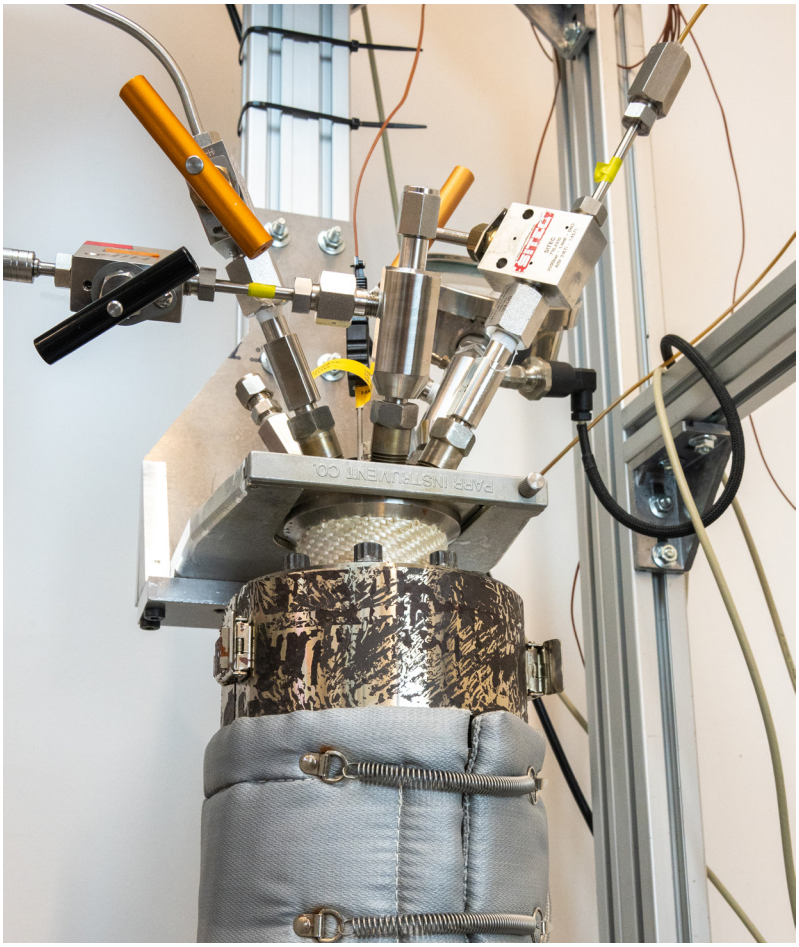


Autoclaven-Systeme



HP-HT geochemical reactor

Parr Instrument Company (series 4626)

Technical data:

Geometry (max. sample size)	solid sample (core and/or powder) fluid and/or gase phase filling volume: 1.2 LiterCaliper QL40-CAL
Vessel material	Hastelloy C-276
Max. pressure	34.5 MPa (5,000 psi)
Max. temperature	350 °C (623,15 K)
Fluids	non-inflamables non-toxic gas water/brine
Access	gas & fluid injection solid sample insertion with reactor open
Main purpose	fluid-rock interaction batch reaction
Special feature	fluid & gase phase sampling

