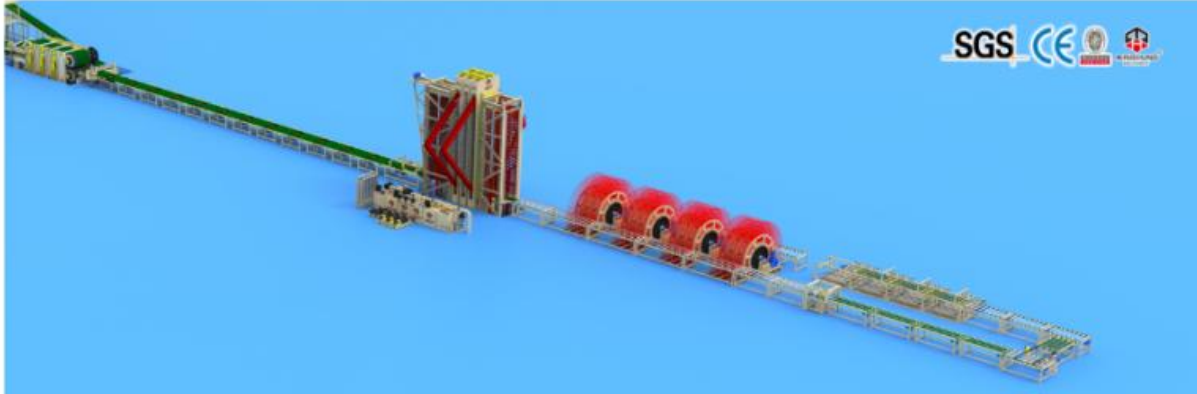


➤➤➤ MDF/HDF Production Line



Medium Density Fibreboard (MDF) / High Density Fibreboard (HDF) are versatile and widely used material in the construction and furniture industries. It is known for its durability, affordability, and ease of use.

MDF /HDF is a type of engineered wood product that is made by breaking down hardwood or softwood residuals into wood fibers. These fibers are then combined with wax and a resin binder, such as urea-formaldehyde, to form panels under high temperature and pressure. The result is a smooth, uniform, and dense board that can be easily shaped, cut, and machined.

The production of MDF /HDF involves several crucial steps, each contributing to the final quality and characteristics of the board. Mainly as below:

1. Raw Material Preparation section:

The first step in MDF /HDF production is the preparation of raw materials. Hardwood or softwood logs are debarked and chipped into small pieces. These wood chips are then screened to remove impurities and sorted based on their size and moisture content.

2. Fiber Production section:

In this step, the wood chips are further processed to produce wood fibers. The chips are subjected to a refining process, where they are mechanically broken down into individual fibers. This refining process enhances the fiber bonding ability, resulting in a stronger final product.

3. Drying section:

The moisture content of the wood fibers is reduced through a drying process. This is crucial to ensure the stability and dimensional accuracy of the MDF /HDF panels. The fibers are typically dried in large rotary dryers or using a hot air drying system.

4. Defibrator section:

The wood chips cut by the chipper are preheated and cooked, separated mechanically, and the fibers are obtained.

This step is directly related to the quality of the final density board

The defibrator mainly includes chip preheating bin, cork screw, cooking vat, electronic control system, lubrication system

Advantages:

- > Heavy and solid machine frame and body, ensure working stable
- > The shell of cooking vat is stainless steel material, anti-corrosion, and long life span.
- > Equipped with Power failure protection device, accumulator, main motor inertia power transmission system

5. Blending and Resin Application section:

The dried wood fibers are blended with resin binders and other additives. The resin binder, commonly urea-formaldehyde, helps to bind the fibers together during the pressing stage. Other additives, such as paraffin wax, may be added to enhance water resistance and improve the board's surface quality.

6. Forming and Pressing section:

The blended fibers are spread evenly onto a forming line, where they are formed into a mat. The mat is then transferred to a hydraulic press, where it undergoes a high-pressure and high-temperature process. This process compresses the fibers and activates the resin binder, resulting in the formation of a solid, dense board.

