

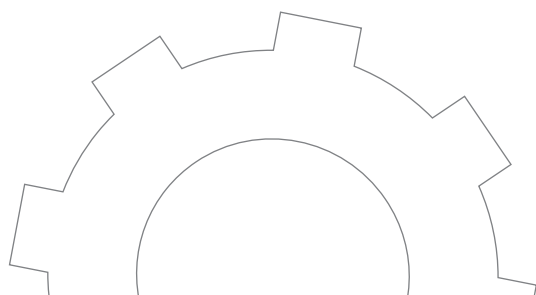
**TECNOMECCANICA**

*Ploner*

**BIELLESE** s.r.l.



GENERAL  
**CATALOGUE**



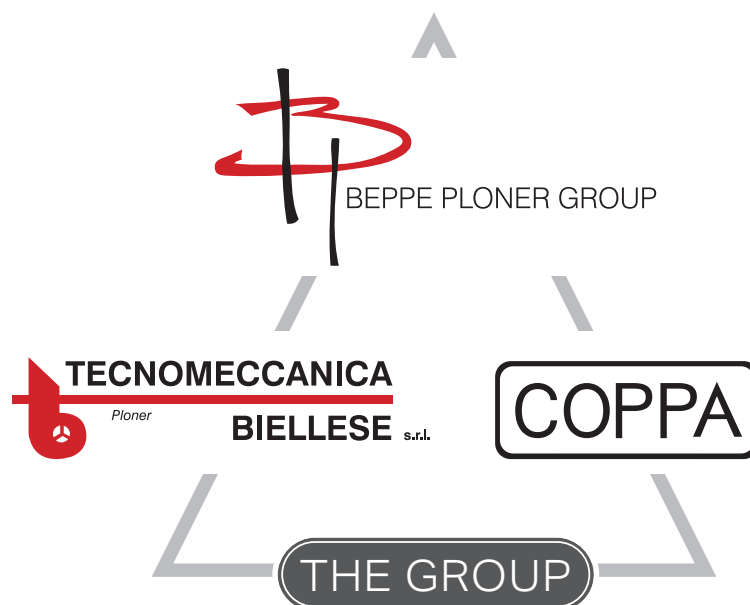


# THE COMPANY



Tecnomeccanica Biellese specializes in the study, design and construction of machines for the preparation of textile fibers for spinning and aeromechanical systems.

The marked propensity for problem solving and tailor-made creations have made the company one of the most important global players in its reference sector, reconfirming its characteristics and flexibility over the years.





## 1968

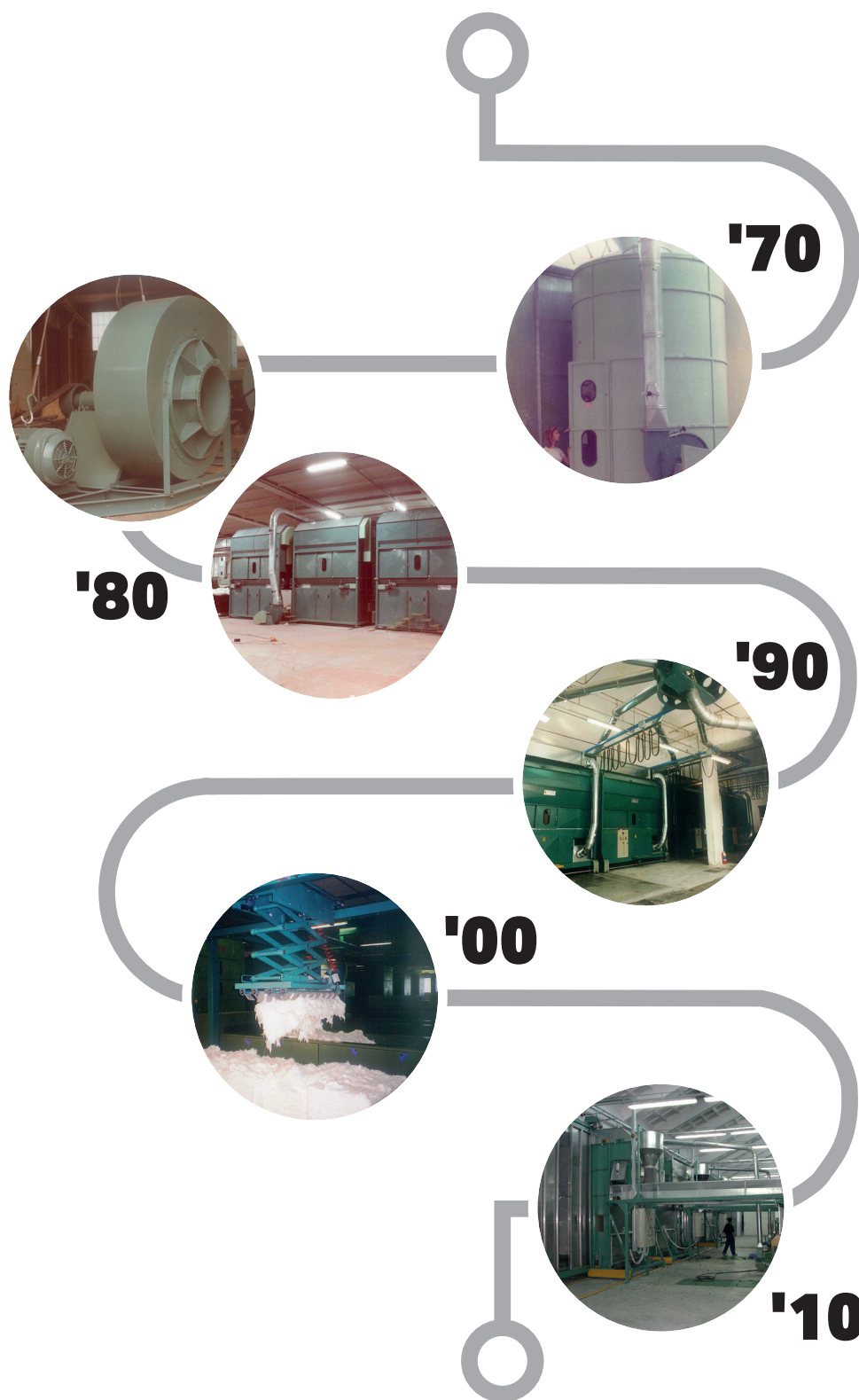
"Thanks to the ingenuity and entrepreneurial spirit of the founder Giuseppe Ploner with the precious support of his wife Emma first and then of his children, Tecnomeccanica Biellese has experienced a continuously growing history in the field of the construction of plants for the preparation of loose fibers for spinning"

### MADE IN BIELLA

The company was born on the banks of one of the torrents prodigal of that water indispensable for the workings of the wool cycle, banks along which in the past centuries textile industrial settlements settled, which today have become the most important names in the world's high-end textiles"



In its first 50 years of activity, Tecnomeccanica Biellese has traveled a path of constant technological and design updating, investing in research and development in order to be able to innovate and offer its customers the best solutions based on needs





**2009**

Acquisition of COPPA with the consequent foundation of the Beppe Ploner holding.

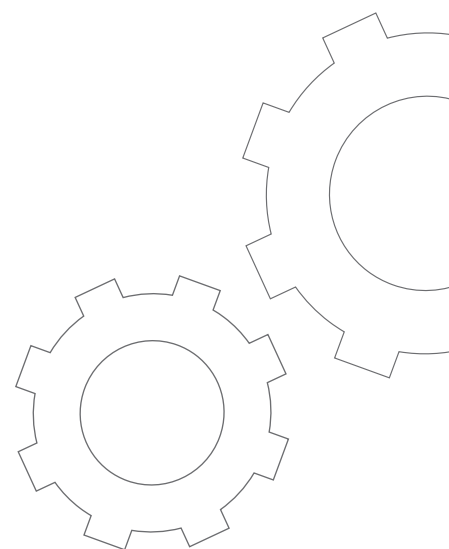
**COPPA**



**2018**

Celebration of the first 50 years of company history

**50**  
1969 • 2019



**4**

TECNO MECCANICA BIELLESE | MADE IN ITALY



TODAY



MEMBRI DI



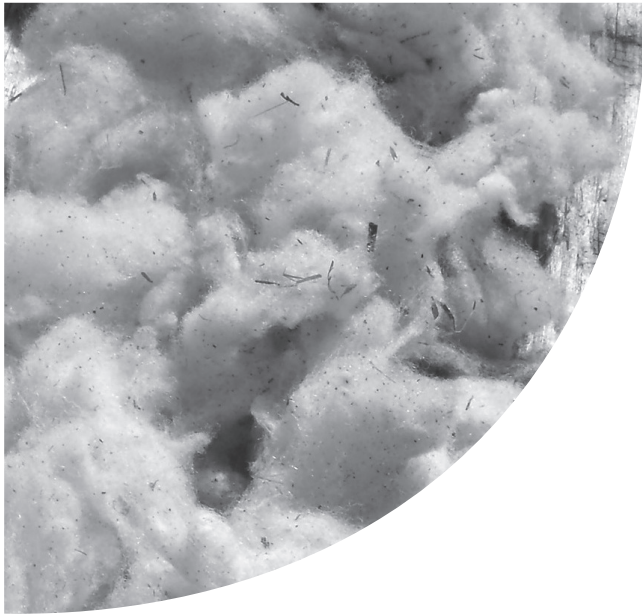
UNIONE  
INDUSTRIALE  
BIELLESE



[WWW.TBSRL.IT](http://WWW.TBSRL.IT)

5





## FIBER PREPARATION PLANTS

The company, which specializes in the planning and construction of machines and complete plants for the preparation of textile fibers for spinning, has, over the years, gained vast experience in all sectors where staple fibers are processed like combing, spinning, production of non woven fabrics, felt, wadding, and waste regeneration plants.

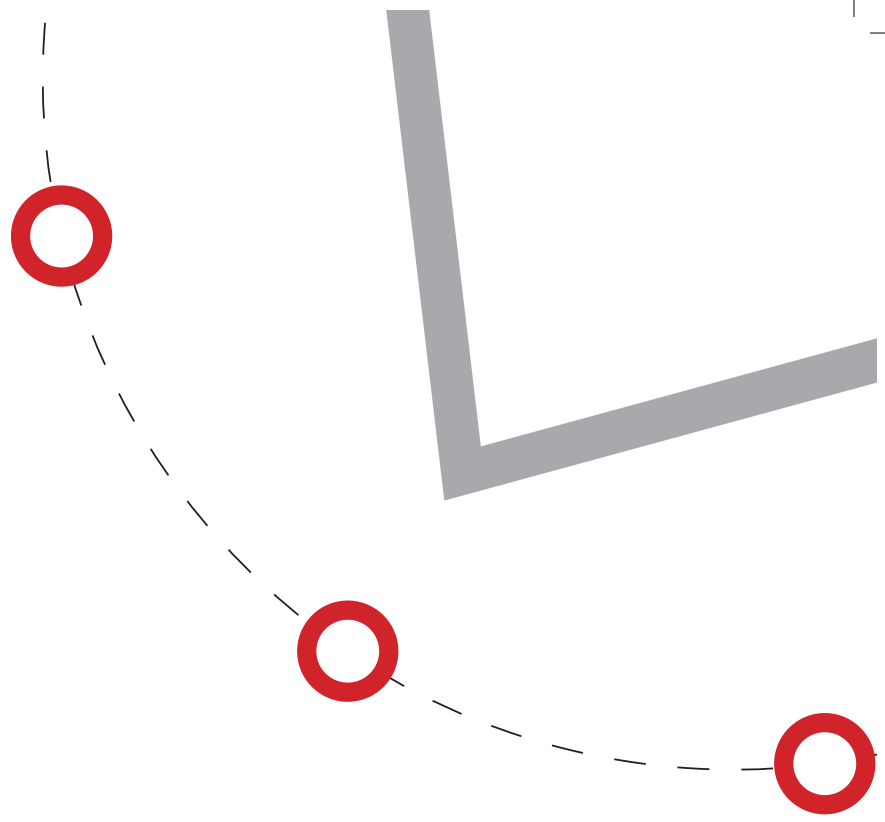
Furthermore it is active in the sector of removal by suction of dust from rooms, machines, and fibers with systems of automatic filtering and dust packing.

The vast experience gained in its sector has allowed the company to become a reference partner also for many companies in sectors far from textiles, but for which ad hoc solutions have been studied in the handling and mixing of various materials or in the collection of dust, fumes or fumes from rooms or machines.

Plants have been created for mixing plastic chips during the recycling phase; dosing and feeding straw lines for animal feed; shredding paper and cardboard scraps in paper mills and related dust filtering; collecting polluted air from chemical laboratories and fumes in general or of woodworking sawdust.







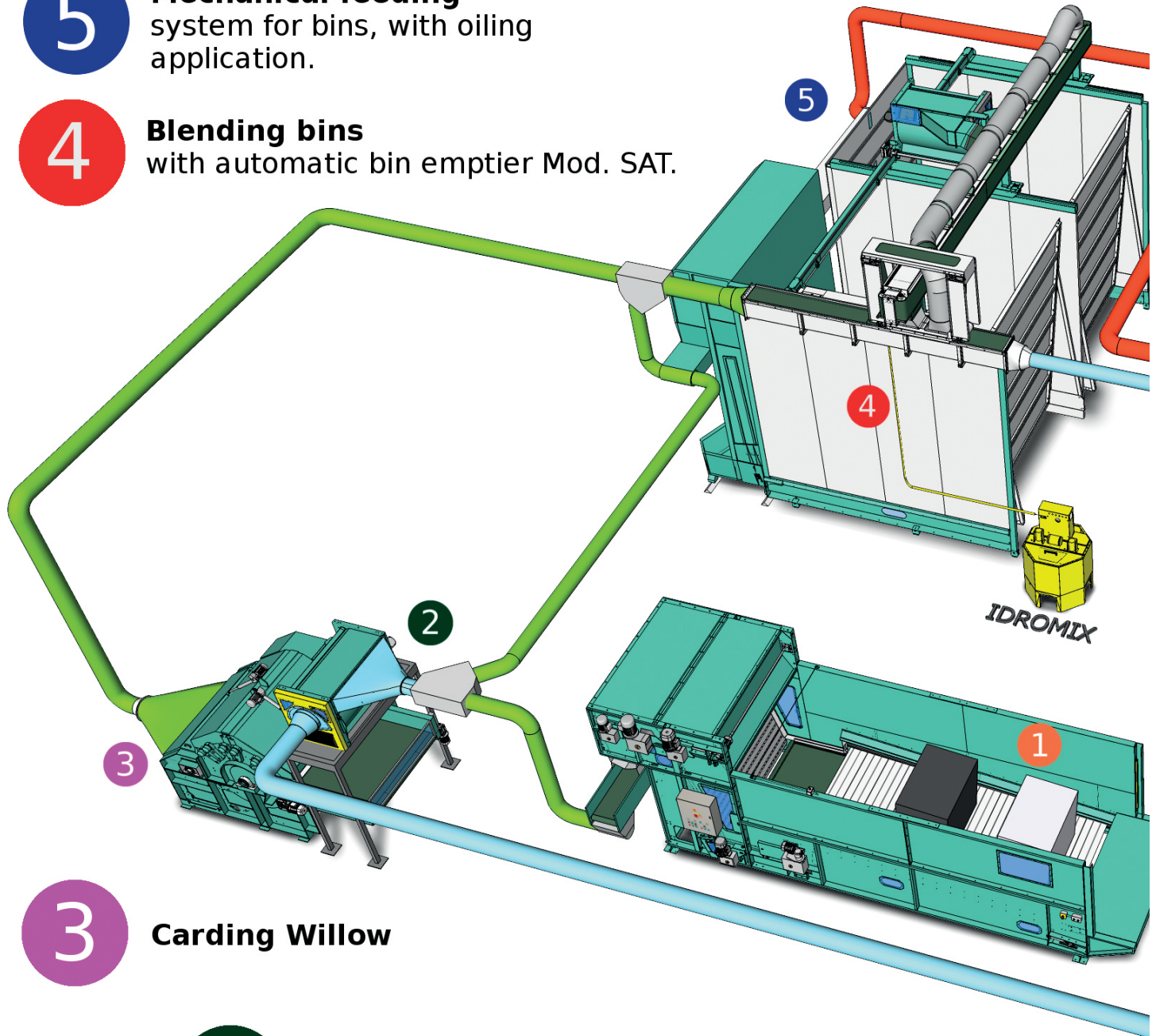
# **TYPES OF MIXING FIBERS AND OF TEXTILE AEROMECHANICS**



