RADHE GROUP

Pride Service of Successfully
18 Years in briquetting Press manufacturing field

RICO

MANU. OF : BRIQUETTING PRESS

18 Years Successfully in
Briquetting Press manufacturing field

Radhe Group of Companies

Radhe Industrial Corporation
Pioneer Fuel Industries
Radhe Fuel Industries
Radhe Hi-Tech Engineering
Radhe Auto Engineering

Radhe industrial corporation

"The only true measure of our own "Success" is the degree to which we are able to contribute to the excellence of our customers needs through manufacturing easy to operate world class technological product through economical and cost effective practices."

We are pleased to introduce you to **Rahdhe Industrial Corporation** and its products. Since its inception in 1994, Radhe Industrial Corporation has been a pioneer in manufacturing of briquetting plants. First-generation entrepreneur Mr. Prakash A. Patel laid the foundation stone for **Radhe Industrial Corporation** under his visionary and dynamic leadership in 1994. From the time when RICO's foundation stone was laid till now, it has achieved number of milestones under his adept leadership, including successful installation and operation of over 250 briquetting plants. For the company, customer satisfaction and quality is delivered through rigorous R & D, strict production quality and easy installation with excellent aftersales service.

Company encompasses a large team of experienced engineers and supervisors who monitors every stage of production and quality control. The company has installed two plants for the purpose of R&D to drive continuous upgradation and improvement of their product. This installation has enriched the company with excellent experience in understanding the operation of the plant and has helped overcome bottlenecks to improve overall efficiency of the plant. Both these plants are operating successfully since (1) Last 11 Years (2) Last 8 years. The company's supplied machineries are running successfully in various state in India and Abroad.

"Our mission is to strive for excellent quality by using cutting edge research, technological expertise, and other forms of intervention to deliver highest quality at competitive prices."-

Managed by
Mr. Prakash A. Patel

The Groups' successfully running sites:

1. **M/s Pioneer Fuel Industries**
   National highway No. 8/B, P.O. Supedi, Tal. Upleta, Dist. Rajkot.
   (Running since 1998 with 2 Nos. "JUMBO-90" Models)

2. **M/s. Radhe Fuel Industries**
   Bedeshwar, JAMNAGAR, GUJARAT.

Our background and achievement

- Over 18 years of experience in briquetting press manufacturing
- Successfully running briquetting plant for "WHITE COAL" at our company's pilot project since 11 years
- Introduction of "JUMBO-90" in they year 1996 for the first time in India
- Company encompasses a large team of experienced engineers and supervisors. This team monitors every stage of production and quality control
- All the parts of machine are checked three times as per prescribed computerized blue print and raw material standards
- An established workshop is built in-house with all necessary tools and machines to achieve precision
- Outstanding performance of "JUMBO -90" & quality after sales services has resulted in outstanding customer response from India and abroad
- Company keeps a large quantity of spare parts in stock for quick after sales service
- With the help of a sperate large store system. Training will be provided to the customer's at our research and development plant
- Training will be provided to the customer's at our research and development plants
- All plants are supplied on turn-key basis in India and Overseas
- Quality is not compromised at RICO'S
- 85% Production is done in house

Note: All Figures Given In Project Are Only For Your Guideline It Differs As Per Seasonal Condition And Location Area Of The Plant. Above All Figures Are Given In Good Faith That May Change As Per Local Condition Of Area. And Quality, Density And Size Of Raw Materials.

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A New Concept for better Investment...

What is a Briquetting Plant ?

Briquetting plant is technology to convert all types of agriculture, forestry and industrial waste into solid fuel. Briquettes are formed in cylindrical logs using high mechanical pressure without the use of chemical or binder. The product is a replacement to conventional fossil fuels and can be used across various manufacturing facilities such as boilers, furnaces and kilns. Bio-Briquette is an eco-friendly solid biofuel which helps to reduces pollution, contributing to greener environment and save worthy foreign exchange. Briquetting works on the basic concept of Wealth from Waste. Agricultural waste is converted to solid biofuel by farmers by installing of the Briquetting plant. The briquettes are used for energy generation helping farmers to earn money from the waste. Our model "JUMBO-90" works on the world renowned binderless technology.

