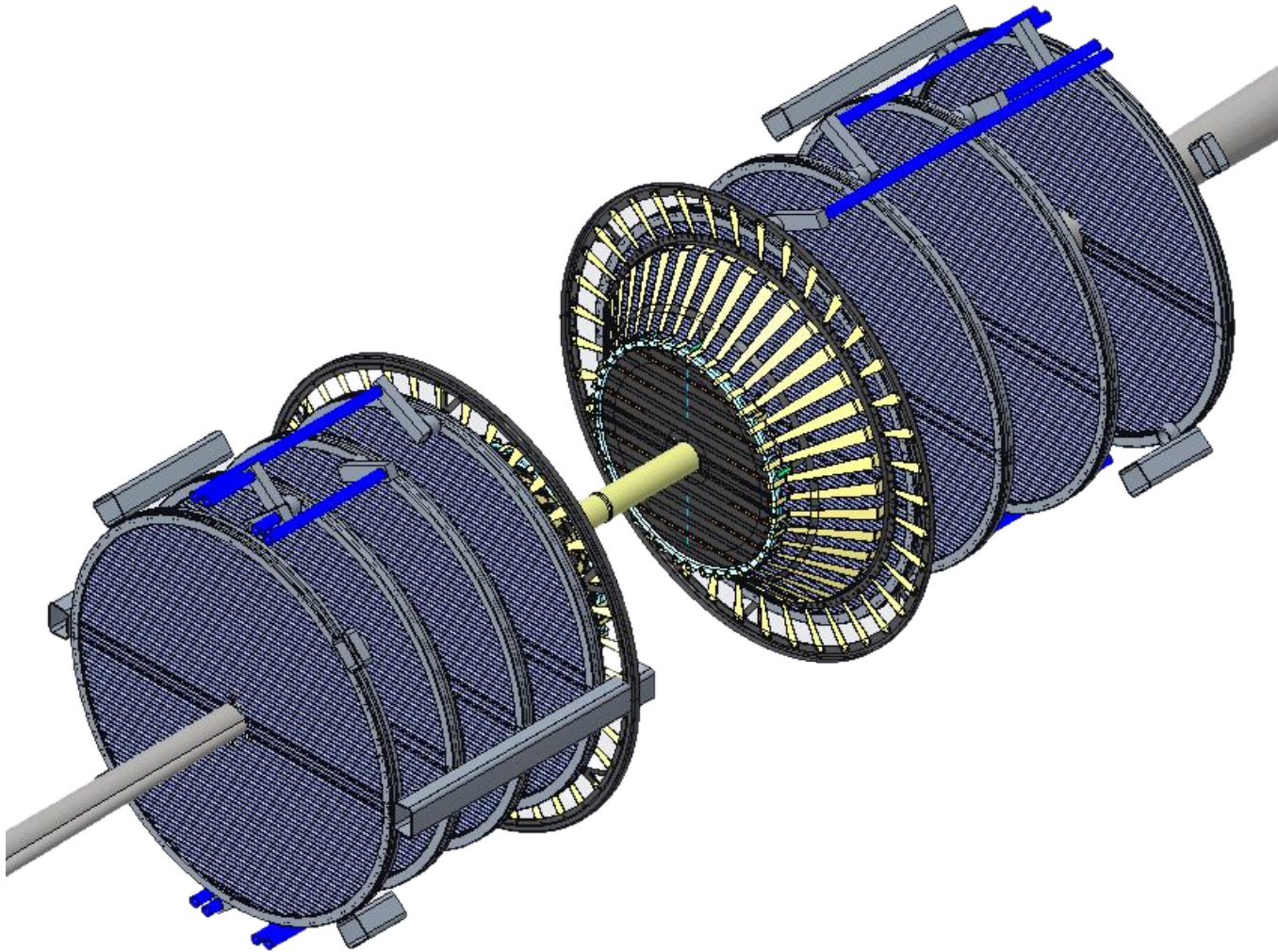


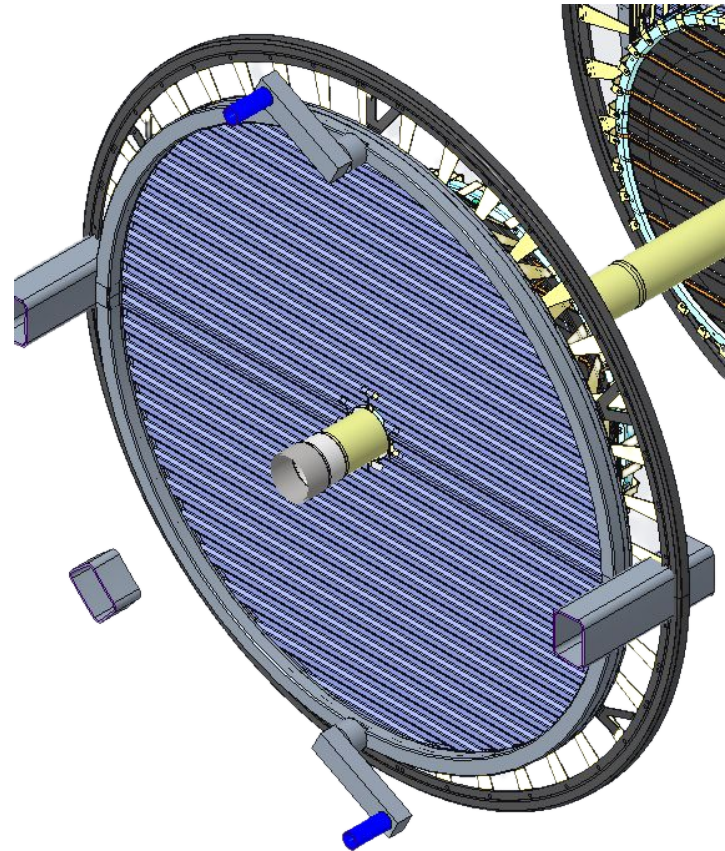
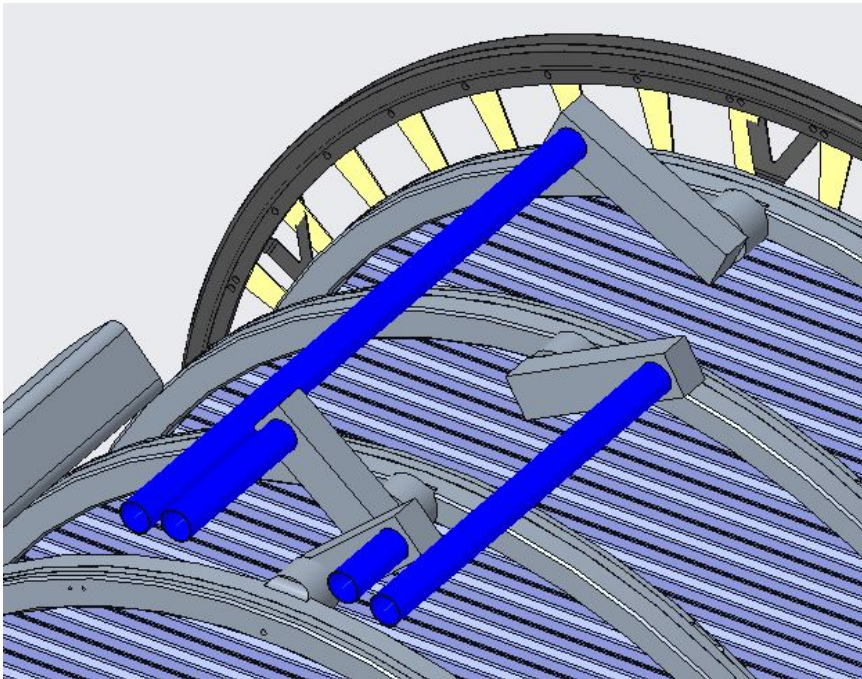
SVT Air Services Routing (09/23/2025)



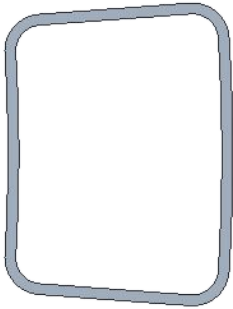
Cooling and exhaust services added to the SVT

Cooling

A total of 16 1" OD pipes were added to supply air to each disc. Snorkels would connect the tubes to the center of the diameter of the disc.

