

Mfg. of
Bio-Mass Briquetting Press



Contribution to **Environment**

We exist because nature exists. The nature has great energy which has become very useful to the day to day life of human being. Inter dependency of human being and nature is unchallengeable universal fact. Thus the preservation of nature should be prime duty of mankind to keep the ecological environment well balanced. Awareness towards the nature will enable the mankind to utilize continuous flow of natural energy.



Ronak Engineering has a pleasure to contribute in maintenance and preserving nature and ecological balance. We are manufacturing briquetting plants, Bio Mass Briquetting Plant in which some of the natural source and even wastage or unused materials such as industrial & agricultural waste are used as an input of finished product. The finished product of briquetting plants are briquetted white coals which can be effectively used to replace traditional source of energy such as black coal, firewood etc. Thus, briquetting plants are mainly recycling the energy sources and become much useful to preserve natural resources. Furthermore, briquetting plants are pollution free technology which is a great benefit to the nature.

Company Profile

Ronak Engineering works on fundamental fact that 'we exist because nature exist. And taking into consideration the vital role of the environment into the day to day living of mankind, we, Ronak Engineering are manufacturing the product which has become very helpful to preserve the nature by reusing and recycling some traditional energy sources, industrial waste and agricultural wastes. The technology which we are manufacturing is 'Briquetting Plants' which helped to keep the balance of nature by its output of recycled product i.e. Briquetted white Coals. Let us join our hands to maintain nature without pollution and increase the life span of mankind for antes and ages to come.



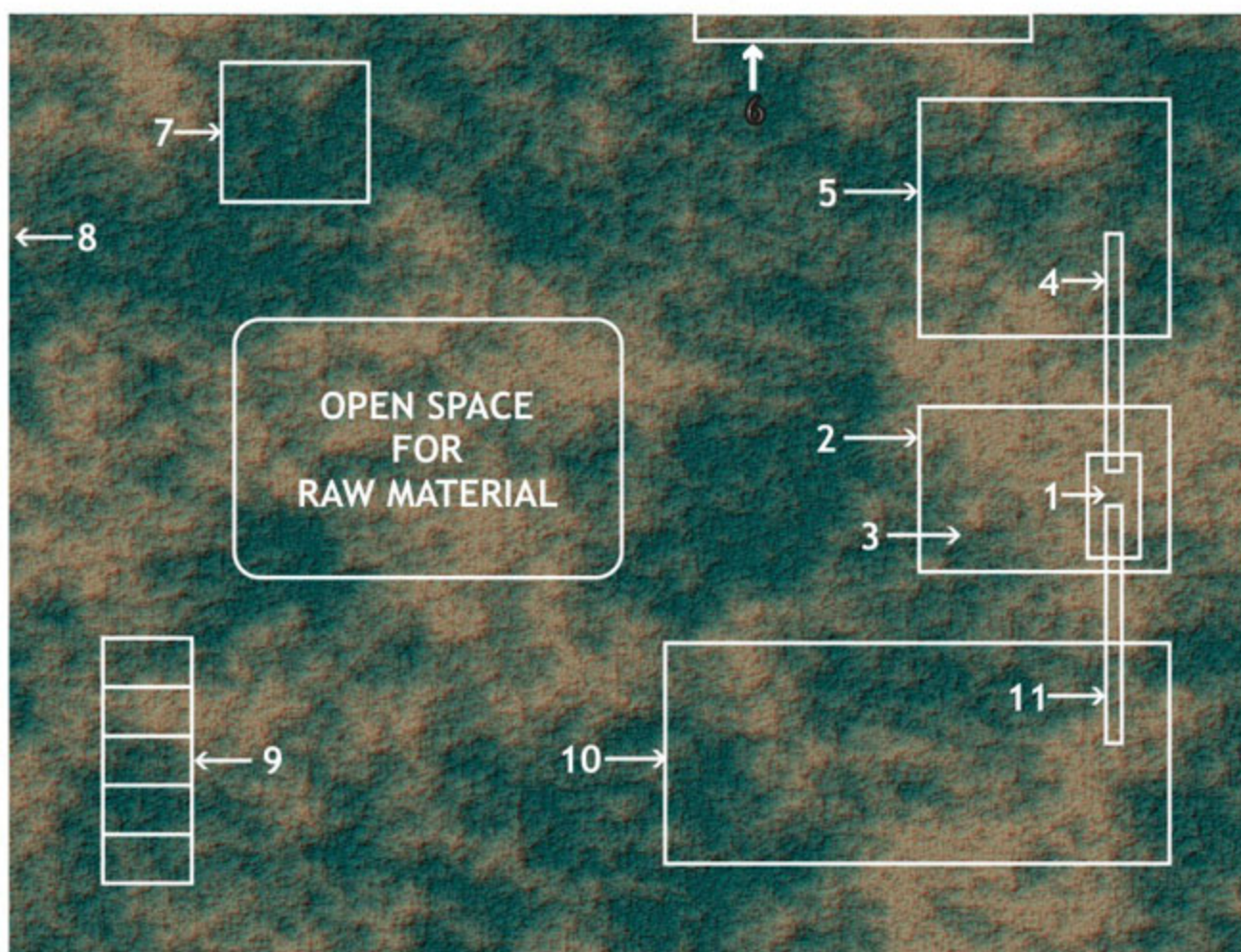
Some of The Company Facts;