Economic Feasibility & Profitability

This project of briquetting plant have major advantages as follow :

(a) Farmers earn money by selling agro waste of every crop & are thus renewable.
(b) High profitability.
(c) Excellent growth potential
(d) Wide variety, easy availability, supply of agro waste of every crop & are thus renewable.
(e) Product can be easily Marketed.
(f) Early Pay Back Period.
(g) Employment Potentiality is very high.
(h) Maintenance of ecological balance & Conversion of natural resources.
(i) Saving of foregin currency.

Incentives / Promotional Steps By Government

To promote this project govt. of India has announced series of incentives for putting up such plants of the entreprencurs engaged in developing alternative energy source.

The Major Incentives Are :

1. **100% Depreciation :**
   Total value of plant and Machinery is allowed to be depreciated in the first year. Under Section : Solid agro waste
2. **Excise Exemption :**
   Solid fuel briquettes are completely exempted from excise duty.
3. **Sales Tax : Exemption :**
   Several States have exempted solid fuels briquette from sales Tax.
4. **Benefits of Priority Sector :**
   Energy being priority sector & considering the cost of project benefits of SSI & Priority Sector are available.
   (-2-) In addition to above incentives being offered by Govt. It is seen that Govt. has taker this project on their top most priority and considering of more incentives to the enterpreneurs Considering the above factor, we strongly recommend this project to be installed in you area
5. **Benefits of Income Tax**
   100% INCOME TAX exemption for first five years under section 50 JJA clause 51

industrial use

Industrial Use of Briquettes Commonly known as white Coal is in many industrial like.

1. Brick Kilns
2. Ceramic Units
3. Paper Mills
4. Spinning Mills
5. Solvent Extraction Plants
6. Chemical Plants Food Processing Units
8. Dryer And Ovens For Generation Of Hot Air.
9. Hotels 10. Milk Plant & Dairy
11. Bakery Industry
12. Leather Industry
13. Rubber Industry
14. Laminate Industry
15. Dyeing House
16. Vegetables Plant
17. Textile Mills
18. Process Houses And Many Other Commercial And Domestic Uses.
    And Now In Bio Electric Power Plants & Distilleries.

Produce Energy
Save Environment

Manufacturing Process

1. Material Like Saw Dust, Ground Nut Shells, Castor Seed Shells And All Another Raw Material Up To 25mm Size Are Supplied To The Screw Conveyor.
2. When More Then One Material Is Used, Make Sure That They Are Mixed In Suitable Proportion.
3. Materials With Higher Moisture Content I.e. More Then 10-12% Needs To Be Dried In Sunlight.
4. Material From Conveyor Is Discharged With The Help Of Conveyor, Veram And Gear.
5. Material In The Feeder Box Is Compressed By The Press, Forcing It Through Tapper Die (ram Punch) Fitted In The Die Holder.
6. 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.
7. Briquettes Formed Are In The Shape Of Logs Which Are Pushed Through Cooling Tracks Under Slight Pressure For Cooling And Transport Storage Point.
8. Cooled Briquettes Are Broken & Packed In Bags Or Stored In Bulk For Dispatch.

