Always a step
ahead in
Briquetting
plant technology

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1991

RICO

Radhe Industrial Corporation

ISO 9001:2008

Produce Energy
Save Enviro

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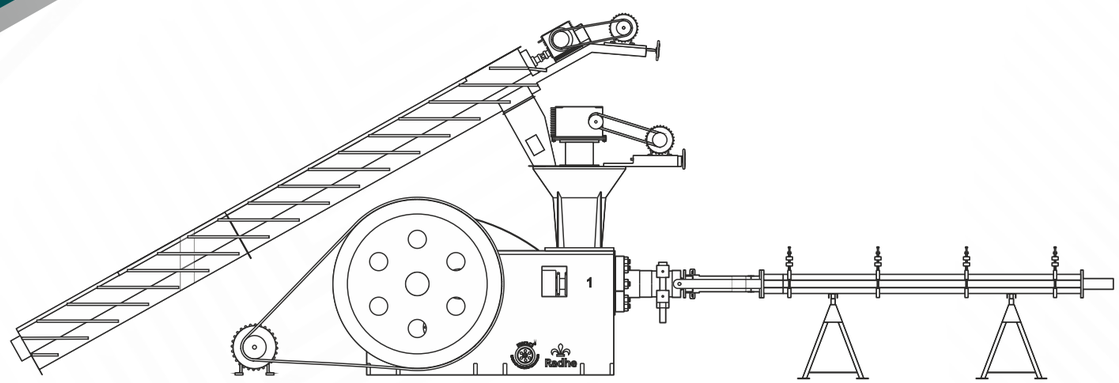
Radhe Industrial Corporation

Always a step ahead in **Briquetting** plant technology

"Always a step ahead in **Briquetting** plant technology"



We are not just selling the machines but we are selling the concept of "Go Green".
By this plant, we are serving the nation & the whole world by saving valuable minerals & life of so many trees.
By installing so many plants we are helping the country by reducing the use of natural coals, lignite etc. & thereby controlling pollution.

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CELEBRATING GLORIOUS 25 Years

Mission & Vision

At Radhe Industrial Corporation, the mission is very clear to go for quality stuffed product by implementing inquisitive research, technological expertise & with a readiness to reach out to the people at competitive prices. It is emphasized to inspire and promote growth through environmental awareness amongst society around us.

The company's vision is to extend honest and sincere support to the **"Green Globe Movement"**. It looks forward to promote Eco-friendly products by developing energy efficient solutions with the help of constant communication, open minded co-ordination and healthy co-operation. Radhe Industrial Corporation has been managing Man-Machine-Material & Method. The company is keen to create and maintain work environment which is bubbling with enthusiasm, creativity, optimism, respect, healthy competition and readiness to render satisfactory customer service.

Most important our vision & mission is to do something for the environment. One briquetting machine saves 3 trees daily. Up till now we have supplied approximately 700 + plants across the world that means daily we are saving 2000 trees from cutting. By 2020, our around 2000 + plants will be running successfully. On that vision, Radhe Industrial Corporation will save approximately 21, 90,000 trees per year from cutting by 2020.

Thus, we are saving valuable minerals for different countries by installing so many plants & thereby helping the nation in their initiative of **"Green Globe Movement"**.

Company Profile

Planning & Perseverance is the open road to destination. Working hard, inclination to take initiative, loving work, having the spirit of conquest, sharing innovative ideas, looking forward to technological up gradation and striving to render better customer service are the keys to success.

Radhe Industrial Corporation has carved its prominent place, since its inception from 1991 in the field of manufacturing of Briquetting Plants, because it believes in such valuable thoughts. Under the time-tested, committed and visionary leadership of Mr. Prakash A. Patel, the company has registered tremendous growth during all these years.

We all know that the natural fuel resources like coal, firewood, lignite etc. are fast extinguishing. So, the company is bent upon manufacturing technologically upgraded bio-mass briquetting plants contributing to have better eco-friendly option in the world of fuel, by reusing and recycling agro waste and forestry residuals. The company is focused to leave greener footprint across the national & global industrial landscape.

The company is well-equipped with ultra-modern technology, advance & hi-tech computerized machineries, harmonized experienced staff, who keep a constant vigil at every stage of production, quality control, installation process, after sales service and customer satisfaction. Radhe Industrial Corporation has a glittering track record of supplying Biomass Briquetting Plants to various states in India and in overseas as well.

We are working on ISO 9001:2008 standards of management. We have registered an excellent growth throughout these years on the base of professional management & complete transparency.

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Message from CMD

We welcome you in the world of Briquetting. Let us do something for our country.

In the year 1991 with a very small company but with a large vision, big idea & with huge confidence, I have started my journey in the Briquetting Field.

Briquetting Plant is not just the plant but it is a noble cause for the Environment, for the Country & of course for the Next Generation because one Briquetting Plant saves the life of so many trees per day.

With the help of restless efforts since 1991, constant & continuous hard working, without coping anything just on the base strong Research & Development, we have invented Super-70 & Jumbo-90 which are the most successful models in the Briquetting Field. Without doing any unethical things, without lying & without doing wrong marketing, we have reached on the top level of manufacturing standards where 90 % of our machine parts are manufactured with 10 micron tolerance & with ultra-modern computerized machineries.

At Radhe Industrial Corporation, which is the flagship company of Radhe Group of Companies, we welcome you where we are the leader since 1991. **I assure you on companies' behalf that we are completely based on ethical practices, excellent quality products, strong after sales service & complete dedication towards our valued clients.** **We are 100 % delivering what we have committed to our clients.**

By installing so many plants, we are using our waste at the maximum. By this way so many wastes are removing from the country & people also make money by converting it into valuable fuel Briquettes. I would like to also extend one message that **"We are not only selling the machines but we are selling the whole concept of Briquetting"**. Our plant helps in saving countries valuable minerals, trees & thereby increasing in countries' foreign exchange funds.

