Crystalline (Glass)

Flapper Valve Experiment

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Nature of the Test

1. A simple test jig was designed and built to test out the Crystalline Flapper Valve concept

2. A simple “blow pipe” test was done in order to get a feel for general performance

Result and Summary

The crystalline flapper valve concept seems to be able to “rectify” the flow of air and bubbly liquid without much trouble when tested by means of a blow pipe. It seals well with modest negative pressure and has a relatively low forward direction pressure drop.

The above, when coupled with the chemical resistance of the glass, low mechanical compliance, extremely low volume, thin aspect ratio, low cost and ease of fabrication, are rather encouraging for further work to test and evolve this design concept

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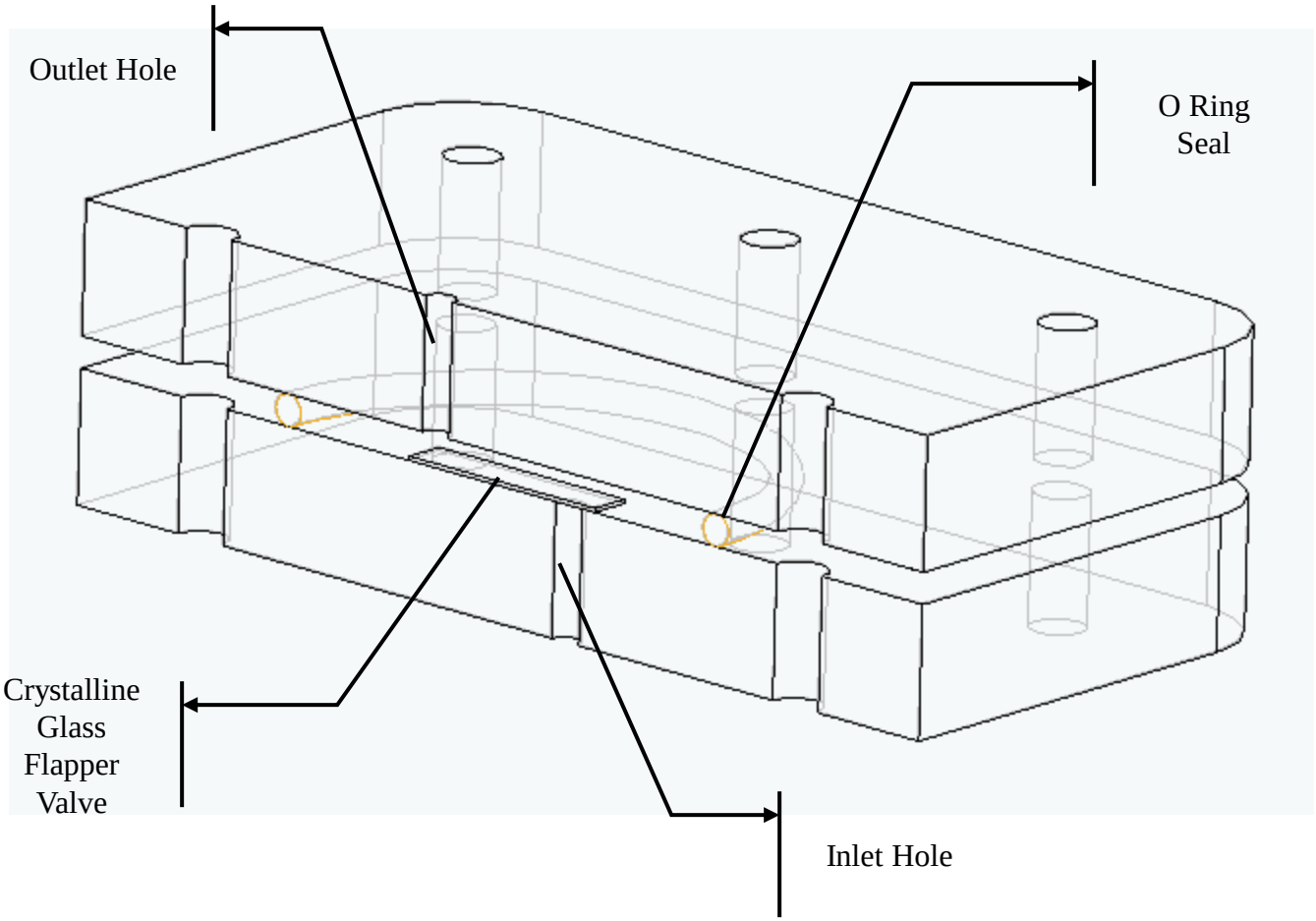
Cutaway View of the Test Jig Layout



