

BGC CERN Update

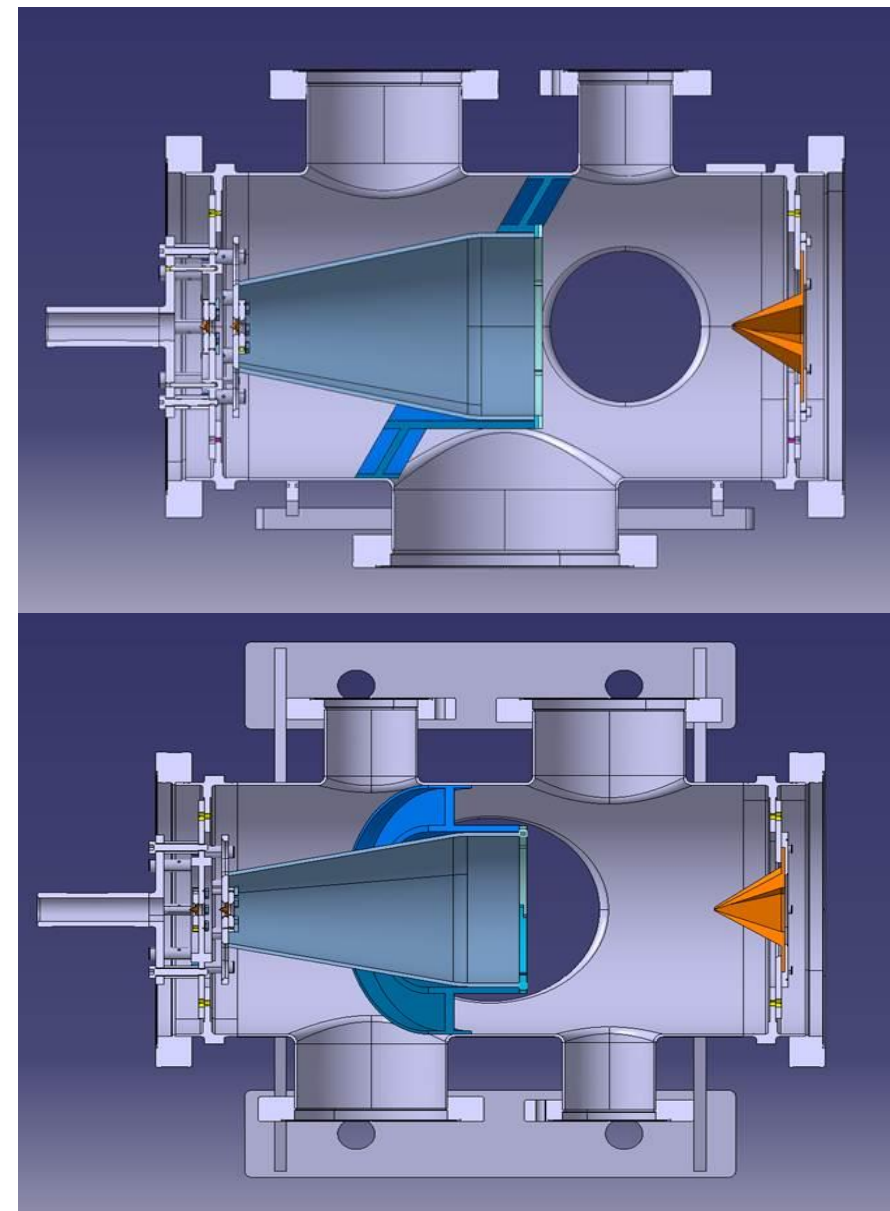
