



Product Range Overview

Full line of products on www.corelab.com



Sanchez
Technologies

Thermodynamics &
Core Analysis
Laboratory Instruments

We design and manufacture equipment for analysis and measurements for now more than 30 years. We are present each time a company, a laboratory or an institute wants to put in theoretic diagrams, to validate hypothesis or to obtain accurate data.

Today, we share this know-how within Core Lab Manufacturing Group. Our staff members have all the necessary skills in mechanics, electronics, automation and industrial computer adapted to fluid mechanics, thermodynamics and petrophysics.

This sharing is as much a profession as a true passion.

The result is measured by the enthusiasm we are driven by each time a customer suggests us a new project. This plurality of experiences and this enthusiasm lead us to become real partners of our customers. Most of that, our listening, sense of service and advice are part of our daily language.

Since the acquisition of Sanchez Technologies by Core Laboratories in 2015, the combined expertise in manufacturing and services offers our customers a unique “one-stop” service for turn-key laboratory package.

This decisive advantage allows Core Lab today to build on its market leader position in providing state of the art and reliable equipment with full training performed by laboratory analysis experts for all reservoir description (PVT, Core, EOR) needs.

Therefore, we sincerely thank you all, our customers, who yesterday, today and tomorrow share our passion.

Initially present in Europe, Sanchez Technologies has been set up an international representation network for now 15 years.

More and more developed, it is based on resellers which are used to retail scientific instruments in their geographical areas.



Russia - Azerbaijan - Armenia - Belorussia - Georgia - Kazakhstan - Kyrgyzstan - Latvia - Lithuania - Moldavia - Tajikistan - Turkmenia - Uzbekistan - Ukraine - Estonia

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Kuwait

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Equipment Co. WLL

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« Fluid behavior is one of Core Laboratories major area of expertise thanks to 80 years of experience.

Core Laboratories is now the most important and most technology advanced PVT provider in the world with more than 80 Full Visual PVT Cells installed since 2004.

Today, we are able to deliver a full equipped PVT laboratory following our acknowledged standards including intensive training on PVT and GC analysis.



SAMPLE PREPARATION

OSR 2 / OSR 4



Oil Sample Restoration System ensures a proper mixing of sample fluids thanks to the motorized rocking system and heating system. Pressurized by an external high pressure syringe pump, cylinders containing the sample are placed in heating jackets on each side of the apparatus for several hours. Temperature can be adjusted directly on the equipment thanks to the electronic box.

The frame is equipped with wheels that make the apparatus very user-friendly and easy to move in the lab.

Specifications for Oil Sample Restoration

Working Temperature	Ambient to 200°C
Temperature Regulation Accuracy	0.1°C
Available amount of Cylinders	2 and 4

GSR



Gas Sample Restoration System ensures agitation and heating of gas sample up to the reservoir temperature. The sample cylinder is placed into heating clamps mounted on the motorized rocking system to provide the mean to rock the fluid for several days, if required.

The frame is equipped with wheels enable to move the system in laboratory.

Specifications for Gas Sample Restoration

Working Temperature	200°C
Diameter of gas cylinder	250 mm
Available amount of Cylinders	1 gas cylinder

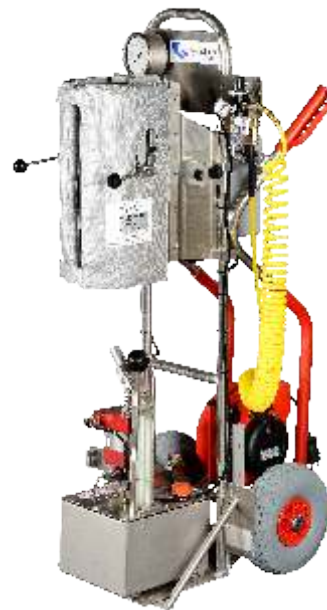
SAMPLE PREPARATION AND TRANSFER

SBOPT

To transport fluid sample at constant temperature and pressure contained in BOPT bottles in laboratory, Sanchez Technologies has designed a heating trolley – SBOPT. This trolley is equipped with two puncture-proof wheels and 10 meters electrical cable on a reel for easy move anywhere in the lab. Bottles are placed on support covered by heating silicon. All this mounting is wrapped into heating jackets. The bottle support is connected to a control panel through a temperature probe for temperature display and regulation. To permit sample transfer, a liquid booster is placed on the heating trolley.

The heating trolley can be used in vertical or horizontal position to recombine samples. This system can be adapted for gas sample upon customer request.

Adaptors for others sample cylinders are also available upon request.



Specifications for Heating Trolley

Working Temperature	Ambient to 200°C
Working Pressure	1 000 bar (15 000 psi)
Temperature Regulation Accuracy	0.1°C

SAMPLE STORAGE

BOPT



Specifications for Free-Piston Bottle

Volume	700 ml
Working Pressure	1000 bar (15 000 psi)
Working Temperature	Ambient to 150° C
Possible Material	Titanium, Stainless Steel, Hastelloy

Need different specifications?
Contact us and we make it possible

Sanchez Technologies Free-Piston Bottles are dedicated for the storage and transport of different samples: Natural gas, Crude oil, Formation water containing hydrogen sulphide, Nitrogen, Carbon dioxide, Brines under pressure.

Leaks are prevented. Piston of the bottle is equipped with double gasket, avoiding contamination of the hydrocarbon sample by the transfer liquid pressure.

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Other models available	BOPT 7-7	BOPT 7-15	BOPT 10-2	BOPT 10-7
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PVT STUDIES

PVT 400/1000 FV - Research & Industry

HIGH PRESSURE - HIGH TEMPERATURE PVT SYSTEM

Sanchez Technologies has designed the PVT 400/1000 Full Visibility to perform phase behavior study for variable reservoir fluids composition such as crude oil, volatile oil, gas condensate and gas under high pressure and temperature conditions.

This equipment can measure pressure, volume and temperature automatically and record them by data acquisition processing. It can also be used to determine bubble or dew point and gas/liquid interface. The motorized PVT cell can be reversed for oil and gas studies.

In addition, the equipment offers a full visibility of the sample and fluid behaviors in real time thanks to a CCD camera added to the window.

Upon customer request different options and configurations are possible to perform asphaltene deposition measurement, gas hydrates studies, or to work on a larger range of temperature, pressure or volume.

Specifications for PVT Cell 400 ml 1000 bar Full Visibility		
Cell Volume	400 ml	Other models available
Visual Volume	400 ml	
Working Pressure	Atm to 1000 bar	
Working Temperature	Ambient to 200 °C	
Liquid Deposit Accuracy	± 0.05 ml	
Bubble/Dew Point Repeatability	± 0.35 bar	
Pressure Accuracy	± 0.1 bar	
Temperature Accuracy	± 0.1 °C	
		250/1500
		250/2000
		500/1500
		1000/1000
		1000/700

Features

- Constant temperature control system
- Motorized piston displacement pump
- Stirring by magnetic coupling
- Automatic Valves
- Control cabinet
- Calibrated pressure sensor and temperature probe
- CCD digital video camera
- Data acquisition and processing system
- High pressure valves, pipes and filters

Optional

- Back pressure regulator – CVD Valve
- Cooling system for PVT cell
- IRMIDDS
- Uninterrupted power supply
- Phase state processing software
- Solid Detection System as PVT accessory for Asphaltenes and Wax detection

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PVT STUDIES

PVT 400/1000 FV



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PVT 300/700 FV - Research & Educational

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The PVT 300/700 FV EDU is an instrument designed to perform phase behavior studies. This system has the same analysis capabilities than our best seller PVT Full Visibility for Research and Industry with downgraded pressure-volume ratio and less automatism (manual rocking system and manual valves), that make it the best solution for educational purposes.