We are completely based on **"Customer Satisfaction with Excellent Quality Products"**.

We invite you heartily to visit our company so that we can show you all the evidence of our history, our invention etc. We are completely transparent & ethical that is why we are telling to our valued clients to judge by themselves about our manufacturing process & about quality of the machines. We are openly telling & inviting our clients to stay at our R & D Plant which is Pioneer Fuel Industries [Supedi, Upleta (Gujarat, India)] for 12-24 hours for their complete satisfaction.

We are strongly committed towards our Vision of **"Cash from Waste by RICO Briquetting Press"** by environment friendly Briquetting Plant & our strong after sales service.

We assure you that we will be always with you whenever you need us the most.

Sincere Thanks,

Prakash Patel

CMD

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Milestones

- **1991** Started Briquette manufacturing with smaller capacity machine.
- **1992** Have laid down the foundation stone of Radhe Industrial Corporation & Smart-60 Manufacturing.
- **1994** Invented & Launched Super-70 (RAM type technology) for the first time in Asia.
- **1996** Invented & Launched Jumbo-90 (RAM type technology) for the first time in Asia.
- **1998** Started our R & D unit – Pioneer Fuel Industry with two Jumbo-90 machines in Supedi (Gujarat, India)
- **2000** Invention of Cutter (Crusher) & Hammer Mill
- **2002** Started Radhe Fuel Industry – Jamnagar
- **2004** Invention of Flash Air Dryer
- **2006** Started Bhavani Bio Fuel – Kuvadava
- **2011** 90 % of Parts have been manufactured with Computerized Machineries
- **2012** Production Capacity of Briquetting Press have been increased by changing Internal Design of Machine after long Research & Development by R & D Department.
- **2013** Invention of Crusher – Cutter Combo (For Cutting & making Powdery Form Raw Material)
- **2015** Launc Hydraulic Briquetting Machine Design in market to cater custome demand.

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Manufacturing Excellence

- Quality in Manufacturing is not compromised at all in Radhe. Our world class Quality Control Department maintain every standard of Quality with ultramodern machineries like CNC, VMC, VTL, Boring etc.
- Our Research & Development unit is doing constant & continuous efforts for the new research & development with innovative ideas & strong experience.
- Each & Every department is supervised by CCTV Camera. Each & Every department is being observed on the camera by the Production Director himself.
- Each & Every part is checked & tested first before it will be stored or it will be used in the machine.
- Different types of reports are prepared by the technical head for each & every department so that perfection & accuracy is maintained.
- Our two machines are running at our R & D Plant since 1998 so you can imagine our quality standards. At this plant, we are doing constant research & development for the improvement in the machine & for maintaining the quality.
- **Most important, because of the computerized technology & advanced machineries, any part can be interchanged with each other without any dimension problem or without any fitting problem. This is very unique & most different point of Radhe Industrial Corporation.**

We have following latest & advanced technological machines like:

- CNCs
- VMC
- VTL Machine
- Boring Machine
- Lathe Machines
- Slotting Machine
- Shaping Machine
- Planning Machine
- Profile Cutting Machine
- Auto Drill Machines
- Hydraulic Press Machine
- Rectifier









Strength

Quality Assurance

- Our Company follows ISO 9001 norms & in our machine, we follow European standards (CE).
- We are manufacturing 85-90 % parts in-house at our company premises only.
- We are manufacturing with 70 % Computerized Technology.
- We have 0 to 400 mm Measurement Instruments like Micrometer, Vernier, Borgauge & Each instruments are calibration tested as per ISO Standards.
- Each & every part is laboratory tested first & we use only high graded specified materials only.
- Part is prepared with so many different types of processes like Knight Writing, Hardness, Hard Chrome, Induction Hardness, Oil Bath Hardness, Analyzing, Seasoning etc.

Design Engineering

- Every part is based on Computerized Drawing & Design.
- Every part can be interchanged because every part is of specified size.

Man Power – 40 Trained Engineer

- We have around 40 technically sound engineers for Erection, Commissioning, Training, Trial Production & After Sales Service.

Computerized Store Department (For Spare Part)

- We will dispatch any of the Parts in just **02 hours** (in Working Hours).
- We will never say **"NO"** to our esteemed clients because every part is available at any point of time.
- All Parts are manufactured in **CNC & VMC** machine only.
- High Precision & Accuracy is maintained at each & every stage because of advanced & latest technological machineries.
- Hardness Testing is done for each & every Parts.
- Parts are dispatched in Corrugated Box only.

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Infrastructure

Radhe Industrial Corporation is having **"always a step ahead in briquetting plant technology"**. It is equipped with all the required facilities for manufacturing of excellent briquetting machines. The production unit is primely located.

The Company is having total premises of around 30000 square feet carpet area including following departments:

Departments – All sufficient departments to control our company i.e.

Office

CNC-VMC Department

Machining Department

Fabrication Department

Assembly Department

Stock Yard

Wear & Tear Parts Store

Boring Department

VTL Machining Department

Testing Department

We have a team of executives, engineers & workers who love to work as a "team". They are qualified & experienced. They perspire to supervise entire production & sales process. They are disciplined enough to fulfil the orders within the scheduled time. Moreover, well equipped office setup, in-house production facilities for all critical spares & parts, world class machinery, efficient tool room etc. all contribute towards securing customer satisfaction.

Also we are having a huge man power for after sales & service for complete customer satisfaction.

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R & D Facilities

At our R & D plant **[Pioneer Fuel Industries – At Supedi near Upleta (Gujarat, India)]** which is 90 kms away from our company, our two Jumbo-90 machines are running successfully & constantly since 1998 without any interruption so one can imagine our quality standards.

We are regularly doing Research & Development at this plant. At our R & D Plant, we are trying our best to improve & give the best quality products with the help of our Quality Assurance Team & Technical Team.

