



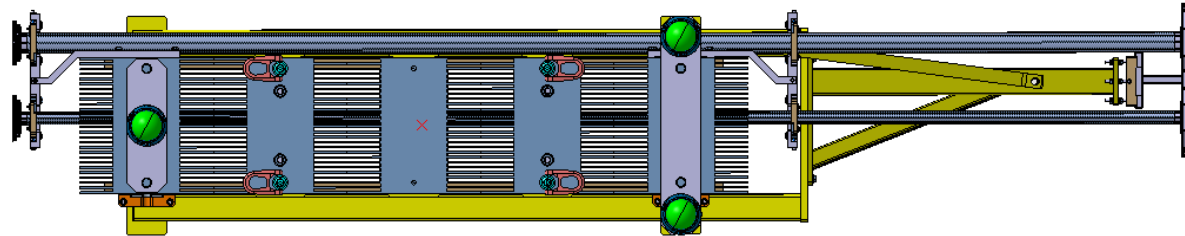
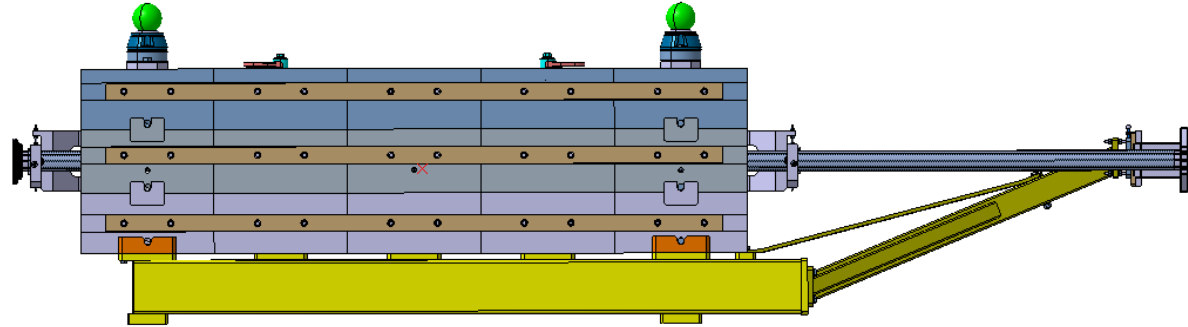
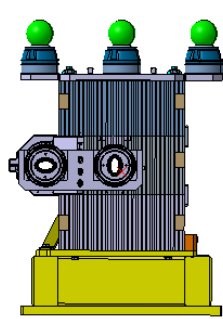
TCAPM passive absorber

Final Design Overview, Transport and Installation



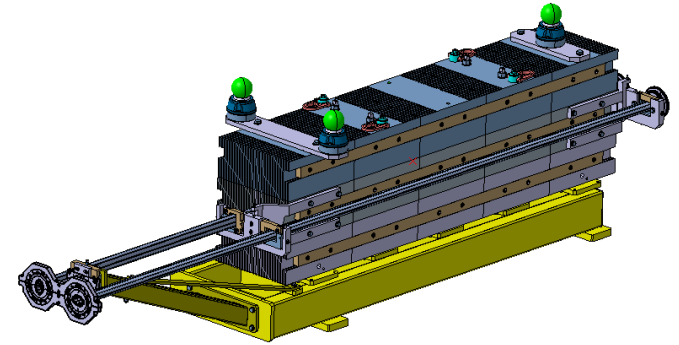
- **Final design overview**
- **Assembly procedure**
- **Transport & installation in the tunnel**
- **Integration**

Final design overview











Dimension / mass overview

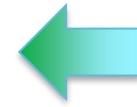
	Weight	Dimension
	12 Kg	L= 3.52m (Copper/S.Steel)
	779 Kg	2.00m x 0.404m x 0.180m (Steel S235JR + coating)
	756 Kg	2.00m x 0.415m x 0.190m (Steel S235JR + coating)
	781 Kg	2.00m x 0.415m x 0.180m (Steel S235JR + coating)
	190 Kg	3m x 0.61 x 0.55 (Steel + paint coating)



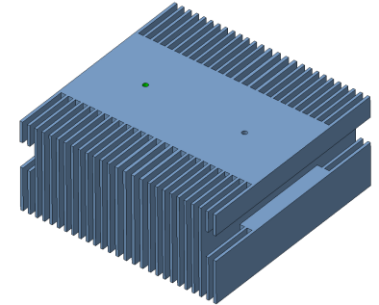
Complete mass: 2591Kg
Dimension: H 0.9m x L 0.7m x L 3.6m

