Calibration system Mock-up status

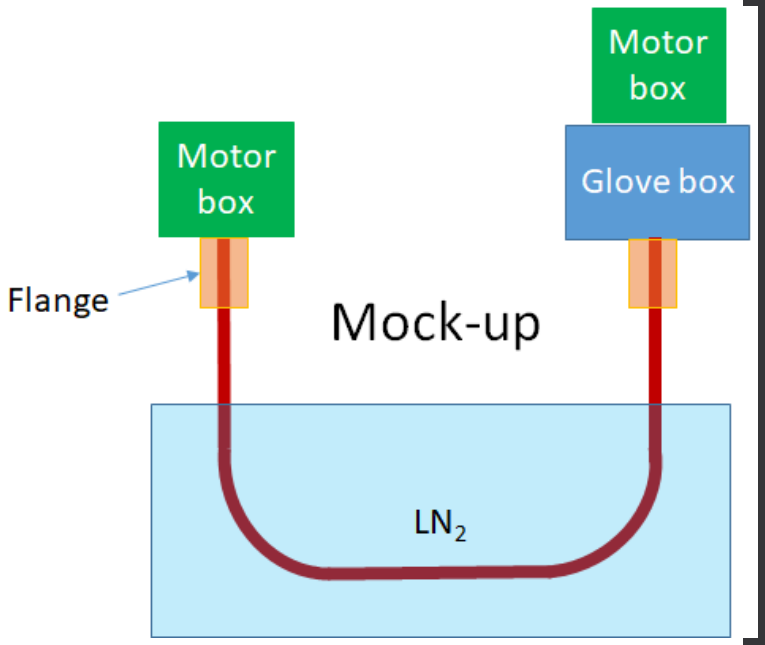
P. Barrillon, F. Hubaut, P. Pralavorio I. Wingerter-Seez