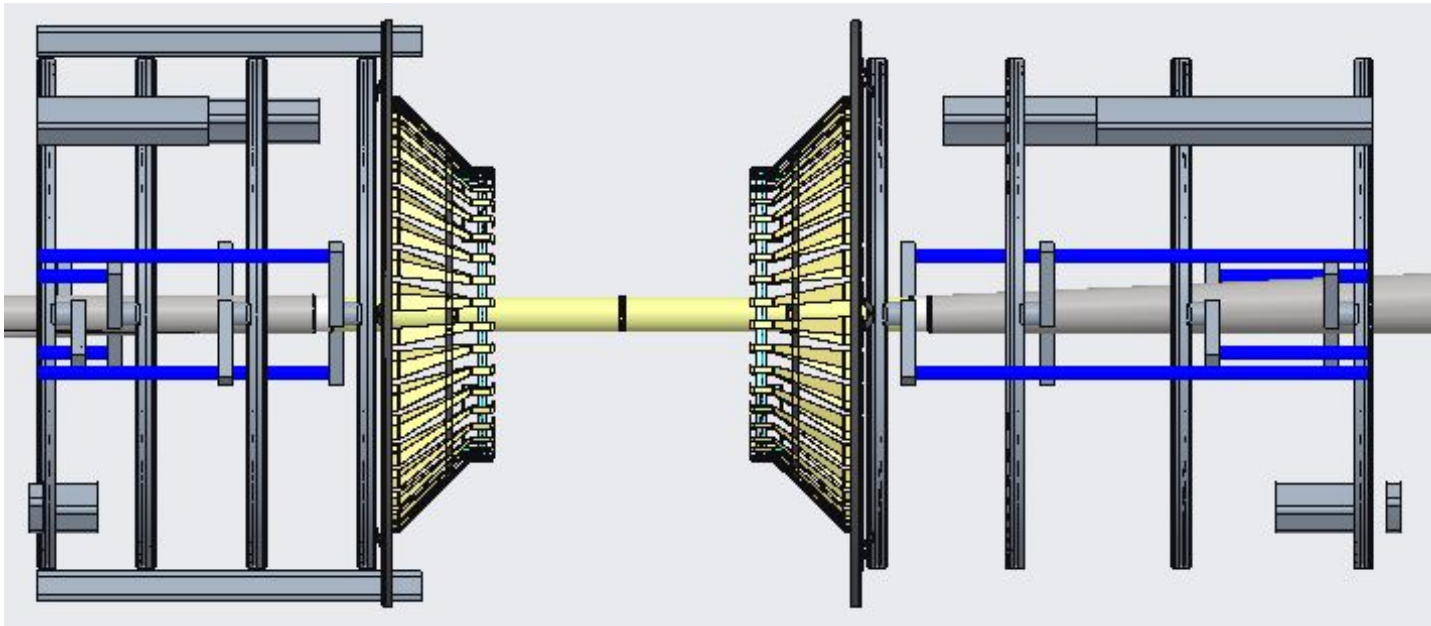


Exhaust



Each disc has a thin-walled duct that has an area of roughly 40cm^2 .

The electron side contains 2 extra ducts that is intended to enter the inner barrel.



Annular space claimed in the electron and hadron sides are roughly **281.8 cm²** and **201.4 cm²**, respectively.

