



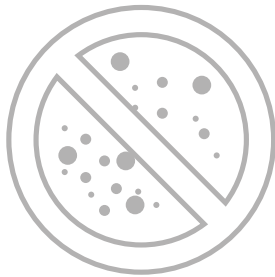
[www.instalmec.it](http://www.instalmec.it)

# PLANT FOR PARTICLEBOARD PANELS

 ENGLISH



# The advantages of our system



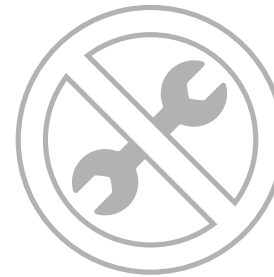
## Removal of pollutants

Thanks to our innovations  
all kind of pollutants  
are eliminated, even  
very fine particles.



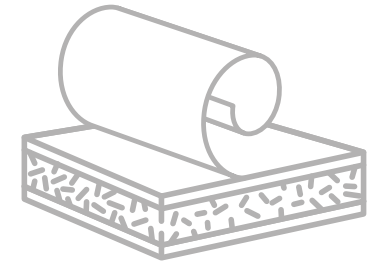
## Flexible production

The machinery can be  
regulated, this allows  
to vary the size of  
particles according to  
production needs.



## Less maintenance

An accurate engineering  
allows the reduction of  
maintenance operations  
and guarantee a constant  
production.

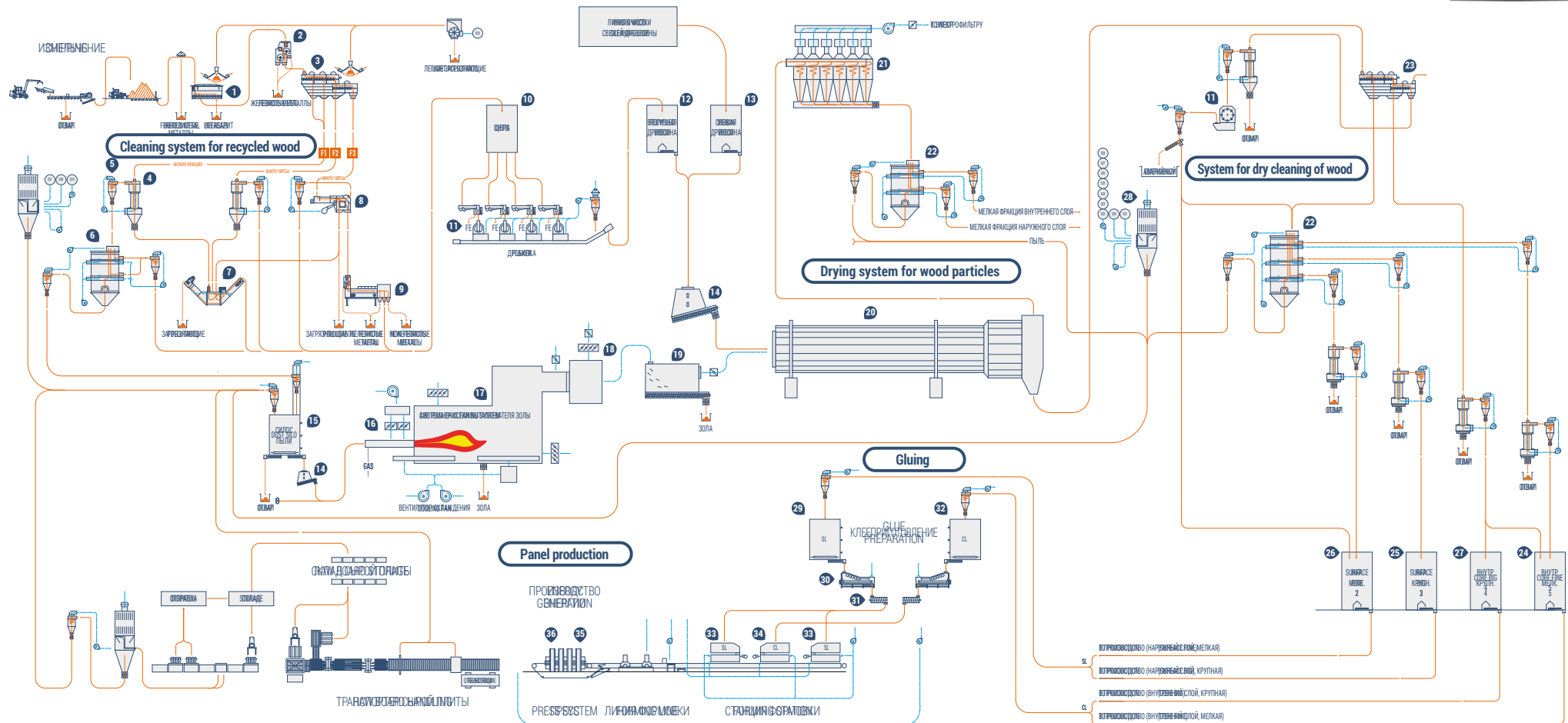


## Better panel surface

The panel surface is  
improved, appears smoother.  
The surface can be finished  
without prior sanding.



# Instalmec machinery and systems



## Cleaning system for recycled wood

- 1 - Primary roller screen
- 2 - Magnetic separator for metals
- 3 - Disk Roller screen
- 4 - Gravimetric separator
- 5 - LPD Cyclone
- 6 - Pneumatic screen
- 7 - Water separator
- 8 - Kinetic separator
- 9 - Induction separator
- 10 - Chips silo
- 11 - Hammer mills

## Drying system for wood particles

- 12 - Recycled wood silo
- 13 - Virgin wood silo
- 14 - Dosing bunker
- 15 - Dust silo
- 16 - Burner
- 17 - Combustion chamber
- 18 - Mixing chamber
- 19 - Separation chamber
- 20 - Drum dryer
- 21 - Drum dryer cyclones

## System for dry cleaning of wood

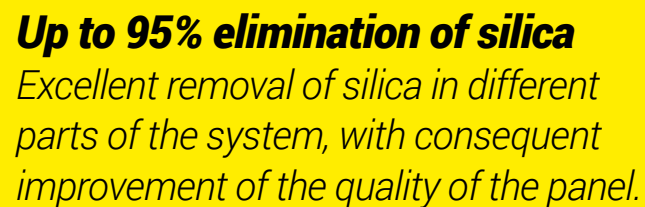
- 22 - Pneumatic screen
- 23 - Disk Roller screens
- 24 - Core fine silo
- 25 - Surface big silo
- 26 - Surface fine silo
- 27 - Core big silo
- 28 - Cyclone filter

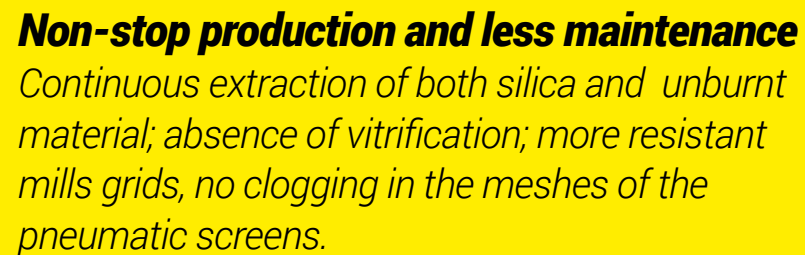
## Gluing

- 29 - Surface silo
- 30 - Dosing bin with scale
- 31 - Glue blender
- 32 - Core silo

## Panel production

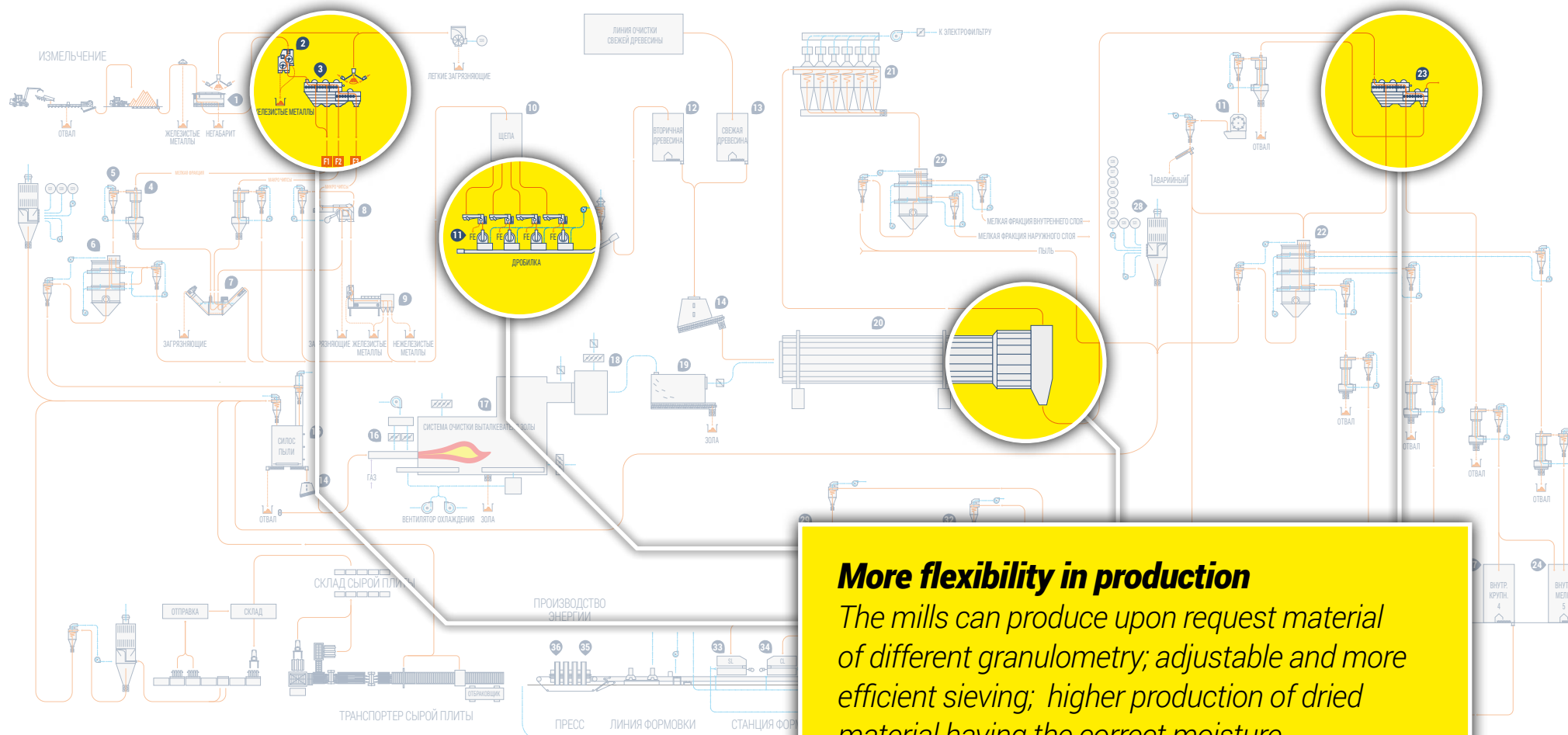
- 33 - Surface forming bunker
- 34 - Core forming bunker
- 35 - Press
- 36 - Press exhaust cleaning system







# The advantages of our solutions



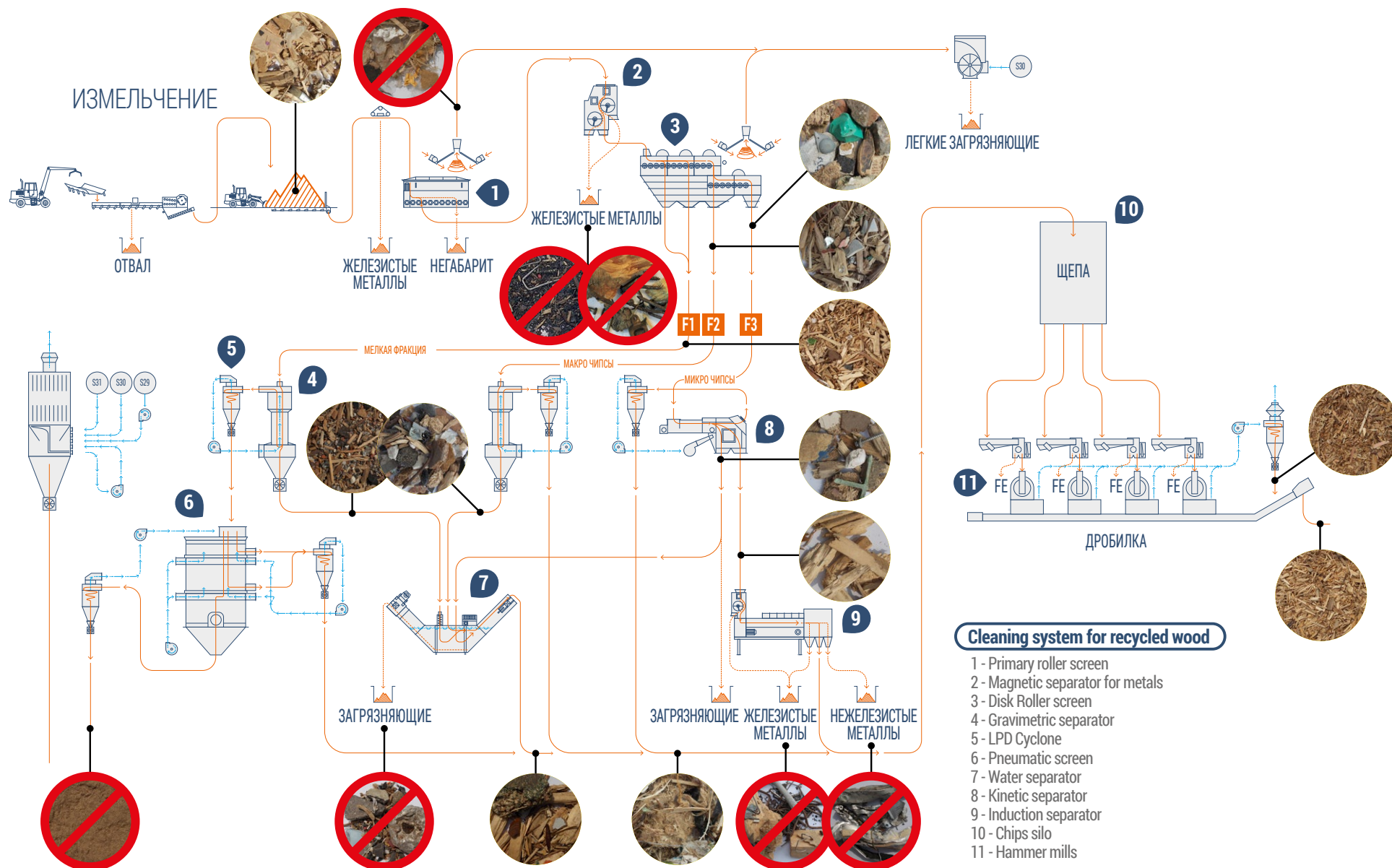
## **More flexibility in production**

*The mills can produce upon request material of different granulometry; adjustable and more efficient sieving; higher production of dried material having the correct moisture.*

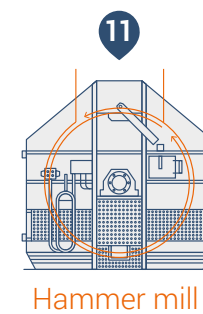
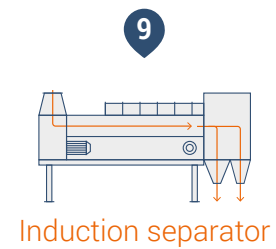
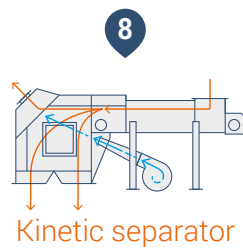
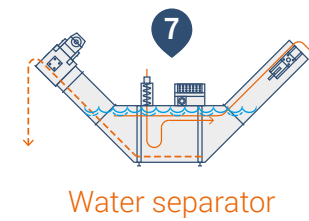
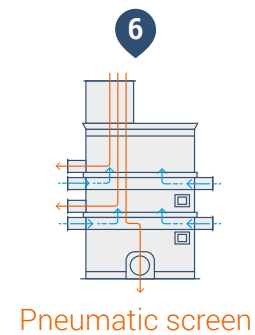
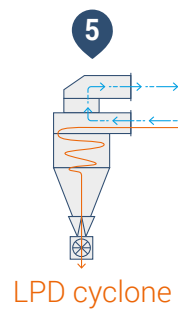
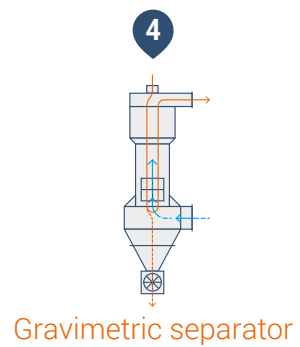
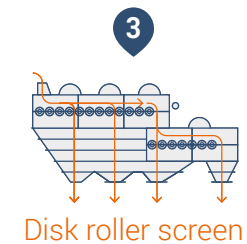
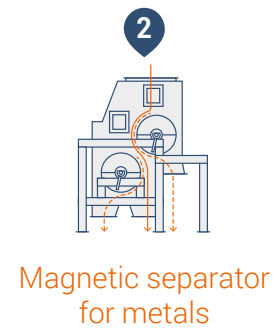
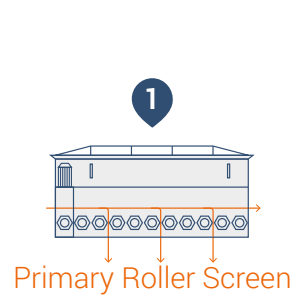


# AREAS OF THE PLANT

# Cleaning system for recycled wood



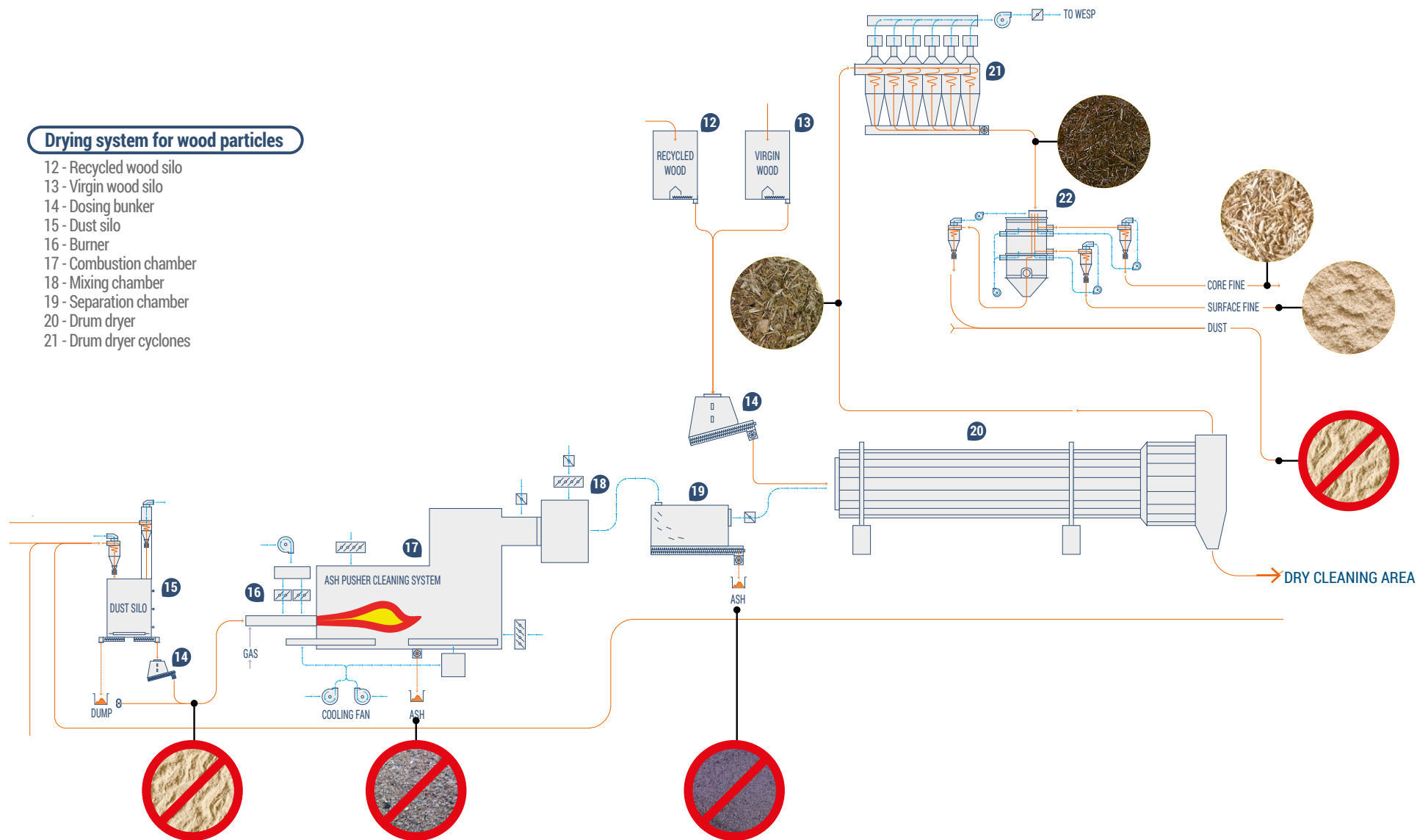




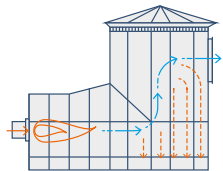
# Drying system for wood particles

## Drying system for wood particles

- 12 - Recycled wood silo
- 13 - Virgin wood silo
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- 15 - Dust silo
- 16 - Burner
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- 19 - Separation chamber
- 20 - Drum dryer
- 21 - Drum dryer cyclones

