

A close-up photograph of a pile of light-colored wood chips or small logs. The chips are scattered across a metal grate with a circular pattern. A semi-transparent diagonal band runs from the top left towards the bottom right, serving as a background for the text.

WOOD AND BIOFUEL BIOMASS PELLETING TECHNOLOGIES

HOW CAN WE HELP FUEL YOUR BUSINESS?



PELLETIZING SOLUTIONS EXPERT

Equipment and technology for customers

As the leading brand of China's biomass pellet production equipment, RICHI Machinery has been exported to more than 100 countries and regions so far. We not only provide high-quality production equipment for many customers, but more importantly, we start from the customer and develop an excellent particle solution that is most suitable for each customer. We are still developing and making progress. Our vision is: RICHI equipment and solutions are available wherever there is pellet production.

**HOW
CAN WE HELP
YOUR PELLET
BUSINESS?**

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STARTUP YOUR BUSINESS WITH RICHI MACHINERY

The future of wood and biomass pellets is full of ambitious ideas. In order to seize these opportunities, pellet manufacturers need a partner they can trust to provide the right services and expertise to provide the right production capacity today and for decades to come.

As a partner with many years of industry experience, no one knows these opportunities better than RICHI. From the initial raw material analysis to grinding, conditioning and drying; from extrusion and granulation all the way to the final pellets. Together with leading producers in all major markets around the world, our knowledge, services and solutions will continue to drive the development of wood chips and bio-fuel pellet production in the future.

Boosting your business from field to fuel

RICHI manufactures and supplies every key processing machine in the pellet production line. We also offer single machines for the production of biomass pellets, solid bio-fuel, and waste pellets.

RICHI has different production schemes of high, middle and low configuration as a reference, adapting to different customer needs, and is a leading brand in biofuel pelletizing technology.

If managed properly, biomass is a sustainable fuel that can significantly reduce carbon dioxide emissions compared to fossil fuel emissions.

SEVERAL DIFFERENT RAW MATERIALS CAN BE USED FOR BIOMASS PELLETIZING

- Sawdust
- Bark
- Wood chips
- Straw
- Bagasse
- Energy grasses
- Pellets

RAW MATERIAL SOURCES

- Timber industry
- Sawmills
- Paper industry
- Furniture industry
- Building industry
- Agricultural by-products

SOME OF THE ADVANTAGES OF PELLETING

- Simple handling
- Reduced transport cost
- Better storage capabilities
- Homogenous fuel of identical standard
- Environmentally friendly
- CO₂ neutral fuel

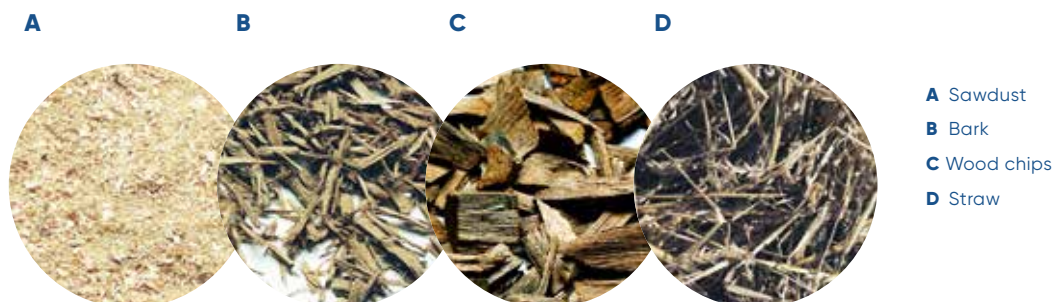
GRINDING AND PELLETING

RICHI makes grinding and pelleting equipment for converting forestry and agricultural by-products into uniform, densified fuel pellets for large-scale power and heat generation, and for heating private homes.

KEY PROCESSING MACHINERY

In the private market, as well as the market for large-scale power stations, there is a rapidly growing need for environmentally friendly fuel. This growth is a consequence of the Kyoto Protocol, which covers more than 160 countries, representing over 55% of the global greenhouse gas emissions.

