

Project Title: Surfactant assisted CO₂ EOR Process for the depleting of oil fields of Upper-Assam basin

SPECIFICATIONS

<u>Core Flood System Main Components Table</u>		
SR. No	Description	
1)	Heating System for Core in Core Holder & Fluid in Accumulators	required
2)	Core Holder	required
3)	Confining Pressure System	required
4)	Floating Piston Accumulators	required
5)	Syringe pump for Injection	required
6)	Back Pressure System	required
7)	Pressure Measuring System	required
8)	Differential Pressure Measuring System	required
9)	Wet Gas flow Meter for find Gas Production Volume (Drum(Turbine) Type)	required
10)	Fraction Collector for Production Sample	required
11)	Online Data Acquisition System (SCADA)	required
12)	Automation through SCADA	required
13)	System Mount on Systematically order on Stand of Platform	required
14)	System Tubing Size is 1/8" od	required
15)	All Wettable part material is non corrosive	required

<u>Heating System for Core in Core Holder & Fluid in Accumulators</u>		
SR: No	Description	Selection Comment
1)	Common System-- BIG OVEN	Common System
OR		
1)	Individual Heating Jacket for Core Holder and Accumulators	
2)	All temp. controlled by digital temp. controller	

<u>Core Holder</u>		
SR. No	Description	Selection Comment

1)	Core Holder Type Hassler Core - Holder or Hydrostatic Core - Holder or Multi Pressure Point Hassler Core - Holder or Multi Pressure Point Hydrostatic Core - Holder or other Type.....	Hassler Core
2)	Core Sample Size How much Diameter ? -----1" inch or 1.5" inch and How much Length ? ----- 4" inch or 8" inch or 12"inch or as required..	Core diameter=1" & 1.5" Core length=1", 4"to 12"
3)	Core flooding Operating Max. Pressure 6000 psi or 10000 psi or as required..	Maximum 10,000 psi
4)	Core Flooding Operating Max. Temp. in 150° C or as required	Maximum upto 150°C
5)	Wettable Body Material ... S.S.316 or Hastalloy	S.S.316
6)	How Many Core Holder Required ?	3
7)	How many spare Viton Sleeve Quantity ?	10

<u>3)</u> Confining Pressure System for Core holder		
SR. No	Description	Selection Comment
	Confining Pressure System --- Automatic or semi-Auto or Manually	
1)	If Confining Pressure System is Automatic Confining Pressure make Automatically by Syringe Pump or	Automatic Confining pressure
2)	if Confining Pressure System is semi-Auto Confining Pressure make semi-Auto by Pressure Multiplier operating by High Pressure N2 Gas and Manually Hydraulic Hand Pump or	
3)	If Confining Pressure System is Manually Confining Pressure make Automatically by Manually Hydraulic Hand Pump	

<u>4)</u> Floating piston Accumulators		
SR. No	Description	Selection Comment
1)	Wettable Body Material ... S.S.316 or Hastalloy	S.S.316

2)	Operating Max. Pressure 6000 psi or 10000 psi or as required..	upto 10,000 psi
3)	Operating Max. Temp. 150° C as required..	Maximum upto 150°C
4)	is Floating Piston Required? yes or No	Yes
5)	How Much Vol. Capacity required ? 100ml or 250 ml or 500 ml or as required...	100 ml, 250 ml and 500 ml

5)	<u>Syringe pump for Injection</u>		
	SR. No	Description	
		Selection Comment	
	1)	Wettable Body Material ... S.S.316 or Hastalloy	S.S.316
	2)	Operating Max. Pressure 4000 psi or 8000 psi or 10000 psi or as required..	upto 10,000 psi
	3)	Operating Max. Temp. 150° C as required..	Maximum upto 150°C
	4)	How Much Vol. Capacity required ? 100ml or 250 ml or 500 ml or as required...	250 ml
	5)	Flow range as per our catalogs or also as per customize	0 to 20cc/sec
	6)	heating Jacket is require ?	Yes
	7)	Syringe Pump is single or Dual *** Note: Dual Syringe pump for Continuous operation	Dual

6)	<u>Back Pressure System</u>		
	SR. No	Description	
		Selection Comment	
	1)	Back Pressure Valve - by Gas operated Specification : 1. Working Pressure: 6000 psi (Max. Allow WP: 8000 psi) 2. Working Temp: 150 °C (Max. Allow WT: 170 °C) Wetted Body Material : SS316	this is required
	2)	Auto Back Pressure Generation System by Syringe Pump	yes
		or	
	2)	1) Pressure Transducer, Range : 0-400 bar for measurement Gas Pressure 2) 500 ml, Accumulator Cell without Piston 3) Manual SYRINGE Pressure Pump for Accumulator Cell charge Pressure 4) High Pressure Needle Valve 5) N2 Gas pressure Regulator 6) Digital Pressure Indicator for Pressure Transducer	

7) Pressure Measuring System			
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-	SR. No	Description	Selection Comment
-	1	Pressure Transducer Range : 0-10000 psi for confining Pressure	ok
-	2	Dial- Pressure Gauge, SS Range : 0-10000 psi for Floating piston Accumulators Pressure	ok
-	3	Pressure Transducer, Range : 0-400 bar For inlet at core holder	ok
-	4	Pressure Transducer, Range : 0-400 bar For outlet at core holder	ok
-	5	Low Pressure Transducer, Range : 0-2 bar, for Inlet at core holder	ok
-	6	Low Pressure Transducer, Range : 0-10 bar, for Inlet at core holder	ok

8) Differential Pressure Measuring System			
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-	SR. No	Description	Selection Comment
-	1	1. Differential Pressure transducers - 500 psi Specification : a. DP. Pressure: 500 psi (up to Line pressure 5000 psi) b. Working Temp: 150 °C (Max. Allow WT: 170 °C) Wetted Body Material : SS316 Accuracy : +/- 0.5% full scale 2. 3-way Valve Arrangement System for safety protection and equally balancing of High & Low Pressure side of Differential Pressure transducers 3. Digital Pressure Indicator for DP Pressure Transducer or Electronic device	this is required

9) Wet Gas flow Meter for find Gas Production Volume (Drum Turbine) Type			
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-	SR. No	Description	Selection Comment
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	<u>1</u>	Gas mass flow meter(drum type) Specification: Capacity per revolution: 1 liter Least Count : 0.01 Liter Minimum Flow Rate: 1 liter / Hour Maximum Flow Rate: 270 Liters / Hour.	this is required
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<u>10</u>		Fraction Collector for Production Sample	required
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<u>11</u>		Online Data Acquisition & Monitoring System (SCADA)	required
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<u>12</u>		Automation through SCADA	required
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<u>13</u>		System Mount on Systematically order on Stand of Platform	required
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<u>14</u>		System Tubing Size is 1/8" od - MOC is SS316	okay
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<u>15</u>		All Wettable part material is non corrosive - SS316 or special material as required	SS316
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