- » We are in the field of manufacturing briquettes and briquetting plants for more than 10 years.
- » We have well established workshop which can meet the requirement to manufacture Briquetting Plant Machine technology
- » We have sufficient tool room & jig fixtures which are useful for manufacturing process.
- » Our technical staffs are well experienced with manufacturing techniques.
- » Our managerial staff is well knowledge with marketing and technical fundamentals of the product.
- » We have training facility for the buyers of briquetting plants too.
- » We are using standard parts like "Elecon" gear and forged EN 24 shaft etc.
- » Our production line is under strict supervision
- » We offer Turnkey basis services
- » We look after our customer until they are self sufficient for production and we also offer one year free after sales service.

"Our company motto is to earn more confidence and trust for quality and services from our customers than money."

Land **Layout**

- 01 Briquetting Press (foundation)
- 02 Shed for Briquetting Plant 30' x 40'
- 03 Reserved space for second Briquetting press
- 04 Cooling Line for Briquetting
- 05 Shed for Briquettes (Galvanized Roof – 40' x 40' Height – 16').
- 06 Entry Gate – (15' long)
- 07 Office building : Two Somali room 10' x 10'
- 08 Compound Wall
- 09 Proposed Labor quarter (3 to 4 small rooms)
- 10 Shed for Raw Material storage (Galvanized Roof – 60' x 40' Height – 16')
- 11 Conveyor for Raw Material Feeding



Product **Info**

Final Product - Briquetted /White Coal

The coal made from agriculture and forest – wastes & residues in form of briquettes has been named as “Briquetted white coal”. It can be efficiently used to replace coal & firewood.

The White coal - Solid Briquettes are converted from agro wastes to solid cylindrical shape. The white Coal is substitute fuel energy which is output of Briquetting Plants.



Product **Info**

Background

The entire world at present is concerned over limited natural resources which are becoming scarce day by day. The Scientists all over the world are exploring the use of non-conventional energy sources. Briquetting Plant technology is a Step towards this to achieve the goal of non-conventional energy source.

In recent years there has been a significant increase in the consumption of conventional Fuels viz furnace oil, coal Lignite, wood etc. in small & medium industries for their process involving heat treatment in their production pattern. This ever increasing demand for conventional fuels is making erosion of the natural sources without replacing them. India is already In the midst of fuel crisis. There is a need to adopt some innovative technologies which can produce energy by recycling available inputs without changing the quantum of existing one.

