

**CSIR-INDIAN INSTITUTE OF PETROLEUM, DEHRADUN
PROCUREMENT PLAN**

Equipment: CSIR Infra Projects

2024-25

Sr. No	Name Category of Equipment/Vehicle Item	Quantity	Approximate Cost (Rs. In lakh)
1	1. Tubular Furnace 2. Water purification /distillation unit	1	
2	Air compressor	1	3
3	ATS furnace	1	
4	ATS Tubular Furnace/ MFCs	2	
5	Autoclave reactor	1	
6	Autoclave vessels with Teflon line, gas inlet gas outlet and pressure gauge 03 Nos. (100mL, 250mL and 500mL capacity)	1	2
7	Automatic Traverse	1	4
8	Back pressure regulator	2	2
9	Biodegradability test bench as per ASTM D 5864 consisting of (1) 3 Customized incubator shakers (2) fabricated CO2-free Air supply and distribution assembly (including rotameters, filters, scrappers, etc.) system (For dedicated Biodegradability tests as per ASTM D 5864); (3) Oil-free air compressor with dehumidifier and additional filters (For dedicated Biodegradability tests as per ASTM D 5864), (4) Oil-free air compressor with dehumidifier and additional filters, and Single seater wide laminar workbench (Microbiological culturing under aseptic conditions for inoculation)	1	
10	ChemDraw Professional	1	
11	Chiller	1	
12	Customized online high temperature GC-DHA along with oxygenates analyzer (dual channel in single system)	2	
13	Diaphragm vacuum pump 02 Nos.	1	1.5
14	DNA Star omics software package (OEM)	1	
15	Electrical resistance (E R) and linear polarization resistance (LPR) instrument with ER and LPR Probe	1	
16	Extruder	1	
17	Fermenter refurbishing and servicing	1	
18	Furnace for the Micromeritics instrument (ASAP-2920)	1	
19	GC and Heating Circulator	1	

20	GC-FID System	1	
21	H2 generator (10 Lit/min, pressure 10 bar)	1	
22	H2-generator, N2-generator, compressor	1	
23	High pressure (150 bar) two stage regulators (4 nos)	4	3
24	High pressure gas regulators	4	2.5
25	High pressure reactor	1	
26	High-end computer Workstation/Server	1	
27	High-end potentiometric titrator	1	
28	High-pressure and Low-Temperature Gas Mixture Freezing Point and Solubility Set-up.	1	
29	Hollow Fiber Membrane Spinning System	1	
30	HPLC service and accessories		
31	Hydrogen recycle compressor	2	
32	KF titrator	1	2
33	Lovibond Tintometer	1	
34	Low pressure (50 bar) two stage regulators (4 nos)	4	2
35	Low pressure gas regulators	2	.30
36	Magnetic Stirrers	1	2
37	Mass Flow Controller, Liquid Flow Meter and Hot Air Blower	6	
38	Mass flow controllers- 3 nos.	1	4.5
39	Materials Studio Software upgradation	1	
40	Milling Machine	1	
41	Minor equipment	2	5
42	MS Office 365 license, Adobe Acrobat Pro multiuser license	1	2
43	N2 generator	2	5
44	N2 generator (10 lit/min, pressure 10 bar)	1	
45	Online GC	2	
46	Origin license	1	3
47	Other minor equipment (balance, hot plates etc)	10	
48	Powder X-ray Diffractometer	1	
49	Reactor	1	
50	Recirculating Chiller bath (working temperature from -10 °C to 100 °C)	1	3.5
51	Rota vapour	1	
52	Slow pyrolysis unit (lab scale unit with 150-200g feed capacity)	1	
53	Solid State Induction Heater with Reactor and Accessories	1	
54	Solid works Software	1	4

