PRODUCT
CATALOGUE

FLAX DECORDING LINE

Machine manufacturer for flax, hemp, kenaf, and other natural fibers.

- We are the sole company in Turkey that designs, manufactures, and sells machinery for processing flax and hemp fiber production lines.
- We process flax and hemp straw to produce long and short textile fibers through breaking and combing processes.
- To mitigate the risk of fire, we install an automatic fire detection and suppression system along the production line.
- With the existing chip vacuum system under the line, we transport non-fibrous foreign materials out of the line.
- To maintain the moisture balance of the flax straw to be processed, we have a humidification and drying unit in our lines capable of humidifying when necessary and drying when needed

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Trust at every step, success in every project

ABOUT US

RNG FOREIGN TRADE
RNG foreign trade produces linen, hemp, fiber, infrared, textile, chemical and dye, automotive, wood and wood, energy, food, plastic, aviation, glass, metal, paper and printing drying technologies and turnkey projects for the printing industry, produces design, automation and mechanical manufacturing in-house, with an experienced staff of engineers and technicians. RNG foreign trade provides services in these areas in all fields from process designs, project management, manufacturing and procurement of process equipment to the establishment of turnkey facilities. Our RNG foreign trade company is open to new technologies and is able to produce technical solutions in accordance with the current conditions and structure with its experienced expert staff, methodical accuracy and sensitivity to producing optimal solutions in projects at all levels are growing every day

OUR MISSION

Our Mission is to adhere to our commitments and deadlines, conducting quality production supported by R&D, in line with norms and standards, and to provide the services or technical support requested by our customers in the fastest and most efficient manne

OUR VISION

Our Vision is to make maximum use of evolving technology to ensure harmonious, safe, and healthy conditions for our customers and personnel, at the ultimate product point, in the application and use of the equipment and materials we use

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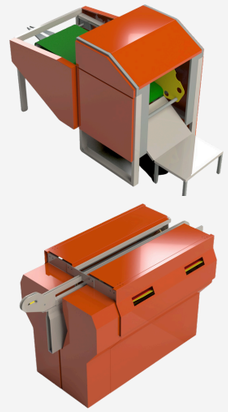
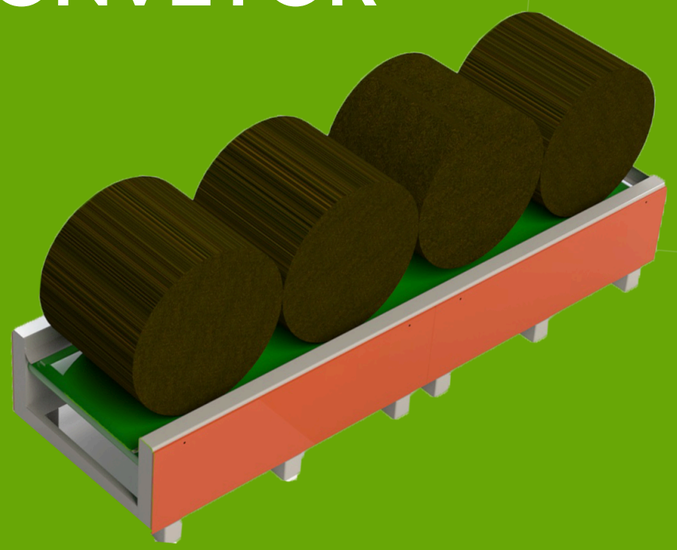
DIŞ TİCARET LTD. ŞTİ.



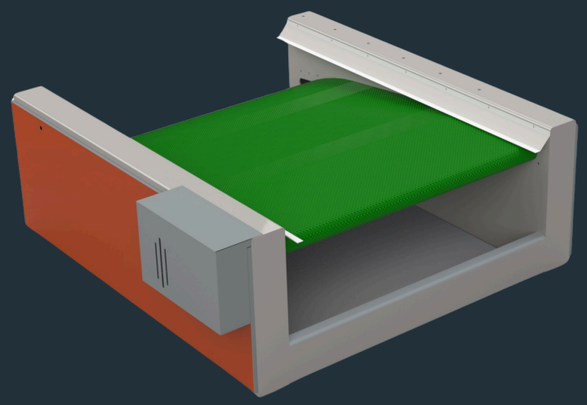
PRE-WAITING CONVEYOR



Pre-Waiting Conveyor

Located at the initial entry of the long flax fiber processing line.
Flax bales coming from the warehouse are placed on this conveyor for processing.
The operator sequentially sends the bales to be processed through this conveyor for the next processing stage.
Bales from the pre-waiting conveyor move on to the bale preparation conveyor.

BALE PREPARATION CONVEYOR



Bale Preparation Conveyor

The bale preparation conveyor allows the operator to remove the strings holding the bale and to open the bale. This enables the bale to be ready for the subsequent processing stage. After removing the strings from the bale, the operator arranges the bale on the conveyor for preparation to the bale opening conveyor. This ensures that the bales are opened and processed smoothly.

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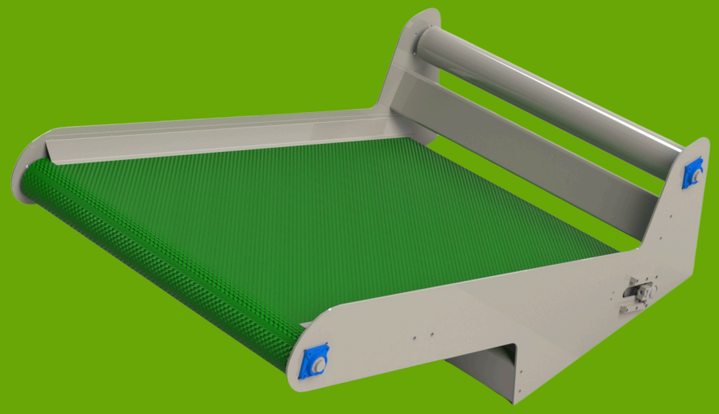
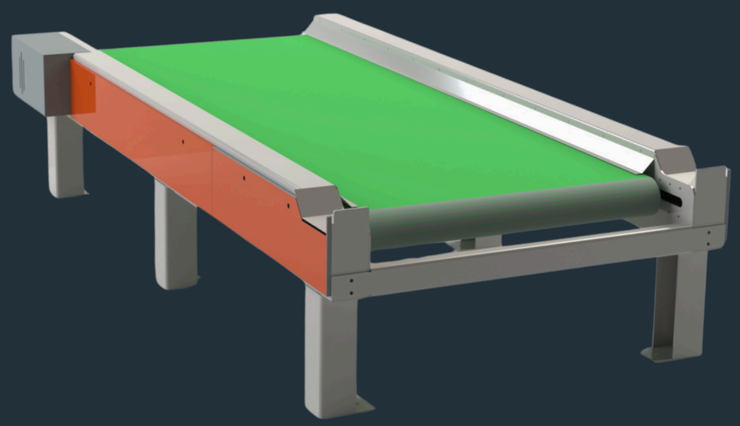
BALE OPENER CONVEYOR



Bale Opener Conveyor

Enables effective opening of flax bales and their transfer to the spreading conveyor. Thanks to this crucial function, the flax fibers inside the bales are spread out evenly, ready for the processing stage. The bale opener delicately loosens the outer part of the bale, releasing the fibers inside for proper processing, thus ensuring the healthy processing of these fibers. Subsequently, the opened bales are transferred to the spreading conveyor, transitioning to the next step in the processing line. This process enhances production efficiency by optimizing the use of flax fibers, allowing for the production of high-quality products.

