

SINTEF Facilities, Equipment and Resources available for PIRE

SINTEF has a well-equipped laboratory for fluid characterization.

- Rheometer (Anton Paar MCR 102) with various measuring geometries, including a low-pressure XL cell (150 bar, min/max temp -20 °C/180 °C) and a HP/HT pressure cell (1000 bar, 300 °C), high precision densitometers (atmospheric and pressurized)
- Leutert high pressure fluid mixing cylinders for the preparation of gas saturated liquid studies and associated ISCO HP-pumps
- Viscometer (Fann 35SA/SR12)
- Optical shear cell (Linkam CCS450), temp. range -50 °C /450 °C, for visual characterization of fluids during shear or oscillation, including Nikon SMZ800 microscope.
- pH-meter Mettler Toledo
- Densitometer (Anton Paar DMA-4500) (up to 90 °C at atmospheric pressure)
- Densitometer (Anton Paar DMA-HPM) (up to 200 °C and 1000 bar)
- Evaporator (Rotavapor Buchi R-210)
- Centrifuge (Hettich Universal 320 R)
- Ultrasonic bath (Elmasonic P)
- Heating cabinets
- Ancillary equipment: Gas detector (iQuad MX4), Heating bath (Haake F8), Waring laboratory blender (0 - 20 000 RPM)
- Autoclave set-up with stirring for measurement of Wetting-Index (100 bar pressure rating)
- Fourier Transform Ion Cyclotron Resonance Mass Spectrometer (component identification)
- Wheel Flow Loop for hydrate studies (250 bar pressure rating)
- Multi cell set-up (100 bar pressure rating, screening of up to 48 fluid samples with respect to hydrate plugging characterisation)
- Flow loop (1") for hydrate transportability under pipe-flow conditions (90 bar pressure rating)
- Teclis Tracker Pendant Drop
- Karl-Fischer water-in-oil measurements
- Full-scale, in-door flow rig for viscous fluids (oil-based and water-based).
 - process unit for injection and separation of particles
 - 10 m long inclinable test section