

Continuous mobile asphalt plant  
**iNOVA 1200**



## 1|

**PRECISION IN  
AGGREGATES  
DOSING**

Dynamic weighing in robust and high-precision load cells, automatically variable speed gearmotor and belt speed self-monitoring system. High precision to ensure the correct ratio between aggregates. There are 4 bins, two main of 10m<sup>3</sup> each and two secondary ones of 5m<sup>3</sup> each, with a 3.20m opening for feeding.



## 2|

**AGGREGATES  
DRYING**

Dryer designed through advanced computer-simulation systems, with internal washers built and distributed in a way that the application of heat on the aggregates is made gradually, maximizing moisture removal and aggregates heating. Maximum production with the lowest fuel consumption. Option of preparation to receive up to 10% of RAP\* in the drying drum. High efficiency burner and low maintenance rate.

## 3|

**SMART  
FILTERING  
SYSTEM**

Exhaust piping with double safety system against high temperature. Cold air damper with actuation from 0% to 100% allows to maintain the constant production even with discontinuous particle size curves. Pre-collector of fines VORTEX Static Separator - retains from 80% to 90% of material retained in sieve # 200 and send it back directly to the mixer.

Bag filter with greater filtering area provides production of the plant in constant level and less emission of pollutants to the atmosphere. New pleated filtering elements PulsePleat®, more resistant, with rubber sealing, more efficient and of easy maintenance.

# Continuous mobile asphalt plant

## iNOVA 1200



4|

**EXTERNAL  
MIXER  
PUG MILL TYPE**

**Pug-Mill type:** bitumen injection is carried out in the mixer directly on the aggregate - out of the dryer, in a controlled environment - preserving the quality of the binding agent and ensuring homogeneity of the asphalt mass. Maximum mechanical energy applied on the mix. It allows for controlling the time of permanence in the mixing stage. Easy maintenance through fully removable covers and through the lower cleaning gate. New and exclusive "dry mixing zone" dedicated to the production of special mixes like SMA.

5|

**PRODUCTION  
CONTROL**

Cabin with climate control and ergonomic operator's seat. Advanced operating software, which controls the machine and the production, generating various types of reports. Plug-and-play system, ready to receive any optional extras available. Industrial microcomputer, suitable for operation in harsh environments, with a 15" touch screen. Latest generation technology with simple operation. Dual operation system, automatic and manual. Option of remote monitoring, with production visualization, operation alarms and generation of maintenance warnings. Software with diagnostic screens. Air-conditioned electric panel for protection of components, with easy access for inspection and maintenance.

1

# Precision in aggregates dosing



## HIGH PRECISION WHEN PRODUCING ASPHALT MIXTURES

Four feeding bins with a 3.20m opening for feeding, being:

- > Two main ones of 10m<sup>3</sup> each;
- > Two secondary ones of 5m<sup>3</sup> each;

Individual dosing of aggregates through dynamic weighing in robust and high precision load cells, automatically variable speed gearmotor and self monitoring system of belt speed. High precision to guarantee the correct proportion of different aggregates.



1| 4 feeding bins, 2 main of 10m<sup>3</sup> and 2 secondary ones of 5m<sup>3</sup> each.

2| Fanfold dosing belts with vulcanized side guards.