Electron side:

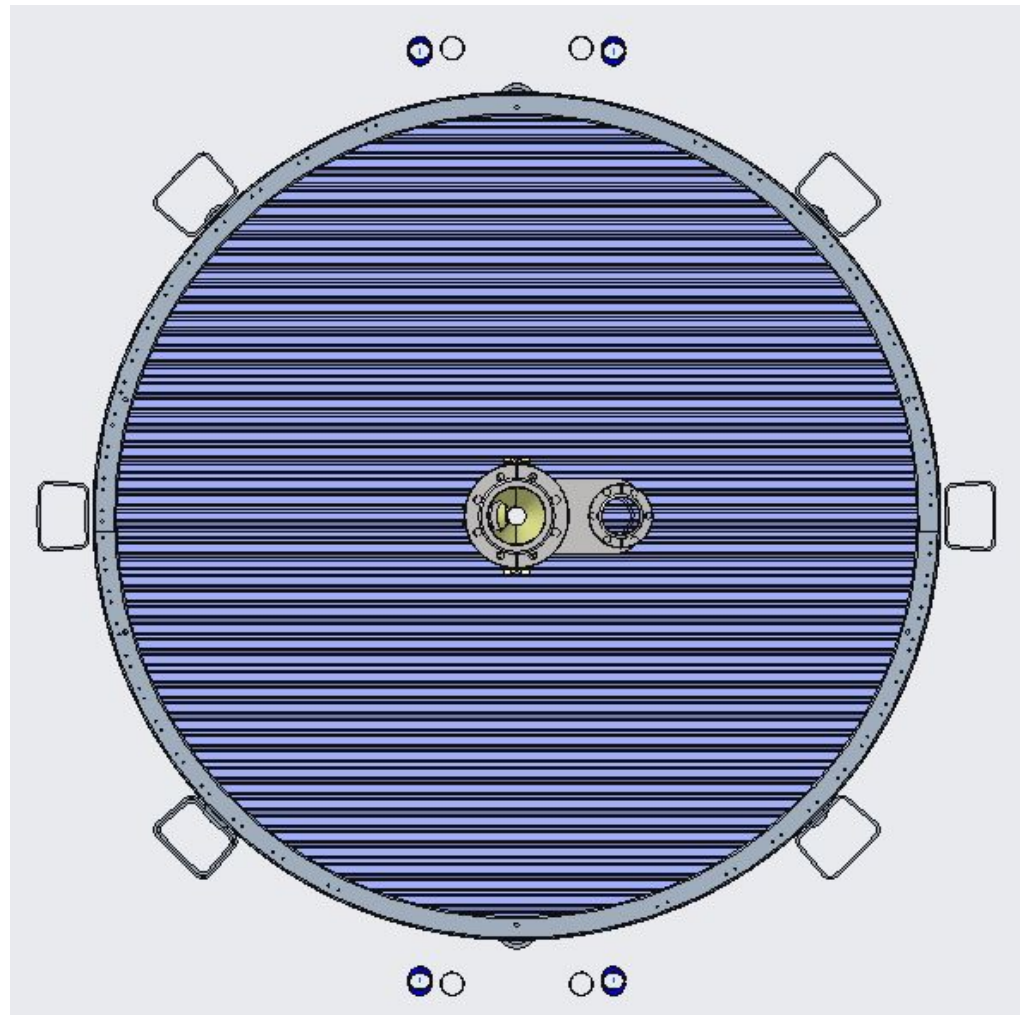
$$\text{Pipes: } 8 \times (5.07 \text{ cm}^2) = 40.6 \text{ cm}^2$$

$$\text{Ducts: } 6 \times (40.2 \text{ cm}^2) = 241.2 \text{ cm}^2$$

Hadron side:

$$\text{Pipes: } 40.6 \text{ cm}^2$$

$$\text{Ducts: } 4 \times (40.2 \text{ cm}^2) = 160.8 \text{ cm}^2$$



Disc on the electron side

Next steps on CAD modeling

(feedback is welcome)

- initial cable routing in the disk zone
 - power and signal
 - start at outer disk and go to just past innermost
 - route bundles, not yet the final splits, to the readout boards
- import updated models of disk interface and control boards
- single example case of splitting out to one disk readout board and iterate
- get updated inner barrel, outer barrel, and PST models from Purdue and Oxford
 - our latest are from [July snapshot](#)
 - import new into our model so we can advance on:
 - identifying inferences and issues to feedback
 - routing services to barrel
 - barrel supports
 - disk supports