# Dimensions, Tolerances, and Surface Finish for HPAFM

## Chamber

* Rod gland
  + ID=0.75 inches, +0.002, -0.001
  + Depth=0.24 inches, +0.002, -0.002
  + Surface finish 16 u-in Ra on ID
* Inside hole
  + ID=0.70 inches, +0.002, -0.000
* Window hole
  + ID=0.502 inches, +0.002, -0.000
  + Depth=0.177 inches, +0.002, -0.002
  + Surface finish 16 u-in Ra on flat (bottom) surface of hole
  + Inside radius between hole sides and bottom=0.010 inches, +0.002, -0.000
* Window angled hole
  + ID=0.30 inches, +0.002, -0.001
  + Centerline axis of tool needs to pass through the window hole end center point within +0.001, -0.001 in X and Y
* Elsewhere
  + +0.002, -0.002 on all other dimensions
  + drawings assume block height/width/length of 2.250/2.500/3.000 for feature location, and should be adjusted based on machined part so as to not compound tolerances

## Followers

* Seal follower through-hole
  + ID=0.503 inches, +0.002, -0.000
  + The above needs to be centered on corresponding rod gland hole when the two bolts on either side are fastened
* Seal adapter through-hole
  + Chamfered, large ID=0.79 inches +0.005, -0.000; small ID=0.75 inches +0.002, -0.001
  + The above needs to be centered on corresponding rod gland hole when the two bolts on either side are fastened
* Window follower through-hole
  + ID=0.35 inches, +0.002, -0.002
  + The above needs to be centered on window hole when the two bolts on either side are fastened

## Rods

* Rod
  + OD=0.5 inches, +0.001, -0.001
  + Surface finish 8 u-in Ra, roller burnishing or polishing recommended to make closed surface profile, grinding and honing not recommended.