

Mechanics of the luminosity detector

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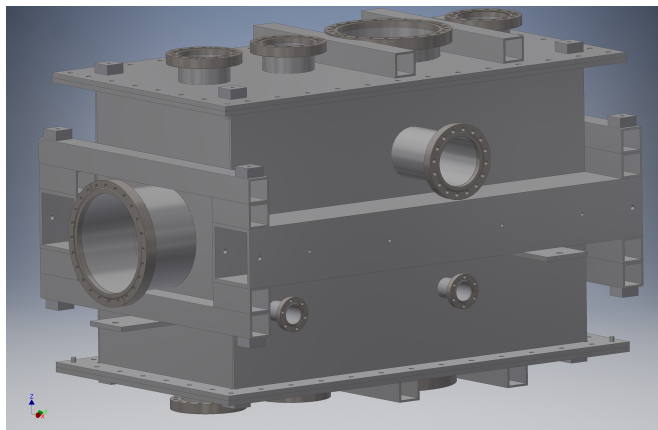
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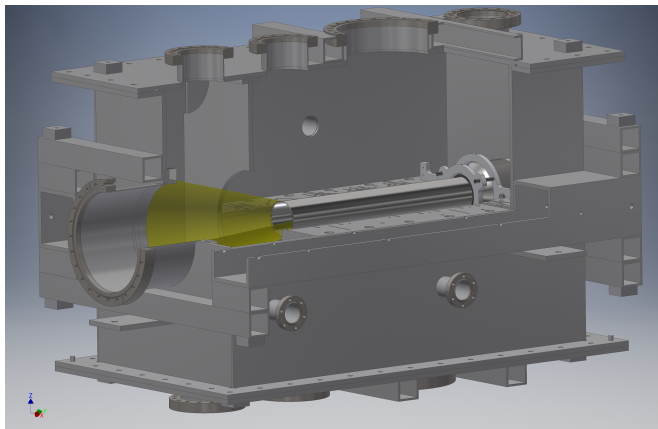
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Overview



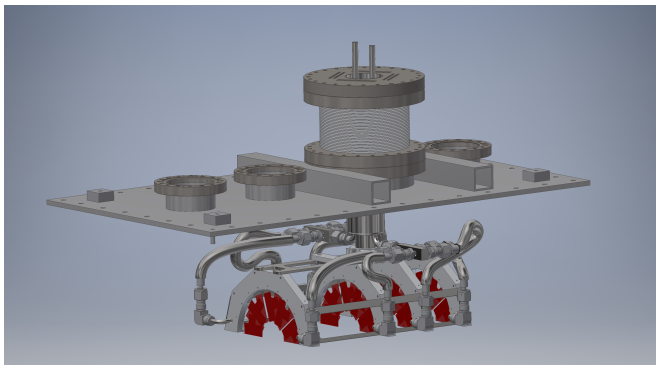
- outside: 100 cm × 60 cm × 56 cm
- box optimized for rigidity
- vacuum box in stainless steel, elastomer gaskets for the big flanges

Beampipe in the luminosity detector



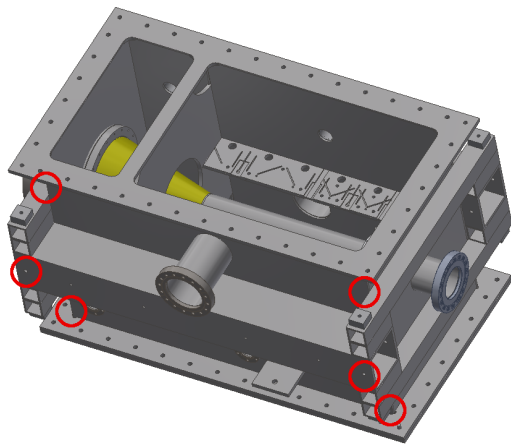
- length of beampipe section: 1115.6 mm
- stainless steel part: 65 mm diameter, 0.5 mm wall thickness
- foil cone: 15° diameter change, 10 μm aluminium, 25 μm PET

Feedthrough and LSM



- linear shift mechanism to move detector out
- cooling & signal feedthroughs in the DN200 flange: No movement
- additional feedthroughs in DN100: (signal), LV, temperature

Alignment and positioning



- SMR nests foreseen on the outside → position in hall
- detector position in box: capacitive sensors
- capacitive sensors relative to SMR nests: measurement arm