There is a tremendous scope to bring down the waste of conventional energy sources to a considerable level through the development, propagation of non conventional BREQUETTING TECHNOLOGY (briquetting machine, briquetting Plant, Bio Mass Briquetting Plant) for production of agro residue briquettes to meet thermal energy requirements. Therefore this substitute energy medium is given national priority as it appears to be the only permanent solution into restrictions of national loss.

Briquettes Products



Cummin Waste



Groundnut Shells



Macoddana Shells



Castor Seed Shells



Almond Shells



Forest Leaves



Cotton Salk



Bagasse



Jute Waste



Finished Product

Raw **Materials**

All Materials containing lignite and cellulose are suitable for densification. Successful tests have been carried out with a variety of materials from:

Forest Industries such as: Saw Dust, Sander Dust, Secondary Pieces of Wood, Tree Bark and Twigs Pine Needles Wild Grass.

Agriculture and Food Industries: Husks of coffee, sunflower, rice husk, shells of ground nut, almond & cotton stalks, bagasse of sugarcane, Leaves and trash. Above sectors can be briquetted individually or in combination depending on their availability and blending properties.

Introduction to the **Usage of Wastes**

Bagasse of sugarcane and Press mud - A Potential Source of power

Bagasse is a fibrous residue left after the extraction of juice from sugarcane. The quantity of bagasse depends on the fibre content of sugarcane. Availability of bagasse is very high in various states of India like South Gujarat, Maharashtra, Uttar Pradesh & Andhra Pradesh Almost the entire quantity of bagasse produced in India is used as a captive fuel in the sugar factories for generating steam in the boiler to drive the prime Mover & to boil and concentrate sugarcane juice. Sugar mill bagasse which contains about 48% moisture is required to dry in open until the moisture reduces to 10-13%. After drying & briquetting, calorific value of briquetted bagasse is 4200 KCal./Kg.