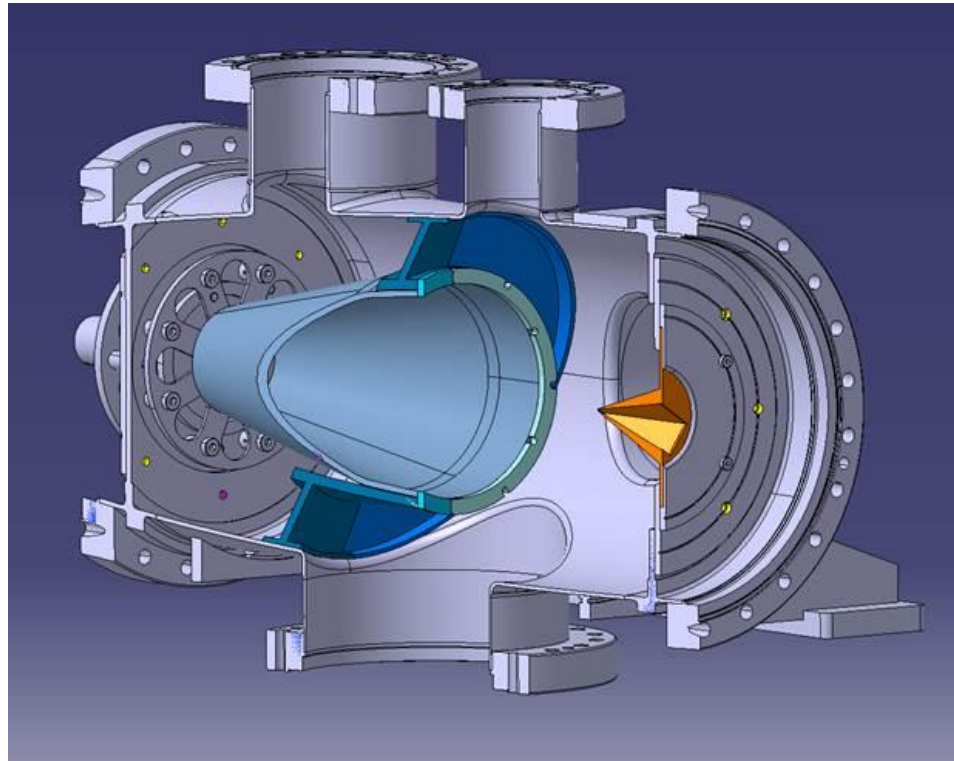
Tom Dodington, BE-BI-ML