# CARDED SPINNING

**5** Mechanical feeding system for bins, with oiling application.

**4** Blending bins with automatic bin emptier Mod. SAT.



**3** Carding Willow

**2** Drum condenser feeding  
Carding Willow.

**1** Bale-Breaker Type AB.

6

**Distribution to the storage bins,**  
with moving belt system.

6

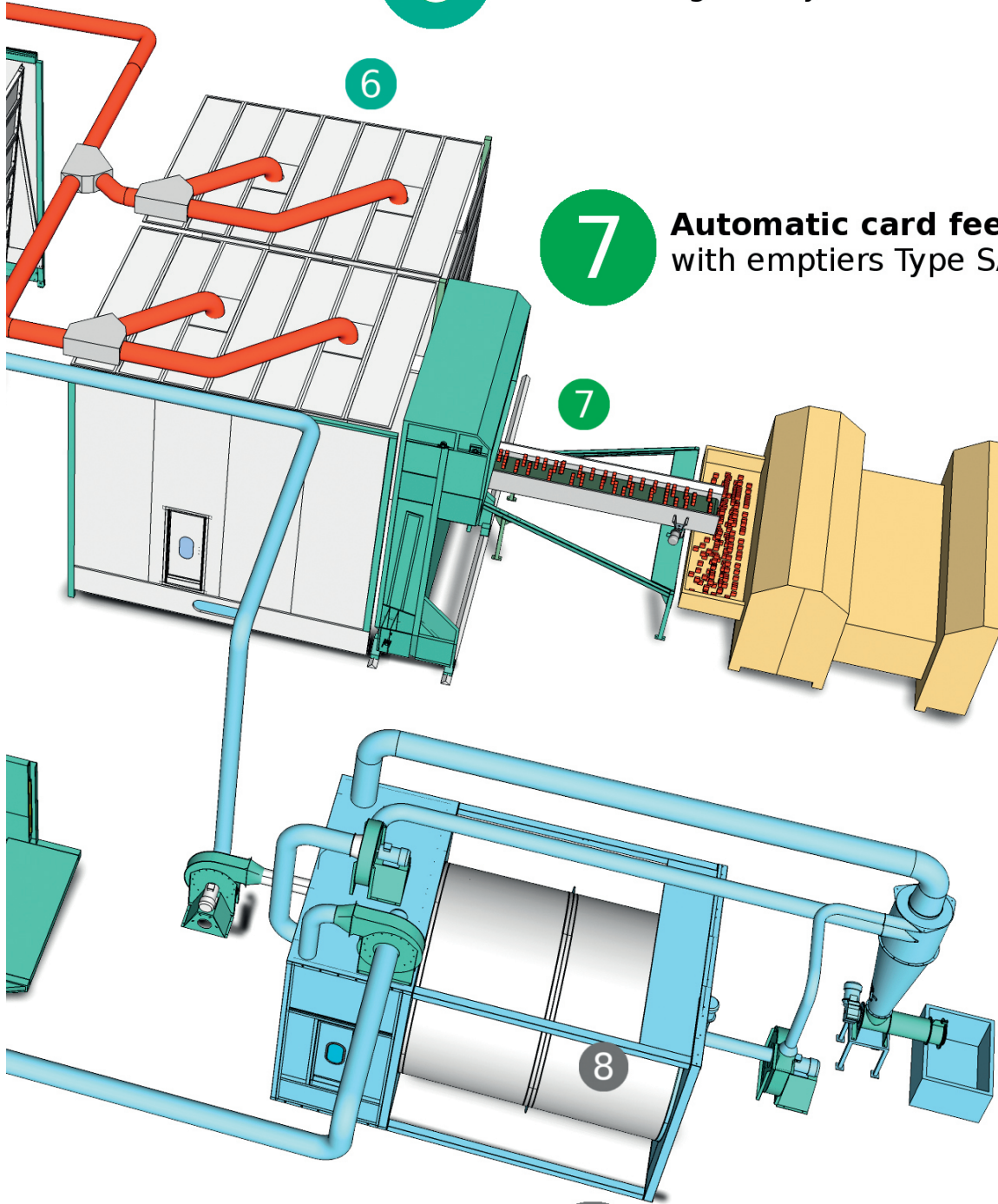
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**Automatic card feeding,**  
with emptiers Type SALT.

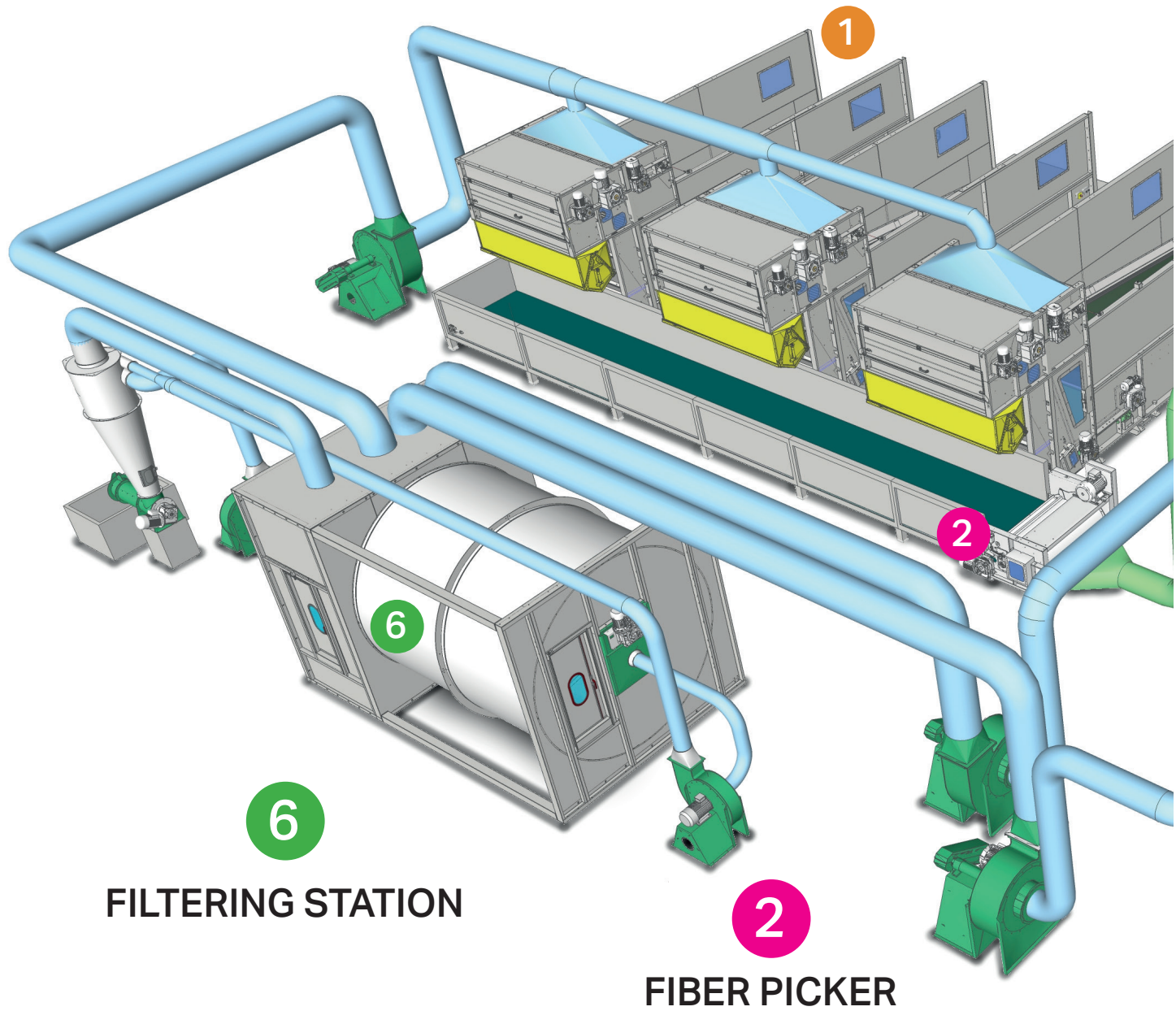
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8

**Filtering station.**

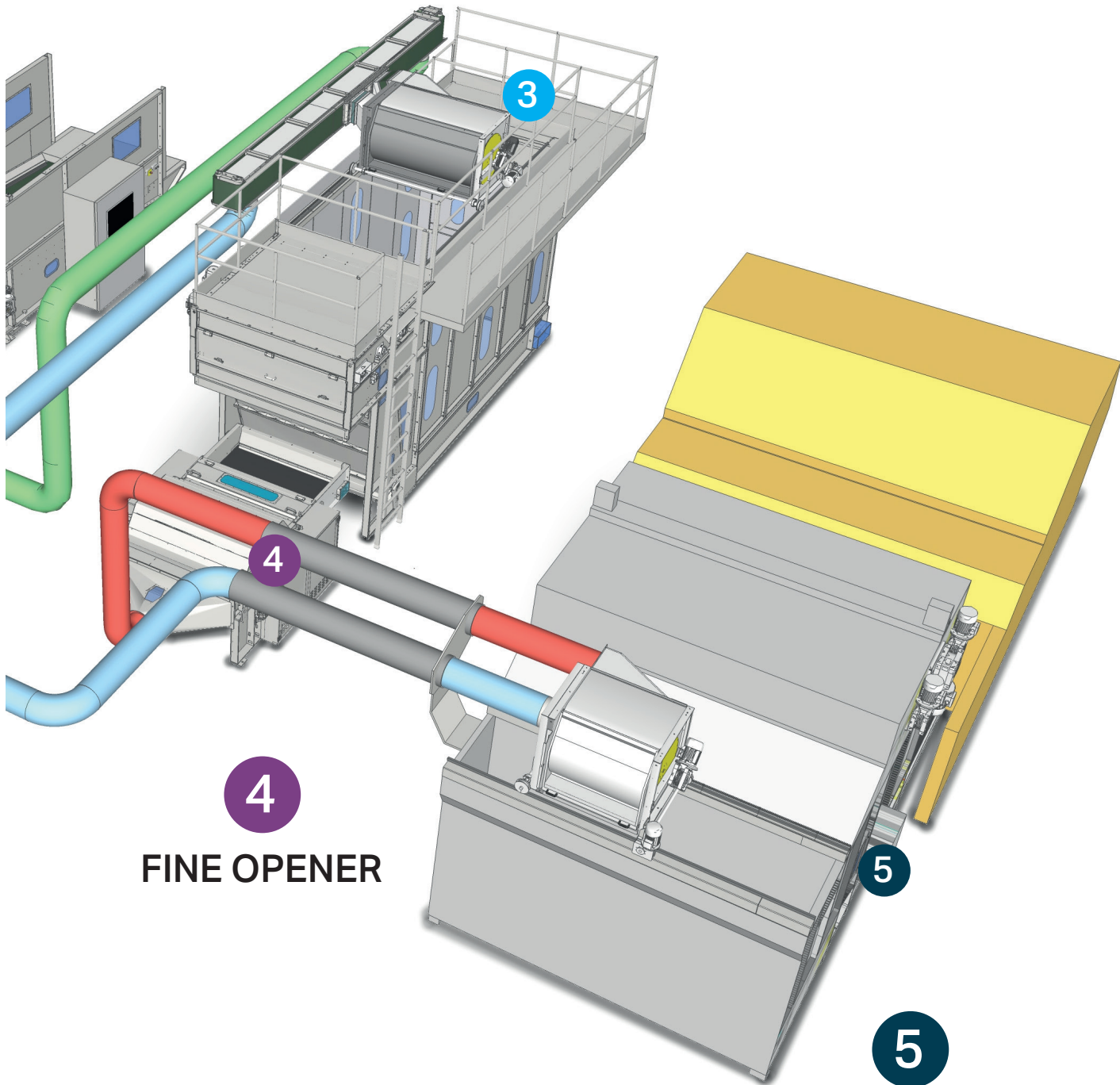


# NON-WOVEN FABRICS



3

BLENDIN BOX



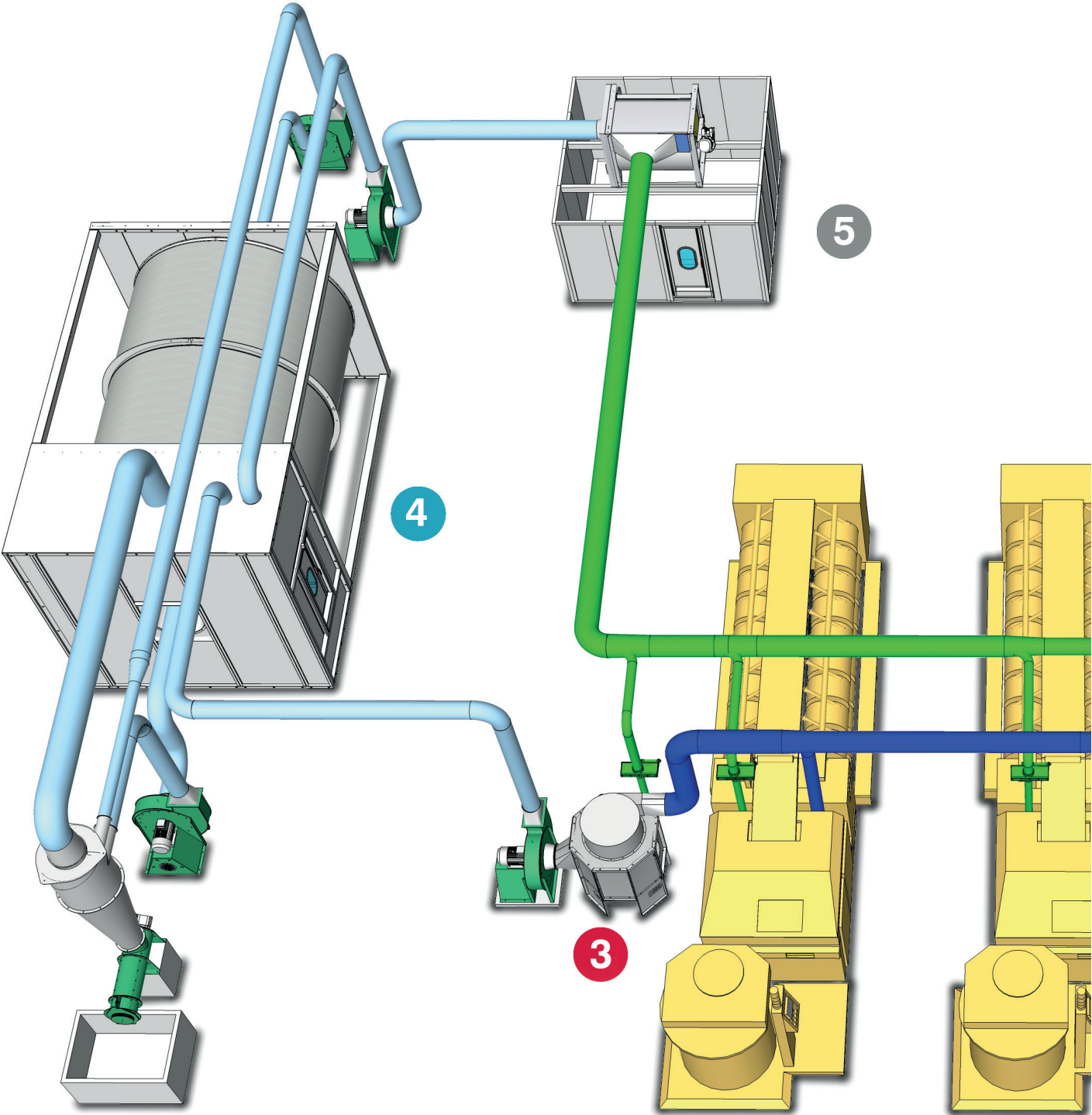
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FINE OPENER