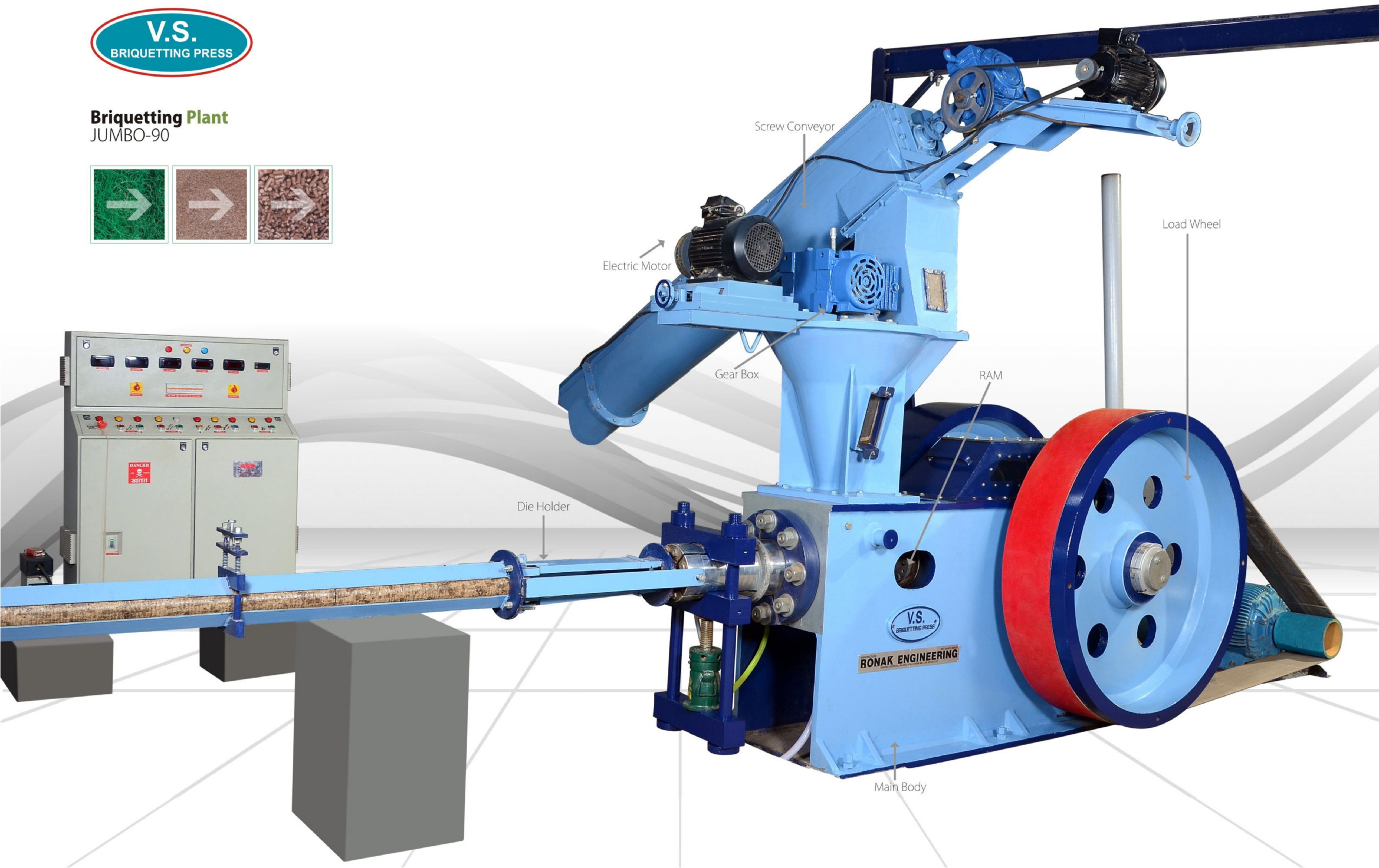
In addition to bagasse, sugar mill waste (Press mud) is available in large quantities which is approx 35% of the sugarcane crushed. This press mud is either thrown away or is used as a cheap fertilizer.

The use of this cheap fertilizer gives low yield as compared to the modern fertilizer available however the major quantity of press mud goes just as waste. The briquettes made from press mud after drying & briquetting have Calorific value 4000 KCal./ Kg. Approx.

We can use such above wastage as an input to the Briquetting Plant Machinery to produce Briquetted / white coal as the non-conventional source of energy.



Briquetting Plant
JUMBO-90



Screw Conveyor

Electric Motor

Gear Box

RAM

Load Wheel

Die Holder

Main Body

V.S. BRIQUETTING PRESS
RONAK ENGINEERING

Bio-Mass Briquette **Technology**

At present in India direct (binder less) technology is most popular & successful. This technology has been adapted to suit Indian conditions according to the characteristics of raw materials available from various natural resources in different seasons. This binder less briquetting technology is based on very high compact characteristics of combustibles cellulose agro waste such as bagasse & saw dust, groundnut shells, rice husk cotton stalk, custard shell etc. into cylindrical briquettes through high heat process.

Briquetting technology is well developed in advance countries like Switzerland, U.S.A., Denmark, Canada, Brazil, U.K. etc.

Plant & Machinery **Components**

Normally briquetting plants are based on saw dust at 180 kg / m³ bulk density at 7-10% moisture content. The output on all other raw materials will be directly in proportion to their bulk density.

The plant & machinery required are determined by the characteristics of the raw materials being processed. We the team of technocrats of RONAK ENGINEERING are offering the most versatile plant in its true sense. Our Briquetting plant would consist of the following major units.

Briquetting Unit: it mainly consists of Briquetting press. The Briquetting press is raw type press designed for continuous heavy duty operation with two load wheels. One of the load wheels acts as a pulley and driven by the main motor through flat belt. Forced lubrication is provided by oil lubrication system which gives longer life to press.