20.12.2017

Gas Volume Partition

Idea to separate pumping between skimmer 1 & 2
Preliminary design by CERN Design Office

ST0923983_01



Candy Capelli, EN-MME

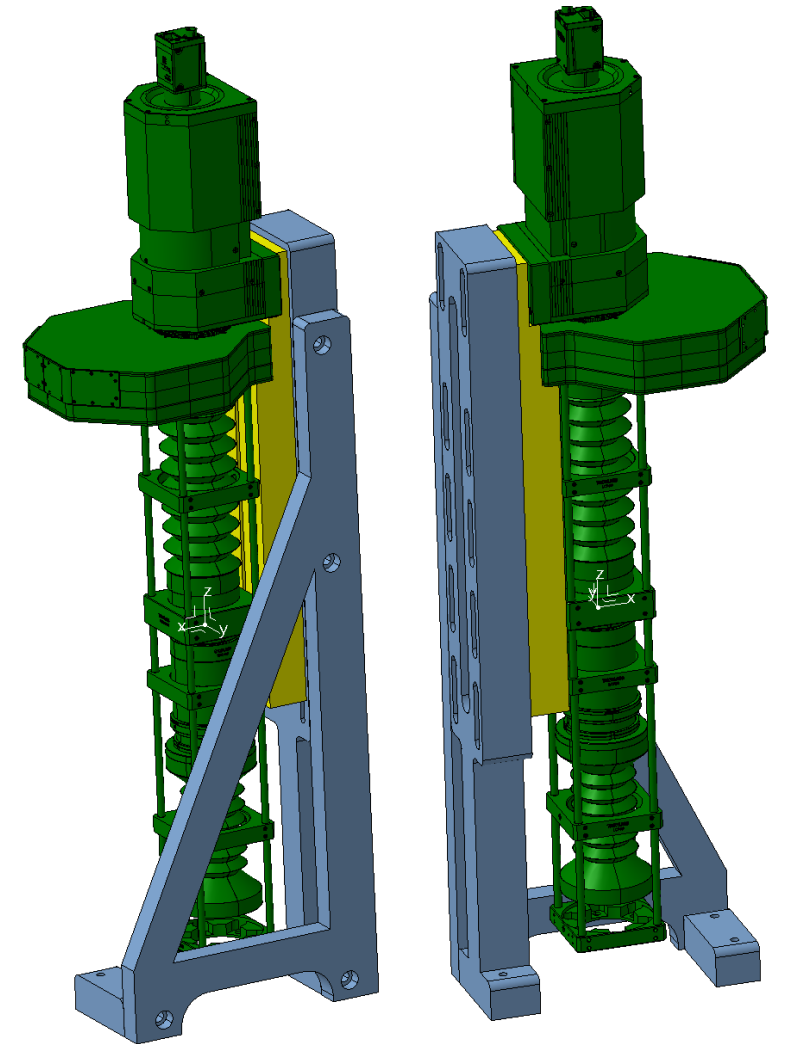
