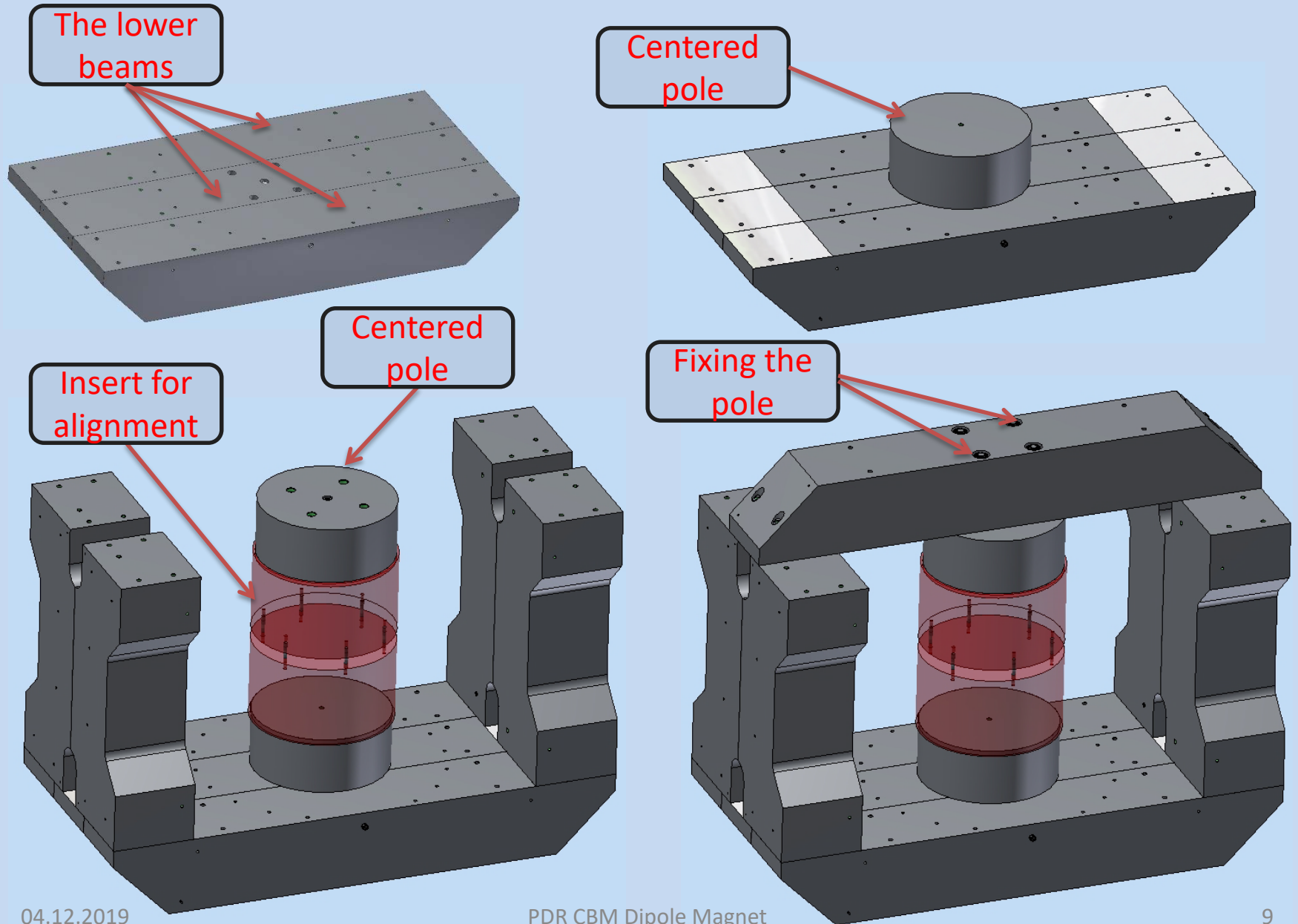
Very Low Friction Constant  
For the sake of simplicity, the following friction constants may be assumed under optimum installation conditions : PTFE bearing, not lubricated about  $\mu = 0.1$  PTFE bearing, lubricated about  $\mu = 0.04$