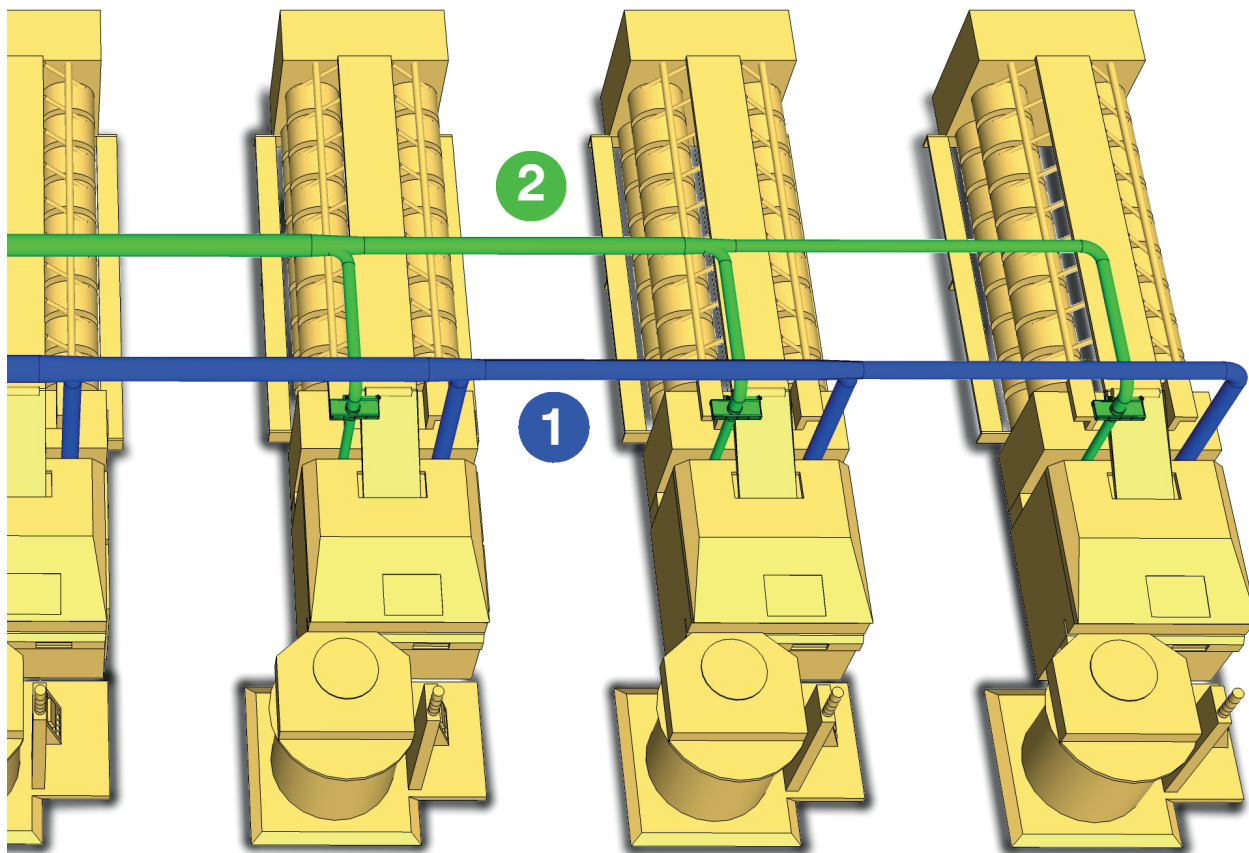
5

HOPPER FEDER  
FOR CARD

# BY-PRODUCTS



- 5** COLLECTING BOX
- 4** FILTERING STATION
- 3** DYNAMIC PRESEPARATOR
- 2** BLOUSE
- 1** BLOUSETTES







**MACHINERY PRODUCED**

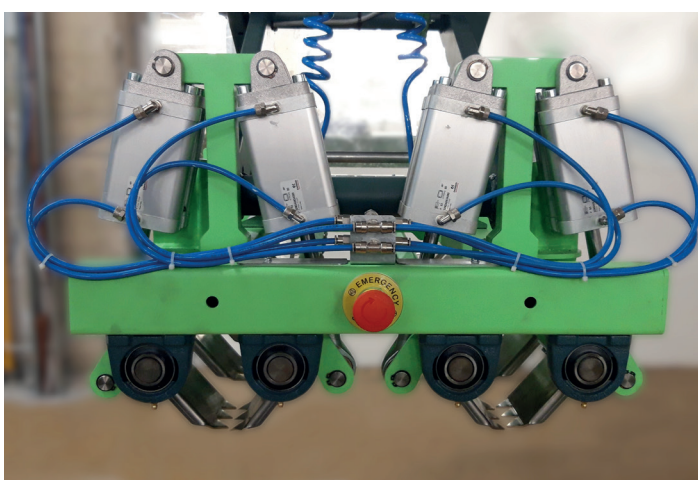
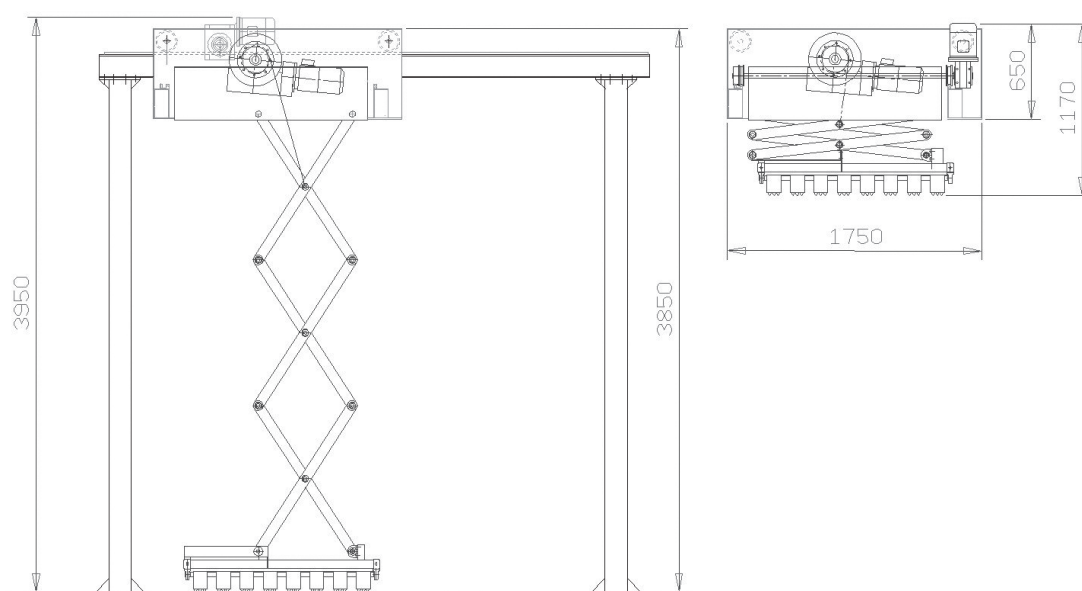


## BALE PLUCKER

Automatic Bale Plucker is used to mechanically strip fibres from pressed bales and automatically drop the fibre on to the feed table of the opening machinery at the beginning of spinning lines. This system also provides a good first blending operation of the fibres.

Mainly composed of a metal bridge moving on rails which gives vertical movement to the plucker head.

The different functions of taking, discharging and cleaning are controlled by a computerized digital panel with touch-screen. Photo electric sensor beams provide complete protection against accident in line with European legislation relating to Health & Safety.







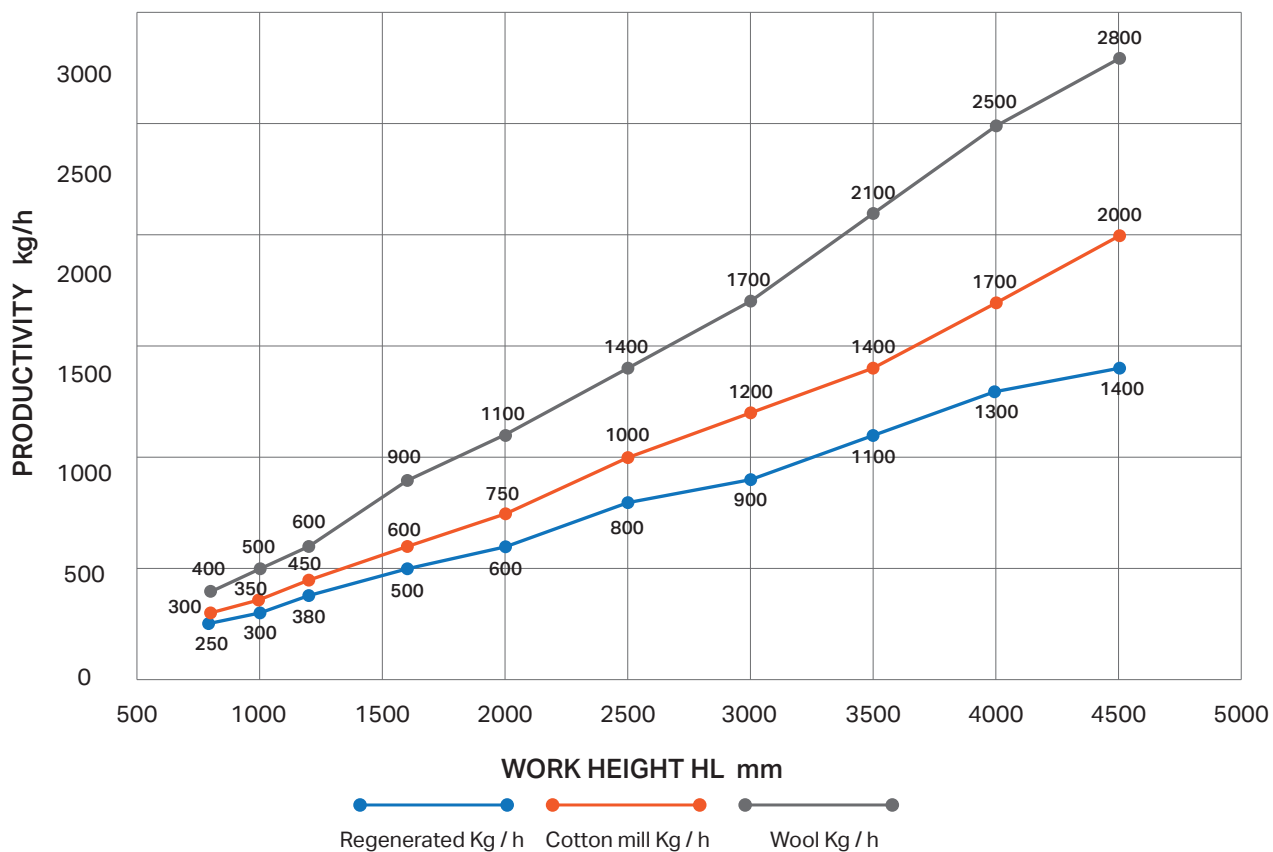
# BALE OPENER

Bale breakers types ABL and ABR are perfect for the opening of bales and other compressed agglomerates of textile fibers. They are composed by an horizontal feed table in two sections which enable an initial breaking of the layers; a vertical spiked lattice conveyor; an opening-batching cylinder with adjustable pitch and a stripper.

This kind of machine can be used in various sectors of the textile industry, from the opening of greasy wool bales to blend preparation departments, from the feeding of carding-machines to the preliminary phase of staple fiber dyeing or the opening of dyeing cakes for conveyance to dryers.

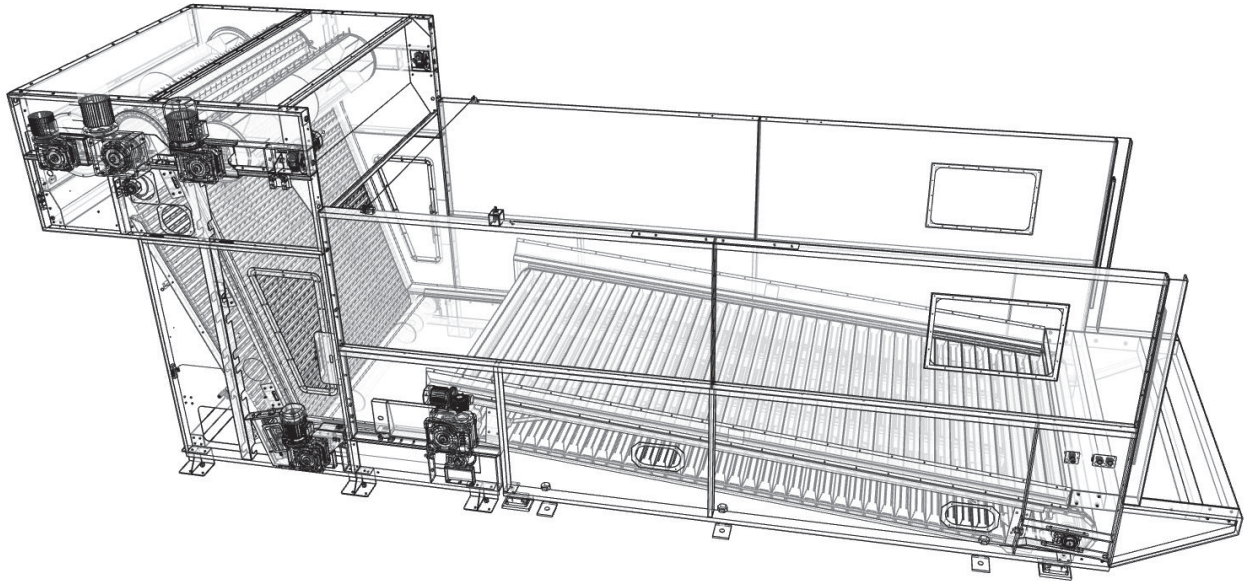
The bale breakers can be used either individually or in a line of different machines to discharge the fiber material onto a single conveyor and to dose the exact percentages of the different components for the preparation of blends.

PRODUCTIVITY ABL



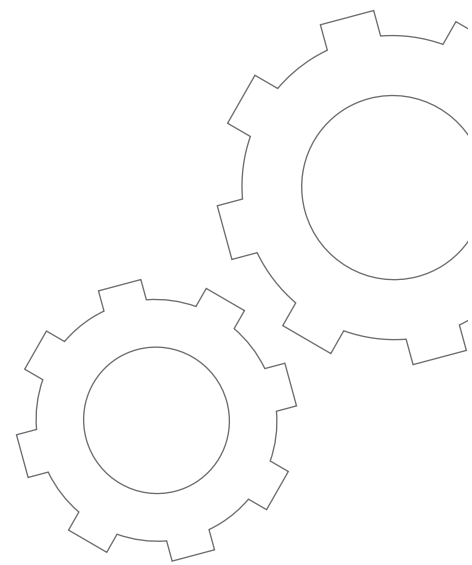
WORK HEIGHT:	from 0.8 meters	at 4.5 meters
FEED BELT LENGTH:	from 2 meters	at 8 meters
TAPE TYPE:	with crosspieces in vulcanized PVC	with plywood crosspieces
TYPE OF TIPS	Adaptable according to the type of material treated (cotton, wool, deniers, etc.)	
LENGTH AND INCLINATION OF THE BARBED CARPET		
CYLINDER DIMENSIONS AND ADJUSTMENTS		





**OPTIONAL:**

- Bale feeding with mechanical tipping.
- Output weighing device with mechanical balance.
- Electronic weighing device with aluminium balance.
- Electronic continuous weighing device on conveyor belt out let.
- Transversal conveyor belt for the out let.