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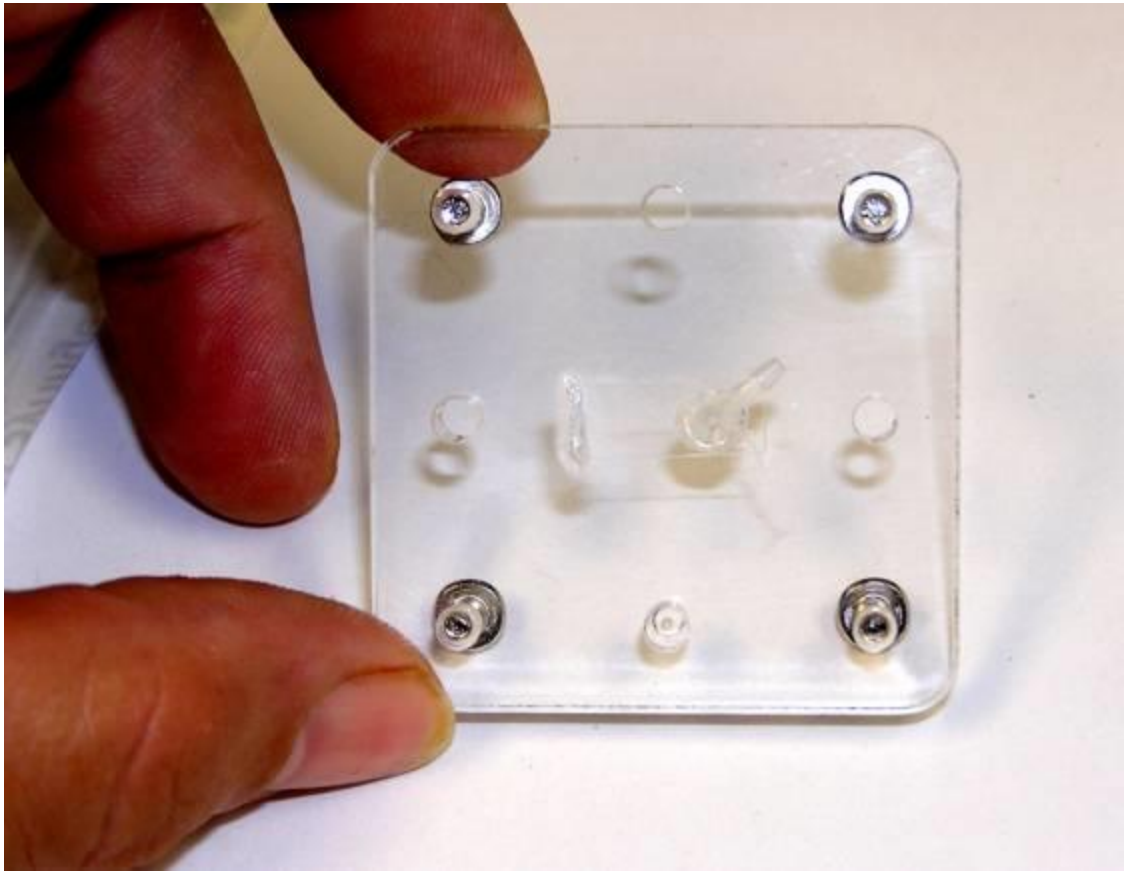
Crystalline Glass Flapper Bonded to Connector Plate