Corrosive protection on S235JR Steel blocks

Coating	Application	+	-	Price
Zing coating	 Specific tooling is required to have a good application in each deep grooves	 Under radiation, good protection only if dry environment	Low hardness In time small particules could appeared Galvanic reaction with stainless steel	\$
Nickel coating	 Good (chimical)	 Under radiation, good protection only if dry environment	Bad feedback in radioactive area in Medicis experiment In time small particules could appeared	\$\$\$
Cadmium plating	 Idem Zing coating (electrolitic)	 Very good protection	Toxic Low hardness In time small particules could appeared	\$\$
Hard Chrome	 Idem Zing coating (electrolitic)	 Good hardness Good protection	Galvanic reaction with stainless steel	\$\$\$\$

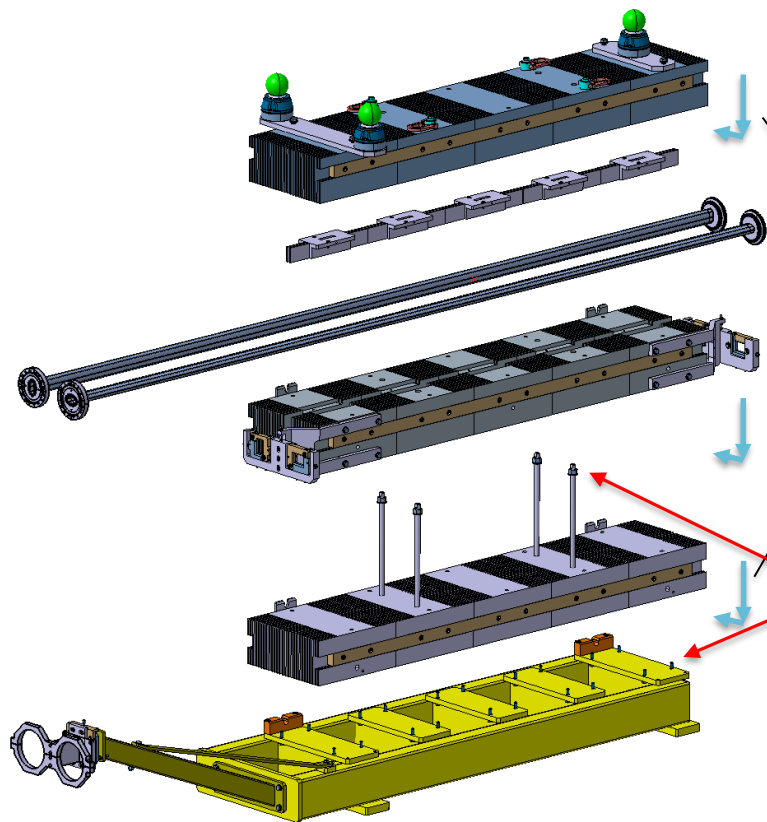


Zing coating appears as the best choice

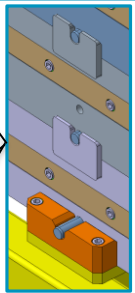


See EDMS document EDMS 2016281 v.1

Assembly procedure

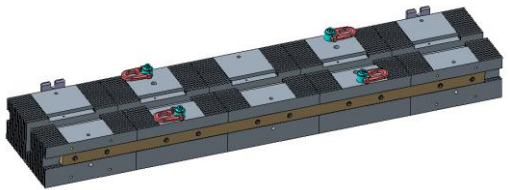
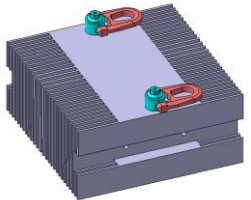


The positioning of each block assembly is obtained by pins in longitudinal direction and pushing them in contact to the lateral plates.