7. Cooling section:

After the pressing stage, the MDF /HDF panels are conveyed to the cooling rack, for cooled down to room temperature.

8. Trimming and sanding section:

The panel will be the next step, to achieve the desired thickness, smoothness, and surface finish.

Trimming machine for trimming and cutting MDF /HDF edge, make its edge be clean and tidiness, and each one is same size.

Sanding machine for calibrating MDF /HDF thickness, make its thickness be accurate and balance, and polishing its surface, make its surface be smooth.

9. Electronic control system:

We use good brand control parts like Siemens PLC control system, Schneider switch, and others, and it is Fully automatic control

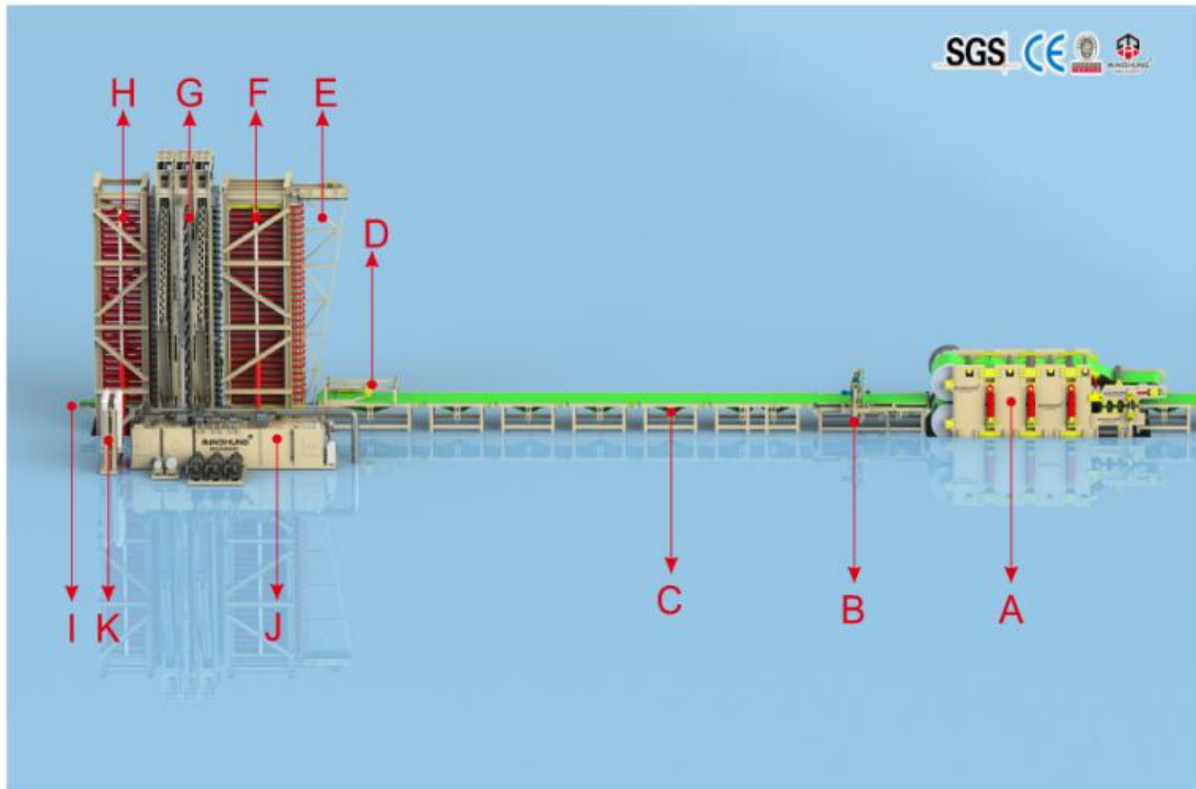
10. Energy center

Energy center is designed to offer heating energy for wood based panel industry, it uses the wood bark, panel waste, veneer waste, sawdust and others come out from Panel production as the fuel, producing multiple heat carrier as the conduction oil, steam, hot wind and so on. It realizes High efficiency, Energy conservation, Environmental protection.

