

ASSIGNMENT

MSc MAJOR PROJECT (BMEGEÁTMWD1)

Title: **Investigation of discharge valves applied in rotary compressors in meaning of Fluid-Structure Interaction**

Author's name (code): **Dávid MOLNÁR (HFG3S3)**
Curriculum: MSc in Mechanical Engineering Modelling / Fluid Mechanics
Curriculum's code: 2N-MW0-FM

Supervisor's name, title: Balázs FARKAS, Ph.D. student
Affiliation, address: Department of Fluid Mechanics / BME

Advisor's name, title: -
Affiliation, address: -

Description / tasks of the project:

1. Overview the required technical literature special regards on FSI models and discharge valves applied in rotary compressors,
2. Derive a preliminary analytical model considering an Euler-Bernoulli beam,
3. Create a 2D ANSYS-Fluent model with rigid valve and compare different dynamic meshing methods,
4. Create a 2D ANSYS-Fluent model with elastic valve. Investigate the small and large deformation cases,
5. Based on the preliminary results conduct a parametric study,
6. Summarize the work in the required document format!

Handed out / Deadline: **10th of February 2014. / 16th of May 2014.**
Budapest, 10th of February 2014.

(L.S.)

.....
supervisor

.....
Dr. János VAD, associate professor
Head of Department

Received by:
Budapest, 10th of February 2014.

The undersigned declares that all prerequisite subjects of the Major Project have been fully accomplished. Otherwise, the present assignment for the Major Project and the subject's registration of BMEGEÁTMWD1 are considered to be invalid.

.....
student



<p>Supervisor's declaration of acceptance:</p>	<p>The submitted Project Report fulfils all requirements of the Department of Fluid Mechanics, Budapest University of Technology and Economics.</p>
<p>Supervisor's proposal for final grade of the thesis:</p>	<div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 80%;"> <p>The proposed final grade* of the Project Report:</p> <p>.....</p> </div> <p>* Please, select one: excellent (5), good (4), medium (3), acceptable (2), fail (1)</p>
<p>Date:</p>	<p>Budapest, 16th of May, 2014.</p>
<p>Name / Signature:</p>	<p>.....</p> <p style="text-align: center;">supervisor</p>

Copyright © Department of Fluid Mechanics 2014
 Budapest University of Technology and Economics

All rights reserved. No part of this publication may be reproduced without the written permission of the copyright owner.

