

ماژول سيلاب زنی مغزه

## Core Flooding Module (CH-10000-Module)



Apex technologies co., designed suitable Displacement Tests equipment called core flooding module since it has not included any software. This module is designed in a way that it is possible to understand the oil trapping mechanisms and effective mechanism in oil recovery using this module. In details, there are various possible techniques for Enhanced Oil Recovery (EOR) and Improved Oil Recovery (IOR) of depleted reservoir. In general, EOR refers to the process of producing hydrocarbons in an oil field by methods other than the conventional methods utilize reservoir energy and reservoir re-pressurizing schemes. In addition, Improved Oil Recovery (IOR) had a more generalized definition compared with EOR and refers to any processes that promote reservoir performance e.g. well stimulation and water control processes. Unfortunately, conventional production methods will produce about 30% of the initial oil in place from an oil reservoir while the remaining oil, with valuation of nearly 70% of the initial resource, is a large and attractive target for Enhanced Oil Recovery, (EOR) activities. In the light of this huge amount of trapped and unrecovered oil application of EOR, IOR, Enhanced



Gas Recovery and, Improved Gas Recovery gain an increasingly attention during the past decades and is still tremendously increasing. This is due to the fact that application of EOR/IOR techniques brings about new opportunities for the industry and at the same time new challenges that need to be addressed by laboratory studies. Due to technology diversity and different development level of Enhanced Oil Recovery Techniques, and Improved Oil Recovery methods, evaluation and selection of suitable EOR and IOR scenarios is generally complicated and requires good understanding of EOR/IOR techniques as well as reservoir characteristics & optimization.

Regarding this necessity, different types of core flooding modules with different features and specification compatible with various purposes are designed by our engineers to accurately measure permeability changes to a formation core sample in a high temperature and high pressure environment, while exposing it to a variety of test fluids. A core that is collected from a formation is inserted into a core holder. A computer with special professional software controls the environment within the core holder and the injection rate and/or pressure of fluid into the core. Many different types of tests can be performed with these equipments by changing the test parameters, pressures, pattern of injection, changing the chemicals, etc.

#### ***Technical Specifications:***

- Applicable for different core flooding processes such as gas injection, chemical injection, smart water injection, etc
- Heating system included a controller and three slim elements (implanted into the core holder wall) and one thermocouple (implanted into the core holder wall)
- Heating Controlling system is included which controls the temperature of the system up to 100 °C
- Number of Gland and Collars: 20 (single ferrule sealing mechanism, BuTech Type)
- Wetted material of core holder: Stainless Steel 316 L
- Number of O-rings: 30 (EDR and Viton Type)
- No digital pressure transmitter is included
- Maximum working temperature: 100 °C

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- Maximum working pressure: 10000 psi
- Valves : 6 (Autoclave/BuTech Type)
- Maximum core length: Up to 4”
- Core holder type: Hassler type
- Different spacers are included
- Accumulator volume: 500 cc
- Hydraulic hand pump: 1
- Number of Sleeves: 10
- Core diameter: 1.5”
- Pressure gauge: 1
- Accumulator: 2
- NPTF ports