



Since 1883

Wood Pelleting



RECYCLING

Knowledge **THE CPM ADVANTAGE**

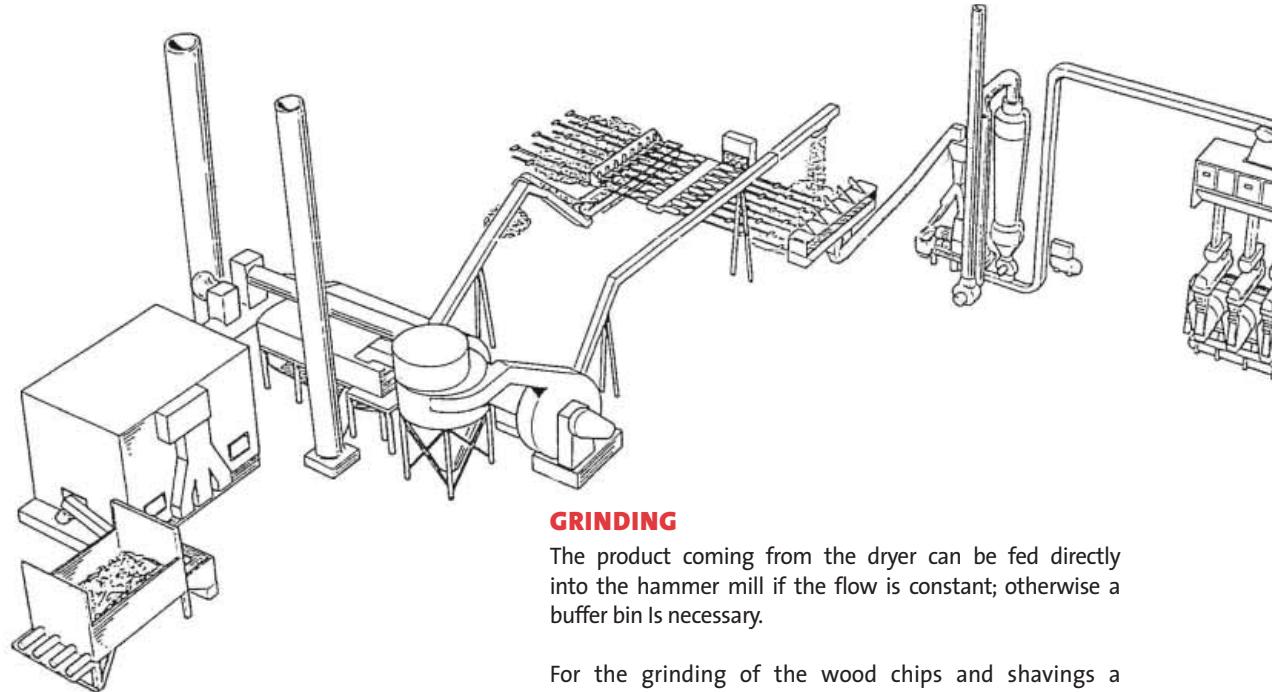
The market of Densified Biomass Fuels (DFBs) is rapidly growing. CPM combined the latest manufacturing technology to provide **the highest quality pellet mills** in the world with the best production levels ever achieved, along with excellent pellet quality.



Since 1883

Your partner

SIDE



DRYING

The majority of the wood waste is sawdust and wood Chips from spruce and pine, which comes from the saw mills. The average moisture content is between 50-60%. Therefore drying is necessary step in preparing wood residues for pelleting.

The wood particle size, entering the dryer, should be no more than 5x5x1cm, this is the most efficient size in order to obtain a moisture level between 12-14 % after the dryer. If larger pieces are to be processed pre-shredding is necessary.

The drying accuracy of the dryer should be +/- 1% because big fluctuations in the moisture, reflects in a similar variation in the pelleting process and pellet quality. Therefore an up to date online moisture-measuring instrument must be installed.

After the dryer the product is transported to the storage warehouse or temporary feed bin for a the hammer mill, depending on the process layout.

GRINDING

The product coming from the dryer can be fed directly into the hammer mill if the flow is constant; otherwise a buffer bin is necessary.

For the grinding of the wood chips and shavings a heavy-duty hammer mill is needed.

Uniform particle size is important for a good pellet quality and should have little dust content.

The CPM/ Champion Series HM hammer mill is designed for the most demanding operations. This rugged, high efficiency hammer mill is capable of fine grinding either friable or fibrous materials. The high density frame is designed to minimize noise and vibration. The series HM features the airswep "tear circle" design and Champion's patented regrind chamber. The Series HM engineering combines with the latest in manufacturing technology to provide you with the highest quality hammer mill on the market. The material is ground down through Ø8mm screens in order to obtain the optimum size for pelleting.

Besides wood chips and sawdust this machine can also handle wet bark and construction wood chips.

A spark detection system is recommended to reduce the risk of fire and increase safety.