The PVT 300/700 FV EDU can perform the same full range of experimentations with crude oil, volatile oil or gas condensate as our standard PVT FV:

- Constant Composition Expansion (CCE)
- Constant Composition Depletion (CCD)
- Separator Test
- Differential Vaporization
- Fluid Envelop Phase
- Constant Volume Depletion

Specifications for PVT Cell 300 ml 700 bar Full Visibility Educational

Cell Volume	300 ml
Visual Volume	300 ml
Working Pressure	700 bar (10 000 psi)
Working Temperature	Ambient to 200 °C
Liquid Deposit Accuracy	± 0.05 ml
Bubble/Dew Point Repeatability	± 0.35 bar
Pressure Accuracy	± 0.1 bar
Temperature Accuracy	± 0.1 °C

PVT STUDIES

PVT BO 200/1000

The PVT BO 200/1000 was developed to study phase behavior of heavy oil with a viscosity up to 5000 cP at high temperature. The body of the cell is composed of an automatic motorized piston, infra-red detector for bubble point (optional) and a magnetic stirrer.

A manual rotation mechanism allows the operator to reverse the cell for experimentations.

Setting, controlling and recording temperature, pressure and volume parameters can be done manually through the electronic cabinet. For a full automation, the system is supplied with PVT data processing, Falcon® software and macro functions.

To minimize presence of dead volume, ST has incorporated valves and diaphragm sensors.



Specifications for PVT Cell 200 ml 1000 bar Black Oil	
Cell Volume	200 ml
Working Pressure	1000 bar (15 000 psi)
Working Temperature	Ambient to 200 °C
Pressure Accuracy	± 0.1 bar
Temperature Accuracy	± 0.1 °C

PVT STIGMA 300/700 EDU



To fit customers need and propose a cost effective solution for PVT Studies, we have developed a special PVT cell, based on the stigma pump range.

The STIGMA PVT Cell has been designed for educational purposes. Small variable volume thanks to the direct drive piston design, this cell will allow you to study thermodynamic properties and phase behavior of black oil and gas condensate samples.

Specifications for STIGMA PVT Cell 300 ml 700 bar	
Cell Volume	300 mL
Working Pressure	700 bar (10 000 psi)
Working Temperature	Ambient to 200 °C
Head with sapphire for HP sample visualization	
Pressure Accuracy	± 0.1 bar
Temperature Accuracy	± 0.1 °C



GAS OIL RATIO

GOR 100

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Flash Equilibrium Separator has been designed to flash pressurized liquid and perform routine GOR at different pressure and temperature stages. The sample is directly injected in the 80 ml cell through the flash separator valve and is then flashed.

The liberated gas is determined by the manual gasmeter and the liquid is measured by the graduated test tube and also by the volume measurement system composed of CCD Camera and linear transducer through the glass window of the cell.

All the system comes assembled on an aluminum frame equipped with four wheels for an easy movable unit.

Specifications for Flash Equilibrium Separator

Volume	80 ml
Working Pressure	100 bar (1 500 psi)
Temperature	Ambient to 80° C
Volume Accuracy	± 0.1 bar
Pressure Accuracy	± 1 mbar
Temperature Accuracy	± 0.1 °C

GAS OIL RATIO SPIKE FLASH GOR SYSTEM

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Spike Flash - GOR System is dedicated to safe flashing of pressurized samples to atmospheric pressure allowing collection of both the liquid and gaseous phases for further evaluation.

All wetted parts can be treated to handle high content of H₂S.

Features

- Double Oven, ambient to 100°C, one for separation, one for gas storage (with one Sulfinert Buffer Coil and one copper buffer coil) with Fan Enclosure
- Manual Gasometer
- Set of Valves, Tubing in order to control pressure liberation in spike flash flasks (50 or 100 ml for collection of the liquid phase)

Optional

- H₂S Scrubber for safety

The Spike Flash GOR System is a Core Laboratories proprietary equipment.

GASOMETRY

GAS 4000

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To perform gas volume measurement at ambient conditions of pressure and temperature, ST has developed its own range of manual gasometers.

This equipment is composed of two manual valves for the inlet and outlet of the gas, a calibrated glass tube, a handle for adjusting the position of the piston at standard pressure, a piston moving automatically over 0.2 bar pressure, absolute pressure sensors and linear encoder.

All wetted parts are made of Stainless Steel (SS316) except the tube which is made of glass and the piston of gas resistant plastic.

Specifications for Manual Gasometer

Volume	4 000 ml
Working Pressure	Vacuum to 2 bar
Temperature	Ambient
Volume Accuracy	± 0.1 ml
Pressure Accuracy	± 1 mbar
Temperature Accuracy	± 0.1 °C

Other models available

GAS 2000
GAS 5000 H

GAS 5000 HA



GAS 5000 HA is a full automated equipment, designed to measure gas volume at temperature up to 60°C and atmospheric pressure.

Thanks to a very efficient optical encoder link to the last generation of speed controller, the volume's displacement is automatically reached.

The gasometer is controlled manually through the touch screen of electronic regulation card placed on the control panel or automatically by a PC with ST Falcon Software (optionally).

Specifications for Automated Gasometer Heated

Volume	5 000 ml
Working Pressure	Vacuum to 2 bar
Temperature	Ambient to 60° C
Volume Accuracy	± 0.01 ml
Pressure Accuracy	± 0.1 mbar
Temperature Accuracy	± 0.1 °C

GASOMETRY

GAS 10000 HA

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As for GAS 5000 HA, our 10L automatic gasometer allows you to measure gas volume at temperature up to 60°C and atmospheric pressure. It will be the perfect equipment when working with gas condensate for example.

Gas can be then automatically transferred in gas sampling bottles for further analysis like gas chromatography.

We can install up to 12 different sampling bottles on our GAS10000 HA in order to be always more user friendly.

With addition of the Automatic Gas Sampling System a complete automation of standard PVT studies such as differential vaporization, separator test or constant volume depletion is possible.

Specifications for GAS 10000 HA

Volume	10000 mL
Working Pressure	Vacuum to 2 bar
Temperature	Ambient to 60° C
Volume Accuracy	± 0.01 ml
Pressure Accuracy	± 10 mbar
Temperature Accuracy	± 0.1 °C

AUTOMATIC GAS SAMPLING SYSTEM



This equipment allows you full automation of gas samples collection during PVT experimentations when used with an automatic gasometer.

It's composed of:

- A phase detector to detect phase transition during gas release in the decompression pump.
- A heated automatic pump for gas collection and decompression.
- A liquid trap system with up to 12 trap cells (one for each step) in order to transfer dry gas to the automatic gasometer.

The automation of the full process of gas collection from the PVT cell to gas sampling bottle is ensured thanks to our proprietary software Falcon®.

DENSITY

HP HT DMC



The density measuring module HP HT DMC associated to the evaluation unit mPDS determines the density at reservoir pressures (up to 1400 bar) and temperatures (up to 200°C).

HP HT DMC is commonly used in reservoir studies either integrated into a PVT analysis system or with slim tube apparatus for enhanced oil recovery (EOR) experiments.

HP HT DMC can be proposed in two different design for temperature generation and control: first option a thermodynamic bath, second option a climatic air bath.

Specifications for HP HT Density Measuring Cell	
Volume of sample in the measuring cell	2 ml
Working Pressure	1400 bar (20 300psi)
Density Range	0 to 3g/cm ³
Density Resolution	Up to 0.00001g/cm ³
Working Temperature	-10 to +200°C
Cell Material	Hastelloy

An in-line solution for density and viscosity measurement can be designed with the integration of the density measuring module HP HT DMC and of the CVL1000 in the same climatic air bath. This allows you to perform both analysis under the exact same conditions on the same sample.

VISCOSITY

CVL 10/1000

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This capillary viscometer allows the operator to perform viscosity studies with low volume of monophasic fluid (less than 3 ml fixed volume) at reservoir conditions for gas and liquid samples. Developed according to the Poiseuille law, this capillary viscometer measures the fluid viscosity by analysis of the fluid pressure variation passing through a capillary tube.

To run the equipment automatically, Sanchez Technologies has mounted its own measurement cards on the electronic cabinet and Falcon® software is delivered with a computer for automatic measurements and procedures for calibration. All calculations notes are presented on Excel sheet.

A buffer cell, volumetric or not, motorized or not, is necessary to prepare the sample, make decompression steps and purge the gas under bubble point.