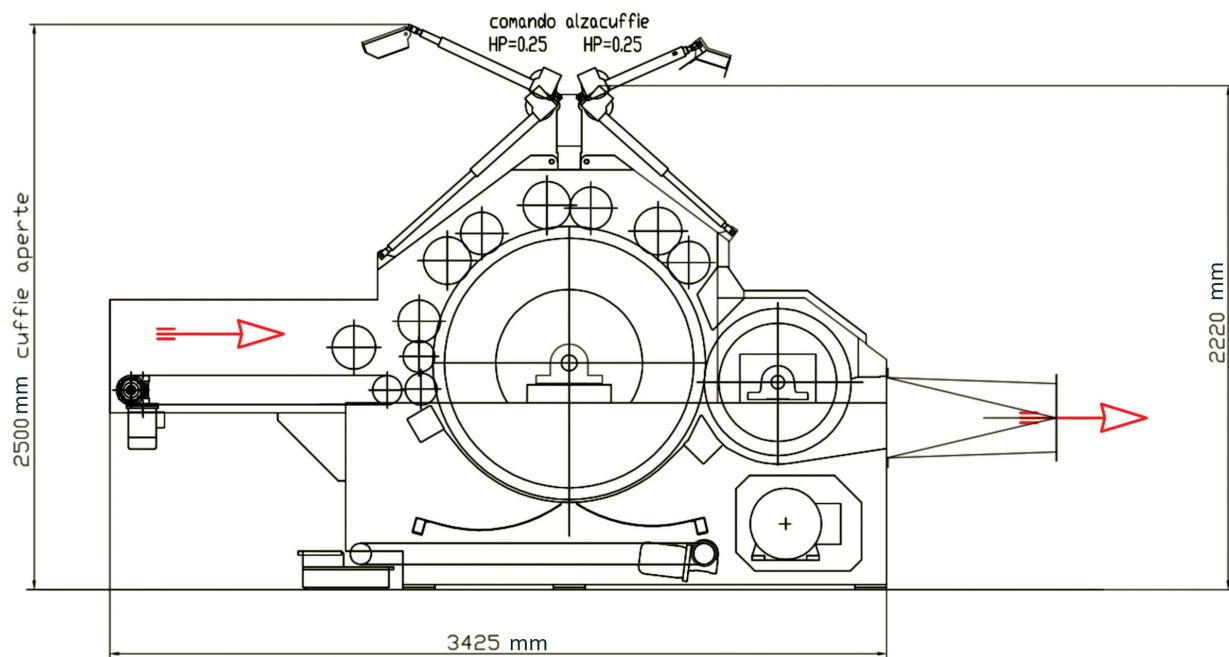


# CARDING WILLOW

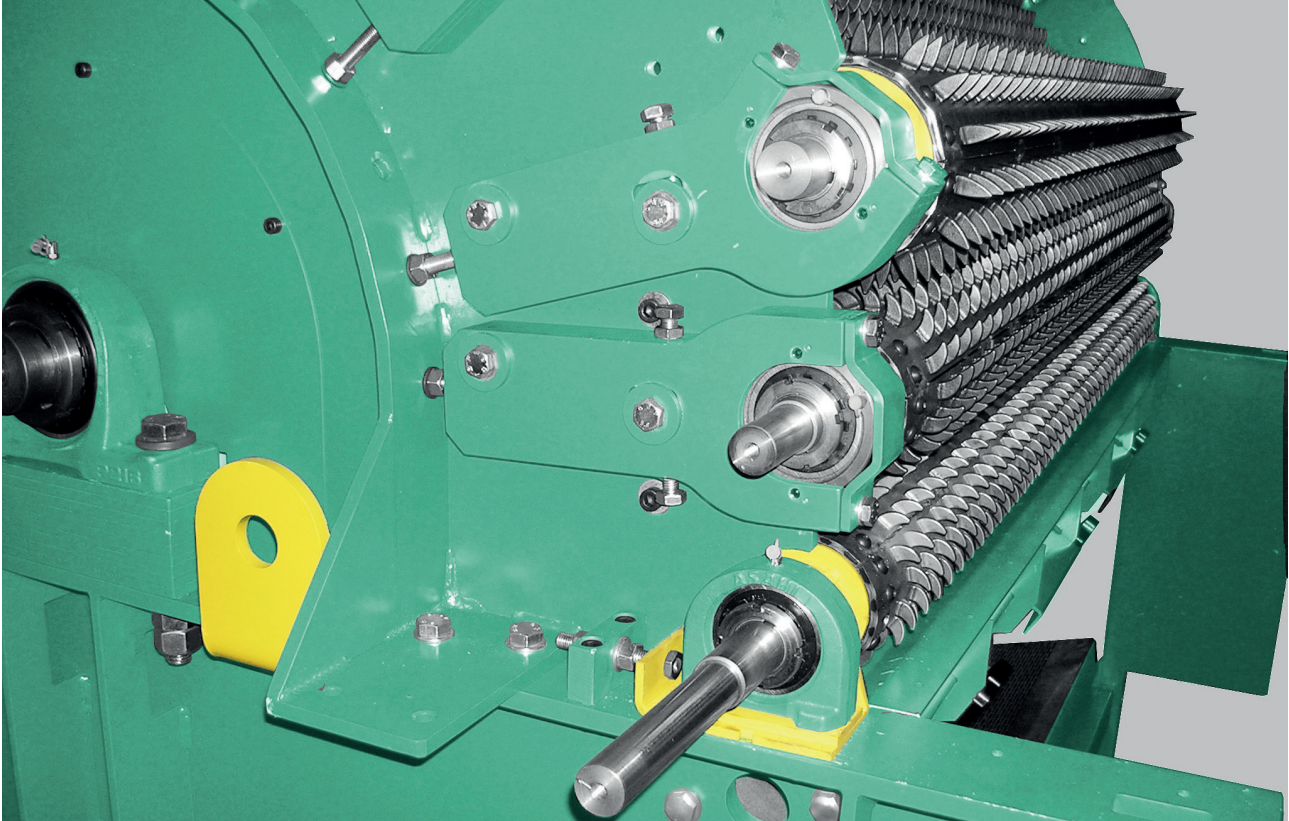
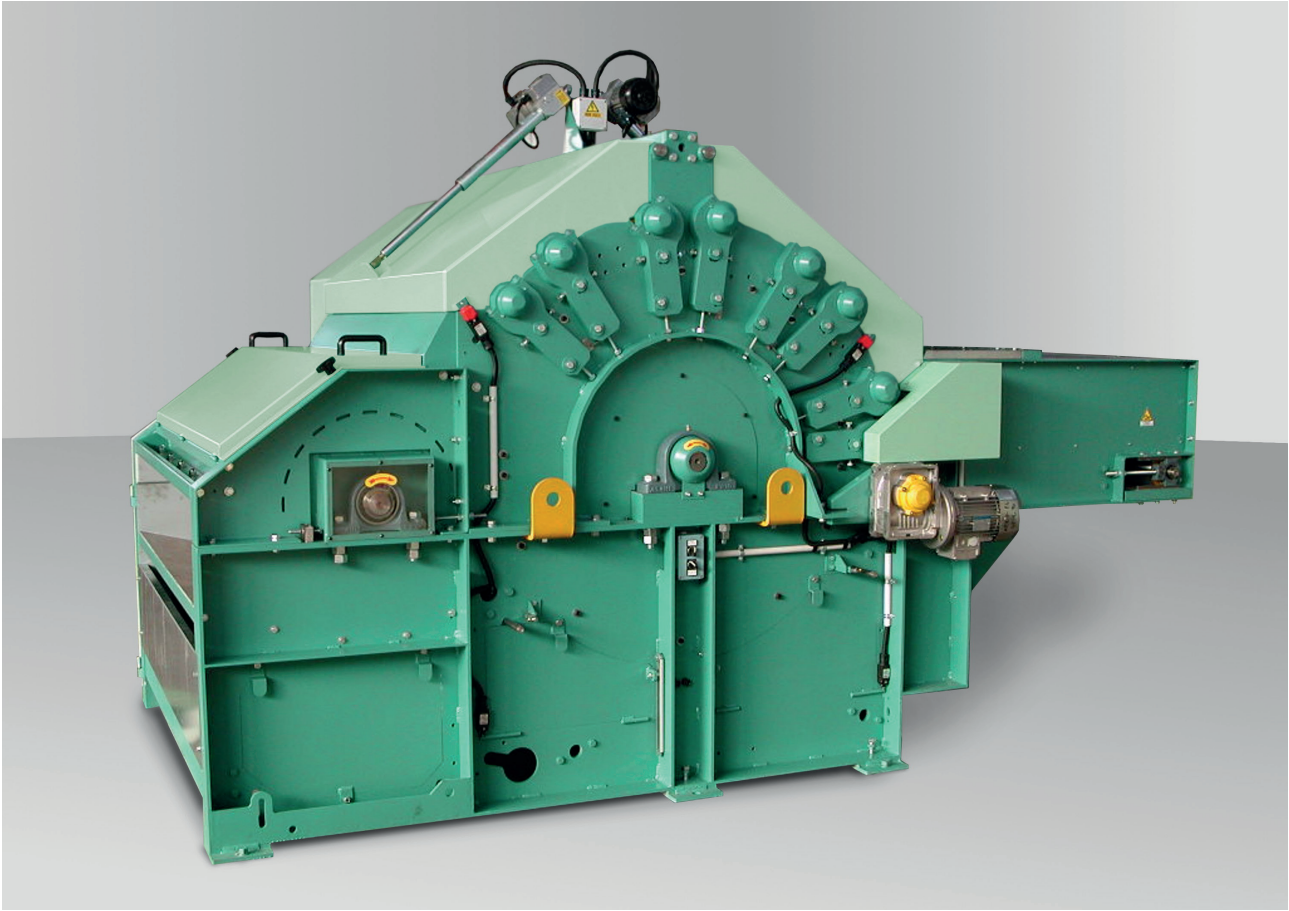
The machine is basically equipped with a large main cylinder, 3 pairs of workers and strippers and one pair of feed rollers and at the end a large diameter doffer helps to strip the fiber from the doffer. The fibers are fed to the machine by a horizontal belt on to which any pneumatic system can deliver the fibers from previous processes.

At the exit a large diameter pinned doffer with rubber laths takes the fiber through a galvanized trumpet and onwards pneumatically.

Completely constructed in steel plate the machine has each pin individually screwed in order to allow the replacement of every pin individually.



WORKING HEIGHT (mm)	PRODUCTIVITY (Kg/h) FOR WOOL	PRODUCTIVITY (Kg/h) FOR SYNTHETICS
800	300	400
1000	500	750
1200	800	1000
1600	1200	1500
2000	1500	2000



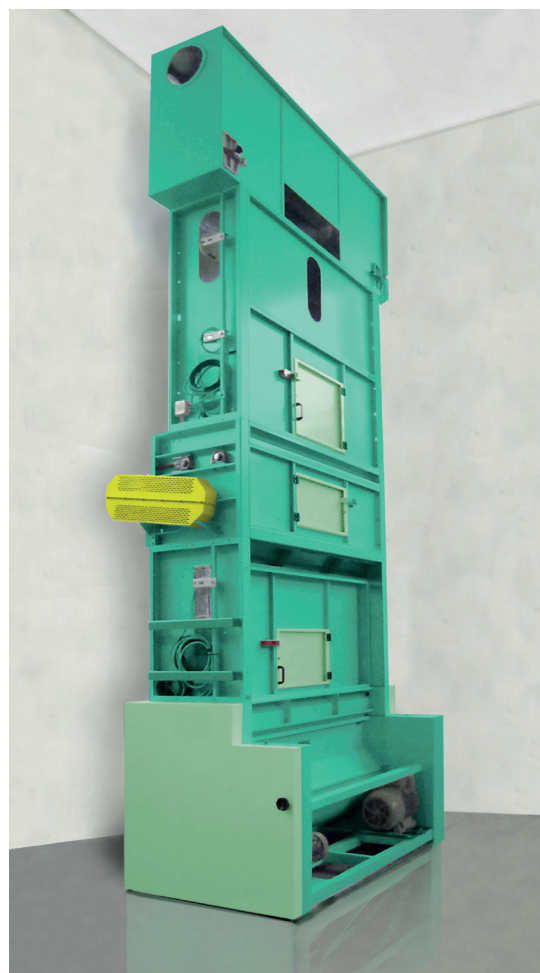
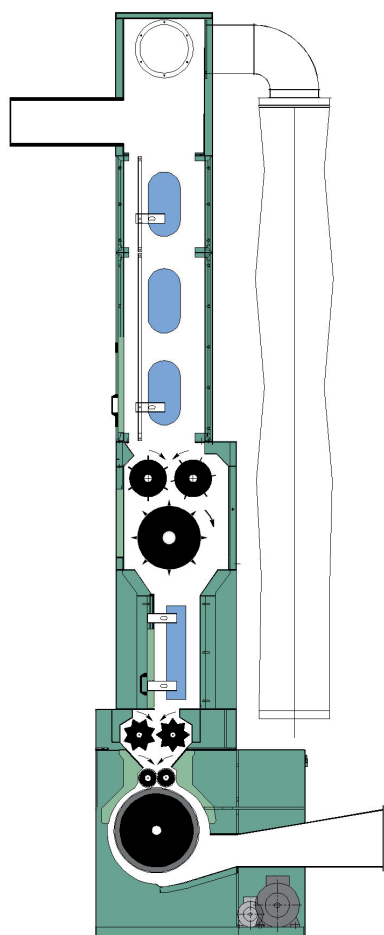


## VERTICAL OPENER

Vertical opener machine allows to obtain a deep spread out of fibers and it is commonly used as final opening process before sending the material to the card.

The machine is compact as it grows vertically, so it occupies a small space and it is mainly used in the preparation lines for non-woven, thermal bonded or needlepointed fabrics that contains different kind of fiber components.

WORKING HEIGHT (mm)	PRODUCTIVITY (Kg/h) FOR SYNTHETICS
800	650
1000	800
1200	1000





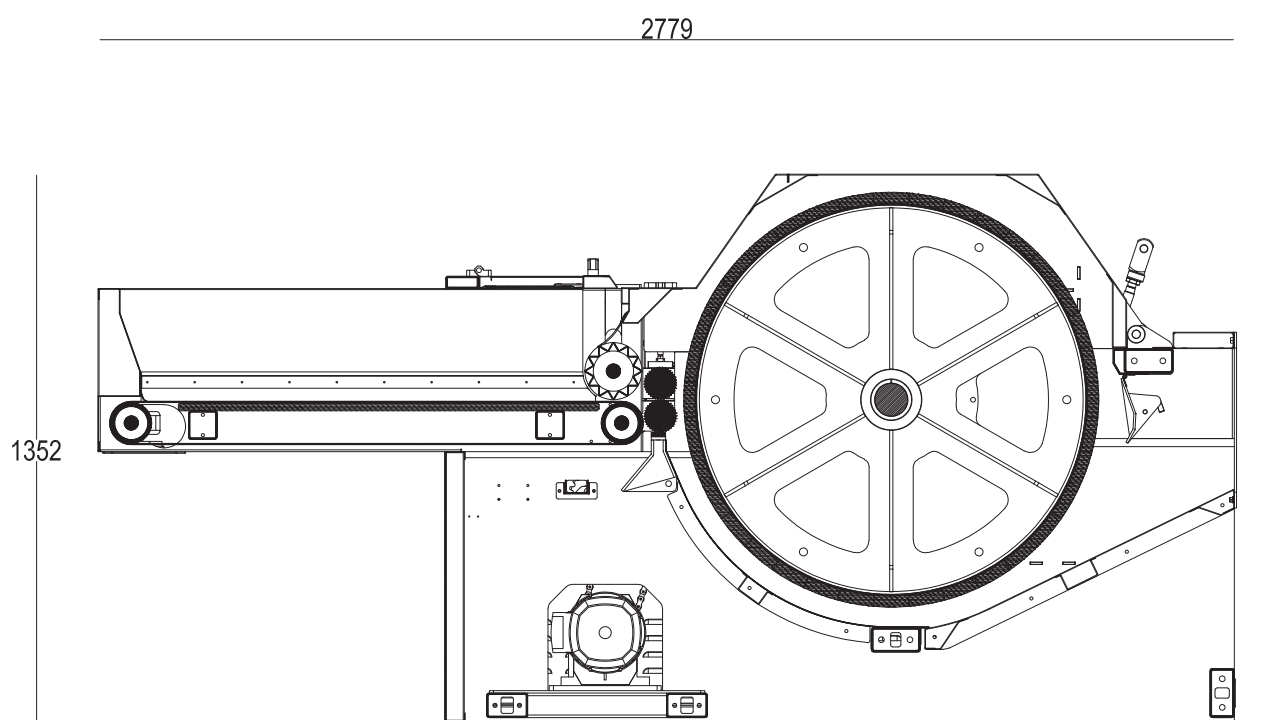


## FIBER OPENERS

Tecnomeccanica Biellese realize different types of openers with different characteristics according to the needs of the customers and the fibers to be processed.