BALE SPREADING CONVEYOR



Bale Spreading Conveyor

Allows for the reorganization of flax stalks in the correct direction and uniform thickness, while removing foreign objects. A hood is integrated onto this conveyor to capture all airborne dust accumulating on the stalks during operation. The design of this hood includes a recessed part to provide a comfortable position for the operator. The bale spreading conveyor feeds flax to the magnetic conveyor.

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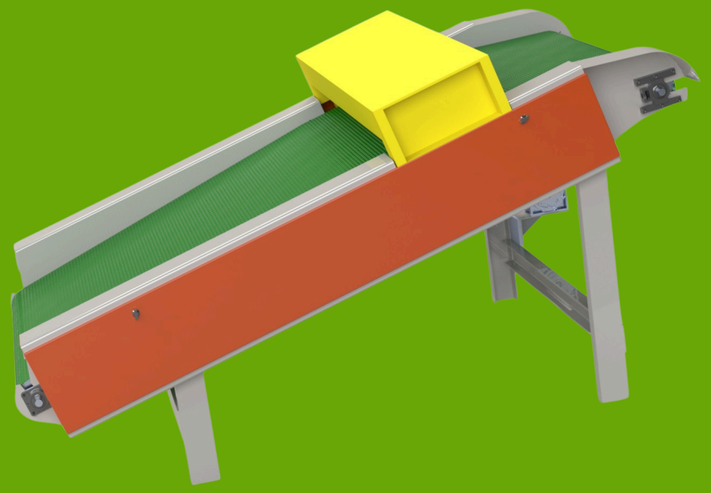
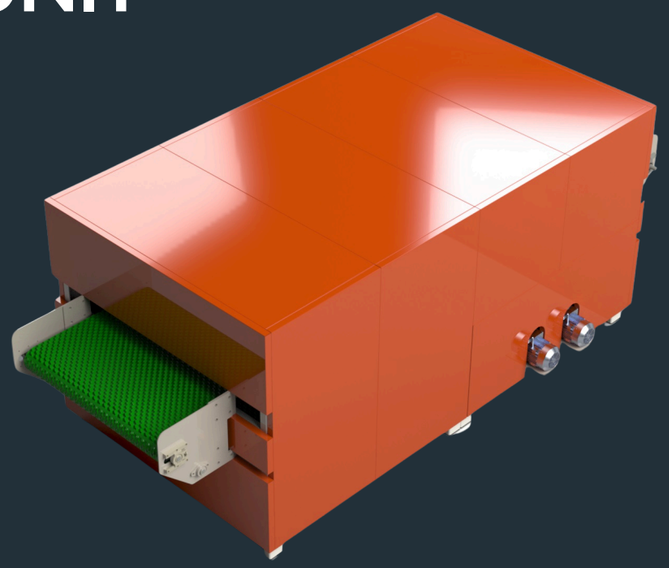
MAGNETIC METAL DETECTOR CONVEYOR



Magnetic Metal Detector Conveyor

The magnetic conveyor is designed to detect and collect metal pieces from spread flax straw. The product passing through the magnetic conveyor is transported to the drying and humidification unit.

DRYING AND HUMIDIFICATION UNIT



Drying And Humidification Unit

The drying and humidification unit is used to dry or humidify the moisture content of flax straw up to 16%. This stage ensures that the flax fibers are brought to the desired moisture level for more effective use in subsequent processes. Proper adjustment of the moisture content of flax is a critical factor affecting the quality and durability of the final product. The drying process removes the natural moisture of flax, preventing deterioration during storage, while humidification prepares it for processing in dry conditions. Subsequently, the processed flax straw is passed through a spreader to prepare for the next stages.

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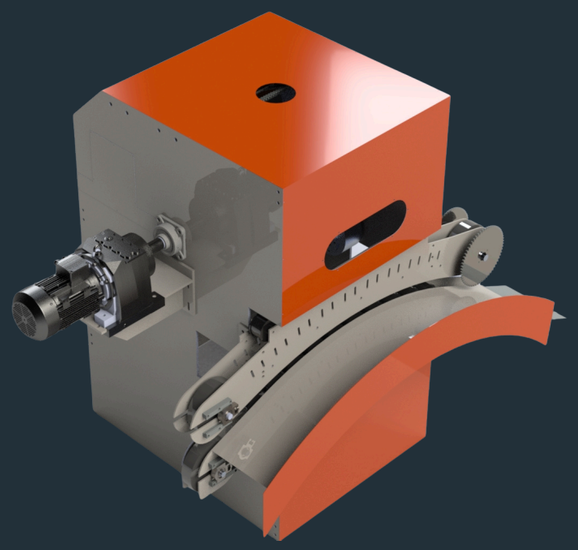
ALIGNMENT CONVEYOR

Alignment Conveyor

Facilitates the operator's task and ensures the regular and even feeding of flax stalks to the seed separation unit. This crucial stage plays a vital role in increasing efficiency during the processing process and ensuring product quality. Through the alignment process, the operator can transmit flax stalks to the seed separation unit in a regular manner, thus achieving a more homogeneous processing process. Additionally, the alignment process reduces the operator's workload and provides a more organized flow in processing lines.

SEED SEPARATION UNIT



Seed Separation Unit

In seed separation, an alternative comb principle with teeth mounted on a modular support is used. It is possible to adjust the number and spacing of the comb teeth. The flax layer passes from top flow to bottom flow, compressed between a profiled belt and a rubber driven by a direct-drive motor. Access to the working components is through doors at the top and bottom, protected by electrical contacts. In seed separation, seed husks are removed from the stalks, seeds fall into the compartment below, and the stalks are fed to the straightener.

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FEEDING UNIT

Feeding Unit

During the feeding stage, flax stalks are arranged in a specific order using special gears. This process is done to ensure that flax stalks are processed more effectively in subsequent stages. The aligner is an important equipment used to align flax stalks in a regular manner and optimize the flow in the processing line. Once the flax stalks are arranged in the order determined by the aligner, they are fed into the crusher. This allows the crusher to work more uniformly and effectively, preparing the flax stalks for the processing stage. This alignment process in the feeding stage increases the efficiency of the processing process while also improving the quality of the final product.