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Other models available

CVL 10/1500

CVL 3/1000 G

Specifications for Capillary Viscometer for Lab

Working Temperature	Ambient to 200°C
Volume	10 ml
Range	0.1 to 10 000 cp
Working Pressure	1 000 bar (15000 psi)
ΔP range for viscosity measurement	0.5 to 10 bar
Flow Rate	8 10 ⁻³ to 5 ml/min
Temperature Regulation Accuracy	0.1 °C
Pressure Display Accuracy	0.01 bar

CHEMICAL ANALYSIS

GAS CHROMATOGRAPHY

AS PER CORE LAB STANDARDS

Compositional analysis of hydrocarbon is a crucial step in order to characterize your reservoir.

As the only company both equipment manufacturer and services supplier, we today have the ability to provide you Gas Chromatograph specifically commissioned and built to meet Core Lab's latest specifications for hydrocarbon liquid and gas analysis.

The set up for a full analysis is as follow:

- Gas chromatograph and all peripherals in order to perform C15+ gas analysis including set of three dedicated columns with automatic valco valves designed per Core Lab expert
- Gas chromatograph and all peripherals in order to perform C36+ liquid analysis including dedicated capillary column as per Core Lab standard and auto injector with 16-sample turret
- Dedicated software for data analysis and auto sampling trigger. A specific excel sheet for liquid composition analysis is also provided (Core Lab intellectual property).



CRYOGENIC DISTILLATION UNIT

Cryogenic Distillation Unit is a Core Lab proprietary equipment used for the sampling of gas condensate samples to allow compositional analysis.

The equipment uses cryogenic flash separation in order to isolate a gas fraction and a stabilized liquid fraction from a lean, single-phase hydrocarbon system. The composition of each fraction could be then easily determined by chromatography.

Thanks to the composition and mass (measured during the Cryogenic Distillation by our apparatus) of each fraction, you will be able to calculate the original single-phase fluid composition.

The Cryogenic Distillation is useful in order to determine the displaced well streams from constant volume depletion analyses and the composition of gas condensate samples.

It also can be used as a separator for lights oil and rich gases.

Main advantages:

- Easy way to collect gas/liquid samples
- Effective separation of the gas and liquid phases
- Small volume of sample needed



RECOMBINATION

RC 1500/1000

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Need different specifications?
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To ensure a proper recombination of gas and oil samples at high pressure and high temperature, ST has designed the Recombination Cell 1500/1000. The operator can load a sample up to 1500 ml into the cell. Thanks to the hydraulic piston with Teflon/Vespel packing and the heating system, the sample can be pressurized and heated at requested pressure and temperature.

The agitation of the sample is made by the combination of the magnetic stirrer and manual rocking. As option, a full automatic rocking can be installed on the equipment. Supervision of all pressure, volume and temperature parameters is done through the computer and Falcon® Software delivered with the system.

The Recombination Cell 1500/1000 is mounted on a sturdy frame equipped with wheels for easy move in the laboratory and be associated to different PVT Systems.

Specifications for Recombination Cell 1500 ml 1000 bar		
Other models available	Volume	1500 ml
	Working Pressure	1000 bar (15 000 psi)
	Temperature	Ambient to 200° C
	Volume Accuracy	± 0.1 mlr
	Pressure Accuracy	± 0.1 bar
	Temperature Accuracy	± 0.1 °C
1500/1500		
3000/1000		
3000/700		

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AWAI 1000

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Asphalten & Wax Automatic Instrument AWA1 1000 is an independent system that has been designed to perform analysis on solid deposition (asphalten, scale, wax) within isothermal depressurization and isobaric temperature decrease experiments, including titration experiments, bulk filtration tests, particle size distributions and solids deposition.

AWA1 is used to detect when the organic deposition takes place and a microscope cell with CCD camera and dedicated software permit to visualize them accurately at onset conditions, identify the solid particles and monitor size and morphology changing as function of temperature, pressure, time and effect of various chemical treatments.

Specifications for Asphalten and Wax Automatic Instrument

Pressure Range	Up to 1000 bar (15 000 psi)
Pressure Sensor Accuracy	± 0.05% FS
Working Temperature	Ambient to 200°C (other upon request)
Temperature Accuracy	0.5°C
Wetted Parts	Sapphire and Special Steel with high resisting corrosive abilities

FLOW ASSURANCE SOLID DETECTION SYSTEM

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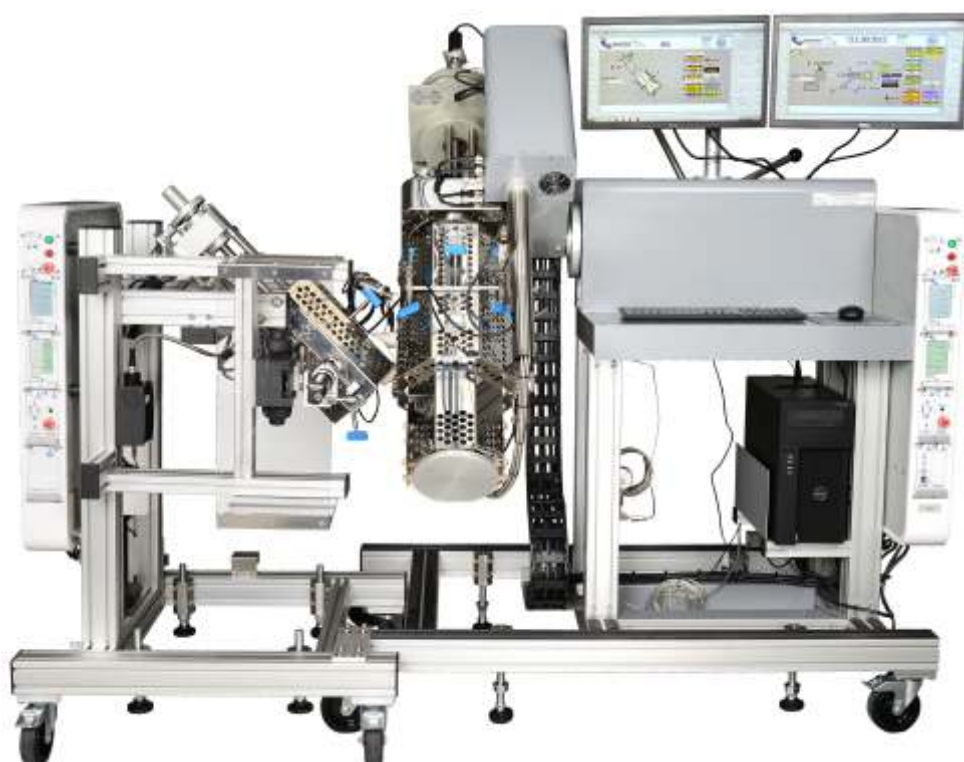
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Solid Detection System engineered like an accessory for PVT cell has been designed to perform analysis on solid deposition (asphaltenes, wax) within isothermal depressurization and isobaric temperature decrease experiments.

The system is composed of a heated pump for fluid transfer with integrated sapphire windows for visualization.

SDS is fully customizable. It can integrate up to three different measurement options:

- Infra-Red Module is used in order to detect the couple pressure/temperature at which the organic deposition takes place
- CCD camera and dedicated software for visualization allow you to quantify the number of particles.
- It also allows you to monitor size and morphology. Filtering system with different pore size can be added in order to collect and weigh the solid deposition



Specifications for SDS

Cell Volume	40 mL
Working Pressure	1000 bar (15 000 psi)
Working Temperature	Ambient to 200°C
Pressure Sensor accuracy	$\pm 0.05\%$ FS
Temperature accuracy	0.1°C

ONFIELD INSTRUMENTS

QUAD RC



For on-fields experimentations, Sanchez Technologies has designed a QUAD Recombination Cell able to mix oil and gas at high pressure and high temperature. This model is a compact version of the standard Recombination Cell 1500/1000. The cell can be manually reversed and a control panel allows the operator to control pressure and temperature parameters.

The system is mounted on a sturdy frame for a friendly-use and to move it easily.

Specifications for Onfield Recombination Cell	
Volume	Up to 4 500 ml
Working Pressure	Atm to 1000 bar
Temperature	Ambient to 200° C
Volume Accuracy	± 0.1 ml
Pressure Accuracy	± 0.1 bar
Temperature Accuracy	± 0.1 °C

QUAD GAS



ST has developed a QUAD Gasmeter allowing the operator to determine gas volume at ambient conditions to carry out on-field gas volume measurements. Four heated sampling bottles are provided with the equipment for analysis. Falcon® software is included in the package for a full supervision and regulation of pressure and temperature parameters and also for valves and vacuum pump automatic control.