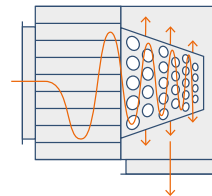


17



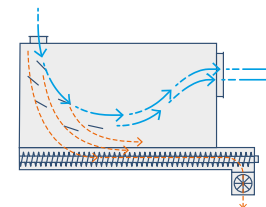
Combustion chamber

18



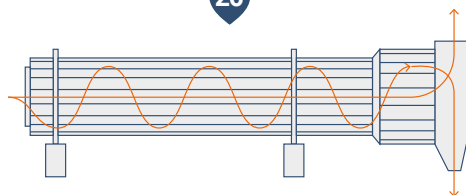
Mixing chamber

19



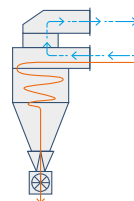
Separation chamber

20



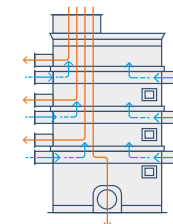
Drum dryer

21



Drum dryer cyclones

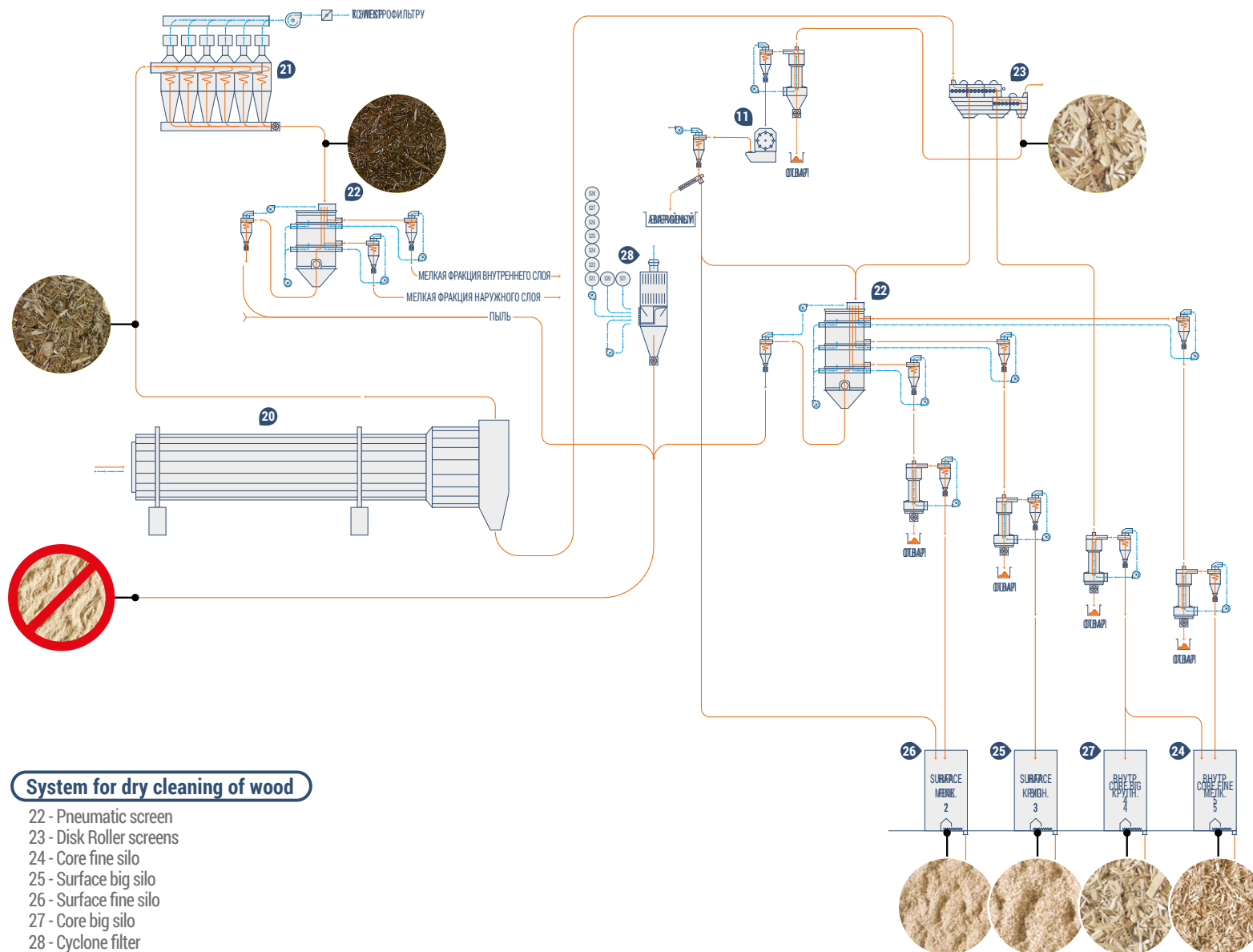
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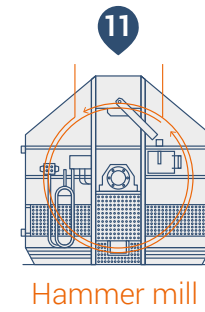
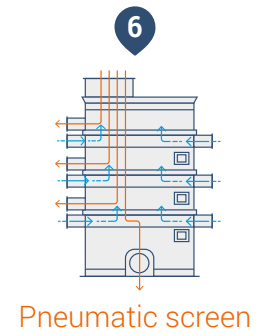
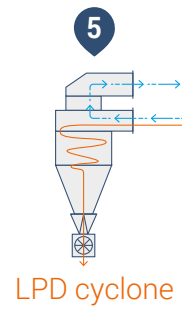
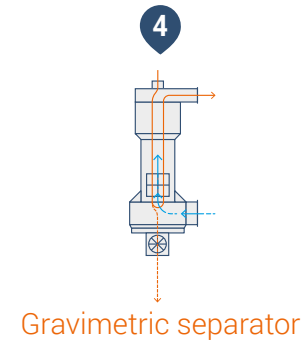
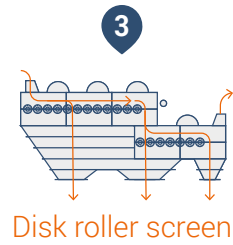


Pneumatic screen



# System for dry cleaning of wood

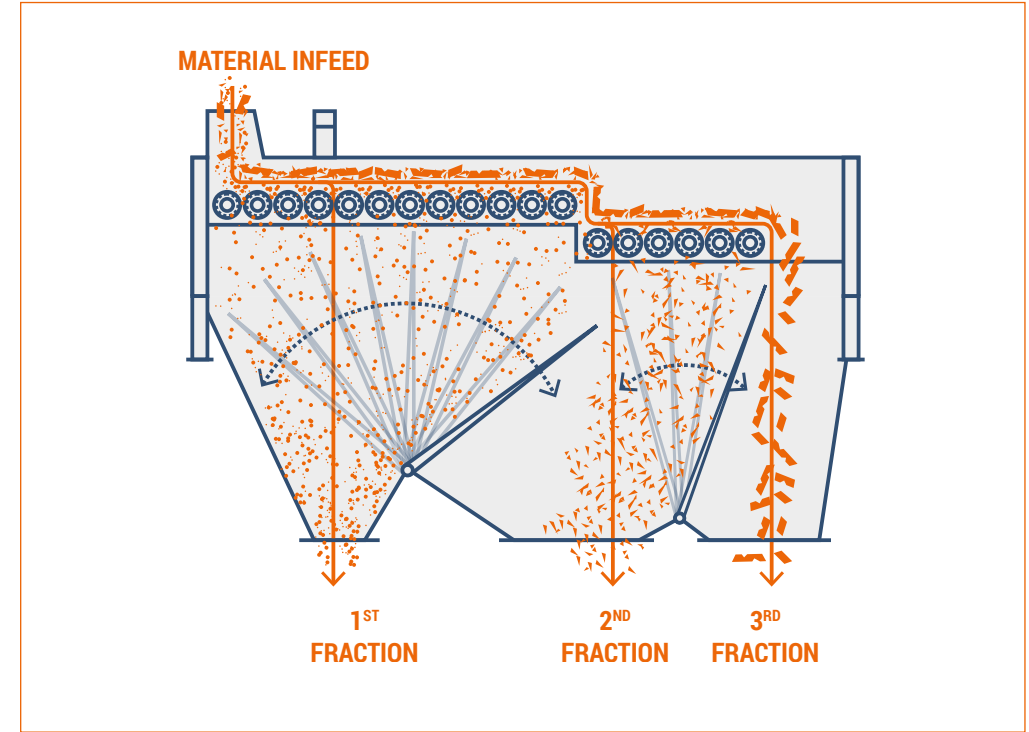




## 3 Disk roller screen



This screen guarantees an excellent classification of the material thanks to the particular geometrical shape of the disks and the gap between them. By varying the velocity of the rolls and the spacing varies the grade of separation of the three fractions. The material spreads homogeneously onto the classification surface of the screen, the velocity of rotation favors the progress and classification of the material. The fine fraction gets separated from the coarse fraction and from the oversize which are recovered separately underneath the screen.

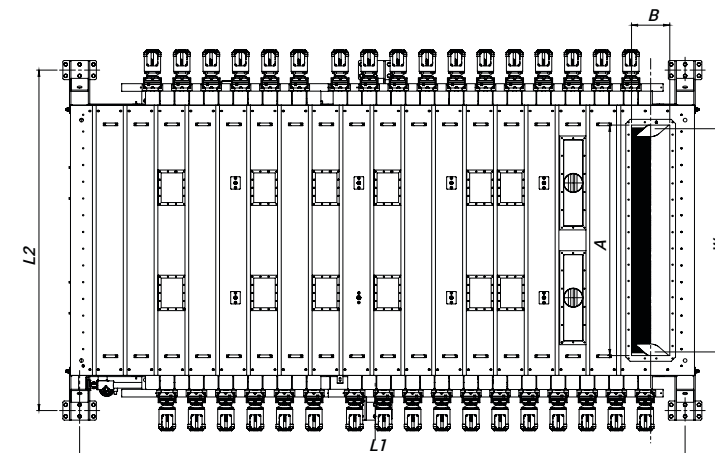
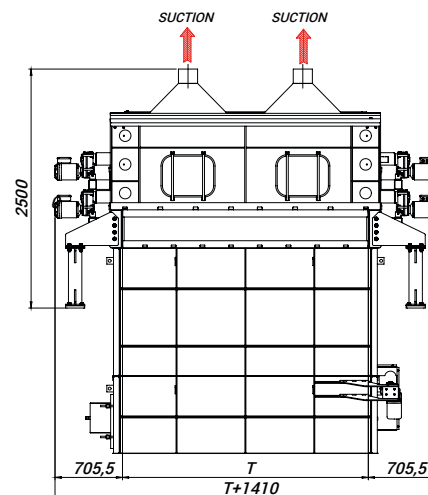
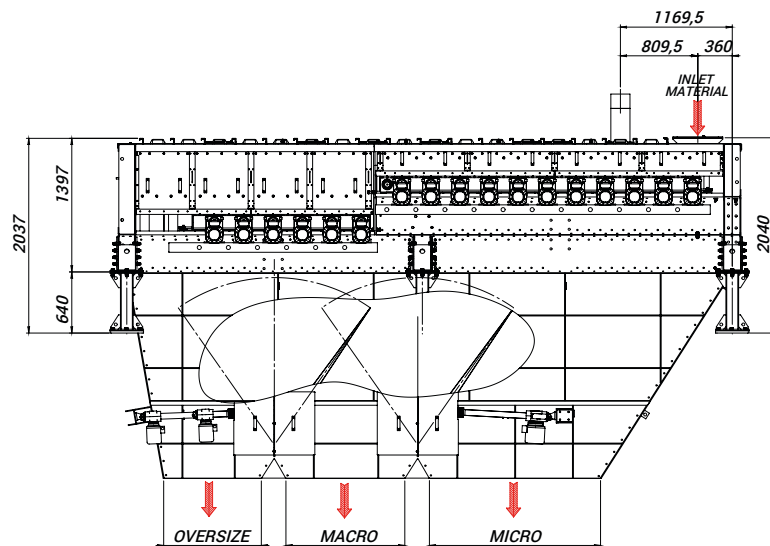


## Advantages

- High resistance and long lifespan of the components
- High precision of the disk units, therefore maximum screening efficiency
- Protection from wear of the devices installed afterwards



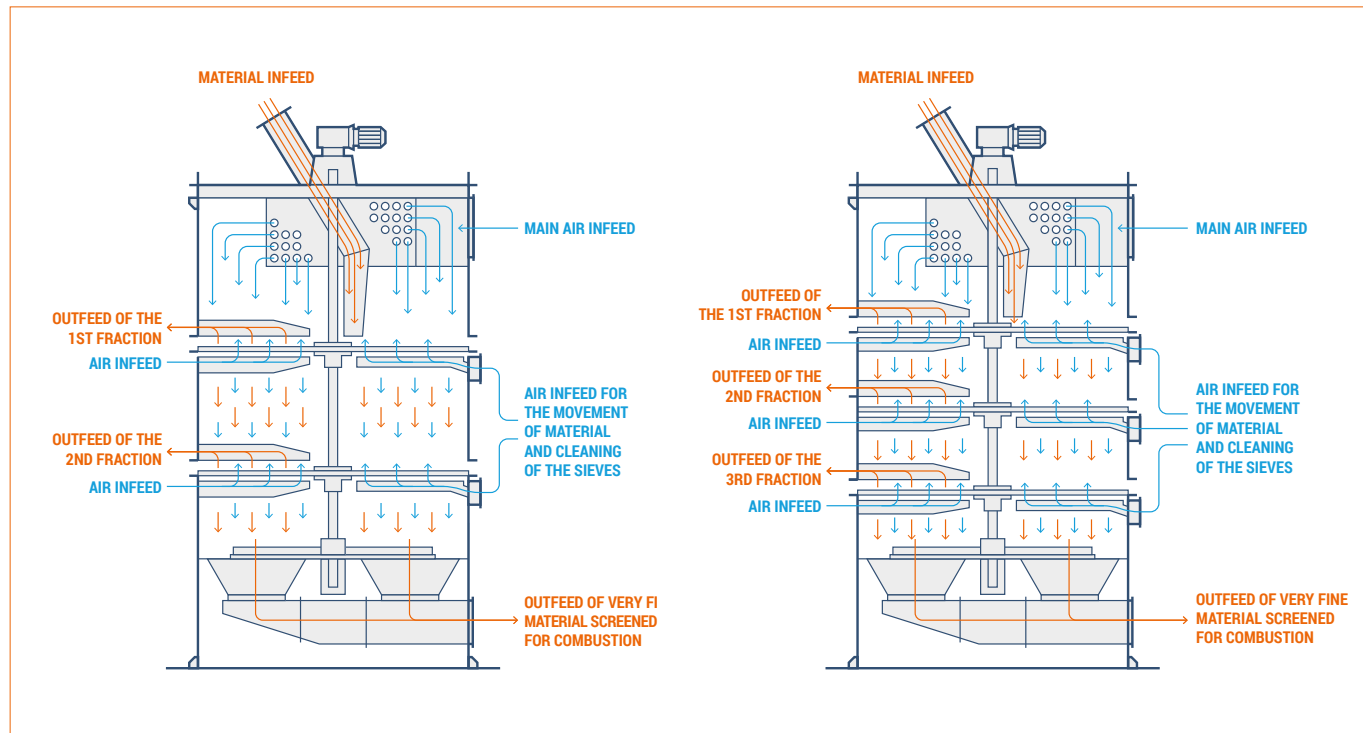




MODEL	L1	L2	T	W	AxB	Installed power	Capacity t/h (bd)	Weight
DSSD - 1000 - 1006	3300	2185	1195	960	1035 x 300	12 kW	8	7500 Kg
DSSD - 1400 - 1408	4150	2585	1595	1360	1435 x 350	18 kW	18	11500 Kg
DSSD - 2000 - 1608	4600	3225	2235	2000	2075 x 370	28 kW	25	1400 Kg
DSSD - 2400 - 1810	5250	3560	2570	2335	2410 x 400	32 kW	35	17500 Kg
DSSD - 2400 - 2212	6330	3560	2570	2335	2410 x 400	40 kW	45	19500 Kg



## 6 Pneumatic screen



Instaltec Pneumatic screen is characterized by an innovative fluid-dynamic cleaning system that prevents clogging. The efficiency of our pneumatic screen is constant in time, whereas in traditional screens it worsens with time because the sieves become clogged with material. Our sieves get cleaned automatically thanks to a counter air flow that ensures constant performance and quality. The material, that can be screened in two or more fractions, does not rub onto the sieves and therefore there is no wear. A periodic maintenance is no longer required.

### Advantages

- Thanks to the continuous self-cleaning of the sieves by means of a counter-air flow, the efficiency is constant through time.
- As heavy foundations are not necessary, installation costs are reduced.
- Constant screening efficiency compared to traditional systems, where the effectiveness of classification decreases after few working-hours.
- The cleaning system prevents clogging, reduces wear and maintenance requirement because there is no rubbing on the sieves. Reduced installation costs.

# Virgin wood



> Core big

> Core fine

> Surface layer

> Dust

PNEUMATIC SCREEN				
Type		Vp-2800	Vp-3400	Vp-4000
Fractions	nr.	2 - 4	2 - 4	2 - 4
Capacity	m³/h	40 - 50	60 - 70	80 - 90
Net screening area	m²	5,27	8,02	11,02
OVERALL DIMENSION				
Diameter	mm	2800	3400	4000
Heigh - 2 fractions	mm	4300	4300	4500
Heigh - 3 fractions	mm	5600	5600	6000
Heigh - 4 fractions	mm	7000	7000	7000
INSTALLED POWER				
Screens rotation	kW	2,2	2,2	3,0

Not binding data. We reserve the right of modification at any time without prior notice. \*According to the project parameters and lay out.



# For an ecologic and excellent panel

100% Recycled wood panel



100% Virgin wood panel



This machine effectively rids fine contaminants - such as **tannins, very fine dusts, varnishes, resins, volatile substances, glue residues and unburnt particles from the dryer - from the wood used for production.** The result is a panel whose terrific surface quality has no equal, and challenges that of the panels made of virgin wood.

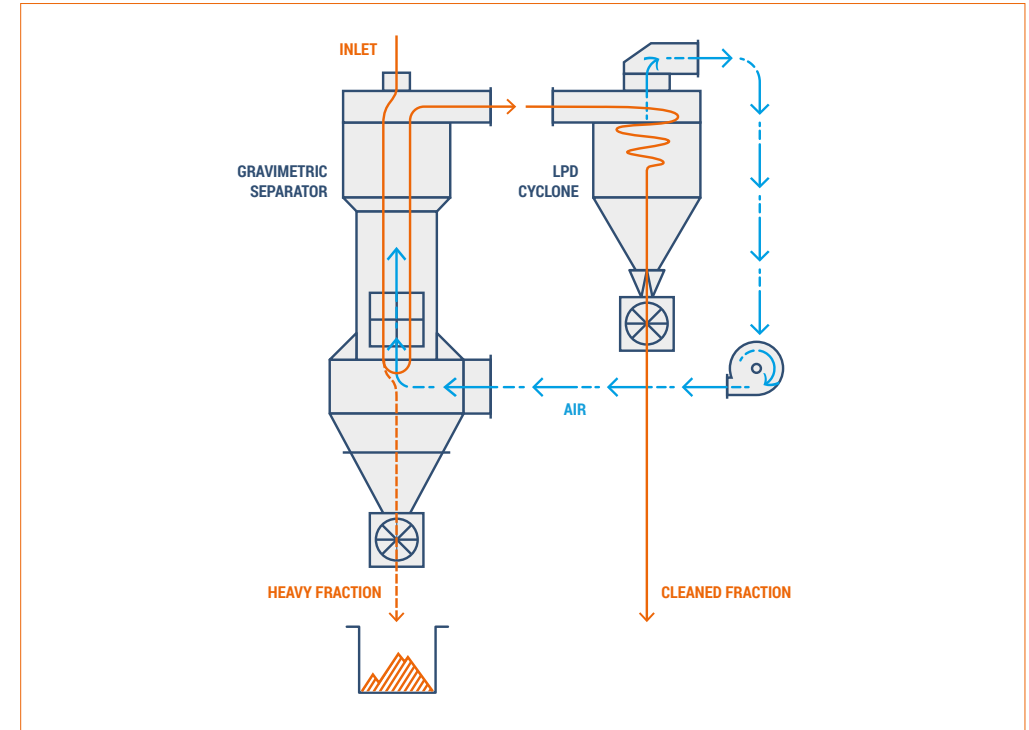


## 4 Gravimetric separator



Watch  
the video

The gravimetric separator is a very efficient device for the separation of any polluting substances that might be present in the wood chips. Its action is due to a different density of the particles. The polluted material is introduced at the top of the separator and falls down for the effect of gravity into a counter air flow. The wooden material, which is lighter, remains suspended in the air flow and gets cleaned. The cleaned wood chips are then transported to a cyclone. The heavier pollutants (little stones, glass, plastic, etc.) fall to the bottom of the separator and are extracted by a rotary valve to be discarded.