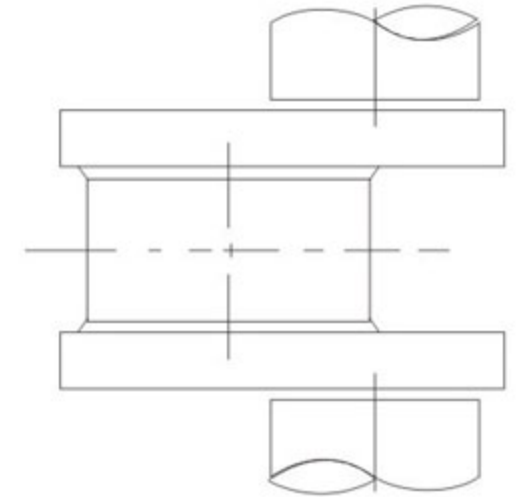
Screw conveyer: With reduction gear & electric motor for regular feeding of raw materials to hammer mill.

Oil Lubricating System: Forced lubrication is provided by hydraulic oil lubrication system which gives longer life to Briquetting Unit.

Panel Board: Panel Board is specially designed with controls to monitor entire process of Briquetting Unit.

Our Latest **Ideal Plant**

Our new plant JUMBO-90 press produce 90. mm dia. Briquettes. It produces at the ratio of 1500kg / Hrs. It produce Briquettes directly from 20-25 mm size of raw material residuals.



Technical Details for **"JUMBO-90"**

Model	"JUMBO - 90"
Type	Crank Type
Stroke	200mm
R.P.M.	230
Total Power Requirement	88HP.
Production Capacity [+ 20% Depending on Density and Quality of Raw Material]	1500 Kg/Hr.
Finished Product Size	90mm Dia
Finished Product Shape	Cylindrical
Finished Product Length	6" To 12"
Raw Material Form	Up to 25mm Size can Be Used Directly

Advantages of **"JUMBO-90"**

- Power consumption
- Maximum production capacity
- Low maintenance cost
- All type of raw material suitable for JUMBO-90 also sugarcane bagasse is also suitable
- Easy in handling Briquettes due to large size of briquettes
- Ideal for boiler operator & firemen

Use of **Briquettes**

The white coal is ideal fuel which substitutes coal, fire-wood, lignite and other conventional fuels for heating steam generation.

The demand of white coal emerges from shortage of conventional fuels like coal, fire-wood arising day by day. So it indicates golden future for white coal and really it is ideal future Fuel.

White coal can be used by industrial unit viz.

- ◉ Paper Mills
- ◉ Solvent Extraction
- ◉ Vegetable Plants
- ◉ Textile Units
- ◉ Chemical Plants
- ◉ Dyeing Houses
- ◉ Food processing units
- ◉ Hotels
- ◉ Milk Plants
- ◉ Spinning Mills
- ◉ Leather industries
- ◉ Laminating industries
- ◉ Bricks Making & Lot Others