Optical Holder

Addressed issues discussed with Serban

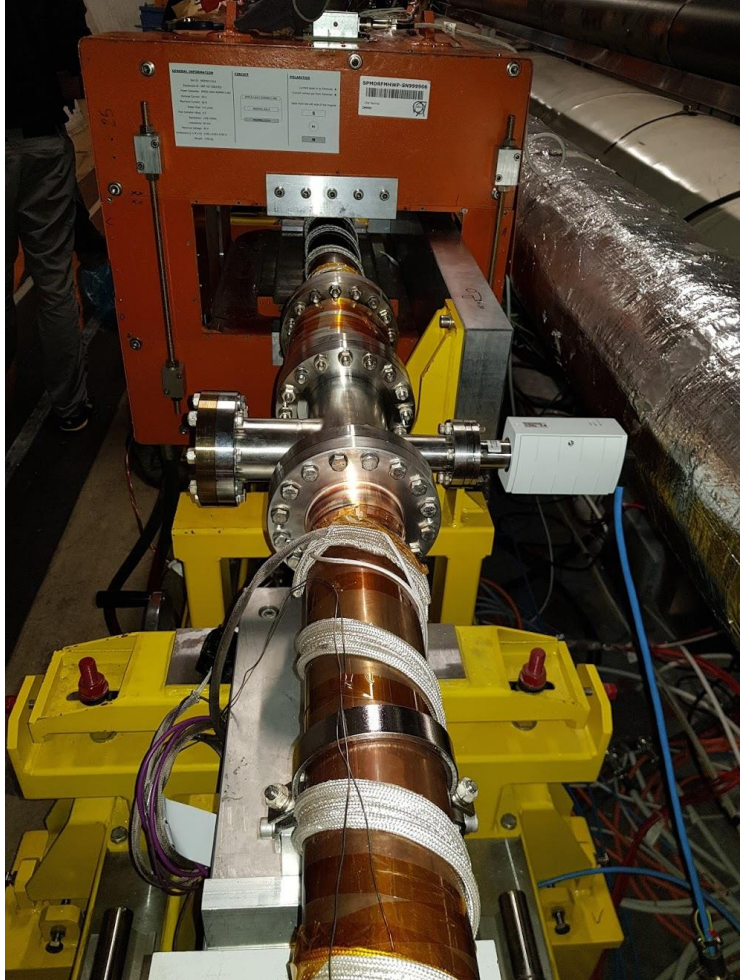
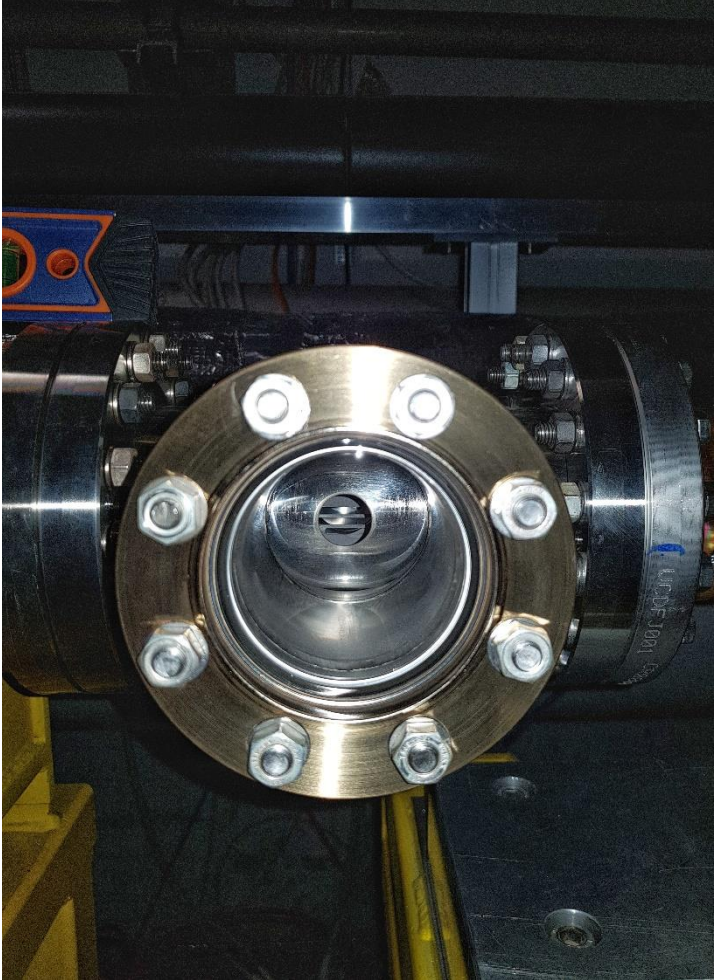
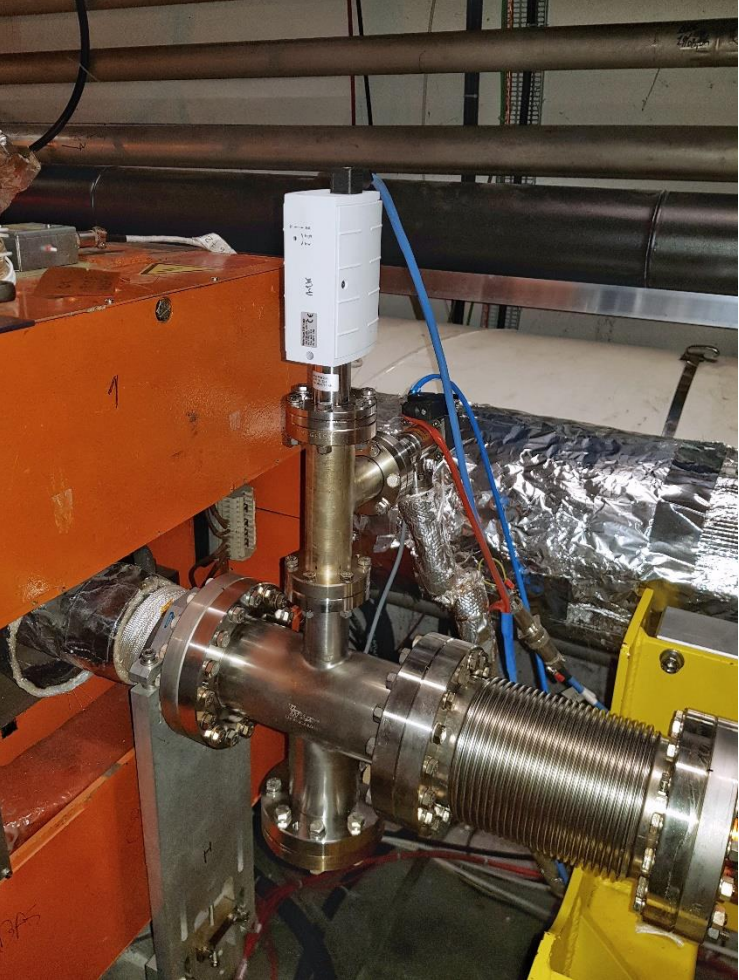
Four pieces, ST0916376_01