## Advantages

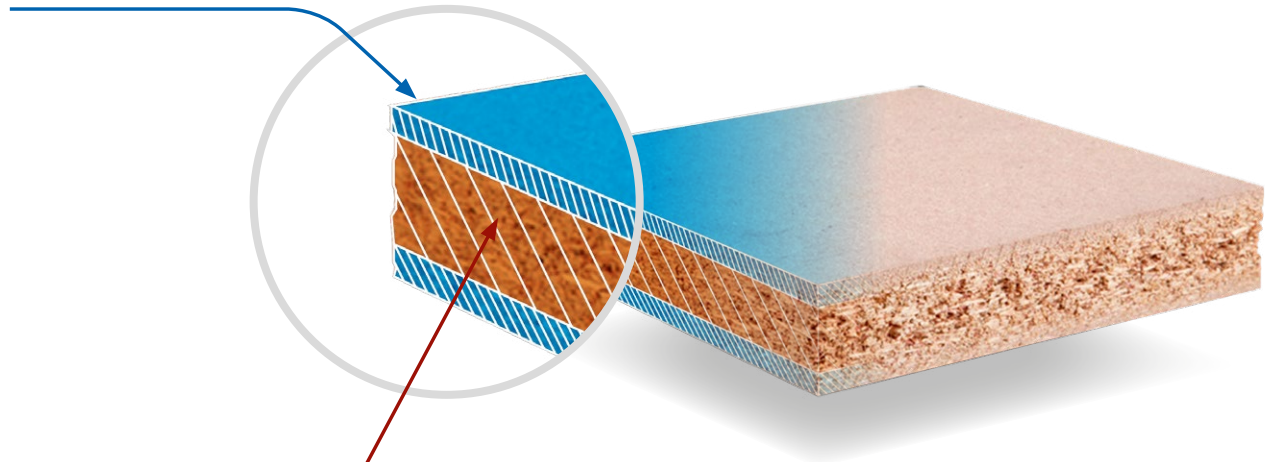
- Ideal for cleaning
- Extraordinary cleaning efficiency
- No wear
- No maintenance required
- Easy to regulate
- Constant efficiency
- Low energy consumption

## Surface layer

- Higher water resistance
- Increasing of sanding belts life time
- Both surfaces extremely fines, homogeneous and smooth
- Surfacing with very fine papers
- Decreasing of reject boards

## Core layer

- Excellent homogeneous core layer
- Optimized density profile
- Thin and clean particles
- Excellent post-formability
- Saving of wood and glue





> Typical rejects

Pollutants separator for wet particles						
Type	Capacity		Bulk density	Main dimensions	Cyclone	Installed power
	Kg/h F2-th. 2-2,5mm	Kg/h F3-th. 4-6mm	Kg/m³	DN (mm)	DN (mm')	kW*
WPS 1	2750	3000	250 - 300	1500	1400	22
WPS 2	3850	4200		1900	1600	30
WPS 3	5500	6000		2200	2000	45
WPS 4	6600	7200		2500	2200	55
WPS 5	8250	9000		2700	2500	75
WPS 6	11000	12000		2900	2800	90
WPS 7	13200	14400		3100	3000	110
WPS 8	16500	18000		3700	3200	132
WPS 9	22000	24000		3700	3500	160
WPS 10	33000	36000		4100	4100	250
WPS 11	66000	72000		5300	2x 4100	400

Pollutants separator for dry particles						
Type	Capacity		Bulk density	Main dimensions	Cyclone	Installed power
	Kg/h Core Layer	Kg/h Surface Layer	Kg/m³	DN (mm)	DN (mm')	kW*
DPS 1	2500	1750	120 - 150	1500	1250	18,5
DPS 2	3500	2450		1900	1400	22
DPS 3	5000	3500		2200	1800	37
DPS 4	6000	4200		2500	1900	45
DPS 5	7500	5250		2700	2200	55
DPS 6	10000	7000		2900	2500	75
DPS 7	12000	8400		3100	2700	90
DPS 8	15000	10500		3700	2800	110
DPS 9	20000	14000		3700	3200	132
DPS 10	30000	21000		4100	3800	200
DPS 11	60000	42000		5300	2x 3800	355

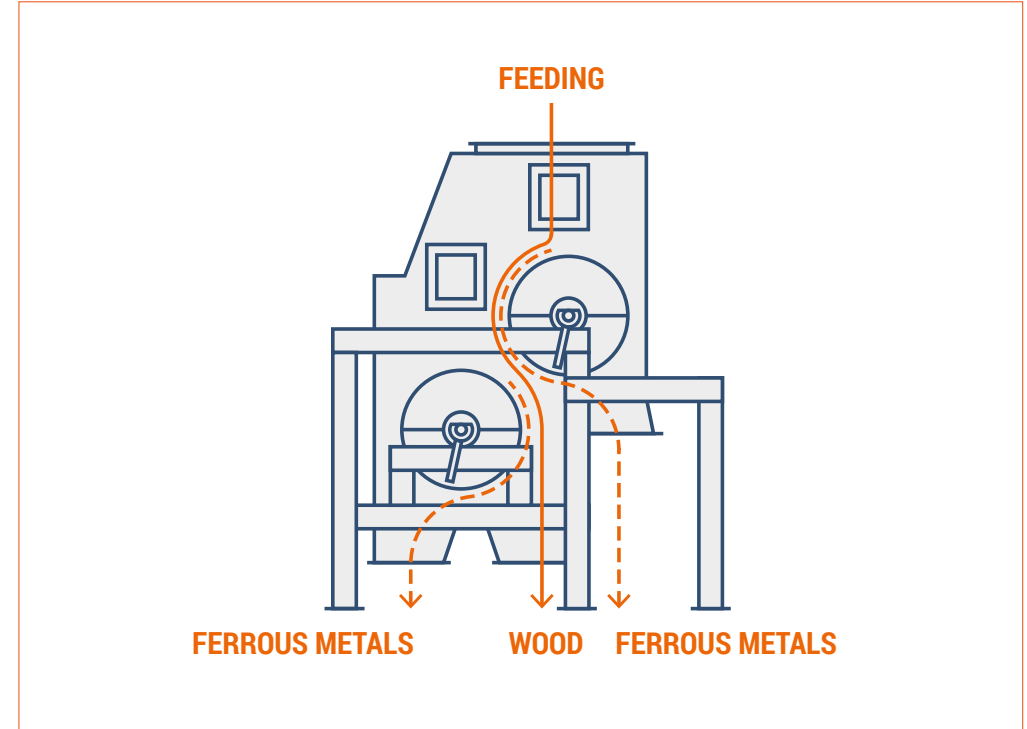
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## 2 Magnetic separator for ferrous metals



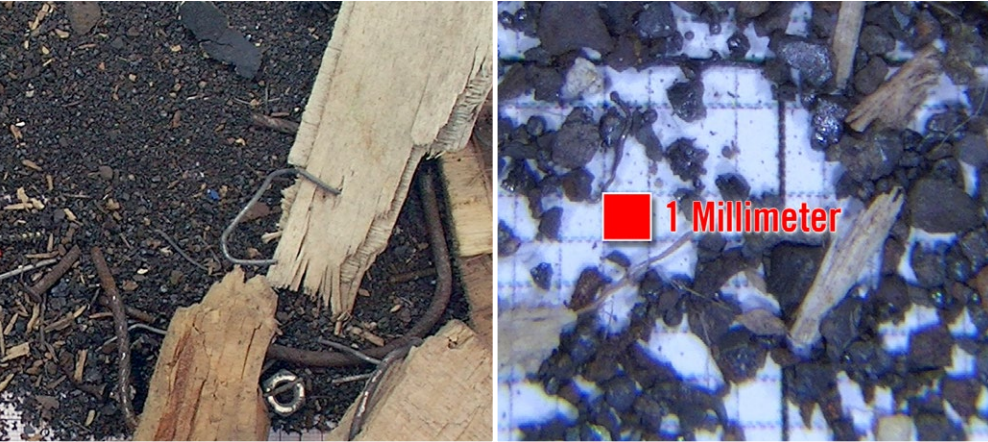
A conveyor carries the wooden material contaminated with ferrous metals at the top of the magnetic separator. The material flow is forced through two opposite deferrizing magnetic drums that separate effectively the ferrous stuff from the wood chips. This Separator is capable of detecting and dividing ferrous materials of a wide range of sizes, from very fine dust to grains of a few millimeters, from metal shavings to pieces of ferrous metal of various centimeters. The effectiveness of separation is ~ 98%. This device is so powerful that can even detect with extreme precision tiny bits of nails embedded within small pieces of wood.



### Advantages

- Highly effective detection of ferrous metals from a few millimeters to various centimeters in size
- Efficacious sorting of ferrous particles in a wide range of size
- Successful separation of all ferrous metals included in the wood chips flow, even those embedded within wood pieces
- No spreading of metal dust or ferrous materials in proximity of the machine operational area
- Neglectable quantity of wood discarded during the separation of metals

# Recycled wood



> Ferrous material to be separated from recycled wood    > Discarded material

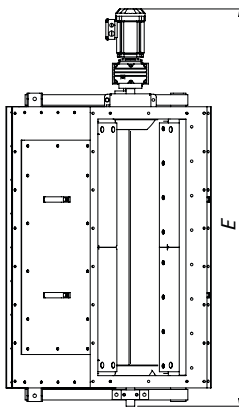
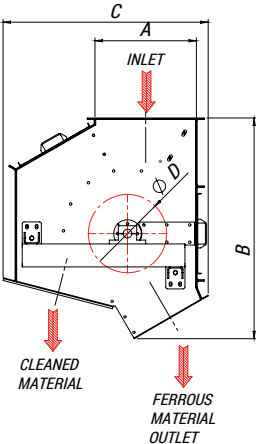
# Virgin wood



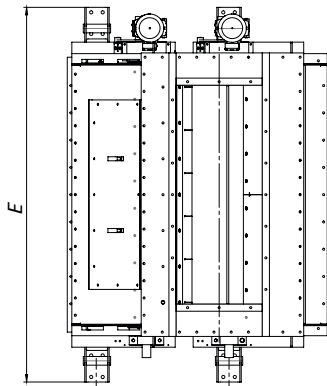
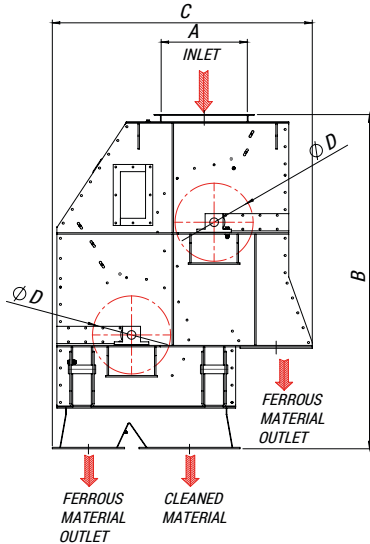
> Ferrous material to be separated from virgin wood    > Discarded material

MAGNETIC DRUM SEPARATOR				
Type		DZ.1.070	DZ.1.125	DZ.2.170
Capacity	m³/h			
INSTALLED POWER				
Drum rotation 1	kW	0,55	1,1	1,5
Drum rotation 2	kW			1,5
OVERALL DIMENSION				
A	mm	450	530	600
B	mm	1150	1150	2330
C	mm	1070	1070	1810
D	mm	400	400	520
E	mm	1405	2075	2610

DZ.1 MODEL  
Overall dimensions



DZ.2 MODEL  
Overall dimensions



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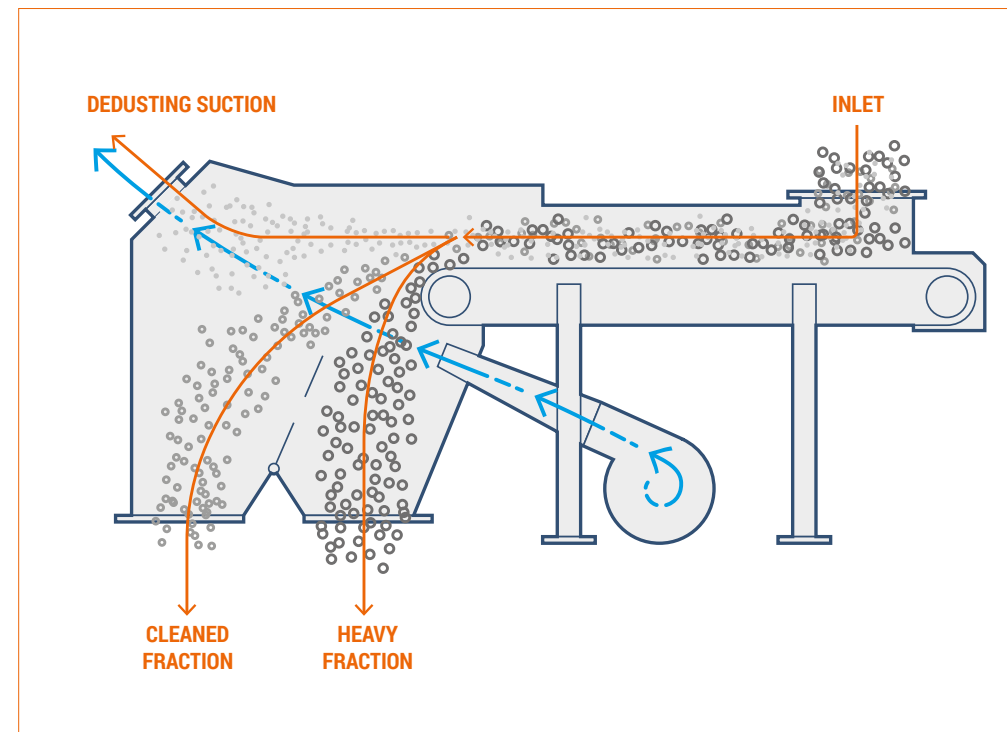


## 8 Kinetic separator



The separation occurs thanks to the suspension within an air flow of the lighter materials, together with the kinetic effect of the conveyor belt. Heavier polluting bodies fall down due to the gravity effect and are discarded, whereas lighter pollutants are suspended in air and separated from the cleaned wooden chips. Three fractions are obtained after separation: clean wood chips, heavy pollutants, light contaminants (sand, paper, cellophane, polystyrene).

The kinetic separator is often associated with a dust aspiration system.



## Advantages

- Effective separation of heavy pollutants from the wood chips
- Easy regulation of the separator achieved through inverters
- Velocity of the belt and intensity of the air flow are easily adjustable
- Low energy consumption thanks to the inverters that drive the belt and the fan.

# Recycled wood



> Rejects from Macrochips

> Rejects from Microchips

# Virgin wood

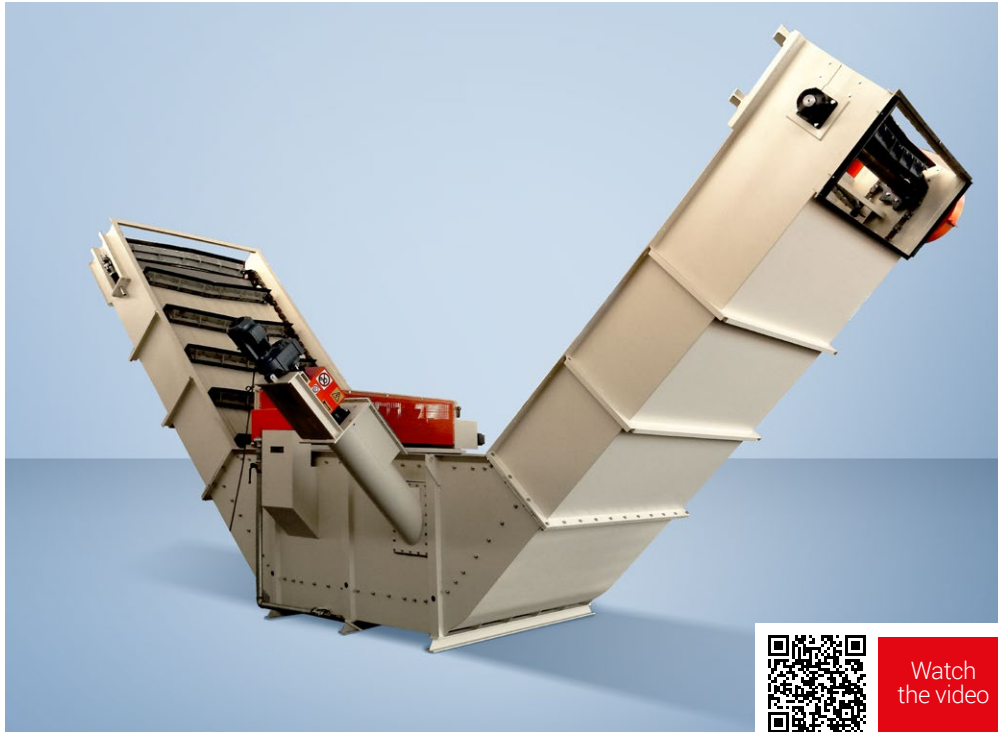


KINETIC SEPARATORS RANGE				
Type		KS-80	KS-100	KS-150
Capacity	m³/h	80	100	150
INSTALLED POWER				
Belt conveyor	kW	1,5	2,2	3,0
Main fan	kW	30,0	37,0	45,0
Rotary valve	kW	1,5	2,2	2,2
Cyclone	DN	1400	1600	1800
Exhaust air	m³/h	3000	4000	5000
OVERALL DIMENSION				
Length	mm	3900	3900	3900
Width	mm	2000	2300	2800
Height	mm	1700	1700	1700

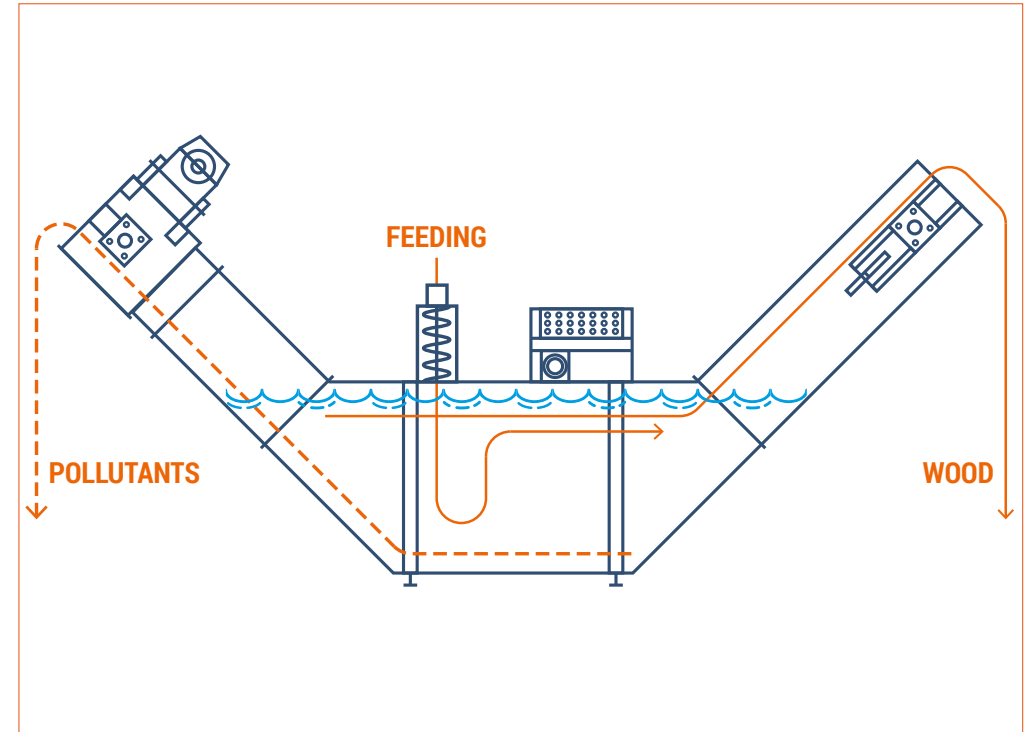
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## 7 Water separator

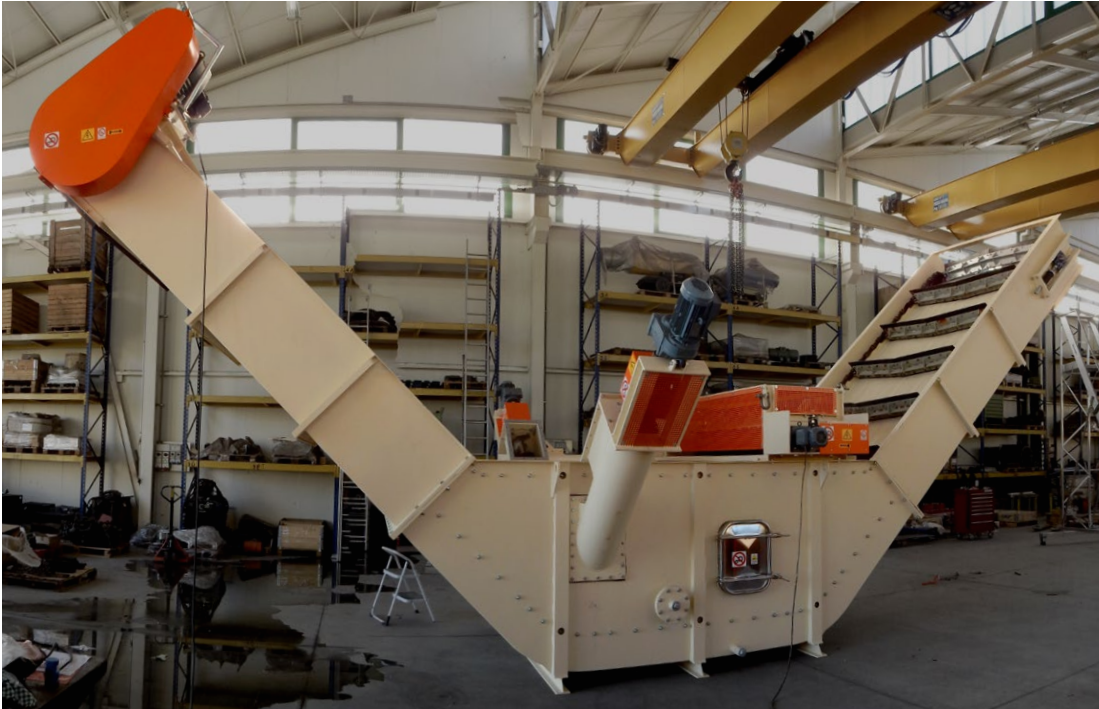


The material to be cleaned is fed through a dosing screw into the water separator where light material floats, while the heavier pollutants such as stones, metals, glass, etc. fall down and are removed by a chain conveyor. On the opposite side the same chain conveyor removes the floating material which is clean and ready to be sent to production. A device helps dipping the material, optimizing the cleaning process.



