



Behandishan Company (BBS)

Introduction

BBS Company is one of the pioneer companies in the field of designing and manufacturing of oil and gas laboratory equipment in Iran. Increasing demand of oil industry to fields development and necessity of performing experimental projects and on the other hand difficulties encounter in importing lab equipment including absence of guaranty, prices, etc; caused BBS group to move towards to domestic designing and manufacturing of laboratory apparatuses.

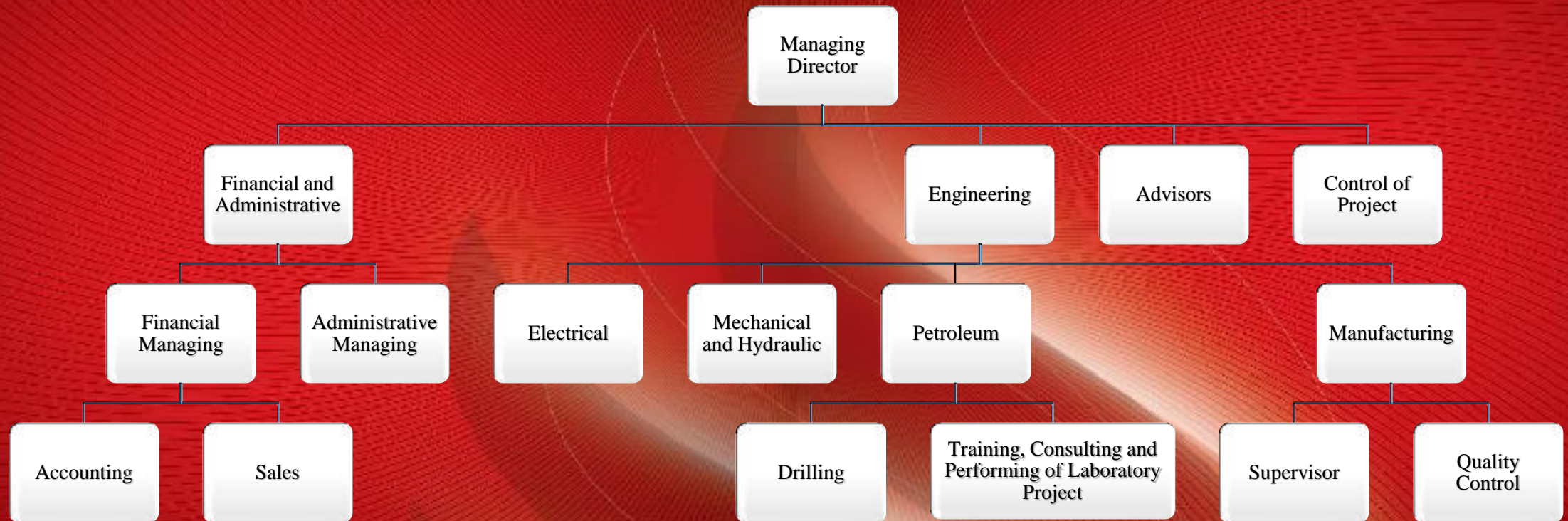
Introduction

Our company relying on several years experience and employing experts manufactured high technology equipment for routine and special core analysis, EOR, PVT, drilling, stimulation test, and university training laboratories.

The result of these activities are the products that are interest to many domestic and foreign customers. By applying up to date standards, criteria and algorithms designed by BBS experts, high quality and reliable equipment have been created.

Controlling of all processes from idea to manufacturing is the main concern of BBS managers, and on this basis, the current technical knowledge in the company is established.

Company chart



Products

- ☐ Core Preparation
- ☐ Routine Core Analysis
- ☐ Special Core Analysis
- ☐ PVT
- ☐ Enhanced Oil Recovery
- ☐ Phase Behavior
- ☐ Injection Pump
- ☐ Other Equipment

Core Preparation

- Core Cutting Saw
- Plugging Machine
- End Face Grinder
- Trimming
- Thin Section Slicing Machine
- Soxhlet Extractor
- Solvent Extractor (Dean Stark)



Core Preparation

Soxhlet and Solvent Extractor



Routine Core Analysis

- Steady State Gas Permeameter
- Unsteady State Gas Permeameter
- Liquid Permeameter
- Helium Porosimeter

Routine Core Analysis

Unsteady State Gas Permeameter



Helium Porosimeter



Steady State Gas Permeameter



Special Core Analysis

- 2-Phase Unsteady State Relative Permeability Apparatus
- Laboratory Centrifuge (capable to manufacture)
- Three Phase Relative permeability (capable to manufacture)
- Porous Plate Capillary Pressure and Resistivity System (CAPRI) (capable to manufacture)



