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Abstract

Bio-energy is a form of renewable energy derived from biomass to generate electricity and heat. Here is biomass pellet production line equipped with four Model 420 ring die pellet mills and other auxiliary equipment to help your pellet production with great profit return. Our biomass pellet production line is equipped with four Model 420 ring die pellet mills and other auxiliary equipment; 20000tons quality wood pellets in one year and total annual turnover of \$3251503.82.

Biomass Pellet Production Line with Four Model 420 Ring Die Pellet Mills

Bio-energy industry-the new and renewable energy industry is increasingly favored by people and will become the most important element of energy economy in the future. In biomass production, pellet mills are the significant equipments. Based on advanced foreign technology, our mechanical equipments and technology in biomass pellet production have gradually matured. The single biomass pellet machine with capacity of 2.5-3tons/h has been put into use in the market and wins

good market respond. Combine the current level of Chinese machinery manufacturing with design concepts like advanced technology, simple process, lower energy consumption and reduced investment, this machine is produced to almost achieve the productivity of the same model machine abroad. Now detailed instruction of this biomass pellet production line are as follows.

I. General Plan

The factory covers the area of 5121m². The building area is 2088m² including workshops area of 1044m², raw material warehouse of 500m² and finished product warehouse of 500m². There are 8 ring die wood pellet mills of Model 420 planned to be used in two phases. In the first phase, four ring die pellet mills of Model 420 are used with the total installed capacity of 450kw. One 500KVA transformer is used for power supply. The machinery investment is about \$243862.79. The benefits from this production line: 4-5tons/h wood pellets with diameter of 8-10mm, 20000tons quality wood pellets by two shifts production in one year, just 10 workers for operation and total annual turnover of \$3251503.82 .



II. The Instruction of Production Process

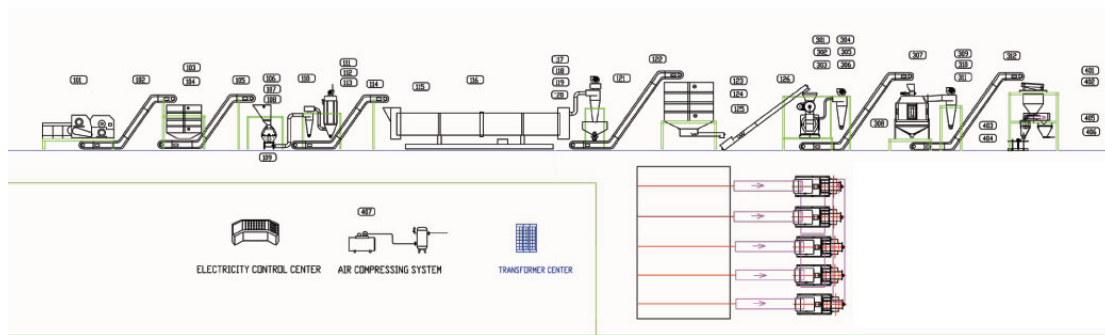
In order to fully utilize local raw materials, two supply lines are planned to be built for cleaning raw materials for 4 Model 420 ring die pellet mills.

1. Raw material cleaning production line

Waste wood shavings, saw dust and tree bark from furniture factory or lumber mill will go through the special raw material conveyor for iron removal. Next, enter the material cleaning sieve to remove large block, rope head and etc.. Then, by mixer machine different wooden materials with different moisture contents are evenly blended. Finally, by winnowing system remove iron materials, steel materials, little stones, etc. from raw materials for pelletizing.

2. Pelletizing line

By conveying blower, materials with suitable moisture content enter the special granulate chamber to start pelletizing. The final pellets are transported by the frilly belt conveyor to the cooling machine. After cooling, by the belt conveyor granules go to the sieve for grading. At last, satisfactory pellets go into the final product chamber and the powder is recycled by recycling system to enter raw material chamber for next pelletizing.



III. Advantages of the Pellet Mill Equipment

1. Pellet mill is the primary machine for biomass pellet production, which is suitable for large and medium scale factory with wood pellet capacity of 0.8-1.2ton/h
2. The machine is featured with compact structure, beautiful appearance, high capacity, low power consumption, easy to use, reliable operation and etc..
3. Adopting imported bearings like hollow shaft, main shaft and gear shaft
4. The wood pellet mill has different dies with diameters of 6mm, 8mm, 10mm. Customers can choose the suitable one based on their requirements.
5. Featured with frequency conversion motor for feeding, overload protection device and off machine discharging system. Feeder and conditioner are disposed separately to keep the main machine in current stability.
6. Due to high temperature and high humidity in wood granulating chamber, the main machine door and the forced feeder shell are both made of stainless steel to keep the machine more durable without corrosion in 10 years.
7. Equipped with imported automatic butter adding machine, main shaft in the main machine, rollers and bearings all can keep longer use life in the maximum limit. Therefore the main machine can do continue work in 24 hours.
8. With the unique moisture absorption and cooling system, the main machine can work in any situation.

IV. Wood Pellet Production Advantages

Based on many years' experience on wood pellet production and biomass pellet characters in China, our pellet production has the following merits:

1. In material lifting and delivering process, the adopted winnowing system can separate raw materials from foreign matters like iron, copper, aluminum, stainless steel materials. Thus, the harm in pelletizer can greatly be reduced or eliminated.
2. In granulating process, feeding blades can evenly feed material into pellet mill to reduce pellet arch phenomenon, which ensures uniform pellet production.