FLAX CRUSHER

Flax Crusher

The crusher is designed to break the woody part of the flax stalk, consisting of a series of toothed fluted cylinders fixed and driven to rotate by the lower row of crushing cylinders, freely rotating on an axis under pressure from the upper row. When there is no compressed air, the upper row of crushing cylinders can be raised to the upper position for access to the service area. After the crusher, the product enters the beater.

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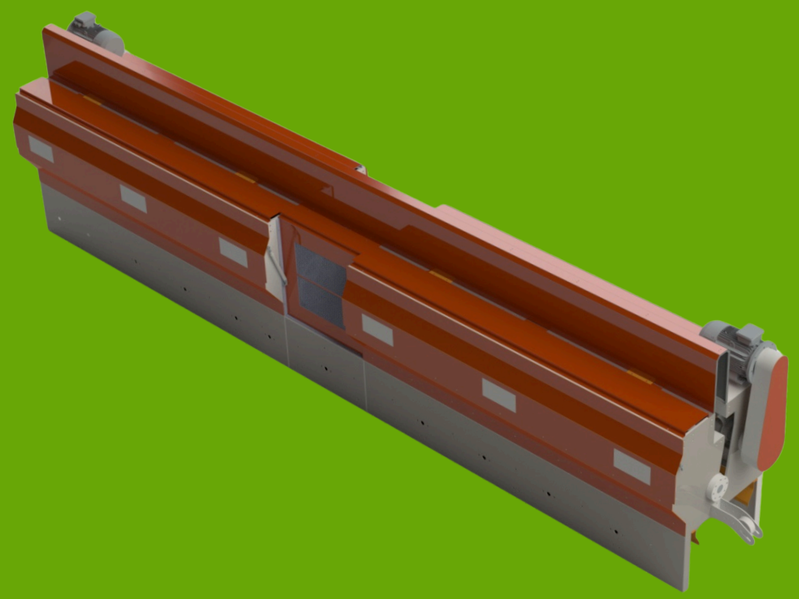
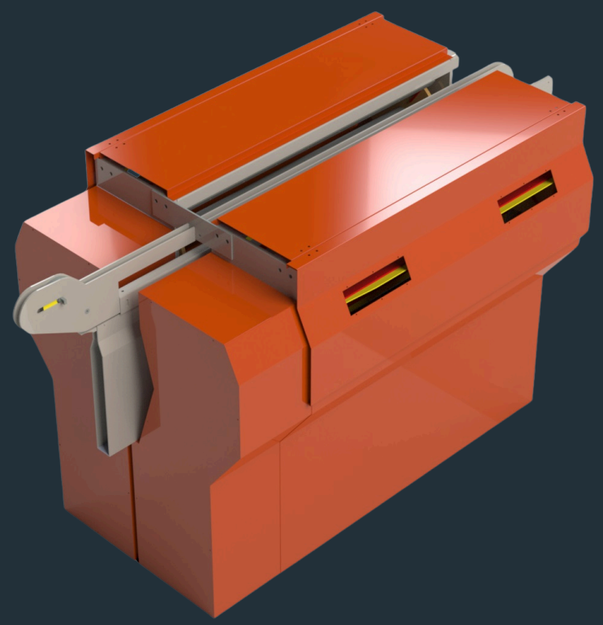
BEATER UNIT



Beater Unit

During the beating stage, crushed flax stalks undergo an effective scraping and beating process to clean their fibers. This process removes unwanted residues from the flax fibers, thereby increasing the quality of the final product. In the beater, the right side is processed first, followed by the left side after the takeover area. This arrangement ensures that each stage of the processing process occurs in a balanced and efficient manner. Subsequently, the product moves from the beater to the scraper. The scraping stage is important for further cleaning the fibers and preparing them for the continuation of the processing process. The meticulous implementation of these stages enhances the quality of the final product, ensuring customer satisfaction, and optimizing the efficiency of the processing line.

FLAX POLISHING UNIT



Flax Polishing Unit

The flax polishing fibers provide feed to the quality control panel by straightening with leather wings. After the mill, the fibers are transported to the quality control panel.

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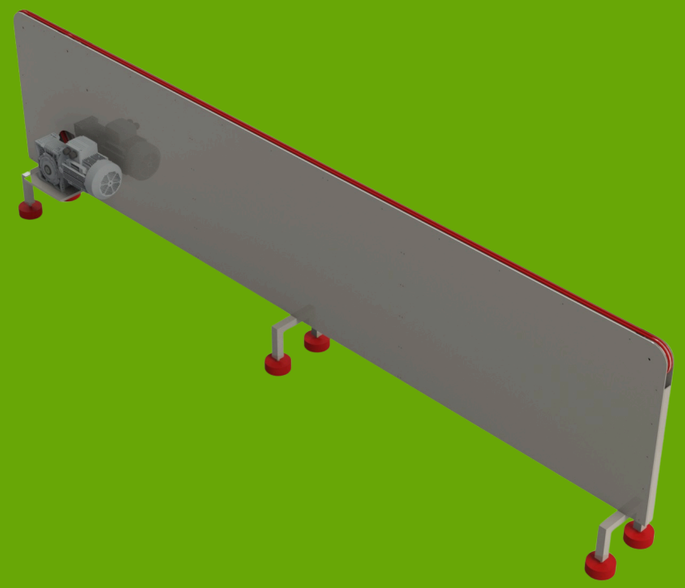
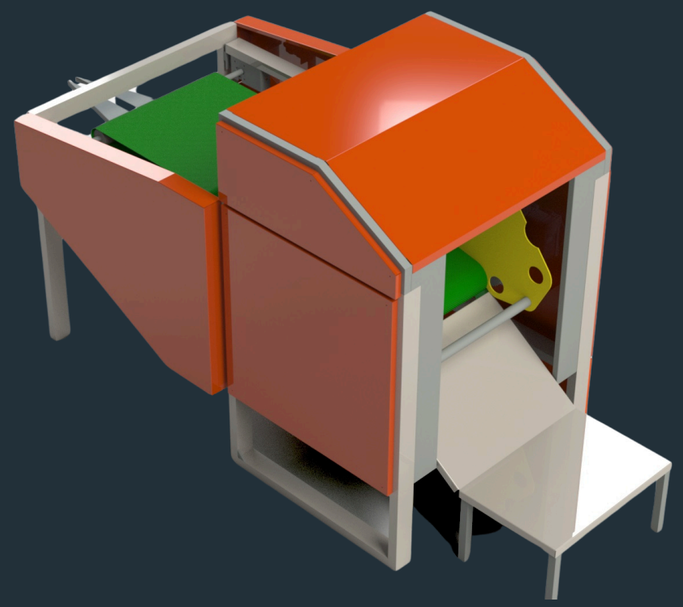
BALE WRAPPING UNIT



Bale Wrapping Unit

In the baling unit, long fiber units are tightly wrapped into round rolls with the help of a special thickness controller and regulating system. This stage prepares the flax fibers for storage and transportation. The thickness controller in the baling unit ensures each roll is tightly compressed and of the desired thickness. The regulating system ensures the rolls are wrapped smoothly and prevents unwanted deformations. As a result, the baling unit enhances the efficiency of the processing process by allowing for the practical and effective storage of flax fibers while maintaining the quality of the final products.