PVT

- Blind PVT Cell
- Visual PVT Cell (capable to manufacture)
- IFT Measurement apparatus (capable to manufacture)
- Rising Bubble Apparatus (capable to manufacture)
- Slim Tube Apparatus (capable to manufacture)

Enhanced Oil Recovery

- General Core Flooding Apparatus
- Combustion Tube Apparatus
- Micro Model System
- VAPEX Apparatus
- GAGD Apparatus
- Acidizing Core Flood Apparatus (capable to manufacture)

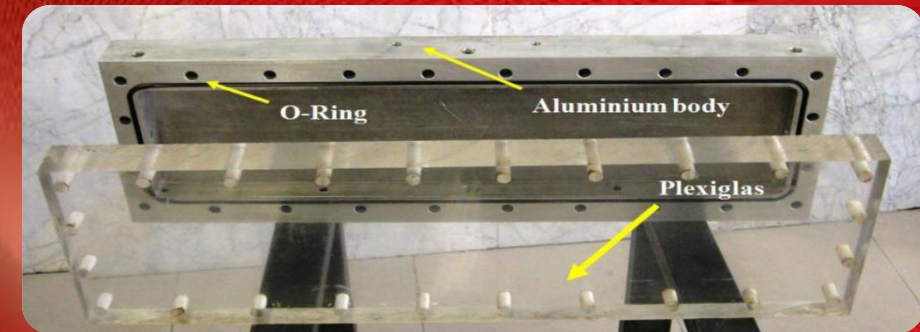
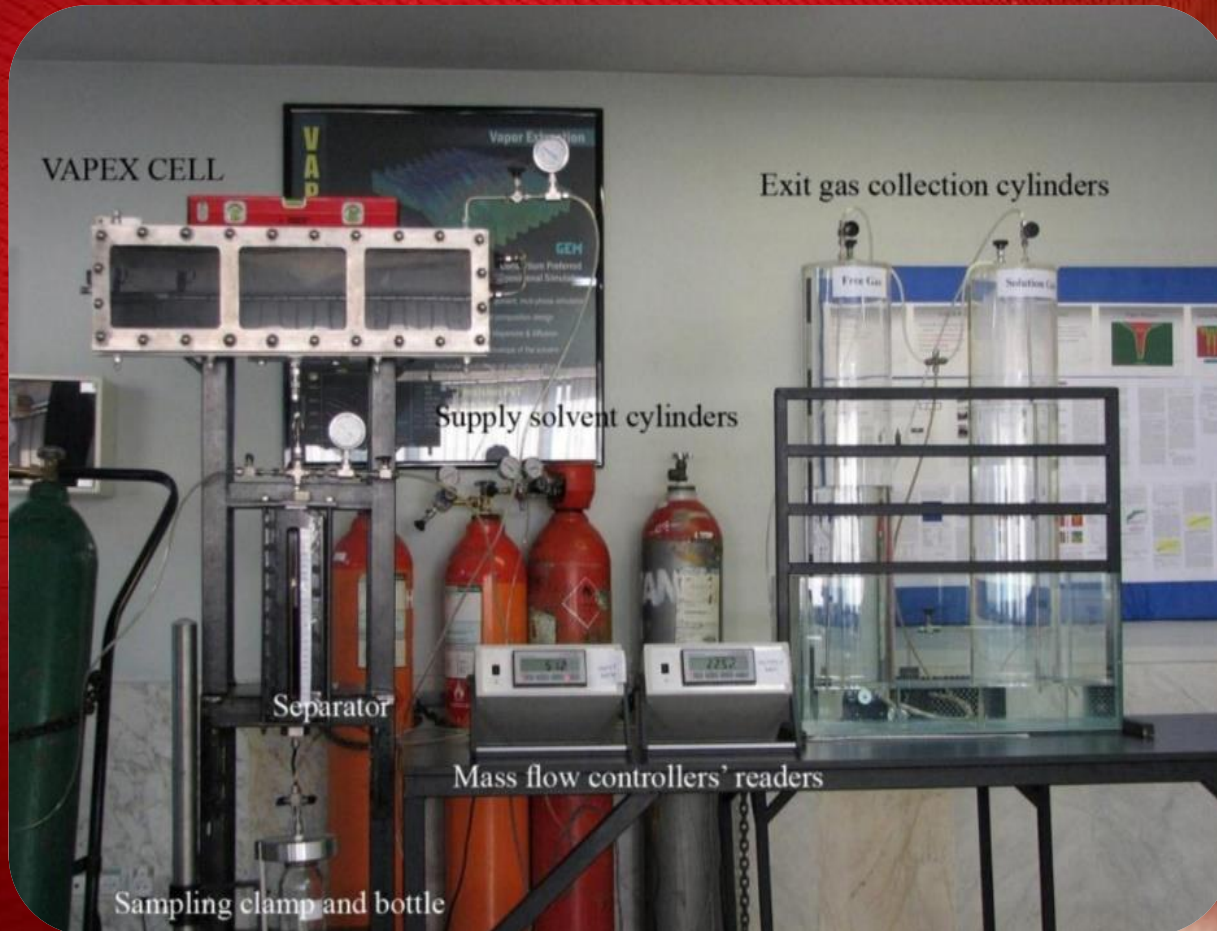
Enhanced Oil Recovery