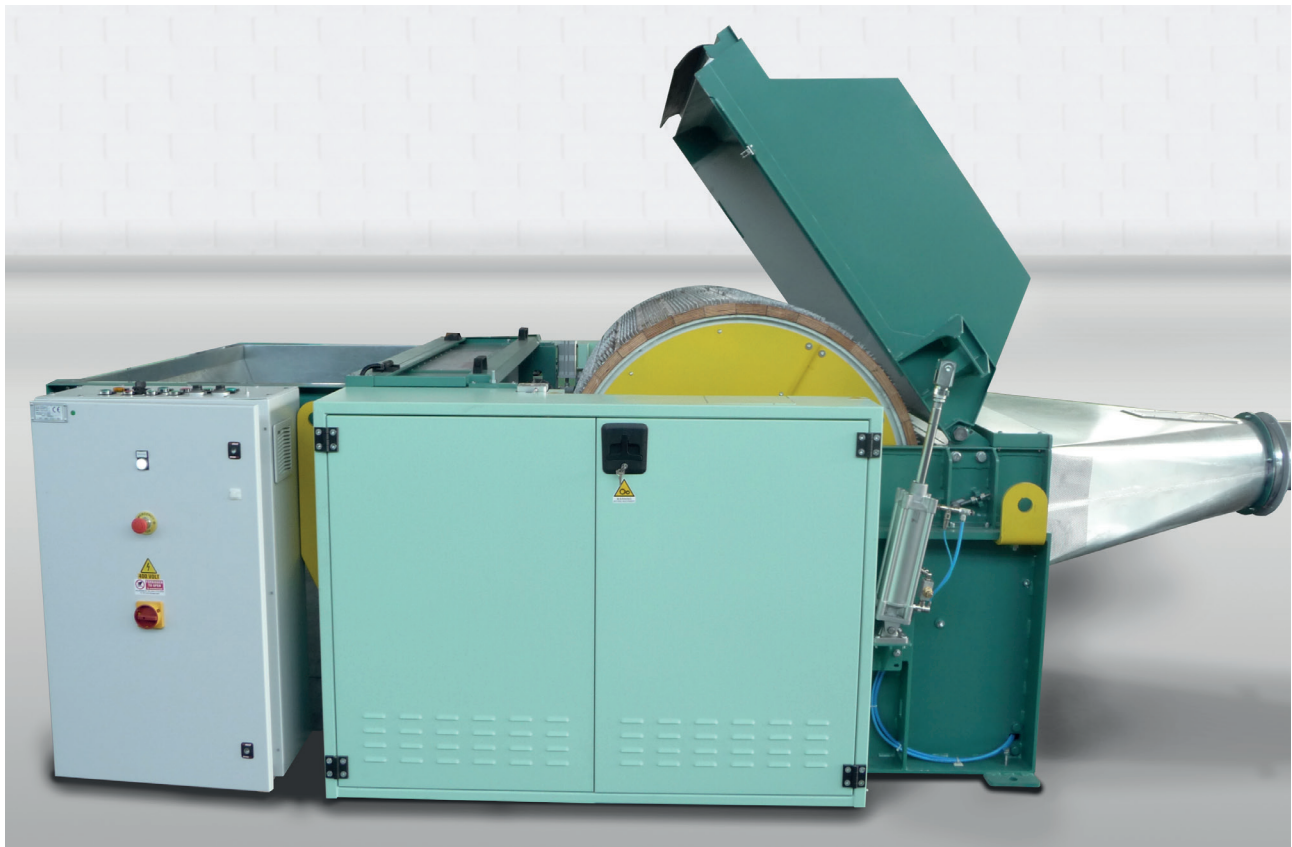
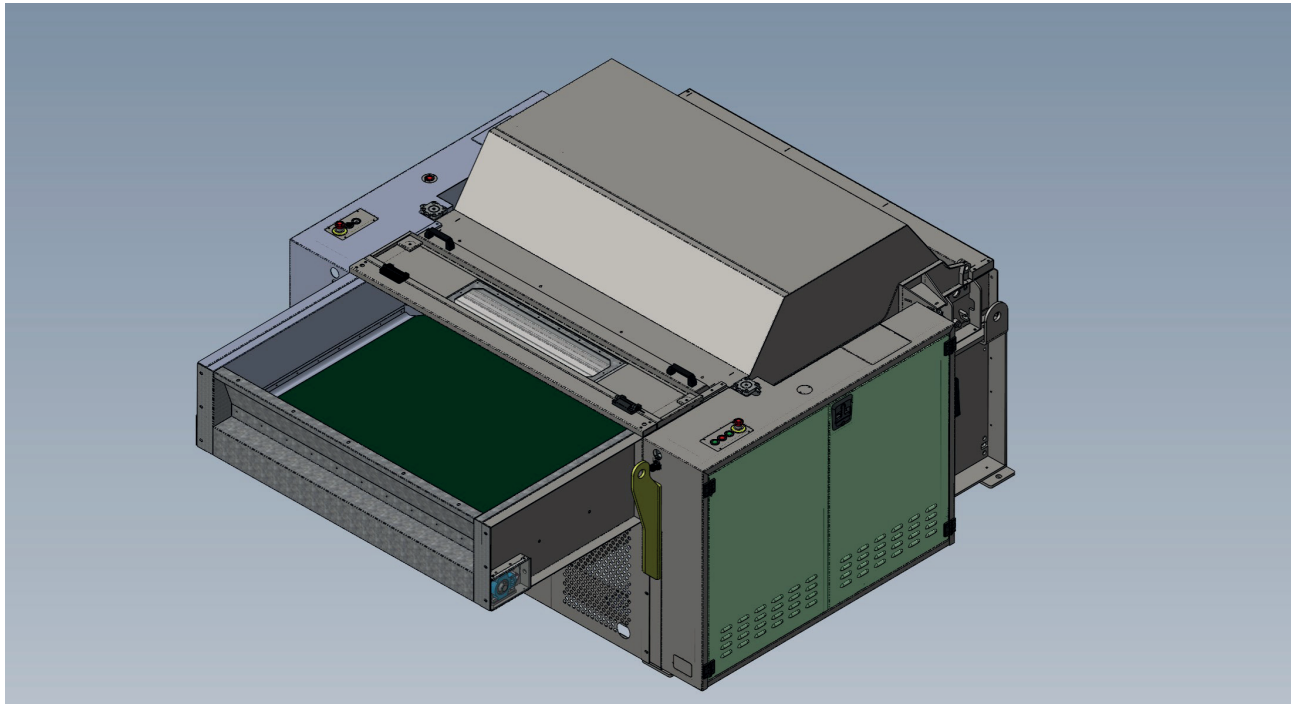
The production is basically of two different models:

- Mixing Picker with feed cylinder and inclined pins on the main cylinder
- Fine Opener with clothed feed cylinders and main drum clothed with 5mm pins.



WORKING HEIGHT (mm)	PRODUCTIVITY (Kg/h) FOR WOOL	PRODUCTIVITY (Kg/h) FOR SYNTHETICS
800	300	400
1000	500	750
1200	800	1000



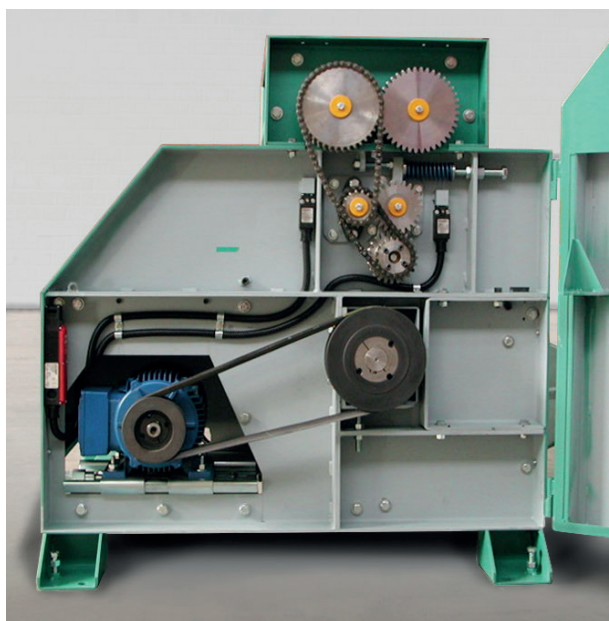
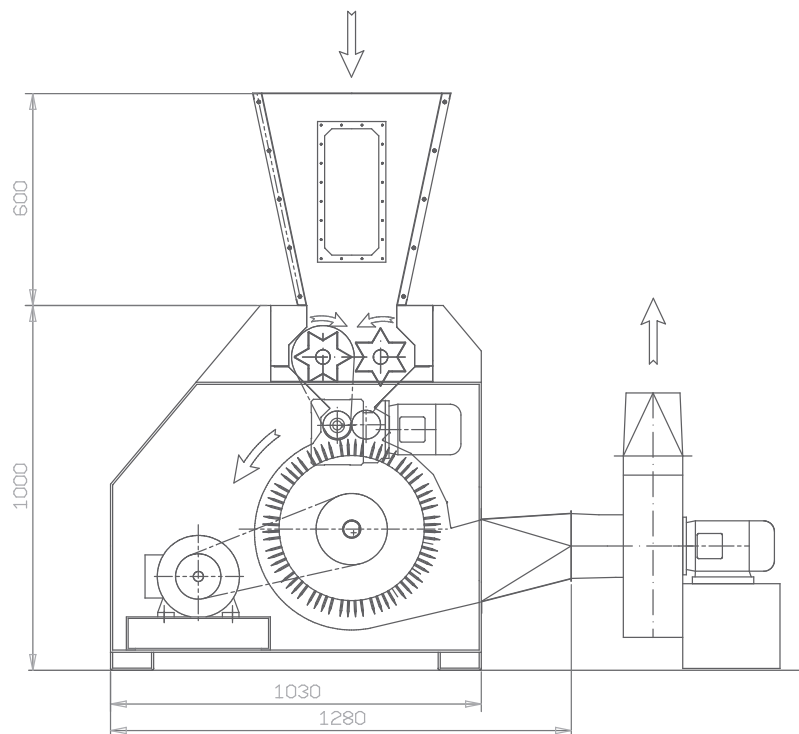




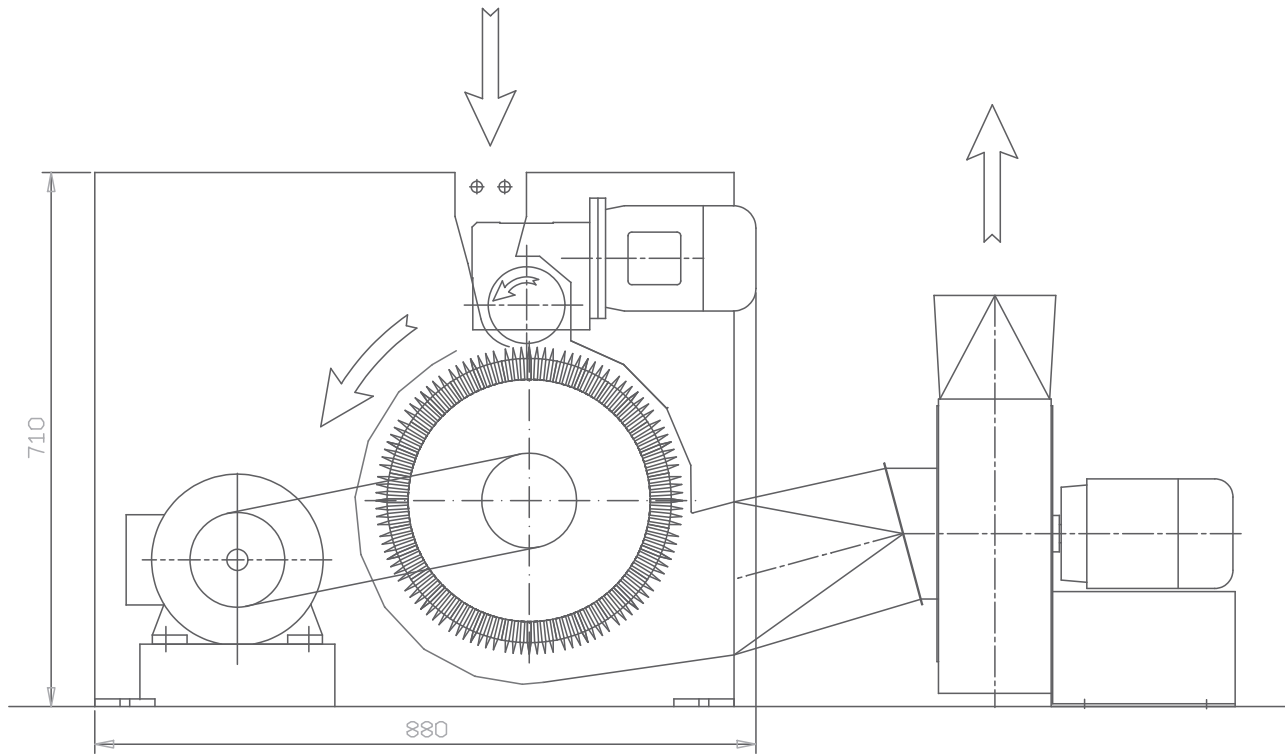
## SMALL OPENER

SMALL OPENER MODEL is suitable for opening soft wastes such as condenser bobbin waste which can be recycled either during or after carding. Is supplied with an opening cylinder which is totally covered with steel pins, dynamically balanced and assembled on adjustable supports with ball bearings.

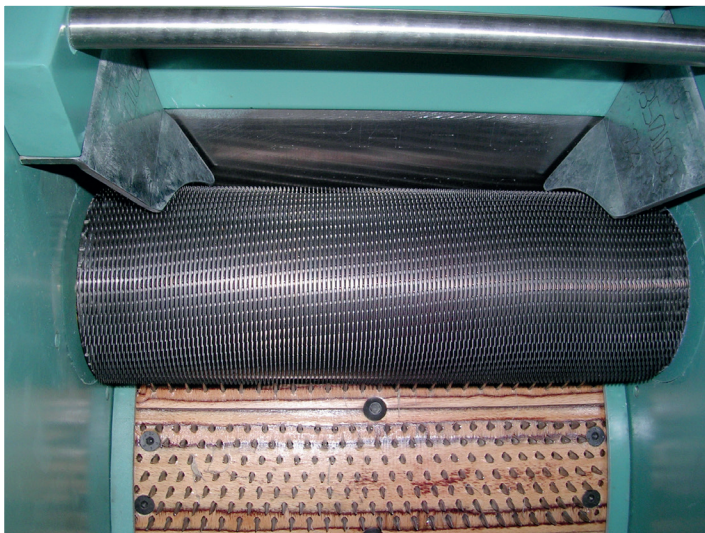
There are fluted feed rollers at the entrance, assembled on oscillating supports which together with the main cylinder can be fed by a reserve silo feed tower.







