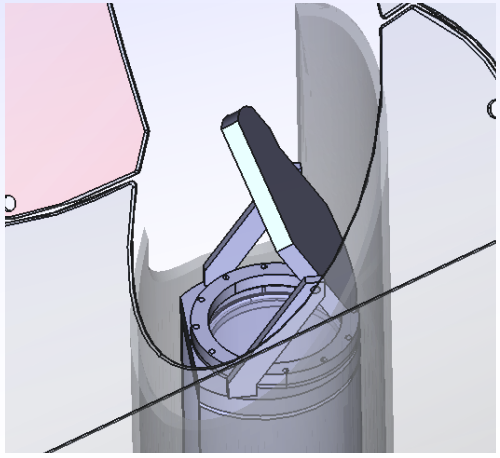
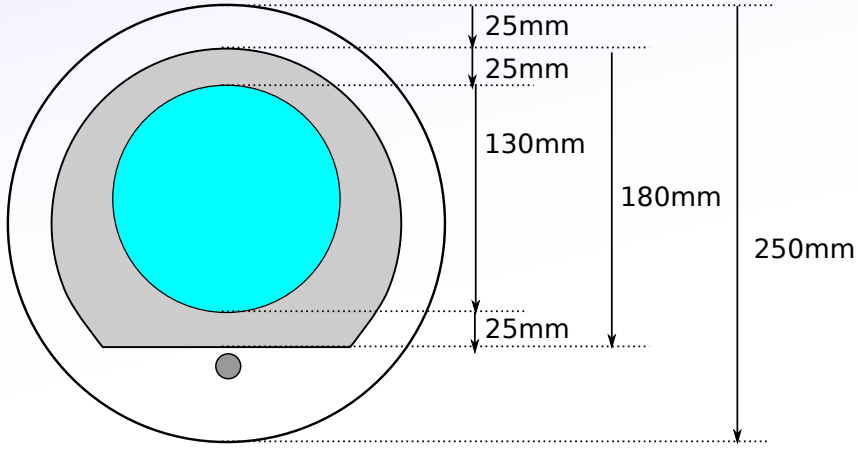
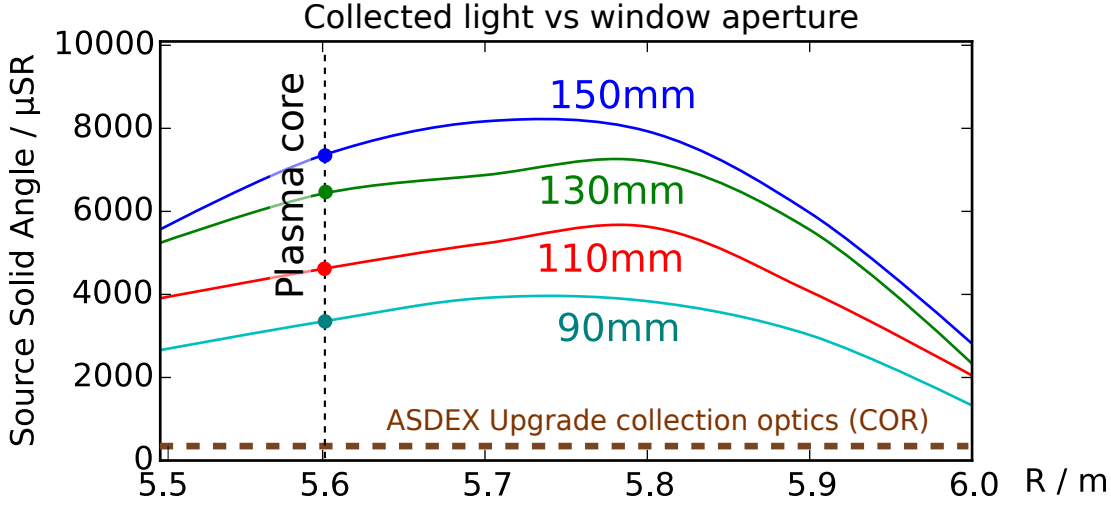
# K2 AEM21 Vacuum Window

AEM21 Port tube is 250mm.
Need 25mm space because of inaccuracies and changes during baking.
Also need space for mirror drive rod.
Rough initial design looks like:






Would be easiest to use a standard ConFlat flange with window, but sizes are:
No standard flanges with 25mm rim.
From standard CF range, only 152mm fits, but 90mm aperture loses 50% of light from the 130mm design:




CF160: 205mm, 136mm aperture
CF100: 152mm, 90mm aperture

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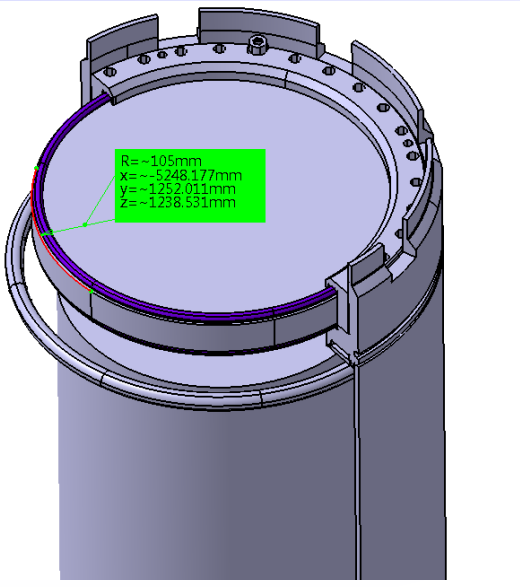


M-port from Thomson scattering uses almost full 250mm of port, as port tube is flexible and can move with port.

Window is 210mm.
Ring outer edge = 230mm, clear aperture =190mm, rim width 20mm.

Uses Delta Helicoflex seal.
Design already W7X approved, thoroughly vacuum tested and used during OP1.1.

Can we reduce this a 130mm window?
Can then use something similar for the A-port (150mm tube, 110mm window)