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Bangladesh dairy farm waste treatment biogas utilization project

Technical Data: (This project can process 2-3 tons of cow dung waste per day, using anaerobic pretreatment + anaerobic biochemical anaerobic fermentation + biogas dehydration, desulfurization + biogas booster + biogas power generation hotspot cogeneration set the initial biogas composition: $\text{CH}_4 \geq 55.0\%$, $\text{CO}_2 \leq 45\%$, $\text{H}_2\text{S} \leq 1,000$ ppm, the project occupies about the following area: the equipment occupies an area of about 100 square meters, and the project occupies a total of about 500 square meters (the actual situation needs to be determined according to the actual situation), the pipelines and cables in the station can be about 20% of the equipment investment, civil construction costs can be about 30% according to the equipment investment, now need to do the work is to determine the land for the construction of the project and the first off the construction program, and then determine the procurement of equipment and civil construction at the same time cross-construction.)

Anaerobic reactor: $200\text{m}^3 \times 1$ set (mainly applicable to the anaerobic biochemical reaction and fermentation treatment of organic waste and organic matter such as manure from animal husbandry farms, abattoirs, kitchen waste, food waste and garbage leachate, etc.)

TS: 6~8%


Retention period: 25days




Medium temperature fermentation: $35-38^\circ\text{C}$




Biogas use: Electricity generation


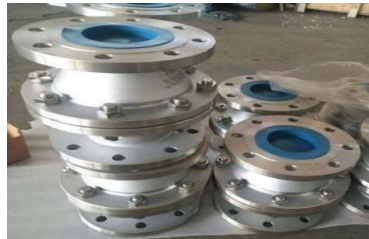

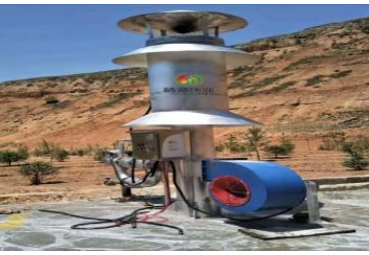
Biogas production: $170\text{m}^3/\text{day}$, producing 275 KW of electricity per day (Electricity production is related to the quality of biogas/content of methane and the operating conditions of the organic waste treatment.)


Solid fertilizer: produce 0.66 tons per day, liquid fertilizer: produce about 6.88 tons per day.

NO.	ITEM	EQUIPMENT	SPECIFICATION	QTY.	UNIT	U.P(\$)	T.P(\$)	REFERENCE PICTURE
1		Mechanical grille	JC-JXGS800-800 Carbon steel anti-corrosion treatment, nylon rake teeth width 800mm, length 1800mm, 0.75KW, preliminary separation role	1	set	3408.45	3408.45	

2	Pretreatment and separation equipment	Paddle agitator	JBJ-2000-3.0, motor power 3.0KW, stirring shaft depth=2.5m, homogeneous blending effect	1	pcs	1208.45	1208.45	
3		Feeding pump	65ZNQ20-6-1.1, power 1.1KW, flow rate 20m³/h, head 6m, into the anaerobic system	2	pcs	542.25	1084.51	
4	Anaerobic reactor system	200m³ anaerobic digester + 60m³ double membrane biogas holder	JC-YHG200, Φ6.88*5.4m total capacity of the bolted corrosion-resistant assembled steel tank is 200m³, and the capacity of biogas holder is 60m³. the anaerobic reactor is equipped with standard customized plate, ring hoop, M12*35 high-strength fastening bolts, structural sealant, ladder, tank top platform, external overflow assembly, manhole, feeding, discharging, sampling, mixing device port, heat exchanger pipe port, exhaust device port, air outlet device port, safety relief device port, and thermometer, PH meter and other devices, the gas storage cabinet is made of corrosion-resistant special membrane material, including automatic control balance system, frequency conversion explosion-proof fan, check valve, and PH meter. The gas storage cabinet adopts corrosion-resistant special membrane material, including automatic control balancing system, frequency conversion explosion-proof fan, check valve, support components, tension band, tension seat, M8*25 stainless steel bolts and other components.	1	set	22929.58	22929.58	