MDF /HDF production is a complex and precise process that requires careful attention to detail. It is high requires for manufacturer production technique

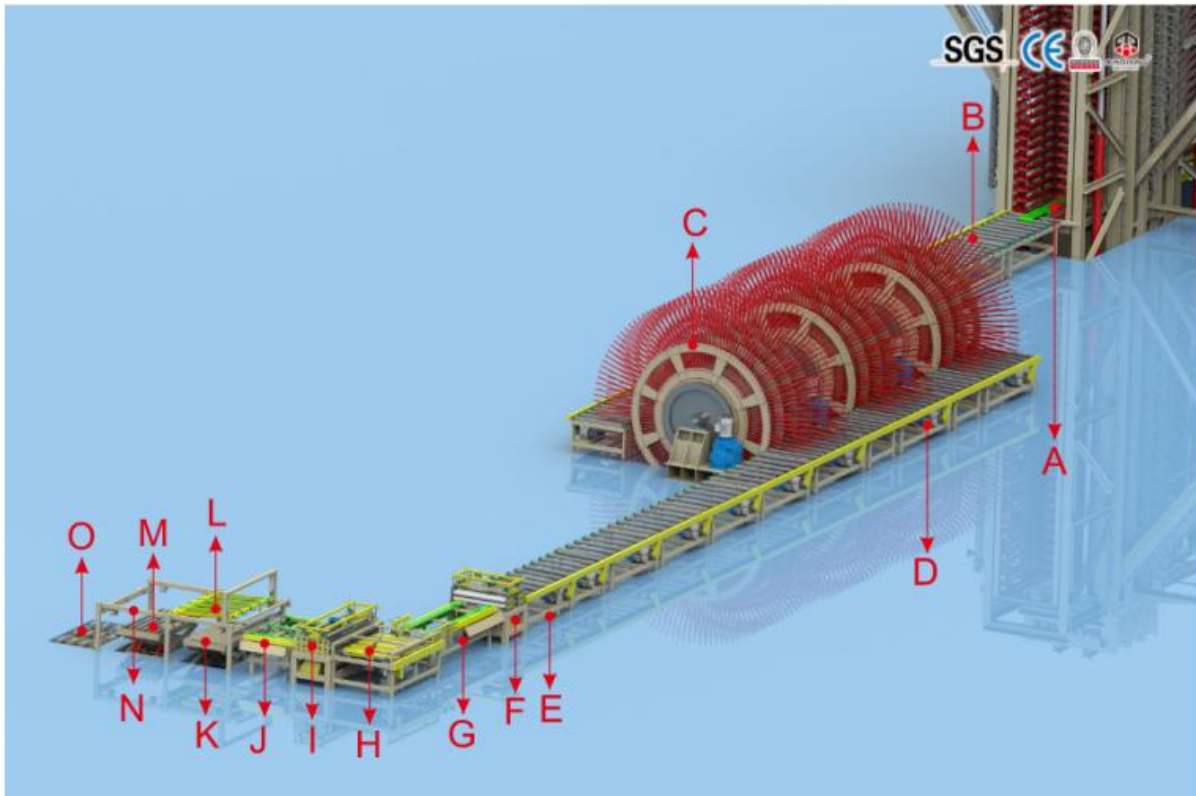


Multi-opening hot press and Continuous pre press Line



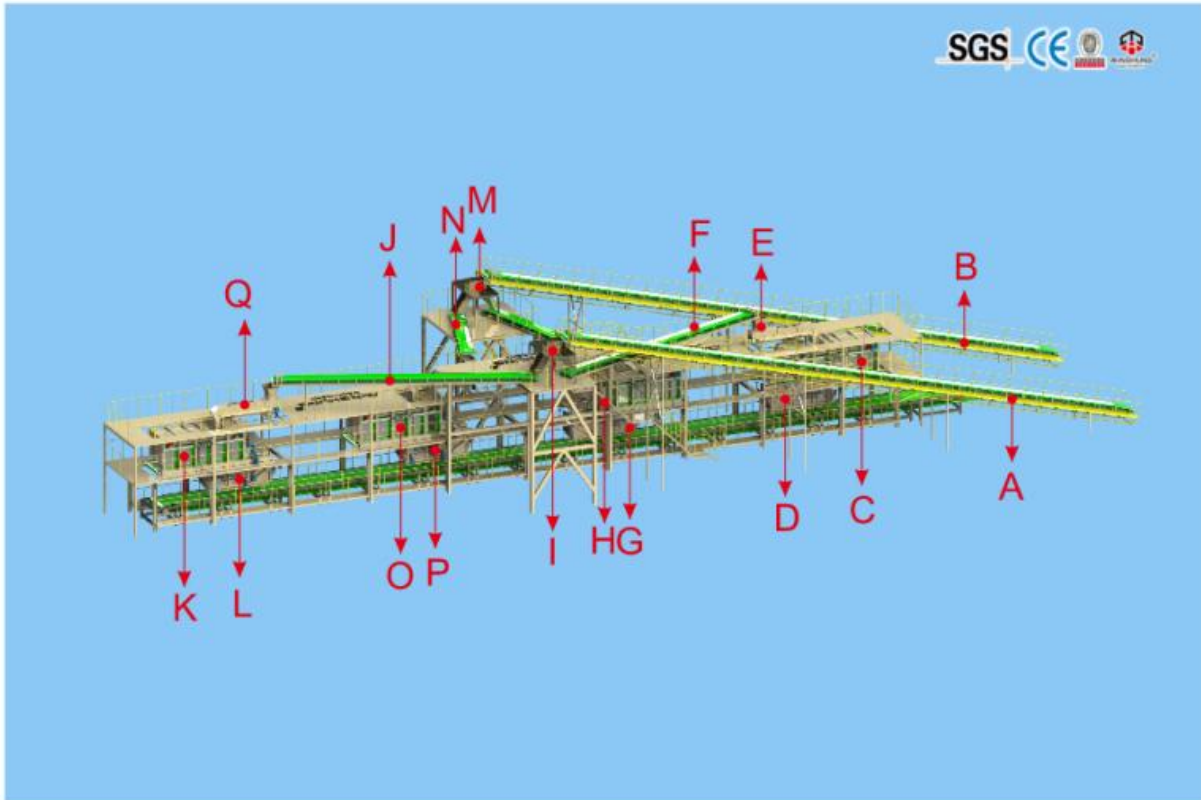
- A. Continuous pre press
- B. Synchronous crosswise cutting saw
- C. Plate blank conveyor
- D. Infeeding plate blank conveyor
- E. Push plate device
- F. Auto loader
- G. Hot press machine
- H. Auto unloader
- I. Unloading belt conveyor
- J. Oil tank (Hydraulic station)
- K. Energy accumulator

Edge cutting machine and board cooling frame



- A. Unloading belt conveyor
- B. Feed roll conveyor
- C. Panel turnover machine
- D. Unloading roll conveyor
- E. Feed roller conveyor for Longitudinal edge saw
- F. Longitudinal edge saw
- G. Unloading roll conveyor for Longitudinal edge saw
- H. Feed roll conveyor for Lateral edge saw
- I. Lateral edge saw
- J. Unloading-board roller conveyor for Lateral edge saw
- K. Unloading lift table
- L. Transition belt conveyor
- M. Unloading lift table
- N. Automatic stacker
- O. Unloading-board ground roll

