

Design Manufacture and Test a fan Performance Facility

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Aim of the Project

The task set out by the brief of this engineering project was to Design, Manufacture and Test an axial fan performance facility. The purpose of this project was to quantify the pressure flow performance of a fan. Using the BS 848, equations were created to present a graph where the curves of the fan's performance are illustrated.

Background

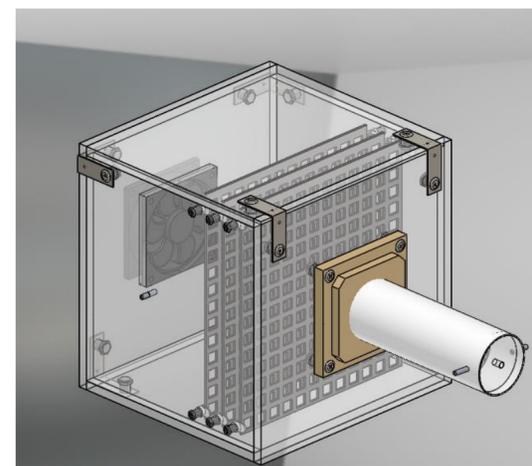
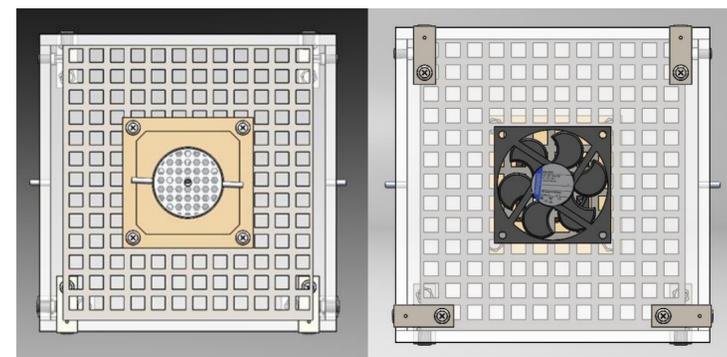
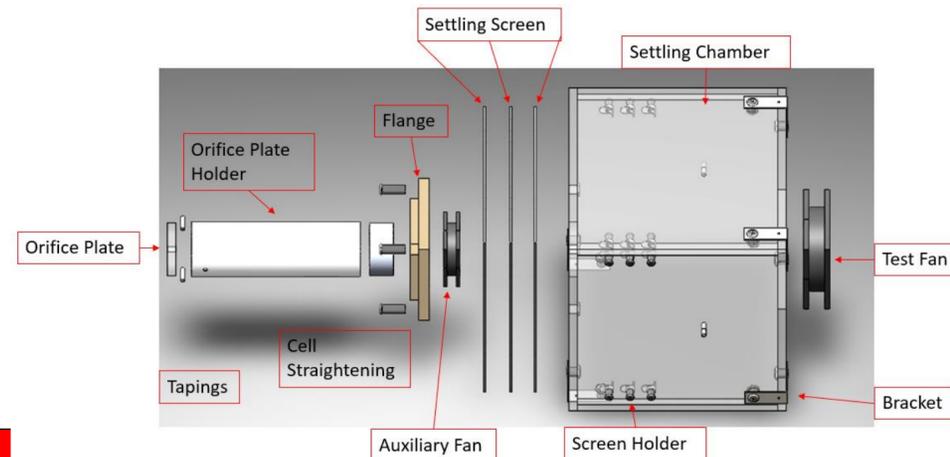
At the start of this project there were several objectives set out by the members of the team.

- To carry out preliminary research to gain an understanding and knowledge of the topic.
- To design a suitable and achievable testing facility that will fit the purpose of the project. Model the chosen design and create drawings to allow manufacturing stage to commence.
- To manufacture the final design to the highest standard possible using the resources available. To carry out testing on the axial fans performance and gather results.

To accomplish all this the most important aspect to understand was the **ISO 5801:2017**. This was the key to the project. This got us all our dimensions for the test rig.

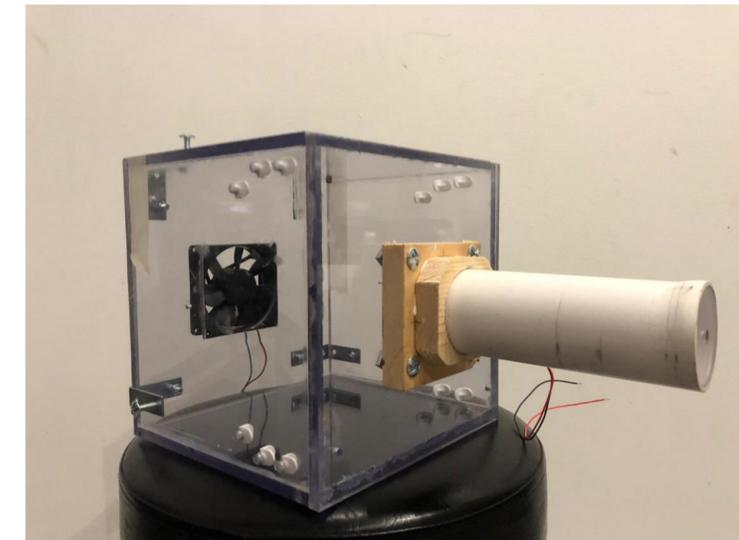
Design of Fan Performance Test Facility

The design of the test rig was solely based on the figures that were gotten from the calculations using **ISO 5801:2017**.



Manufacturing & Assembly

Here is the final assembly of the test rig.



Conclusion

This project overall proved to have its difficult sections and obviously the lack of meet ups in the college hampered some decisions and timing of results and submit ions. Overall, we were very happy with the project.

- All specifications for the project must be adhered to.
- Found that the manufacturing was not the most difficult but finding out our formulae and dimensions from the standards book. This took a lot of time and thought especially as some dimensions were needed to progress to the next topic
- Do not leave work until the last minute
- Try to order materials in advance; therefore, the project will not come to a standstill while waiting for materials.
- Limited time together in person as a group, which meant communication, planning and the ability for students to work well with each other were vital.

References

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