At our R & D Plant, daily & daily we are doing research with innovative ideas to improve in manufacturing methods & increasing production capacity. For that we are regularly doing so many tests at our place.

With the help of advanced & automatic technology, Radhe Industrial Corporation has done special development on 75 points on the machine, which is the main reason that RICO briquetting machine is world famous.

R & D Plant Pioneer Fuel Industries – At Supedi near Upleta (Gujarat, India)

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Knowledge Centre

Introduction (What is fuel?)

Fuel is a lifeline of man & machine. It is necessary for day to day life for everyone. Pollution depends on Natural Fuel like Coal, Natural Gas, Kerosene, Diesel, etc. & Natural Fuel is under limitations nowadays. Their prices are not under control for everyone. So, it is necessary to require option on above cited fuels.

We are one of the largest manufacturer of Briquetting Machines in Asia for the solution of latest fuel to control prices & environment.

What is Biomass Briquettes?

Biomass Briquettes are made from any Agriculture & Forestry waste. It is being converted into Solid Cylindrical Shape. Biomass Briquetting is the process of converting low bulk density biomass into high density fuel briquettes. Biomass Briquettes are best because it is Environment Friendly & cheap compare to others.

Calorific value Chart of Raw materials

RAW MATERIALS APPROX	K Cal / Kg	RAW MATERIALS APPROX	K Cal / Kg
Bark (wood)	3900	Sugar Mill Waste	3300
Bagasse (sugar Cane)	4200	Sugar Cane Trash	3500
Bamboo Dust	3700	Wheat Straw	3700
Cotton Stalk	3800	Arhar Stalik	4000
Coir Pitch	4000	Saw Dust	4000
Maize Stalks	3800	Heavy Furnace Oil	9900
Pine Niddles	4000	Kerosene	8900
Rice Husk	3500	Diesel	9400
Rice Straw	3500	LPG	9400
Sar Khanda Grass	3700	Coal Grade 'b'	5000
Coffee Husk	4200	Coal Grade 'c'	4500
Ground Nut Shell	4000	Fire Wood	3300
Castor Seed Shell	4000	Char Coal	6000
Jute Waste	4500	Calorific Value of Briquette "White Coal"	4000
Mustard Husk	4500		

Finished Product (Briquettes)

Our range of Biomass Briquettes are ready substitute of lignite, Coal, Wood in industrial boiler and brick kiln for thermal application to generate heat. Biomass Briquettes are non-conventional source of energy, Eco-friendly, Renewable in nature, Non Polluting and Economical. Use of Bio Coal is increasing day by day and has very demandable market due to its fuel cost saving and pollution free characteristics. The Calorific Value of Biomass Briquette is around 4000-4500 Kcal/Kg.

Finished Product (Briquette)

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Benefits of Briquettes Vs. other fuel

In the world of Biomass Briquetting Plant, We the Radhe Industrial Corporation are working since 1991 and also achieved the top place in this field. In India We (Radhe) had started with small capacity machine model known as Super 60 in 1992 and after words We have launched a new model with higher capacity and binder less technology known as Jumbo 90 in 1996 first time launched in India by Radhe Industrial Corporation. We had supplied more than 700 machines worldwide. Radhe Industrial Corporation is the manufacturer of Briquetting Plants which works with Agro and forestry waste as a raw material to make briquette known as a fuel. We are the leading manufacturer and exporter of Biomass Briquetting Plant in India.

Why Briquettes…

- Renewable energy fuel.
- Pollution free because there is no any sulfur material.
- Briquettes are more cost savings then coal.
- Biomass briquettes have a higher practical thermal value.
- Lower ash content (2 to 6 %) compare to coal (20 to 25%).
- There is no fly ash when burning briquettes.
- Briquettes contain low moisture (3 to 6%) compare to coal (20 to 25%).
- Briquettes produce white smoke where coal produces black smoke.
- Have high burning efficiency.
- Best substitute source of energy.
- Contain high density.
- Higher fixed carbon value.
- Using briquettes will beneficial for the industries as they will get carbon credit.
- Briquettes are usually produced near the consumption centers and supplies do not depend on erratic transport from long distances.
- Demandable market due to high rise in fossil fuels price.

Who invent Jumbo-90?

We feel very proud & pleased to let you know that Jumbo-90 which is the most successful & famous Briquetting Machine nowadays have been launched **for the very first time by our Company in Asia in 1996.** This is very unique & quality wise best model with grinder less technology.
We are the pioneer in launching Jumbo-90 in all over Asia.

How we invent Jumbo-90?

When we have launched Super-70 first time India, at that time, many clients were demanding for higher production capacity model. So, we have launched Jumbo-90 for the first time in Asia in 1996 with grinder less technology after long Research & Development.

Manufacturing Process of Briquettes

- Raw Materials like Saw Dust, Ground Nut Shells, Castor Seed Shells, Bamboo Dust, Cotton Stalk, Coffee Husk, Mustard Husk, Rice Husk, Sugar Mills Waste, i.e. any type of agriculture or forestry waste up to 25 mm for Jumbo-90 & up to 10 mm for Super-70 are supplied to the screw conveyor.
- Materials with higher moisture content i.e. more than 10-12 % needs to be dried in direct sunlight or in a dryer. You must bring down the moisture content of your raw material up to 10 to 12 % before entering into Briquetting Machine.
- Material from the conveyor is discharged with the help of Conveyor, Waram & Gear.
- Material in the feeder box is compressed by the press, forcing it through tapper die (ram punch) fitted in the Die Holder.
- The Compression raises the temperature of material which results in softening of the Lignin, inherent in every Biomass. This Lignin comes to the surface and binds the materials together. So there is no need for any chemical or adhesive or binder in this technology.
- Briquettes formed are in the shape of cylindrical logs which are pushed through cooling tracks under slight pressure for cooling and then to transport storage point.
- Cooled Briquettes are broken and packed in bags or stored in bulk for dispatch.