QUALITY CONFOR CONVEYOR



Quality Confor Conveyor

At the quality control panel, cleaned fibers are carefully collected and transported on two belts at low speed for detailed examination by operators. In this stage, each fiber is meticulously inspected, and its conformity to quality standards is checked. Operators identify any defects or quality issues by examining the fibers and perform the necessary sorting. Subsequently, the fibers are sent to the baling unit. Thus, the quality control conveyor ensures the highest quality of final products, increasing customer satisfaction and operational efficiency.

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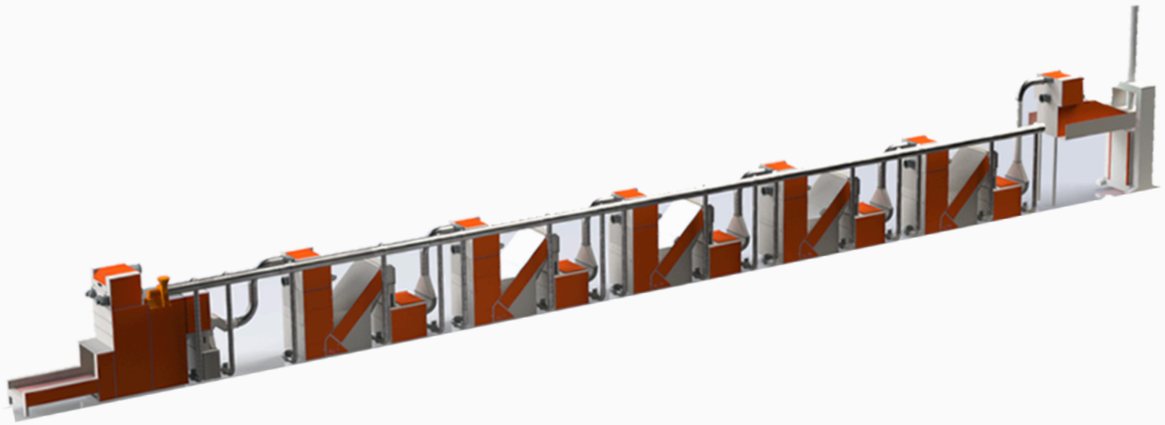
SHORT FLAX CLEANING LINE



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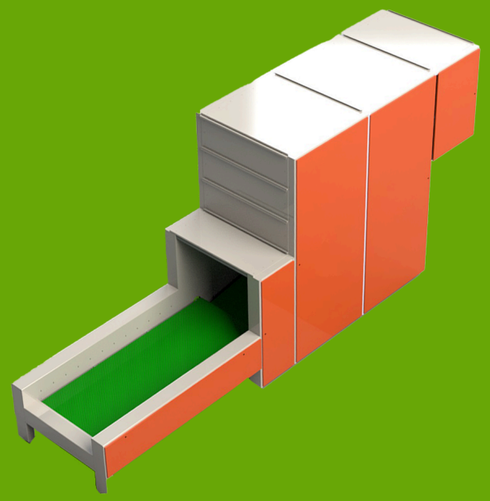
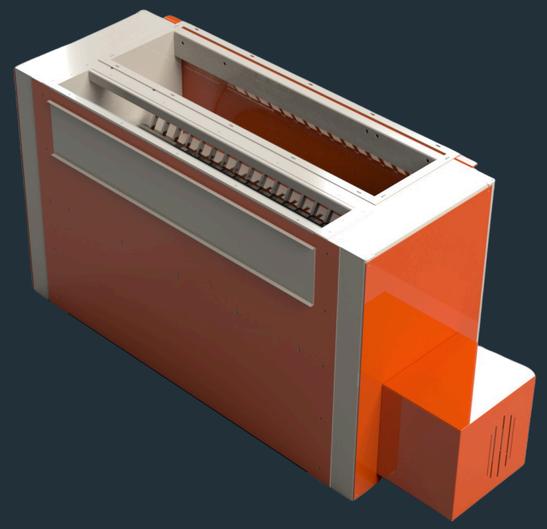
BALE OPENER



Bale Opener

The product has excellent opening and mixing features, along with a very good cleaning capability (through adjustable grids below the two openers for flax). Dirty short fiber spills onto the belt in front of the bale opener. The belt feeds until the hopper in the photoelectric control inside the bale opener is filled. The second belt under this hopper activates based on the demand from the line and feeds the material from the needled mesh belt to the opener cylinders. The amount of material on the line can be reduced or increased according to the desired frequency of the needled mesh using a frequency-controlled motor. Then the product is poured from the bale opener cylinders to the bale opener.

SHREDDING UNIT



Shredding Unit

The shredding unit is cleaned from unprocessed woody residues through product beaters and directs the condenser product by sucking and purifying it from dust towards the tower opener. Grills are located under the beaters of the patos, and foreign substances in the flax fibers are cleaned to some extent with these. Metal pieces are detected and collected using a magnet placed in the pipe from the patos to the condenser.

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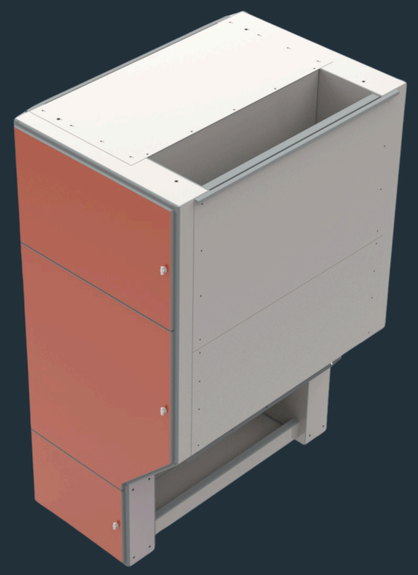
CONDENSER

Condenser

The condenser is used for conveying fibers and simultaneously purifying the dust within the fibers. The fan inside the condenser draws air from both sides of the condenser screen, enabling the fibers to be sucked from the previous machine. As the fibers pass through the condenser screens, they are purified from dust and are opened before being fed into the feeding unit. The dusty air from the fan should be directed to the dust filter.