55	Spare for freezing point apparatus, CHNS, Moisture equipment , Biojet Pilot plant spare, Preheater Physiosorption, GC	1	
56	Spares for Distillation column (vacuum pump), Three parallel reactors.	1	
57	SS autoclaves (250 ml, 500 ml, 1L 3 each)	1	4
58	Stirrer for degumming , barrel pump, Hot plate and Chiller, BET spare	1	
59	Triple jacketed photocatalytic reactor (200 ml capacity) with quartz immersion well and 150W Xenon lamp along with the flow reactor set-up for continuous process development.	1	
60	Two Floor Standing Tower Air Conditioner (AC)	1	2
61	Universal Calibrator	1	
62	Vacuum blower	1	1
63	Water circulator	1	2
64	Wet gas flow meter	2	
65	Potable water purification system-DE ionization based	1	
66	Fume Hood	2	
67	Piston pump	1	
68	Dosing pump	1	
69	Gas cylinders	35	
70	Bi-directional DC power supply	1	
71	Digital display board	5	
72	Display for conference room	1	
73	Upgradation of AV in auditorium	1	
75	RGA	2	
76	Bearing test rig	1	
77	Spares for pilot plants		
78.	Gas reservoir system	1	
79.	Multiple gas composition analysers	2	
80.	Vacuum distillation unit	1	
81.	Portable cetane octane analyser	1	
82.	GC-RGA for gas analysis	1	
83.	High-Pressure Reactor (High-pressure High-temperature Autoclave Parr Batch stirred reactor assembly with internal cooling Vol = 1 litter T = 600 C, P = 200 bar)	1	
84.	Recirculating chiller	3	
85.	Centrifuge	1	
86.	Storage tanks-5000 litres	4	
87.	Reactor with gas analyzer		

88.	Digital MFC	6	
89.	MAT unit	1	
90.	Optical tensiometer	1	
91.	Recirculating Cooler (Chiller) with PID controller	4	
92.	Penetrometer	1	
93.	Plane polarized microscope with heating and cooling stage	1	
94.	High temperature refractive index	1	
95.	Microwave Assisted Pyrolysis Reactor	1	
	High pressure batch reactor/autoclave with MOC Inconel	1	
96.	Shredder for Hard Plastic Material	1	
97.	Portable Hydrocarbon Gas Detector for Safety Measures	2	
98.	Portable CO, CO ₂ Gas Detector for Safety Measures	2	
99.	Tubes and fittings (normal and high pressure)	1	
100.	Fume Hood	1	
101.	Electric dryer	1	
102.	Gas Flowmeter (min flow rate 1 liter/hr)	2	
103.	Vacuum pump	3	
104.	Gas Lines fitting	1	
105.	High-Pressure Bomb reactor vessel	2	
106.	Electric tube cleaning machine	1	1.50
107.	Hydraulic jack	5	1.00
108.	Chain Pulley	5	2.00
109.	Mono Bloc Pumps (0.5hp = 5 qyt, 1hp = 5 qyt, 1.5hp = 3 qyt)	13	2.00
110.	Drill machine	2	1.50
111.	Gas booster	1	
112.	Multi Meter	2	1.00
113.	Clamp Meter	2	1.00
114.	Magger	2	1.00
115.	Thermal Gun	2	1.00
116.	Portable mass flow meter	2	0.50
117.	Extruder Machine for catalyst	1	
118.	Hydrothermal Autoclave Reactor (250/500/1000 ml)	3	
119.	Gas Flowmeter (min flow rate 1 liter/hr)	2	
120.	Vacuum pump	3	
121.	Weighing balance	2	3.00
122.	Electrophotochemical cell	1	3.00

123.	Digital thermometer	2	0.50
124.	Palletizer	1	1.00
125.	Melting point analyser	1	
126.	Karl Fischer Titration Unit	1	3.00
127.	Water purifier/RO	2	1.00

