

Title options

- 1) Further development of direct driven hydraulic actuator**
- 2) Arduino controlled direct driven hydraulic actuator**
- 3) Influence of hydraulic motor size on direct driven hydraulic actuator**

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1.Introduction

Today's industry is constantly trying to improve their profit and reduce their impact on the environment. Within different industries there is a wide use of hydraulic systems, these systems typically use valve-controlled systems. The valve-controlled systems are not very efficient due to throttled pressure losses and heat losses [1][2][3]. With new technologies and improved affordability of electric drives, direct driven hydraulic (DDH) systems have become an interesting topic for improving current valve controlled hydraulic systems and have been given increased attention from newspapers [8]. DDH systems can be more efficient and compact compared to the traditional systems, additionally they also offer improved controllability [4]. Several major companies have started to incorporate this technology on their products e.g. Hitachi and Sandvik [10][11]. They claim that it improves the efficiency and reduces the emissions.

The goal of this project is to improve an existing test setup of DDH. The test setup is driven by a brushless DC motor which drives a hydraulic bidirectional motor/pump. The pressure generated from the motor is then used to drive a hydraulic cylinder.

[Further explanation of our setup and problem layout]

2. Method

- 2.1. Selection of sensors
- 2.2. Programming of Arduino
- 2.3. Design and construction of piping
- 2.4 Other work

[Explanation and reporting of project work]

3. Results

[Results from our work]

4. Discussion

[possibility of further improvements]

5. References

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