Instructions

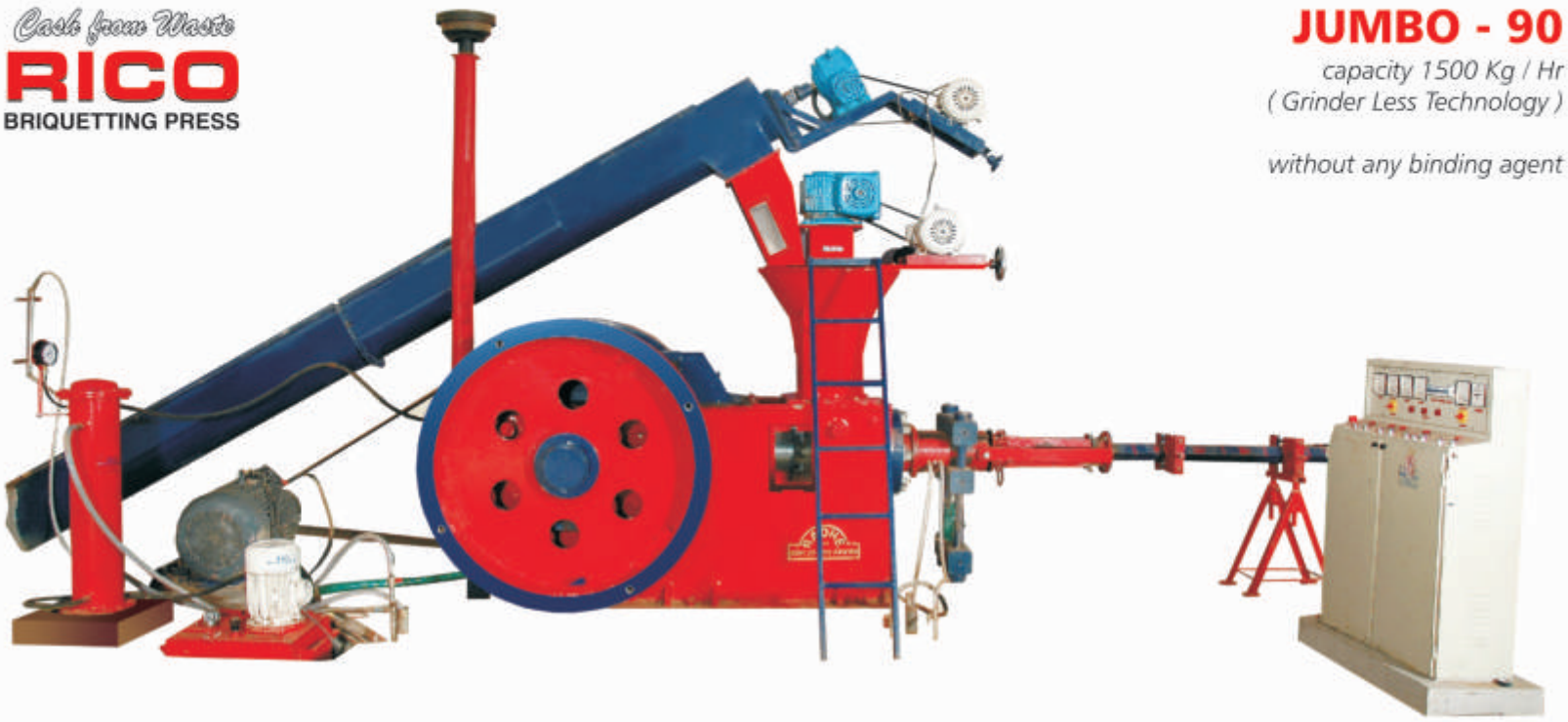
- Briquetted Fuel Has To Be Stored In A Dry Facility In Rainy Season And By No Means Should It Come In Direct Contact With Water.
- Maximum Attainable Temperature Is 800° To 900° C by using coal.

Assurances

"our Motto Is To Deliver Quality Product"

- One Year Warranty
- Training Provided To The Customer's At Our Research And Development Plants
- All Plant Equipments Are Supplied On Turn key Basis.
- Steadfast After Sales Services
- Readily Available Spare Parts
- Registered With IREDA
- High Quality Steel And Brass Used In Manufacturing Our Products
- Machines Are Checked At Our Own Quality Control Workshop
- 85% Production is done in house

First Time in India to Introduce



JUMBO - 90

capacity 1500 Kg / Hr
(Grinder Less Technology)

without any binding agent

Briquetting Press

MODEL	:	"JUMBO 90"
TYPE	:	CRANK TYPE
STROKE	:	200MM
R.P.M.	:	230
TOTAL POWER REQUIREMENTS	:	88HP.
PRODUCTION CAPACITY [± 20% DEPENDING ON DENSITY AND QUALITY OF RAW MATERIAL]	:	1500 Kg/Hr.
FINISHED PRODUCT SIZE	:	90 MM DIA
FINISHED PRODUCT SHAPE	:	CYLINDRICAL
FINISHED PRODUCT LENGTH	:	6" TO 12"
RAW MATERIAL FORM	:	UP TO 25 MM SIZE CAN BE USED DIRECTLY
PROCESS COST	:	Rs. 400/- PER MT. DEPENDING UPON QUALITY AND DENSITY OF RAW MATERIAL