Equipment: Out of CSIR Funded Projects

2024-25

Sr. No	Name Category of Equipment/Vehicle Item	Quantity (Nos.)	Project Number/Code	Approximate Cost (Rs. In lakh)
1	<ul style="list-style-type: none"> • Distillation unit with vacuum pump • Seed oil expeller machine 	1	FTT060510	
2	Spares for mobile pyrolyser	1	MLP-1195	1.00
3	Vacuum pump	1	HCP-512401	
	Chiller	1		
	Dual fuel genset	1		
4	Hydrothermalreactor		FBR-030302	4.50
5	Autoclave reactor	1	HCP-0007	
	High capacity batch pyrolysis unit (250g capacity)	1		
	Multi gas MFCs	5		
	Bomb calorimeter	1		
6	<ul style="list-style-type: none"> • Distillation unit with vacuum pump • Seed oil expeller machine 	1	FTT060510	
7.	Hydrate reservoir storage setup contains: <ul style="list-style-type: none"> • Reservoir storage reactors and their accessories • Laboratory deep freezer for hydrate storage • Gas regulators 	01	HCP0048	
8	Modification of the existing Fixed bed reactor with on-line analysis facility	1	FTT060510	
9	Bioreactor	1	MMP025201	
10	Electrochemical Workstation	1	HCP-0054	
11	High-Performance Liquid Pump	2	HCP-0054	
12	Heavy-duty three-zone	1	HCP-0054	

	furnace			
13	Instrument for gas adsorption isotherm measurement	1	CSPS	
14.	Upgradation of Engine and Vehicle Mass Emission Test Facility	1	FCP 2.0	
	Dynamometer Upgradation	1	FCP 2.0	
	Particulate Measurement System (including associated accessories)	1	FCP 2.0	
	Gaseous Emission Measurement System Upgradation (Transient Lab)	1	FCP 2.0	
	Chassis Dyno Upgradation	1	FCP 2.0	
	Emission analyzer upgradation (Vehicle Emission laboratory)	1	FCP 2.0	
	Upgradation for E85 Compliant Emission Measurement	1	FCP 2.0	
15.	WD XRF	1	CSPS	
16.	1200 cc Car (as test equipment)	1	MLP 1133	
17.	ACs for Soaking Room	8	MLP 1133	
18.	Custom-designed High-pressure hydrate reservoir mimicking lab-scale setup	1	FBR 060306	

Equipment: Out of Externally Funded Projects (EFP)

2024-25

Sr. No	Name Category of Equipment/Vehicle Item	Quantity (Nos.)	Project Number/Code	Approximate Cost (Rs. In lakh)
1	Work Station (GPS Instrumentation)	1	SSP0161	2.0
2	GPS devices (GPS Instrumentation)	1	SSP0161	2.0
3	Stirrer	1	GAP 000073	0.65
4	Ac-2t	2	GAP-00141	0.80
5	Tubular		GAP-00173	
6	Desktop	1	GAP-00173	1.45
7	Diesel Generator	1	TSP-000101	
8	Sofa + Table		TSP_0078	
9	Weighing Balance	1	GAP000177	0.37
10	Manifold Assembly		SSP000145	
11	IC Pump	1	SSP000145	
12	Webcam		SSP000152	0.40
13	Microwave	1	TSP000097	0.50
14	Furniture		SSP000167/ SSP000153	
15	Flourescence Spectrophotometer		GAP000164	
16	Voice Collaborator	1	TSP000078	
17	Tissue Homogenizer	1	GAP000141	2.45
18	Potentiometer Titrator	1	SSP000145	
19	Computer	1	SSP000167	
20	Motorcycle		SSP000161	
21	Pump	1	TSP000097	0.60
22	Heating Mantle		SSP000145	0.50
23	Lens (Micro) for Technical Photography	1	SSP0161	1
24	Lens (Prime) for Technical Photography	1	SSP0161	0.8
25	LED lights for Deposit Rating	1	SSP0161	0.3
26	High Performance Work Station	1	SSP0161	1.5
27	Accessories for technical photography and component characterisation	-	SSP0161	0.5
28	Computer	1	SSP0161	1.0
29	Printer	1	SSP0161	0.3