The current pinch valve using 3D printed gears is our datum. The valve was incorporated into benchmarking research because of the dislike of the functionality expressed by the customer. The current design tends to fall apart and is not simple to reassemble.

Sources:
Mechanical Pinch Valve https://flow-rite.com/products/fluid-handling/pinch-valves/pv-4w

Increments on the side of the valve allow the students to measure the height easily. The valve would slide on to the tubing. It could not be removed unless the system was drained and disassembled. This prevents the current issue of the resistance measurement device falling off.

Electric Pinch Valve

Research was done looking for valves on amazon, google shop, and some specialized vendors. The main issue observed was that the electric pinch valves are mostly for small diameter tubing. The tubing used in the current system is larger than most electrical pinch valves on the market will allow. Also the electrical pinch valves become costly exponentially. The cost range is approximately 50 – 300 $.