PRAKRUTI MACHINES

Prakruti Machines

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ABOUT US

Prakruti Machines (PMB) – We are a Briquetting Plant Manufacturer based in Bangalore, India,dedicated to manufacturing of automated Hydraulic Briquetting Machines from our state-of-the-art machine manufacturing facility.

Our team of efficient Engineers, quality controllers and operators work with one motive – to innovate and refine and produce the most cost effective and production efficient Hydraulic Briquetting Machines.

Our reputation is built on many years of experience, use of cutting-edge technology in the manufacturing process, excellent customer experience and business values based on the philosophy of continuous improvement.

Our Customers are the testimony to our proven capabilities to manufacture Briquetting Machines which have compact design & rigid construction with Low maintenance and Low power consumption.

PMB MACHINES

	Models	
Headers	**PMB-90**	**PMB-100**
Production Capacity	800-1000 Kg / Hr	1000-1200 Kg / Hr
Power Requirement	69.5 HP	72 HP
Main Motor	60 HP	60 HP
Feeder Motor	3 HP	5 HP
Agitator Motor	0.5 HP	0.5 HP
Water Pump	2 HP	2 HP
Heat Exchanger	25000 K Cal	25000 K Cal
Hydraulic Tank Capacity	1000 Ltrs	1000 Ltrs
Cooling Tower	25 TR	25 TR
Briquette Diameter	90 mm	100 mm
Briquette Length	180mm to 250mm	180mm to 250mm
Electricity Consumption	40 Units/Hr	40 Units/Hr
Briquettes Per Minute (Aprox)	10 to 12	10 to 12
Density	1 to 1.1 Grams/cm³	1 to 1.1 Grams/cm³
Foundation Requirement	100 MM thick concrete bed	100 MM thick concrete bed
PLC	Omron	
HMI	Omron Touch Screen With Automated Control Panel	

FEATURES OF PMB HYRAULIC PRESS MACHINES

- Sturdy and Compact Design
- Hydraulic briquette machine exerts hydraulic force as the engine, hence - the performance is stable
- Low Energy Consumption
- Low maintenance
- Less Noise
- Electronic (PLC) Operation control
- Briquettes produced are of supreme quality and uniform appearance
- Briquettes produced are of Higher Density
- Briquettes produced are easy to ignite
- Briquettes produced have continuous and long burning duration



Comparison of PMB Hydraulic Machine with Ram/Piston Press Briquetting Machines

PMB HYDRAULIC PRESS MACHINE	RAM/PISTION PRESS MACHINE
Wear and tear is negligible	High wear and tear
Spares replacement is required only after 1000 hrs. of operation.	Spares replacement is required in about 350 to 400 hrs. of operation.
Fully automated PLC operation	Manual operation
Briquette density can be adjusted and achieved up to > 1.2 T/M^3	No adjustment available
Export quality briquettes	Moderate quality briquettes
Less Noise and Vibration	High Noise and Vibration
Return on investment is within 8-12 months	Return on Investment is about 16-18 months

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WHY BRIQUETTING

Biomass briquettes are used as a replacement for the traditional fuels such as coal, Wood, charcoal, fuel oil.

These are produced from the raw materials such as forestry wastes and agricultural wastes through the processing procedures such as crushing, drying, mixing, compressing, etc.

Every year millions of tons of agricultural waste are generated. These are either non-used or burnt inefficiently in their loose form which causes air pollution. Handling and transporting of these loose materials is difficult & costly due to their low bulk density. These wastes can provide a renewable source of energy when converted into high-density fuel briquettes without adding any binder or chemical.

Briquettes have high specific density 1200 Kg/m3 and bulk density 800 Kg/m3 compared to 60 to 180 Kg/m3 of loose Bio-mass. These can stand the vagaries of long distance transportation, Loading/ unloading effects, transportation costs are much less and storage requirement is drastically reduced making organized storage.

Compared to fire wood or loose Bio-mass, briquettes give much higher boiler efficiency because of low moisture and higher density.

RAW MATERIALS

All Agro Waste like Groundnut shell, Bagasse, Coffee Husk, Palm husk etc. and All forestry waste like Sandar dust, Wood chip & Shavings, Pine needles, Bamboo leaves etc. can be used for Biomass Briquetting.

Calorific Values of Various Raw Materials

Raw Material	Calorific value - Kcal/Kg	Ash %
Groundnut Shell	4500	3.80 %
Bagasse	4700	1.80 %
Castor Seed Shells	3860	8.00 %
Saw Dust	4400	1.20 %
Cotton Stalks / Chips	4200	3.01 %
Bamboo Dust	3700	8.00 %
Babul Wood	4707	0.90 %
Coffee Husk	4200	5.30 %
Tobacco Waste	1100	49.40 %
Tea Waste	4000	6.70 %
Paddy Straw	3469	15.50 %
Mustard Stalk	4200	3.40 %
Mustard Shell	4300	3.70 %
Wheat Straw	4000	8.00 %
Sunflower Stalk	4300	4.30 %
Jute Waste	4800	3.00 %
Palm Husk	3900	4.90 %
Soya bean Husk	3700	4.10 %
Sugarcane Waste	3900	10.0 0%
Barks Wood	3000	4.40 %
Forestry Waste	4170	7.00 %
Coir Pitch	4146	13.60 %
Rice Husks	3200	22.20 %
Wood Chips	4300	1.20 %

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