- - Position accuracy:  $\pm 0.5 \text{ mm}$  (meeting in December 2018)
- - Orientation accuracy (roll):  $\pm 0.5 \text{ mrad}$
- -Also, this design allows rotation around vertical axis  $\pm 0.5^\circ$

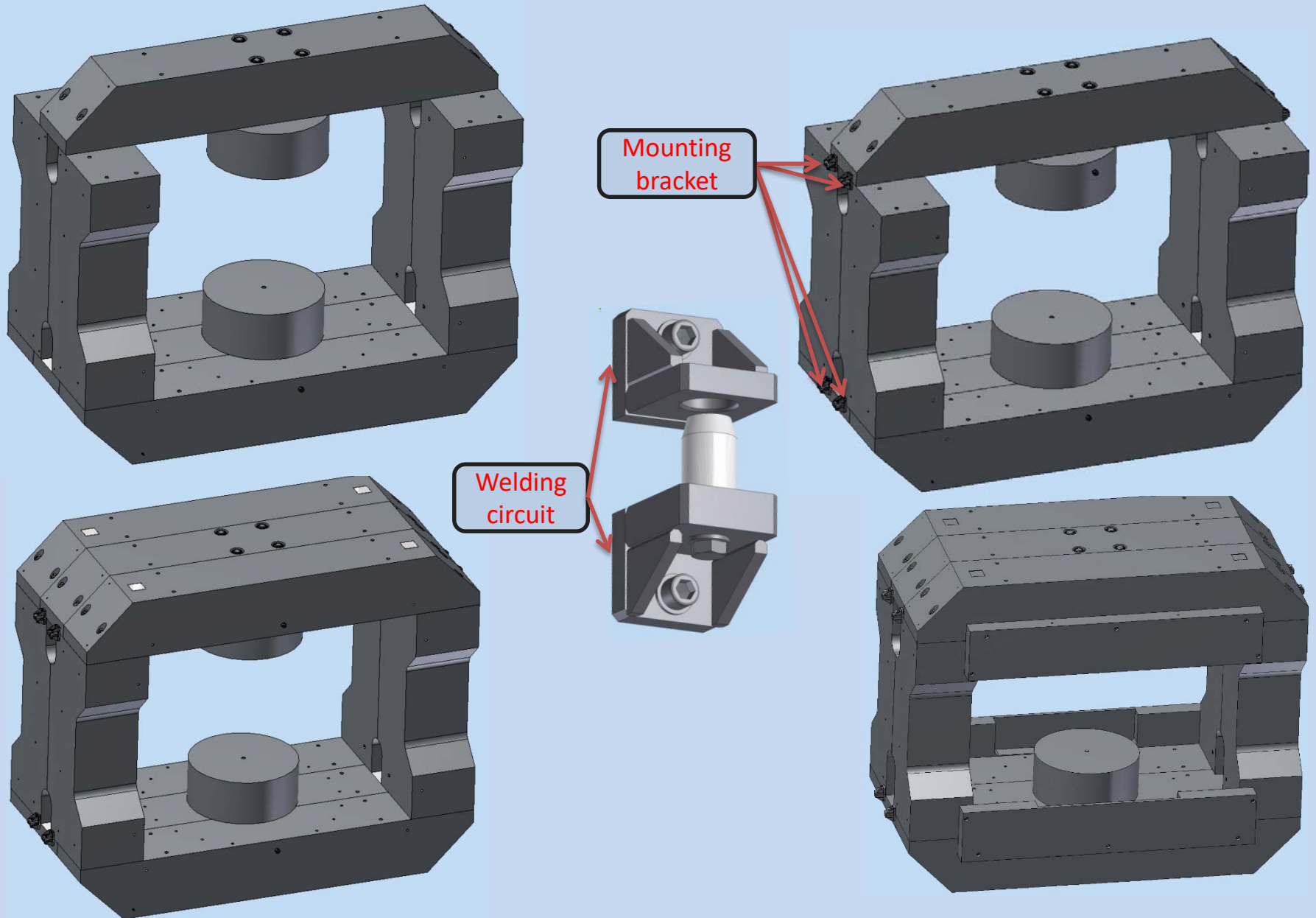




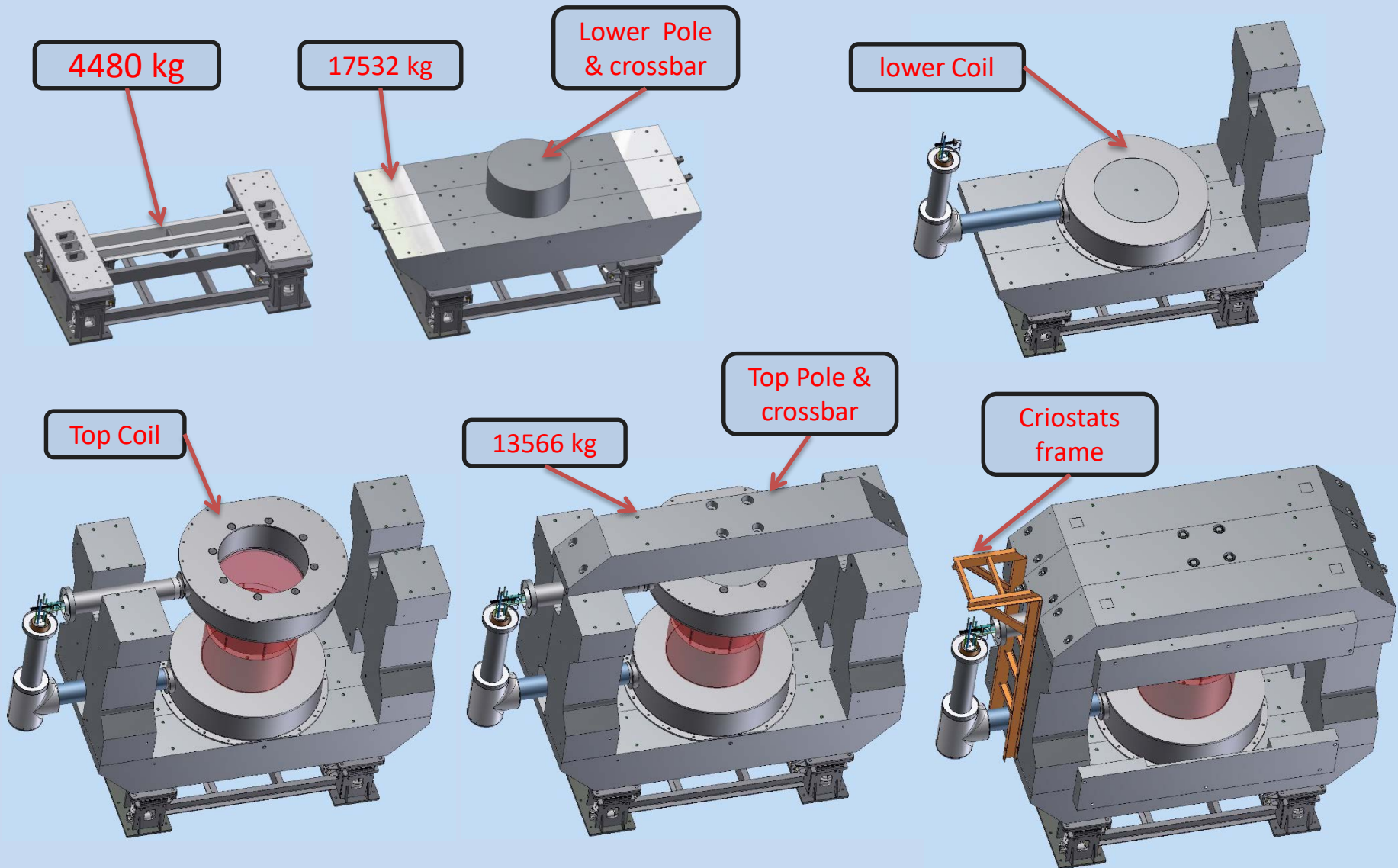
# Assembling of CBM Iron Yoke to check the dimensions



