

CAPTIVE BIOGAS POWER PLANT



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BIOGAS PRODUCTION POTENTIAL OF VARIOUS TYPES OF ANIMAL WASTE

	AVERAGE MANURE FRESH WEIGHT (KG/DAY)	MANURE REQUIRED FOR 1 CUBIC METER BIOGAS PRODUCTION (KG)
COW DUNG	15	20
PIGGERY WASTE	2.5	6
POULTRY DROPPINGS	0.07	8

USING THE EFFLUENT

The material drawn from the digester is called sludge, or effluent. It is rich in nutrients (ammonia, phosphorus, potassium, and more than a dozen trace elements) and is an excellent soil conditioner. It is being used widely as organic fertilizer.

PLANT COMPONENTS

- MIXING TANK WITH STIRRER AND FEEDING PUMP
- SLURRY FEEDING TANK
- BIOGAS DIGESTER (WITH FLOATING DRUM ON TOP) (Type–KVIC Floating drum type)
- DIGESTED SLURRY EVACUATION TANK WITH PUMP

GAS SYSTEM

- GAS SUPPLY LINE
- BIOGAS FLOW METER
- DESULFURIZATION UNIT
- PRESSURE RELIEF VALVE
- BIOGAS STOVES
- GENERATOR



MIXING TANK WITH STIRRER AND FEEDING PUMP



SLURRY FEEDING TANK



DIGESTED SLURRY EVACUATION TANK WITH PUMP



BASIC PARAMETERS FOR BIOGAS PLANTS

SIZES OF THE BIOGAS PLANT ITEMS					
BASIC CAPACITY OF THE PLANT (Cubic Meter Raw Biogas Production)	100	150	200	300	500
GENERATOR POWER CAPACITY (kW)	12	12	24	36	48
FLOATING DRUM CAPACITY (Cubic Meter)	50	75	100	150	250
DUNG MIXING TANK WITH STIRRER (Cubic Meter)	10.0	15.0	20.0	30.0	50.0
SLURRY FEEDING TANK (Cubic Meter)	2.5	2.5	5.0	7.5	10.0
DIGESTER SLURRY EVACUATION TANK (Cubic Meter)	20.0	30.0	40.0	60.0	80.0
OPERATING PARAMETERS					
RAW MATERIAL REQUIRED					
COW DUNG (MT per day). Alternatively	2.0	3.0	4.0	6.0	10.0
POULTRY DROPPINGS (MT per day)	0.75	1.2	1.5	2.25	4.0
DAILY POWER GENERATION (kWH)	150	225	300	450	750
COMPOST - FERTILIZER (30% moisture) (MT/day)	0.625	0.75	1.25	1.75	2.50
COMPOST - FERTILIZER (30% moisture) (MT/year)	220	262	440	550	875
OTHER REQUIREMENTS					
AREA REQUIRED (Sq. Meter)	100	120	150	200	300
COVERED AREA REQUIRED (Sq. ft.)	75	100	100	100	200
DAILY OPERATING HOURS	12.5	17	12.5	12.5	15

PRICE SCHEDULE

CAPACITY OF THE PLANT	Price for BIOGAS PLANT INCLUDING ALL ITEMS AS DESCRIBED IN PLANT COMPONENTS AND GAS SYSTEM SECTIONS AND GENERATOR (GST 5% will be charged extra as applicable)
100 CUBIC METER WITH 12 KW GENERATOR	Rs. 15,00,000/- (Rs. Fifteen Lakh Only)
150 CUBIC METER WITH 12 KW GENERATOR	Rs. 20,00,000/- (Rs. Twenty Lakh Only)
200 CUBIC METER WITH 24 KW GENERATOR	Rs. 24,00,000/- (Rs. Twenty Four Lakh Only)
300 CUBIC METER WITH 36 KW GENERATOR	Rs. 31,00,000/- (Rs. Thirty One Lakh Only)
500 CUBIC METER WITH 48 KW GENERATOR	Rs. 40,00,000/- (Rs. Forty Lakh Only)

AVAILABLE MNRE SUBSIDY

1. SUBSIDY FOR 100 CUM PLANT AND 12 KW GENERATOR SYSTEM: Rs. 4.80 Lakh
2. SUBSIDY FOR 150 CUM PLANT AND 12 KW GENERATOR SYSTEM: Rs. 4.80 Lakh
3. SUBSIDY FOR 200 CUM PLANT AND 24 KW GENERATOR SYSTEM: Rs. 8.40 Lakh
4. SUBSIDY FOR 300 CUM PLANT AND 36 KW GENERATOR SYSTEM: Rs. 12.60 Lakh
5. SUBSIDY FOR 500 CUM PLANT AND 36 KW GENERATOR SYSTEM: Rs. 16.80 Lakh