RICHI design solutions are centered around highly advanced key machinery for wood grinding and pelleting, including chippers and dryers for the processing of wet and/or green wood prior to the pelleting.



GRINDING



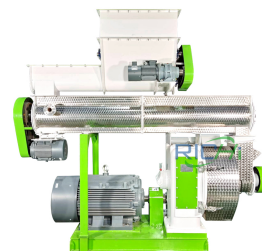
As a professional pellet machine manufacturer and pellet solution expert, we have various types of raw material processing and pelletizing equipment.

CHOOSE THE RIGHT EQUIPMENT

The needs of each customer are different. We formulate different pellet production solutions according to different needs, different output, and different raw materials.

When it comes to driving the future of your business, our commitment covers the entire life of your operations. From the processing of raw materials, to pellet production, to the final packaging.

PELLETING



Process flow for biomass pelleting

PRE-GRINDING SIZE REDUCTION

Raw material intake: Wood chips
Wood chips supplied in sizes of 50+ mm must be reduced in a chipper and hammer mill before entering the drying process. Use of the 43" hammer mill in the pre-grinding stage boosts particle size distribution using an energy-efficient rotor design and comes with replaceable wear liners for the grinding chamber.

DRYING

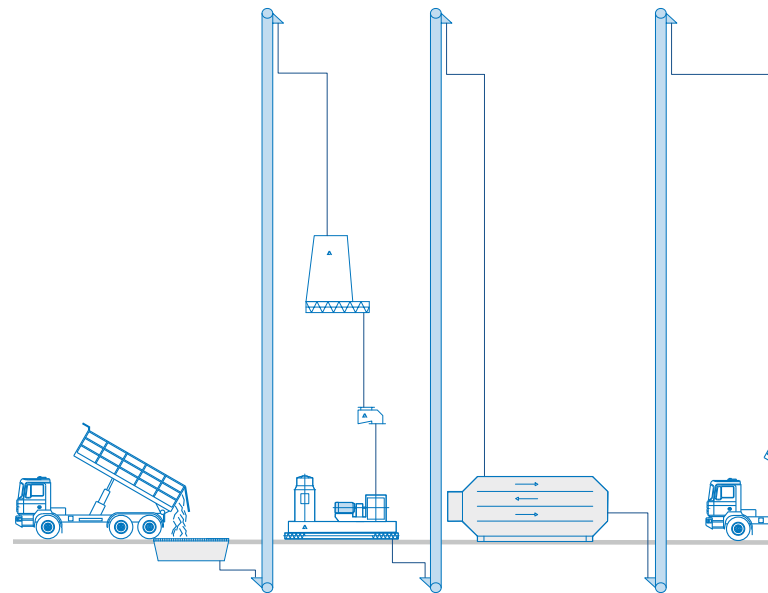
Raw material intake: Sawdust
The drum drying system dehydrates raw materials before they enter into the fine-grinding process. To ensure the product is dried evenly, the raw material is conveyed pneumatically through a stream of hot gases and dried in a convective process until it reaches a residual moisture content of approximately 10–12%.

FINE-GRINDING

By finely grinding the raw materials in the 43" fine grinding hammer mill it is possible to achieve most homogeneous pelletizing raw material. The large surface area and the open fibers of the ground product facilitate steam absorption in the cascade mixer. Steam and high temperature soften the lignin in the wood, which allows pelleting to take place without the addition of binders. The 43" hammer mill variable hammer speed to optimize the grinding process by carrying the wood meal on to a cyclone or filter for separation.