## Advantages

- **Effective cleaning of wood from heavy pollutants**
- **Further recovery of wood rejected by other cleaning systems;**
- **Fast process, hence wood does not absorb any water**
- **Water does not need to be treated, nor changed, only occasionally replenished**
- **Low kW absorption**
- **Simple and reliable operating system**

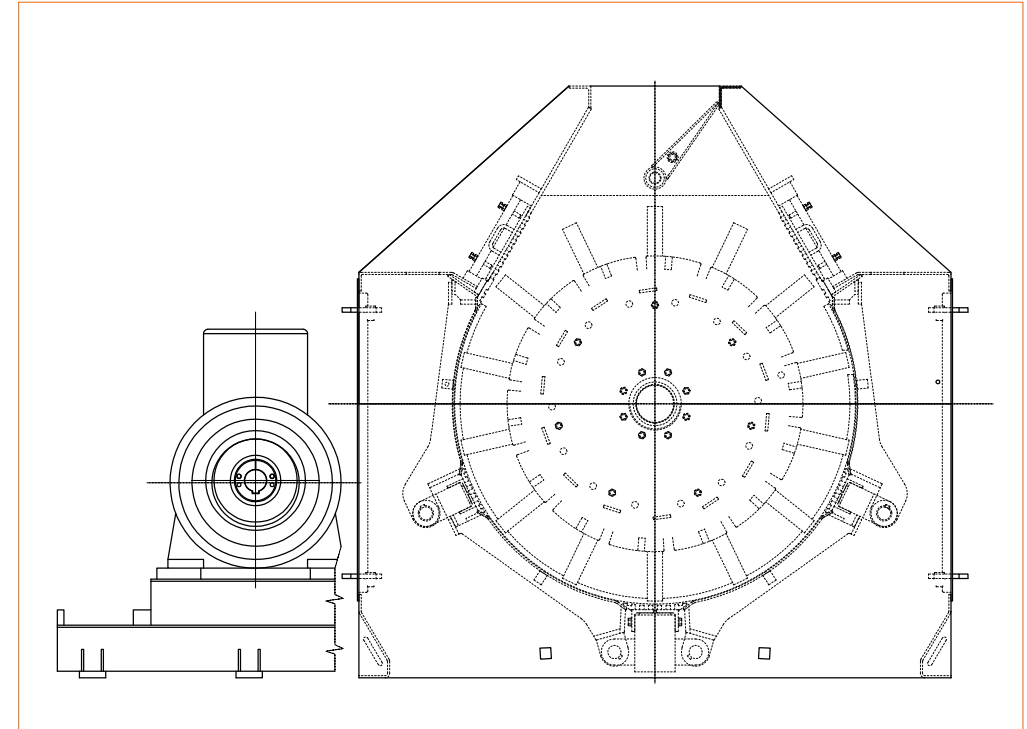


Model	CAPACITY cleaned chips (m³/h)	Width (mm)	Depth (mm)	Height (mm)	M1 Redler (kW)	M2 Screw (kW)	SCREW DIAMETER (mm)	M3 Spread unit (kW)	Total installed power (Kw)
WB 1250	10	6.702	1.908	3.507	4	1.5	250	1.1	6.6
WB 2000	16	10.204	2.580	4.628	5.5	1.5	300	1.1	8.1
WB 3000	24	11.255	3.658	4.628	7.5	2.2	350	1.5	11.2

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Our hammer mill with direct engine has been designed for recycled wood. The control management allows to optimize the consumption as the absorption is proportional to the load. The mill is provided with special, highly resistant grids, easily replaceable. It is possible to vary the granulometry according to the request of thickness of the panel to be produced. The rotor can rotate in two directions, in this way both sides of the hammers can be used.



## Advantages

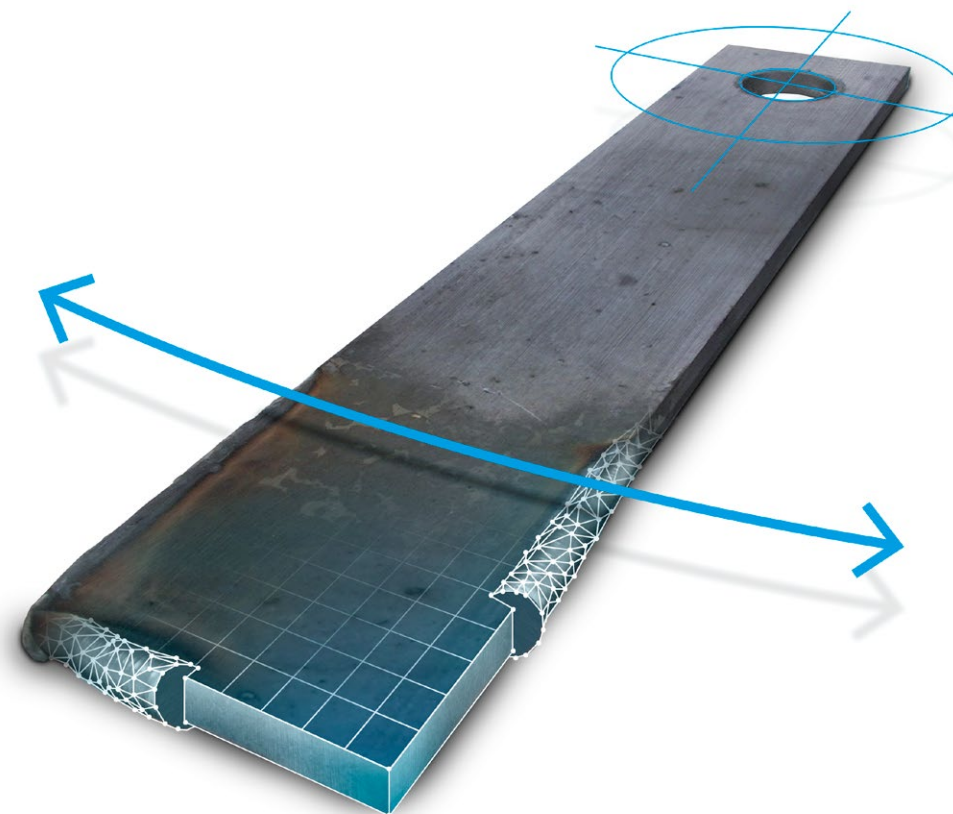
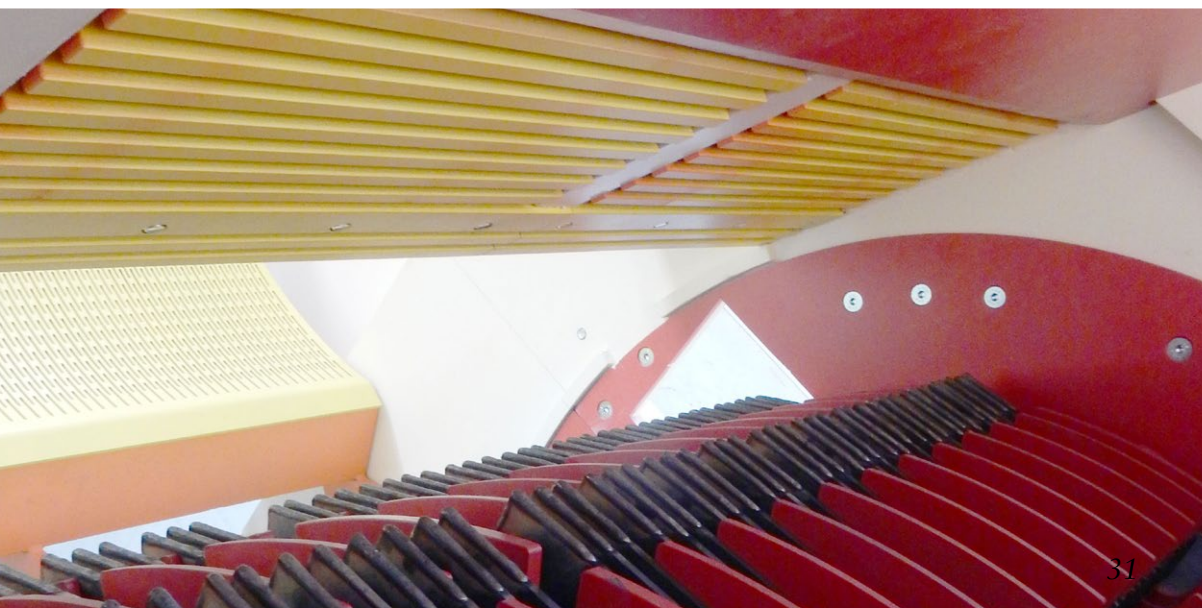
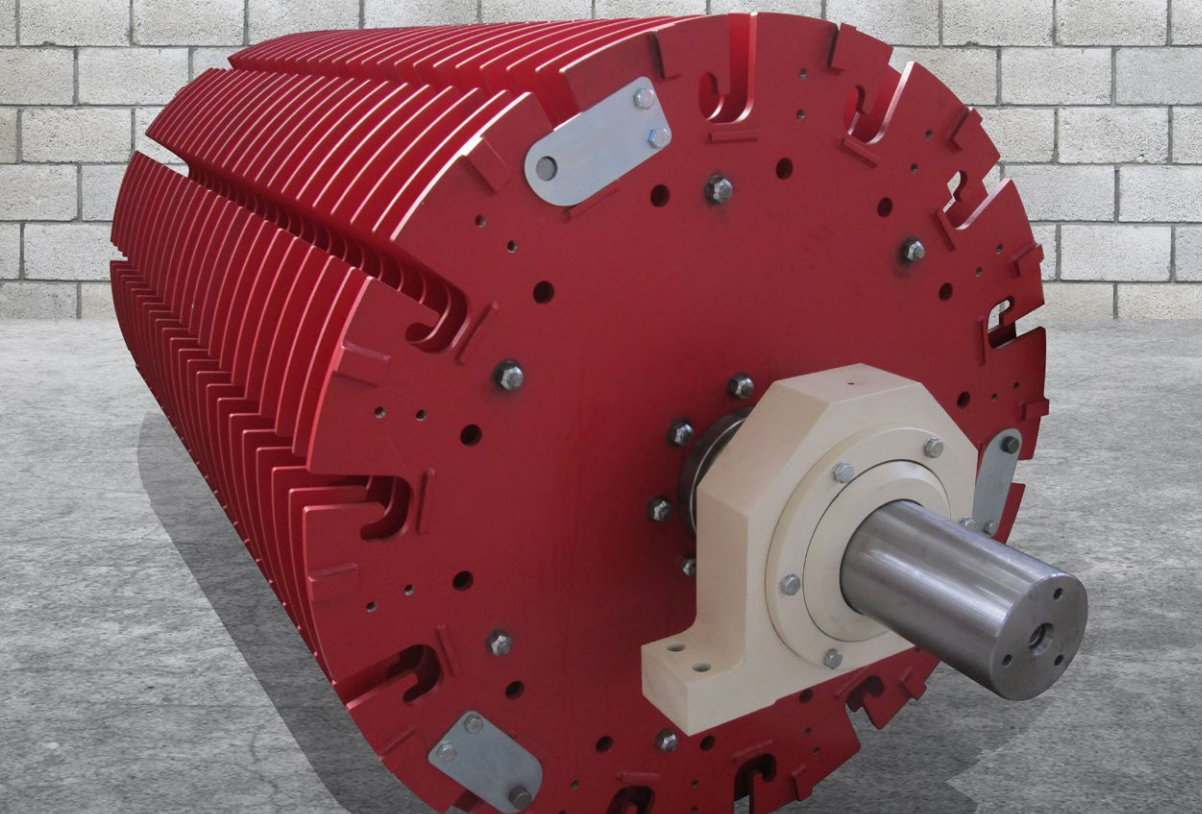
- Combining Instalmec cleaning plant for recycled wood with our hammer mills enables to reduce energy consumption, maintenance costs and costs for the substitution of spare parts.
- If the hammer mills are positioned after the cleaning plants for recycled wood they enhance the effectiveness of cleaning of the various fractions of material.
- Consequently the result is a longer wear protection of the mills and the other machinery at the plant.
- Diversification of the fractions without substitution of the grids and without plant stops.
- Adjusting the number of revolutions per minute of the mills gives great technological advantages (production becomes more flexible).





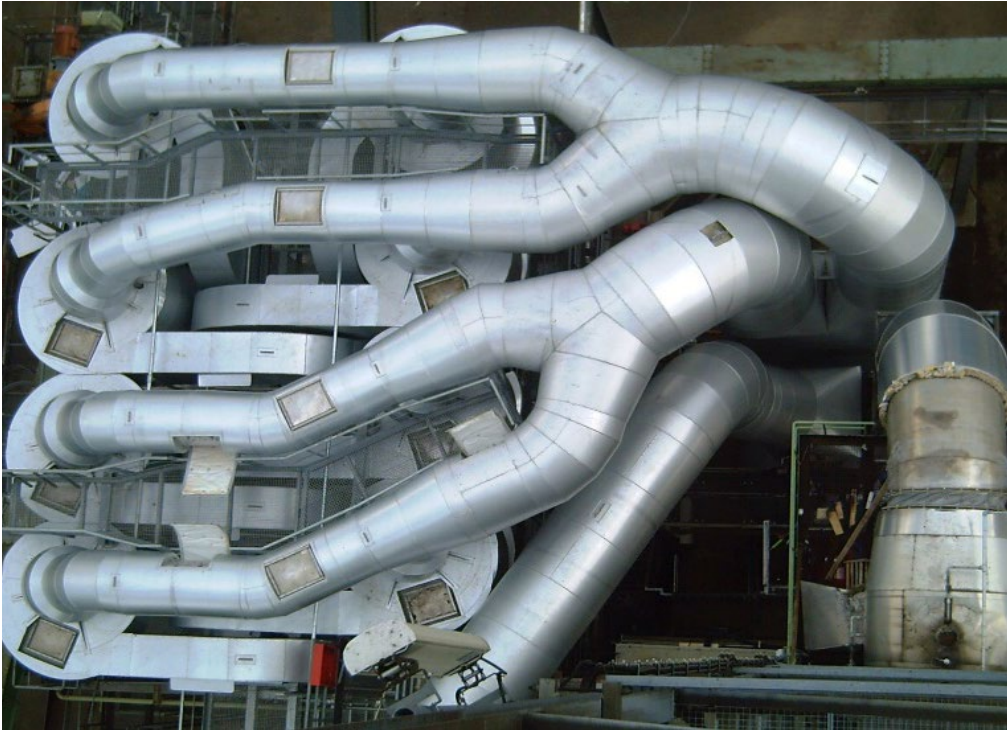
Type		MM 10-12	MM 12-14	MM 18-20
Rotor diameter	mm	1000	1200	1800
Rotor length	mm	1200	1400	2000
Main motor	kW	160-250	250-425	450-630
Machine weight	Kg	5000	9500	17000
Capacity¹	t/h wet	6	10	16
Length	mm	1800	2200	3200
Width	mm	1500	2300	3400
Height	mm	1500	1700	2600
Infeed opening	mm	250	300	600
MECHANICAL DISCHARGE				
Air suction	m³/h	10000	14000	20000
PNEUMATIC DISCHARGE				
Air suction	m³/h	30000	50000	80000
Air speed	m/sec	29	29	29
Suction pressure	Pa	1000	1000	1000

Not binding data. We reserve the right of modification at any time without prior notice. \*According to the project parameters and lay out.



The rotor can rotate in two directions, so as to use both strengthened sides of the hammers. In this way we make the most of the hammers reducing the time we would dedicate to maintenance.





Its original design and revolutionary operating principle, developed and patent by Instalmec, gives the LPD cyclone incomparable benefits with respect to traditional cyclones. The main innovation is the special finned flow breaker system within the cyclone, which enables the separation of particles al lower air speed than in traditional cyclones.

## Advantages

- Reduction of pressure drop
- Lower particle speed (hence less wear and maintenance costs)
- Lower kW absorption
- Simpler and lighter steel frames
- Cheaper installation costs
- Compact design suitable for indoor installation
- Less surface to be insulated

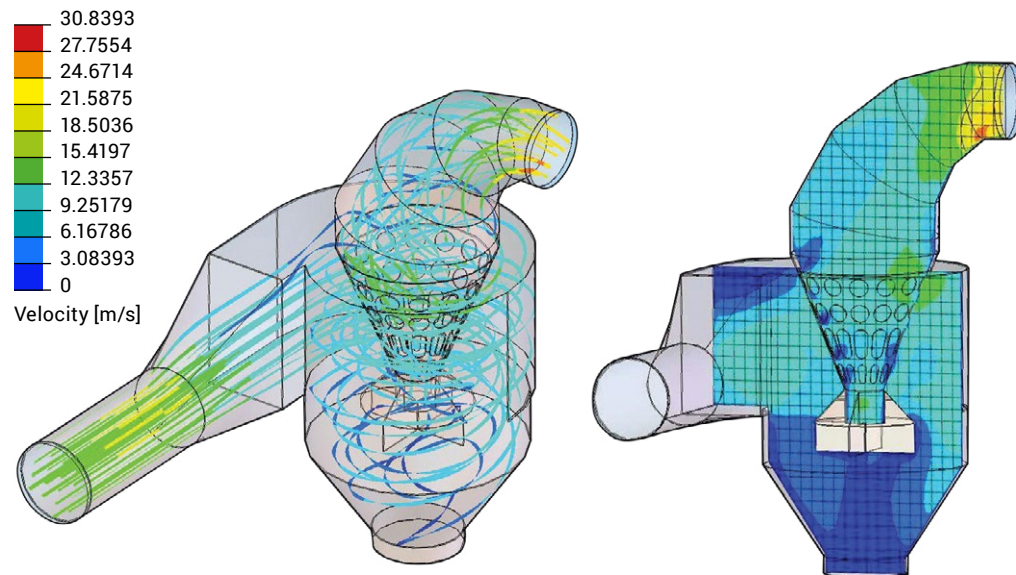
# Cyclones ( Fluid dynamics simulations )

## Operating principle

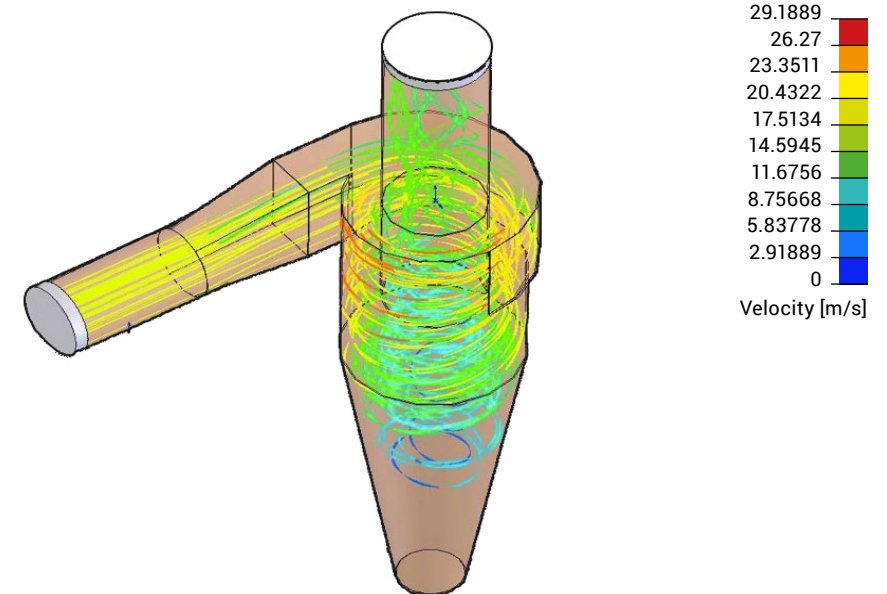
The innovative design of the air outlet, the internal helical scroll (for specific applications) and the installation of a special finned flow breaker system enable the separation of material at lower air speed compared to traditional cyclones as the air is evacuated in the cylindrical section through the special finned flow breaker (main innovation concept).