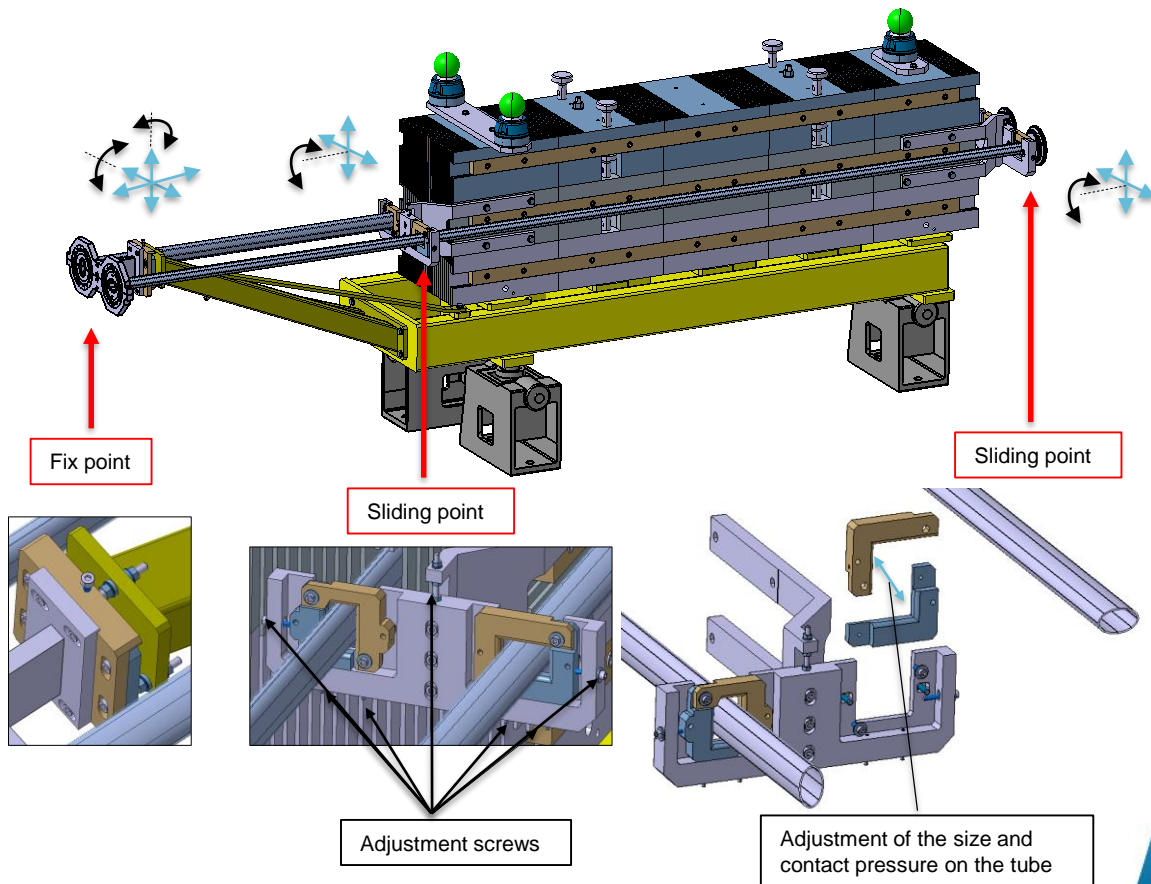
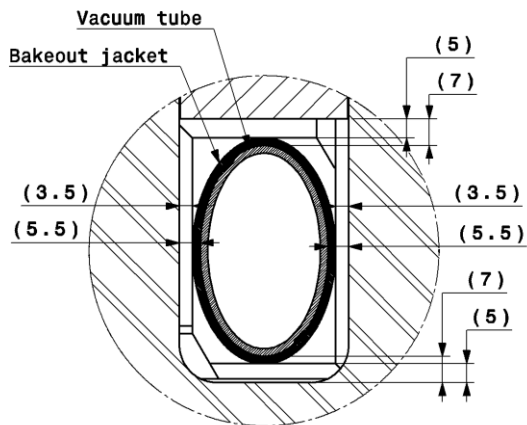


Screws and M20 rods for maintaining in position the whole assembly.

- Each block has to be lift with two M16 lifting hooks.
- Each assembly blocks has to be lift with 4 lifting hooks as in the picture.
- The whole absorber assembly could be lift with 4 lifting hooks on the upper assembly blocks.

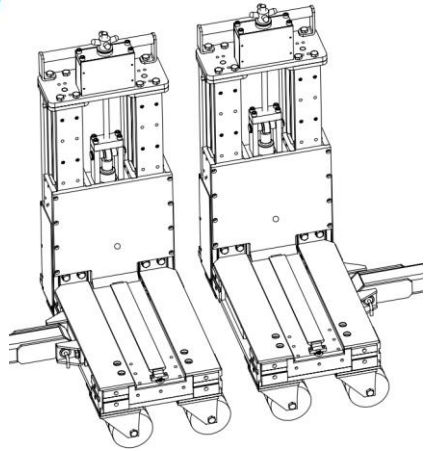


The vacuum chambers have to be adjusted in position to have gaps with the absorber blocks which are defined below.