Wood Chips



Shavings

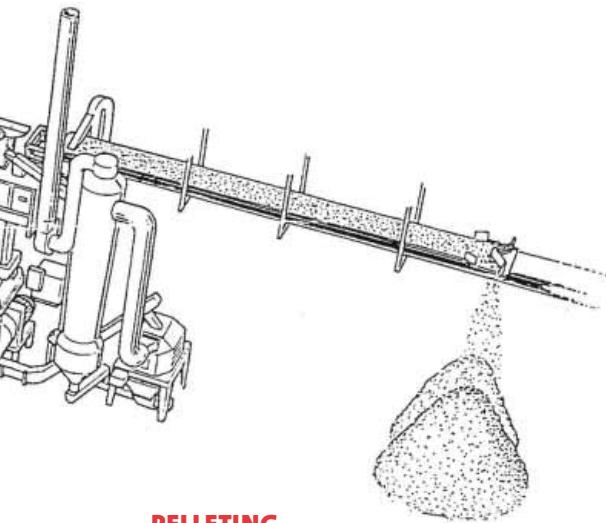


After Hammer Mill



Wood Pellets

in productivity



PELLETING

As world's largest manufacturer of pellet mills, CPM has led the way in developing specialized pellet mills and dies to produce wood pellets both efficient and economical. Innovative engineering and design have been combined with the latest manufacturing technology. The pellet mills are built to operate 24 hours a day under tough running conditions to match the output requirements. Extensive field research has proved the one piece cast gear box produces continuously in the most adverse condition worldwide. Most of CPM's gearboxes feature pressurized oil lubrication onto helical gears. The smart no-nonsense design and CPM's high standards ensure a long trouble free use.

CPM boasts a line of Heavy-duty pellet mills for wood production. Wood pellets can be used for both household and industrial use. The diameter of the pellets are 6 mm for household up to 10 mm for industrial.

COOLING

After pelleting the pellets must be cooled to enhance pellet hardness and storage stability. CPM counter flow coolers are the most advanced in the industry. Counter flow coolers provide efficient, trouble-free and affordable cooling. Simple in design, mechanically trouble-free and requiring minimal space, the CPM counter flow cooler provides improved moisture control and low-shock tempered cooling.

CPM's advanced product enhancements mean your product is cooled efficiently and your equipment provides years of trouble-free service.

Pellets will enter the cooler and are cooled by means of an airflow, which enters the cooler through the discharge gate and leaves the cooler from the air outlet. The discharge air contains moisture and wood dust, which are separated in a high efficient cyclone. After discharge via the triple grid discharge mechanism the product will be passed over a sieve to ensure a clean and dust free high quality product.

Typically wet wood waste is stored outside on a concrete floor to avoid contamination with sand or stones. The **raw material** is usually transported into the dryer system by means of a shovel. Often the shovel operator has the possibility to take material from various sources and feed in to a crude product drying system.

Drying is the most energy consuming operation in a wood pelleting plant. Required energy input for drying of saw dust is around 1 MW per ton of water evaporated. Both drum type and belt type dryers are used, depending on the availability of drying energy. For example, bark can be used to feed the burner of a drum dryer and condensate from drying kilns can be used to feed the heat exchangers of belt dryers.

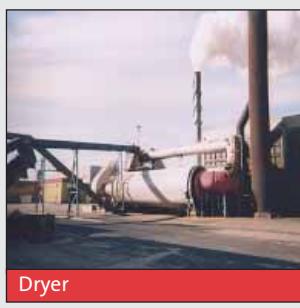
Hammer mill grinders are the most suitable machines to reduce the particle size of the fibrous shavings, dust or chips. The Champion hammer mills are very robust, provide an extremely high hammer tipspeed, as well as a minimum clearance between hammer and screen. These features guarantee the most energy efficient grinding process.

CPM **Pellet mills** provide all the tools to produce pellets at high capacity, low energy consumption and with superior pellet quality. Due to special die and roller design, the production cost has been reduced to a minimum. Because of the heavy duty gearbox construction, the CPM pellet mills have proven to be the strongest and most reliable machines on the market.

Cooling of the pellets is required to obtain a stable end product. The pellets can now be sifted and stored. Often the pellets are stored in either silos or in a flat storage. In some cases pellets are supplied in 20 kg bags.



Raw Material



Dryer



Hammer Mill



Pellet Mill



Finished Product



Cooler



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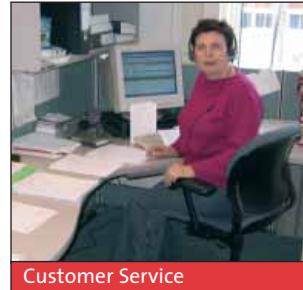
Worldwide



Engineering



Production



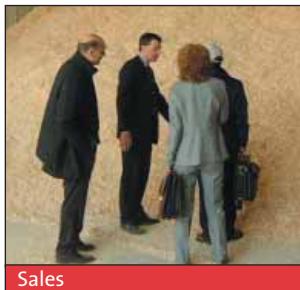
Customer Service



Application technology



Service Teams Worldwide



Sales



Support



Die plant

CPM offers service through a worldwide network of local agents in nearly every country. They get supported directly from the regional headquarters by teams of pelletizing technology specialists.

SALES DEPARTMENTS

Our establishments are staffed with qualified sales, engineering and service personnel and are well stocked with dies, parts and accessories. This ensures prompt efficient processing of all customer service requirements.

CONTACT

Please feel free to contact your local agent, our offices or our Internet sites www.cpmeurope.nl or www.cpmroskamp.com



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