### Low Pressure Drop ( & low speed )

Cyclones patented by Instaltec



### Standard cyclones



Lower  
air speed

Lower  
Pressure Drop

Lower kW  
absorption



# Application example for dryer

Energy saving		
Air throughput [m³/h]	Ø cyclone [mm]	kW Absorption
1.000	350	- 0,26 kW/h
2.000	510	- 0,51 kW/h
2.500	575	- 0,64 kW/h
3.500	650	- 0,89 kW/h
4.500	750	- 1,15 kW/h
6.500	900	- 1,66 kW/h
8.000	1000	- 2,04 kW/h
10.000	1.125	- 2,55 kW/h
12.500	1.250	- 3,19 kW/h
18.000	1.500	- 4,60 kW/h
25.000	1.750	- 6,26 kW/h
32.000	2.000	- 8,17 kW/h
40.000	2.250	- 10,21 kW/h
46.000	2.400	- 11,74 kW/h
60.000	2.700	- 15,32 kW/h
75.000	3.000	- 19,15 kW/h
85.000	3.250	- 21,70 kW/h
100.000	3.500	- 25,53 kW/h
130.000	4.000	- 33,19 kW/h
160.000	4.500	- 40,85 kW/h
200.000	5.000	- 51,06 kW/h

## Dryers retro-fit

Taking advantages of its long experience in the world of dryers for wood particles, Instalmec offers to retro-fit existing old dryers with state of the art technology.

- New design of the pneumatic circuit.
- Fluid dynamic optimization by means of 3D Flow Works
- Modification of the connections of the fan.
- The inlet of the fan is connected to the outlet of the cyclones.
- Installation of LPD (low Pressure Drop) cyclones.

## Advantages

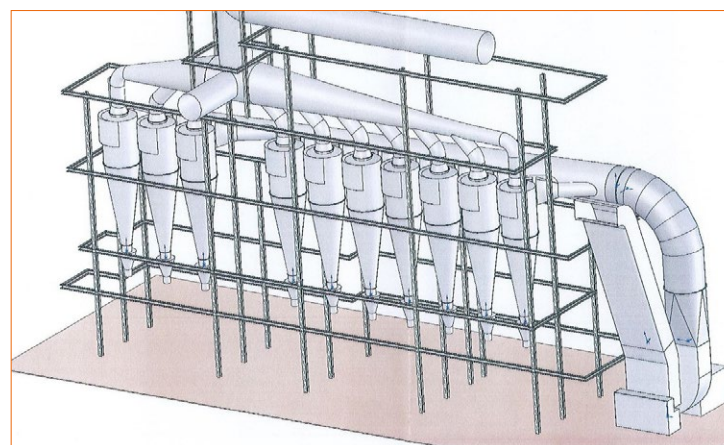
- Less foundation loads: ..... -60%
- Less costs for steel frames: ..... -55%

## Benefits

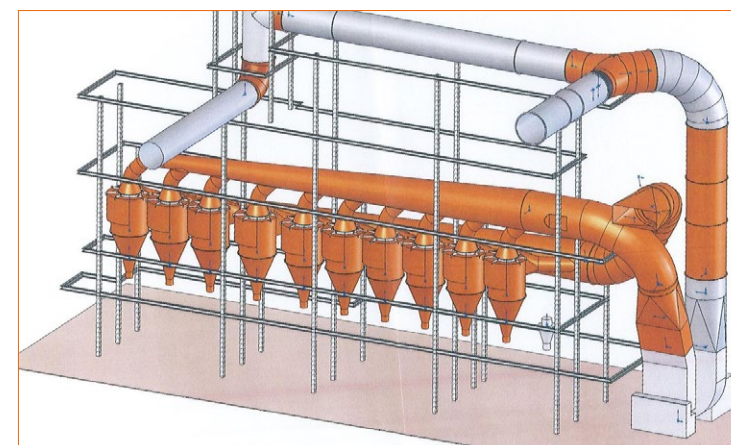
- Increasing of the dryer capacity.
- Electric energy saving thanks to reduced pressure drop.
- Reduction of particle damages as they do not go though the fan.
- Panels of better quality.
- Elimination of wear in the fan, in the pipes and in the cyclones.

- Less costs for assembly: ..... -60%
- Less costs for thermal insulation: ..... -50%
- Electrical absorption (kW) saving: ..... -60%

## Traditional concept



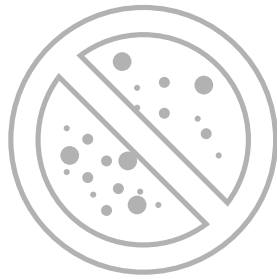
## Instalmec innovative concept





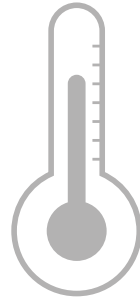
# DRYING SYSTEM FOR WOOD PARTICLES

# The advantages of our system



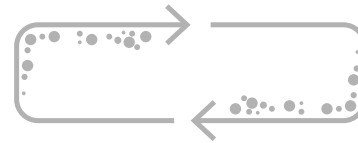
## Removal of pollutants

Our innovations allow the effective separation of light and heavy pollutants



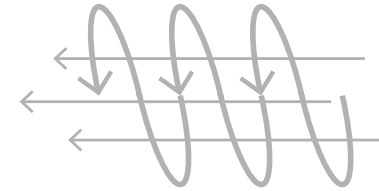
## Temperature monitoring

The plant is provided with sensors that prevents the melting of silica and its vitrification, thus avoiding maintenance stops.



## Extraction of silica

The extraction of silica is automatic and continuous, it is no longer necessary to stop the plant.

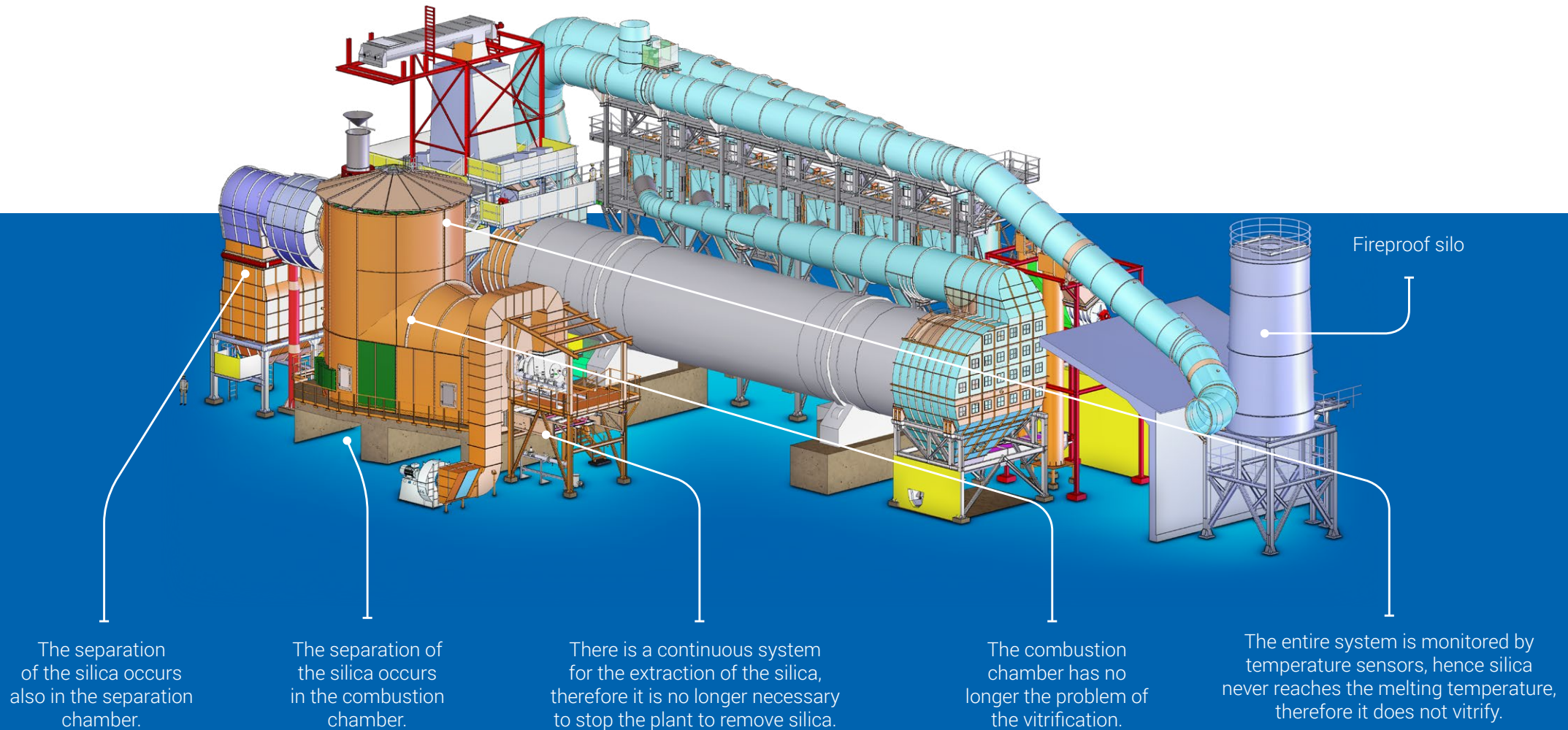


## Clever drying

Coarse, dry particles remain longer in the dryer, whereas fine and wet particles leave soon the dryer and are conveyed to the cyclone.

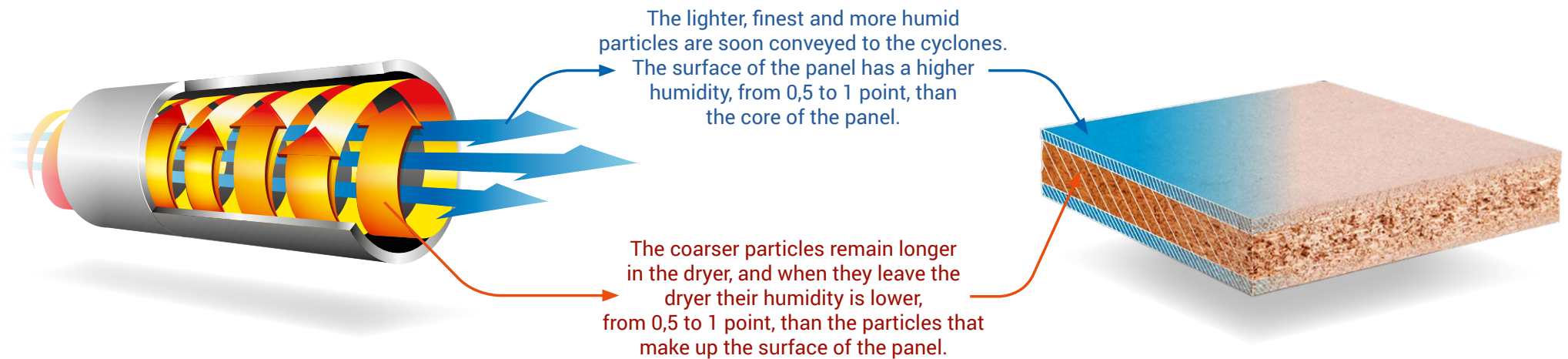
# The smart dryer

because it solves the typical problems of all dryers and has also other important functions.

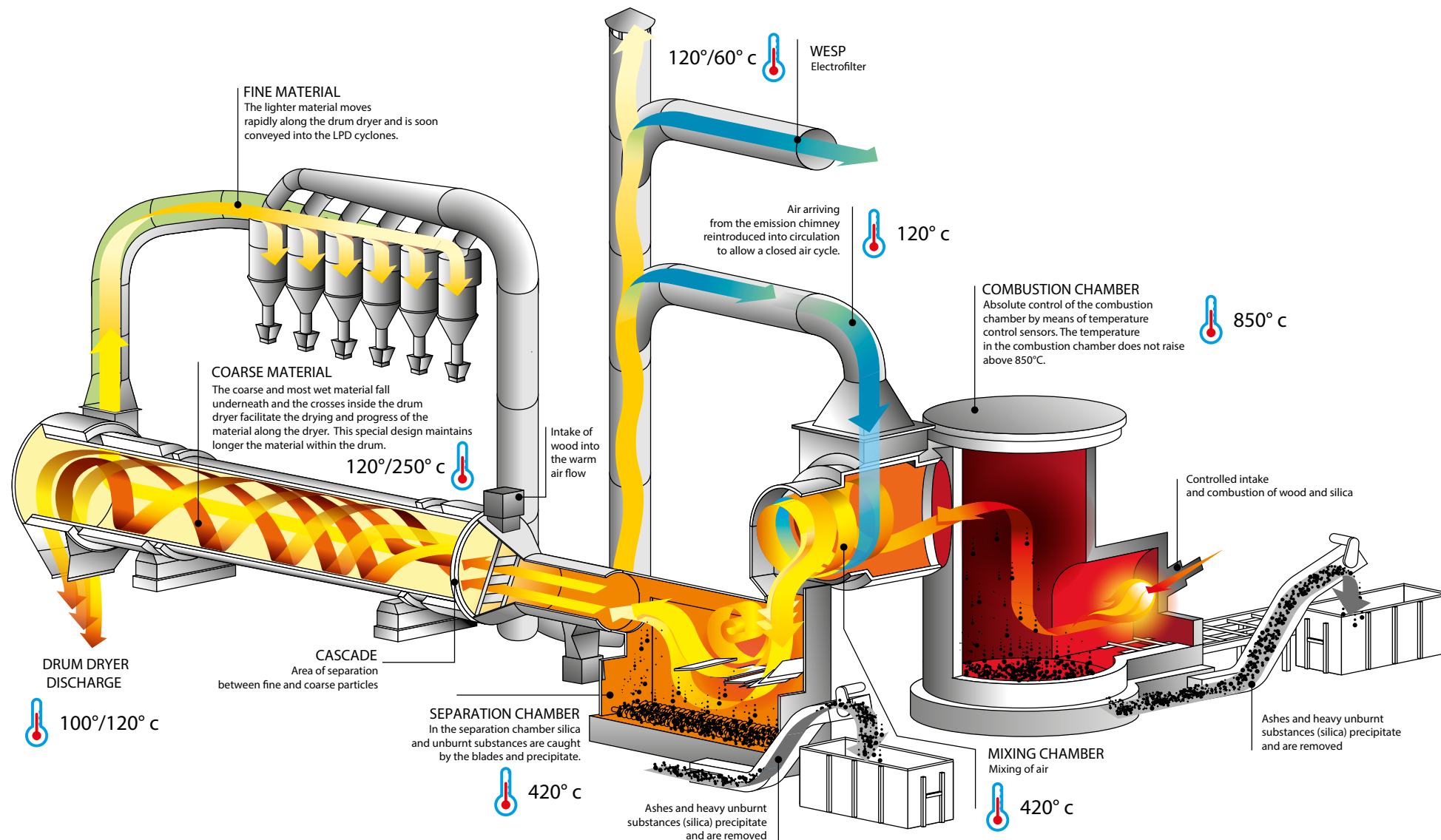


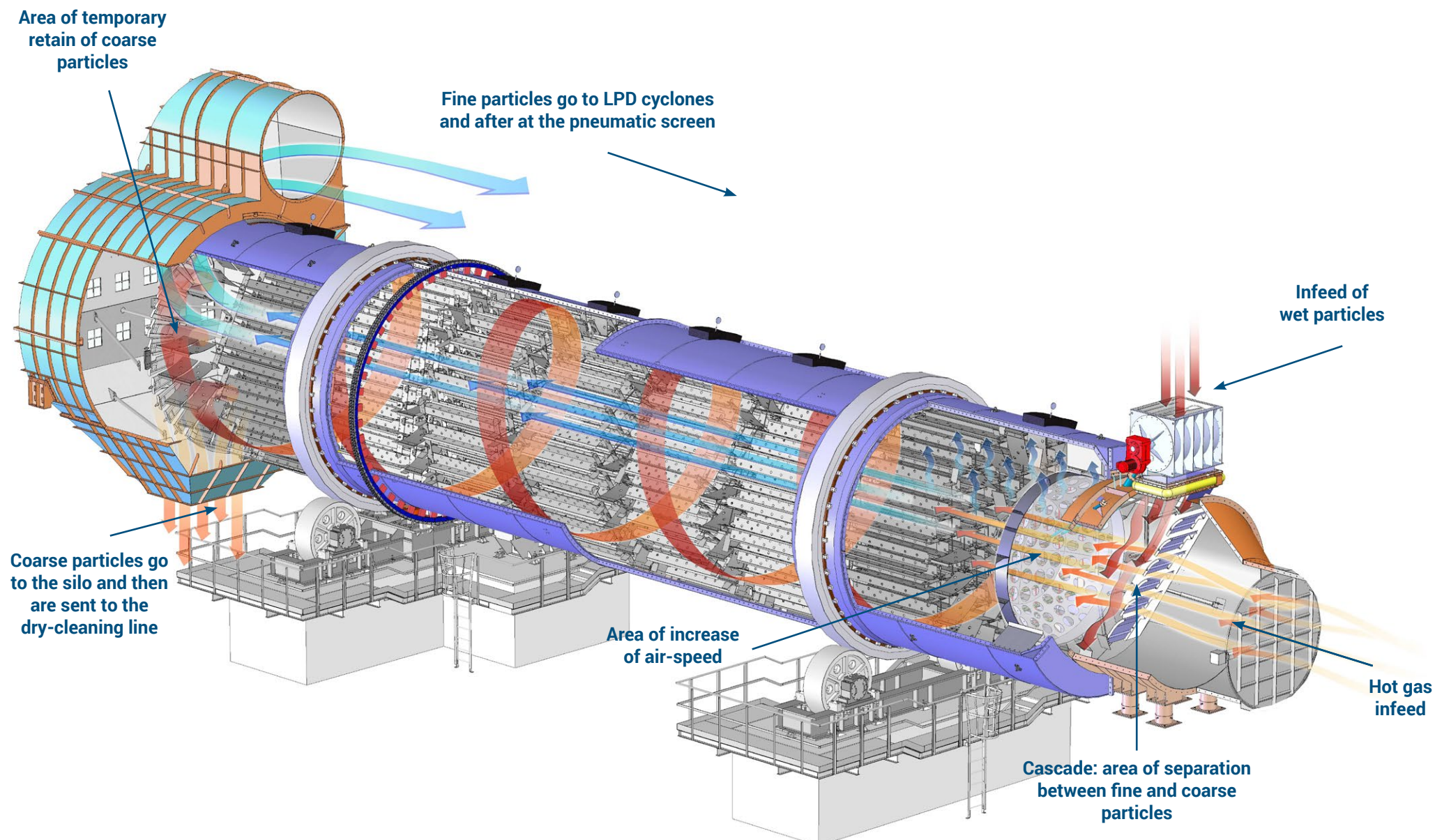
We have designed and manufactured a “smart dryer”,  
with several functions in addition to the main one, drying.

Our dryer is clever because it dries fine wood particles less than coarse ones, therefore coarse particles will have a lower humidity with respect to fines.