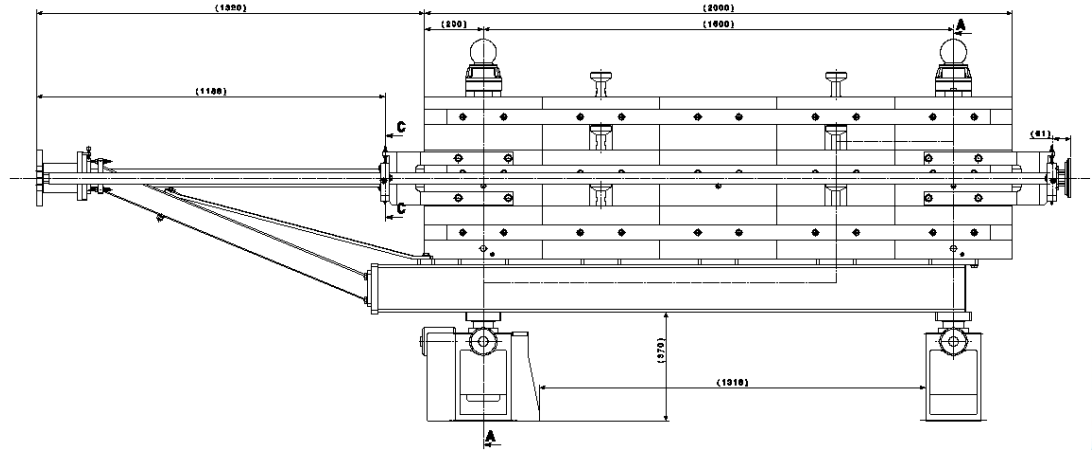
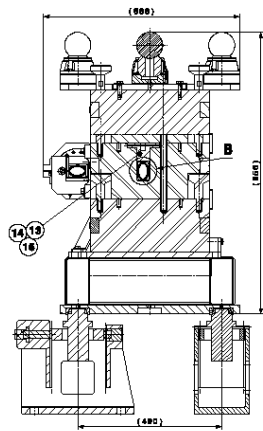


Transport & installation in the tunnel

Transport and installation in the tunnel will be done by 2 DFB transport carriages
(already used for magnet transport)