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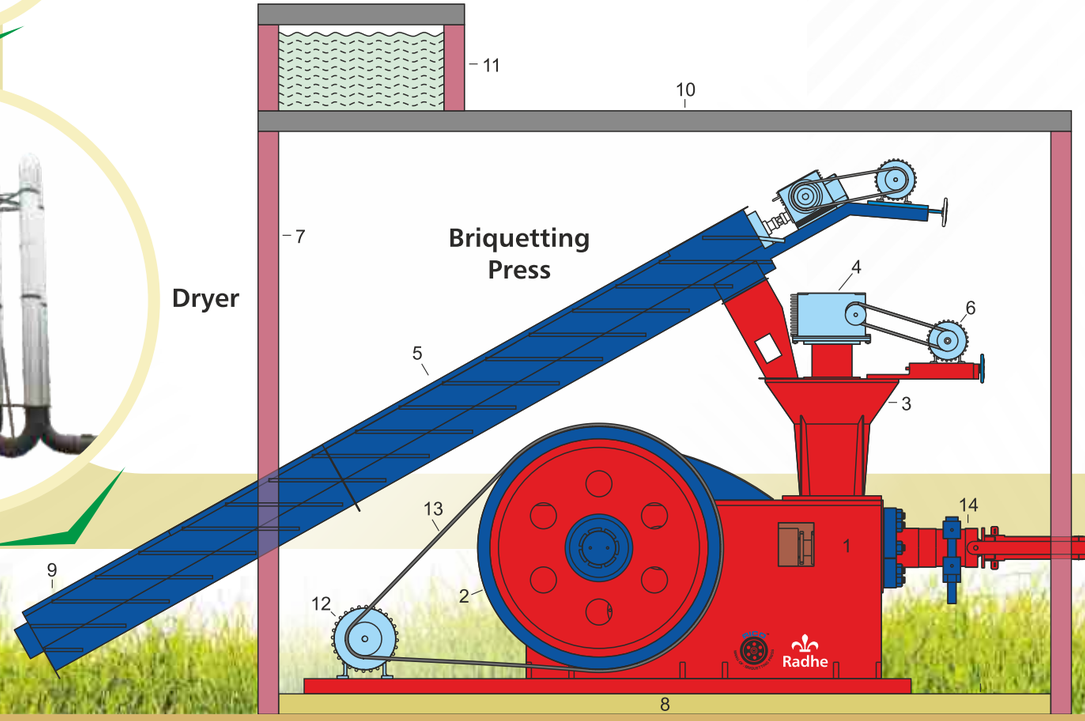
Raw Material

Crusher-Cutter Combo

Dryer

1 - Briquetting Press
2 - Load Wheel
3 - Feeding Cupy
4 - Reduction Gear
5 - Screw Conveyor
6 - Electric Motor
7 - Bricks Wall of Shade
8 - Ground Flooring
9 - Space for Raw Material
10 - Open to sky
11 - Water Tank
12 - Main Electric Motor
13 - Flat Belt
14 - Die Holder
15 - Cooling Track



Ready Product (Briquettes)

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Economic Feasibility & Profitability

- Rising demand of such biomass briquettes due to ever galloping cost of fossil fuel like coal, diesel, petrol, LPG, LDO etc. The prices of such fuels are increased by two times in last 4-5 years. So, Briquettes are the best option against them.
- Renewable source of fuel & energy.
- High Profitability…. that too from waste. In India & in so many other countries, some of the agriculture & forestry waste are very cheaply (at minor rate) available. So, when these raw materials get converted into briquettes that will be most profitable.
- Farmers can also encash agro waste after harvesting each crop.
- Excellent growth potential.
- Easy mobility & transportation.
- High potentiality of employment.
- Short gestation and quick payback.
- Ready & Seller's Market. In India, there are many industries available in 50-100 kms area in almost every states. So, because of these Industries, demand of briquettes are quite high every time.
- Conversion of Natural resources (wastages into hi-tech energy) and maintenance of ecological balance.
  Minimum working capital.
- Relaxed rules by the government.
- Tax benefits & incentives.
- Savings of valuable foreign currency.
- Briquettes are completely eco-friendly & as it is a natural fuel, oxygen is not required by the Briquettes.
- Day by day, so many plants are installed in different parts of India. Also there is a lots of potentiality & feasibility of Briquetting Plants in different countries where agriculture & forestry wastes are easily available.

Briquette Market & End Users of Briquette

Briquette can be widely used in so many industries as a valuable fuel. Various industries will be as under:

- Brick making units
- Ceramic Industries
- Paper Mills
- Spinning Mills
- Solvent Extraction Plants
- Chemical Plants
- Food Processing Industries
- Dryer & Ovens for Generation of Hot Air
- Bakery Industry
- Leather Industry
- Rubber Industry
- Laminates Industries
- Dying House
- Vegetable Plant
- Textile Mills
- Gasified System Applications
- Refractory Industries
- Milk Plant
- Any Industrial Thermal Application
- Biomass Based Power

There is a great demand of Briquettes every time as it is used as a valuable fuel in so many industries.

Incentive by Government

The Government of India has announced so many incentives to promote Biomass Briquetting Plants. Most important, Government of India has given so many incentives because these plants are non-polluted, completely eco-friendly & very much beneficial for the country.