Specifications for Onfield Gasmeter	
Volume	5 000 ml
Working Pressure	Vacuum to 2 bar
Temperature	Ambient to 50° C
Volume Accuracy	± 0.01 ml
Pressure Accuracy	± 0.1 bar
Temperature Accuracy	± 0.1 °C

ONFIELD INSTRUMENTS

QUAD VISCO

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The QUAD Viscometer is a capillary viscometer based on the Poiseuille law which describes laminar flow of a fluid in capillary. Dedicated to obtain data on field as fast as possible, the QUAD Viscometer has all advantages of the Capillary Viscometer for Lab - CVL 1000 - grouped together in a transportable unit.

Specifications for Onfield Viscometer	
Volume	10 ml
Working Pressure	Atm to 1000 bar
Temperature	Ambient to 200° C
Volume Accuracy	± 0.1 ml
Pressure Accuracy	± 0.1 bar
Temperature Accuracy	± 0.1 °C
Viscosity Range	Up to 10 000 cp



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CORE ANALYSIS

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QUAD PVT

On-field exploitation led us to design a QUAD PVT Cell for automatic and fast experimentations.

The QUAD PVT Cell is composed of two cells of 30 ml for the bottom cell and 100 ml for the top cell that can work simultaneously at high pressure and high temperature.

The system is fully automatic thanks the Falcon® supervision software provided with the laptop.

Specifications for Onfield PVT Cell	
Cells Volume	30 ml and 100 ml
Working Pressure	Atm to 1000 bar
Temperature	Ambient to 200° C
Volume Accuracy	± 0.001 ml
Pressure Accuracy	± 0.1 bar
Temperature Accuracy	± 0.1 °C



GEOLOGY & ROCK
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CONDITIONS

PUMPS &
ACCESSORIES

CORE LAB R&D

COMPLETE LABORATORY TRAINING

FLUID ANALYSIS

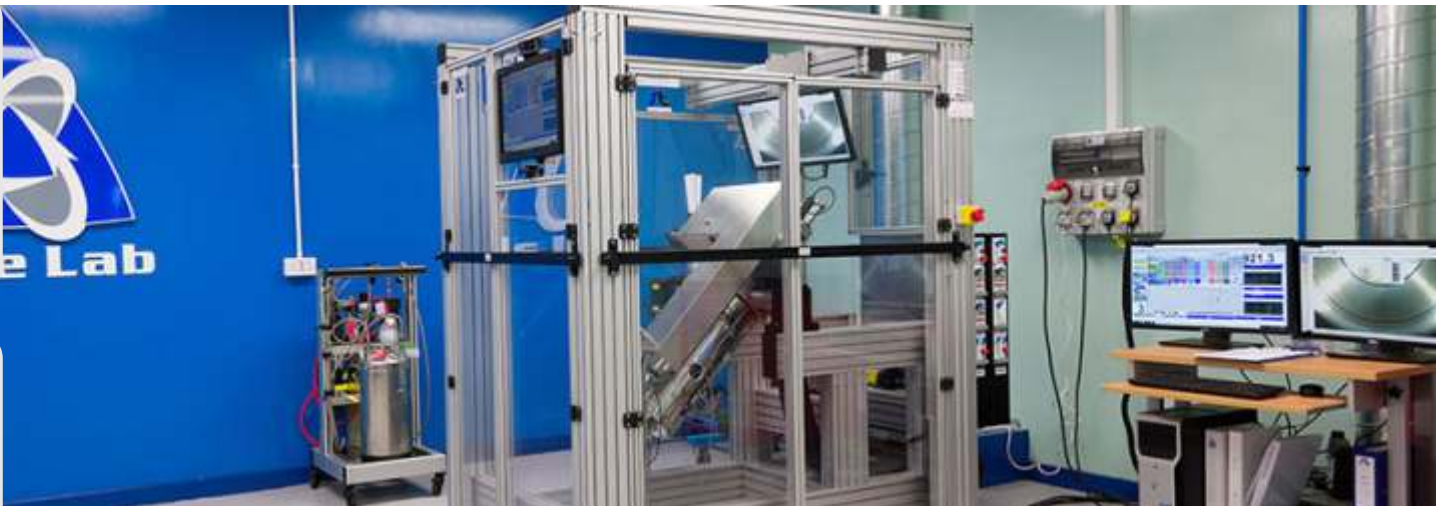
Core Laboratories manufacturing expertise coupled with an 80 years services expertise allows us today to provide turnkey solution including complete training in reservoir description.

Core Laboratories is the only company in the world able to train customers on equipment operation and maintenance as well as on how to run full analysis on their own samples.

CORE ANALYSIS

Example of program overview for PVT and GC analysis:

- Complete black oil PVT study using separator samples
- Complete gas condensate PVT study using separator samples
 - Validation if separator samples
 - Compositional Analysis & Well stream Calculation
 - Recombination of Separator Samples
 - Reservoir Condition Analysis
 - Surface PVT Analysis
- Compositional analysis
 - Analysis of Pressurized Gas Sample
 - Analysis of Atmospheric Oil Sample

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Main assets :

- Training is ensured by Core Lab experts in Reservoir description
- Core Lab methods applied by Petroleum Services all over the world
- All analysis will be made on customer's samples: reference for future analysis

Core Laboratories can today provide turnkey solution for Core Analysis laboratory thanks to an 80 years expertise in this field and Core Lab Instruments experience in equipment manufacturing.

On top of the vast product range proposed by Core Lab Instruments for 30 years, Sanchez Technologies can propose alternatives and automated solutions for your needs.

Indeed, assuming that many Core Analysis studies are long-term experiments, ST has developed a lot of rigs with full automated procedures and data acquisition that help operators and scientists to perform such experiments safely and without operating manually (Permeability/Porosity, Resistivity Index Measurement etc....).



ROUTINE CORE ANALYSIS

HYDR CH

FLUID ANALYSIS

CORE ANALYSIS

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Hydrostatic (biaxial) Core Holder is standard type core holder defined by having common radial and axial pressure. The sample is inserted through the loading end and an adjustable floating piston ensures the solid maintain of the sample of any length.

An easy access of the sample allows user to do not empty the confining fluid during core sample change and it is no need to remove it from the holder to change the size of the core and adapt the new cap.

The core holder can be also designed with several pressure taps upon customer request.



Specifications for Hydrostatic Core Holder

Maximum Working Pressure	1000 bar (15 000 psi)
Working Pressure	Ambient to 200°C
Core Sample Dimensions	Ø 1?and 1.5?/ Lg up to 3" (other upon request)
Pressure Taps	Upon request
Wetted Material	Stainless Still, Hastelloy (upon request)
Sleeve Material	Viton

Need different specifications?
Contact us and we make it possible

TRI-X CH



Triaxial Core Holder is defined as core holder having independent axial and radial load. This core holder can be used horizontally and/or vertically during any flood or permeability experimentations under high pressure and temperature. As well as our other model of core holder, the Viton sleeve does not need to be removed for each sample loading.

Axial and radial pressure can be changed at any moments of the experimentation. Number of pressure taps can be adjustable upon customer request as well as the material.

Specifications for Triaxial Core Holder

Maximum Working Pressure	1000 bar (15 000 psi)
Working Pressure	Ambient to 200°C
Core Sample Dimensions	Ø 1?and 1.5?/ Lg up to 3" (other upon request)
Pressure Taps	Upon request
Wetted Material	Stainless Still, Hastelloy (upon request)
Sleeve Material	Viton

ROUTINE CORE ANALYSIS

MG2P 500



Need different specifications?
Contact us and we make it possible

The MG2P is designed to measure steady state gas permeability, Klinkenberg and Pulse Decay permeability, pore volume and grain volume at room conditions.

This system is composed of a hydrostatic or hassler core holder (upon request), pressure sensors, accurate flow meters, a pressure reducer and a manual pump for confining pressure. ST electronic cards ensure control of the system and a computer latest configuration (optional) with Falcon® allows data acquisition and supervision.

