

### Technical Specification of Items.

Sr.No.	Name of Item as per SREL	Specifications as per SREL
1	Submersible Agitators	11 kW, 3-phase-motor 400 V, 50 Hz, protection class IP68 / Insulation class F = 155° C, PTC Thermistor-Control per phase as overheat protection, Motor case out of stainless steel (1.4301), Cast iron gear casing and motor cover coated with 2-component plastic lacquer, Slide-Ring Sealing with wolfram carbide rings and Sealing Protection Sheath, Electric Cable 10 m with coalesced screwing, with expansion body in longitudinal cable direction as moisture guard, special PU- outside sheathing, Guide slide bearing out of stainless steel - V2A - SAE 304 (1.4301), SS 304 mast, wire robe SS 316, wench & all other assessories included
3	Feed pump	Substrate pump, capacity 20 m <sup>3</sup> /h (corresponding to dynamic viscosity of media & free flowing media), 4 bar,11kw motor, Protection Class Thermistor-Control per phase as overheat protection, back flow tide, dry-run-protection with PT 100, flange connection DN 150, substrate density 1.2 - 1.5
9	Double membrane Biogas Holder	Double-Membrane Gas-Storage Roof for 32 m GLS-tank, approx. 1,600 m3 reclaimable gas storage volume outer shell PVC coated Polyester fabric, inner shell Polyethylen, belts structure & safety net for inner support, gas-tight wall fitting systeme with (pneumatic hose pipe seal/clamp bolt system, airblower for form fitting roof support/bolt plank system, deflation flap, over-/underpressure valve) 1 kw * 2 air blower with piping, GSM 950 inner and outer membrane
12	Digester GFS works ( Wall, Manhole, Nozzles and digester platform	Digester having Diameter 32.0 m(to be confirmed) and height 8.0 m (to be confirmed) Includes:1) Viewing platform 2)Nozzles:24 nos for one digester & 12 nos. Inspection Windows(part of Digester), inserts to be confirmed with consultant drawings
13	Buffer Tank Civil Construction	Lagoon tank for Liquid Slurry storage, round shaped, 3 m in ground, 32 m dia, 4 m inner high, approx 3,000 m3 storage volume, RCC raft slab, rubble masonry wall with inner plastering
14	Digester Insulation	Heat insulation for GFS Digester, 32.mtr.(to be confirmed) Dia, 8 mtr.(to be confirmed) height, opening for inserts

15	Pump	<p>Negative Suction Pump in Lagoon, for digestate transfer and tanker filling, 17 kW three-phase-motor 400 V, 50 Hz, 1450 rpm, Protection class IP68 / Insulation class F = 155° C, PTC Thermistor- Control per phase as overheat protection, Motor case out of stainless steel (1.4301), Cast iron gear casing and motor cover coated with 2- component plastic lacquer, Large-volume pump body, Pump impeller with top-feeder and chopper device, Impeller and inletring hard metal reinforced, Slide-Ring Sealing with wolfram carbide rings, Electric</p> <p>Cable 10 m with coalesced screwing, with expansion body in longitudinal cable direction as moisture guard, special PU-outside sheathing, Guide slide bearing out of stainless steel - V2A - SAE 304 (1.4301)</p>
16	Lagoon pump	<p>Submersible High Pressure Pump in Lagoon, for digestate transfer and tanker filling, 17 kW three-phase-motor 400 V, 50 Hz, 1450 rpm, Protection class IP68 / Insulation class F = 155° C, PTC Thermistor- Control per phase as overheat protection, Motor case out of stainless steel (1.4301), Cast iron gear casing and motor cover coated with 2- component plastic lacquer, Large-volume pump body, Pump impeller with top-feeder and chopper device, Impeller and inletring hard metal reinforced, Slide-Ring Sealing with wolfram carbide rings, Electric</p> <p>Cable 10 m with coalesced screwing, with expansion body in longitudinal cable direction as moisture guard, special PU-outside sheathing, Guide slide bearing out of stainless steel - V2A - SAE 304 (1.4301)</p>
17	Decanter	Solid-Liquid screw seperator each with a capacity of total capacity of 30 m3/hr.
18	Pretreatment Units -	700 m3/hr. Capacity, Biogas H2S Scrubber system, dryer,carbon tower, demister pad with drain, receiver tank, 2 blower discharge 0.1-0.3 pressure, biogas flow meter, gas analyser, inlet : H2S 1500-2000 ppm, H2O saturated. Outlet: H2S < 10 ppm, H2O : - -40 dewpoint
19	Biogas Upgradation unit	Refinery Plant for processing and purification of Biogas to Bio-CNG, specification for input: 700 m3/h raw biogas, 52-60% CH4, 36-44%, Dry (-40 dewpoint),H2S inlet < 10 ppm, 0.1-0.3 mbar, required specification for output (product gas) Bio-CNG as per BIS Standard for Bio Methane (Bio-CNG) as a fuel, also for vehicle use. Losses of CH4 (methane slip) less than 2.5 % of total CH4 in raw biogas
20	CNG compressor (250bar)	420 m3/hr total ( 210 * 2 ) 16 bar pressure inlet, 250 bar outlet, exflame proof, vfd starter
21	Filling station	Bio-CNG Cascade Filling station for filling of 2 CNG Cascades independently, individual safety valves, filling wips and quick-action hose coupling with top-hat sealing, for 255 bar max pressure, incl. calibrated Flow Meter as per PESO approval
22	Flaring Unit	700 m3/hr, auto ignition,

23	CO2 capturing	CO2 gas System for capturing/liquifaction of CO2
24	Cascades	CNG Cascade, 40 No. of new empty high pressure seamless Cylinders per Cascade, each cylinder 75 l volume, total capacity approx 420 kg Bio-CNG at 250 bar, each cascade with quick-action hose coupling & top-hat sealing, incl. PESO certificate.
25	Odourizer	As per PESO approval for use in vehicle fuel.
26	CHP	270 * 2 kwh with heat exchanger, jacket & exhaust heat trap
27	EOT Crane	10 MT capacity, sizing as per shed size , EX proof installation
28	Aerotiller	Aerotiller, Tractor pulled, pitch driven, with liquid Tank & Spraying Unit
29	Tanker for liquid fertilizer.	Tanker Trolley for Fertilizer Distribution, capacity 4.5 -5 m3, incl. pitch pump and nozzle bar
30	Bagging Unit for 45 tons/day solid organic manure.	Fertilizer Conditioning & Bagging Equipment, Hammermill with Belt Conveyer, Screen Mixer and Fertilizer Bagging Unit
31	Bottling Unit	10m3/day ,Bottling capacity 1800 bottles/hrs
35	BIO-CNG Dispenser Filing Station	Booster compressor up to 400 cum. Per hr., PESO approved CNG tubing, cng dispensor(ngv2 nozzles double arm for three & four wheeler), 25 kva gen set, fire equipment, civil work etc.
36	Air compressor with dryer	For pneumatic valves and instrumentation
37	Fire system	Total package of the Fire safety requirement as per govt. norms for the entire plant