MŰEGYETEM 1782

ASSIGNMENT

TEAMWORK PROJECT (BMEGEÁTMWTP)

Title:	**Analysis of the effects of uneven inlet flow on UV disinfectant device**
Author's name (code):	**Gábor GÖNCZI (IE2P8L)** **Szabolcs SZOLCSÁK (IX7LB0)** **Dániel FONAI (CZSPHP)**
Curriculum:	MSc in Mechanical Engineering Modelling / Fluid Mechanics spec.
Curriculum's code:	2N-MW0-FM
Supervisor's name, title: Affiliation, address:	Dr. Gergely KRISTÓF, associate professor Department of Fluid Mechanics / BME
Advisor's name, title: Affiliation, address:	- -

Description / tasks of the project:

1. **Geometry inspection acquiring operational data**
   On site measurement of pipe geometry. Gathering operational data and determining specific volume flow rate.
2. **Building CFD model**
   To build a CFD model according the previous task which contains the UV disinfectant device itself along with the inlet and outlet pipe sections.
3. **Evaluation of CFD model**
   Determining whether the disturbed possibly uneven inlet flow on the device could cause high stress on the UV lamp itself, which could lead to breakage.
4. **On site velocity profile measurement for validation**
   To carry out an onsite measurement using a flowmeter provided by Waterworks of Budapest at the inlet section of the UV device to determine the velocity profile. To validate the CFD model with measurement results.
5. **Propose a new inlet pipe geometry that provides even water flow**
   On the basis of the previous CFD model a proposal should be made to avoid the unwanted disturbed inlet on the device.
6. **Documentation and presentation**
   To describe the investigated process, modelling methodology and results. To give a presentation.

Handed out / Deadline: **8th of September 2014. / 12th of December 2014.**

Budapest, 8th of September 2014.

(L.S.)

…….. supervisor

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

Received by:
Budapest, 8th of September 2014.

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

…… student …… student …… student

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Supervisor's declaration of acceptance:	The submitted Teamwork Project Report fulfils all requirements of the Department of Fluid Mechanics, Budapest University of Technology and Economics.
Supervisor's proposal for final grade of the report:	The proposed final grade* of the Teamwork Project Report: ……..... * Please, select one: excellent (5), good (4), medium (3), acceptable (2), fail (1)
Date:	Budapest, 12th of December 2014.
Name / Signature:	…… supervisor

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