Produce Energy
Save Environment

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 product cost of "JUMBO 90" (1500 Kg/hr), production is Rs. 400=00 per mt. While production cost is Rs. 550=00 per MT in the in super - 60 (550 kg/hr)
- Two super - 60 machines will require 120 H.P. of power and will produce 1100 Kg/Hr while "Jumbo 90 " can produces 1500 Kg/Hr with the power requirements of 88H.P. only
- Operating two super 60 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 60 models

Cash from Waste
RICO
BRIQUETTING PRESS

SMART - 65

capacity 650 Kg / Hr
(Grinder Less Technology)
Without any binding agent

Briquetting Press

Model	:	"SMART-65"
Type	:	Crank Type
Stroke	:	180 mm
R.P.M.	:	230
Total Power Requirement for Two Nos. "SMART-65" Models	:	98 H.P.
Production Capacity for Two Nos. "SMART-65" Models ± 20% Depending on Density & Quality of Raw Material	:	1300 kg./Hr
Finish Product Size	:	65 MM Dia
Finish Product Shape	:	Cylindrical
Finish Product Length	:	6" to 12"
Raw Material Form	:	8 to 12 mm
Process Cost	:	Rs. 500/- Per Mt.

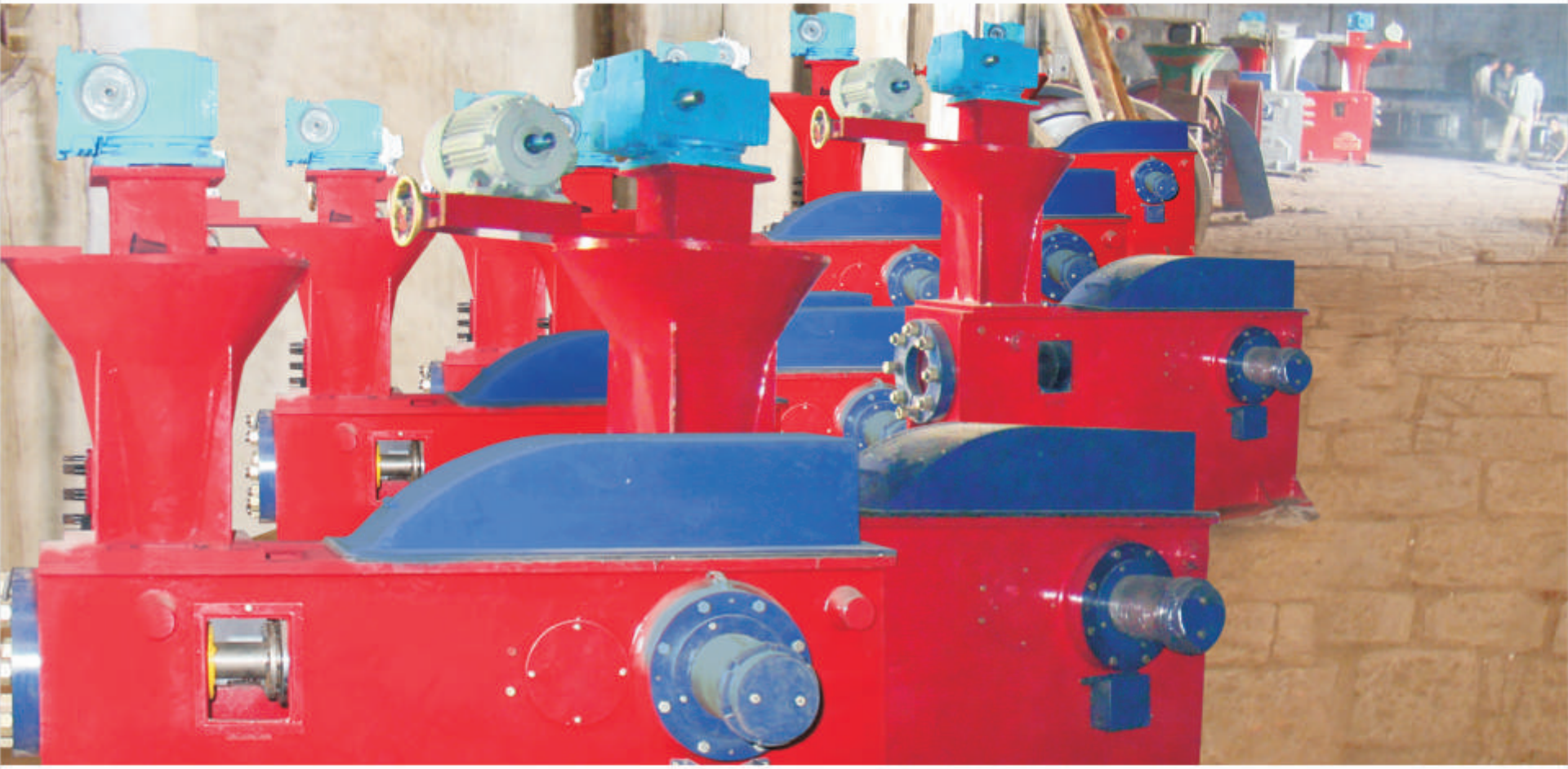
Produce Energy
Save Environment

Benefits of " SMART 65 " 650 Kg / hr Model. Capacity 650 kg / hr

- FOR THE 1st TIME IN INDIA WITH GRINDER LESS TECHNOLOGY, PRESENTING "SMART - 65" (650 Kg/Hr) MODEL. Currently in India all the 65 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 "SMART-65" RICO Briquetting Press model, with the installed capacity of 650 Kg/Hr. Our "SMART-65" model allows you to use raw materials up to 8 to 12 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 2005 our "SMART-65" models are showing excellent results in the field and are performing without any hitch. At RICO this is our second achievement in Grinder Less Technology.



