**Topic**

***Design of an Automatic Tension Mooring Winch***

# Description:

The mooring winch is utilized to keep a vessel alongside a berth against disturbing forces like wind, tide and wave.

* Pay attention to ISO Standards 3730 and 7825.
* Pay attention to class rules DNV [DNVGL-RU-SHIP-Pt3Ch11 Hull equipment, supporting structure and appendages](https://rules.dnvgl.com/docs/pdf/DNVGL/RU-SHIP/2015-10/DNVGL-RU-SHIP-Pt3Ch11.pdf#page=36&zoom=100,76,761)

**Task**

1. Design a mooring winch with a max load of 100 metric tons.
2. The winch has a hydraulic drive. Design an appropriate hydraulic circuit.
3. For the mooring feature, a controller is needed. Design this controller (control software).
4. Set-up a simulation model to verify the hydraulic circuit and the control software.