Drawings complete, need to check

Will send to Hao for production



Fluorescence Monitor Installation



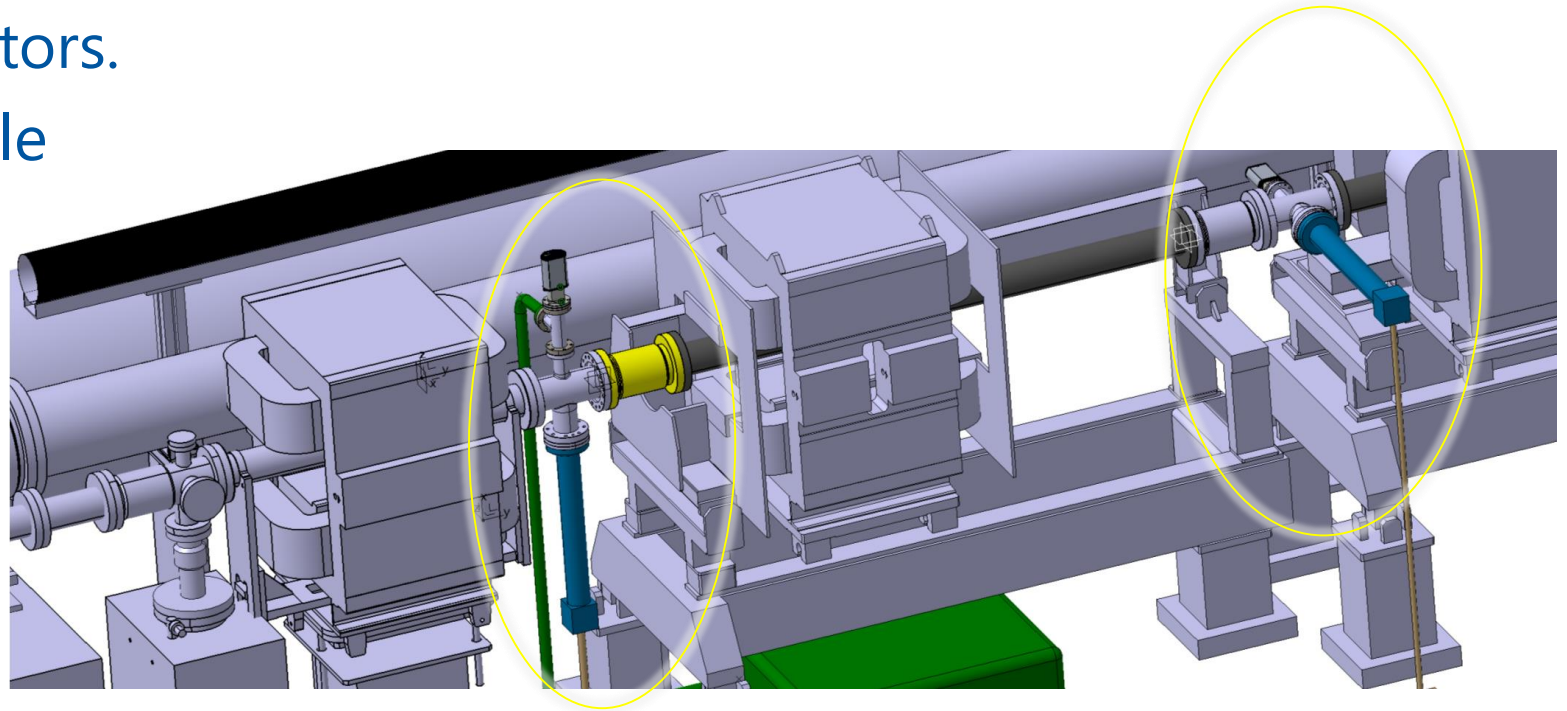
Fluorescence Monitor Optics

Ongoing design of supports for:

- Camera, Photon Counter
- Lenses, Filter Wheels, Black boxes for light shielding

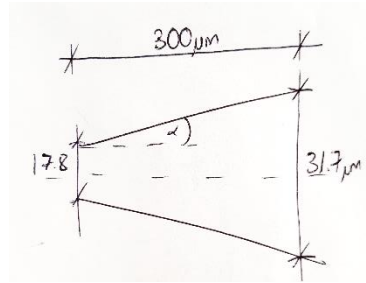
For **both** fluorescence monitors.