TOWER OPENER



Tower Opener

There is a reservoir on top of the tower opener. The photoelectric arrangement here controls the flax level and sends a command to the previous machine. There is a pair of feeding cylinders at the base of the reservoir tower. With the help of these cylinders, flax is regularly sent to the spiked beating cylinder. The speed of the exit cylinders is adjusted with speed control. Grills are located under the spiked cylinder, and foreign substances in the flax fibers are cleaned to some extent with these. The flax fibers are then moved to the inclined opener.

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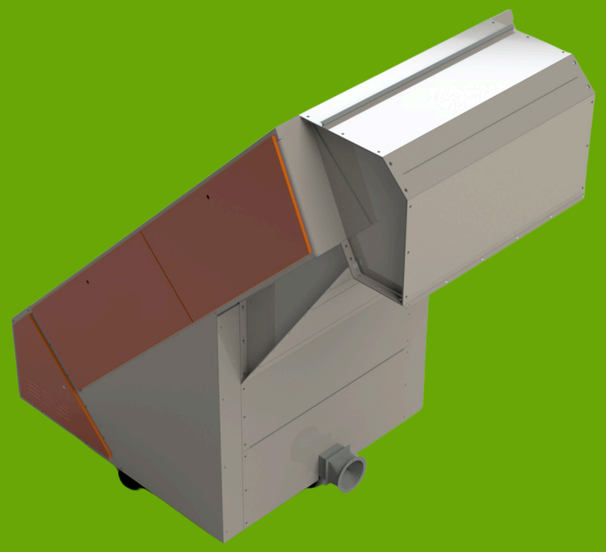
INCLINED OPENER



Inclined Opener

The inclined opener machine is one of the most effective fiber cleaning machines. Six beating cylinders are placed gradually. As the cylinders lift the fibers upwards, foreign substances are expelled from the grids under the cylinders due to centrifugal force. Special shapes are given to the beating fingers to prevent fiber damage during beating. There are grids under each of the six beaters. The debris falling from the bottom of the machine is continuously sucked by the aspirator due to the machine's bottom design. The product from the inclined opener is transferred to the needle opener.

NEEDLE OPENER

Needle Opener

The fibers poured onto the frequency-controlled feeding belt of the needle opener come to the cylinder with needles. Foreign substances are expelled from the grids under the needled opener. The fibers exiting the needled opener are sucked by the condenser, thus being purified from dust. The short fibers that exit are pressed in a vertical press. After the needle opener, the product is sequentially pulled by condensers (each five times), purified from dust, and functions again in tower, inclined, and needle openers. The short fibers are then transported to the vertical press by the condenser.

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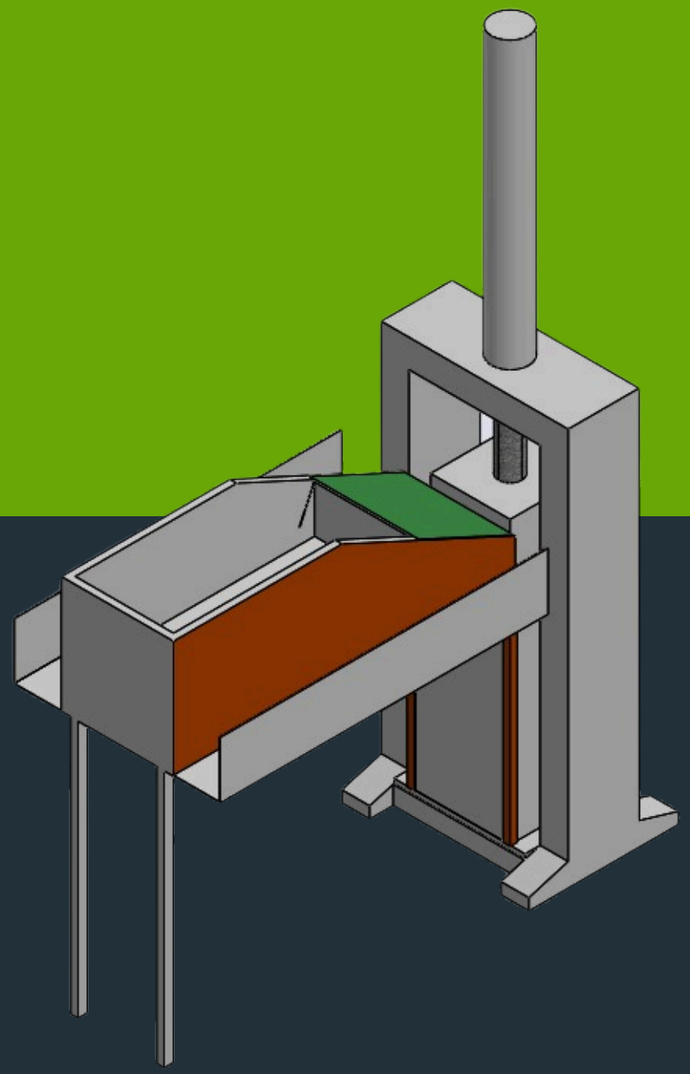
VERTICAL PRESS



Vertical Press

The vertical press machine automatically detects incoming fibers from the line and presses them, providing audible and visual alerts at the end of the process for manual bale tying with wire or plastic strapping. The cleaned fibers from the needle opener are pulled by the condenser and transferred to the press feeding conveyor of the vertical press. The accumulated products in the feeding conveyor are emptied into the press chamber. Once the product quantity reaches a sufficient level, the products are pressed to form rectangular bales, tightly wrapped and packaged.

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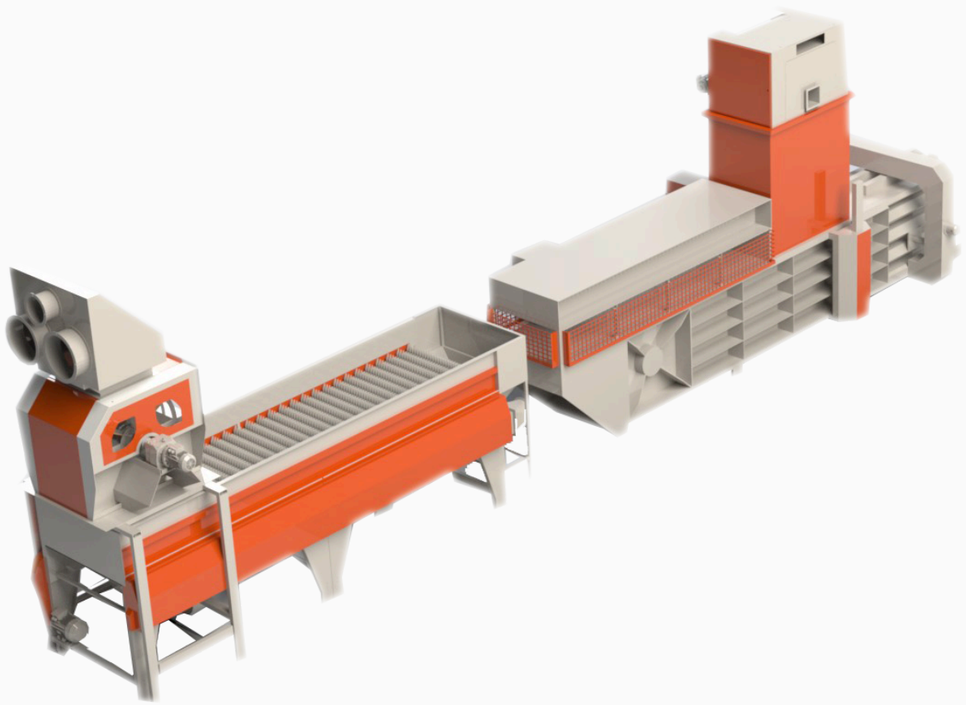
INTERMEDIATE BALING UNIT