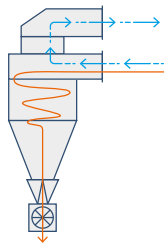






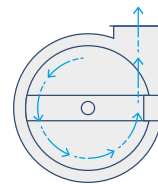






Another important innovation is the installation of our patent LPD cyclones after the dryer.

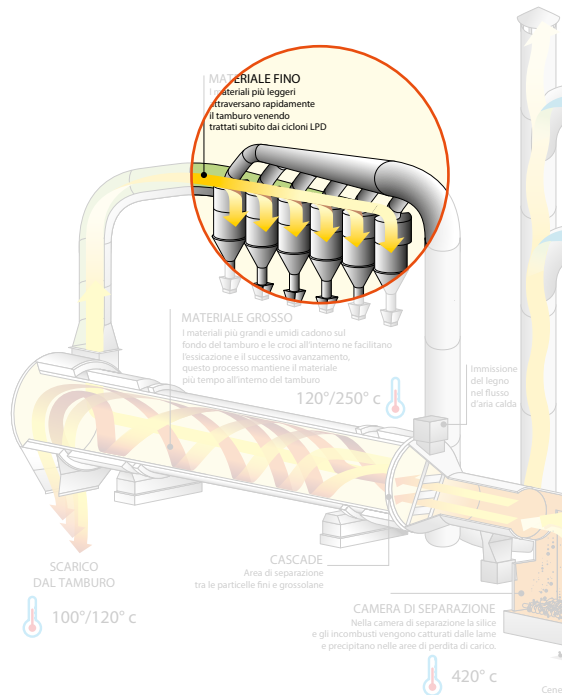
These cyclones have a very low wear and a low pressure drop, together with a little energy consumption.



Reduced energy consumption

For such a big dryer a ventilator with 1.700 MW of installed capacity and 1.350 MW of absorbed power would be necessary, but we managed to install a ventilator with 1250 MW of installed capacity and 940 kW of absorbed power, saving on energy consumption.

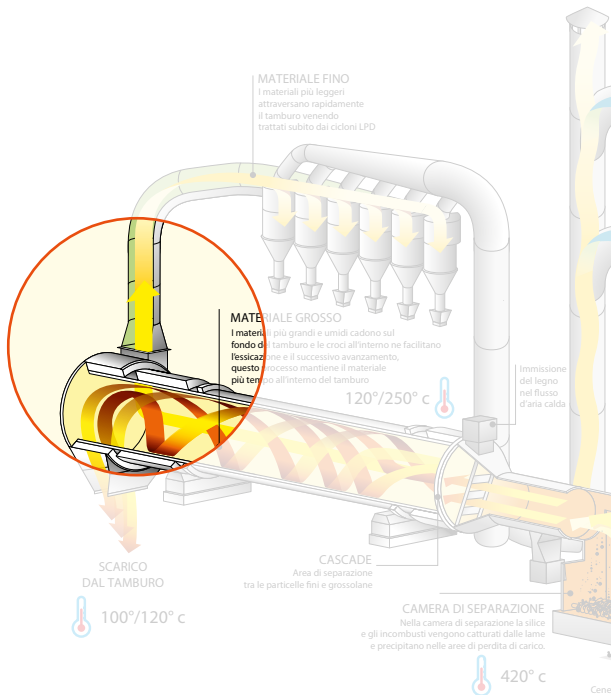




Material at outfeed of the cyclones, after the drum dryer





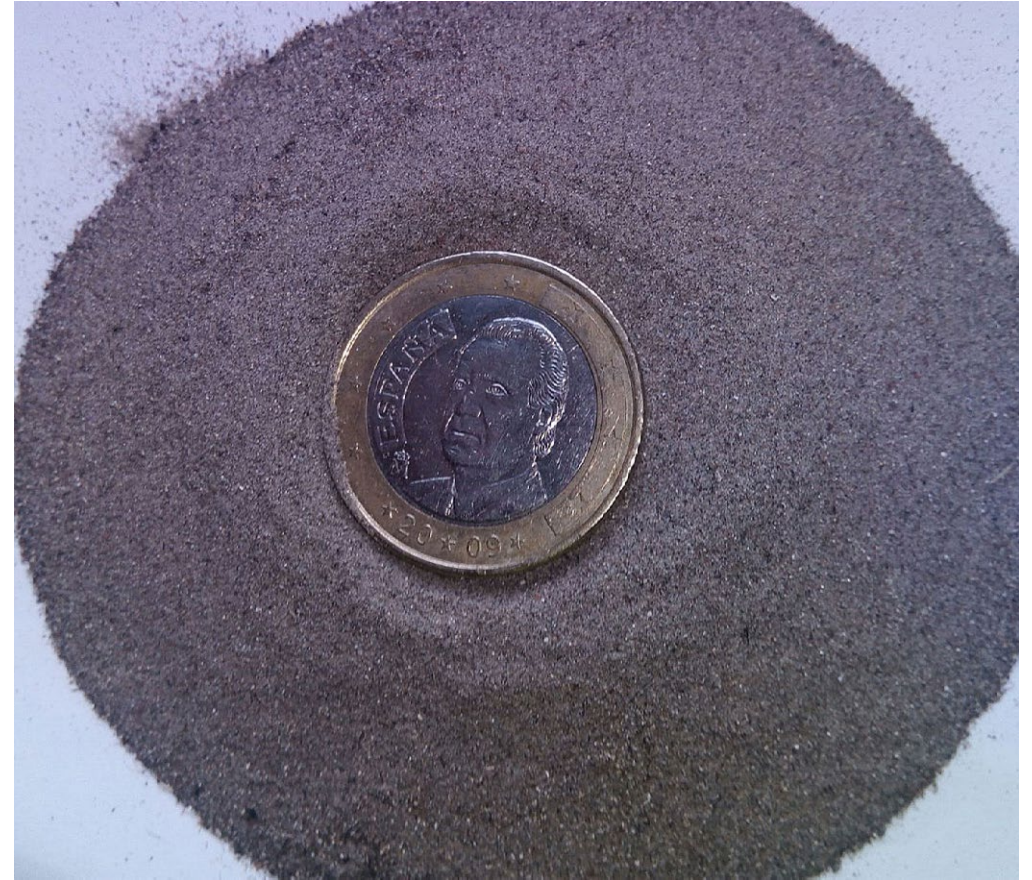


Material at outfeed of the drum dryer settling chamber





Ashes from the combustion chamber



Ashes from the separation chamber





**Close cooperation with specialized companies allows us to supply systems equipped with:**

- Burners
- Heat exchangers
- Particles dosing units
- Electrical plants and control units
- Fire-fighting and extinguishing systems
- Refractory coating
- Thermal insulation

Wide experience in panel board technology allows INSTALTEC to be on the market with complete, reliable and cost-effective drying units, provided with innovative solutions. Our knowledge of the problems connected with the use of recycled wood was enriched by the experience developed working together with the biggest Italian panel board producers.

Therefore, we are able to propose innovative solutions, which allow the automatic cleaning of the combustion chamber, the separation of the pollutants through the pre-dryer and a long-life of the plant components subjected to wear. The plant management is extremely safe and economical.

We are at your disposal to solve any technical and technological problems and to modify existing plants to increase their capacity and to improve the plant management. INSTALTEC designs, manufactures and assembles these plants availing itself only of its internal staff.

We are able to provide “turn key” plants suitable for all Customer needs.

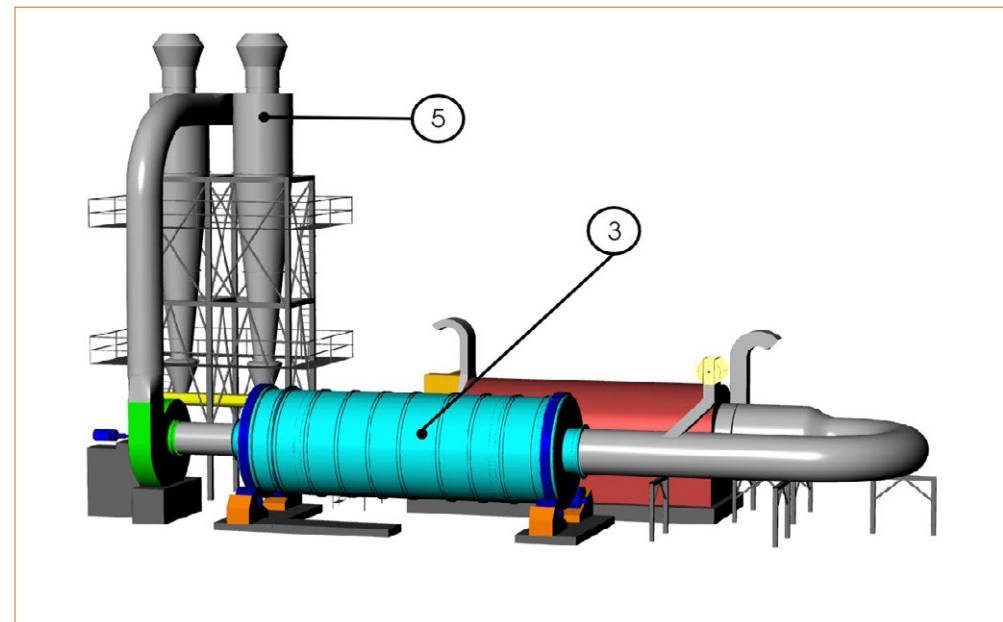
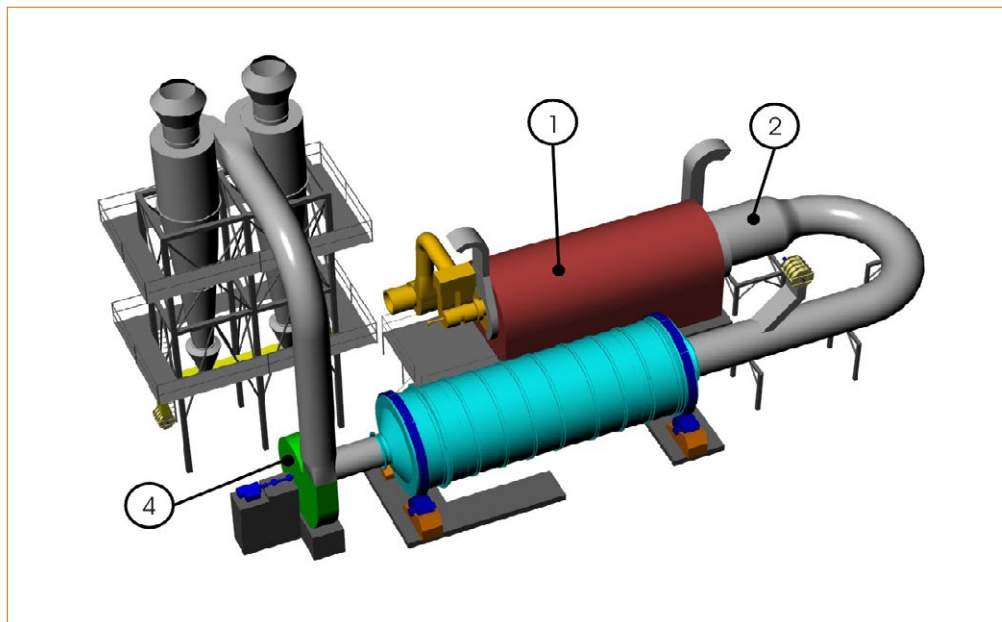






## Dryer type CT

Dryer for wood particles. Suitable for low capacity of dried particles.  
Simple and very reliable. Small installation area. Low investment.



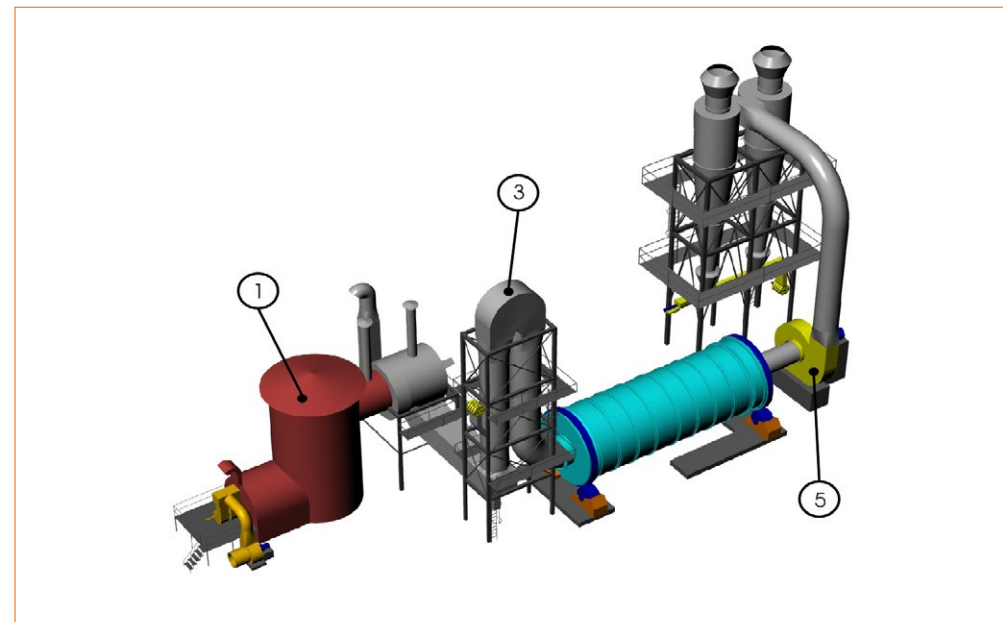
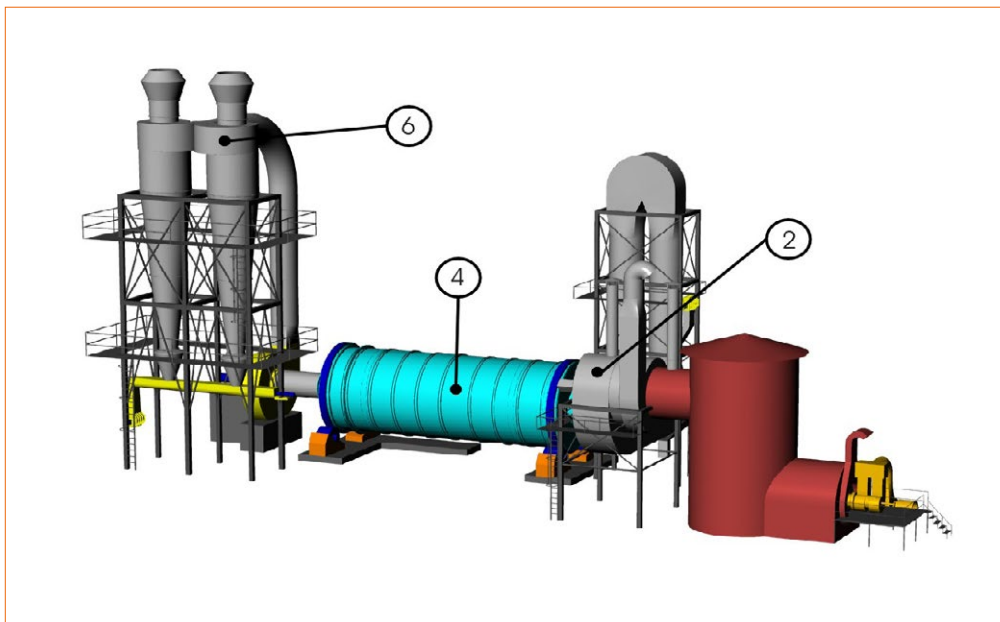
Type	Water evaporation*	Drum dimensions	Cyclones battery	Installed power
CT 20	2.000 Kg/h	Ø=2.400mm / L=10.000mm	Ø=1.800mm / N°=1	70 kW
CT 40	4.000 Kg/h	Ø=3.200mm / L=10.000mm	Ø=2.500mm / N°=1	120 kW
CT 60	6.000 Kg/h	Ø=3.600mm / L=12.000mm	Ø=2.000mm / N°=2	175 kW

1. Combustion chamber
2. Mixing chamber
3. Three-pass drum
4. Main fan
5. Cyclones battery

\* Note: wood particles inlet moisture 100% atro

## Dryer type COT

Dryer for wood particles. Suitable for low capacity of dried particles.  
High technology. Small installation area. Integrated pre-dryer.



Type	Water evaporation*	Drum dimensions	Cyclones battery	Installed power
COT60	6.000 Kg/h	Ø=3.600mm / L=12.000mm	Ø=2.000mm / N°=2	175 kW
COT80	8.000 Kg/h	Ø=4.000mm / L=12.000mm	Ø=2.250mm / N°=2	270 kW
COT100	10.000 Kg/h	Ø=4.000mm / L=15.000mm	Ø=2.500mm / N°=2	270 kW

1. Combustion chamber
2. Mixing chamber
3. Pre-dryer
4. Three-pass drum
5. Main fan
6. Cyclones battery

\* Note: wood particles inlet moisture 100% atro

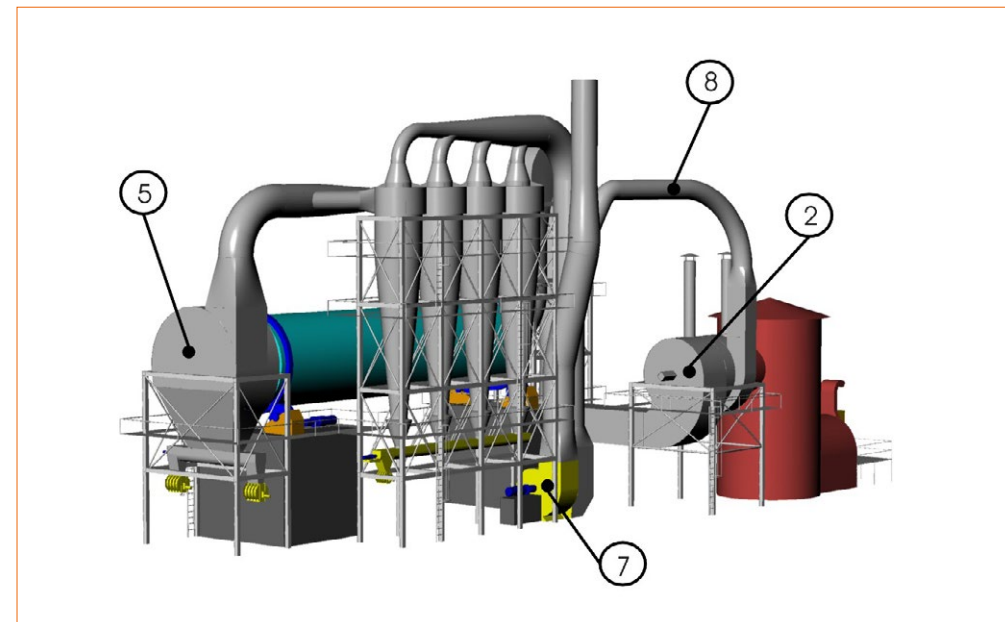
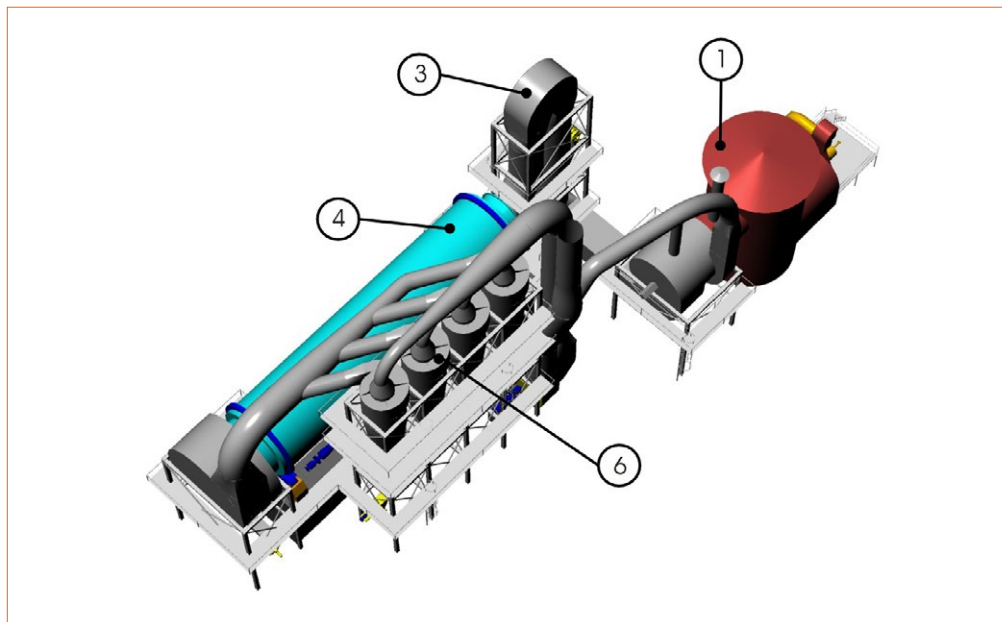
## Dryer type COT/V

Dryer for wood particles. Suitable for medium capacity of dried particles. High technology. Specially designed for RECYCLED wood.