A second core holder and/or a grain chamber can be adjusted on the existing system upon customer request.

MG2P 500 D



Specifications for Manual Gas Permeameter Porosimeter

Confining Pressure	0 to 700 bar (10 000 psi)
Pressure	0.05% FS
Temperature Range	Ambient
Circulating Pressure	0 to 40 bar (580 psi)
Flow Range	0.02 to 1000 mln
Permeability Range	10 ⁻² mD to 5 Darcies
Fluids	Nitrogen, Air (others fluids in option)
Circulating Pressure	0 to 40 bar (580 psi)
Core Sample Dimensions	Ø 1" and 1.5" / Lg up to 3" (other upon request)

ROUTINE CORE ANALYSIS

AG2P 700



The AG2P is an automatic and highly accurate system for determining rock properties such as permeability, Klinkenberg permeability, pore volume, porosity and grain volume at overburden pressure. The system uses an unsteady state pulse decay technique for the permeability measurement.

This system is composed of a core holder, pressure sensors, accurate flow meters, a pressure reducer, pulse decay system and an automatic pump for confining pressure. A computer latest configuration with Falcon® software and Sanchez Technologies electronic cards ensure data acquisition and full automation of the instrument.

A second core holder and/or a grain chamber can be adjusted on the existing system upon customer request.

Specifications for Automatic Gas Permeameter Porosimeter

Confining Pressure	0 to 700 bar (10 000 psi)
Pressure	0.05% FS
Temperature Range	Ambient
Circulating Pressure	0 to 40 bar (580 psi)
Flow Range	0.02 to 1000 mln
Permeability Range	10 ⁻² mD to 5 Darcies
Fluids	Nitrogen, Air (others fluids in option)
Circulating Pressure	0 to 40 bar (580 psi)
Core Sample Diminutions	Ø 1" and 1.5" / Lg up to 3" (other upon request)

ROUTINE CORE ANALYSIS

AMEP



AMEP system is dedicated to measurements of various electrical properties of core plug sample including Formation Factor as well as Resistivity Index at ambient conditions.

It also enables measurements of rock and brine resistivity at different frequencies.

Our delivery includes plastic cover box to prevent core drying out during a measurement.

The pneumatic loading enables accurate and repeatable resistance measurements.

Specifications for Ambient Electrical Properties System

Core Sample Dimensions	Ø 1" and 1.5" / Lg up to 3"
Working Temperature	Ambient
Resistivity Measurement	2 and 4 electrodes
Working Pressure	Atmospheric

OPEP



Overburden Resistivity Meter is designed as a bench-top instrument for performing electrical properties measurements of both fully and partially brine saturated core samples at overburden pressure up to 700 bar (10 000 psi). Resistivity determination is made along with porous plate capillary pressure measurements to enable the calculation of Formation Factor and Resistivity Index values along with the cementation "m" and saturation "n" exponents.

Specifications for Overburden Pressure Electrical Properties System

Confining Pressure	0 to 700 bar (10 000 psi)
Working Temperature	Ambient
Resistivity Measurement	2 and 4 electrodes
Resistance Accuracy	0.1%
Core Sample Dimensions	Ø 1" and 1.5" / Lg up to 3" (other upon request)

ROUTINE CORE ANALYSIS

CAP 700

FLUID ANALYSIS

CORE ANALYSIS

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The CAP 700 is used for the measurement of rock compressibility, acoustic velocity and pores & bulk volume compressibility.

The system is based on a triaxial type core holder that works at reservoir conditions (700 bars and 175 °C) with HP pumps for axial and radial stress.

Transducers fixed at the end of two Titanium pistons are used to propagate ultrasonic waves from the source to the receiver along the axis of confined cylindrical samples.

Removable piston plates are manufactured to match with various specimen diameters. The frequency range is between 250 kHz and 1 MHz.

Transducers sequentially propagate a single compressional (P) and two plane polarized shear (S1 and S2) waves.

The compressional and shear velocities may be combined with bulk density to calculate dynamic Young's modulus, bulk modulus, shear modulus, and Poisson's ratio.

P and S wave signal selection, source excitation, and signal conditioning of the ultrasonic signal from the receiver are controlled by a pulse generator.

In the same mounting, a special sleeve is equipped with electrodes in order to manage resistivity measurement. All wirings are plugged on a LCR meter, outside the system thanks to a High Pressure Coaxial Lead Through.

And then, a LVDT system, attached on the piston outside the vessel, allows determining compressibility throughout the duration of the experimentation

SPECIAL CORE ANALYSIS

CPIDRI

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Capillary Pressure Imbibition Drainage Resistivity Index system is a research grade system designed to determine automatically full capillary pressure and resistivity curves which are essential to evaluate the potential of oil recovery from reservoir and obtain the following parameters: Formation Factor, Resistivity Index, Cementation Factor, Saturation Exponent, Brine Resistivity etc.

Knowledge of the water-oil capillary pressure and resistivity index vs. saturation relationship is necessary for many reservoir engineering tasks such as:

- Calculate oil-in-place
- Calibrated resistivity logs
- Determine the height of the transition zone
- Model oil displacement either by free water imbibition and/or water injection

CPIDRI is dedicated to the determination of three properties for reservoir evaluation:

- Electrical resistivity index
- Full Capillary Pressure Curve
- Wettability indices as function of core sample saturation

Specifications for Capillary Pressure Imbibition Drainage Resistivity Index System	
Maximum Confining Pressure	700 bar (10 000 psi)
Maximum Pore Pressure	650 bar (9 500 psi)
Maximum Working Temperature	160°C
Air bath temperature accuracy	0.1°C
Resistivity Measurement	2 and 4 electrodes
Wetted Material	Stainless Steel, Hastelloy
Core Sample Dimensions	Ø 1" and 1.5" / Lg up to 3" (other upon request)

ENHANCED OIL RECOVERY

Enhanced Oil Recovery – EOR – also called tertiary recovery, groups together all techniques for increasing the amount of crude oil that can be extracted from an oilfield.

Once again in this challenging study area, Sanchez Technologies has known how to play its cards right and developed efficient equipment for such experimentations.



ENHANCED OIL RECOVERY

CFS 700

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Core Flooding is a common test to determine rock permeability, and how well various fluids, including oil, will flow through it.

First, a cylindrical rock sample or core is cut from the oil reservoir. The core is placed in a rock core holder, and the outer surface is pressurized to simulate the loads, or 3-axis stresses, that the core was under when it was removed.

Of these loads or stresses, some are caused by the weight of the material above the core, which is known as the “overburden” pressure.

Loads in the rock will affect the core’s permeability to fluids, so it is important to duplicate them during testing. A test fluid is then pumped through the core, and the flow rates and pressure drops across the core are measured. From this data, the resistance to flow is evaluated.

The base system is configured to perform the following:

- unsteady state liquid/liquid relative permeability as well as single phase permeability
- EOR tests (secondary and tertiary water flooding, polymer injection)
- a gasmeter for unsteady state gas/liquid relative permeability measurement and miscible gas flooding
- a fluid separator to measure and monitor the produced fluids at reservoir conditions during two phase unsteady state relative permeability test

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MMP APPARATUS

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The Minimum Miscibility Pressure apparatus (Core Lab PS Standard Slim Tube) is a complete equipment for relative permeability measurements. The slim tube test is one of the most widely used techniques and is accepted as a standard means to measure MMP in the petroleum industry. It has been used for many years to obtain, at reservoir conditions, dynamic miscibility information such as:

- The minimum miscibility pressure (MMP)
- The minimum miscibility composition (MMC)
- Optimum injection parameters and composition of lean and enriched gas
- Oil in place recovery determination
- Assessment of sensitivity of experimental conditions on recovery

The design and the operating procedures we propose have been defined in strong collaboration with experts and scientists from Core Lab Petroleum Services.