Core Flooding Apparatus



Enhanced Oil Recovery

VAPEX Apparatus

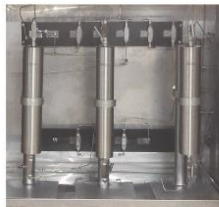


Phase Behavior

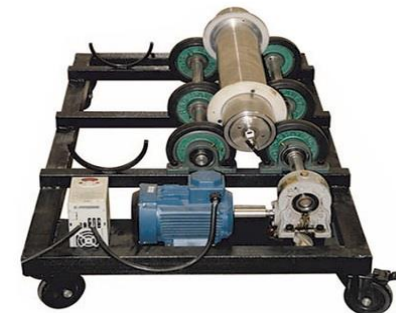
- Diffusivity Measurement Apparatus
- Static Asphaltene Measurement Apparatus
- Dynamic Asphaltene Measurement Apparatus
- Mobile Recombination Cell
- Solid Detection System (SDS) (capable to manufacture)

Phase Behavior

Diffusivity Measurement Apparatus



Mobile Recombination Cell

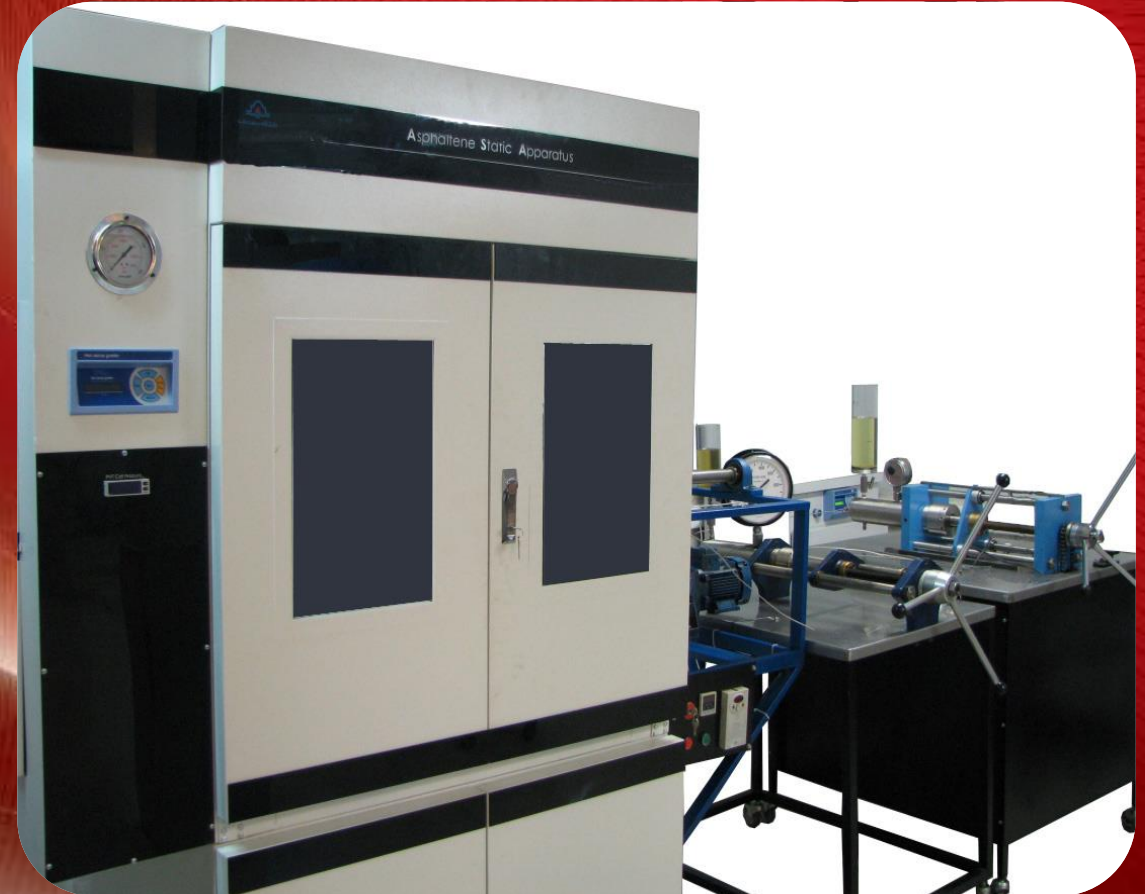


Phase Behavior

Dynamic Asphaltene Measurement Apparatus



Static Asphaltene Measurement Apparatus



Pumps

BBS pumps are designed and manufactured for applications that require accurate low rate and high pressure.

