

CE

Infinite *Little Master*



...a **briquetting** masterpiece

Infinite Energy Pvt. Ltd. is an ISO 9001 certified company providing end to end Biomass energy solutions for more than two decades. The company has a global footprint and is operating in Europe, Asia, Africa and South America. Infinite Energy Pvt. Ltd. is recognised as an approved manufacturer for Biomass Gasification plants by Ministry of New and Renewable Energy (MNRE), Government of India.

The company being promoted by a passionate team of technocrats, benefits from a unique customer oriented style of functioning. It strives to come up with a technically sound customised product to each of its customers. Infinite Energy Pvt. Ltd. is rated as a **High Performance Capability Company** by SMERA, D&B and NSIC.



Infinite *Little Master*

Simply the Best!

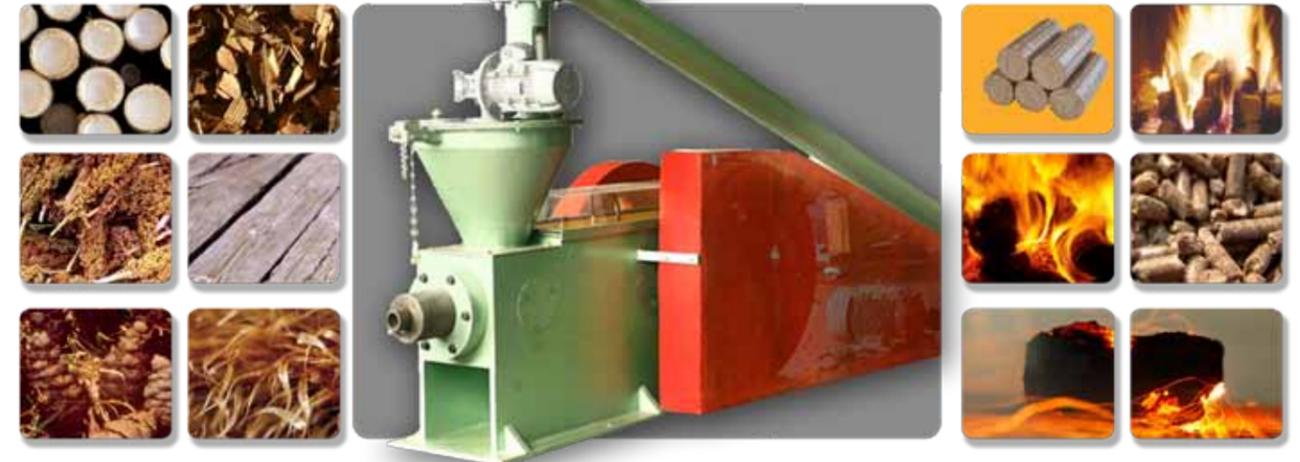
The Magic of Briquetting

Briquetting is the almost magical process of compressing the loose biomass into a compact form called as fuel briquettes or **BIOCOAL**.

Biomass briquetting not only reduces the material handling cost of storage and transport, it also makes a great fuel! The form change results in a much higher specific density of the material, which increases its combustion efficiency gives it a longer shelf-life as compared to the loose material.



Briquetting achieves upto 90% reduction in volume



Applications of Biomass Briquettes

The Briquettes made from Infinite Little Master have uniform thickness, density and calorific value. this makes them suitable for use in a diverse range of applications.

Biocoal are being successfully used in almost all energy intensive industries. The technology's genius also lies in the fact that it helps in preserving the precious wood.



Boilers



Forges & Foundries



Residential & Industrial Heating



Brick Kilns



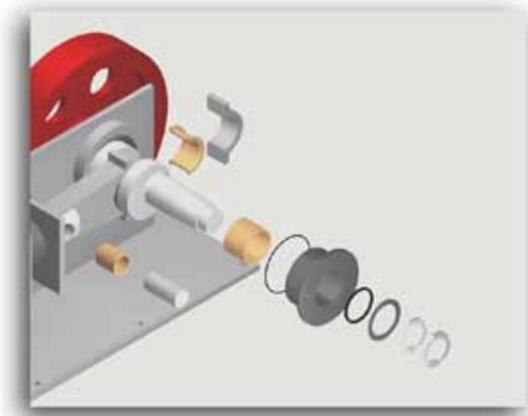
Gasification

Infinite, the company behind some of the most successful Biomass Energy projects worldwide now presents the *Little Master*. Benefitting from over twenty years experience of the promoters, the *Little Master* IB series is a revolution in the Briquetting technology. It encompasses many traditional briquetting ideas along with today's cutting edge engineering & technology. This makes the machine highly operator friendly, durable and robust while also ensuring high energy efficiency. The advancements in our design have resulted in a reduction in power consumption by up to 30% in the briquetting press and increased output by up to 20% viz-a-viz industry standards.