Pride Service of Successfully 18 Years in briquetting Press manufacturing field

Cash from Waste
RICO
BRIQUETTING PRESS

FLASH AIR (HOT) DRYER

When Moisture % are more then 12% in raw materials. Hot air dryer is required to reduce moisture contain % from raw material

Flash Air (Hot) Dryer

- Model : "TORNADO"
- Type : Flash Air Dryer
- Capacity : 1.5 Ton Hour
  (± 20% Depending on Quality of Raw Material)
- Drying Capacity : 20%
  (in one cycle l)
- Power Requirement :
  1.) Blower 12.5 HP (RPM 2800)
  2.) Conveyor 2.0 HP Motor (RPM 1440)
  3.) Air Lock Motor 0.5 HP

We supply (Hot) Flash air dryer on turnkey basis with all necessary materials

Process Cost per ton Rs. 125/- to 130/-

cotton salk

cotton flower

bittlenut shells

forest leaves

macoddana bhells

almond shells

castor seed shells

cummin waste

groundnut shells

jute waste

Produce Energy
Save Environment

Calorific Value Of Raw Materials

Raw Materials Approx	K Cal / Kg
• Bark (wood)	3900
• Bagasse (sugar Cane)	4200
• Bamboo Dust	3700
• Cotton Stalk	3800
• Coir Pitch	4000
• Maize Stalks	3800
• Pine Niddles	4000
• Rice Husk	3500
• Rice Straw	3500
• Sar Khanda Grass	3700
• Coffee Husk	4200
• Ground Nut Shell	4000
• Castor Seed Shell	4000
• Jute Waste	4500
• Mustarad Husk	4500
• Sugar Mill Waste	3300
• Sugar Cane Trash	3500
• Wheat Straw	3700
• Arhar Stalik	4000
• Saw Dust	4000

Calorific Value Of Fuel Materials

Raw Materials Approx	K Cal / Kg
• Heavy Furnace Oil	9900
• Kerosene	8900
• Diesel	9400
• Lpg	9400
• Coal Grade 'b'	5000
• Coal Grade 'c'	4000
• Fire Wood	3300
• Char Coal	6000
Calorific Value Of Briquette "white Coal"	4000

Produce Energy
Save Environment

RADHE
HI-TECH ENGINEERING

Crushing Without Rubbing
Low Power Consumption
Heavy Weight Long Life
Easy To Operate.