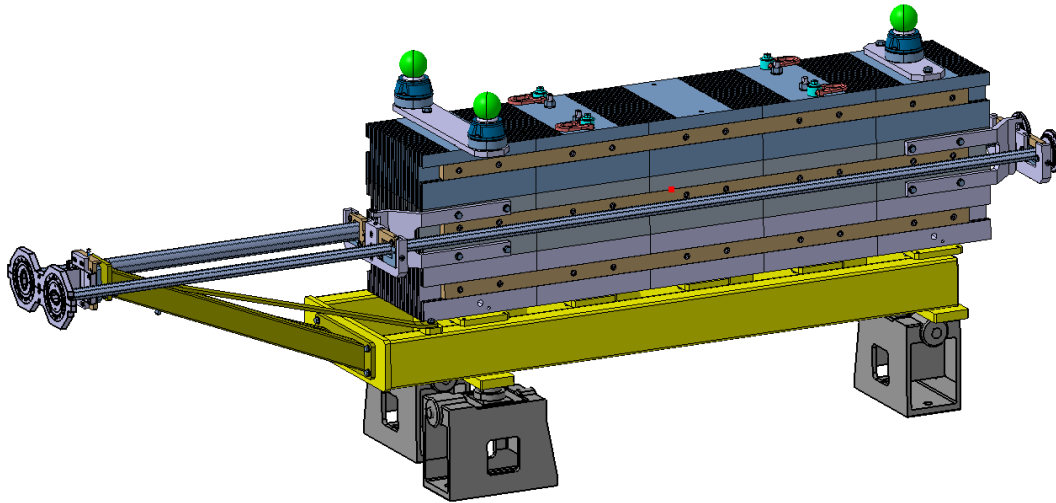


DFB transport carriage
Capacity: 5t by pair



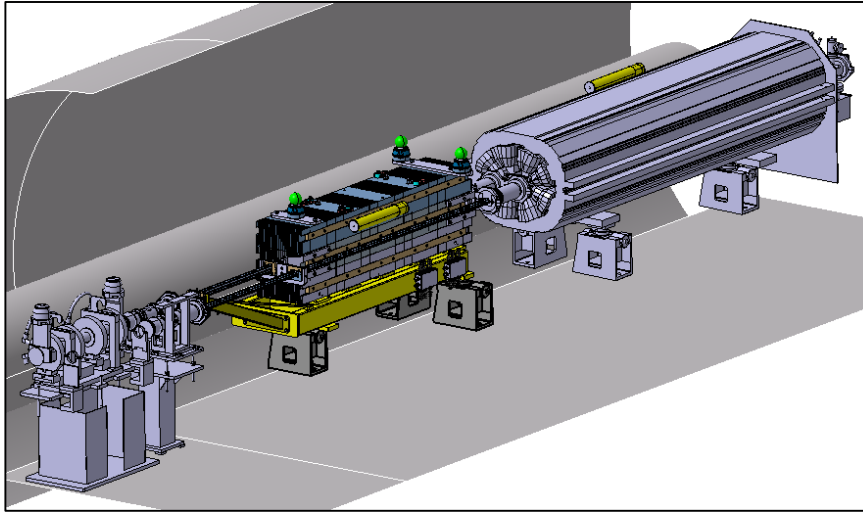
Assembly & Installation procedure

1. Assembly of all elements at the surface
2. Adjustment of positions and orientations of the vacuum
3. Fiducialization of the 4 chamber's flanges in the 3 targets system reference, after this step no adjustment or dismounting are allowed
4. Transport of the whole assembly in the tunnel
5. The absorber has to be aligned in the tunnel by the 3 jacks.