The major incentives are:

- **Income Tax Exemption:**
  Government of India has given first 5 years complete Income Tax Exemption to the Biomass Briquettes Manufacturers.
- **80 % Depreciation:**
  The total value of plant & machinery is allowed to be depreciated in the first year.
- **Excise Exemption:**
  Solid fuel briquettes are completely exempted from excise duty.
- **Sales Tax Exemption:**
  Several states of India have exempted solid fuel briquettes from Sales Tax.
- **Benefits of Priority Sectors:**
  Energy being the priority sector of development and considering the cost of project, benefits of SSI & Priority Sector are available.
  In addition to above incentives being offered by the Government, it has been observed that Government has taken this project on their top most priority & considering of more incentives to the entrepreneurs, we strongly recommend this project to be installed in your area.
- **Subsidy by DIC & KVIC:**
  Subsidy is provided by **DIC (District Industries Centre) & KVIC (Khadi & Village Industries Commission)**.
  For other details & information, you have to search in these offices near to your area.
- **Availability of Loans:**
  Loans are provided for the Briquetting Plants by the Banks & by Non-Banking Finance Companies.

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Comparison Between Piston Type, Extruder Type & Pellette Type Technologies

Sr. No.	Important Point	Piston Type (Briquettes without Hole)	Extruder Type (Briquettes with Hole)	Pellete Type (Small Pellets)
1	Raw Material Size	**0-25 mm in Jumbo-90** (Up to 25 mm raw material can be used directly in Jumbo-90)	0-6 mm (only powder form)	0-6 mm (only powder form)
2	Power Consumption	**Very Low**	Very High	Medium
3	Wear & Tear Parts Required	**Very Low Parts required**	So many parts required regularly	Medium Parts required
4	Maintenance	**Very Low**	Very High	Medium
5	Binder	**Any Binder/Chemical/ Adhesive is not required at all**	Binder is required	Binder is required
6	Which raw material can be used?	**Any agriculture or forestry waste can be used** (Natural Waste)	Only special type of raw material can be used	Only special type of raw material can be used
7	Moisture Content required in the raw material	**Maximum 10 to 12 % moisture should be there in the raw material**	**Maximum 6 to 8 % moisture should be there in the raw material**	**Maximum 6 to 8 % moisture should be there in the raw material**
8	Production Capacity	**Very High**	Very Low	Medium
9	Land Required	**Equal land is required in all three**	**Equal land is required in all three**	**Equal land is required in all three**
10	Market	**Industrial (Big Market)**	Domestic (Medium Market)	Domestic (Medium Market)
11	Production Cost	**Very Low**	Very High	Medium
12	Operating Process	**Very Easy**	Sensitive	Sensitive
13	Labour Required	**Very Low**	Medium	Medium
14	Rate	**Same as other**	Same as other	Same as other

Summary:
The summary from the above comparison is that **Piston type technology is the world best nowadays economically & as far as quality is concern for a longer term.**

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JUMBO - 90

capacity 1500 Kg / Hr
(Grinder Less Technology)

without any binding agent

Cash from Waste
RICO
BRIQUETTING PRESS

Introducing First Time in India

Specification of JUMBO -90

Model	:	**Jumbo - 90**
Type	:	**Crank Type**
Stroke	:	**200 mm**
R.P.M.	:	**240**
Total Power Requirements	:	**91 HP / 68 KW**
Production Capacity	:	**1500 Kg/hr.**
[± 20% Depending On Density And Quality Of Raw Material]		
Finished Product Size		**90 mm Dia**
Finished Product Shape	:	**Cylindrical**
Finished Product Length	:	**150 To 300 mm**
Raw Material Form	:	**Up To 25 mm Size Can Be Used Directly**

Benefits of "Jumbo 90" 1500 Kg / hr Model

- Raw materials upto 25mm size can be used without Grinding.
- Raw Materials like Bagasse, ground nut shells, castor seed shells, saw dust, wheat grass, rice husk (paddy husk), Mustered Shells, Jira Straw are not required to be grinded.
- Since these raw materials do not required grinding, there is no need of "SIZEING UP" (Grinding) which helps to save power & labour expenses.
- The production cost of "JUMBO 90" (1500 Kg/Hr) is Rs. 750=00 per MT. While production cost is Rs. 950=00 per MT in Super - 70 (750 Kg/Hr).
- Two Super - 70 machines will require 98 H.P. of power and will produce 1500 Kg/Hr while "Jumbo 90 " can produce 1500 Kg/Hr with the power requirements of 91H.P. only.
- Operating two Super 70 models will require 2 skilled and 7 to 8 unskilled labors which is same as " JUMBO 90" model.
- Hence production cost is reduced by 35-40 % and operation efficiency is increased against operating two Super 70 models.

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SINGLE JUMBO-90

Briquetting Plant – Project Calculation

Press Unit Capacity : 1500 Kgs/Hr. (Approx.)

Project Investment Single Machine

Sr.No.	Description	Approx. (INR)
1	Minimum Land Requirement (1 Acre)	500000.00
2	Construction Cost For Factory Shed 30' X 40' = 1200 Square Feet Avg. Rate = Rs. 300 X 1200 Sq. Ft.	360000.00
3	Construction Cost For Office Building 15' X 20' = 300 Square Feet Avg. Rate = Rs. 500 X 300 Sq. Ft.	150000.00
4	Investment in Plant & Machinery	1562000.00
5	Electrical Connection – 91 HP Rs. 2000.00 Per HP X 91	182000.00
6	Investment in Working Capital for Raw Materials & Process Cost for 15 days	900000.00
7	Furniture	40000.00
8	Other Expenses like Foundation, Pipe Fitting, Cable Water Tank, Stationary Etc.	150000.00
	Total (Indian Rupees)	38,44,000.00

