

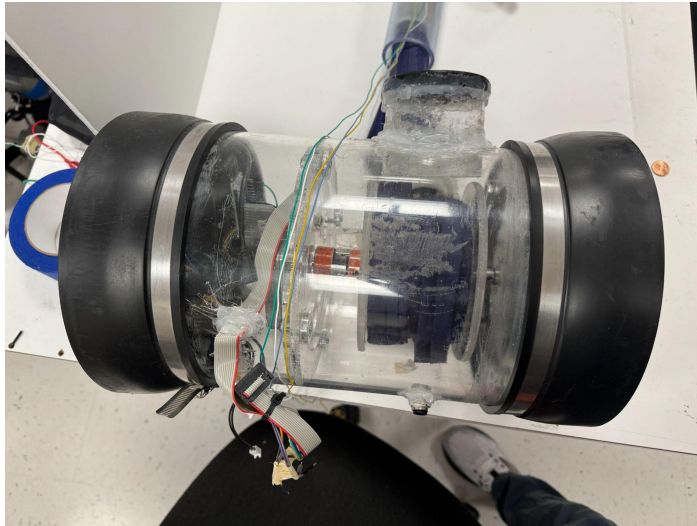
# Vine Robot Base Station

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# Challenges with current design:

- Low pressure (want ~10 PSI, not 2)
- Difficult to open/close
- Friction at vine port
- Cannot accommodate different diameters