5		Fermenter side agitator	Power 5.5 KW, SS304	1	pcs	1859.15	1859.15	
6		Heating system	DN40- ϕ 4.88-6 layers of hot-dip galvanized steel pipe, 5pcs DN100 pipes supporting 6m	1	set	2169.01	2169.01	
7		Tank insulation	50mm EPS insulation material, 0.5mm blue exterior protection layer	1	set	2323.94	2323.94	
8		Pressure safety protector DN80	Safe pressure relief requires at least DN80, inside 304	2	pcs	278.87	557.75	
9	Biogas purification	Mechanical safety protector	JC-SFQ800 DN500×H1000 304 stainless steel, safety pressure relief protection effect	1	set	325.35	325.35	
10		vapor separator	JC-QSFL600 DN600×H1500 Carbon steel anticorrosion	1	set	495.77	495.77	
11		Desulfurizer	JC-TL800 DN800×H1800 Carbon steel anticorrosion. Desulphurization filler is used in accordance with the recycling purification amount every 24 months	2	set	852.11	1704.23	
12		Biogas flow meter	JC-WZL65-30	1	pcs	712.68	712.68	

13		Biogas booster fan	JC-LC65-2.2 Frequency conversion explosion-proof fan	1	set	1704.23	1704.23	
14		Flame arrester	DN80 SS304 internal, special for biogas	1	pcs	170.42	170.42	
15	Biogas recycling	20KW Biogas generator set	6.5 hours of power generation per day, with a 50 kW biogas generator set, 50/60 Hz, 230/400 V biogas generator set, including waste heat recovery heat cycle system, common base, sheet metal weldments, valve manifolds, pressure regulators, pressure gauges, flame arrestors, special ball valves, storage batteries, cooling system, water-cooled radiators, exhaust systems, exhaust silencers, random spare parts and tools Spark plugs and wrenches, filter elements and wrenches, and other specialized accessories	1	set	8676.06	8676.06	
16	Biogas emergency device	Model 50 biogas burning torch	Tower body DN200*4000mm, base lugs, drainage port, combustion fan, electric valve, air inlet valve, pressure controller, combustion head, ignition needle, ignition transformer, flame detection probe, combustion chamber, fixed lugs, rain cap and other related accessories	1	set	7064.79	7064.79	

17	Other and control system	Equipment electric control cabinet	JC-P35KW-001, Siemens PLC control, 20 meters each of power equipment cable line supplied	1	set	13169.01	13169.01	
18		Equipment piping	Biogas pipeline PEDN65 length 50 meters, DN100 length 30 meters, DN125 length 50 meters, butterfly valves, check valves, gate valves, knife gate valves, ball valves and other pipeline accessories	1	set			
19		Instruments and valves	Thermometers, PH meters, manometers, biogas flow meters, gas detectors, gas leakage alarms	1	set			
20		Design and packaging	Steel frame and wooden box	1	pcs			
21		Installation tool	3.6m lifting height, supporting lifting plate	5	pcs			
22		Equipment sign	Core corresponding equipment	6	pcs			
	Equipment total cost						69563.38	
	Inland freight+Qingdao Port charge			1*40'OT	1600.00			
				1*20'OT				
	FOB Qingdao						71163.38	
Note:								
1. The above is a quotation for daily processing of 2-3 tons of organic waste biomass natural gas project. See the above table for details. The quotation is valid for 7 days;								

2. After the project is put into operation, it can not only achieve the reduction, harmlessness and resource treatment of livestock manure, but also reduce investment costs for investors, thereby creating greater economic benefits for investors;
3. Biogas can be used for many purposes. It can be used for power generation to produce electricity and other uses. The specific uses can be determined according to the actual needs of customers. After the solid-liquid separation treatment, the biogas residue can be used as solid organic fertilizer and liquid organic fertilizer. Using cow manure after scientific treatment to turn waste into treasure for investors to obtain high economic benefits.
4. Our company has professional technical force and years of product operation and successful experience in organic matter treatment and biogas engineering equipment. It has always been our company's operating tenet to provide customers with advanced technology, cost-effective, safe and stable operation. Product business can be further detailed consultation and communication.



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| ① Outer membrane | ⑦ Filling level measurement |
| ② Inner membrane | ⑧ Air support blower |
| ③ Brace system | ⑨ Pressure-regulating valve |
| ④ Middle mast | ⑩ Non-return valve |
| ⑤ Anchoring | ⑪ Safety valve |
| ⑥ Inspection window | |

Integrated anaerobic reactor (Model: JCWY-YTHY)

Equipment features: economy, strong usability, convenient installation on site, special anti-corrosion treatment, strong corrosion resistance, movable, expandable and other characteristics.





Biogas purification equipment, biogas booster and pressure stabilisation system