Project Highlight

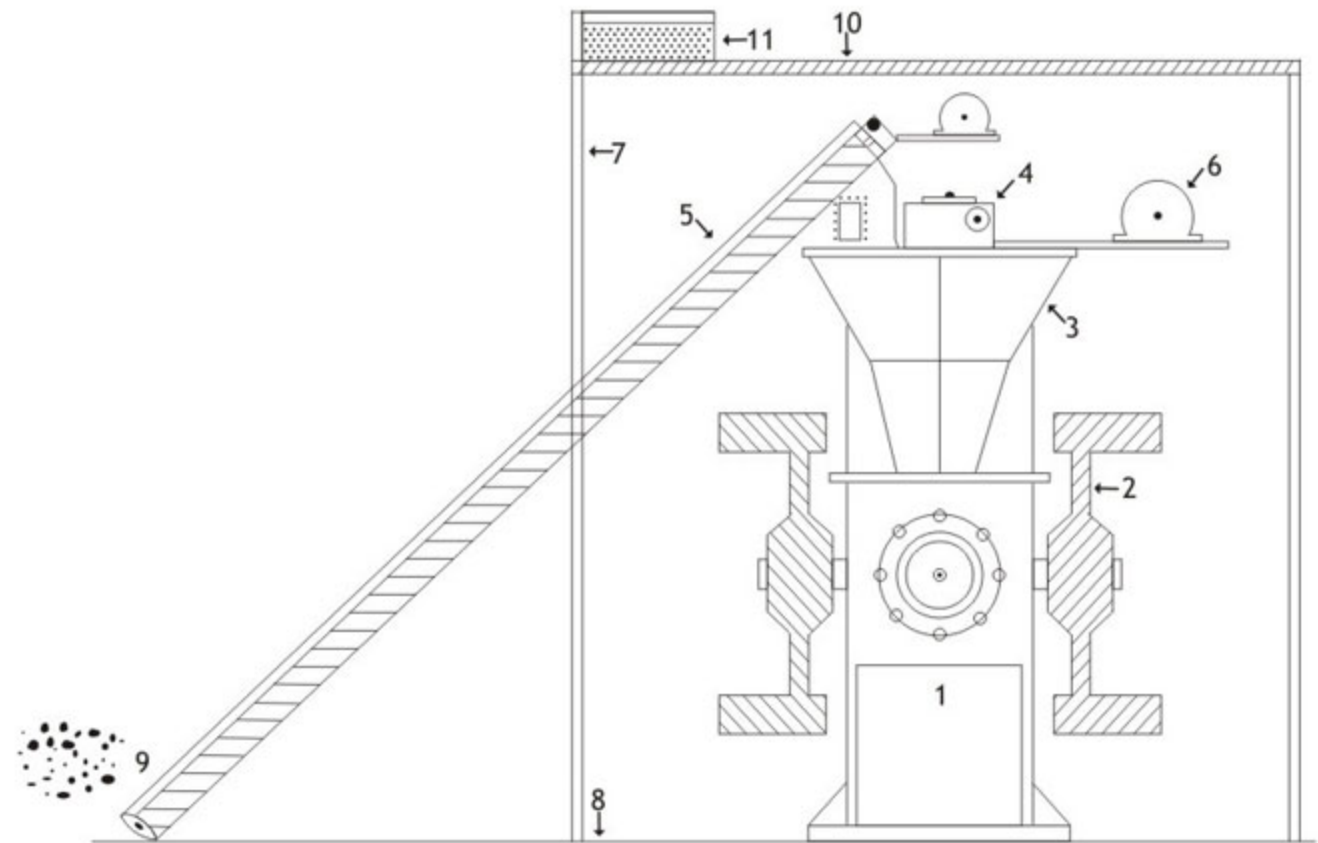
- ◉ High Profitability on investment
- ◉ Excellent Growth Potentiality
- ◉ Ready Market
- ◉ Short Gestation and Quick Payback
- ◉ Employment Potentiality
- ◉ Wide variety, easy availability of raw materials
- ◉ Conversion of natural resources (wastage) in hi-tech energy & maintenance of ecological balance
- ◉ Minimum working capital

Advantages of this form of fuel are as under

- ◉ Consistent Quality
- ◉ Economic to users compared to other forms.
- ◉ High calorific value ranges between 3500 - 5000k. Cal./kg.
- ◉ No pollution since it does not emit any sulphur or phosphorous fumes & there is no need for expensive pollution control equipment.
- ◉ Easy in handling and storage due to its size.
- ◉ Moisture % is very less 2-5% compare to lignite & fire wood & coal where it is 25-30 %