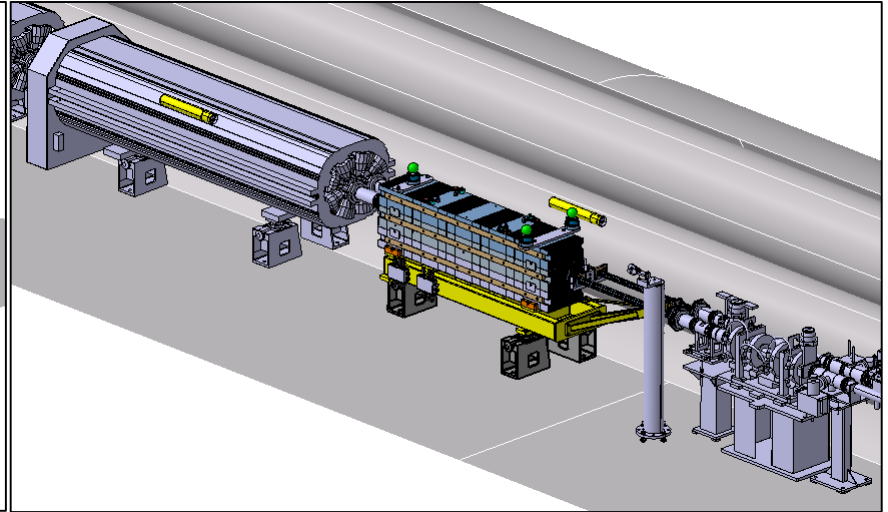


Integration

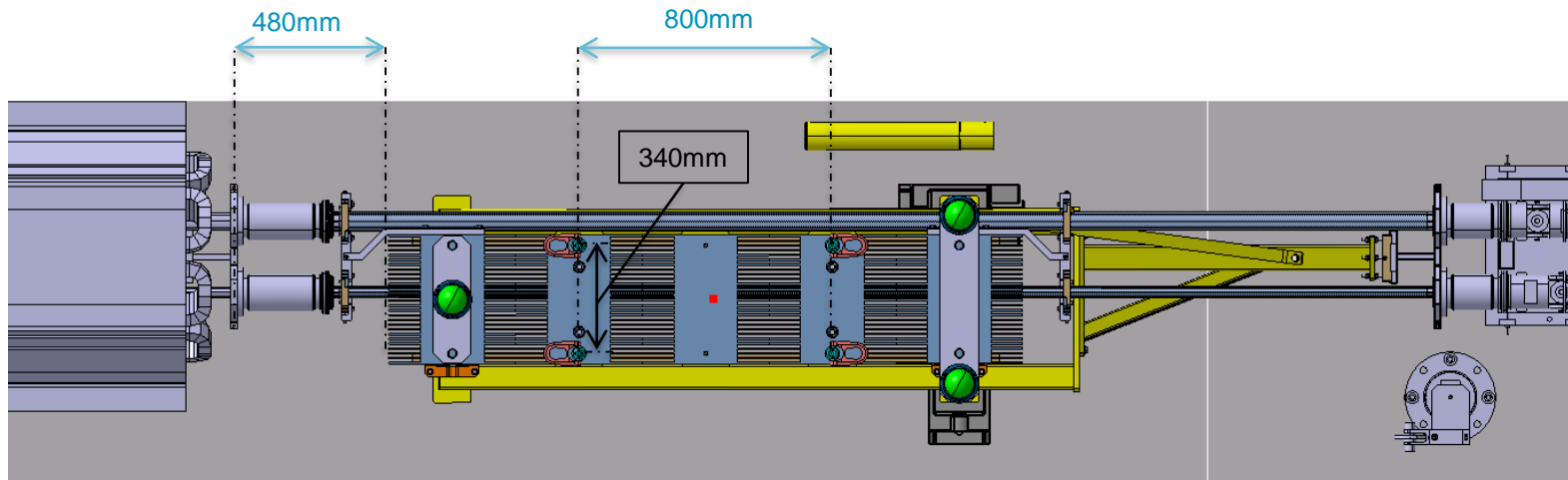
The absorber is exactly the same in R7 and L7 zone except jack's orientation and position. New holes should be drilled in the tunnel floor.

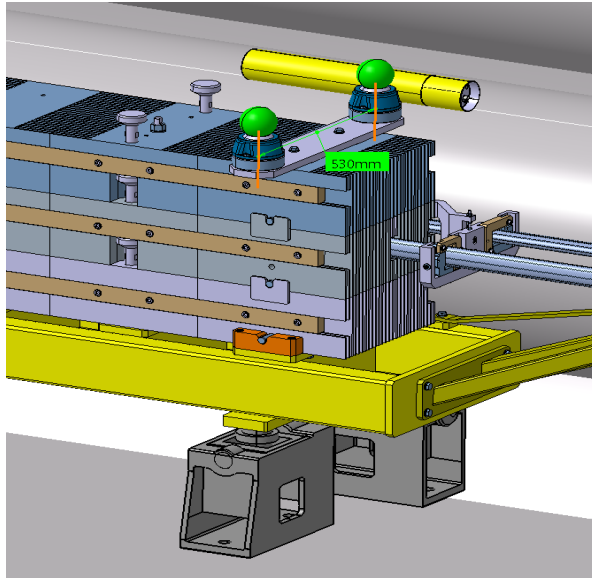


L7 zone

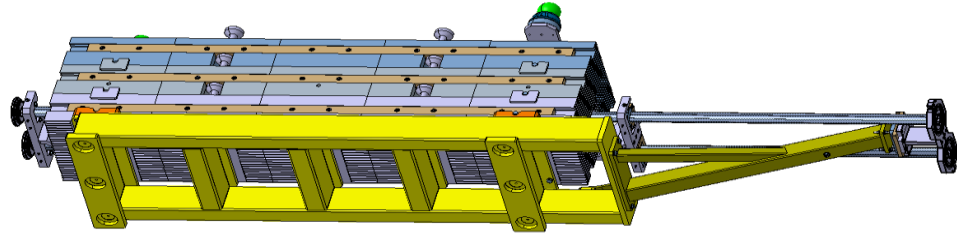


R7 zone

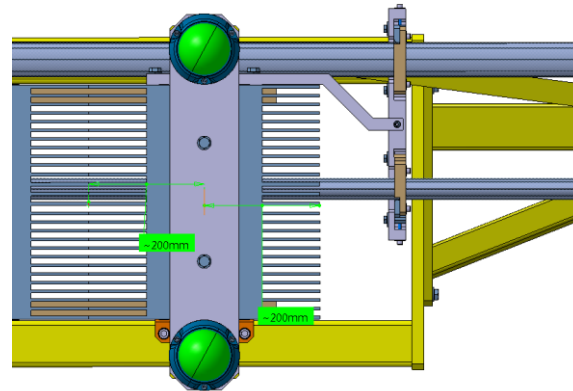




530mm between targets (vertically aligned with the jacks)



6 jack's positions on the support



Space available for tiltmeter tooling