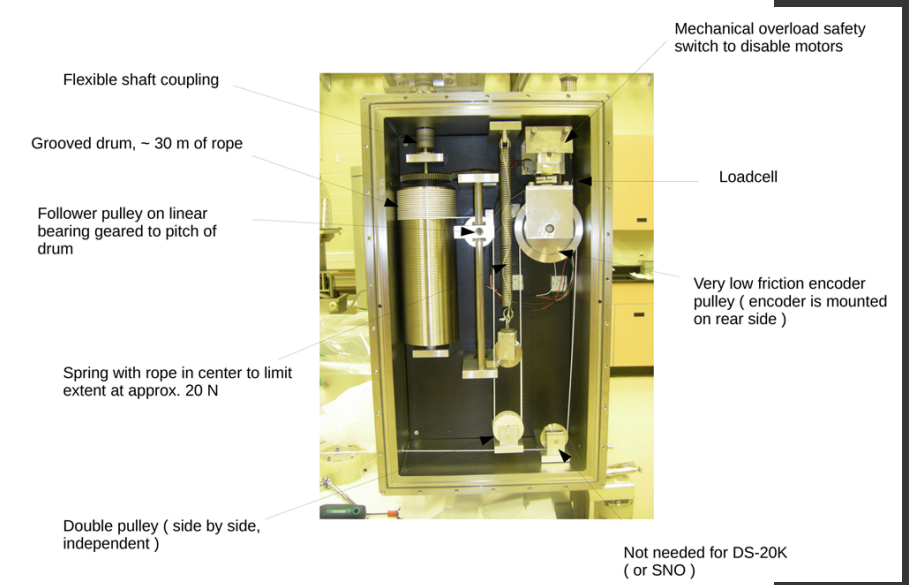
14th January 2021

Calibration system meeting

Reminder: Mock-up

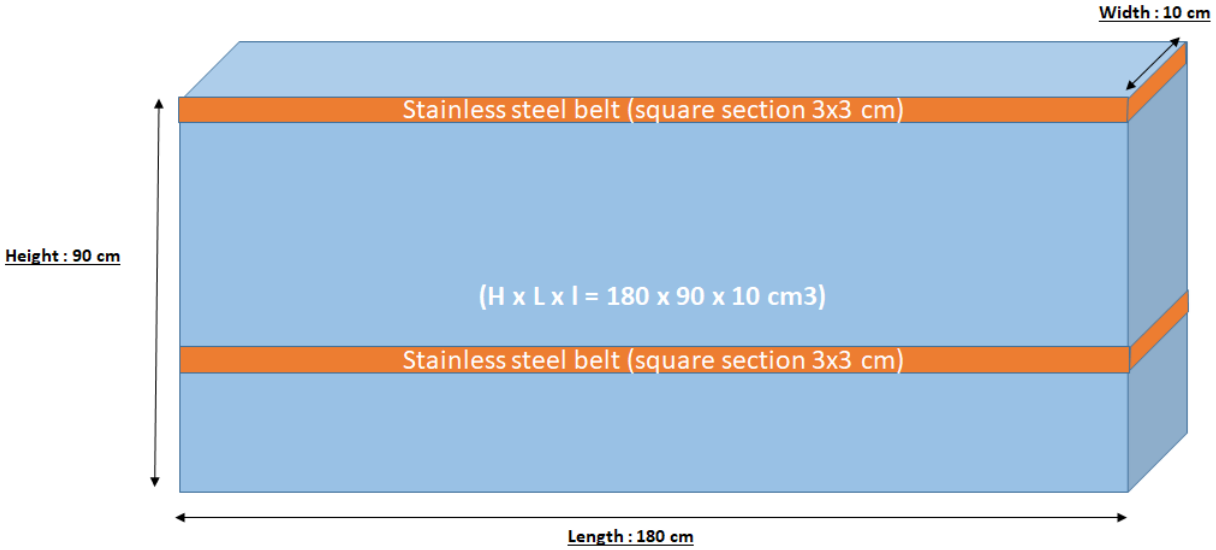
- Testing the principle of the calibration system is mandatory
- The idea is to test most of the aspects of the calibration system with a U-pipe of shorter length (~ 3m) but baseline dimensions (30 mm diameter, 1.5 mm thickness) and curvature (40 cm radius) immersed in liquid nitrogen.
- The mock-up should include the final motor box and glove box (could be included later) + the pipe-box fixation system.
- The mock-up will be the ideal set-up to develop and test the control-command system.
- It seems imperative to perform long duration tests to assess the robustness of the system.
- Cold tests must be carried out to check the impact of cold environment on the system.
- Considering a test with vacuum pump





Status

U-pipe assembled



Cold box schematic

Cold box (received in November 2020)