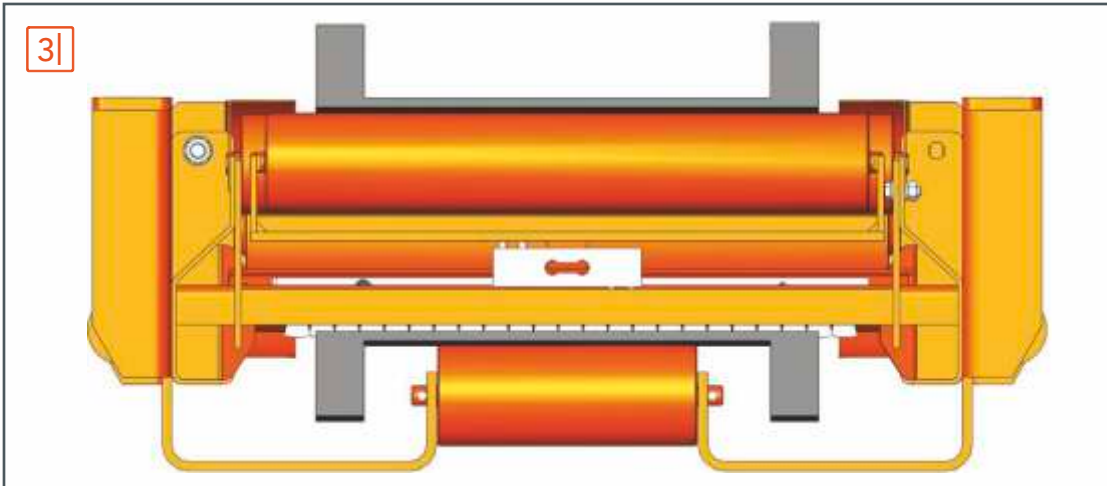
## AUTOMATIC LUBRICATION SYSTEM

Compression load cell, 100kg capacity, robust construction and high precision in dynamic weighing.

Gearmotor on the front roller, with sealed box, gears in oil bath. Automatically variable speed through frequency inverter.

Speed sensor of the belt (pick-up) with constant monitoring of the belt speed, emitting alert in case of lag between the speed defined and the speed measured.

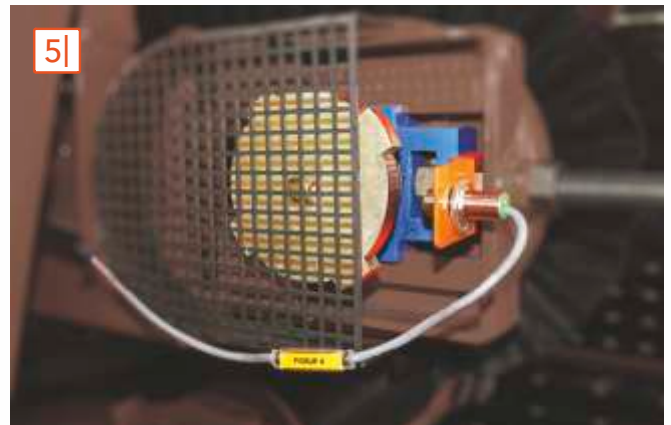
Instant speed correction, ensuring perfect dosage even in adverse situations.



3| Load cell.

4| Gearmotor on the front roller.

5| Belt speed sensor (pick-up).



## WALL VIBRATOR

Automatic and manual drive vibrator to release fine materials adhered to the walls of the bins.

Standard in bin #1, optional in the other bins.



**2**

# Counter-flow dryer

06  
07

## EFFICIENCY IN AGGREGATES DRYING AND HEATING

Designed using advanced computer-simulation systems, with washers distributed in a way that the application of the heat on the aggregates is done gradually, ensuring moisture elimination and the ideal heating for obtaining the required temperature.

Bolted washers for easy maintenance and dryer configuration for maximum efficiency operating under a wide range of weather conditions.

Four gearmotors connected directly to the axes of the support rollers for maximum power transfer to the dryer.

1| Bolted washers.

2| Direct drive in the 4 support rollers.





### CIBER BURNER

- > Light and heavy oils (standard).
- > Dual LPG / light and heavy oils (optional).
- > Natural Gas (optional).

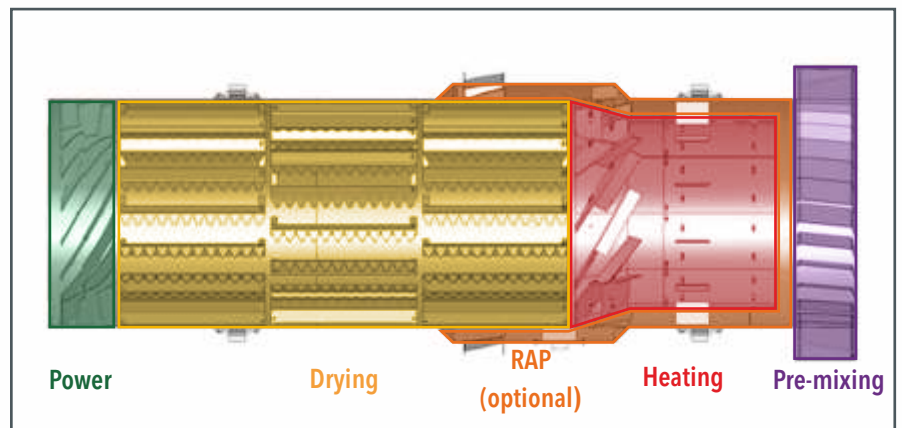
### HAUCK BURNER

- > Dual NG/ light and heavy oils (optional).

