

Discussion notes: 10/13/16

We met with Dr. Kolodziej and determined that the best method for testing the poppet valves would be to go forward with the shop air concept instead of hooking up to the actual compressor. The reasons for this is because if we went with creating a manifold for the DR compressor, we would run into the problem that the parts would get hot even if we had no conduction between the pieces. The heat from compression of air would still be significant enough to generate an increase of temperature by a couple hundred degrees. In addition, attaching our manifold would render the compressor inoperable for any other purpose.

Dr. Kolodziej also decided to relax our engineering requirements. He decided that we did not need to be able to replicate the pressure curve exactly. It will be satisfactory to just create a pressure curve that is sinusoidal but matching the curve would be ideal. As long as the poppets were opening and closing in a manner that can be replicated every time, the system should be able to do what he wants to do.

As a group we came up with an idea that wanted to discuss Dr. Kolodziej. We want to see if it is feasible to make the poppet valves operate between 30-40 psi instead of 0-40 psi seeing as the minimum requirement is to be able to make the poppets open and close. That way, we would be able to achieve a 5 hertz frequency much easier.