



VERTICAL RING DIE PELLET MAKING MACHINE

Model : 560/850

Capacity : 1.0-4.0 tons/hour

Motor Power 90 Kw, 132 Kw, 160 Kw, 250 Kw

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3 upto
Years
WARRANTY

VERTICAL RING DIE PELLET MACHINE



Trio Vertical Ring Die Pellet Machine is an advanced biomass fuel processing system designed to efficiently convert India's abundant agricultural and forestry waste into high-density biomass pellets. This powerful centrifugal pellet machine is specially engineered to handle raw materials that are difficult to compress due to low adhesive and formation properties, making it highly suitable for a wide range of Indian agro residues. It effectively processes materials such as rice husk, wheat straw, sugarcane bagasse, groundnut shells, cotton stalks, maize stalks, and coconut husk, along with forestry by-products like sawdust, bark, twigs, eucalyptus wood, and bamboo dust. Additionally, it can handle various agro-industrial wastes including coffee husk, tea waste, spent grain from breweries, and coir pith.

The machine features a vertical ring die structure that ensures even distribution and stable pelletizing performance. Its centrifugal force feeding system allows for continuous and efficient raw material input, resulting in a smooth, high-output operation with low energy consumption. Built for durability and ease of maintenance, the Vertical Ring Die Pellet Machine is ideal for long-term industrial use. Its robust design ensures reliable performance even under the demands of continuous production.

Widely used in biomass fuel plants, biomass-based power stations, wood processing units, fertilizer factories, chemical industries, and agro-waste recycling centers, this machine supports sustainable development by transforming waste into clean, renewable energy. It not only helps reduce pollution and landfill use but also contributes to India's mission of cleaner energy and circular economy.

If you're seeking a dependable and efficient solution for recycling agricultural waste into energy, the Vertical Ring Die Pellet Machine offers the perfect blend of technology, sustainability, and performance.

3 upto
Years
WARRANTY

TECHNICAL PERAMETERS

Model	Power(Kw)	Capacity(t/h)	Pellet Size(mm)
TRIO560	90	1.0-1.5	6 -12
TRIO560	132	1.5-2.0	6 -12
TRIO560	160	2.0-2.5	6 -12
TRIO850	250	3.0-4.0	6 -16



Hammer Mill Machine

Efficient Grinding Solution for Indian Agro Waste



Trio Hammer Mill Machine is a vital component in the biomass pellet production line, specifically designed to crush and grind a wide range of Indian agricultural and forestry waste into fine, uniform material suitable for pelletizing. It effectively handles raw materials such as sugarcane bagasse, wheat straw, rice husk, maize stalks, cotton stalks, groundnut shells, coconut husk, soybean husk, and a variety of dry grasses. It is also ideal for processing wood waste including sawdust, timber offcuts, tree branches, and bamboo chips, making it a versatile solution for India's diverse biomass sources.

Engineered with a specialized internal cooling structure, the hammer mill prevents excessive heat buildup during operation, protecting the machine from friction-related wear and ensuring stable performance. Its design features a balanced rotor system with symmetrical hammer arrangement and direct coupling drive, offering smooth and efficient operation. The hammers are treated with advanced abrasion-resistant technology, significantly increasing their service life even under heavy-duty usage.

The machine is known for its robust structure, high durability, and user-friendly operation. With high efficiency and low maintenance requirements, it is widely used in biomass processing plants, wood industries, organic fertilizer units, animal fodder preparation, herbal and medicinal product manufacturing, and chemical industries. Whether you are preparing feedstock for pellet production or processing agricultural residue for reuse, the Hammer Mill Machine provides a reliable and high-performance solution tailored to Indian agro-industrial needs.

TECHNICAL PERAMETERS

Model	Power (Kw)	Capacity(t/h)
TRIO75x100	75/90	1.5-2.0
TRIO75x120	110/132/160	2.0-2.5





Trio Auto Feeding Unit is a robust, 24-30 ft long container equipped with a rotating belt system designed for efficient handling of raw materials. It ensures a consistent and uninterrupted supply of input to the succeeding processing units, significantly reducing manual intervention. The unit also features an integrated separation mechanism that effectively removes stones and other large, unwanted particles that could damage downstream machinery. With its adjustable output speed, the Auto Feeding Unit offers flexibility to match the operational pace of connected equipment. This system not only eliminates the need for manual feeding but also saves valuable time and enhances overall productivity.

