Karl Erik TiTank

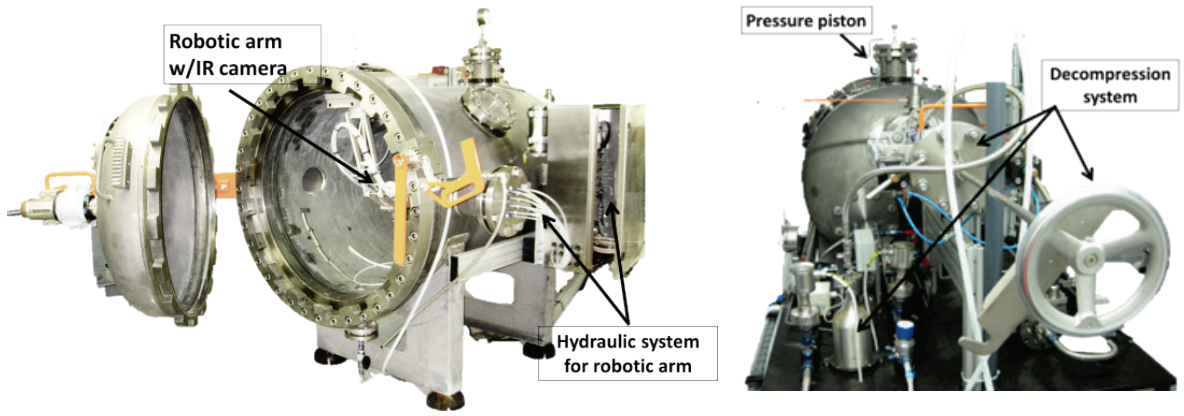

Fig. 1. The Karl Erik TiTank. (a) front of tank with robotic arm and appurtenant hydraulic system. (b) rear of tank with recirculation loop, regulating valves and decompression chamber.

The Karl Erik TiTank (Fig. 1) was designed and produced by NTNU, SINTEF Materials & Chemistry and Statoil to simulate CO_2 leakage scenarios under controlled, yet realistic conditions in the laboratory. TiTank is a flow-through chamber with a volume of 1.4 m3 which can attain a pressure up to 30 bars (corresponding to approximately 300 meters depth). CO_2 leakage scenarios can be simulated by controlling the physical and chemical characteristics of the environment, such as CO_2 level and flow rate, hydrostatic pressure, temperature and sediment composition.

SINTEF