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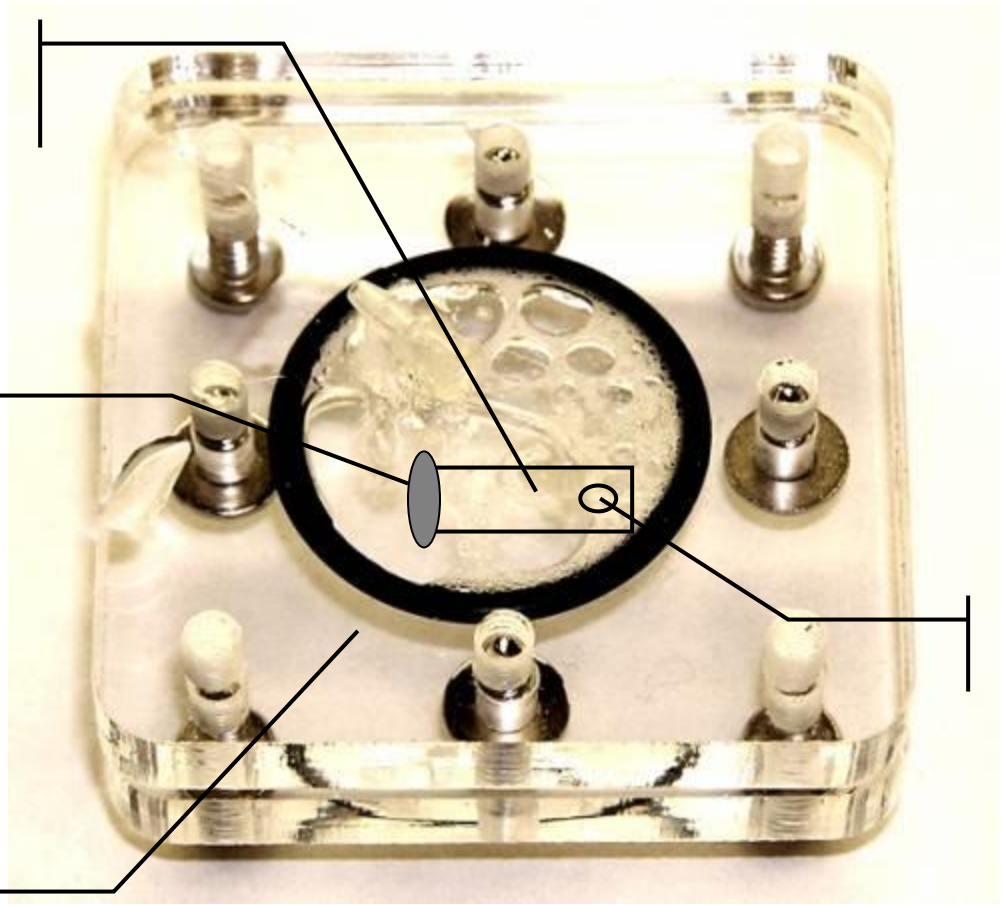
Assembled Test Jig Layout



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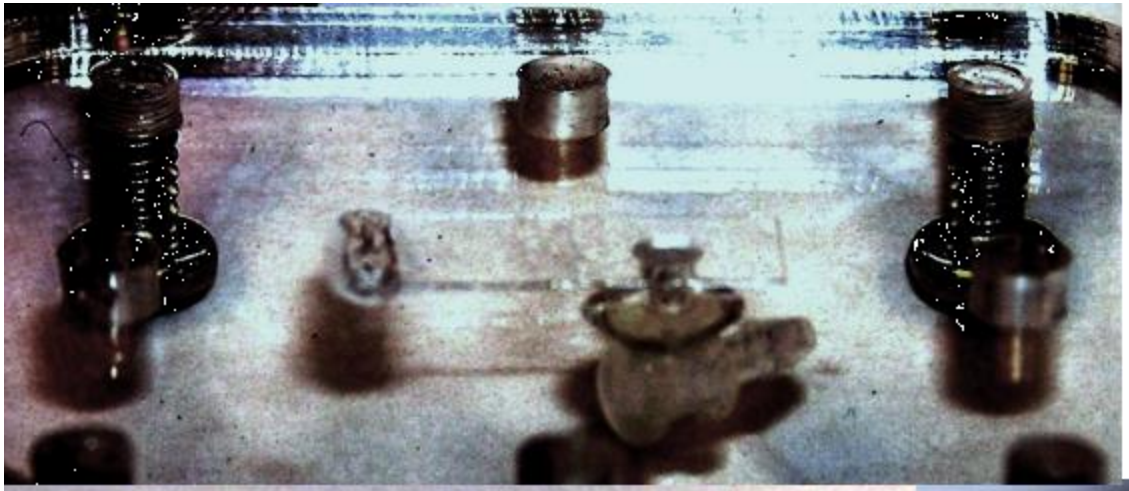