The fibers and chips poured under the two long line beaters are conveyed by carrier fans to the condenser on top of the shaker. From here, the fibers poured onto the shaker are pushed correctly by impact arms while the chips are dropped down, cleaning the fibers. The cleaned fibers are directed to the horizontal press or the condenser of the short line bale opener. The chips dropped down are transported to the chip storage with transport fans.
The fibers cleaned in the shaker are transported to the horizontal press through the condenser. When the product reaches the sufficient level in the press chamber, it is pressed. The pressed products are wrapped with wire and removed from the machine in bale form.

SHAKER

Shaker

The fibers and chips poured under the two long line beaters are conveyed by carrier fans to the condenser on top of the shaker. From here, the fibers poured onto the shaker are pushed correctly by impact arms while the chips are dropped down, cleaning the fibers. The cleaned fibers are directed to the horizontal press or the condenser of the short line bale opener. The chips dropped down are transported to the chip storage with transport fans.

CONDENSER

Condenser

The condenser is used for conveying fibers and simultaneously purifying the dust within the fibers. The fibers are purified from dust as they pass through the condenser screens. The dusty air from the fan should be directed to the dust filter.

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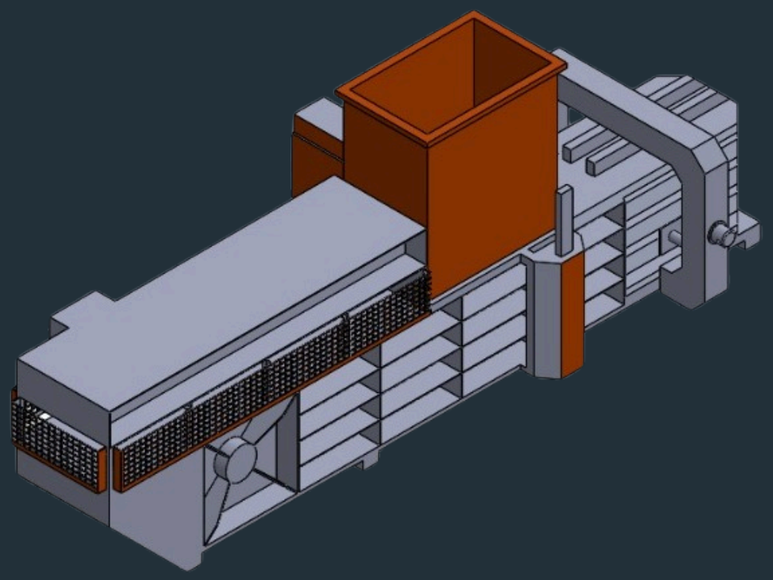
CONDENSER

Condenser

The condenser is used for conveying fibers and simultaneously purifying the dust within the fibers. The fan inside the condenser draws air from both sides of the condenser screen, enabling the fibers to be sucked from the previous machine. As the fibers pass through the condenser screens, they are purified from dust and are opened before being fed into the feeding unit. The dusty air from the fan should be directed to the dust filter.

HORIZONTAL BALER



Horizontal Baler

Designed for companies with large areas and volumes of waste to be pressed, the Horizontal Press is equipped with a fully automatic binding system and is fed from above by a condenser. It can be easily adapted to automation systems and features an automatic binding system. The Horizontal Fully Automatic Baling Press Machine is used to press dirty short fibers coming from the long line.

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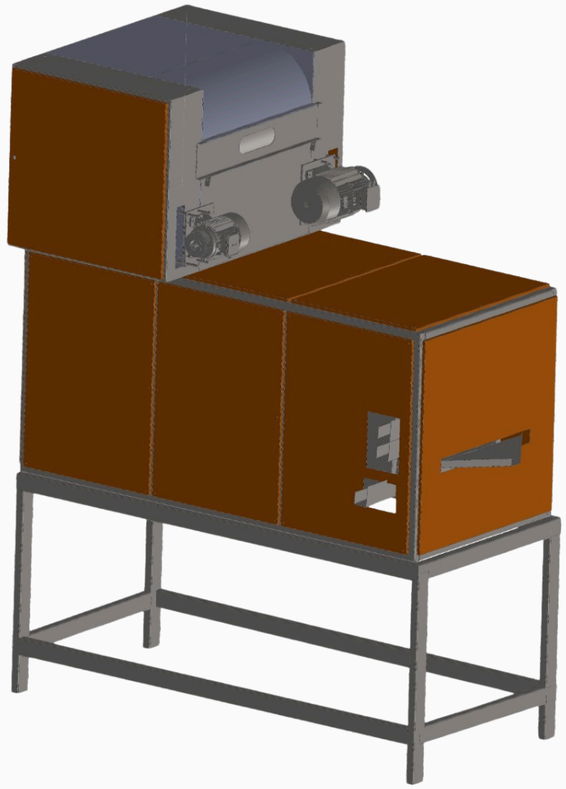
SCREENING LINE