Raw Material Cost Details (In Indian Rupees)*

Sr.No.	Description	Details		
1	Installed Machines Capacity	1500 Kgs/Hr.	1.5 MT/Hr.	
2	Utilization Capacity	80 %	1.2 MT/Hr	
3	Working Hours Per Day 2 Shift = 16 Hrs.	16 Hours	1.2 MT/Hr.	19.2 MT
4	Monthly Working Days = 25	25 Days	19.2 MT	480 MT
5	Annual Production in MT			
6	Counting 10 Months Avg. due to Rainy season of 2 Months	480 MT	10 Months	4800 MT
7	Wastage of Raw Material 5 % due to Moisture & Dust	5 % of 4800 MT		240 MT
8	So, Net Requirement of Raw Material in MT	4800 MT	+ 240 MT	5040 MT
9	Price of Raw Material Rs. 2000/- to Rs. 3000/- Average	Rs. 2500/-	5040 MT	1,26,00,000/-
	Total Raw Material Cost Per Year			1,26,00,000/-

Production Cost Details (In Indian Rupees)*

Sr.No.	Description	Details		
1	Salary of Manager – 1	15000/-	Rs. 15000/-	
2	Salary of Operator – 2 (1 Per Shift)	12000/-	Rs. 24000/-	
3	Salary of Labour 25 Days X 2 Shift = 50 Shift Labour reqd. Per 1 Shift = 6 Total Labour reqd. in 1 Month = 50 Shift X 6 Labour = 300	200/- Per Shift Per Labour	Rs. 60000/-	
4	Power – 45 Unit/Hr Total 400 Hrs in 1 Month (25 Days X 16 Hrs.) 400 Hr. X 45 Unit = 18000 Unit in 1 month Means 18000 Unit	7/- Per Unit	Rs. 126000/-	
5	Wear & Tear Parts 100/- Rs./Hr. 1 Month = 400 Hr.	100/-	Rs. 40000/-	
6	Oil – 25/- Rs./Hr. 1 Month – 400 Hr.	25/-	Rs. 10000/-	
7	Other Expenses like Off. Elec. Bill, Phone Bill, Stationary, Office Exp., Repairing etc. 150/- Rs./Hr 1 Month – 400 Hr.	150/-	Rs. 60000/-	
8	Misc. & Accidental Expenses Per Month		Rs. 25000/-	
9	Total Production Cost Per Month		Rs. 360000/-	
10	Total Production Per Month (25 DaysX19.2MT Per Day=480MT)	25 X 19.2	480 MT	
11	Total Production Cost Per Metric Ton	Rs. 360000 / 480	Rs. 750/- Per MT	
	So, Total Production Cost Per Year	Rs. 750/- Per MT	4800 MT Per Year	36,00,000/-

Selling Cost Details of - Briquettes (In Indian Rupees)*

Sr.No.	Description	Details		
1	Selling Price for Briquettes Per MT Average Rs. 4500/- to Rs. 5500/-	Rs. 5000/-	4800 MT	2,40,00,000/-
	Total Selling Cost Per Year			2,40,00,000/-

Summary:

Total Selling Cost
(4800 MT X 5000 Rs. = 24000000 Indian Rs.)

Raw Material Cost
(5040 MT X 2500 Rs. = 12600000 Indian Rs.)

Production Cost
(4800 MT X 750 Rs. = 3600000 Indian Rs.)

Net Profit = 24000000 – [12600000 + 3600000]
Net Profit = 24000000 - 16200000
Net Profit = 7800000 Indian Rs.

* Imp: Please make a note that this Project Report is prepared for the guideline purpose & for your information only. Minimum project investment, Raw Material Cost, Production Cost & Selling Cost may varies city wise, state wise & country wise. This is for your reference & information. There may be a variation of ±20% in the production cost.

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SUPER - 70

capacity 750 Kg / Hr
(Grinder Less Technology)

Without any binding agent

Cash from Waste
RICO
BRIQUETTING PRESS

Introducing First Time in India

Specification of SUPER -70

Model	:	**Super - 70**
Type	:	**Crank Type**
Stroke	:	**180 mm**
R.P.M.	:	**240**
Total Power Requirement	:	**49 HP / 37 KW**
Production Capacity	:	**750 kg./Hr**
[± 20% Depending on Density & Quality of Raw Material]		
Finish Product Size	:	**70 mm Dia**
Finish Product Shape	:	**Cylindrical**
Finish Product Length	:	**150 to 300 mm**
Raw Material Form	:	**Up To 10 mm Size**
		Can Be Used Directly

Benefits of SUPER - 70 750 Kg/Hr Model

- FOR THE 1st TIME IN INDIA WITH GRINDER LESS TECHNOLOGY, PRESENTING SUPER - 70 (750 Kg/Hr) MODEL. Currently in India, all the 70 mm Briquetting Press has to compulsorily size up their units and have to grind the raw materials before using it.
- For the first time in India, RADHE INDUSTRIAL CORPORATION has developed a Grinder Less Technology which is incorporated in our SUPER - 70 RICO Briquetting Press model, with the installed capacity of 750 Kg/Hr. Our SUPER - 70model allows you to use raw materials up to 10 mm in size directly like our "JUMBO-90" (1500 Kg/Hr) model . Thus, raw material like groundnut shells, saw dust, Mustered husk can be directly used without grinding.
- Since its launch in 1994, our SUPER - 70 models are showing excellent results in the field and are performing without any hitch. This is our second achievement in Binder Less Technology.

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SINGLE SUPER-70

Briquetting Plant – Project Calculation

Press Unit Capacity : 750 Kgs/Hr. (Approx.)