# Chosen path and rationale:

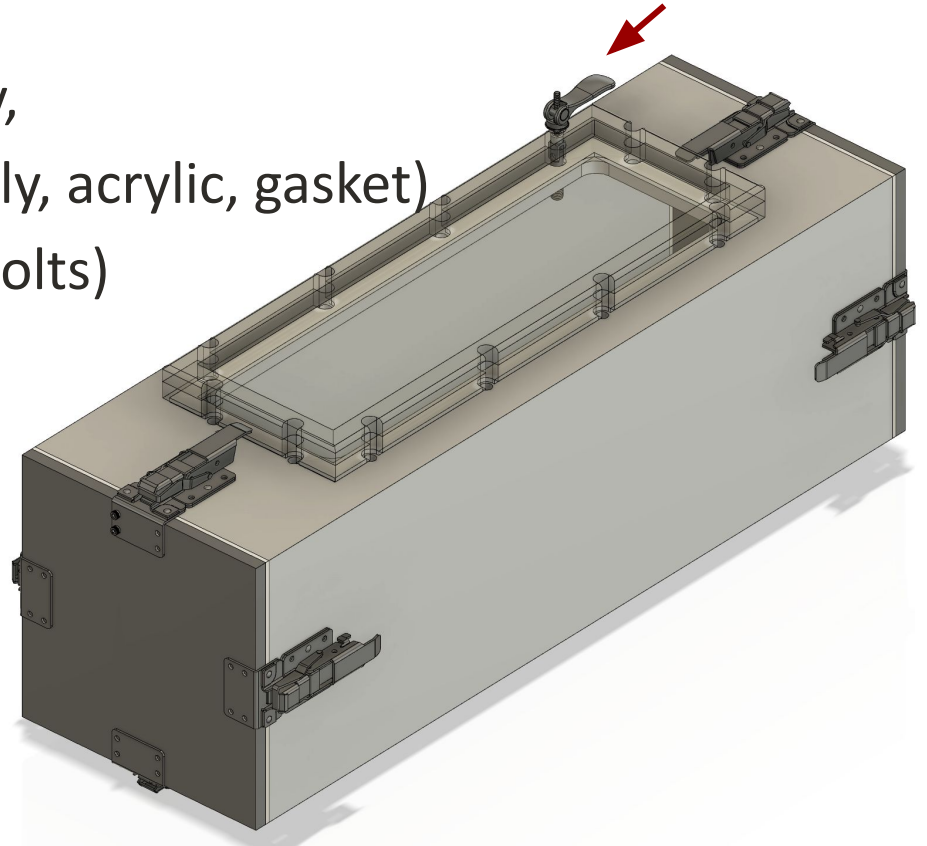
Lower manufacturing complexity,

1. Window (cam clamp assembly, acrylic, gasket)
2. Side panel (latches, gasket, bolts)

Quick release cam  
subassembly

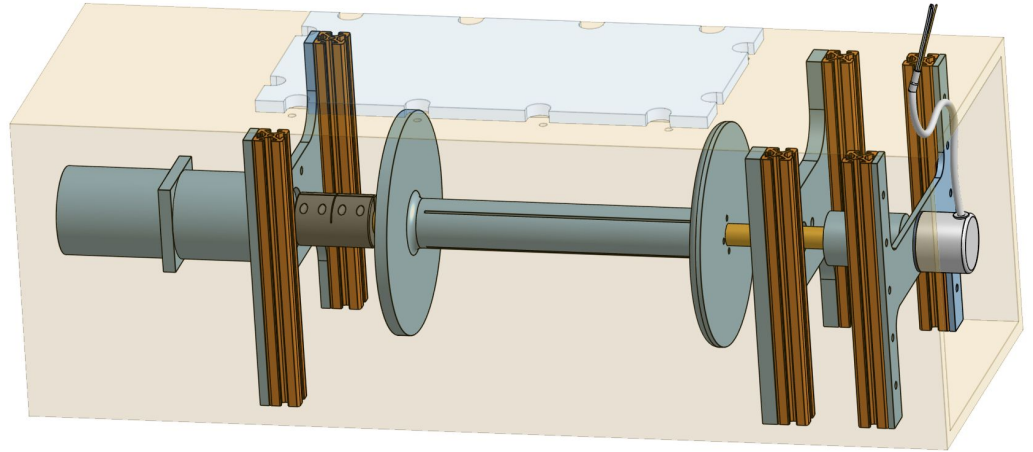


Quick release cam  
subassembly (1/12 pictured)