# Assembling of CBM Iron Yoke

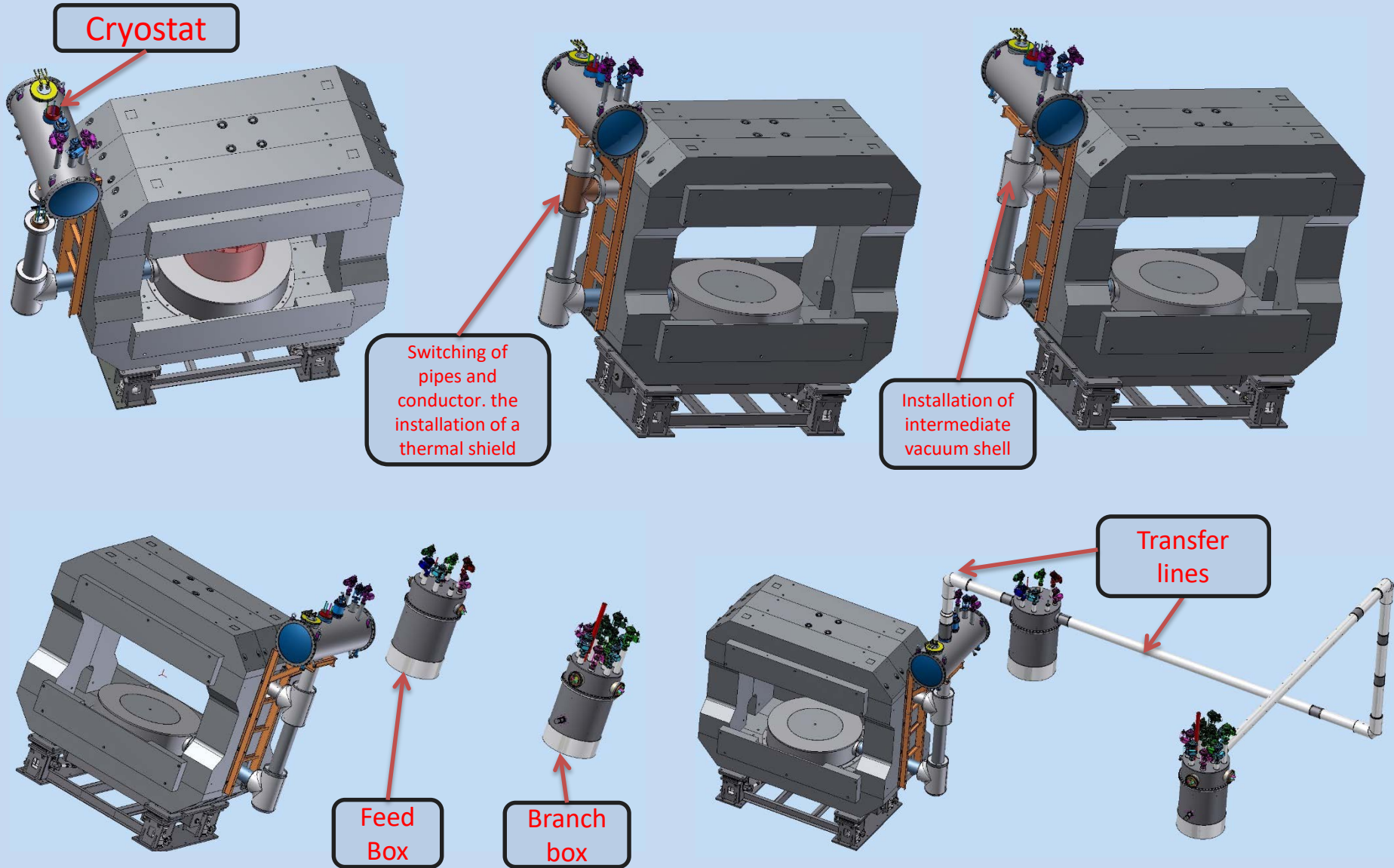


# Assembling of CBM Magnet





# Assembling of CBM Magnet





Thank you for your  
attention!