Avoid floor drilling if possible



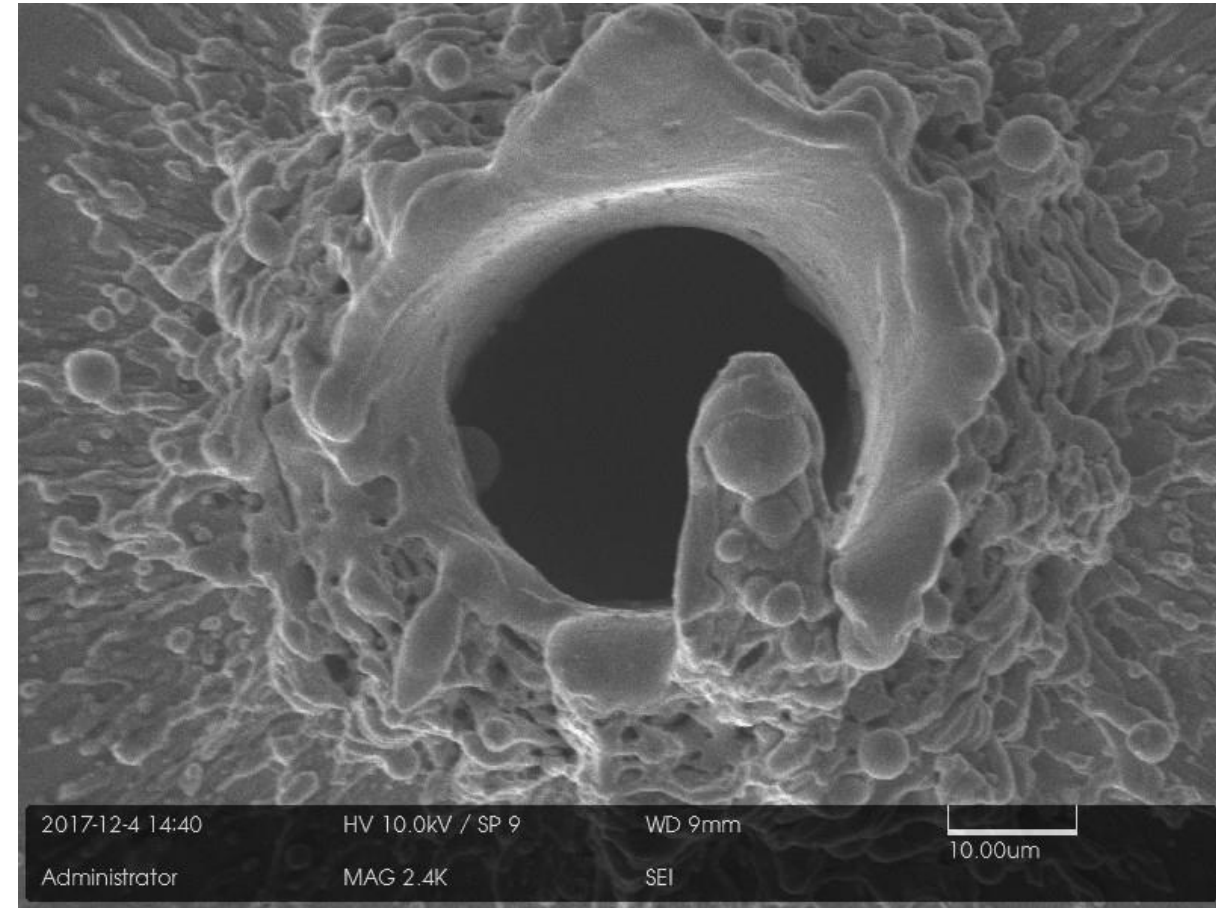
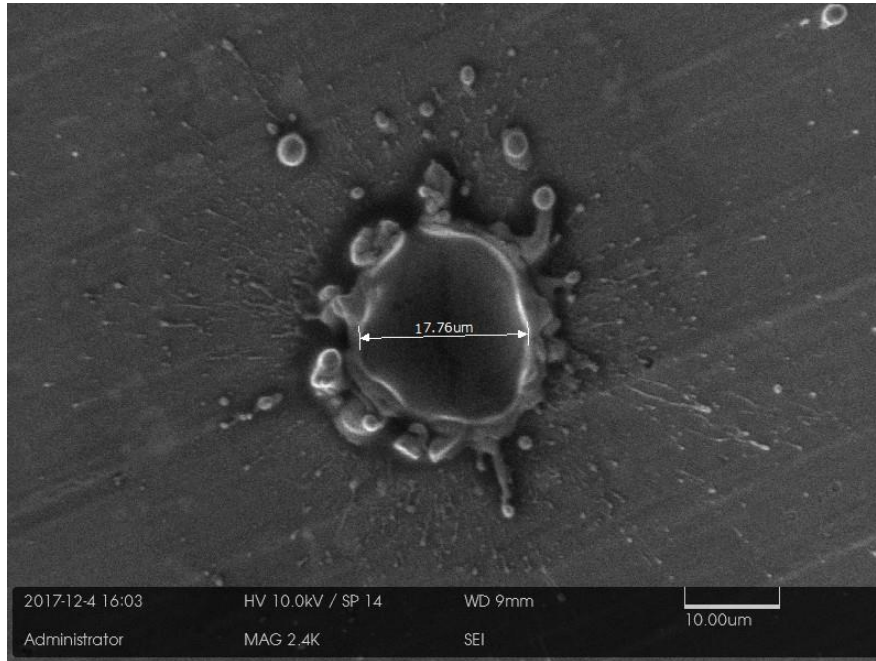
Hole Manufacture