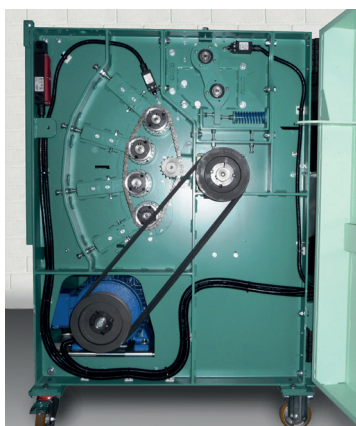
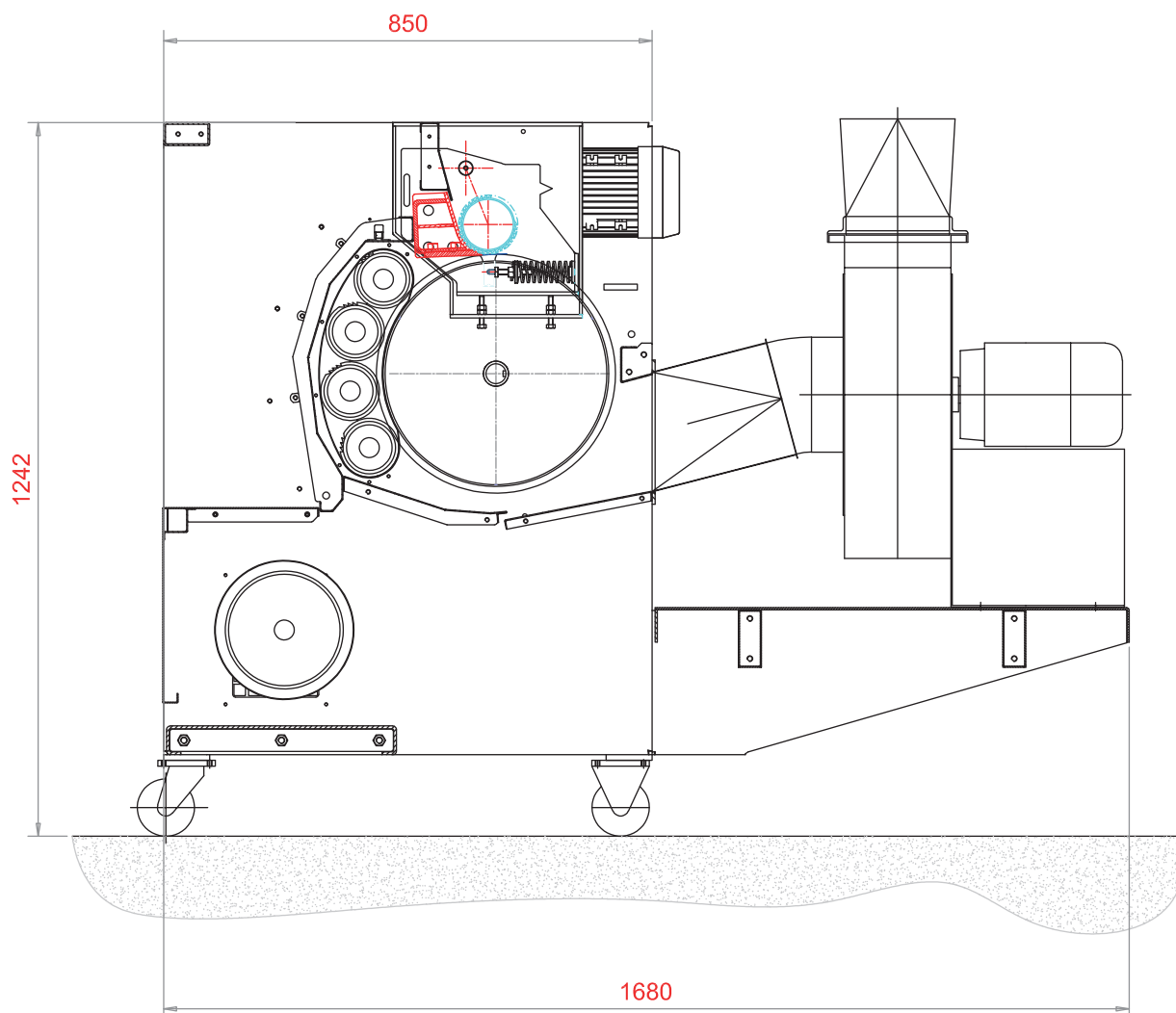
*Continuous traditional feeding*





## TRIM OPENER WITH WORKERS

The edge opener with working cylinders is a more sophisticated and complete version of the classic edge opener because, thanks to the presence of 4 working cylinders which support the opening of the central drum, it is also suitable for opening more tenacious fabrics.





## STEP CLEANER

Step Cleaner for opening, beating, cleaning and de-dusting of scoured wool fibers (or cotton). It comprises a group of 3 main beating drums with welded steel pins with an external diameter of 800 mm rotating at 300 rpm featuring an independently driven screw conveyor in the bottom which is provided to remove all dust and vegetable matter which has been separated from the fibers.

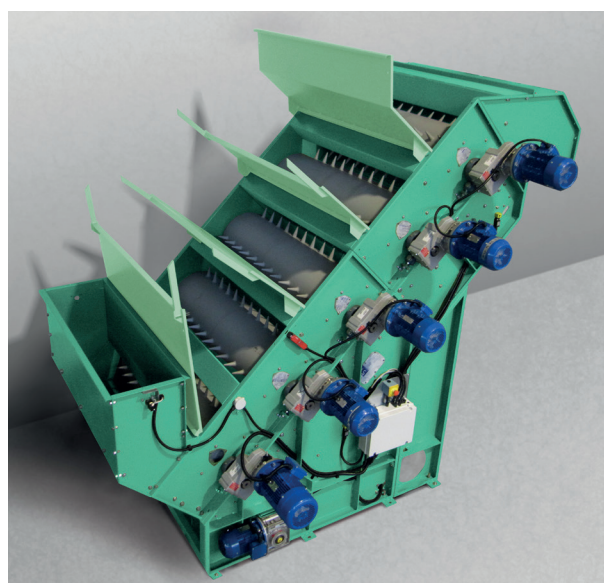
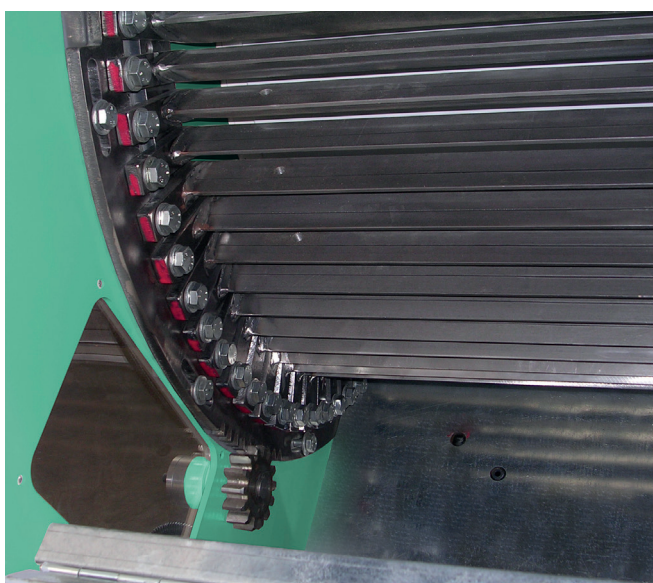
The screens provided in the basic execution are in perforated steel plate.

All of the upper covers can be opened to allow easy access for cleaning. Clean fiber is taken from the machine by pneumatic transport. Safety switches are provided which allow the safe running of the machine in production or when cleaning.

WORKING HEIGHT (mm)	PRODUCTIVITY (Kg/h) FOR WOOL
1000	700
1500	1000
2000	1500

### OPTIONAL:

- adjustable screen made from triangular steel profiles and sprocket which adjusts the gap for the dust removal.
- automatic cleaning of screen with compressed air nozzles.



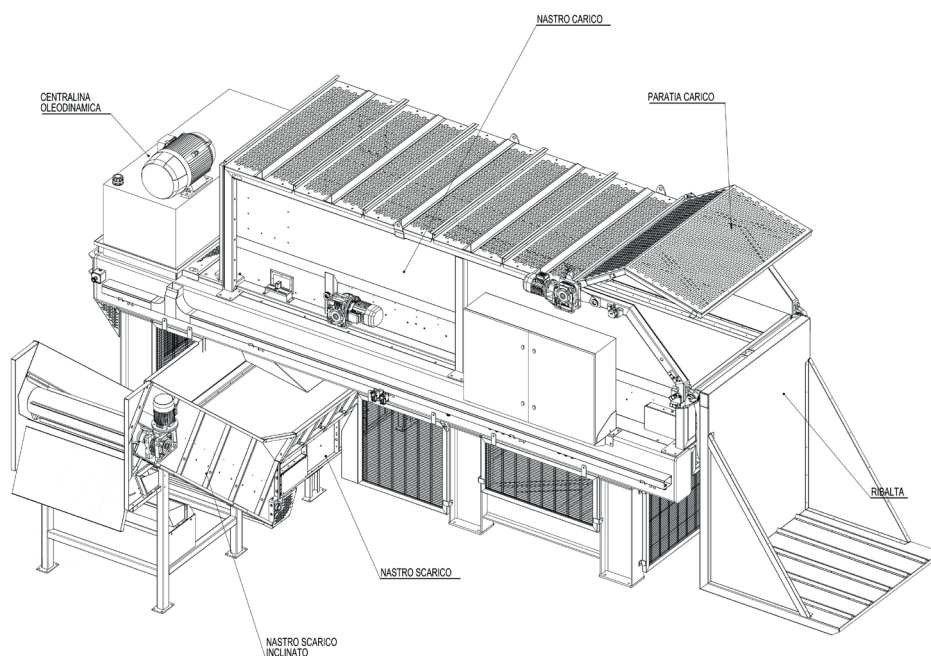


# CUTTING MACHINE

The neck cutting machine is suitable for cutting whole bales of rags to be frayed.

It consists of a sturdy metal structure which, by means of a folding platform, is fed with the bale of material. The same, once inside the machine, advances slowly on a conveyor belt and is conveyed to the area equipped with very sharp blades which proceed to cut the pieces at regular intervals.

The outgoing material is ready and shredded for subsequent processing.







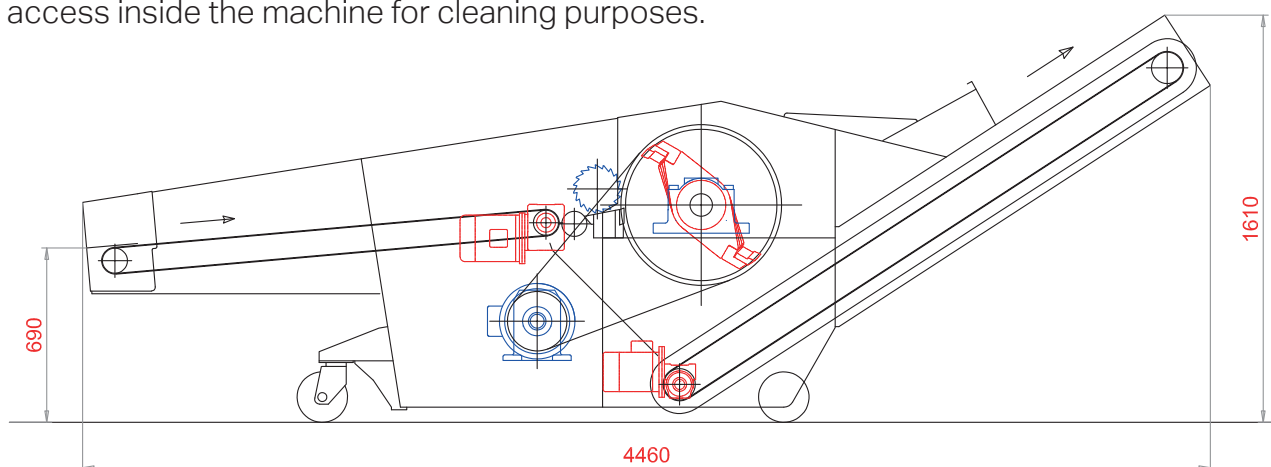
## ROTARY CUTTING MACHINE

This machine is for cutting long staple textile fibers or yarns and rags in different sizes or any other type of soft and hard wastes.

The machine comprises a main drum carrying two blades on opposite sides and is reinforced and protected with roller bearings. The feed table to the machine is PVC canvas and there is one feed cylinder to ensure even feeding together with a fixed blade located on a solid structure.

At the exit the cut materials are conveyed by a mechanical inclined belt. Drives to the feed section and the main drum are by independent motors and gear boxes.

The machine is completely guarded for safety and the guards can be removed for safe access inside the machine for cleaning purposes.





## BIN EMPTIER MODEL SAM

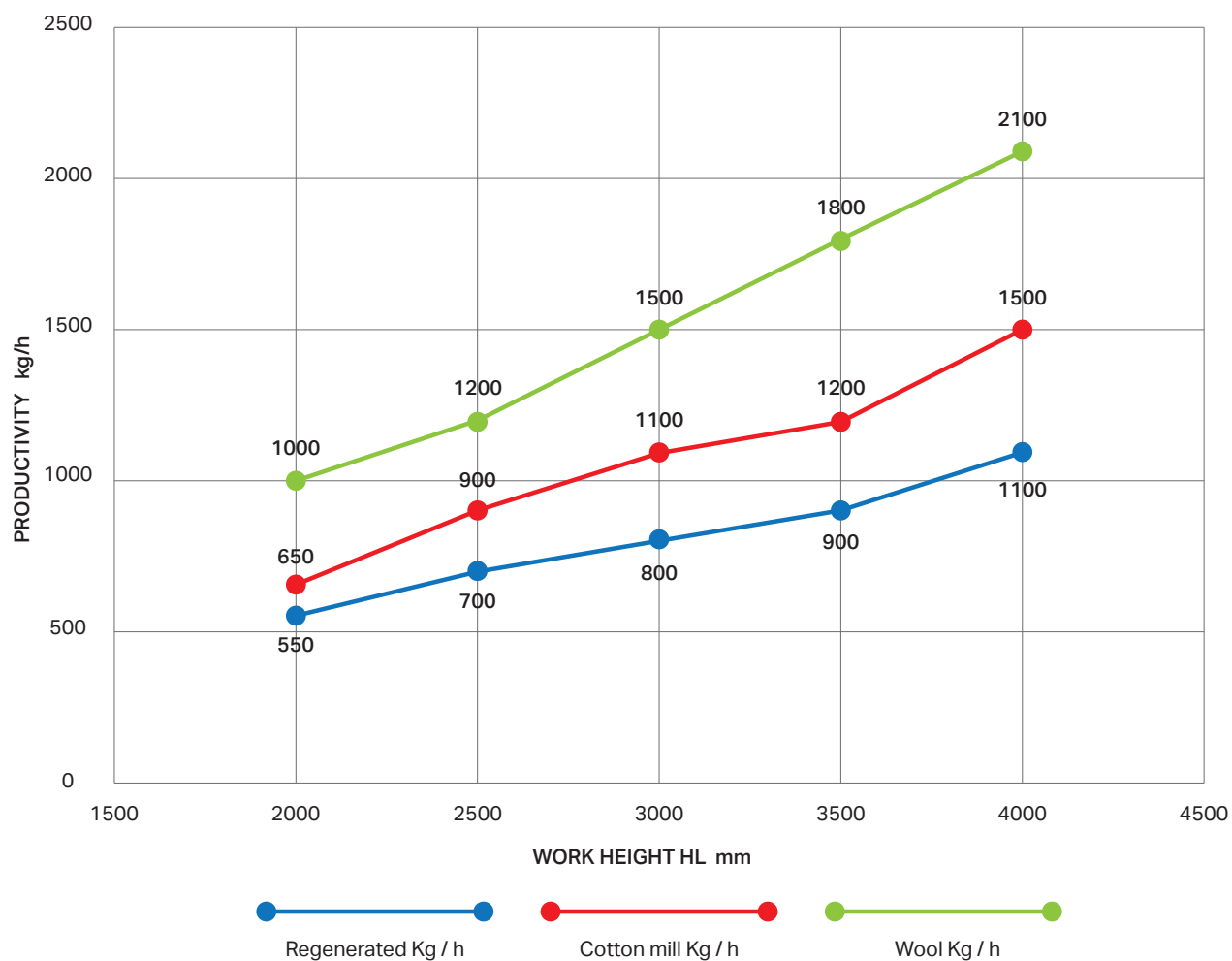
The automatic bin emptier type SAM are ideally suited to achieve homogeneous blending, through the vertical cutting of the material fed into the bin in horizontal layers.