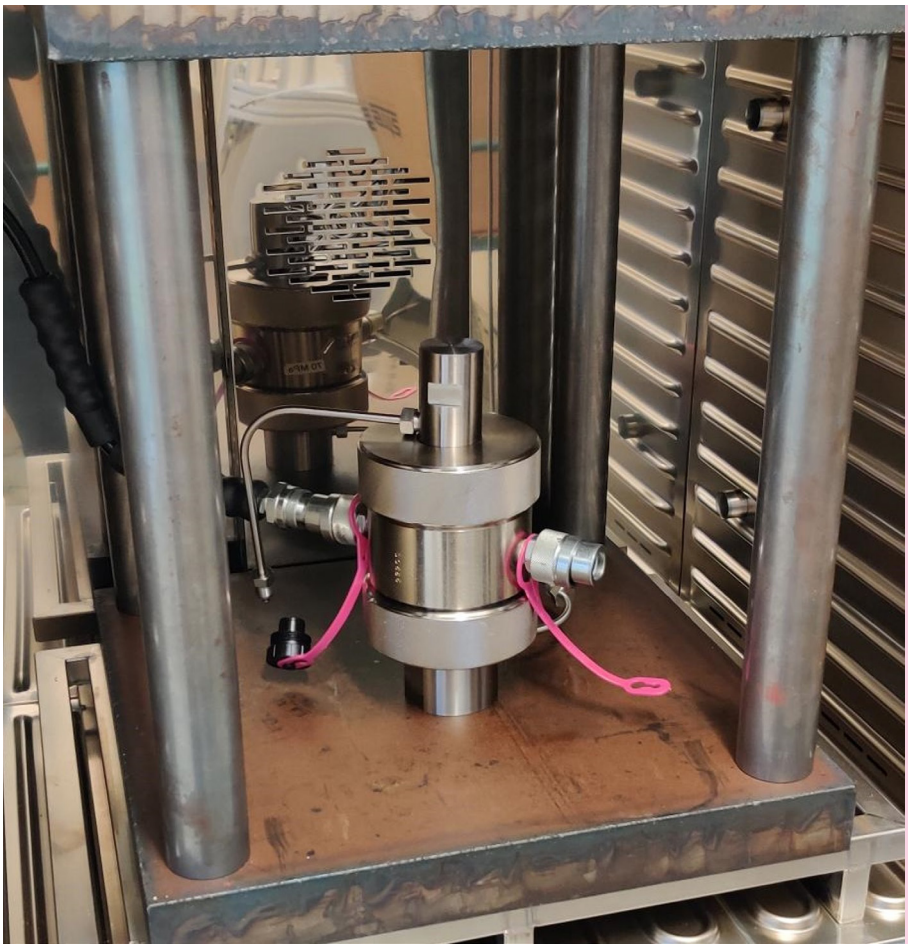


H2 geochemical reaction experiments

Büchi AG

Technical data:

Geometry (max. sample size)	solid sample (core and/or powder) fluid and/or gase phase filling volume: 1.2 LiterCaliper QL40-CAL
Vessel material	Hastelloy C22, C276
Max. pressure	50 MPa confining pressure (7,251 psi)
Max. temperature	200 °C (473,15 K)
Fluids	corrosive fluids (e.g. destilled water) non-inflamables non-toxic gas
Access	gas & fluid injection solid sample insertion with vessel open
Main purpose	fluid-rock interaction batch reaction
Special feature	ATEX certified H2 atmosphere



HP-HT flow-through experiments

Hoek triaxial cell

Technical data:

Geometry (max. sample size)	solid cylindrical sample max. 40 mm diameter max. 80 mm length
Vessel material	stainless steel
Max. pressure	50 MPa confining pressure (7,251 psi) MPa pore-fluid pressure (4,351 psi)
Max. temperature	50 °C (323,15 K)
Fluids	CO2, Ar, He, etc. corrosive fluids (e.g. destilled water)
Access	gas & fluid injection solid sample insertion with vessel open
Main purpose	permeability measurements
Special feature	simple setup



Thermo-triaxial in-situ testing system

Wille Geotechnik (APS Antriebs-, Pruef- und Steuertechnik GmbH

Technical data:

Geometry	solid cylindrical sample
(max. sample size)	max. 50 mm diameter
	max. 100 mm length
Vessel material	42CrMo4
Max. pressure	50 MPa confining pressure (7,251 psi)
	140 MPa pore-fluid pressure (20,305 psi)
	1,500 kN axial load (150 t)
Max. temperature	50 °C (323,15 K)
Fluids	corrosive fluids (e.g. destilled water)
Access	gas & fluid injection
	solid sample insertion with vessel open
Main purpose	triaxial deformation experiments
	permeability measurements
Special feature	ultrasonic measurements & acoustic emission



H2 permeameter & porosimeter

GL Test Systems GmbH

Technical data:

Geometry (max. sample size)	solid cylindrical sample max. 40 mm diameter max. 100 mm length
Vessel material	stainless steel
Max. pressure	50 MPa confining pressure (7,251 psi) 30 MPa pore-fluid pressure (4,351 psi)
Max. temperature	50 °C (323,15 K)
Fluids	H2, CO2, Ar, He, etc. corrosive fluids (e.g. destilled water)
Access	gas & fluid injection solid sample insertion with vessel open
Main purpose	permeability & porosity measurements
Special feature	capillary breaktrough experiments, ATEX certified