- 20um laser drilled hole completed
- 30um machined hole drill bits being manufactured, results before 2018.



$$\alpha = 1.33^\circ$$

(previously
expected 2-3°
with laser)



Scitech, Rutherford Appleton Laboratories, UK

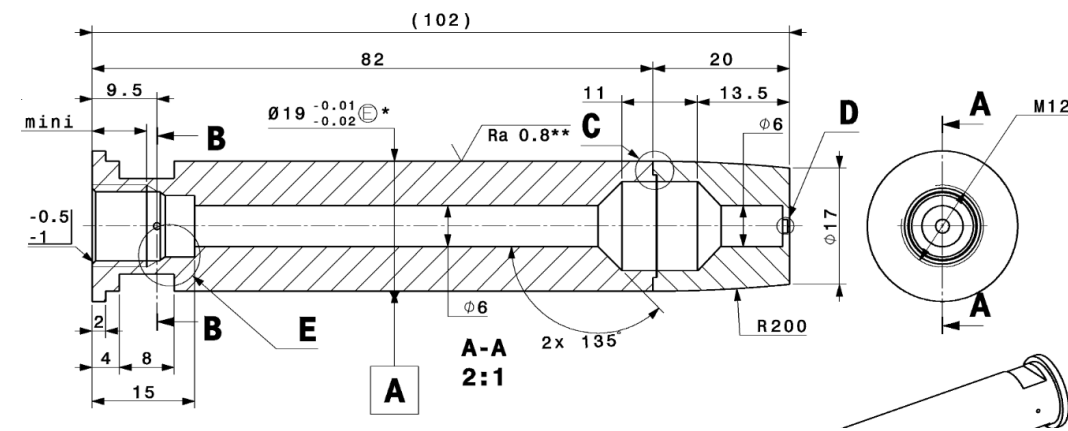
Nozzle Manufacture

Manufacture has begun at Scitech, *Rutherford Appleton Labs, UK*

We have to verify the weld will withstand the 10bar pressure

- Vacuum brazing had been suggested, don't want this

Final processes (hole manufacture and machining of 19mm outer diameter) dependant on outcome of hole tests. Decision in January?

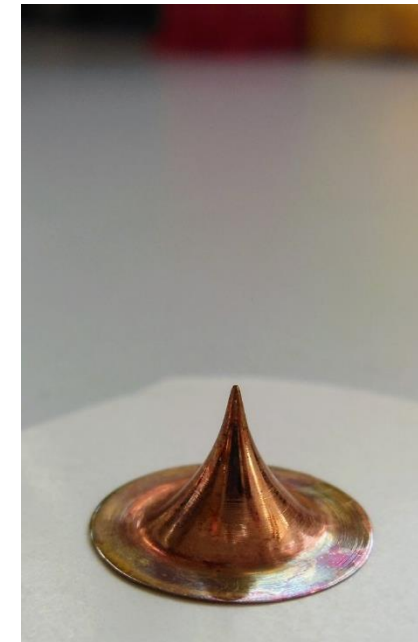
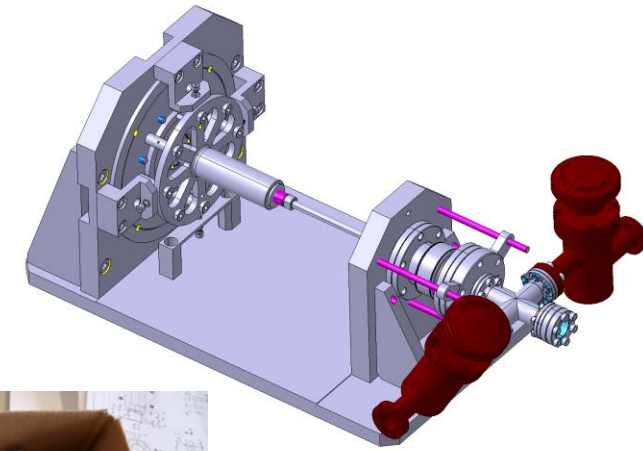


Alignment Progress

- Stainless steel parts ✓
- Skimmers ✓
- Alignment Table ✓
- Alignment laser & components ✓
- Nozzle - ongoing