Specifications for MMP Apparatus

Working Pressure	700 bar or 1000 bar
Working Temperature	200 °C
Pressure Accuracy	± 0.1 bar
Temperature Accuracy	± 0.1 °C

ENHANCED OIL RECOVERY

IFT 1000

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InterFacial Tension Measurement Cell with a huge field of view can measure the interfacial tensions liquid/liquid, gas/liquid and liquid/gas by the pendant drop method, and also the contact angles between liquid/ solid. The cell can be turned over. It makes possible to measure interfacial tensions water into gas or oil into gas or water into oil and after, the cell is turned over oil into water.

The basic set of the instrument consists of Hastelloy Cell HP/HT including electrical heating system, rotating system for contact angle measurement between liquid and rock sample and manual syringe pump for drop formation, steady aluminum frame, control and data acquisition module.

Specifications for InterFacial Tension Measurement Cell	
Maximum Working Pressure	1000 bar (15 000 psi)
Pressure Accuracy	± 0.05 bar
Working Temperature	Up to 200°C
Temperature Accuracy	0.1°C
IFT Standard Measurements	0.1 to 72 mN/m

ROCK MECHANICS

This subject area is dear to Sanchez Technologies engineering great equipment to enable well-known scientists to carry out new experimentations.

We are convinced that continually expand scientific engineering is the only way to develop an incomparable know-how.



ROCK MECHANICS

TRI-X 40/50

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FLUID ANALYSIS

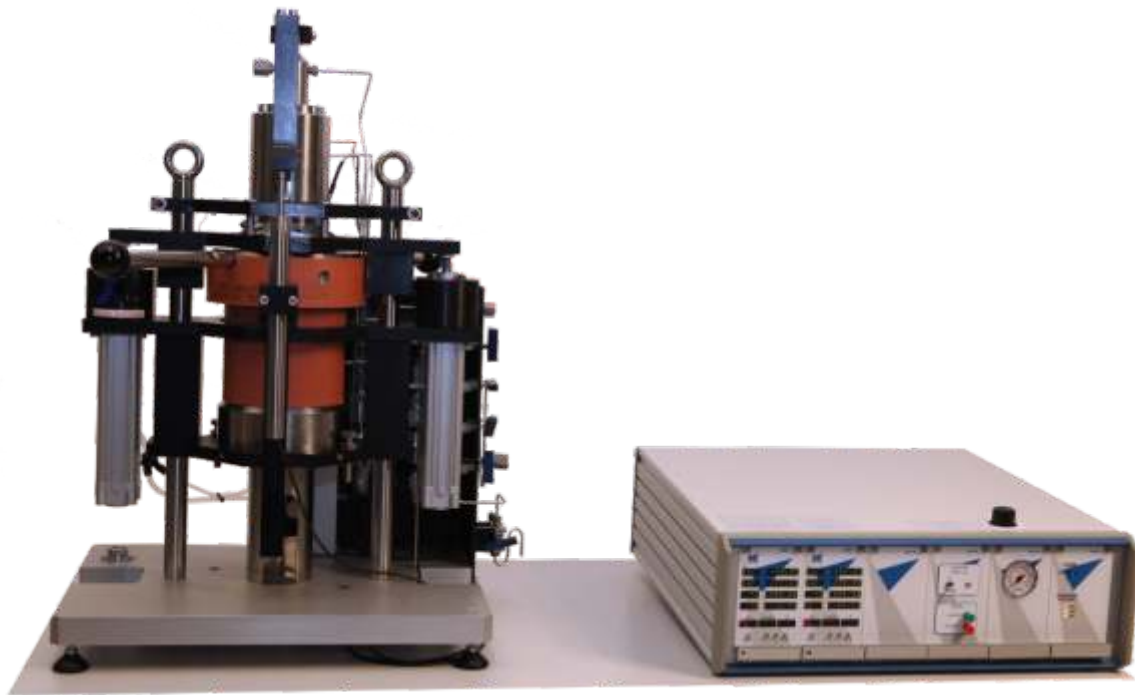
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TRI-X 40/50 is a bench-top Triaxial Press specially designed for rock mechanics application. This instrument allows the user:

- quick and easy access to the sample after the total clean-up of the confining chamber;
- 360° sample access and on all the height of the triaxial cell to avoid any issues during the sample installation.

Equipped with all suggested options triaxial cell perform following experimentations:

- Permeability Measurement
- Pore Bulk Measurement
- Resistivity Measurement
- Acoustic Resistivity Measurement P&S Waves
- Axial Load Measurement
- Radial Deformation
- $\Delta L/L$ Measurement
- $\Delta \varnothing/\varnothing$ Measurement

Specifications for Triaxial Press 40 MPa 50°C

Maximum Working Radial Pressure	40 MPa (400 bar)
Maximum Working Axial Pressure	40 MPa (400 bar)
Working Temperature	Ambient to 50°C
Core Sample Dimensions	Ø1" or 1.5" / Lg up to 3"

ROCK MECHANICS

TRI-X 250/200

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TRI-X 250/200 is Triaxial Press specially designed for rock deformation studies in laboratory, concurrently measure sample deformation and quantify the damage and its influence on permeability. Furthermore, micro seismicity can be located through acoustic emission.

The press has a containment chamber dimensioned for pressures up to 250 MPa and temperatures of 200°C. Maximum axial load is 47 tones, which corresponds to a vertical stress of 1500 MPa for a sample of 20 mm diameter.

The press has been designed to inject corrosive fluids, to study thermo-hydro-chemo mechanical coupling mechanisms in device operation pressure and temperature range. It can be controlled by stress/pressure range or deformation in ramp. Pore pressure is generated by an accurate double volumetric pump.

On demand, the hydraulic pumps of the cell are equipped with controllers that allow oscillating confining pressure, pore pressure and deflector in frequency range 0.001 to 1 Hz.

Specifications for Triaxial Press 250 MPa 200°C

Maximum Radial Pressure	250 Mpa (2 500 bar)
Maximum Independent Axial Pressure	1500 MPa (15 000 bar)
Working Temperature	Ambient to 200°C
Oscillation radial / axial stress	Up to 2 Hz
Core Sample Dimensions	Ø 1?, 1.5?, 40mm / Lg sample Ø x 2 (Other upon request)

Other models available

TRI-X 100/200

TRI-X 150/200

TRI-X 100/250 T

ROCK MECHANICS

TRI-X 6/1500 SD

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TRI-X 6/1500 is a model of Triaxial press called originally GRIGGS Press. The conceptual base is the one of a piston-cylinder press, on which three concentric different pistons apply respectively three different forces on the sample.

The principle of this instrument is based on the two following ideas:

- surface/pressure ratio: that allows applying differential forces through one and only one pressure source
- confining pressure that can be applied by an axial load on a sample and work on salt crystals ductility at high temperature and high mechanical constraint.

TRI-X 6/1500 can perform following experimentations with dedicated items:

- Measurement through LVDT Sensors
- Axial Force Measurement
- Resistivity Measurement (option)
- Acoustic Measurement (option)

Specifications for Triaxial Press 6000 MPa 1500°C for Solid Deformations	
Maximum Confining Pressure	6000 MPa (60 000 bar)
Working Temperature	Ambient to 1500°C
Sample Diameter	Upon request
Sample Length	Sample Ø x 2 (other upon request)

EXTREME CONDITIONS

Specially dedicated to diamond anvil cells and Paris-Edinburgh press technologies, these equipment are the proof of Sanchez Technologies ability to adapt its know-how to different needs in scientific instruments.

DIAMOND ANVIL CELL DRIVING SYSTEM GLS 1500



The Gas Loading System GLS 1500 has been designed to load mechanical and membrane diamond anvil cell (DAC) sample environment with gas.

This equipment, engineered in collaboration with many DAC users in Europe, is the first full automated equipment. The automation is based on two volumetric 1500 bar pumps with a set of special automatic valves called VAVC. The first pump controls membrane pressure while the second one is in charge of the sample environment pressure.

The three steps (fill-in/delta P generator/purge) of the gas loading can be done without any restriction.