OUR POPULAR MODELS

1.) Rico Briquetting Press JUMBO - 90 Model • Capacity 1500 Kg / Hr Grinder less Technology India's First

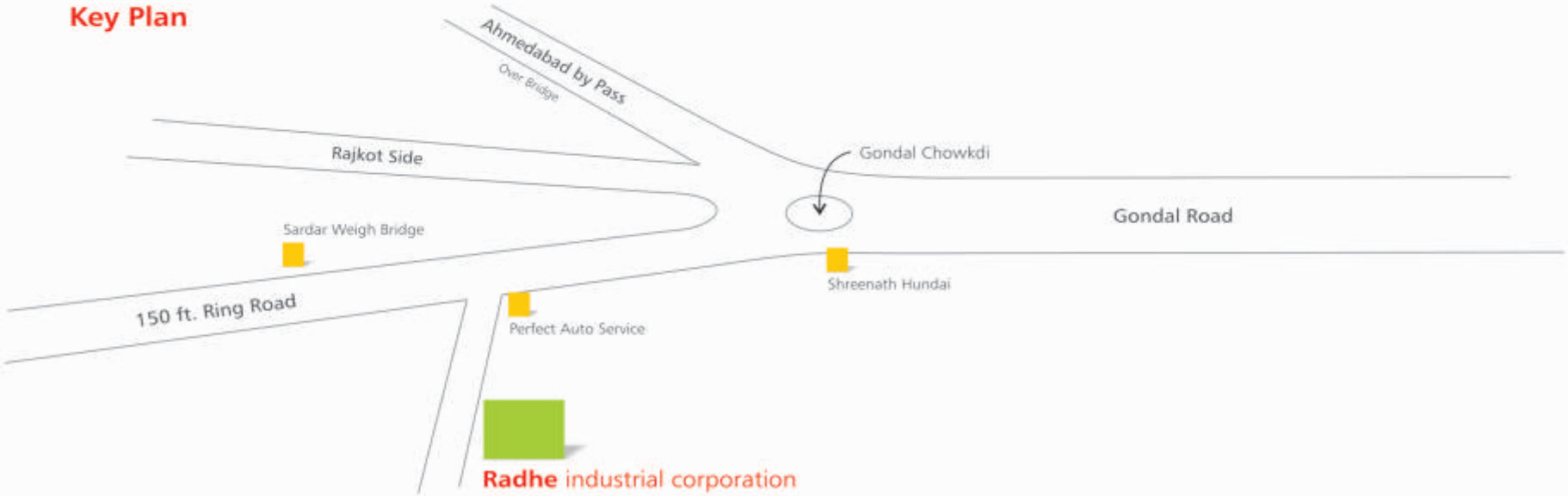
2.) Rico Briquetting Press SMART - 65 Model • Capacity 650 Kg / Hr Grinder less Technology India's First

3.) Rico Hammer (Pul Virisor) Mill • Capacity 1500 Kg / Hr

4.) Rico Flash Air Dryer Tornado Model • Capacity 1500 Kg / Hr. India's First

5.) Rico Shedder (Cutter) Cheaper • Capacity 12 / 1500 Kg / Hr

Key Plan



Always a step a head **briquetting plant** technology

Radhe Industrial Corporation

Gondal Road, Behind Perfect Auto Pre Owned Car Center
150 ft. Ring Road, Opp. Sardar Weigh Bridge
Vavdi Survey No. 43, Plot No. 122-123
Vavdi, Rajkot (Gujarat, India)

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Radhe Group of Companies

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