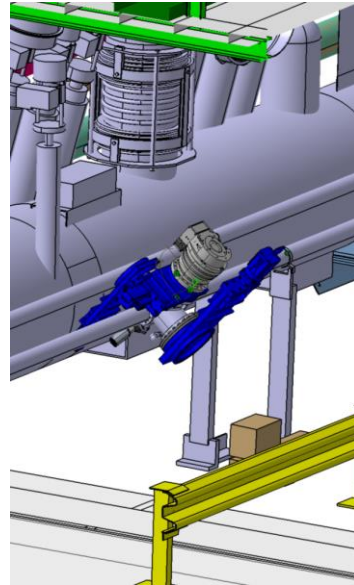
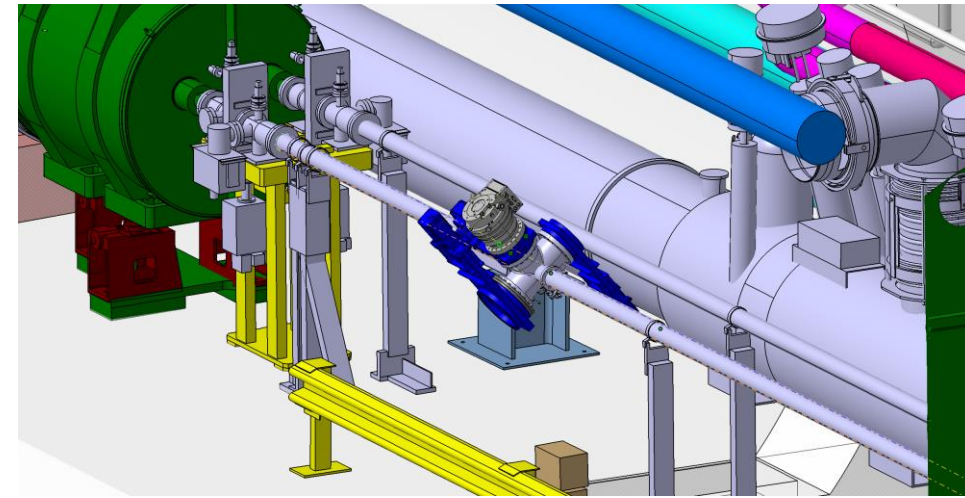
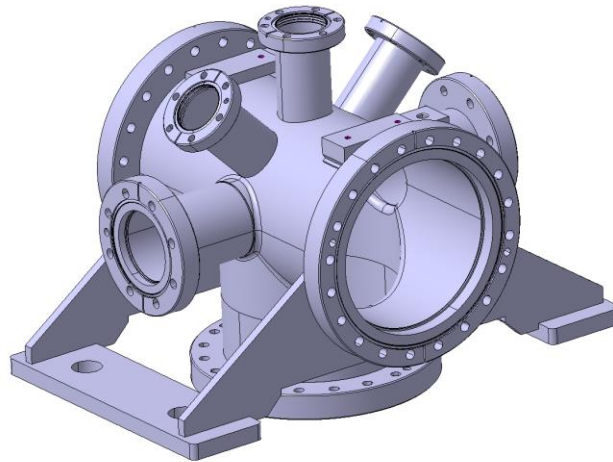
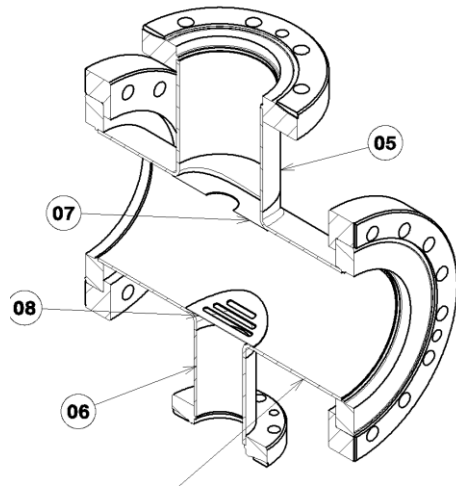
Next steps:

- Assemble everything
- Verify skimmer hole size with metrology
- Align skimmers as best as possible with current setup



New LHC BGC Integration Chamber

- ECR for new Integration chamber due in March 2018 for HiLumi technical review and LS2 integration
- Some collaboration with EN-MME integration and design office.
- Discussion with BE-APB for impedance analysis
- Shielding with holes / slits to reduce effect of larger DN200 flanges





Merry
Christmas!



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