

DIPLOMA THESIS EVALUATION

Student's name and surname: Gafaru Moro
Name of the diploma thesis: Experimental investigation of Fans for personal Protective Equipment
Supervisor of the thesis: doc. Ing. Václav Dvořák, Ph.D.

1. Diploma thesis evaluation

Evaluation	excellent	excellent minus	very good	very good minus	good	failed
Meeting the goal and fulfilling task of the thesis	X					
Quality of conducted survey	X					
Methodology of solutions	X					
Expert level of the thesis	X					
Merit of the thesis and its potential applicability of results	X					
Formal and graphic level of the thesis	X					
Student's personal approach	X					

Mark x in the corresponding box.

Supervisor's final evaluation is based on his/her overall subjective evaluation.

Grading is stated literally in the article no. 5, neither by a number, nor by a letter.

2. Comments and remarks on diploma thesis:

Meeting the goal and fulfilling task of the thesis

The student fulfilled the assignment in all points.

Quality of conducted survey – excellent

The literature search is quite wide. The student cites 30 sources related to the design, construction and application of radial fans and their measurement, methodology of mass flow measurement and static pressures.

Methodology of solutions – excellent

The procedure for working out the thesis was correct. The student designed, based on a research, a measuring track allowing to measure pressure differences, mass flow and control backpressure. He measured about 40 impellers for radial fan. He also learned the analytical method for calculating the fan working curve. He compared the data obtained from experiment and analytical method. He presented various trends in dimensionless diagrams to show influence of individual parameters on working curve. Finally, he compiled the conclusions.



Expert level of the thesis – excellent

The professional level of work is high, the amount of data obtained is above average. The proposed experimental track is usable for the given task, the proposed backpressure control is easy to handle. Working with quotations is exemplary.

Merit of the thesis and its potential applicability of results – excellent

The benefit of the work is in the amount of measured data and comparison of the individual variants of the radial fan impeller showing the dependence of individual parameters (number of blades, inlet and outlet angle, or other) on the fan characteristic. The results of the work will be applied within the project in the area of personal protective equipment development. The obtained conclusions will serve to design a suitable fan for filter unit drive.

Formal and graphic level of the thesis – excellent

On a formal and graphical basis, work is excellent. The work is written in plain language, the amount of typos or other formal imperfections is negligible. The data is presented in a clear way.

Student's personal approach – excellent

The student worked independently, did the work at the required level and to a greater extent than necessary for the elaboration of the thesis. As a supervisor, I must appreciate the progress in knowledge and skills that the student has achieved during his studies.

3. Questions about diploma thesis:

- a) What parameter or quantity must be measured in order to evaluate the fan suitable for the application?
- b) What data should be provided by the manufacturer of the filter units to design a suitable fan?

4. Supervisor's statement on results of the inspection carried out by the anti-plagiarism program in the STAG system:

The anti-plagiarism program in the STAG system at TUL evaluated the match of 0% in Gafaru Moro's student work. The thesis is original and complied.

5. Supervisor's grading of the diploma thesis:

I **recommend** the submitted thesis of Gafaru Moro to the defense and grade it as:

Excellent.

Date: 20. 5. 2019 in Liberec



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Supervisor's signature