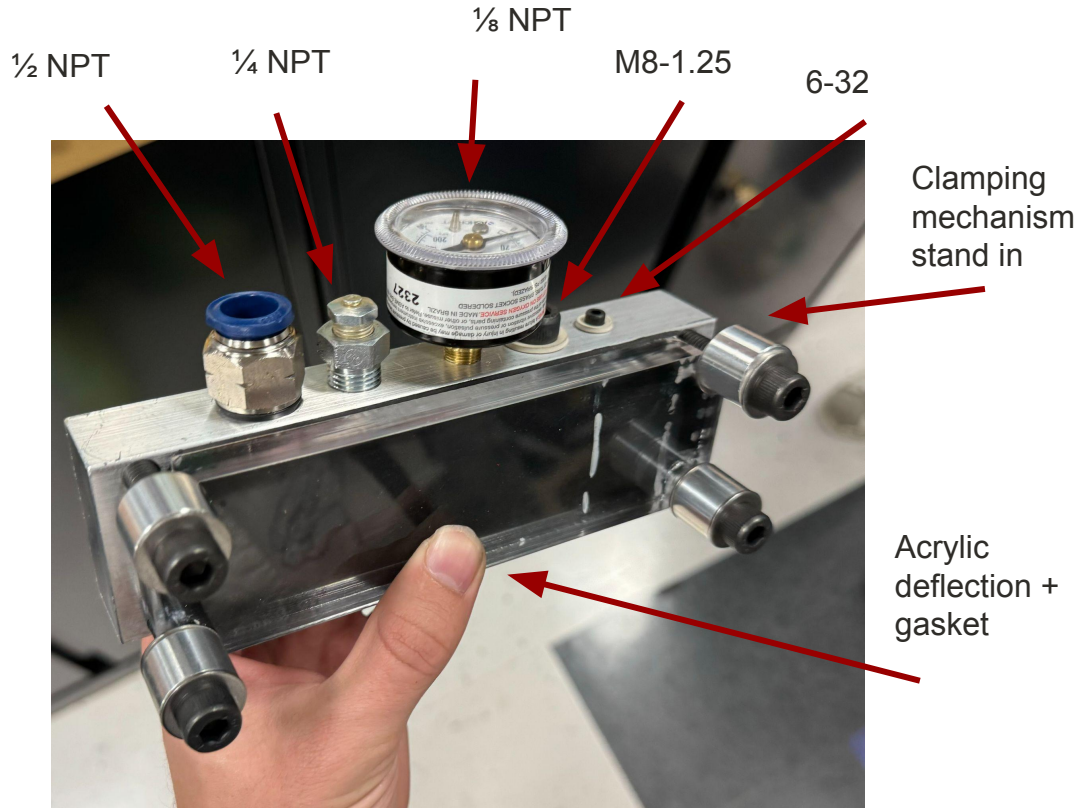
# Inner mechanism design

- Need to apply 100N of tension in the vine without backdriving
- Accommodate encoder to track rotator motion

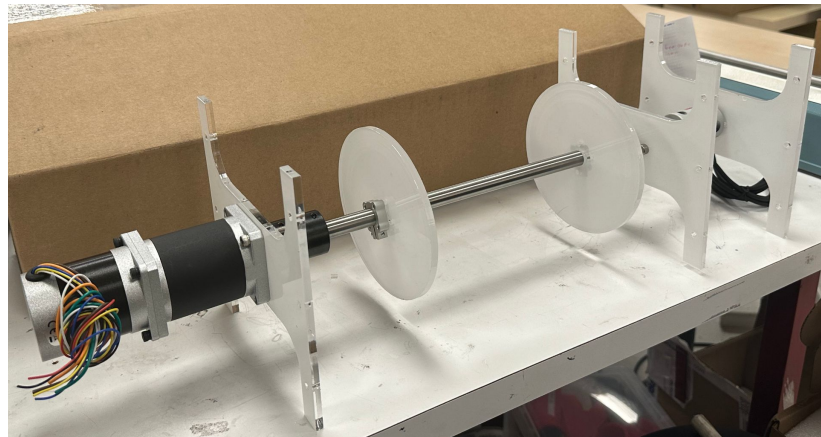
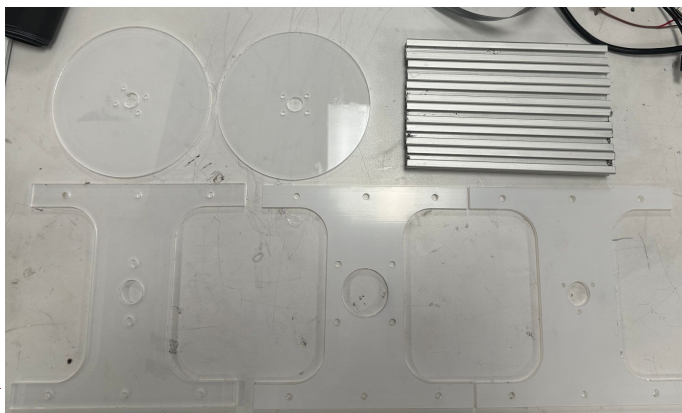
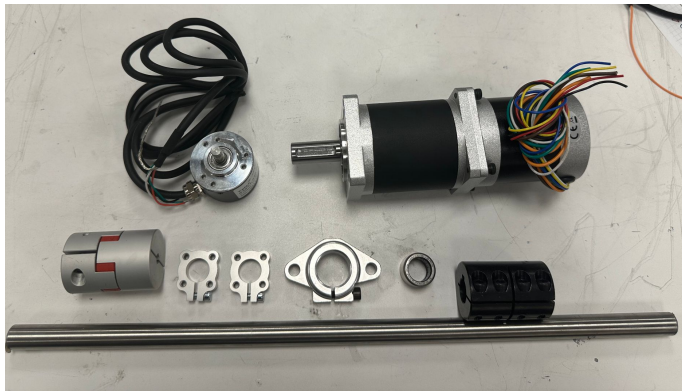


# Test box for air tight

Test 15PSI for different connections and sealing methods: Gaskets and thread sealant



# Testing internal parts



# Next Steps

1. Bolt threads/faces
  - a. Pressure cycling seals
2. Move Godson's port over to this design with multiple sizes
3. Design more compact air and electrical port panel

Thank you