

M.Sc. DIPLOMA WORK

CorPower Ocean AB & KTH Machine Elements

Title: "Powertrain components for a novel Wave Energy Converter"

Time: January 2013 – June 2013

Examiner:

Supervisor: Stefan Björklund, KTH Machine Elements

Industrial Supervisor: Patrik Möller

Place: KTH Machine Element

CorPower: Osquars Backe 31, 4tr

Project Description:

The project is suited for 1 – 2 students.

The purpose is to design, build and characterize components in a novel powertrain system for a Wave Energy Converter developed by CorPower Ocean AB. The powertrain combines hydraulic and mechanical elements in a unique way, aiming at maximizing efficiency and load capacity while minimizing size and weight. The project includes the following steps:

- a. Problem statement, analysis of solutions
- b. Design of powertrain components
- c. Manufacturing and characterization of mock-up modules
- d. Assembly and test of powertrain
- e. Performance measurements
- f. System integration (powertrain, generators & power electronics)
- g. System commissioning
- h. Analysis of results
- i. Conclusions and reporting

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