Project Investment Single Machine

Sr.No.	Description	Approx. (INR)
1	Minimum Land Requirement (1/2 Acre)	250000.00
2	Construction Cost For Factory Shed 20′ X 30′ = 600 Square Feet Avg. Rate = Rs. 300 X 600 Sq. Ft.	180000.00
3	Construction Cost For Office Building 15′ X 20′ = 300 Square Feet Avg. Rate = Rs. 500 X 300 Sq. Ft.	150000.00
4	Investment in Plant & Machinery	989000.00
5	Electrical Connection – 49 HP Rs. 2000.00 Per HP X 49	98000.00
6	Investment in Working Capital for Raw Materials & Process Cost for 15 days	450000.00
7	Furniture	40000.00
8	Other Expenses like Foundation, Pipe Fitting Cable Water Tank, Stationary Etc.	100000.00
	Total (Indian Rupees)	22,57,000.00

Raw Material Cost Details (In Indian Rupees)*

Sr.No.	Description	Details		
1	Installed Machines Capacity	750 Kgs/Hr.	0.75 MT/Hr.	
2	Utilization Capacity	80 %	0.60 MT/Hr.	
3	Working Hours Per Day 2 Shift = 16 Hrs.	16 Hours	0.60 MT/Hr.	9.6 MT
4	Monthly Working Days = 25	25 Days	9.6 MT	240 MT
5	Annual Production in MT			
6	Counting 10 Months Avg. due to Rainy season of 2 Months	240 MT	10 Months	2400 MT
7	Wastage of Raw Material 5 % due to Moisture & Dust	5 % of 2400 MT		120 MT
8	So, Net Requirement of Raw Material in MT	2400 MT	+ 120 MT	2520 MT
9	Price of Raw Material Rs. 2000/- to Rs. 3000/- Average	Rs. 2500/-	2520 MT	63,00,000/-
	Total Raw Material Cost Per Year			63,00,000/-

Production Cost Details (In Indian Rupees)*

Sr.No.	Description	Details		
1	Salary of Manager – 1	12000/-	Rs. 12000/-	
2	Salary of Operator – 2 (1 Per Shift)	12000/-	Rs. 24000/-	
3	Salary of Labour 25 Days X 2 Shift = 50 Shift Labour reqd. Per 1 Shift = 4 Total Labour reqd. in 1 Month = 50 Shift X 4 Labour = 200	200/- Per Shift Per Labour	Rs. 40000/-	
4	Power – 25 Unit/Hr Total 400 Hrs in 1 Month (25 Days X 16 Hrs.) 400 Hr. X 25 Unit = 10000 Unit in 1 month Means 10000 Unit	7/- Per Unit	Rs. 70000/-	
5	Wear & Tear Parts 60/- Rs./Hr. 1 Month = 400 Hr.	60/-	Rs. 24000/-	
6	Oil – 15/- Rs./Hr. 1 Month – 400 Hr.	15/-	Rs. 6000/-	
7	Other Expenses like Off. Elec. Bill, Phone Bill, Stationary, Office Exp. ,Repairing etc. 80/- Rs./Hr 1 Month – 400 Hr.	80/-	Rs. 32000/-	
8	Misc. & Accidental Expenses Per Month		Rs. 20000/-	
9	Total Production Cost Per Month		Rs. 228000/-	
10	Total Production Per Month (25Days X 9.6 MT PerDay=240 MT)	25 X 9.6	240 MT	
11	Total Production Cost Per Metric Ton	Rs. 228000/- 240	Rs. 950/- Per MT	
	So, Total Production Cost Per Year	Rs. 950/- Per MT	2400 MT Per Year	22,80,000/-

Selling Cost Details of - Briquettes (In Indian Rupees)*

Sr.No.	Description	Details		
1	Selling Price for Briquettes Per MT Average Rs. 4500/- to Rs. 5500/-	Rs. 5000/-	X 2400 MT	= 1,20,00,000/-
	Total Selling Cost Per Year			= 1,20,00,000/-

Summary:

Total Selling Cost
(2400 MT X 5000 Rs. = 12000000 Indian Rs.)

Raw Material Cost
(2520 MT X 2500 Rs. = 6300000 Indian Rs.)

Production Cost
(2400 MT X 950 Rs. = 2280000 Indian Rs.)

Net Profit = 12000000 – [6300000 + 2280000]
Net Profit = 12000000 - 8580000
Net Profit = 3420000 Indian Rs.

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CRUSHER - CUTTER COMBO

Cash from Waste
RICO
BRIQUETTING PRESS

Specification of Hammer Mill

Model	:	**Hammer Mill**
Power Requirements	:	**30 HP / 22.4 KW**
Production Capacity	:	**1200 KG/HR** [+-20% depending on density and quality of raw material]
Input Raw Material Size	:	**1 mm to 100 mm (by Conveyor)**
	:	**100 mm to 1 Mtr. (by Hopper)**
Output Product Size	:	**1 mm to 25 mm**

CUTTER CHEAPER

Cash from Waste
RICO
BRIQUETTING PRESS

Specification of Cutter Cheaper

Model	:	**Cutter Cheaper**
Capacity	:	**1500 Kg/Hr.** [+- 20% Depending on Quality of Raw Material]
Input Raw Material Diameter	:	**25mm to 40mm**
Input Raw Material Length	:	**300mm to 600mm**
Power Requirement	:	**15 HP (1440 RPM)**
Moving Trolley		
Propeller for tractor attachment (Optional Parts)		

FLASH AIR (HOT) DRYER

Cash from Waste
RICO
BRIQUETTING PRESS

Specification of Flash Air (Hot) Dryer

Model	:	**TORNADO**
Type	:	**Flash Air Dryer**
Production Capacity	:	**1200 KG/HR** [+- 20% Depending on Quality of Raw Material]
Drying Capacity (in one cycle)	:	**20 to 25 %**
Power Requirement	:	**23.5 HP / 17.5 KW**

When Moisture % are more then12% in raw materials. Hot air dryer is required to reduce moisture contain % from raw material

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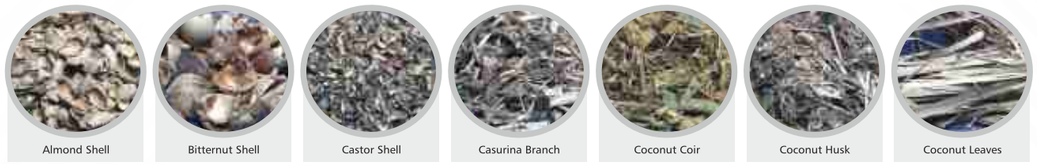
Raw Material Details

Any Agriculture or Forestry Waste (Natural Waste) with maximum 10-12 % moisture content & 0-25 mm (For Jumbo-90) & 05-10 mm (For Super-70) can be used directly in our Briquetting Machine.



