

I. IDENTIFICATION DATA

Thesis title:	Power consumption of impellers at non-standard liquid level in tank
Author name:	Janakiraman Kubendran
Type of thesis :	master
Faculty/Institute:	Faculty of Mechanical Engineering (FME)
Department:	Department of Process Engineering
Thesis supervisor:	Ing. Jiří Moravec, Ph.D.
Supervisor's department:	CTU in Prague, Faculty of Mechanical Engineering, Dept. of Process Engineering

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	ordinarily challenging
<i>How demanding was the assigned project?</i>	
<p>The main goal of the work was to determine the effect of a liquid level height in a vessel on the power consumption of a chosen type of axial high-speed impeller. To determine the goal, a numerical model of the mixing vessel equipped with the given impeller should be prepared and verified by experimental measurement at the standard liquid level. As a theoretical background, a literature review of the state of the art in the field of the effect of the liquid level, the diameter of the impeller, and its position in the vessel on power consumption should be carried out.</p>	

Fulfillment of assignment	fulfilled
<i>How well does the thesis fulfil the assigned task? Have the primary goals been achieved? Which assigned tasks have been incompletely covered, and which parts of the thesis are overextended?</i>	
<p>The student completed all the tasks. It should be noted that the work was carried out during the complicated situation with COVID-19. The experimental data were measured by the supervisor because the student was not allowed to visit the laboratories. The data processing was already performed by the student on his own.</p>	

Activity and independence when creating final thesis	B - very good
<i>Assess whether the student had a positive approach, whether the time limits were met, whether the conception was regularly consulted and whether the student was well prepared for the consultations. Assess the student's ability to work independently.</i>	
<p>The main numerical model was prepared by the author independently. Only the usage of the VOF model was a subject of discussion with the supervisor in case of the numerical analysis. More help was needed in the case of literature search, processing of experimental data, and presentation of the results. The student worked quite independently, but more correction had to be done during proofreading of the work.</p>	

Technical level	D - satisfactory
<i>How well did the student employ expertise in his/her field of study? Does the student explain clearly what he/she has done?</i>	
<p>The technical level of the thesis should be evaluated by a reviewer of the thesis. From my point of view, the information should be more precisely specified or completed in the literature research, although the submitted version already went through proofreading with tens of supervisor's comments. The work also misses description of the experimental layout including the impeller description, again, though such a comment was already given to the checked version of the work before the final completion. The chapter with the numerical simulations is the best part of the work.</p>	

Formal level and language level, scope of thesis	C - good
<i>Are formalisms and notations used properly? Is the thesis organized in a logical way? Is the thesis sufficiently extensive? Is the thesis well-presented? Is the language clear and understandable? Is the English satisfactory?</i>	
<p>The final format level of the thesis presented by the student was quite good. However, the language needed more corrections before the final submission.</p>	



THESIS SUPERVISOR'S REPORT

III. OVERALL EVALUATION, QUESTIONS FOR THE PRESENTATION AND DEFENSE OF THE THESIS, SUGGESTED GRADE

Summarize your opinion on the thesis and explain your final grading.

If I summarize all the criteria for the evaluation of the quality of the thesis and the author's work, I recommend that the thesis be awarded by the grade

C - good.

Date: **24.6.2022**

Signature: Jiří Moravec
m.p.