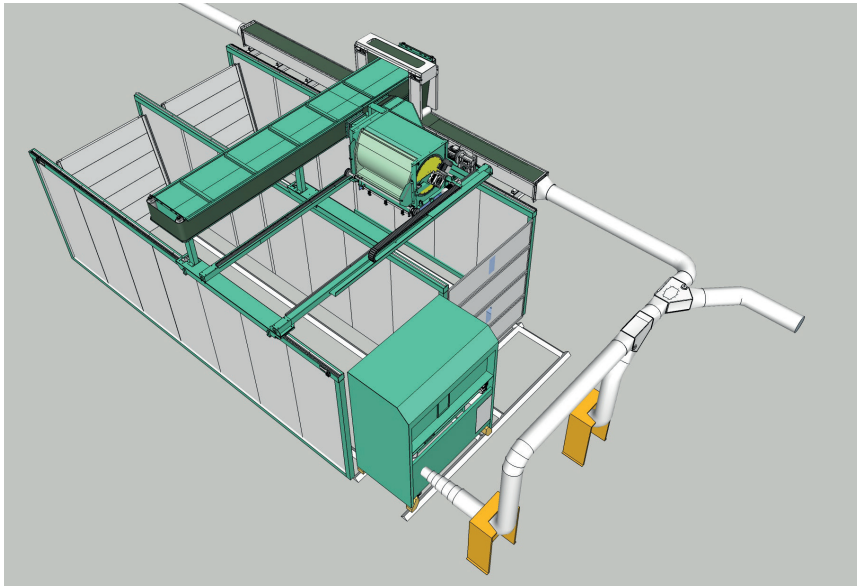
The bin emptier SAM is a mobile unit which travels inside the bin for the emptying operation and moves laterally in front of different bins.

A leading feature of this equipment is the complete use of the vertical space available (in low premises) and suitability for working with several bins in line. The bins can be either of steel sheet construction or in the walled-up version.

The material can be fed via a series of stationary rotary distributors which work automatically in alternation or by chute feed systems in the absence of moving air.

SAF AND SAM CUTTERS PRODUCTIVITY







## BIN EMPTIER MODEL SAF

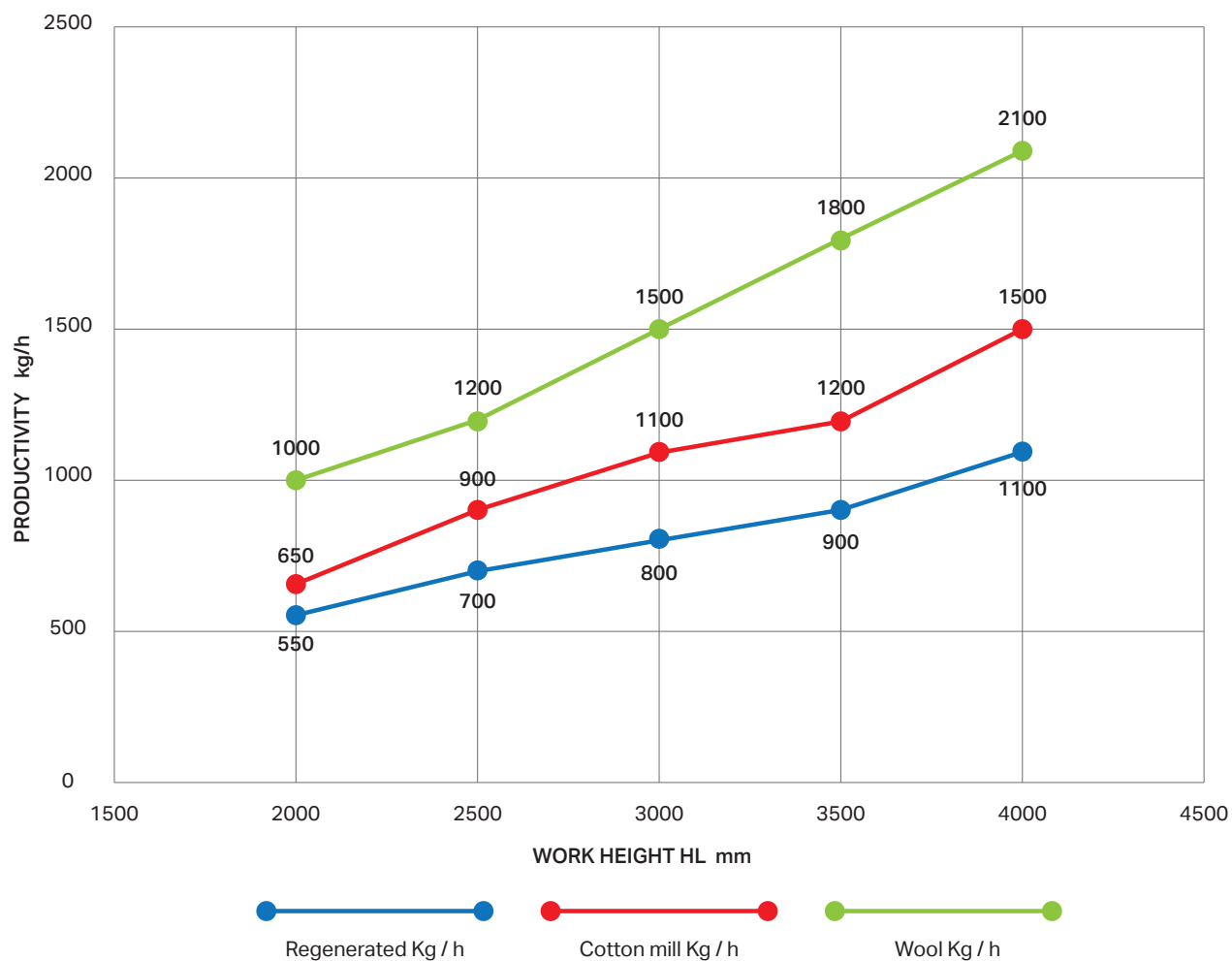
The automatic bins type SAF are ideally suited to achieve homogeneous fibre blending, at average and high production, through the perfect cutting of the material fed into the bins in horizontal layers.

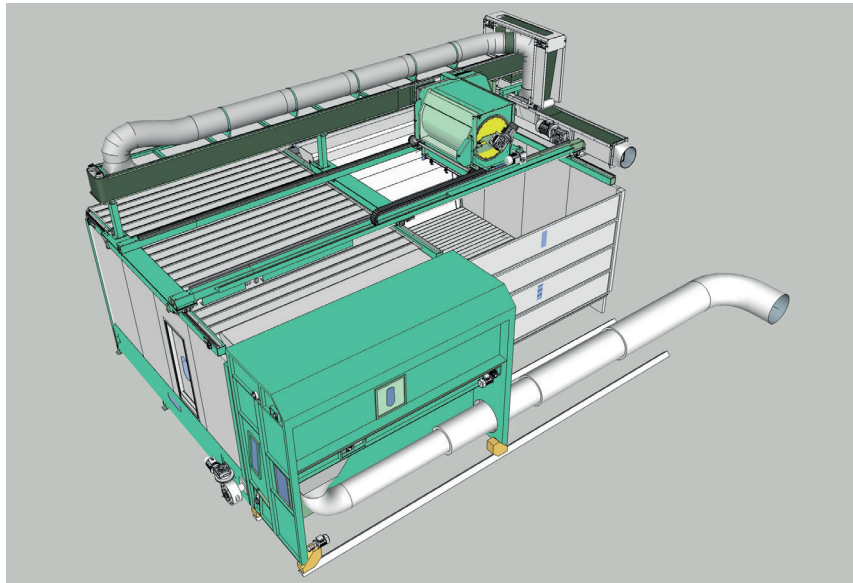
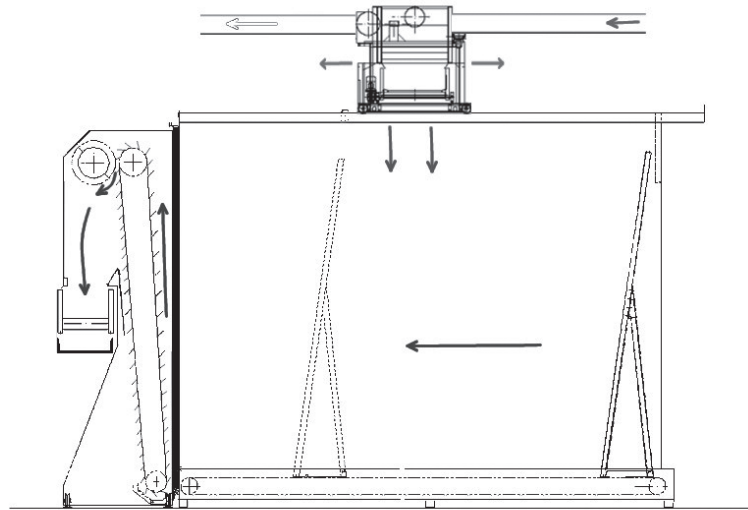
Main features of bins type SAF is the existence of a bottom apron covering the entire surface of the bin to support and move ahead all the fibrous mass. The front bin emptier SAF doesn't move when working and takes vertical portions of the whole face of the fibers which are conveyed forward by the bottom apron.

### MODELS:

- SAF 75 for short fibers (cotton cut)
- SAF 100 for long fibers (wool cutting)
- SAF 100/R e 100/G for cut rags, fibers to be regenerated and greasy wool processing

SAF AND SAM CUTTERS PRODUCTIVITY







## OILING PLANTS

The continuous oiling system with rotary vessel in stainless steel model IB 2500, equipped with sprayer Idromix 350 for the preparation and addition of oil or other fiber additives for different applications:

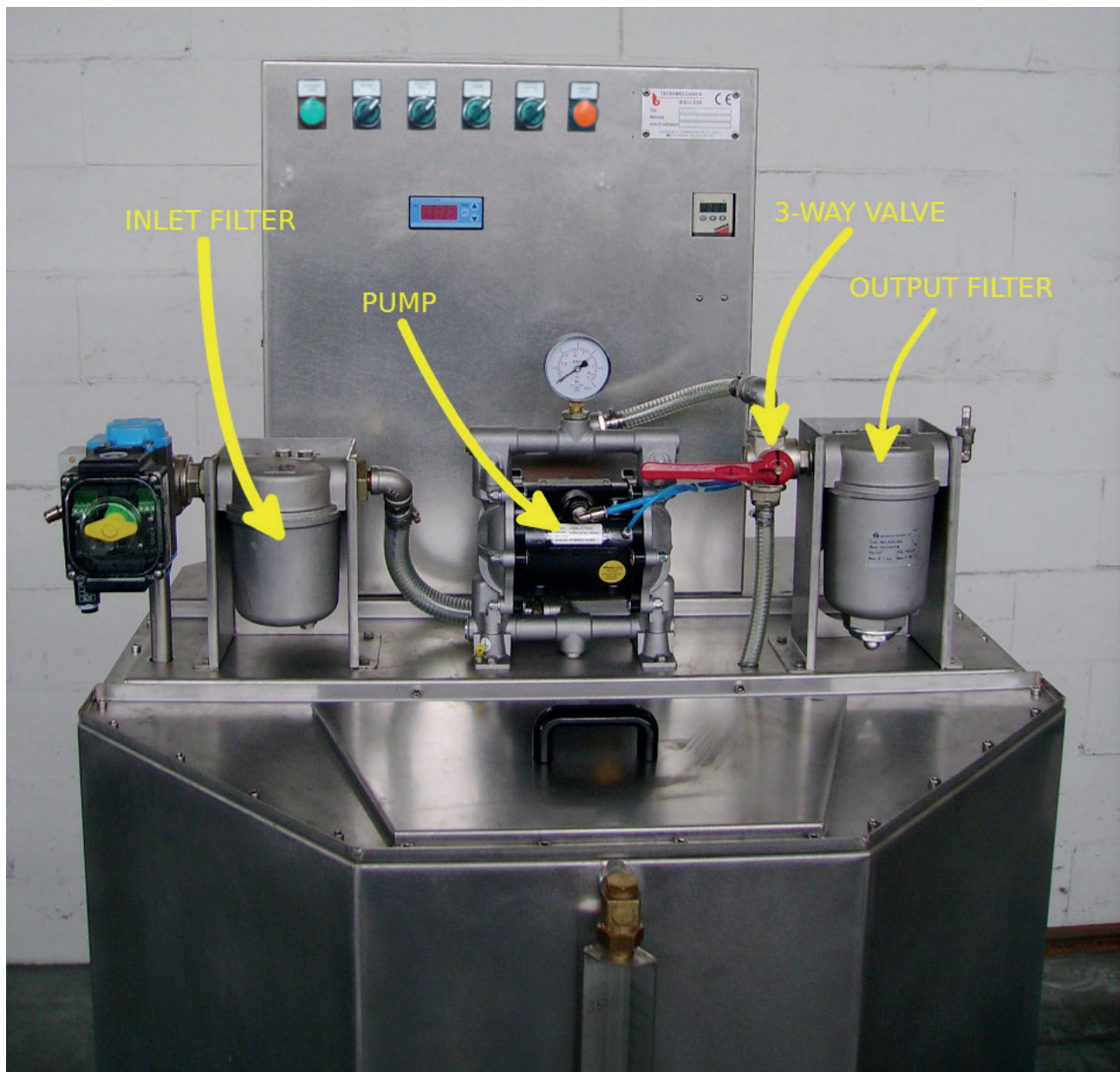
- the conventional blending and oiling bin, with pneumatic feeding via cyclone;
- for oiling application onto conveyor belts or rotary drum condenser above the bins;
- the most sophisticated electronic application with continuous control of the weight of fibers at the inlet which ensure homogenous distribution in the vessel IDROMIX PROCESS.

The rotational speed of the vessel, the percentage of lubricant applied and the degree of suction are all adjustable which makes this equipment suitable for all applications and production levels.

New studies and experiments carried out in view of the various problems connected with the application of oil and other additives have led to the realization of the new spraying system for direct application to the fibres being fed into the blending bins via conveyor belts.

The blend is sprayed and fed into the bin where it has time to absorb the lubricant before being in contact with pipes or with any other parts of the plant.





## AUTOMATIC CARD FEEDING PROCESS

Is achieved by the use of storage bins with bin emptiers mod. SALT, working width 2500 to 4000 mm. The equipment generally consists of two storage bins of any requested size and one bin emptier, which removes the blend by cutting it across the stack from the bottom to the top.