These pumps are used in larger scale flow application and can pump at two different moods:

- 1) Constant Rate
- 2) Constant Pressure



Pumps

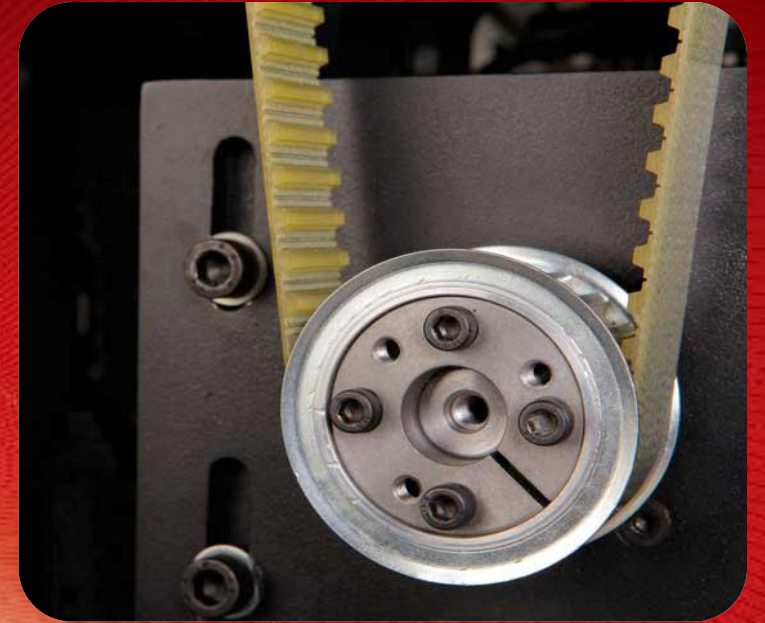


Pumps



Pumps

Model	Max Pressure	Min Flow Rate*	Max Flow Rate*	Status
HB-63-DB	6,000 psi	0.001 cc/min	30 cc/min	Single/Double
HB-85-DB	8,000 psi	0.001 cc/min	50 cc/min	Single/Double
HB-108-SB	10,000 psi	0.001 cc/min	80 cc/min	Single/Double
HB-1510-SB	15,000 psi	0.001 cc/min	100 cc/min	Single/Double
* Min. and Max. flow rate and also cylinder volume can be changed upon the request				



Other Equipment

- Different Models of Core Holder (Biaxial, Triaxial)
- Different Models of Transfer Vessel
- Visual High Pressure Separator
- Anti-Corrosion Reactors (capable to manufacture)

Other Equipment

Visual High Pressure Separator



Transfer Vessel



Back Pressure
Regulator

Design and Manufacture Projects

Some of the completed projects are as follow:

Research Centers and universities:

- ❑ Petroleum University of Technology – Ahwaz
- ❑ Islamic Azad University, Science and Research Branch, Tehran
- ❑ Petroleum Research Center of Tehran
- ❑ Chemical and Petroleum Engineering Department of Sharif University of Technology
- ❑ Civil Engineering Department of Sharif University of Technology
- ❑ Institute of Petroleum Engineering, University of Tehran
- ❑ School of Chemical, Petroleum and Gas Engineering in Shiraz University
- ❑ Persian Gulf University - Boushehr

Design and Manufacture Projects

Companies:

- ☐ Pars Drilling Fluid Company (PDF)
- ☐ MAPSA
- ☐ MAPNA
- ☐ Exporting Core Flood Apparatus to Oman (Genesis Company)
- ☐ Petro Pazhouhesh Ahoura (PPA)
- ☐ Petro Vision Pasargad (PVP)

Participation in Research Projects

Some of the research projects that company's staff have participated, are as below:

- ❑ Experimental and Theoretical Study of the VAPEX Process for Iranian Heavy Oil Reservoir, PEDEC
- ❑ Thermal Enhanced Oil Recovery for Iranian Heavy Oil Reservoir, NIOC
- ❑ Double Displacement Process with Water and Gas under Gravity Drainage, NIOC
- ❑ Experimental and Theoretical Study of Asphaltene Deposition in Azadegan Field, PEDEC

Participation in Research Projects

- ❑ Miscible Solvent Injection in Heavy Oil and Investigate the Effective Parameters in Recovery using Micro Model.
- ❑ Experimental and Simulation Study of Naftshahr Field to Select the Best EOR Method for Production of Residual Oil, ICOFC
- ❑ Study of Asphaltene Precipitation in Doroud Field and Propose the Solution, IOOC.
- ❑ Experimental Evaluation of Gas Injection Based EOR Methods for Soroush Oil Field, IOOC

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Thanks for Your Attention