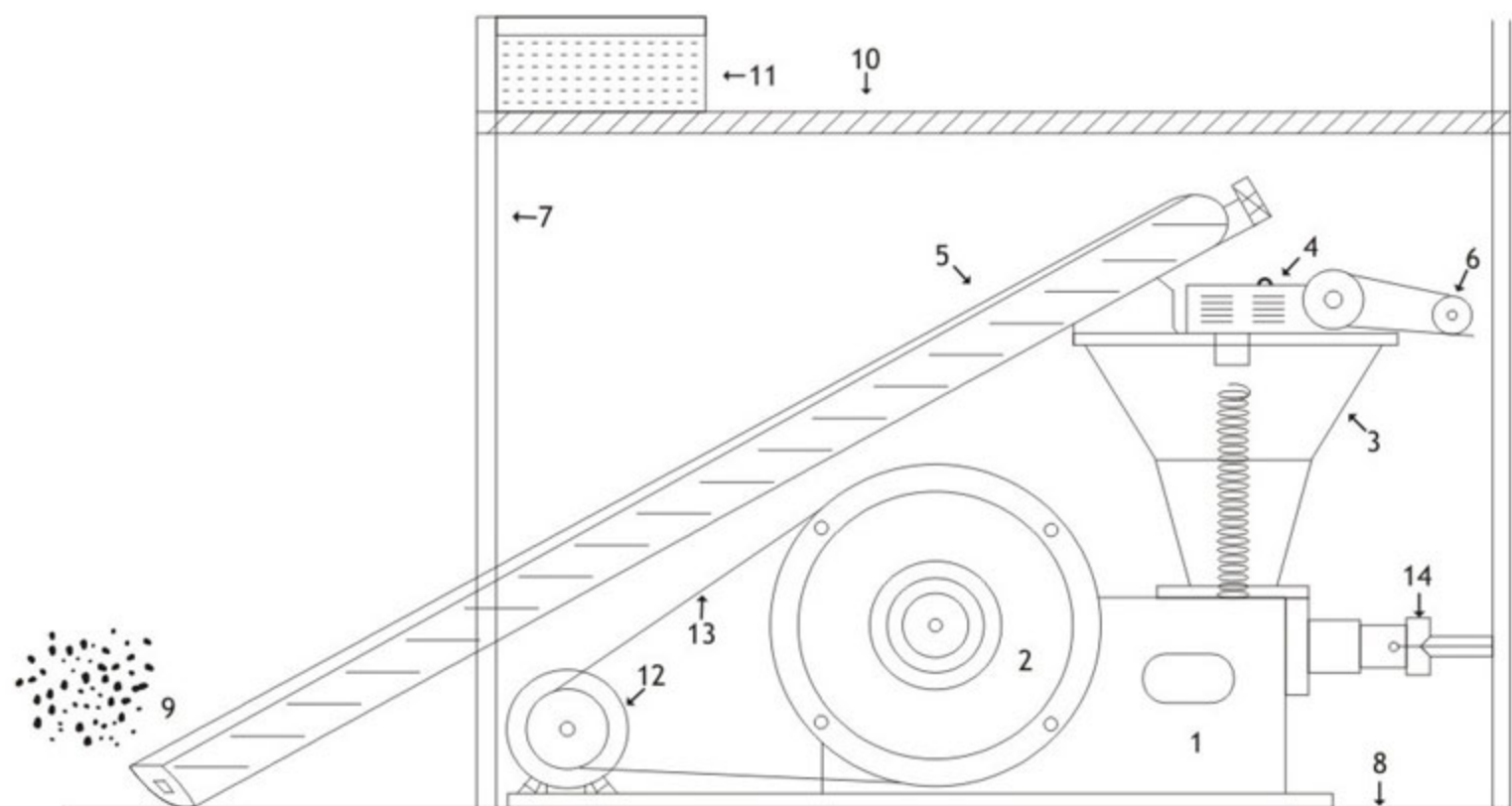
Jumbo - 90 Front Elevation with Side Conveyor