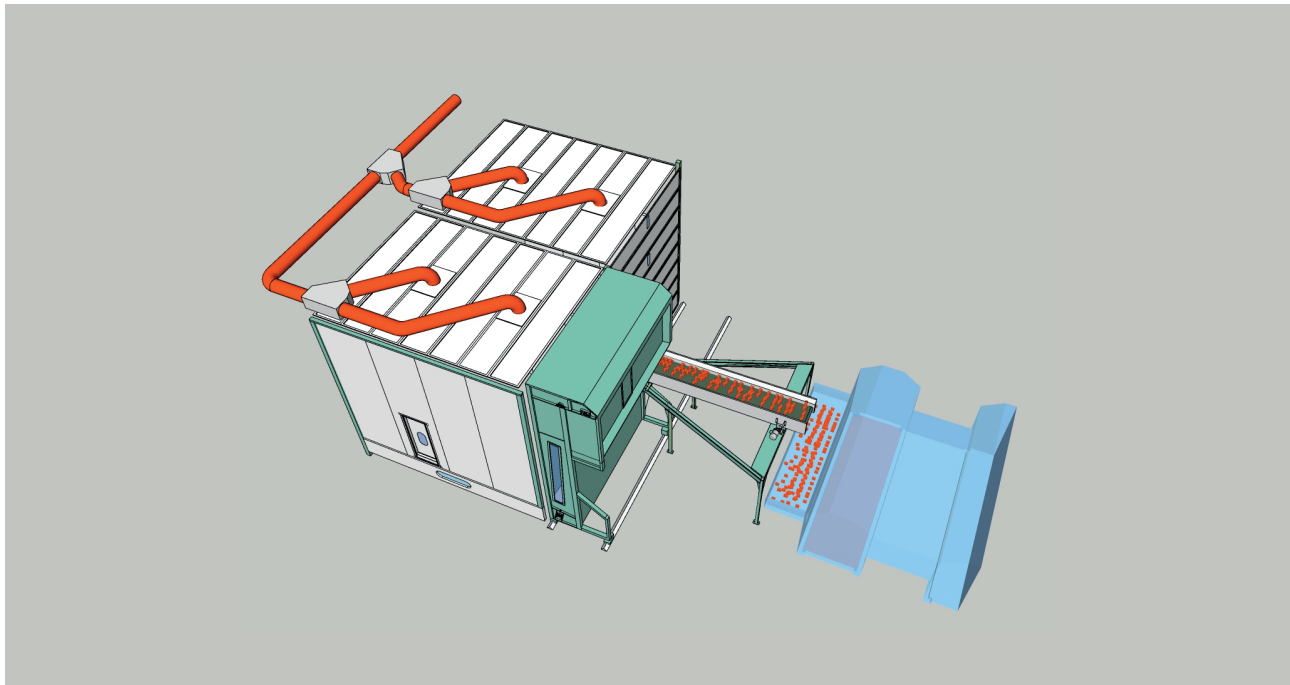
Where possible, the bin emptier can be coupled to a feed-system, which performs the function of conveying the fibers directly into the hopper-feeder via a moving conveyor.

This operation ensures optimum fiber opening and blending, with the result of a superior final end product. The blend can be fed into the storage bins SALT via a special system of distribution in order to limit to a minimum the number of ducts needed for pneumatic conveyance, which normally involve cleaning problems for every batch of fiber material.

For combing mills where many cards are producing the same lot we have realized a special distribution system with a moving conveyor belt able to distribute wool to groups of 2 up to 6 cards.

The automatic roller feeders with Silos model AS are designed to store fibers and to automatically feed Hopper Feeders, Open End spinning lines or to deliver the blend on to the feed sections of different machines. There is a wide range of models available dependent on the filling height which varies from 250 to 3000 mm and in different working widths to suit individual requirements.

The model AST is equipped with a fiber opening system below the delivery rollers to provide optimum opening of the fibers which are fed into the hopper feeder. These silos are generally used in woollen spinning plants and are recommended to achieve homogenous blends.









## BYE-PRODUCTS SUCTION AND RECYCLING PLANTS

Complete suction lines for carding sets, with opening and recycling system for the hopper feeder which takes opened waste from bad/broken ends, condenser waste ends and other soft wastes from carding and spinning. The soft wastes are conveyed pneumatically into the storage silo which ensures an even and constant feed to the hopper feeder whilst maintaining a constant ratio in the hopper feeder between the blended raw material and the recycled material. Before being fed into the hopper feeder the wastes can also be conveyed into a small opener for homogeneous opening.

### SHODDY

with intermittent motorized scrapers positioned on the floor of the card pit and with suction of fiber either into direct baling presses or beating and continuous recycling in the same lot.

### BURRS

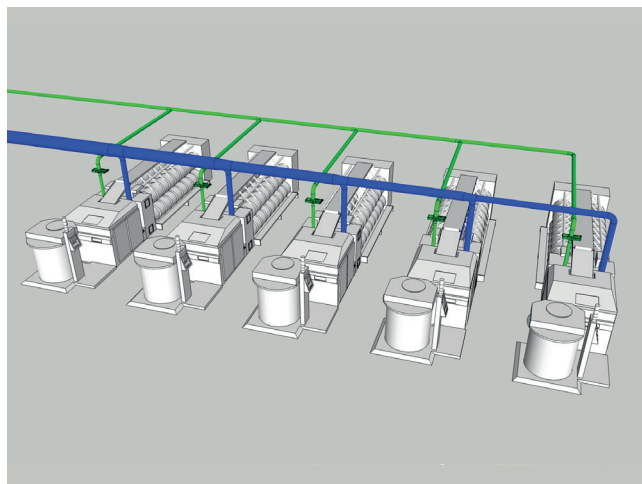
with intermittent suction from the different points of the card and storage of the waste.

### NOILS/SHORT NOILS

continuous suction from combing machines, dust removal with the possibility of going directly to the baling press.

### OPEN TOPS

with continuous suction from combing machine at the exit end, storage into bins and automatic baling press. All dusty air can be conveyed to our centralized filter station.





## **AUTOMATIC FILTERING SYSTEM**

Our long experience in the field of suction of dust, waste and fabric clippings from different types of processing machines has led us to develop a new automatic filtering and cleaning system with significant advantages both from the automation and efficiency points of view. It consists of a monobloc unit optionally fitted in galvanized sheet iron panels containing a pre-filtering system for fiber separation and a drum filter to collect the particles. Because of the action of the unique automatic cleaning systems the efficiency of the unit is guaranteed. The clean air can either be recycled directly in the room or expelled externally. It is possible either to connect the unit with the air conditioning system or alternatively to have an independent system with preheating and/or humidification of the air. The separated dust particles can either be released without air pressure via a condenser-compactor located on top of containers or on bale presses. It can also be conveyed to a pneumatic bagging machine which compacts into bags "type Australia."



## MAIN APPLICATIONS CARRIED OUT WITH EXCELLENT RESULTS IN THE FOLLOWING SECTORS

### **Fabric finishing departments**

suction from shearing machines, raising machines and singeing machines.

### **Fiber blending departments for woollen and semi worsted spinning**

suction from condensers, storage bins, beaters, carding willows and bale openers etc.

### **Rag tearing**

energy saving centralized suction from tearing machines with can also be fed direct from rag feeding and packing plants.

### **O.E. Spinning**

connection with suction lines from flat cards. Suction from hopper feeder silos, condensers for feeding flat cards and recycling of raw materials, beaters, cleaners etc.

### **Non-woven**

suction for dust suppression on cards, fiber preparation machines, condensers etc.

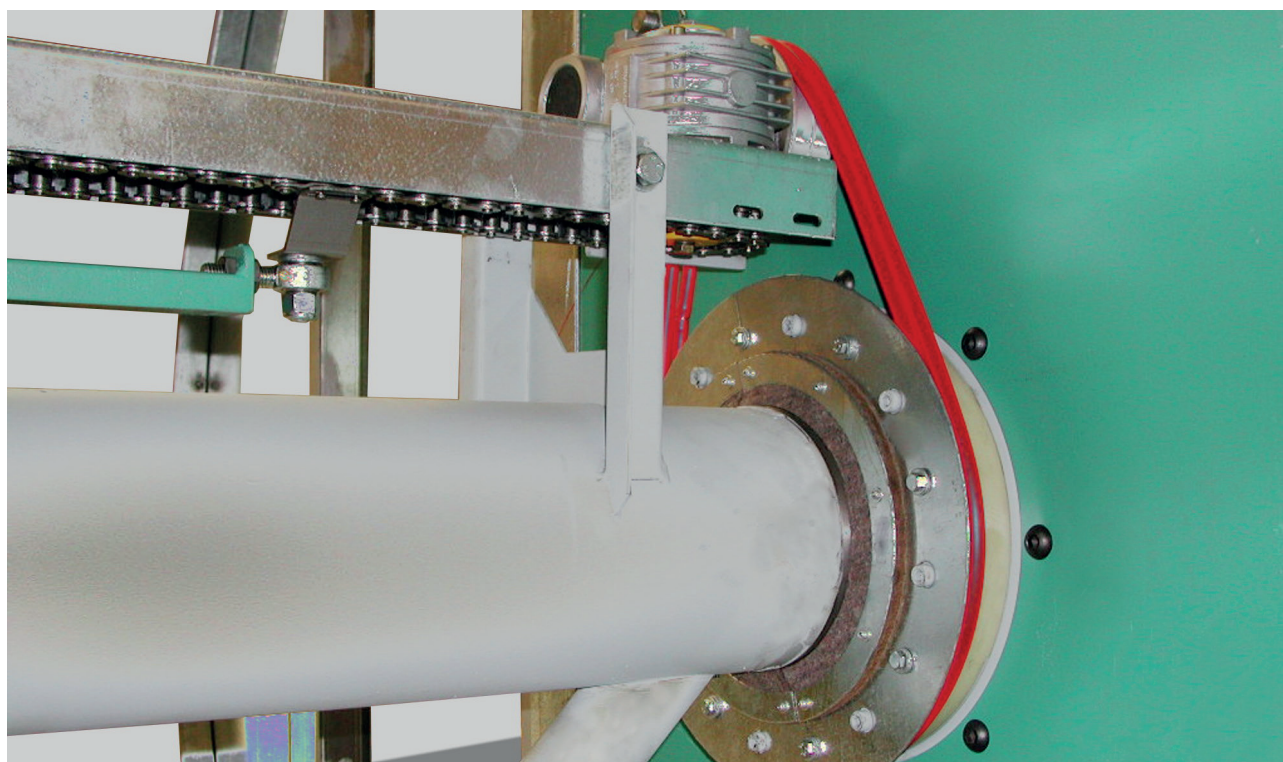
### **Combing mills**

suction of noils and carding wastes.

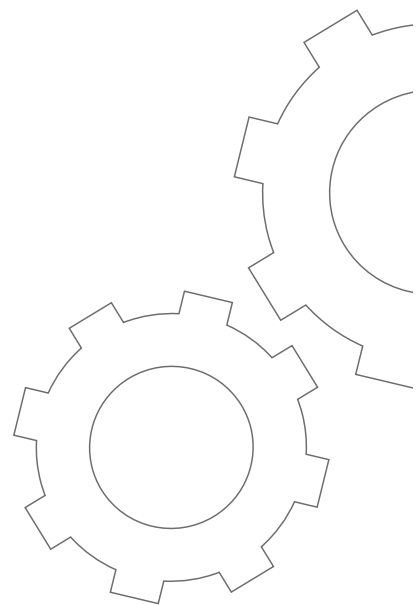
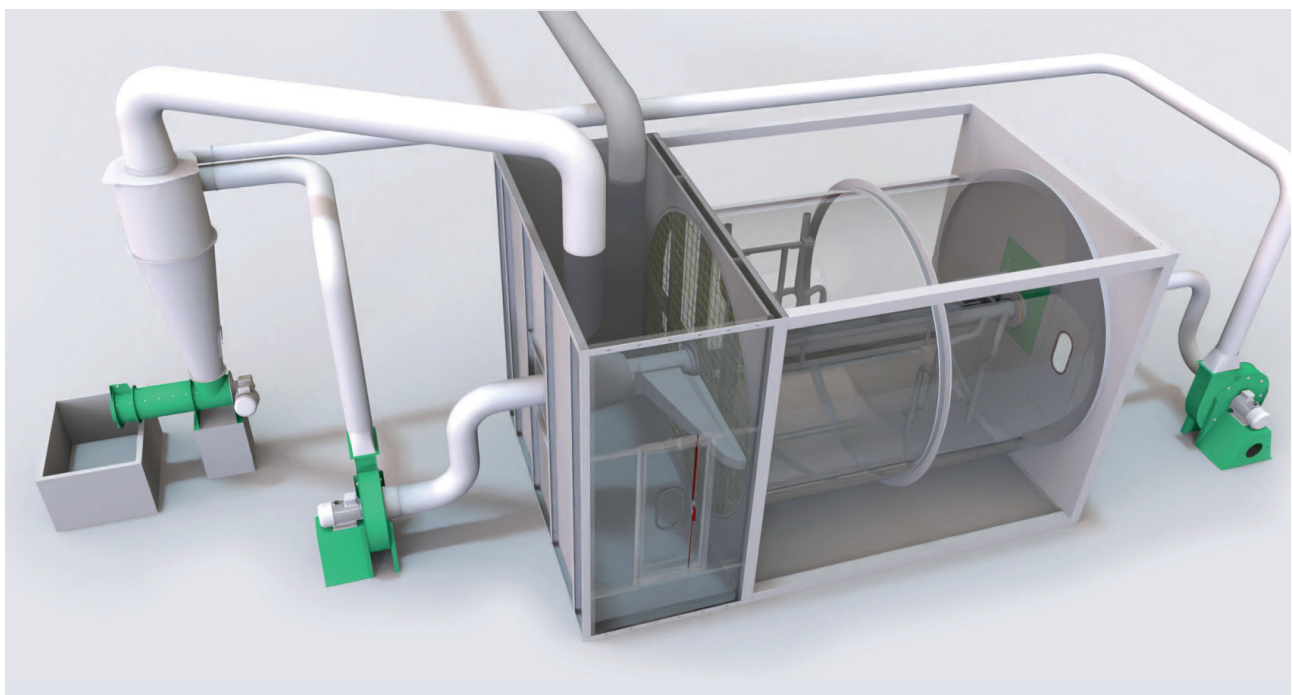
### **Possible applications in other sectors with studies carried out from time to time on specific requests.**

New special applications to other sectors with feasibility studies according to your own requirements.

The section can either be centralized, via one fan only, or subdivided into individual sections for each machine or for different lines utilizing more fans and taking into consideration the possible utilization of existing plants.



DRUM FILTERS FEATURES				
Ø PREFILTER	FILTER SIZE	FILTERING SURFACE	RECOMMENDED FLOW	FILTRATION SPEED
mm	Ø x l mm	m <sup>2</sup>	m <sup>2</sup> / h	m / s
2000	2000 x 3000	18,84	25 / 30.000	0,368 / 0,442
2500	2500 x 3000	23,55	30 / 38.000	0,353 / 0,448
2500	2500 x 4500	35,32	50 / 60.000	0,393 / 0,471
2800	2800 x 4500	39,56	60 / 70.000	0,421 / 0,491
2800	2800 x 6000	52,75	80 / 90.000	0,421 / 0,473
3000	3000 x 4500	42,39	70 / 80.000	0,450 / 0,520
3000	3000 x 6000	56,52	90 / 100.000	0,440 / 0,490



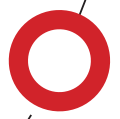
## **SUMMARY [A-Z]**

<b>AUTOMATIC CARD FEEDING PROCESS</b>	<b>38</b>
<b>AUTOMATIC FILTERING SYSTEM</b>	<b>41</b>
<b>BALE OPENER</b>	<b>18</b>
<b>BALE PLUCKER</b>	<b>16</b>
<b>BIN EMPTIER MODEL SAF</b>	<b>34</b>
<b>BIN EMPTIER MODEL SAM</b>	<b>32</b>
<b>BYE-PRODUCTS SUCTION AND RECYCLING PLANTS</b>	<b>40</b>
<b>CARDING WILLOW</b>	<b>20</b>
<b>CUTTING MACHINE</b>	<b>30</b>
<b>FIBER OPENERS</b>	<b>23</b>
<b>OILING PLANTS</b>	<b>36</b>
<b>ROTARY CUTTING MACHINE</b>	<b>31</b>
<b>SMALL OPENER</b>	<b>25</b>
<b>STEP CLEANER</b>	<b>29</b>
<b>TRIM OPENER</b>	<b>26</b>
<b>TRIM OPENER WITH WORKERS</b>	<b>28</b>
<b>VERTICAL OPENER</b>	<b>22</b>





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