دستگاه سیلاب‌زنی مغزه

Core Flooding (ASRMF-600)

Apex technologies co., designed and manufactured a matrix acidizing equipment basically similar to core flooding equipment which evaluates the effectiveness of an acid injection and treatment to dissolve minerals of a reservoir rock under reservoir temperature and pressure. The effectiveness of such a process is evaluated considering the difference in permeability before and after acid injection. The most common acid employed to stimulate production is hydrochloric (HCL) which is useful in removing calcite materials from reservoirs and widely used in carbonate acidizing. Hydrochloric acid may be combined with hydrofluoric acid (HF) which dissolves silicate phases from the reservoir rocks, and Acetic acid also shows better results in carbonate reservoirs.

The laboratory equipment for acidizing is highly necessary since in field scale this process deals with pumping highly pressurized acid into the well make this process so risky and complex. In the shadow of this fact, it is highly necessary to examine the various possible

protocols of matrix injections and applicable acids in the Lab and then scaling up the results to avoid any harsh and serious damage to the reservoirs.

Technical Specifications:

- ✓ Special equipment to simulate the injection of acid into core matrix and even perform secondary, tertiary oil recovery processes including gas injection, carbonated water injection, smart water injection, microbial EOR, …
- ✓ Online software to log the pressure, displaced volume, injection rate, online permeability and temperature of the system
- ✓ Hand pump equipped with a pressure gauge to control confining pressure × 1
- ✓ Wetted parts material in contact with acids: Hastelloy C-276
- ✓ Gas back pressure regulator × 1 (600 bar) (Hastelloy C-276)
- ✓ Connections and valves: BuTech/Autoclave /Vindum
- ✓ Pressure transmitter accuracy: 0.05 % full scale
- ✓ The lowest dead volume among its kind
- ✓ Pressure transmitters × 2 (Rosemount)
- ✓ Heating mechanism: slim elements
- ✓ Max. working temperature: 120 ^{o}C
- ✓ Easy load hassler core holder × 1
- ✓ Max. working pressure: 600 bar
- ✓ Temperature resolution: 0.1 ^{o}C
- ✓ Confining pressure: 600 bar
- ✓ Accumulator × 2 (500 cc)
- ✓ Accumulator × 1 (100 cc)
- ✓ Low dead volume design
- ✓ Core length:1” to 4”
- ✓ Core diameter: 1.5”

APEX TECHNOLOGIES