BIOMASS PELLETING

THE FUTURE IS IN RENEWABLE ENERGY

1. Straw **2.** Rice Husk **3.** Wood Chips
4. Sunflower Seed Husk **5.** Coffee Husk **6.** Bagasse

Due to the increasing environmental pollution caused by the use of fossil fuels, the deterioration of ecological balance and global warming, many different industries have sought eco-friendly energy.

For this reason, the use of biomass fuel as an alternative energy source has created a need for a reliable partner which can help our business relations and aims.

We carry out our productions meticulously in line with the needs of our customers with sustainable, innovative and environment friendly technologies towards biomass industry.

BIOMASS

YEMMAK

RELIABLE PARTNER IN BIOMASS INDUSTRY

We trust our experience and production technology on biomass to solve our business partners' needs for renewable energy.

As Yemmak, we set up turnkey pelletizing plants with our state-of-the-art machinery for the production of premium wood pellets.

We rely on our experienced engineers and superior quality machines that we developed as a result of our R&D studies, from the planning stage of these facilities to after-sales services.

ADVANTAGES OF PELLETING

- Easy portability
- Low transportation cost
- Better storage
- Environmentally friendly

WASTE PELLETING

Many materials considered as waste can be re-marketed as a recycled product after pelleting. Pelletizing can further increase the value of these products.
As part of the pelletizing process, waste materials are converted into compact pellets by applying pressure and heat.

For example, 3 mm diameter pellets are compressed versions of 30 mm products. This process plays an important role in the storage of waste and significantly reduces shipping costs.

It is possible to reduce our dependence on fossil fuels by using renewable energy forms.

Waste material mixtures containing high calorific value products, such as paper, plastic, etc. can be converted into a valuable pellet type for use in biomass energy.

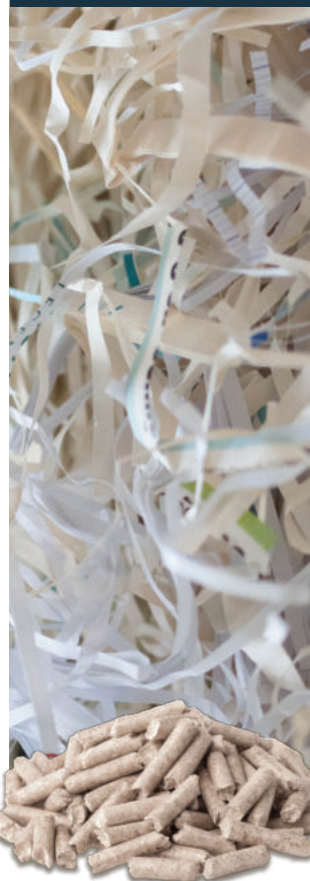## THE WASTE PRODUCTS CAN BE VERY VALUABLE!

RECYCLABLE WASTES

- Wood waste
- Chip
- Wood and sawdust powder
- Straw
- Agricultural wastes
- Waste papers
- Urban and industrial wastes
- Waste tires
- Textile waste, etc.
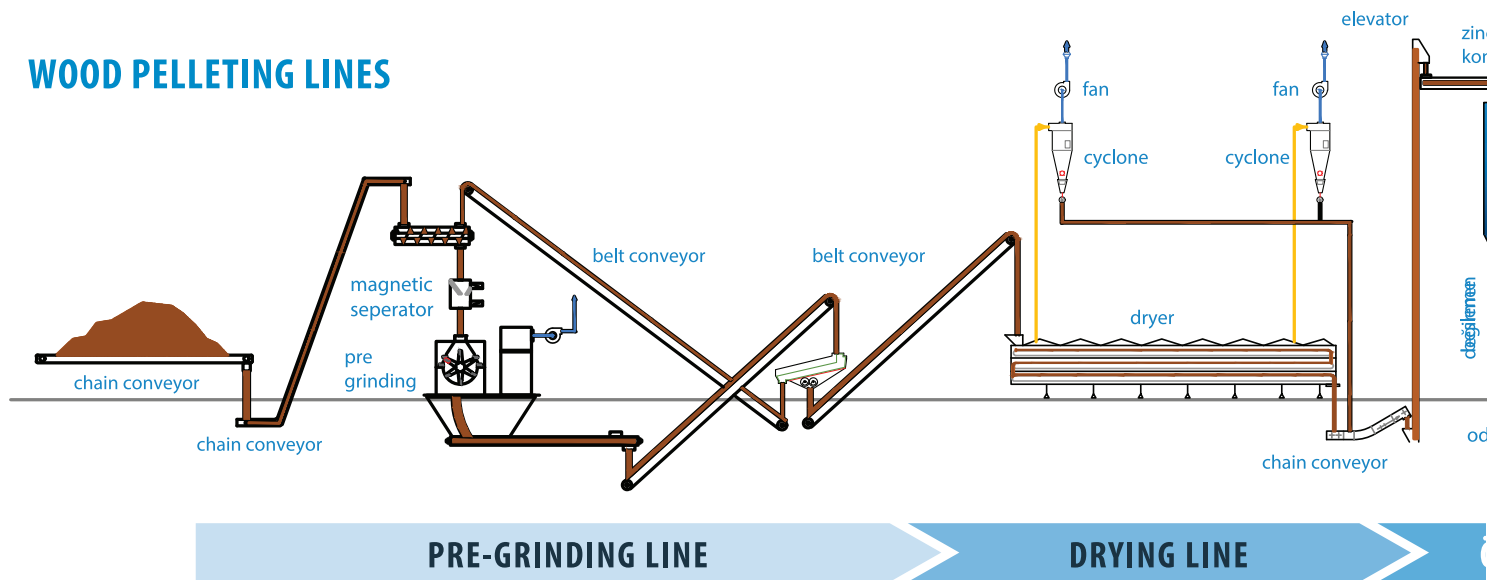
| PLASTIC | PAPER | TEXTILE WASTE | URBAN WASTE |

