



- Radius of Beampipe vacuum

$$r = Z \cdot \tan(10\text{mrad})$$

- Total radius incl. Pipeshell (D) and clearance (7mm)

$$R = r + D + 7\text{mm}$$

$$D = (1.6, 1.7, 1.9) \text{ mm} = f(Z)$$

- Height of the holes

$$Y1 = 2 \cdot R$$

$$Y2 = 2 \cdot \sqrt{R^2 - (X1/2)^2}$$

$$Y3 = 2 \cdot \sqrt{R^2 - (X2/2)^2}$$