TECHNICAL PERAMETERS

Model	Power (HP)	Capacity(t/h)
TRIO2000	11	2.0-2.5

INPUT RAW MATERIAL

BIOMASS	Any
SHAPE	Husk or Chips
SIZE	< 50mm
Moisture	< 30%



Moving Floor Hydraulic Silo



Hydraulic Rectangular Warehouse

AGROWASTE RAW MATERIAL TO MAKE PELLET



GROUND NUT SHELL
GROSS CALORIFIC VALUE
(GCV) Kcal/kg: 3800-4000



SUGARCANE TRASH (BAGGAS)
GROSS CALORIFIC VALUE
(GCV) Kcal/kg: 3800-4000



SOYABEAN HUSK (KUTAR)
GROSS CALORIFIC VALUE
(GCV) Kcal/kg: 3600-3800



SAW DUST (WOODEN DUST)
GROSS CALORIFIC VALUE
(GCV) Kcal/kg: 4000-5000



RICE HUSK
GROSS CALORIFIC VALUE
(GCV) Kcal/kg: 3300-3400



Cashew Shell Waste
GROSS CALORIFIC VALUE
(GCV) Kcal/kg: 5000+



COTTON AGROWASTE
GROSS CALORIFIC VALUE
(GCV) Kcal/kg: 3600-3800



CORN COBS WASTE
GROSS CALORIFIC VALUE
(GCV) Kcal/kg: 3600-3800



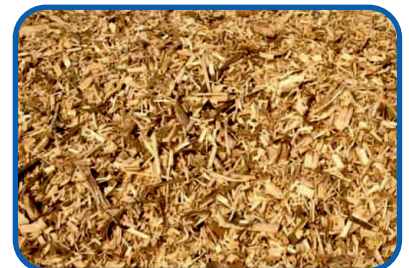
SUGAR CANE LEAVES
GROSS CALORIFIC VALUE
(GCV) Kcal/kg: 3800-4000



PARALI OR RICE STRAW
GROSS CALORIFIC VALUE
(GCV) Kcal/kg: 3300-3400



NAPIER GRASS
GROSS CALORIFIC VALUE
(GCV) Kcal/kg: 3800-4000



MUSTARD HUSK
GROSS CALORIFIC VALUE
(GCV) Kcal/kg: 3600-3800

Pellet Machine Spare Parts

Engineered for Performance and Longevity



Trio specialize in supplying **high-quality spare parts** for all types of biomass pellet machines, ensuring maximum efficiency and extended machine life. Our spare parts are precisely manufactured to meet the highest industry standards, supporting smooth, uninterrupted operation across a wide range of biomass processing applications. Whether you're running a small-scale unit or a large industrial pellet plant, our components are designed to enhance the performance and reliability of your equipment.

All critical wear parts – including ring dies, rollers, roller shells, main shafts, bearings, and gear sets – are crafted from **high-carbon chromium oil-hardening steel**, a material renowned for its exceptional strength, resistance to wear, and dimensional stability under high pressure and temperature conditions. This premium-grade steel ensures that our components maintain their structural integrity over long periods of continuous use, even in the most demanding production environments.

Compared to conventional industrial materials, our spare parts deliver **up to 40% greater cost-efficiency** over time due to their **extended service life**, **reduced maintenance frequency**, and **minimal downtime**. By choosing our precision-engineered parts, you not only protect your investment but also improve overall productivity and operational sustainability.

We maintain a comprehensive inventory of spare parts, ensuring prompt delivery and minimal disruption to your operations. Whether you need replacements for regular wear or performance upgrades, we are your trusted partner for reliable, durable, and cost-effective pellet machine components.



