

Seminar work (SE)

User manual for a refrigeration test bed

Control-related experimental investigations of small-scale refrigerated trucks come with costly test sessions and limited testing periods when using an actual truck. Therefore, we built a test bed for evaluating different control schemes in the lab, see Fig. 1. The test bed is steadily extended by various functionalities but lacks a proper user manual to explain its operation in simple terms and to allow everyone to use it for sophisticated investigations.

If you are interested in experimental investigations and test bed design, this seminar work is the right choice. You will learn how our test bed works, how it was built to allow comprehensive investigations in control theory, which control algorithms are already implemented, which difficulties we currently face, which improvements we plan to implement in the future, and how to operate the test bed on your own. You will be responsible for creating a comprehensive and easy-to-follow user manual with all details. Your contribution will ensure that future generations of students can experimentally investigate control schemes for refrigeration applications using our in-house developed test bed.

Feel free to contact us if you are interested in this topic. You will benefit from a detailed specification sheet, ensuring a reasonable workload right away from the beginning. We will prepare it together to fit your interests and skills perfectly.

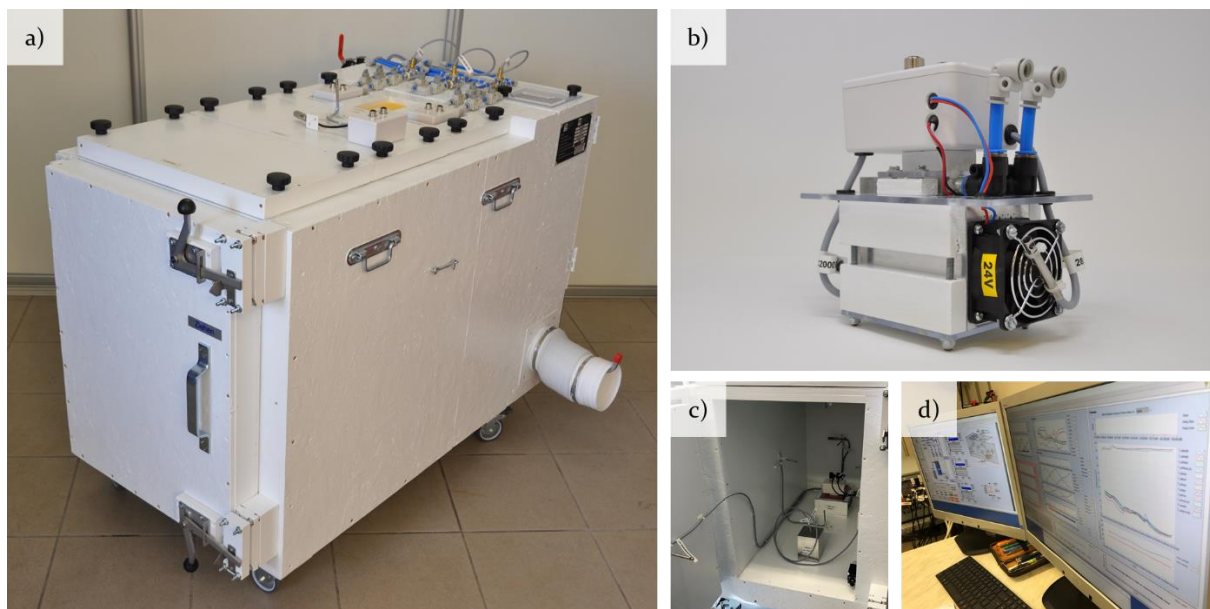


Figure 1: Refrigeration test bed with (a) cooling chamber, (b) cooling unit, (c) inside view of the cooling chamber, and (d) human-machine interface.

The following work packages have to be tackled:

- Getting familiar with the existing test bed and its control architectures
- Getting familiar with the experimental procedure
- Taking part in at least one experimental investigation
- Preparation of a thorough documentation and user manual

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