



MASTER THESIS / BACHELOR THESIS

FAST & SMOOTH - ADVANCED Actuation of Vacuum Valves

Are you looking for an opportunity to write your thesis in an industrial environment or obtain valuable industry experience, during or after your technical education? Here is one of many interesting topics we have on offer. We are also very open to your own ideas in order to create a matching opportunity for you at VAT.

Innovation has always been the driving force at VAT since the company was founded over 50 years ago. This has made us the world leader in vacuum valves and vacuum sealing technology. This pioneering spirit motivates us daily to meet our customers' requirements with enthusiasm. Together with our employees we stand for passion, innovation and quality. VAT is headquartered in Haag (Switzerland) and employs approximately 2 000 people worldwide. It has production centers in Haag (Switzerland), Penang (Malaysia) and Arad (Romania) as well as a production facility in Xinwu (Taiwan). With our customers mainly being situated in the United States and Asia, this provides a great opportunity to start an international career.

VAT is a world market leader in high performance vacuum valves used throughout the semiconductor and DISPLAYS industry. Valves have to operate absolutely particle-free and should also be optimized in regards to vibrations generated during the motion. In this thesis means are investigated to increase the closing and opening speed of valves while maintaining (ideally reducing) the current levels of vibrations.

The tasks of the project will entail the following:

- Develop theoretical models how and to what level the current valve actuation time could be improved with means of servo-pneumatic or electric drive controls, while maintaining or improving the current level of shock and vibrations.
- Implement most promising solutions on a real product, test and qualify for a full-proof-of-concept

What you will need:

- Competence in mechatronics
- Competence in theoretical modelling
- Competence in EE, SW, control algorithms including practical implementation
- Motivated, ready for a challenging project

Are You Ready for the Challenge?

Then we look forward to receiving your **electronic application sent to Arthur Büchel**.

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