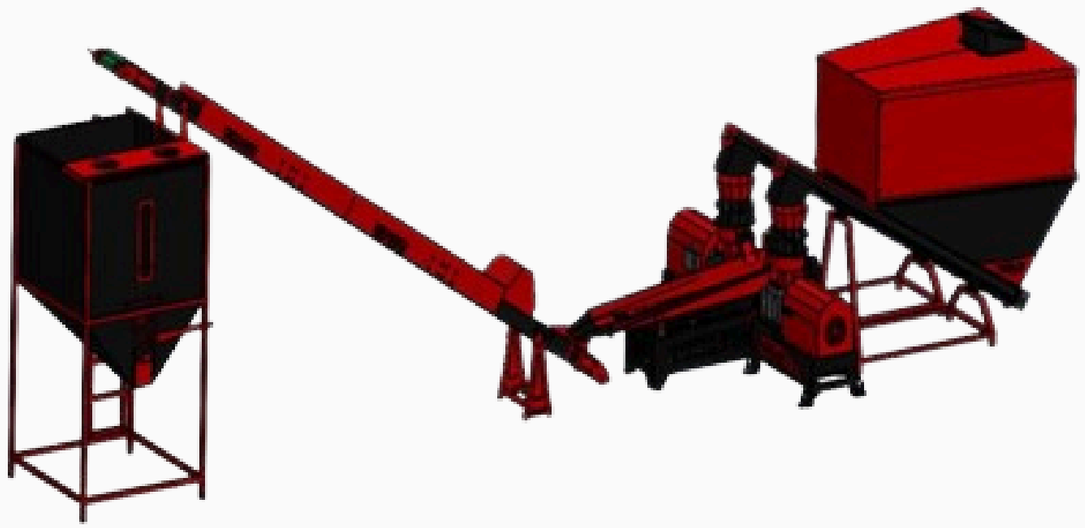
Screening Line

The purpose of the Seed Screening Unit is to separate seeds from flax residues (stalks, husks, and chips) and transfer them to the designated location. The components of the Seed Screening Unit include a receiving hopper, a cleaning fan, and a screening unit.

Here's a description of how the Seed Screening Unit operates:

- Waste collected from seed receiving and crushing sections will be transported to the air-locked silo in the screening chamber using conveying fans. The products in the silo will be taken onto the sieve, where coarse stalks and debris will be separated in the first stage.
- The separated seeds will be taken to the lower tier of the sieve and passed through the air blowing section to separate remaining fine husks.
- Cleaned seeds will be transferred to the packaging section via a conveyor if desired, or they will be directly filled into sacks.
- Stalks, husks, and debris from the sieve will be transferred to the chip storage using product transport fans.

PELLET LINE



Pellet Line

The Pellet Line transfers the chips collected in the long and short fiber processing lines to the pellet machine through a transfer screw, then the pellets are transferred to the cooling belt after passing through an eccentric shaking sieve, and finally, they are manually collected in a storage depot.

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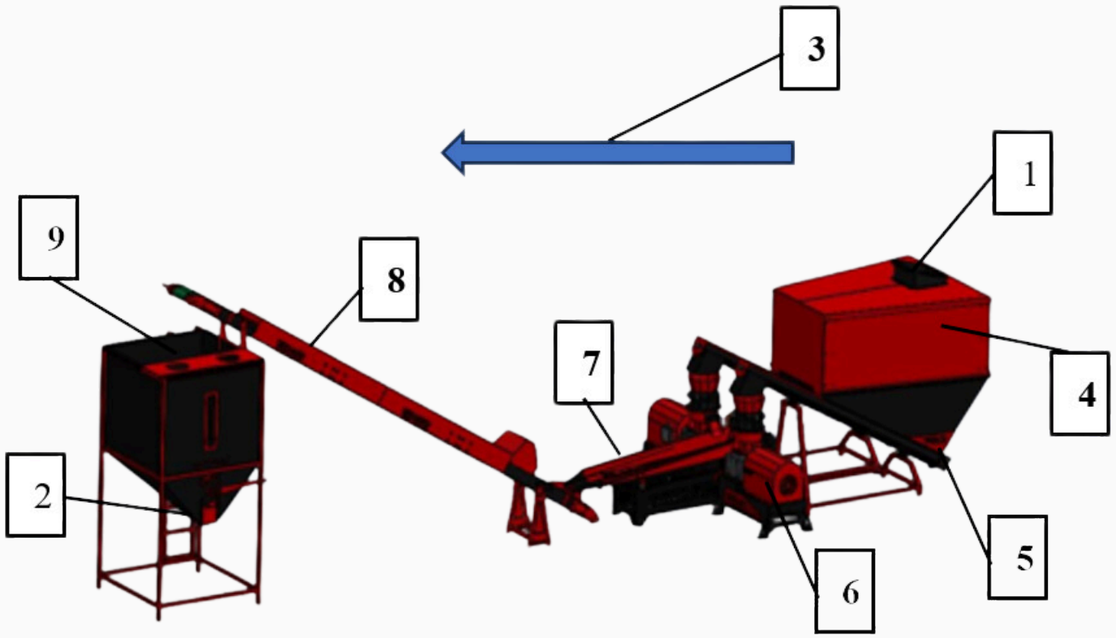
PELLET LINE



Pellet Line

The Pellet Line transfers the chips collected in the long and short fiber processing lines to the pellet machine through a transfer screw. The pellets produced by the 22 kW pellet machine are then transferred to the cooling belt after passing through an eccentric shaking sieve for screening. Finally, the cooled pellets are manually collected in a storage depot.

- Input:Chips collected from long and short fiber processing lines
- Output:Pellets produced by the pellet machine
- Machine Direction:Forward movement towards the output side
- Chip Collection Depot:Gathers chips from both long and short lines
- Transfer Screw:Transfers chips from the depot to the pellet machine
- Pellet Machine (22 kW):Produces pellets
- Eccentric Shaking Sieve:Screens the pellets
- Cooling Belt:Cools the pellets
- Manual Depot:Collects the screened and cooled pellets

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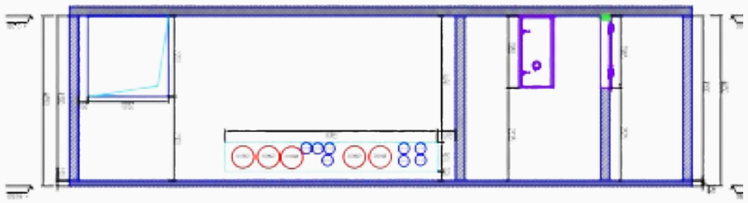
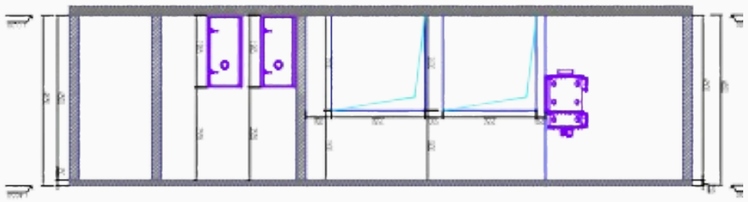
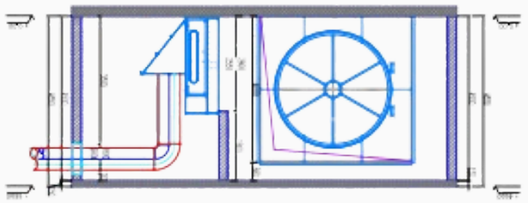
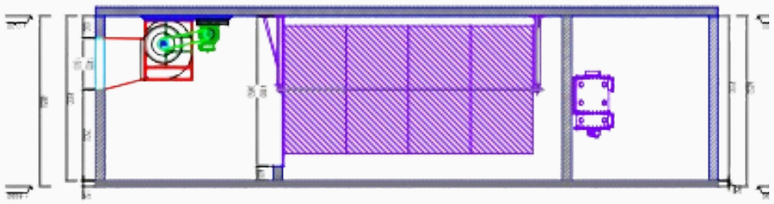
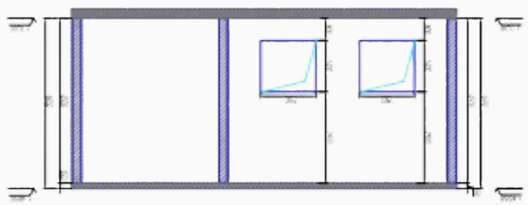
ASPIRATION LINE