PELLETING

ANDRITZ offers two types of biomass pellet mills. Both ensure high output and effective control over pellet quality. The dimensions of these pellet mills have been fixed to withstand great force and come with replaceable wear parts. The level of process control obtained by using the ANDRITZ pellet mill ensures



CHIP INTAKE

CHIP
GRINDING

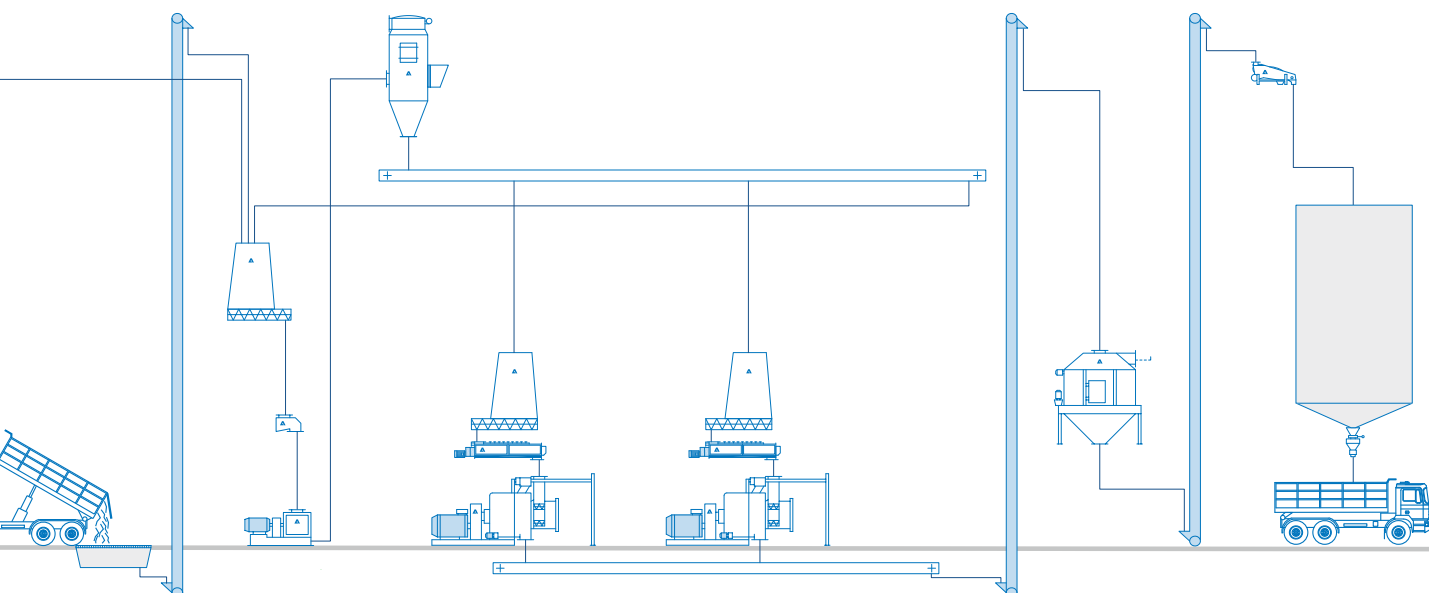
DRYING

SAWDUST

high flexibility and optimum energy utilization. The energy consumed to operate the pellet mill and heat the steam corresponds to 2.5–3% of the wood energy content.

COOLING

The intense friction applied in the die during the pelleting process causes additional heat to develop. Coolers are in place to reduce critical temperatures before sifting, packing and storing the wood pellets. ANDRITZ coolers utilize the surrounding air to lower the temperature of the pellets, resulting in a pellet temperature 5 to 10 °C above room temperature. The diameter of wood pellets and the holding time in the cooler are crucial in determining the size of the cooler needed.



WAST INTAKE

FINE GRINDING

PELLETING

COOLING

**SILO /
OUTLOADING**

FINAL SIFTING

Finally, the pellets pass through a sifter to remove crumbs and dust which get recirculated back into the process.

PROCESS CONTROL

RICHI offers modularly designed, computerized controls for individual key machines, complete processing channels, and complete plant controls.

Waste pelleting

Waste by-products can be very valuable! In most cases, various biomass materials that are considered waste can be converted into saleable recycled goods. In many other production processes, pelletizing can further increase the value of these products.

WHY PELLETIZE WASTE?