Sources Of Raw Materials

SOURCE	RAW MATERIAL	SOURCE	RAW MATERIAL
Groundnut Oil Mill	Groundnut Shells	Coconut Oil Plant	Coconut Husk & Coconut Coir
Sugar Mill	Sugarcane Bagasse & Sugarcane Trash	Corn	Corn Husk & Corn Shell
Saw Mill	Saw Dust, Small Wood Chips	Agriculture Farm	Cotton Stalk & Cotton Waste
Rice Mill	Rice Husk & Rice Straw	Agriculture Farm	Castor Shell
Pencil Industry	Pencil Waste	Agriculture Farm	Soyabean Waste
Palm Rosa Plant	Palm Rosa Stalk	Agriculture Farm	Tobacco Powder & Tobacco Leaves
Sun Flower Seed Industry	Sun Flower Seeds & Waste	Agriculture Farm	Wheat Straw
Turmeric Process Plant	Turmeric Powder	Agriculture Farm	Mustard Waste
Coffee Manufacturing Plant	Coffee Husk	Agriculture Farm	Cumin Waste

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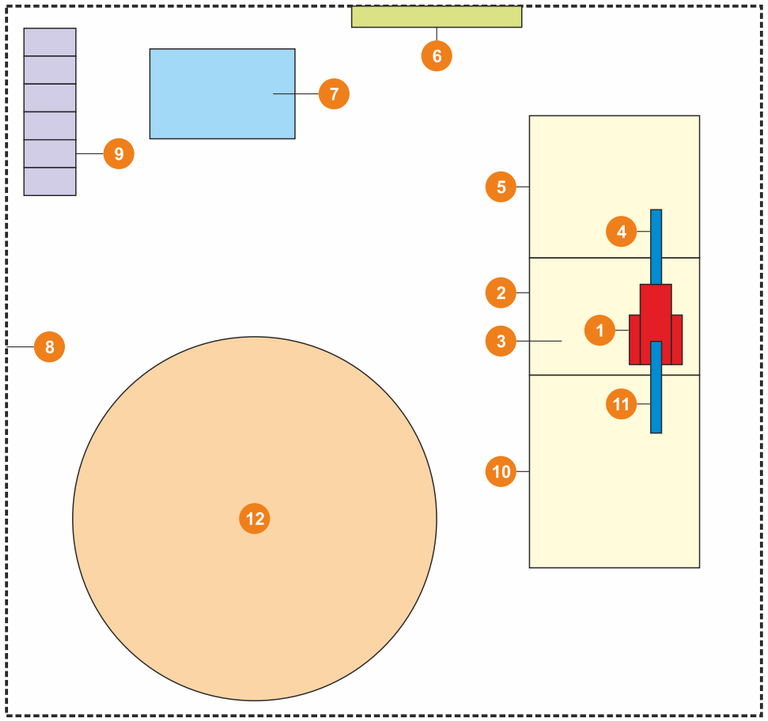
Plan Layout



1 - Briquetting Press (Foundation 5x5x16)
2 - Shed for Briquetting plant-25'x30',H-14'
3 - Reserved space for second Briquetting Press.
4 - Cooling tower for Briquettes.
5 - Shed for Briquettes (Galvanised roof-45'30'H-16')
6 - Entry Gate (15' Long)
7 - Office Building. (2 Small Room 10'x10')
8 - Compound Wall
9 - Proposed labour quarter (3 to 4 Nos. Smaller Rooms)
10 - Shed for raw material stronge (Galv.roof 80'x30'h-16)
11 - Conveyor for raw material feeding.
12 - Open Space

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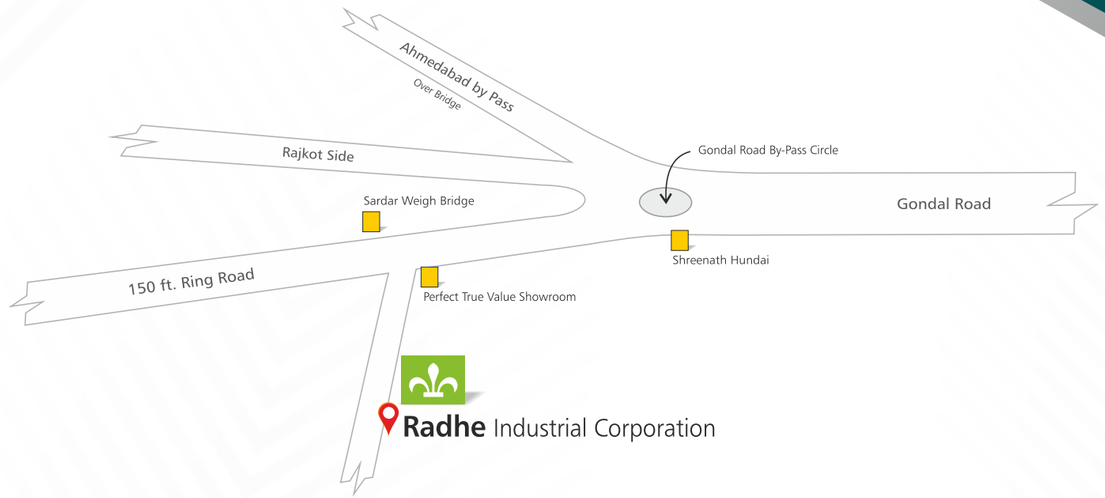

Successfully Running in all over World

Radhe Industrial Corporation

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