Not only this, the *Little Master* systems are technically advanced & equipped with many extra features*, for reducing maintenance requirements and drastically cutting down-time resulting in high availability of machine and lower maintenance costs.

* e.g. Compact die holder with no cooling requirement, two piece punch, VFD feeding system etc.

Salient Features of Infinite *Little Master*



Lowest Power Requirement

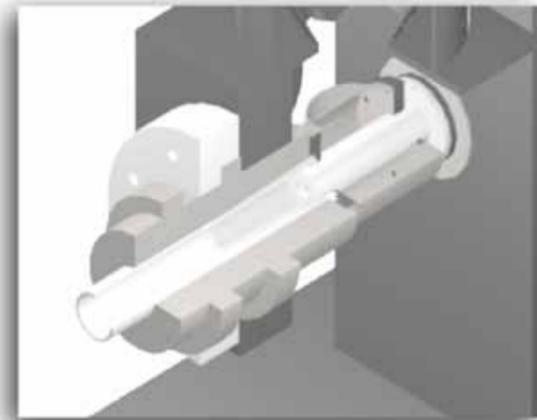
1. Energy Efficient Design for least power consumption.
2. Best (lowest) specific energy consumption/ton briquettes produced ratio.
3. Lesser connected Loads, Highest operating load factor.

Simple Operation

1. Ergonomic and Operator friendly design with no operative risk for hassle-free long duration operation.
2. Very low maintenance.
3. Comprehensive control panel for total control and protection.
4. Customer specific layout for reduced manpower and better process flow control.

Superior Reliability

1. High quality in design, components & manufacturing.
2. Superior design for lesser shock load and vibration.
3. Forged US LII tested crankshaft.
4. Best quality sub components for trouble free continuous operation.
5. High performance integrated oil cooling & pumping unit with zero leakage.
6. Factory tested system. Every machine is factory tested on full load before dispatch.
7. High compressing pressure.

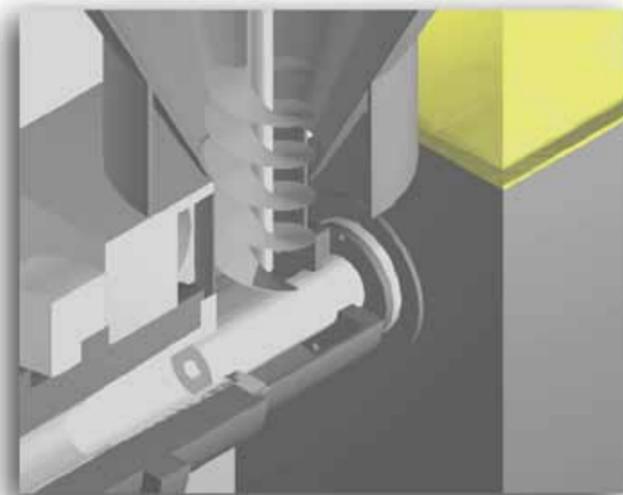


Simple and Low Cost Maintenance

1. Longer service intervals
2. Service friendly design for quick & easy maintenance
3. Lowest cost & longer life wear parts
4. Quickest wear part replacement time

Complete Solution

1. Compact System.
2. Special Dies to process almost any kind of biomass for high strength biomass briquette production.
3. Multi fuel systems.



Infinite Advantage

It is easy to see, how Infinite energy's superior design, workmanship and attention to detail translates into observable advantages. Following is a brief list of such verifiable advantages.



S. No.	Parameter	Infinite Briquettor	The Competition	The Infinite Advantages
1	Specific power consumption	22-30 kWh/MT	30-40 kWh/MT	Lesser Connected Load, Lesser Power connection and lesser demand charges. Lesser power cost per MT of briquette.
2	Connecting rod length to stroke ratio	5	1.5-2	Lesser shock loads and radial loads, Lesser bearing load and greater bearing life
3	Flywheel and body parts	Smaller	Bigger	Easier to dismantle and maintain, lesser starting loads. Smaller parts also allow more access room for maintenance.
4	Piston removal	Front of Machine	From Top only	Easier and quicker dismantling, without need to dismantle flywheel or crank shaft.
5	Feeder box fixture	Screwed to the die holder	Single piece of punch	Lesser spare cost very quick and easy replacement.
6	Punch	Two piece	Single piece of punch	Lesser spare cost very quick and easy replacement.
7	Inclined screw conveyer	Single piece steel tube. Variable speed AC drive. Inclined helical geared motor unit	Two pieces. Single speed. Worm Gear unit	No leakage and better appearances Stepless speed control of Biomass Hassle free assembly/ dismantling and better appearances Higher efficiency.
8	Bought out items	Standard Sub-Vendors	N.A	Reliable components with longer life and lesser maintenance.