Combustion chamber with automatic ash extraction system.

Separation chamber for the settling of heavier particles.

Fan installed after cyclones battery.



Type	Water evaporation*	Drum dimensions	Cyclones battery	Installed power
COT100/V	10.000 Kg/h	Ø=4.000mm / L=15.000mm	Ø=2.250mm / N°=3	260 kW
COT120/V	12.000 Kg/h	Ø=4.400mm / L=15.000mm	Ø=2.000mm / N°=4	325 kW
COT150/V	15.000 Kg/h	Ø=4.400mm / L=18.000mm	Ø=2.250mm / N°=4	400 kW

\* Note: wood particles inlet moisture 100% atro

1. Combustion chamber
2. Mixing chamber
3. Pre-dryer
4. Three-pass drum
5. Separation chamber
6. Cyclones battery
7. Main fan
8. Recycling duct



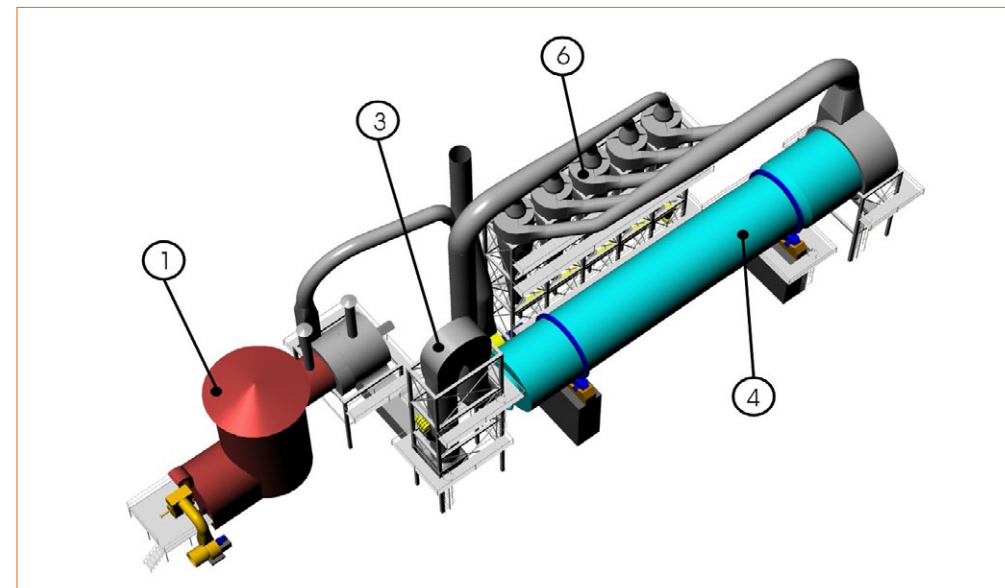
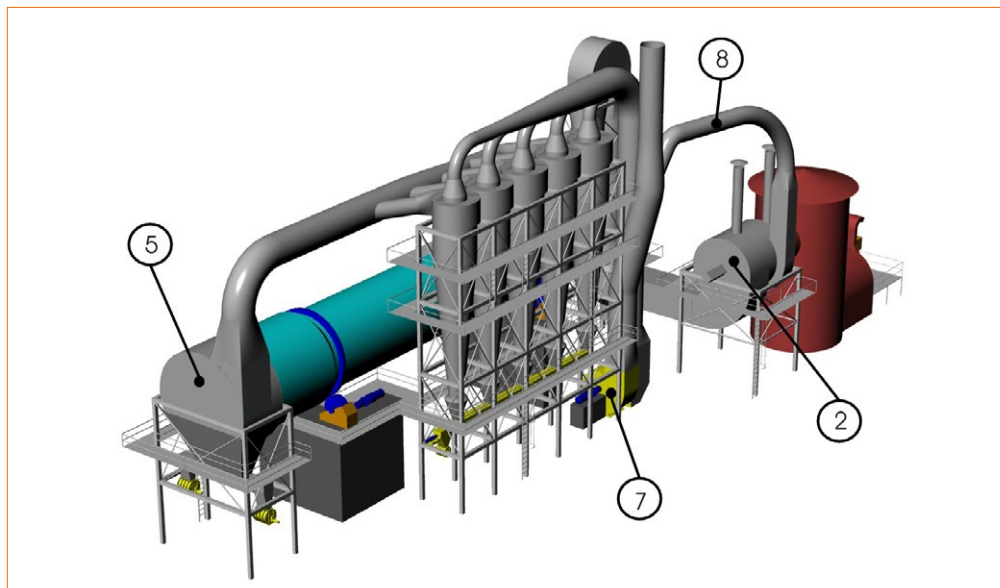
## Dryer type COM/V

Dryer for wood particles. Suitable for high capacity of dried particles.

High technology. Specially designed for RECYCLED wood. Combustion chamber with automatic ash extraction system.

Separation chamber for the settling of heavier particles. Fan installed after cyclones battery.

1. Combustion chamber
2. Mixing chamber
3. Pre-dryer
4. Single-pass drum
5. Separation chamber
6. Cyclones battery
7. Main fan
8. Recycling duct



Type	Water evaporation*	Drum dimensions	Cyclones battery	Installed power
COM120/V	12.000 Kg/h	Ø=3.600mm / L=26.000mm	Ø=2.000mm / N°=4	320 kW
COM150/V	15.000 Kg/h	Ø=4.000mm / L=26.000mm	Ø=2.250mm / N°=4	375 kW
COM180/V	18.000 Kg/h	Ø=4.400mm / L=26.000mm	Ø=2.250mm / N°=5	500 kW
COM200/V	20.000 Kg/h	Ø=4.400mm / L=26.000mm	Ø=2.250mm / N°=6	500 kW
COM250/V	25.000 Kg/h	Ø=4.800mm / L=26.000mm	Ø=2.500mm / N°=5	625 kW

Type	Water evaporation*	Drum dimensions	Cyclones battery	Installed power
COM300/V	30.000 Kg/h	Ø=5.400mm / L=26.000mm	Ø=2.500mm / N°=6	800 kW
COM350/V	35.000 Kg/h	Ø=5.400mm / L=30.000mm	Ø=3.000mm / N°=5	900 kW
COM400/V	40.000 Kg/h	Ø=6.000mm / L=30.000mm	Ø=3.000mm / N°=6	1.000 kW
COM450/V	45.000 Kg/h	Ø=6.000mm / L=30.000mm	Ø=3.000mm / N°=7	1.150 kW
COM500/V	50.000 Kg/h	Ø=6.600mm / L=30.000mm	Ø=3.000mm / N°=8	1.250 kW

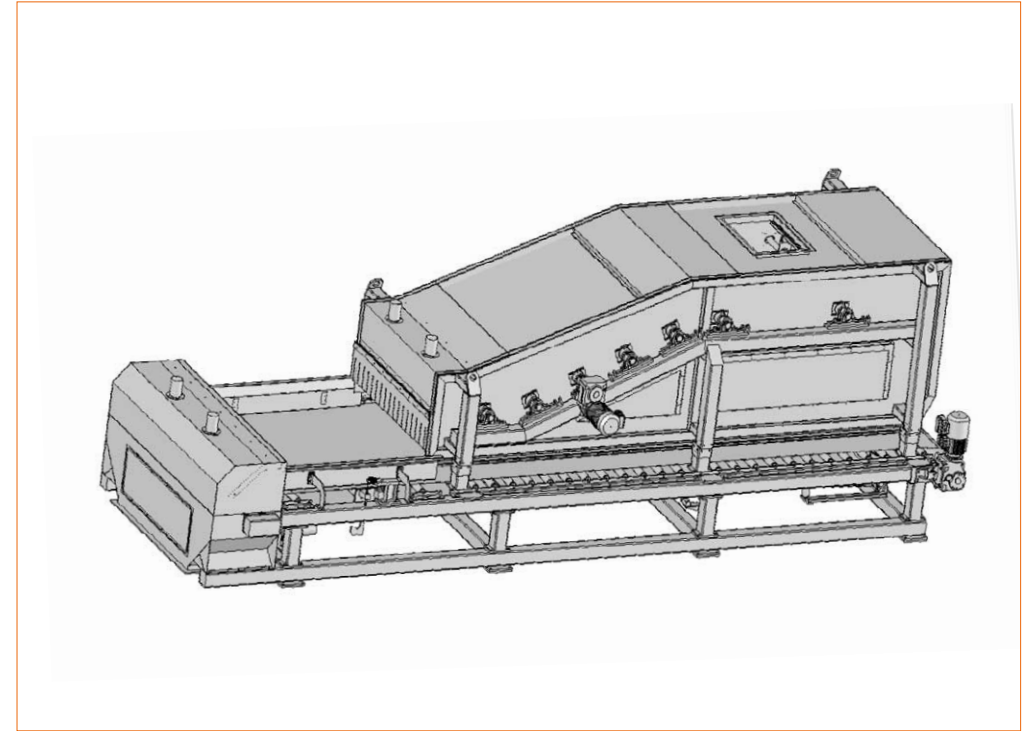
\* Note: wood particles inlet moisture 100% atro



# PANEL PRODUCTION AREA



The BDB system integrates in one machine the functions of a metering bunker and a continuous scale. Modifying the velocity of the belt it is possible to vary the dosing. The system guarantees a precision of  $\pm 0,5\%$ . The continuous scales are independent units and can be installed on new or pre-existing systems. The electronic device box supplied with the machine puts into relation the weight signal coming from the load cell with the real speed signal of the metering belt, coming from an encoder, in this way the instant and the total metering values are detected.



## Advantages

- Modular construction with insulation panels
- Quick and easy installation
- Light steel structure
- Level control sensors
- Reduced maintenance
- Constant and homogeneous unloading of the material
- Precision weighing accuracy
- Automatic system for central belt tracking



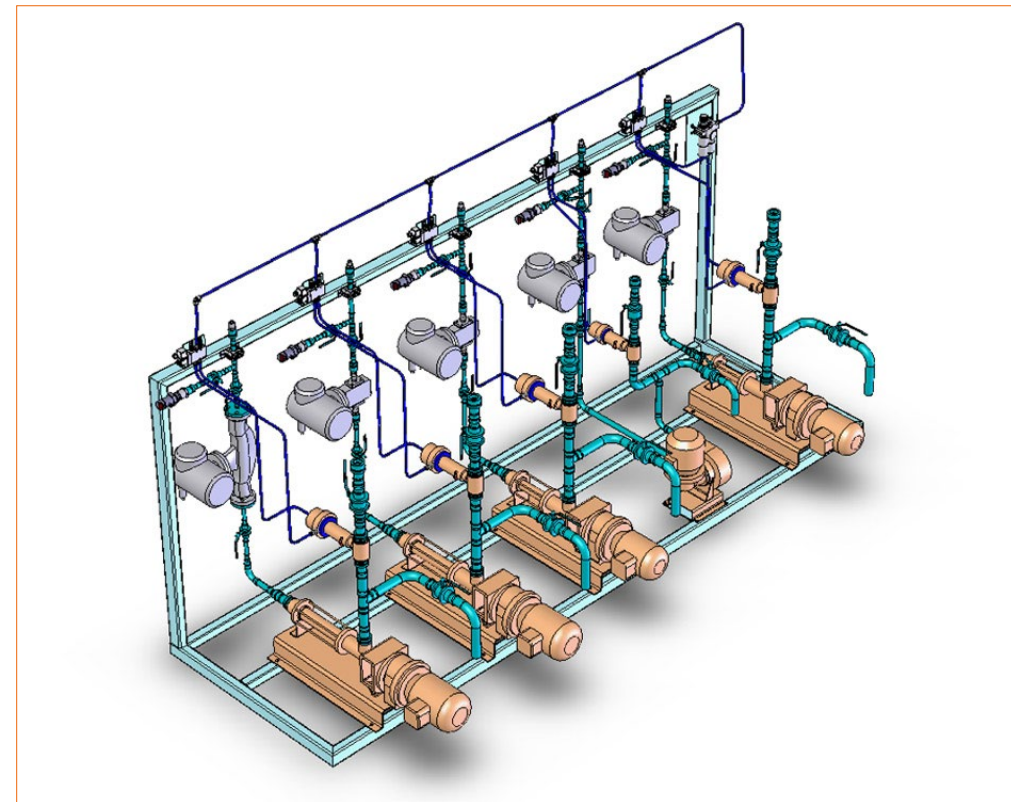
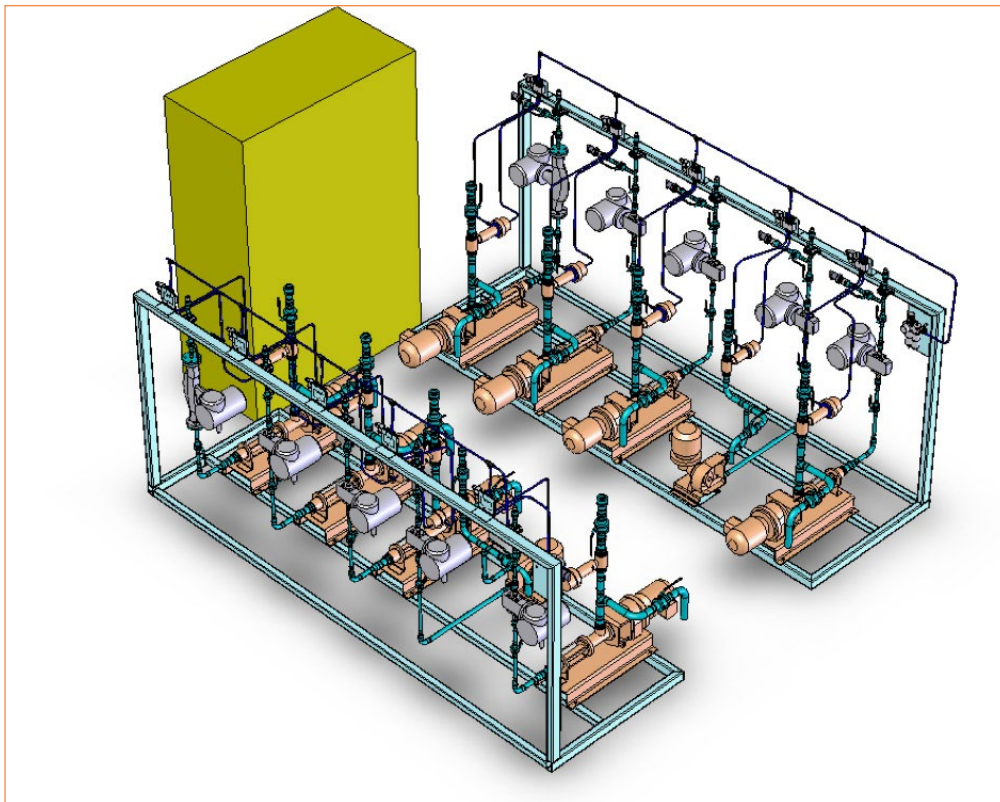


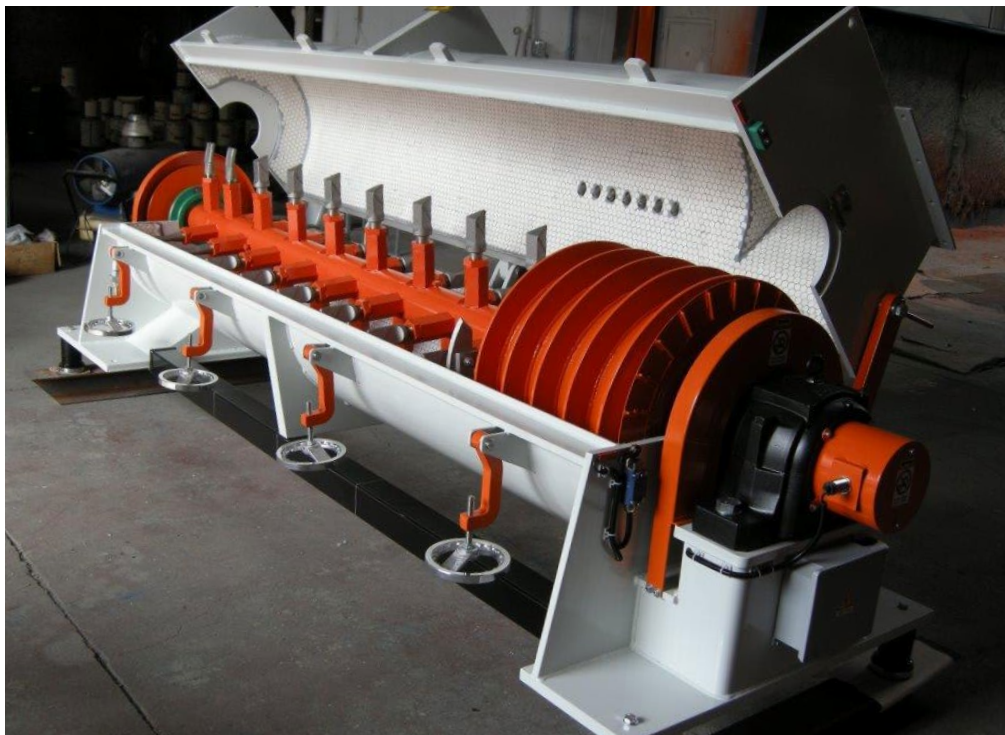
Each component is injected by a pump actioned with a frequency converter which injects the glue in a continuous and steady amount. Instalmec has designed its innovative glue nozzles together with Universities and Research Centers. One of the advantages of these nozzle is the possibility to dose finely the amount of glue, thus allowing an ideal glue mixture. It is also possible to warm up the glue to enhance its fluidness. The development of all these innovations, together with a higher pressure into the nozzles allowed us to reduce the consumption of glue, still keeping unvaried the excellent mechanical properties of the panel. The correct dosing of the components is recorded into the PLC.

## Advantages

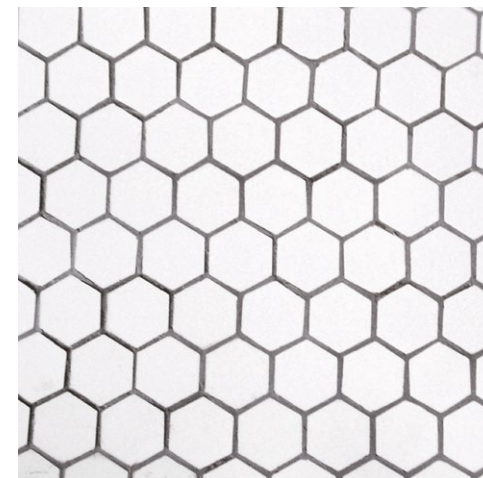
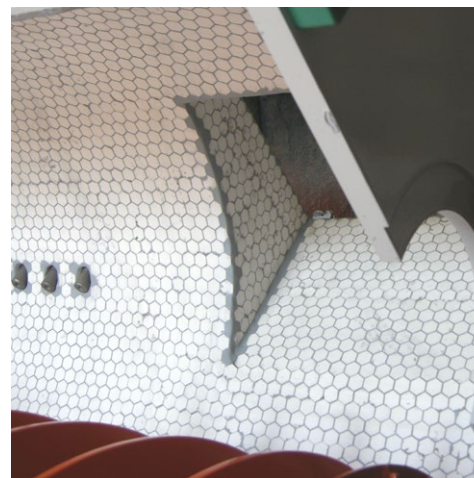
- **Accurate dosing of the components**
- **Frequency converter to guarantee a constant and continuous flow**
- **Innovative nozzles to inject glue**
- **Reduced consumption of glue**







A complete range of 10 sizes of our specialized resining machines is available to cover fully all your requirements for applying resin to the wood particles and fibres. Our Blenders are characterised by a much reduced mixing speed and very big and extended chambers compared to the old and traditional versions, mixing time very much increases. Likewise the particles centrifugal force against the chamber wall decreases, thus helping the formation of a homogeneous particle ring with suitable thickness. The innovative mixing tools increase the mixing effect.