Specifications for Gas Loading System 1500 bar

Maximum Working Pressure	1500 bar (22 000 psi)
Working Temperature	Ambient
Working Gases	Argon, Xenon, Helium, Nitrogen, Krypton, Neon, Hydrogen

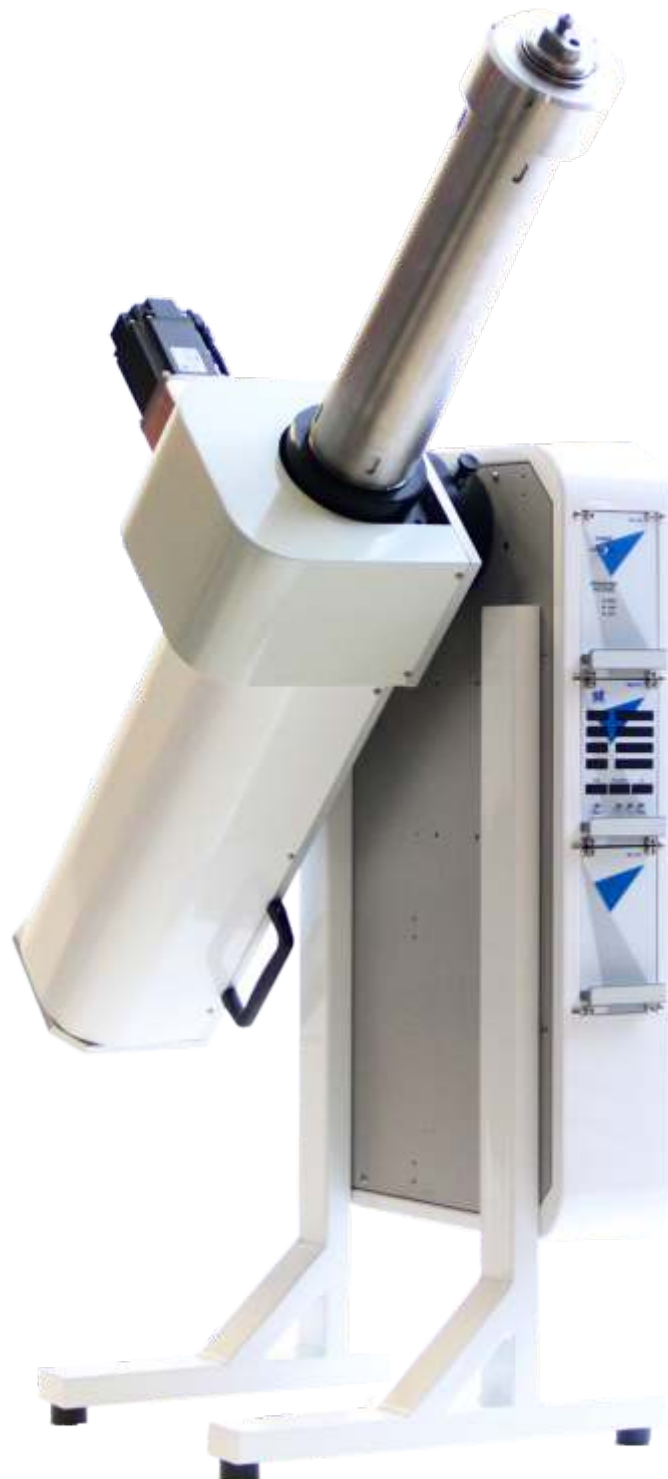
DAC

Sanchez technologies designs its own D.A.C. Diamond Anvil Cells including membrane D.A.C. and mechanical D.A.C. with screws. Our D.A.C. work under high temperature and high pressure with efficiency in beam line using.



Simply the largest range of high pressure syringe pumps on the market.

And if you do not find the model you need, we are ready to design it for you.



HP VOLUMETRIC PUMPS

STIGMA



STIGMA is a series of High Pressure Volumetric Pumps which offers precision and stability while pressure control. It is ideal for the following applications:

- High pressure liquid chromatography HPLC
- Adding fluid accurately in the field of research and manufacturing processes
- Formulation of reagents in the development of chemical processes
- Accurate dosing of liquefied gases
- Core flooding, permeability measurements

Falcon® Software or/and electronic cards enable following operations and control:

- Constant Flow Rate
- Constant Pressure with programmable ramp
- Preset Volume at constant flow
- Temperature measuring (optionally)
- PED 2014/68/EU construction

Specifications for STIGMA Pump			
Model	Volume	Flow	Max Pressure
STIGMA 100/1500	100 ml	0.0001 up to 44 ml/min	1500 bar (22 000 psi)
STIGMA 200/1200	200 ml	0.0001 up to 55 ml/min	1200 bar (18 000 psi)
STIGMA 300/1000	300 ml	0.0001 up to 66 ml/min	1000 bar (15 000 psi)
STIGMA 500/700	500 ml	0.0002 up to 94 ml/min	700 bar (10 000 psi)
STIGMA 1000/300	1000 ml	0.0004 up to 190 ml/min	300 bar (4 000 psi)

HP VOLUMETRIC PUMPS

VPSSH 6/700

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This equipment is specially designed to inject small quantities and concentration lower than 4 ppm. The volume of the pump is 6 mL for an accuracy of 10^{-6} mL.

With the synoptic or with the electric cabinet, the pump can be controlled (pressure regulation, constant flow rate, constant volume). Falcon® software also enables to see the values of the different parameters (pressure, volume,...) and control pneumatic valves.

Specifications for Volumetric Pump Single Screw Horizontal 6 ml 700 bar

Volume	6 ml
Flow Rate	0.000001 to 0.27ml/min
Maximum Working Pressure	700 bar (10 000 psi)
Temperature	Ambient
Volume Accuracy	10^{-6} ml
Pressure Accuracy	0.05% FS
Temperature Accuracy	0.01 °C



Other models available

Model	Volume	Flow	Max Pressure
VPSSH 300/700	300 ml	0.0001 up to 44 ml/min	700 bar (10 000 psi)
VPSSH 300/1000 D	300 ml x 2	0.0001 up to 44 ml/min	1000 bar (15 000 psi)

HP VOLUMETRIC PUMPS

VPSSV 300-1000



VPSSV is series of Volumetric Single Screw Pumps placed vertically and specially designed to inject in continuous flow. It is single cylinder simple screw pump. Pumps can be built as double cylinder models. Heating system available as option.

Falcon® Software or/ and electronic cards enable control and log the value of the different parameters (pressure, volume, temperature, flow rate).

VPSSV pump is composed of:

- one chamber in stainless steel with packing;
- one calibrated piston;
- one driving piston system (movement is executed by a gear box with a brushless motor and high accuracy absolute encoder).

Specifications for Volumetric Pump Single Screw Vertical 300 ml 1000 bar

Model	Volume	Flow	Max Pressure
VPSSV 50/1000	50 ml	0.00005 up to 33 ml/min	1000 bar (15 000 psi)
VPSSV 100/700	100 ml	0.00005 up to 33 ml/min	700 bar (10 000 psi)
VPSSV 300/1000	300 ml	0.0001 up to 44 ml/min	1000 bar (15 000 psi)
VPSSV 500/700	500 ml	0.0001 up to 72 ml/min	700 bar (10 000 psi)
VPSSV 300/1000 D	300 ml x 2	0.0001 up to 44 ml/min	1000 bar (15 000 psi)

VPDSV 500-1500



VPDSV is series of Volumetric Double Screw Pumps placed vertically and specially designed to inject in continuous flow. It is single cylinder double screw pump. Pumps can be built as double cylinder models, heating system is available optionally.

Falcon® Software or/and electronic cards enable control and log the value of the different parameters (pressure, volume, temperature, flow rate).

The pumps have absolute pressure sensors and a safety manometers in stainless steel can be added as option.

Specifications for Volumetric Pump Double Screw Vertical 500 ml 1500 bar

Model	Volume	Flow	Max Pressure
VPDSV 500/1500	500 ml	0.0001 up to 38 ml/min	1500 bar (22 000 psi)

Other models available

Model	Volume	Flow	Max Pressure
VPDSV 500/700	500 ml	0.0001 up to 38 ml/min	700 bar (10 000 psi)
VPDSV 1000/700	1000 ml	0.0002 up to 102 ml/min	700 bar (10 000 psi)
VPDSV 500/700 DH	500 ml x 2	0.0001 up to 38 ml/min	700 bar (10 000 psi)
VPDSV 1000/700 D	1000 ml x 2	0.0002 up to 102 ml/min	700 bar (10 000 psi)
VPDSV 500/1500 D	500 ml x 2	0.0001 up to 38 ml/min	1500 bar (22 000 psi)

HP VOLUMETRIC PUMPS

The CUBE



Our brand new range of pump, The CUBE, integrates the best of Sanchez Technologies high pressure double pump in a new compact design. Thanks to its double cylinders pump's design, The Cube offers the ability to work either independently or together in an infinite continuous flow mode.