Infinite's Design Guidelines



Ease of Maintenance



Minimum Maintenance Time



Maximum System Efficiency



Minimal Reliance on Operators



Maximum System Availability



Maximum System Reliability



Less Connected Load

Infinite Dryer

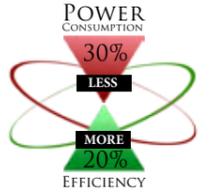


Salient features of the Infinite Flash Dryer

1. High drying efficiency and low energy costs.
2. Continuous processing with short drying time.
3. Low operator overheads and minimum maintenance costs.
4. Backward curved radial blower for maximum efficiency and longer impeller life.
5. High efficiency cyclone for minimum pollution and material loss.
6. Unique furnace design for maximum efficiency and minimum spark carry over.
7. Drying is completed at low outlet drying temperatures, giving high energy utilization efficiencies.
8. Flexy seal airlock for handling both fibrous and non-uniform biomass.
9. Flexible layout as per space.

Product Specifications

Infinite *Little Master* Briquetter



S. No.	Specification	Performance Parameters of <i>Little Master</i>		
		IB 125	IB 750	IB 1000
1	Input size of biomass (mm)*	< 5	< 7	< 20
2	Machine output (kg/h)**	100-225	550-850	1250-1750
3	Connected load (hp)	10.5	34.5	69
	Main motor	10	30	60
	Oil pump	0.5	0.5 + 0.5***	1 + 1***
	Vertical feeder	-	2	5
	Conveyor	0	2	3
4	Power Consumption (kW)	6 - 8 (max)	17 - 23 (max)	37 - 49 (max)
5	Displacement (m ³ /h)	2.71	7.64	13.45
6	Maximum Pressure (kg/cm ²)	1500	1500	1500
7	Stroke (mm)	120	150	190
8	Speed (rpm)	300	270	180
9	Briquette Diameter (mm)	35	60	90
10	Oil Cooling (Heat X Area)	Crossflow heat X 0.34 m ² Area	Crossflow heat X 0.59 m ² Area	Crossflow heat X 1.2 m ² Area
11	Overall Dimensions (mm)	1000(l) X 400(w) X 700(h)	1600(l) X 600(w) X 1150 (h)	2000(l) X 750(w) X 1400(h)

- * Moisture content < 12%, density > 260 kg/m³.
- ** Density > 1050 kg/m³
- *** Standby

Infinite Flash Dryer

S. No.	Specification	Performance Parameters of Infinite Dryers				
		FD 750	FD 1500	FD 2500	FD 3500	FD 5000
1	Dry material output (kg/h)	550 - 850	1250 - 1750	2250 - 2850	3250 - 3850	4500 - 5500
2	Material to be dried	Biomass (Powder/ Fibrous/ Granular)				
3	Size	< 4 mm				
4	Moisture content of material at inlet of the dryer.(%)	< 45%				
5	Moisture content of material at exit of the dryer.(%)	< 12%				
6	Dust content in exhaust gas (mg/mm ³)	< 150				
7	Blower motor rating (hp)	7.5 + 3	15 + 5	25 + 7.5	30 + 10	40 + 15
8	Screw feeder motor rating (hp)	2	3	5	5	7.5
9	Rotary air lock motor rating (hp)	2	1.0 x 2 = 2	2.0 x 2 = 4	3.0 x 2 = 6	3.0 x 2 = 6
10	Screen (hp)	0.5	0.5	1	2	3
11	Total connected load (hp)	15	25.5	42.5	53	71.5
12	Actual power consumption (kw)	8	14	24	29	38
13	Fuel for the furnace	Firewood / Briquette with 3500 - 4500 kCal/kg calorific value				
14	Fuel consumption at 30% initial moisture (kg/h)	60	110	150	220	300
15	Fuel consumption at 45% initial moisture (kg/h)	110	230	350	480	650

As a result of continuous research and development, the specifications and design features of the machines are subject to change from time to time.

One Briquetter for any Biomass!

INFINITE's *Little Master* can convert virtually any type of Biomass into briquettes!

Almond Shells
Coffee shells
Lantana grass

Saw Dust
Soyabean Husk
Walnut Shells

Rice Straw
Baggasse
Pine needles

Corn cob
Sunflower Husk
Cotton Stalk

Peanut Shell
Macadamia Shell
Mustard Husk

Mustard Stalk
Palm Shell
Paddy Husk
Press Mud

Olive pits
Pecan nut shell
Cashewnut Shells



Infinite Energy Pvt. Ltd.

An ISO 9001:2008 Company

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