## Advantages

- Reduction of particles fragmentation
- Reduction of wear of mixing chamber
- Moderate overheating of particles and glue blender
- Long duration of mixing
- More performing glue injection system thanks to tangential air nozzles



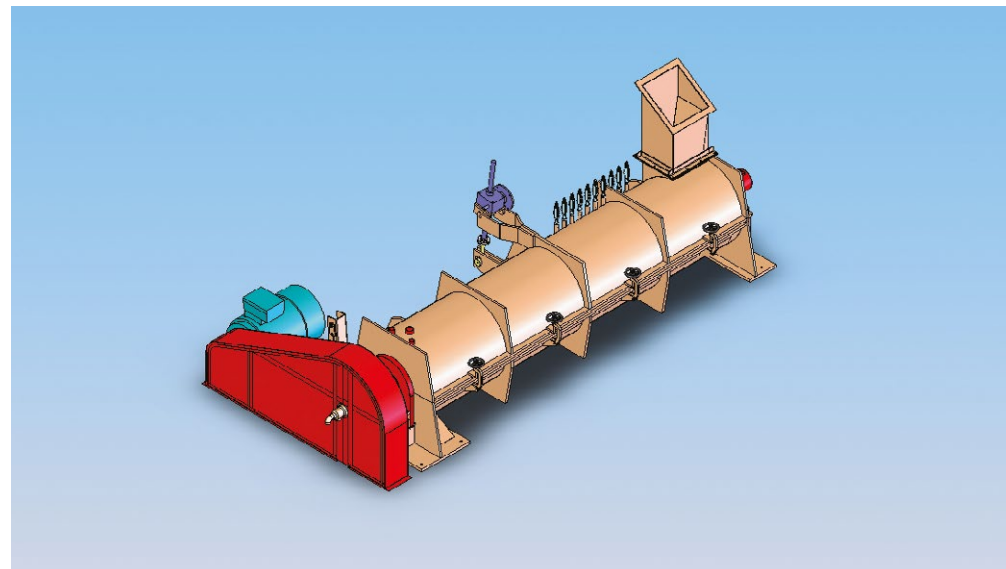
**RE** — Conventional version used for Surface Layer particles. Particles are introduced into the gluing machine by tools in the form of half moon rotation to the well loading-mixing zone.

**RI** — Conventional version used for Core Layer particles. Particles are introduced into the gluing machine by a screw-conveyor drum. The continuous spirals of the screw drum cause no impacts: any excessive reduction in grading causes dust and results in formation of spots and increases the glue consumption.

**CP** — Electro-pneumatic device controls the blender discharge based on actual instant flow of particles according to a specific power (A/t/h) as SET parameter to avoid variable fillings and maintain constant mixing efficiency.

**C** — Option: the life of shells depends mainly on the load of the machine and on the silica content of the particles and fibres processed. To avoid wearing, our mixing chambers are dressed up with ceramic tiles. This innovative system guarantee very long life of the shells, absolutely clean chamber or easy and faster cleaning operations, cooling reduction, less friction – damage of the particles.

**S** — Option: the standard machine includes the main safety devices, as an option the safety switches of the motors assembled in a dust-proof box can be added.



*Example:*

**RI 600/3000. CP. C. S.**

**RI** — *Blender for Core layer (with screw drum)*

**600** — *Machine code & chamber diameter*

**3000** — *Machine code & chamber lenght*

**CP** — *Microprocessor & pneumatic until for discharge gole*

**C** — *Ceramic wear-proof chamber*

**S** — *Maintenance switch for main motor*



The Metering Bin is installed upstream the forming machine, and it is used to supply it steadily with wood chips or fiber.

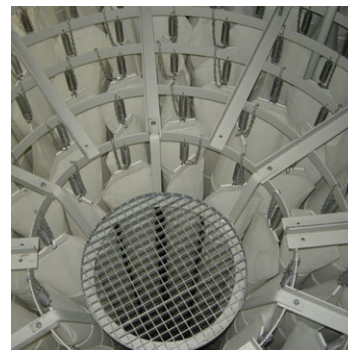
The control of the material unloading is brought about by using both a weighing instrument, and a conveyor belt.

## Advantages

- Modular construction with insulation panels
- Quick and easy installation
- 35-40% less weight than the competition (and therefore lighter steel structures)
- Sensors for level control
- Constant and homogeneous material unloading
- Different rakes according to the type of material to be handled, which guarantee their durability and the integrity of the material to be processed



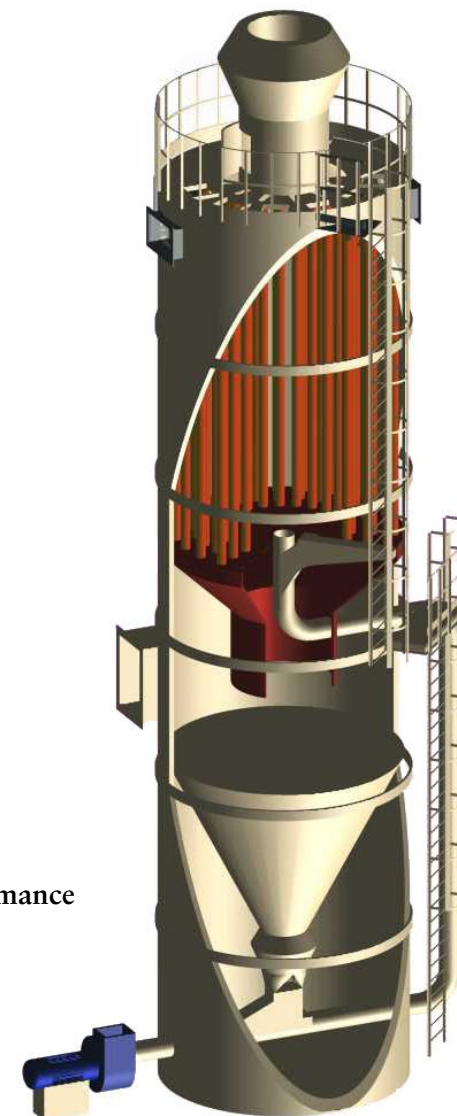


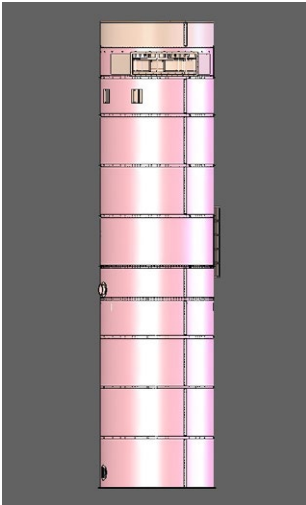


The cyclone-filter is a reliable suction and de-dusting system which allows the separation of coarse polluting particles, reducing the dust concentration on the filtering sleeves. Polluted air is filtered by suction through a series of sleeves which are cleaned by a simple fan. The sleeves cleaning system reduces the energy requirements and increases the lifespan of the filter sleeves avoiding mechanical stress that would be caused by the use of compressed air. The cylindrical shape and the over-pressure hatches make the plant very resistant against explosion.

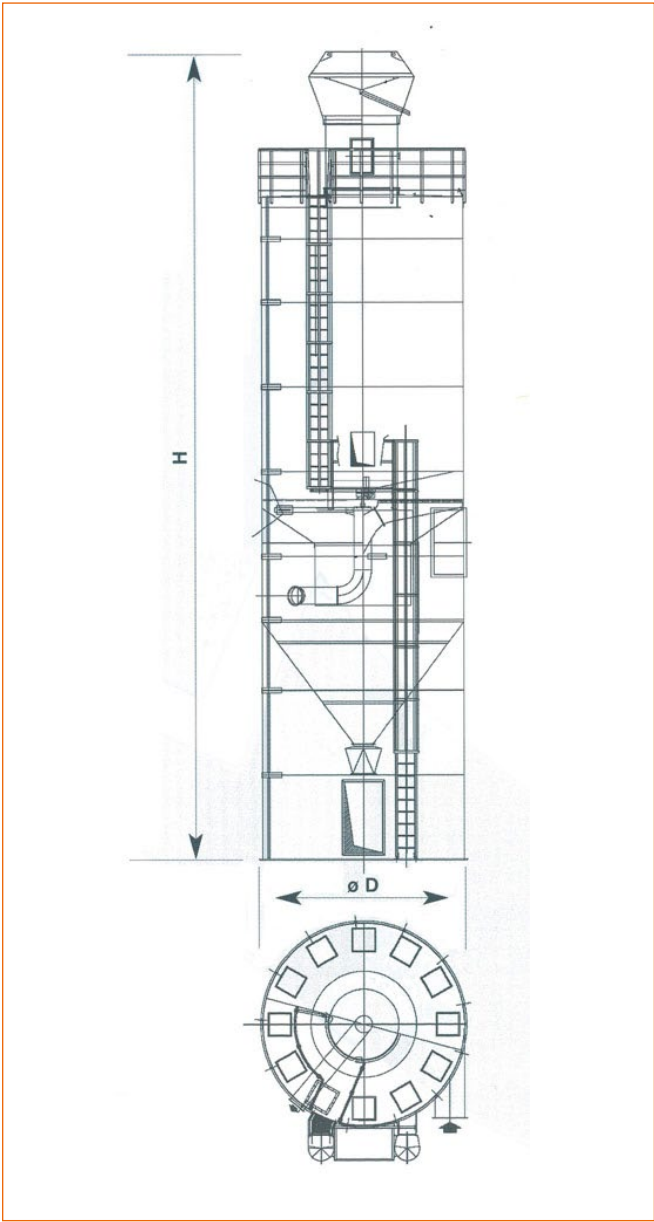
## Advantages

- **High reliability and constant performance**
- **Longer lifespan of filtering sleeves**
- **Compact design**
- **High resistance to explosions**
- **Water extinguishing system**
- **Low energy consumption**



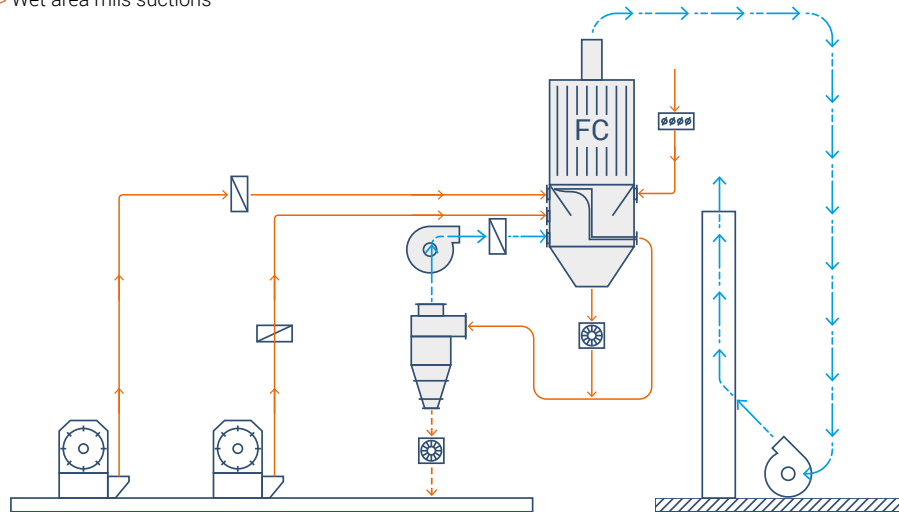


Type	Maniche			Dimensions		Filtering surface
	N°	Ø, mm	H, mm	Ø, mm	H, mm	m²
FC 2040	56	160	6100	2040	14000	172
FC 2460	88	160	6100	2460	15000	270
FC 2880	124	160	6100	2880	16000	380
FC 3240	116	200	6100	3240	17500	445
FC 3740	160	200	6100	3740	18000	613
FC 4240	204	200	6100	4240	18500	781
FC 4740	256	200	6100	4740	19000	981
FC 5240	308	200	6100	5240	19500	1180
FC 5740	368	200	6100	5740	20000	1410
FC 6240	436	200	6100	6240	23000	1670

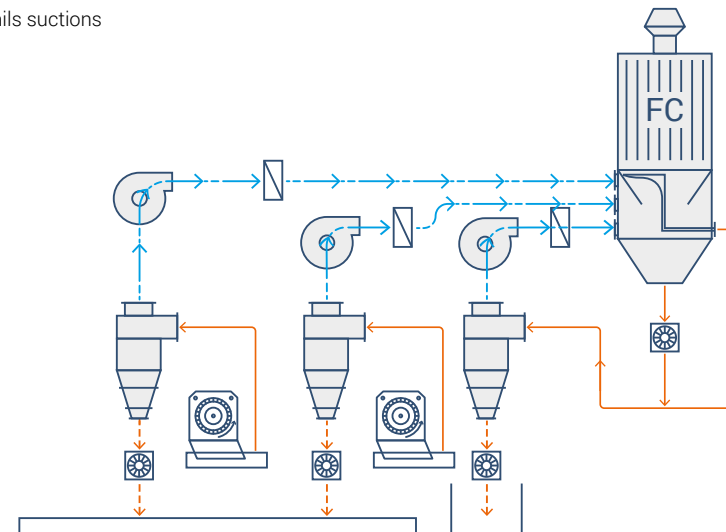


Not binding data. We reserve the right of modification at any time without prior notice. \*According to the project parameters and lay out.

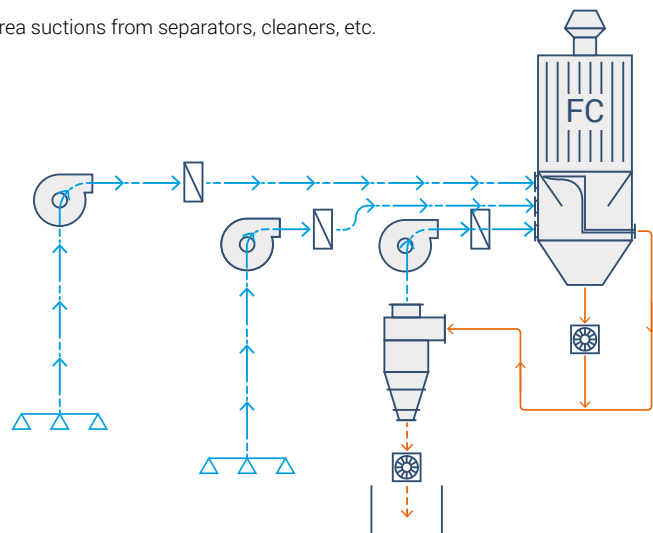
> Wet area mills suctions



> Dry area mills suctions

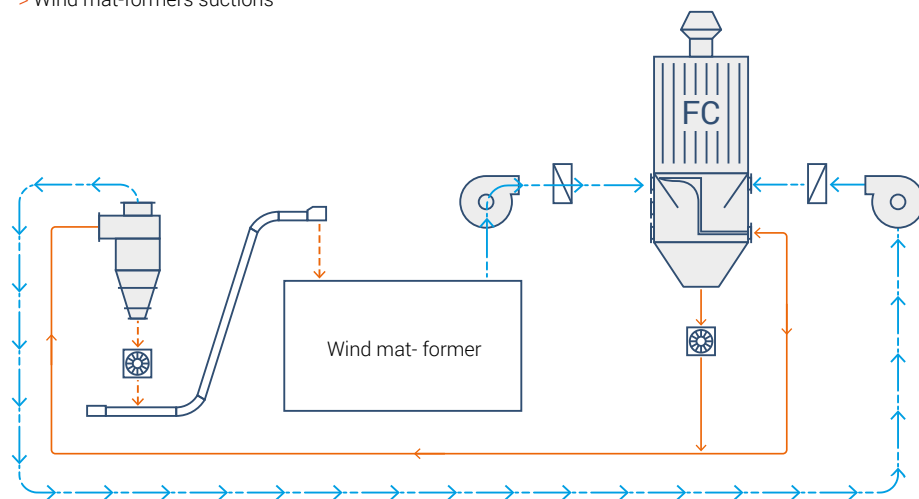


> Wet or dry area suctions from separators, cleaners, etc.

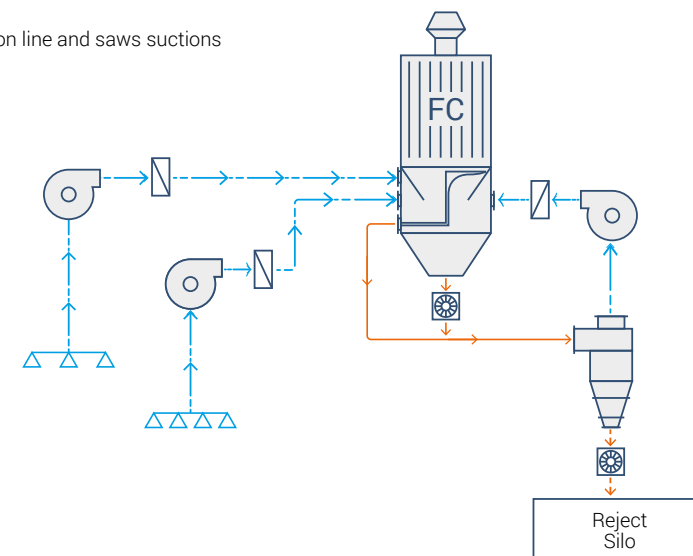




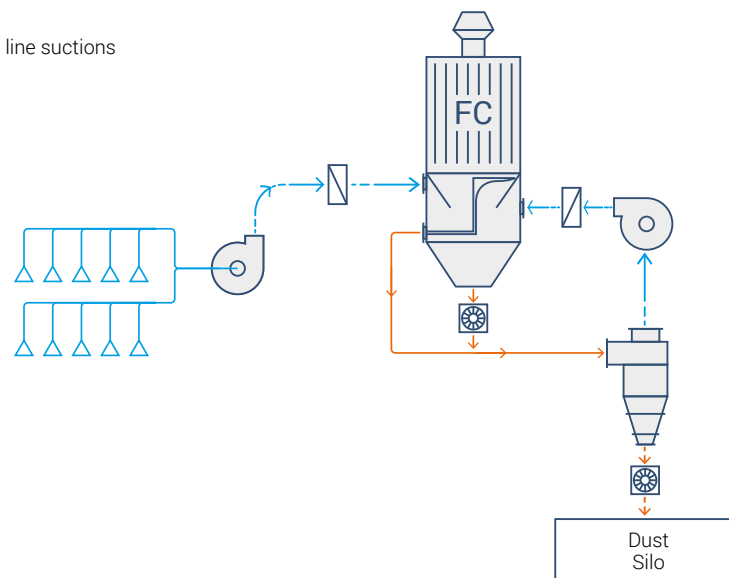
> Wind mat-formers suctions



> Production line and saws suctions



> Sanding line suctions





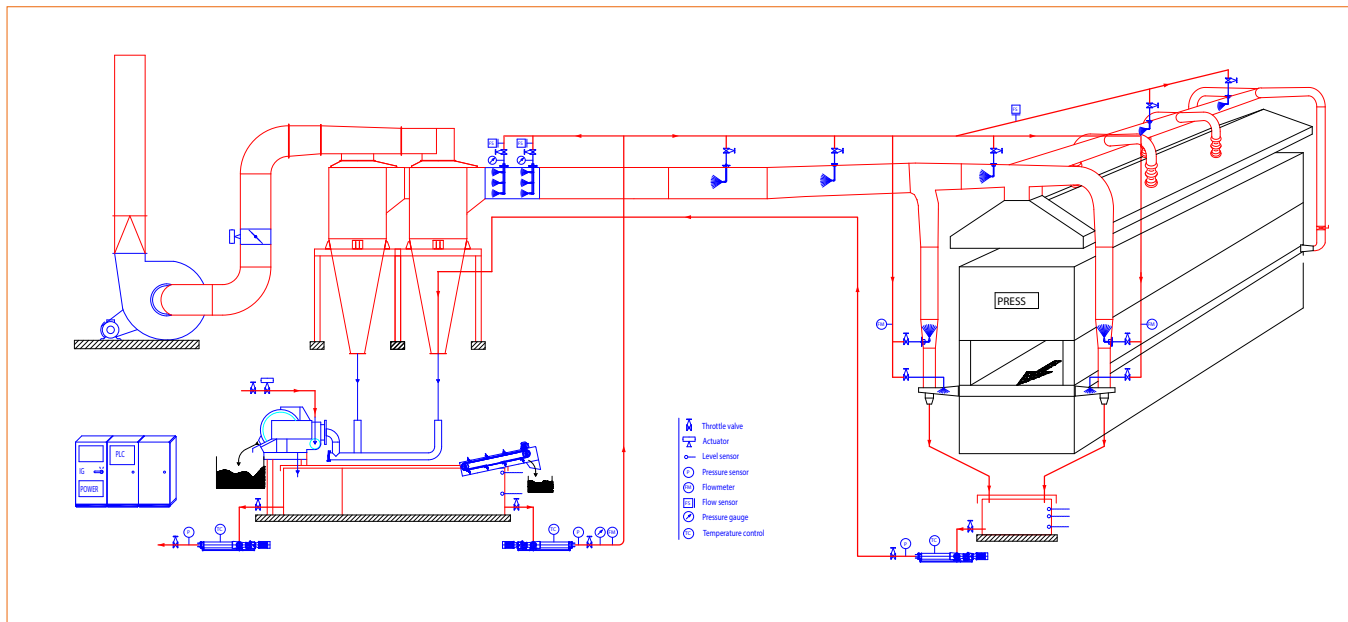
The exhaust gas extraction system is installed on the continuous press in charge of panel production in order to minimize the risks of fire.

Indeed, fire might be caused by deposits of substances present in the fumes released during the pressing process of the wood panel.

Suitable hoods positioned along the machine suck up gases, dusts and vapours (saturated with resin, paraffin, phenol and formaldehyde) coming from the panel during the pressing process, helping to maintain the work environment healthy. The above substances are then brought down by means of a water system.

## Advantages

- **Top reduction of fire risks in the press**
- **Preservation of press cleanness and maintenance reduction**
- **No need for a water treatment system**





[illegible]