The pump is controlled manually and automatically thanks to the brand new touchscreen interface.

No computer or software required!

Specifications for the CUBE			
Model	Volume	Flow	Max Pressure
CUBE 350	13,9 mL	0.0001 to 55mL/min	350 bar (5 000 psi)
CUBE 700	7,0 mL	0.0001 to 30mL/min	700 bar (10 000 psi)
CUBE 1000	4,9 mL	0.0001 to 20mL/min	1000 bar (15 000 psi)
CUBE 1500	3,2 mL	0.0001 to 15mL/min	1500 bar (21 800 psi)

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FLUID ANALYSIS

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When many other companies integrate technical solutions from other suppliers to deliver full rigs, Sanchez Technologies has been designing and manufacturing most of the components integrated in own instruments.

Hand valves, automatic valves, differential valves, fittings and pumps are entirely designed by Sanchez Technologies

We are even the designer of a unique model of quick-fittings that work until 1500 bar without any necessary tools to connect them.



HIGH PRESSURE VALVES

VMP 15000



Need different specifications?
Contact us and we make it possible

Why choosing SanchezTechnologies Manual Valves?

- No play between stem and handle
- Available upon request in different materials adapted to corrosive fluids and / or special temperature
- Available with high-safety olives
- High Pressure connection by mounted olives

Other model available

VMP 20000

Specifications for Manual Valve 15000	
Working Pressure	1 000 bar (15000 psi)
HP Tubing Ø	1/8" or 1/16"
Fluids	Liquid, Gas
Maximum Working Temperature	200°C
Sealing	Metal / Metal
Possible Material	Stainless Steel, Hastelloy
Particularities	Rotating Stem
Delivered with ferrules and gland nuts	

VAVC 1000

- Constant Volume Automatic Valves
- Available upon request in different materials adapted to corrosive fluids and / or special temperature (Stainless Steel or Hastelloy)
- Using under High Pressure and/or High Temperature
- Dead volumes are reduced
- Deported Control Air System
- Working pressure: from 0 to 4000 bar (58 400 psi)
- Complete modularity: On/Off valves, multi-positions and/or multi-path



Specifications for Automatic Valve 1000	
Working Pressure	1000 bar (15000 psi)
Pressure variation	<0.1 bar
Maximum Working Temperature	200°C
Possible Material	Stainless Steel, Hastelloy

Other model available

VAVC 2000

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Quick Fittings

Sanchez Technologies high pressure quick fittings ensure you a fast and efficient connection.

	Male Easy Fitting x Male 3/8"	R00bMØ602		Female Easy Fitting x Male 3/8"	R00bFØ602
	Male Easy Fitting x Male 7/16"	R01MØ602		Female Easy Fitting x Male 7/16"	R01FØ602
	Union 1/4" Gyrolok x M Ø6	R30MØ602		Union Male 9/16" x Female Ø 6.5	R03FØ602
	Male Easy Fitting Female 3/8" x 24 for 1/8" tubing	R50MØ602		Female Easy Fitting 3/8" x 24 for 1/8" tubing	R50FØ602
	Male Easy Fitting Female 7/16" 1/4" tubing	R51MØ602		Female Easy Fitting x Female 7/16"	R51FØ602
	Male Easy Fitting Ø6.5 x Female G1/4	R61MØ602		Union Female Easy Fitting	RFØ6FØ602
	Male Plug Ø6.5	BOMØ602		Junction Easy Fitting x Nut M12 1.25	ECROUM12
	T-shaped Union Female Easy Fitting 3/8" x MaleØ6 x FemaleØ6	TE50MØ6FØ602			

Hot Roll



This accessory allows heating any kind of tubes or pipes. It is delivered with electrical box for regulation and control of the temperature.

Specifications for Heating Tubing System

Working Temperature	Ambient to 200°C
Temperature Regulation Accuracy	1°C
Tube Length	4 or 8 meter (others upon request)
Outside Tube Diameter	1/16" or 1/4"
Power Supply	220 V

ACCESSORIES

BPV 1000

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EXTREME
CONDITIONS

PUMPS &
ACCESSORIES



Need different specifications?
Contact us and we make it possible



Sanchez Technologies Back Pressure Valves are designed to regulate pressure or constant flow. The BPV consists of two chambers separated by a piston with a stem on one side. The low volume chamber receives the set point pressure and the opposite chamber the controlled pressure.

Special design helps to reduce dead volume circulation with a sealing between controlled pressure circuit and flow circuit.

Other models available

BPV 400

BPV 1500

BPV 2000

Specifications for Back Pressure Valve

Working Pressure	1000 bar (15000 psi)
Dead Volume	0.4 ml
Pressure Accuracy	< 0.015 MPa
Possible Material	Stainless Steel, Hastelloy

CPS 1000

The Control Pressure System is specially designed to control automatically the pressure set point of back pressure valves (BPV) with accuracy better than 0.01% of full scale.

The system is compact and the control box includes a 10 ml volumetric pump with a 100 ml tank and insulating valves. Built for 1000 bar pressure, it allows a constant pressure regulation system with pressure and volume display. As option, the CPS 10-1000 can also be connected to a computer for a full automatic control of the set point.



Specifications for Automatic Back Pressure Controller

Tank Volume	100 ml
Pump Volume	10 ml
Working Pressure	1000 bar (15 000 psi)
Working Temperature	Ambient
Volume Accuracy	10 ⁻⁴ ml
Pressure Accuracy	0.01 bar
Ramp Pressure	0.01 to 5 bar/min

REGULATION CARDS



Always looking for lasting solutions, Sanchez Technologies has developed a unique model of electronic regulation card. By keeping the same design and dimension since first delivered equipment, it allows to put any new regulation card in any system at any time.

Sanchez Technologies has built a complete interchangeable model that can be replaced easily without modifying electronic cabinet and quickly as we have a large stock in our premise each time a customer required it.

Multifunction card for measurement and regulation - MCAPC

Measurements: Pressure, Volume, Flow, Temperature

2 analogical inputs including 1 configurable in input PT100 or thermocouple (J not compensated)

Regulating P.I.D on 2 ways Analogical inputs 16 bits

1 input optical coder

4 logical inputs and 4 outputs

High resolution card for temperature regulation measurement - MCAT

4 analogical inputs including 2 configurable in input PT100 or thermocouple (J not compensated)

Regulating P.I.D

1 analogical inputs 16 bits

3 OPTO insulated logical inputs

3 logical outputs

Card for power relay - MCIO

4 insulated logical inputs

4 logical inputs

Logical outputs: 11 with power relay and 3 with open collectors

Acquisition of the input states

Control of the relays by standard connection series RS422

Piloting card for direct current motor - DCMC

Analogical control 0/10V

Control by external dry contact

2 logical inputs/2 outputs

Variator 2 dials

Control by connection series Rs422

Alarms for overcurrent



PROTOTYPING AND SCIENTIFIC COLLABORATION

Since its foundation, Sanchez Technologies is really involved developing new equipment and collaborating each year with many scientists in geology, biology, chemistry and physics for the design of innovative research equipment.

There are no less than 10 scientific prototype instruments with innovating specifications that are designed and manufactured each year by Sanchez Technologies.

OUR TOOLS

In addition to a well-trained and qualified team, we pay attention to European standards and tools:

ISO 9001 version 2015: it ensures a proper management of quality in a company. This certification has for aim to improve the customer satisfaction through our efficient application of the internal system and use of an improvement process for projects to come.

PED 2014/68/EU certification: this European directive implies materials resistance calculations depending on the nature of used fluids, pressure and temperature at the origin of material choice for the equipment.

CAD software: Sanchez Technologies staff use several software package such as SolidWorks® to make real and feasible equipment. These systems allow performing effort simulations as well as temperature simulations applied to materials and consequently confirm viability of the future instrument.



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