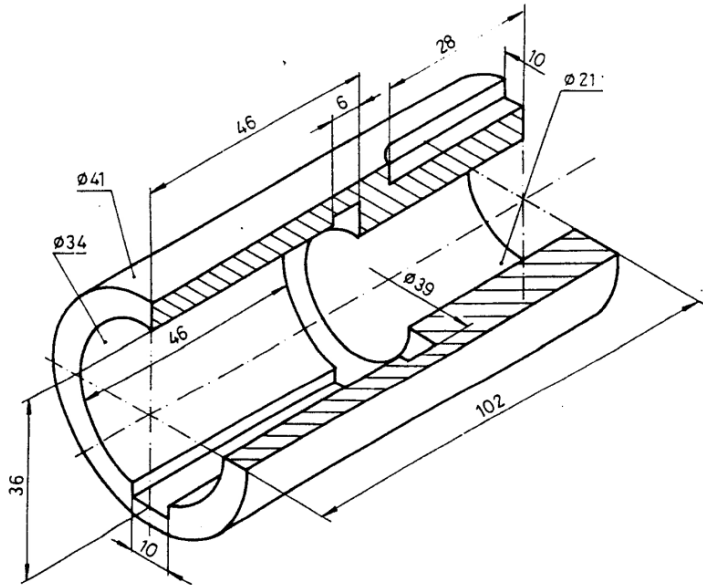
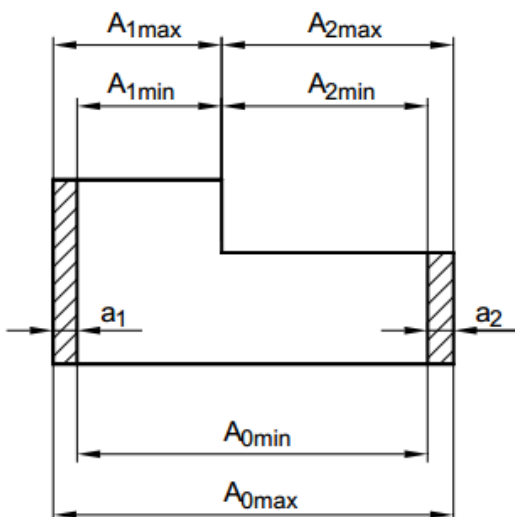


1. Sketch the technical drawing of the following part!(16)

- Depth of the groove is 3 mm
- All the grooves are fit with P9 tolerance (width)
- $\varnothing 34$  is fit with H7 tolerance.  $\varnothing 21$  is fit with JS7 tolerance
- $\varnothing 34$  and  $\varnothing 21$  have a circularity tolerance of 0.1 mm.
- All the grooves can be deeper with 0.3 mm.
- The average roughness is 3.2 Mm.
- The roughness on the surface of  $\varnothing 34$  and  $\varnothing 21$  is 1.6 mm
- The roughness on the surface of the grooves is 0.8 mm.



1. Calculate  $A_0$ ! (4)

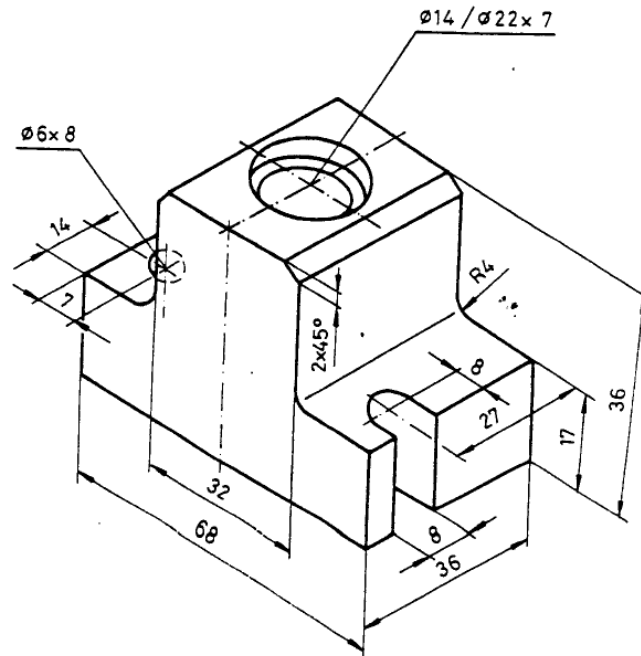


$$A_1 = 20^{+0.1}_{-0.3}$$

$$A_2 = 80^{\pm 0.2}$$

2. Sketch the technical drawing of the following part!(12)

- All the holes are fit with H6 tolerance
- Width 68 can be maximum 68.2 and minimum 68
- There is a 0.2 perpendicularity tolerance between the perpendicular surfaces
- The average roughness is 3.2 Mm.



1. Given the front view of a contracted cylinder. Sketch the top view and the left view and the view which shows the true shape of the sloped surface! Sketch the pictorial representation! (8)