- 1 Briquetting Press
- 2 Load Wheel
- 3 Kupy
- 4 Reduction Gear
- 5 Screw Conveyor
- 6 Electric Motor
- 7 Bricks Wall of Shade
- 8 Ground Flooring
- 9 Space for Raw Material
- 10 Open Terrace
- 11 Water Tank



Jumbo - 90 Side Elevation with Back Side Conveyor

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



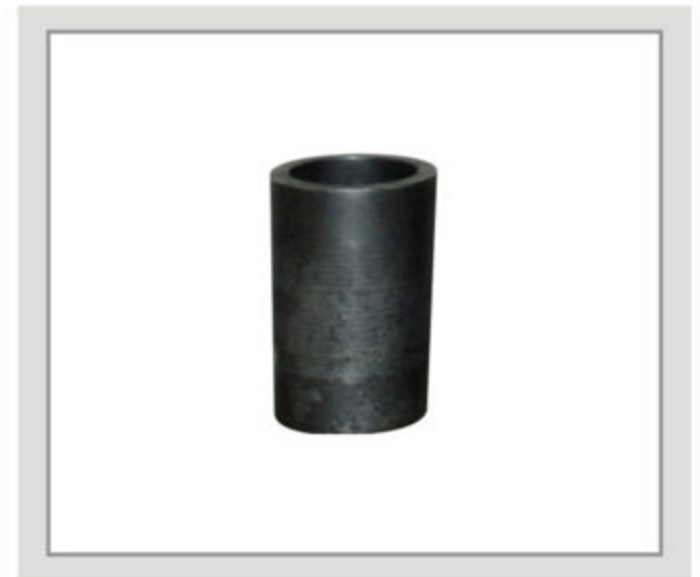
Parts & Components of **Jumbo - 90**



Die Holder



Speed Die



Tapper Die



Ram



Feader Box



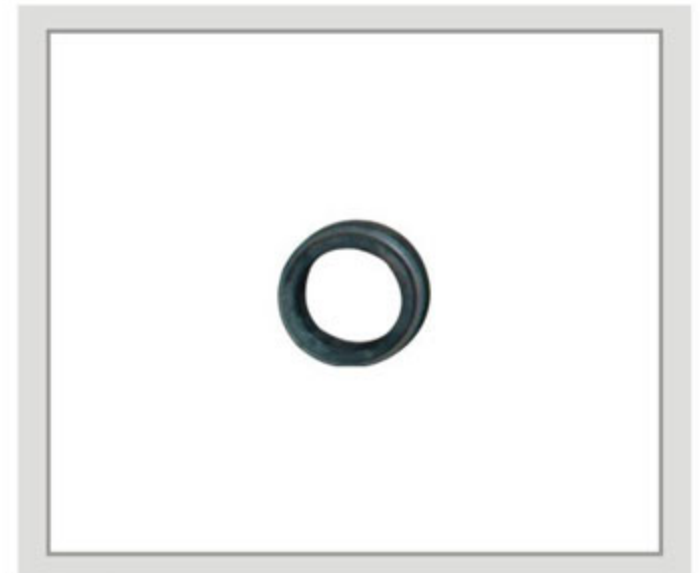
Varam



Ram Holder & Oil Seal



Piston



Colet

Incentives By The **Government**

The Government of India has announced incentives for promoting this project to the entrepreneurs engaged in developing alternative energy source.

The major incentives are:

100% depreciation:

The total value of plant and machinery is allowed to be depreciated in the first year

Excise Exemption:

The solid fuel Briquettes are completely exempted from Excise duty. The Government is also considering exemption in the case of plant & machinery.

Income Tax:

100% Income Tax benefits up to 5 Years

No Licenses:

The whole industry of non conventional energy sources has been exempted for obtaining any license.

Benefits of priority sectors:

Energy being prime sector of development and considering the cost of project; benefits of SSI and priority sector are available.

Ronak Engineering's
Successfully Running Plants In India & Abroad



RONAK Engineering

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