Ring Die



Roller Shell



Roller Shaft



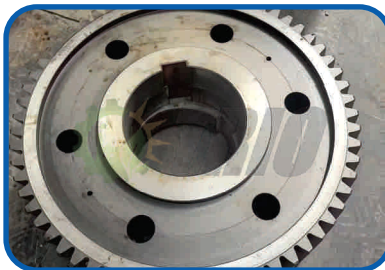
Roller Assembly



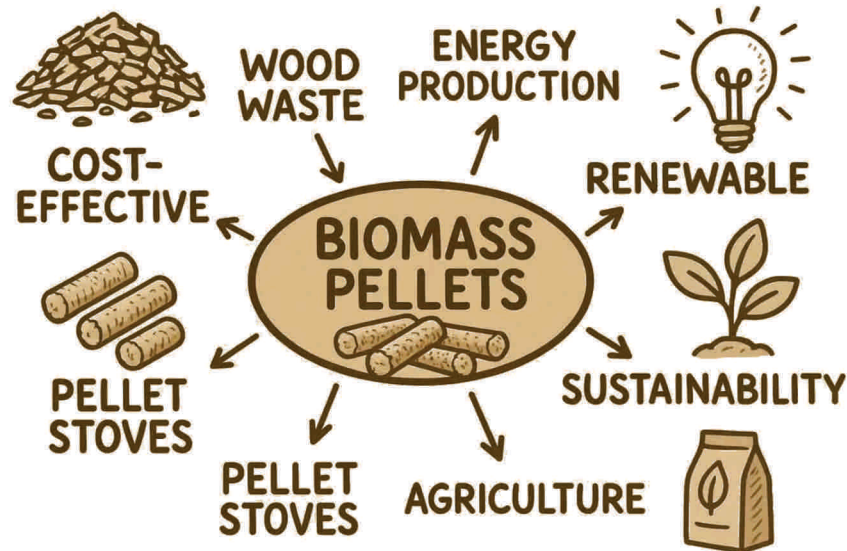
Roller Bearing

PELLET MACHINE COMPONENTS

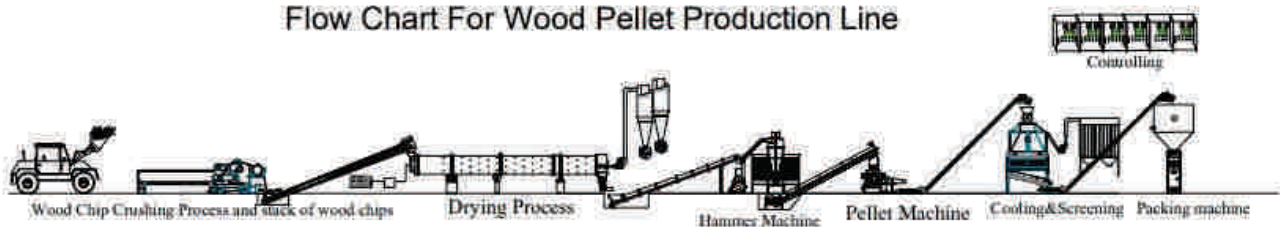
High-Strength Quality Material



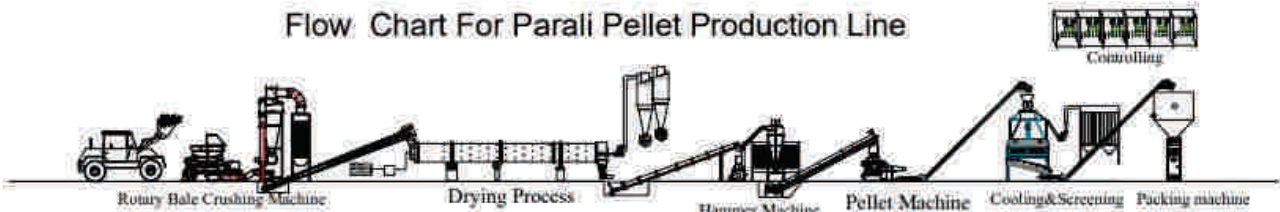
Trio pellet machine components play a critical role in ensuring smooth, efficient, and durable operation under high-load conditions. Constructed from high-strength material and precisely machined for optimal alignment, the main shaft transmits consistent torque from the motor to the die and roller assembly. High-quality hardened gears, typically utilizing surface treatments such as carburizing or nitriding, provide exceptional wear resistance and long service life, even under continuous heavy-duty use. Precision gear meshing minimizes noise and vibration, enhancing the overall stability and efficiency of the pelletizing process. Together, these components form the mechanical backbone of Trio pellet machine, delivering reliable power transmission and structural integrity for high-capacity biomass production.



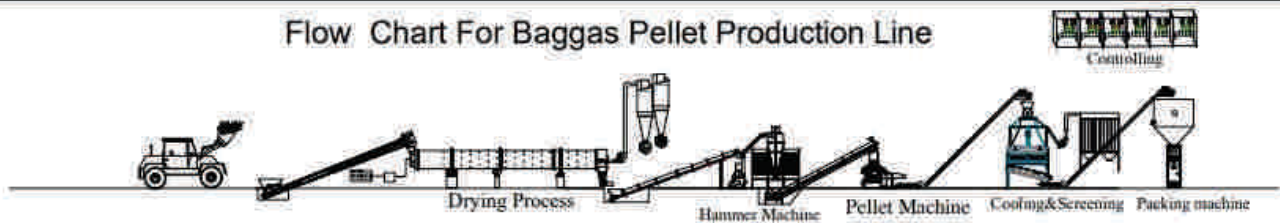
Flow Chart For Wood Pellet Production Line



Flow Chart For Parali Pellet Production Line



Flow Chart For Baggas Pellet Production Line



Flow Chart For Wet Agrowaste Pellet Production Line



Flow Chart For Dry Agrowaste Pellet Production Line