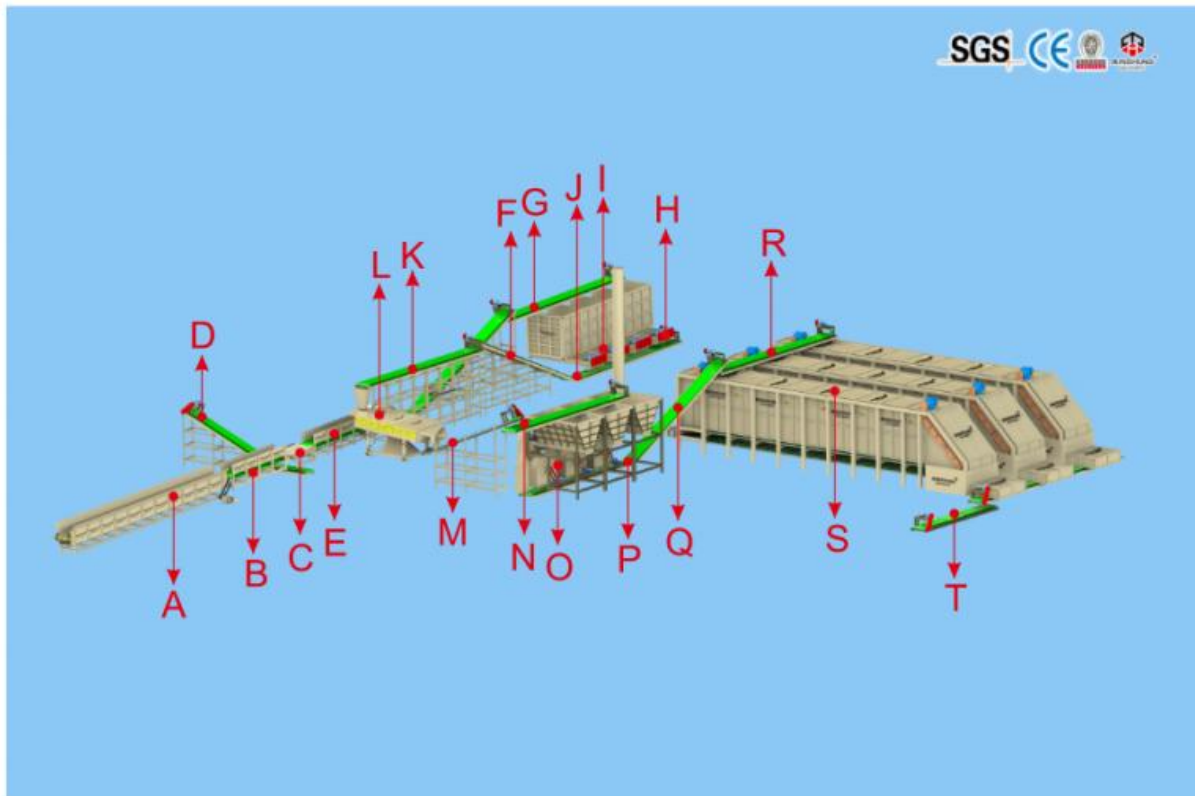
Mat forming machine



- A. Surface belt conveyor
- B. Core belt conveyor
- C. Surface measuring box
- D. Surface forming box
- E. Surface swing measuring belt
- F. Surface separator belt conveyor
- G. Core forming box
- H. Core measuring box
- I. Surface separator opening
- J. Surface separator belt conveyor
- K. Surface measuring box
- L. Surface forming box
- M. Core separator
- N. Core separator belt conveyor
- O. Core measuring box
- P. Core forming box
- Q. Surface swing measuring belt



Core layer preparation process flowsheet



- A. Log conveyor
- B. Feeding belt conveyor
- C. Bark peeling machine
- D. Waste recycling belt conveyor
- E. Belt conveyor of wood chipper
- F. Unloading belt conveyor of wood chipper
- G. Feeding belt conveyor of wood chips silo
- H. Wood chips silo
- I. Unloading spiral conveyor
- J. Unloading belt conveyor
- K. Feeding belt conveyor of vibrating screen
- L. Vibrating screen
- M. Unloading belt conveyor of vibrating screen
- N. Feeding belt conveyor of flaker
- O. Wood flaker
- P. Wood chips transition bin
- Q. Belt conveyor of wet shavings silo
- R. Feeding belt conveyor of wet shavings silo
- S. Wet shavings silo
- T. Unloading belt conveyor of wet shavings silo

Multi-opening hot press



»» Energy center



➤➤ Drum dryer