PROCESS FLOW IN BIOMASS PELLETING

WOOD PELLETING LINES

elevator

fan   fan

cyclone   cyclone

belt conveyor   belt conveyor

magnetic
seperator

dryer

pre
grinding

chain conveyor

chain conveyor

chain conveyor

PRE-GRINDING LINE   **DRYING LINE**

PRE-GRINDING LINE

Raw materials with a grain size of more than 50 mm should be reduced by passing a pre-grinder before entering the dryer.

Thus, the drying system works more efficiently and a more balanced raw material moisture level is obtained after drying.

DRYING LINE

In the drying system, the moisture of the raw material is reduced to 10-12%.
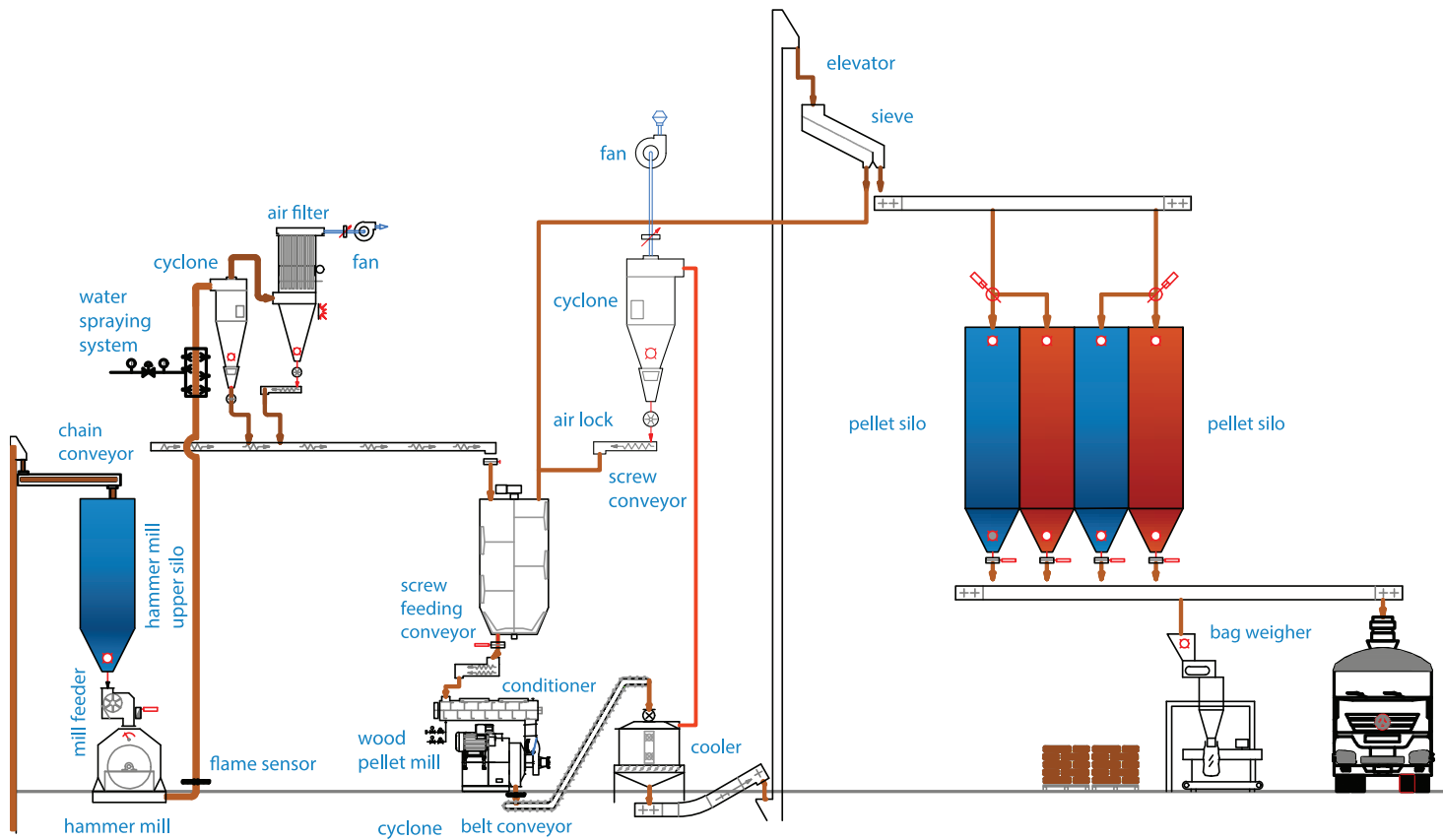
GRINDING LINE