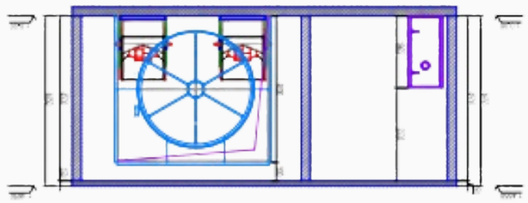


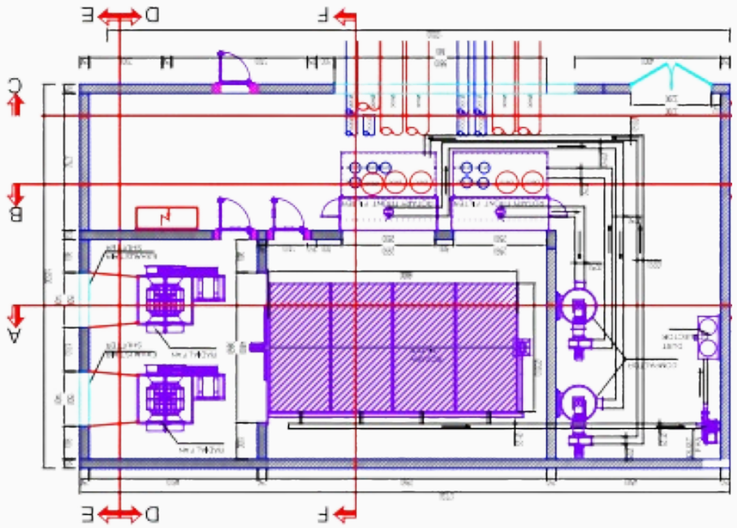












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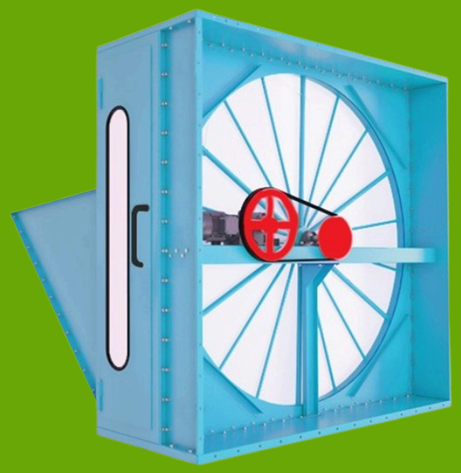
PRE-FILTER



Pre-filter

It is used for separating fibers and coarse particles. Depending on system requirements and operational suitability, different types of pre-filters are available with diameters ranging from Ø 1.5 to Ø 3.5 meters. These filters can have bottom and top inlets.

Pre-Filter Electric Motor:

- 0.75 kW (with reduction gear)
- Gamak IE3 1400 RPM 380 Volts 50 Hz

ROTARY FILTER

Rotary Filter

A system component that filters dust and fibers from the air drawn from the operating environment and machine exhausts. Its surface is covered with a plush filter to capture dust and fibers. Dust and fibers in the incoming air are captured by the plush filter on the filter surface. Clean air, separated from dust and fibers, is then either reintroduced into the operating environment or released into the external environment based on requirements. The dust and fibers adhered to the plush filter are sucked by the dust fan through moving suction nozzles and sent to the dust collector.

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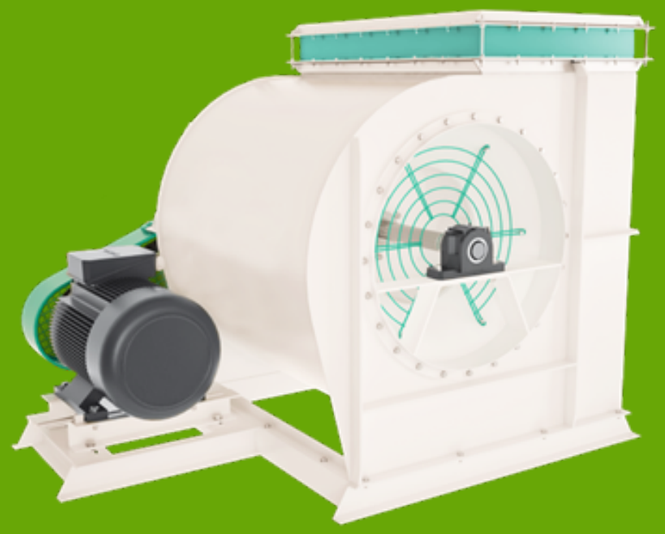
RADIAL FAN



Radial Fan

A type of fan widely used in industries and air conditioning systems that provides high pressure at low flow rates due to the fluid moving perpendicular to the fan axis. Air is drawn in from one or both sides of the centrifugal fan blade and then pushed out at a right angle. The air pushed by the blade passes through the discharge opening of the scroll and is expelled outside.

COMPACTOR

Compactor

It is a specially developed, high-capacity separator and cleaning machine for dust and telefin filtration. Through a single-suction centrifugal fan in the compactor, dust and fibers drawn from the processing area are separated within the compactor, and the fibers are expelled outside. The separated material is then sent to different parts of the process, such as bags, containers, and automatic telef feeding silos, for recycling purposes.

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DUST COLLECTOR

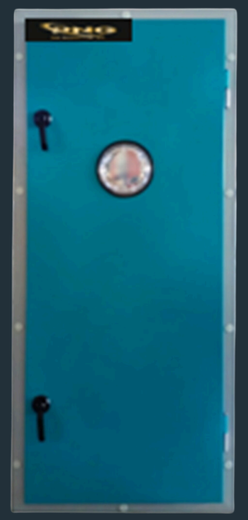
Dust Collector

A system installed to collect dust that adheres to the surface of rotary filters in dust and air conditioning centers, using a fan to separate and collect the dust into the collector.

Types of Dust Collectors:

- Eyelet
- 3-Eyelet
- 4-Eyelet

ASPIRATOR ROOM DOOR



Aspirator Room Door

They are air conditioning elements that enable passage between rooms in aspiration centers. The insulation properties of climate doors are provided by insulation materials, offering insulation against temperature, humidity, and sound. The area around the door is covered with leak-proof seals.

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