

The attached documentation is concerned with:

- 1) The hydraulic motor
- 2) The worm gear attached to the hydraulic motor
- 3) The encoder attached to the worm gear
- 4) The hydraulic valve controlling the hydraulic motor
- 5) The hydraulic cylinder with position transducer

All components that should be handed out to the students doing the design project. The

The hydraulic motor is a simple fixed displacement axial piston motor. It is documented in the "StudentReport_SynchronousDrive_1.pdf" in Appendix C6.

The worm gear is fixed gear ration documented in "StudentReport_SynchronousDrive_1.pdf" in Appendix C1.

I cannot find anything on the encoder!

It is not documented in either "StudentReport_SynchronousDrive_0.pdf" or "StudentReport_SynchronousDrive_1.pdf". Apparently it has been designed by a third group. I will see if I can find that project + report, in parallel I think you, me and Morten Ottestad should have a look at the encoder. Below, you see a picture I took at our Østerhus storage facility.



The hydraulic valve is a PVG32 with two sections, both supplying max 25 L/min. They are electrically controlled, PVES units, that require supply voltage of 24V, ground 0V, and a signal between 6V and 18V. Signal 12V is neutral (no flow), Signal 6V is maximum flow to one port and Signal 18V is maximum flow to other port. The two sections can be used to hydraulic cylinder and hydraulic motor, respectively. It is documented in the "StudentReport_SynchronousDrive_1.pdf" in Appendix C9.

The hydraulic cylinder (stroke 0.5m) with position transducer is documented in "StudentReport_BoomStabilization.pdf" in Appendix B3. The position transducer is a potentiometer.