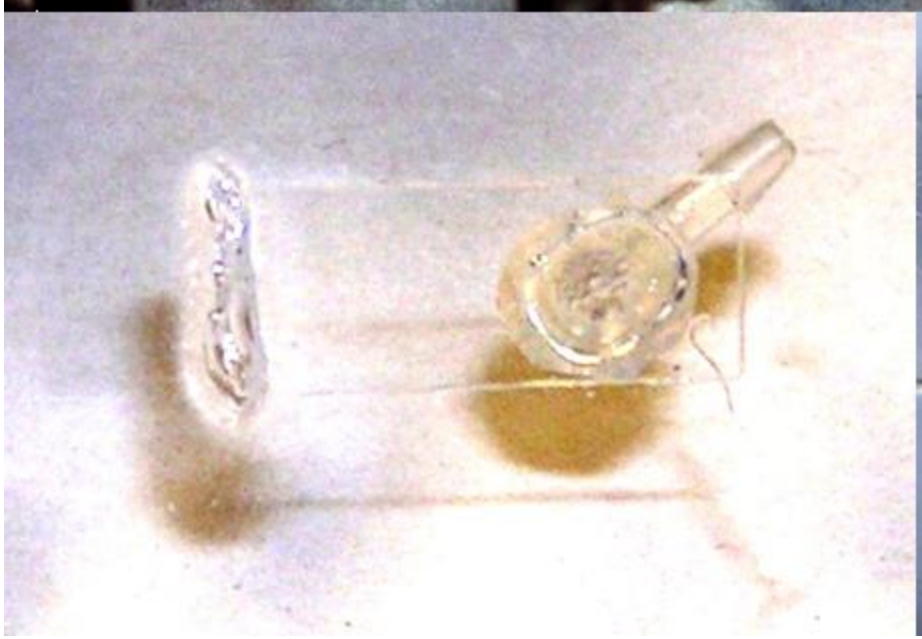

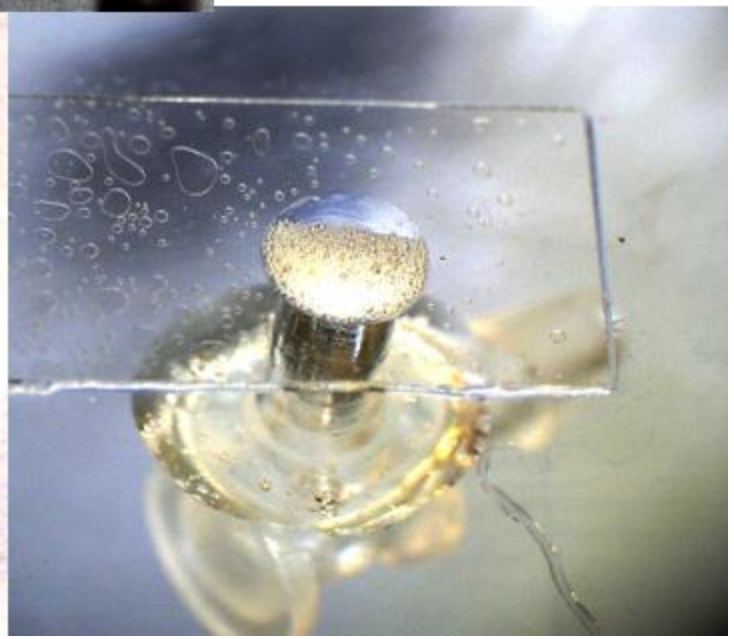

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