The dried raw material is ground to the optimum grain size required for pelleting by grinding in the hammer mill.

The grain size of the raw material is very important for the high pellet quality.

According to the grain weight, the grain surface area increases as the grain size decreases.

This means that the finely ground raw material is better conditioned in the conditioner.

Diagram labels:

- elevator
- sieve
- fan
- air filter
- fan
- cyclone
- water spraying system
- cyclone
- air lock
- pellet silo
- pellet silo
- chain conveyor
- screw conveyor
- hammer mill upper silo
- screw feeding conveyor
- conditioner
- bag weigher
- mill feeder
- wood pellet mill
- flame sensor
- cooler
- hammer mill
- cyclone
- belt conveyor

GRINDING LINE → **PELLETING AND COOLING** → **PACKING AND LOADING LINE**

PELLETING AND COOLING

Yemmak pellet mills provide high efficiency and effective control on pellet quality.

The dimensions of these pellet mills are designed to withstand big forces and come with replaceable wear parts.

By using Yemmak pellet mills, high flexibility and optimum energy usage are provided.

Energy consumed to operate the pellet mill and heat steam corresponds to 2.5-3% of the wood energy content.

Intense friction applied to the mold during the pelletizing process causes additional heat generation.

Coolers are used to reduce critical temperatures before sieving, packing and storing wood pellets. The raw material passing through the cooler is dried to 5-10° C with the help of ambient air.

PACKING AND LOADING LINE

The pellets coming out of the cooler are passed through a sieve and the dust is separated and this powder is reused.

It is returned to the pellet mill for pelleting.

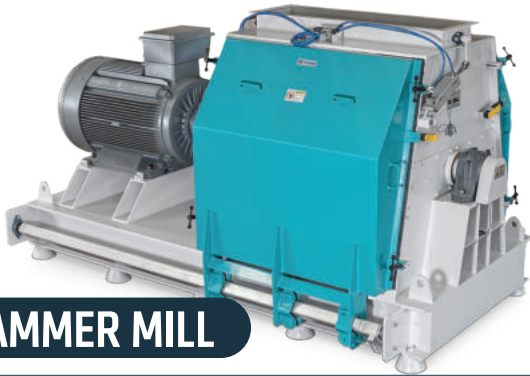The screened product is put on the market in 25 kg bags or 1 ton big bags or in bulk.

MAIN MACHINERY IN THE PROCESS
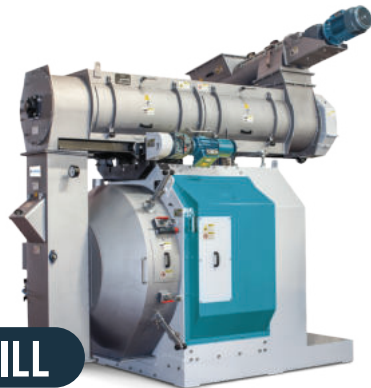
PRE GRINDING LINE

ROTARY KNIFE MILL

GRINDING LINE

HAMMER MILL
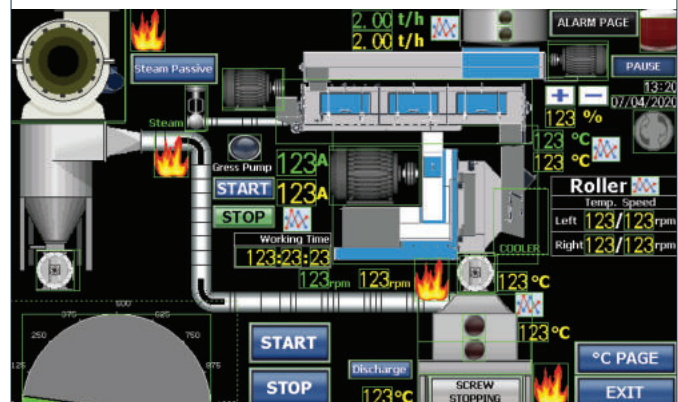

FINE GRINDING HAMMER MILL

PELLETING AND COOLING

PELLET MILL

COUNTERFLOW COOLER

SIEVING LINE

VIBRATING SIEVE

AUTOMATION

REFERENCE PROJECTS