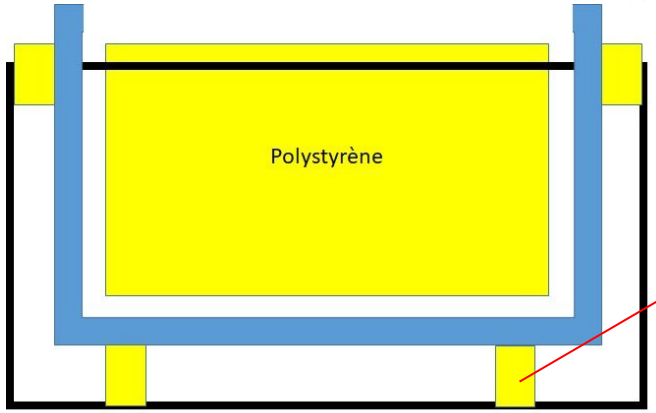
Leak testing with water

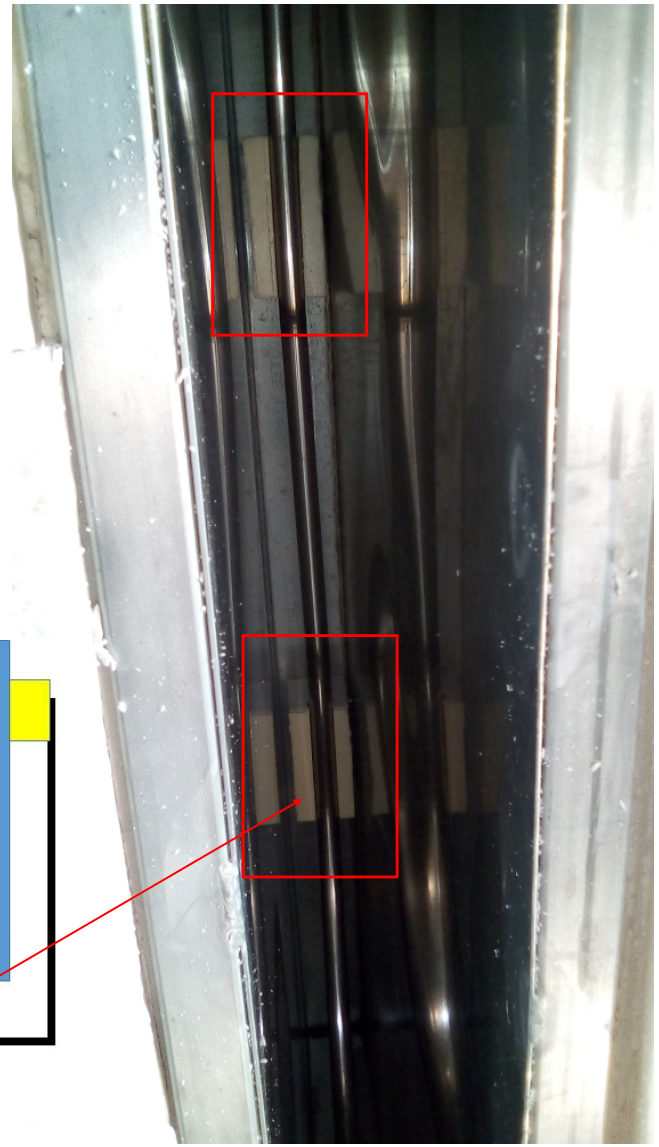
Status: polystyrene isolation

Status: additional elements

Top of the cold box prepared and dimensions checked

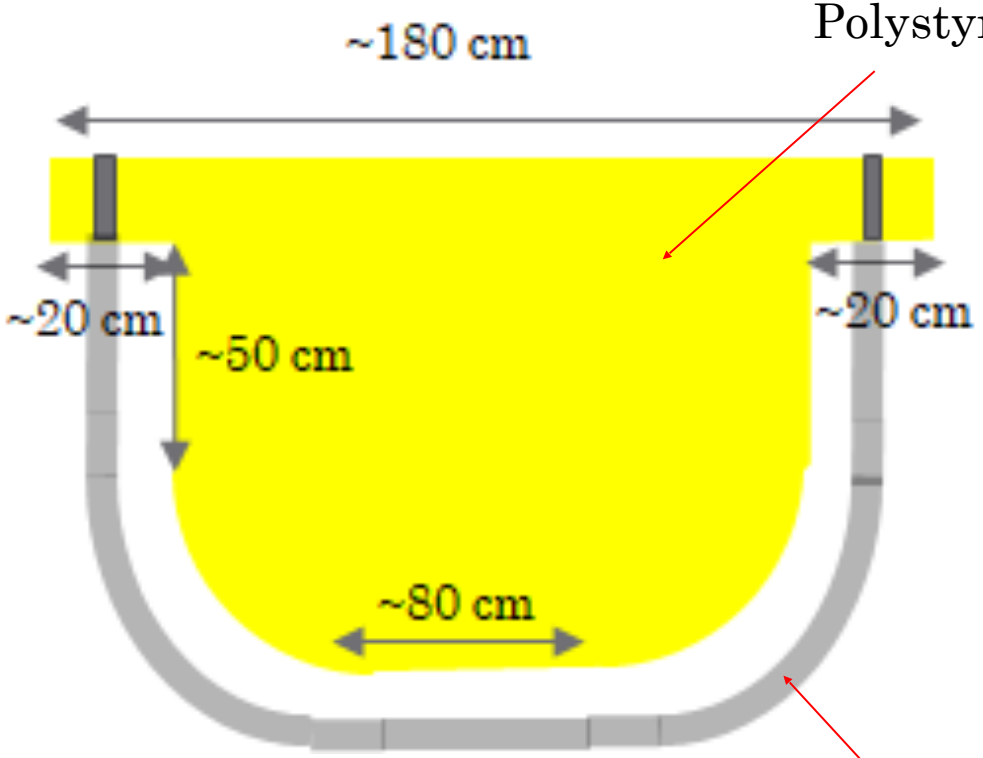
Adding polystyrene pipe-holders





Status: inside filling

Filling the box around the pipe to reduce the volume of liquide nitrogen



Polystyrene

U-pipe

Status: decorating

Next steps

- Wrap up the tank with cling film; to improve isolation
- Plan to add temperature sensors along the pipe + strain gauges
- Two additional holes for liquid nitrogen injection and gaseous nitrogen extraction
- First cold tests (without motorized system) foreseen in February
- Build and install motor box when components arrive from Queens U.