As a part of the pelleting process, loose materials are converted into compact pellets through the application of pressure and heat. Compressing the structure increases its mass by a factor of 10. For example, in pellets with a diameter of 3 mm, the density will increase up to 30 mm. This increase provides advantages in handling and storing the waste, and significantly reduces transportation costs.

WASTE PELLETS AS BIOENERGY

By using renewable forms of energy, it is possible to reduce our dependency on fossil fuels. Waste material mixtures containing products of high calorific value, such as paper, plastic, and silica, can result in a valuable type of pellet for use in the bioenergy industry, filling a gap in our heating and electricity use.

WASTE PELLETS RECYCLED INTO NEW PRODUCTS

Waste pellets made of pure surplus materials; by-products of another production process, such as celluloses plastic, can be made suitable for many types of applications.

The molding process demands stable pellets at bulk densities of approx. 400 kg. Clean plastic pellets can be used in this molding processes to form all sorts of new products like certain types of furniture.

MATERIALS FOR WASTE PELLETING

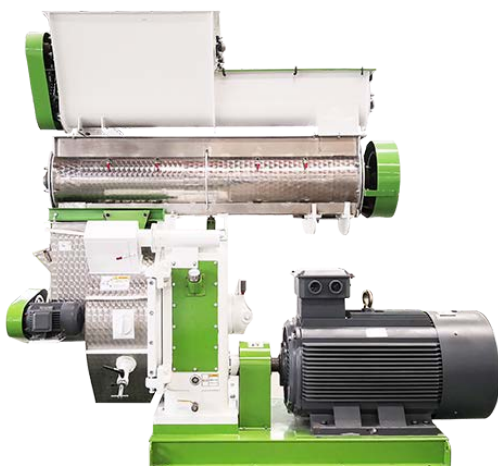
- Composite materials for substitute fuel
- Paper sludge
- Wood
- Carpet waste
- Household waste

PURE MATERIALS FOR RECYCLING INTO NEW PRODUCTS

- Stabilizers
- Compost
- Sewage sludge
- Chemicals
- Chicken manure
- Electronic waste
- Industrial dust
- PUR foam (e.g. refrigerator recycling)

ADVANTAGES OF PELLETING

- Simple handling
- Reduced transport cost
- Better storage capabilities
- Homogenous fuel of identical standard
- Specified bulk material for further processing
- Environmentally friendly



PELLETING

The RICHI biomass pellet mill ensures high output and efficient control of the pelleting process. The pellet mill is dimensioned for large forces and designed with exchangeable wear parts.

RICHI MZLH biomass pellet machine has different capacities to choose from, please contact us for the biomass pellet machine price list.

Keep your business growing with our global service network

Our aftermarket sales, service and support sets us apart from our competitors. Our partnership does not end with the purchase or installation of our equipment; it extends to ongoing maintenance, service, and support of all RICHI Wood and Biofuel pellet processing equipment, as well as all pellet production lines.

OUR SERVICES

Our expertly trained team of service professionals are ready to help with:

- After-sales services, support, and follow-ups
- Spare and wear parts
- Process optimization
- Training of plant operators

FIELD SERVICES

We offer our customers excellent field services, where our service technicians come to your location for assistance. The vast experience of our field service specialists is unmatched – backed by the full knowledge and technical support that only the equipment manufacturer can provide.

BENEFITS

There are several benefits to be gained from continuous upgrades, optimizations, and services on your equipment:

- Maximum production
- Process knowledge and experience
- Reliability and cost efficiency
- Reduced life cycle costs
- Short and effective shutdowns
- Improved energy efficiency



GLOBAL SUPPLIER – OVERSEA INSTALLATION – CONTACT US

The sales, service, engineering and manufacturing of RICHI Machinery's sawdust and biomass fuel pellet equipment have developed rapidly all over the world, and it has become the leading brand of China's pellet equipment. RICHI has now become a modern enterprise integrating independent research and development, production and sales of feed pellet machinery and engineering, biomass pellet machinery and engineering, organic fertilizer machinery and engineering, conveying equipment and engineering.

How can we help grow your business?

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