

# DEVELOPMENT OF REFRIGERATION SYSTEM TRAINER FOR PRACTICAL LEARNING OF REFRIGERATION AND AIR CONDITIONING ENGINEERING IN ELECTRONIC ENGINEERING EDUCATION

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## ABSTRACT

This study aims to: (1) produce a refrigeration system trainer product, (2) obtain a good performance test result from a refrigeration system trainer, and (3) obtain a feasibility test result for a refrigeration system trainer product. The result of this research is a refrigeration system trainer product to be used in learning the practice of refrigeration and air conditioning techniques in Electrical Engineering Education. This research product is useful for student competence in the application of refrigeration systems in cooling and air conditioning systems.

The type of research used in this research is product research and development by adapting the Branch (2009) version of the ADDIE model. The outline of the steps in this research are: needs analysis, design, and product development which consists of product manufacture, product performance testing, media expert assessment of the product, limited product implementation, and evaluation of each research step. Data collection techniques used: (1) performance testing with various electrical measuring instruments, while (2) product feasibility using observation and questionnaires. Data analysis techniques used descriptive and quantitative.

The results of this study are (1) the refrigeration system trainer has been successfully developed in the form of learning media, (2) the performance test of the refrigeration system trainer product shows good performance, and (3) the product feasibility test from experts gets the results of the assessment from material experts are 4.1 (decent) and media expert is 4.15 (decent).

Kata Kunci: *Trainer, System, Refrigeration*