Consult your dealer about other fuel options.

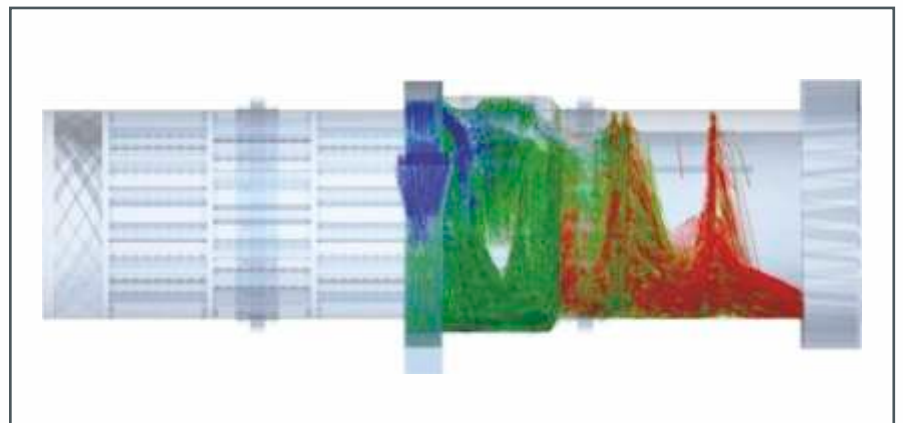
### LONGER DRYER

For maximum efficiency in the removal of moisture from the aggregates. Each dryer region has different types of washers, which fulfill specific functions and ensure thermal exchange efficiency. Maximum production with lower fuel consumption.



### OPTION OF PREPARATION TO USE UP TO 10% RAP

RAP circulates through a special chamber, where it is protected from the high temperatures applied to the aggregates. Preheating by thermal conduction and subsequent mixing with virgin materials.



3

# Smart filtering system

## SAVINGS AND COMMITMENT WITH THE ENVIRONMENT

Ciber bag filters are always at the technological forefront of environmental preservation along with aggregates saving.

The new pleated filtering elements PulsePleat® are more resistant, have a new and more efficient rubberized seal: lower atmospheric emissions and easier maintenance.

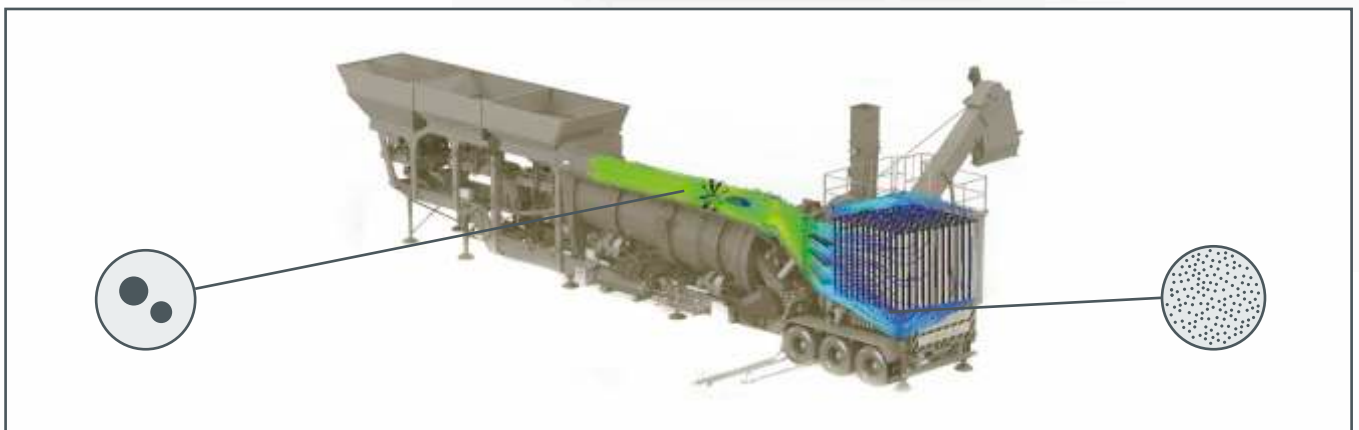
The bag filter consists of 144 PulsePleat® bags, 5m<sup>2</sup> each, resulting in 720m<sup>2</sup> of total area: the largest filtering area of its class.

$720\text{m}^2 \div 120\text{t/h} = 6\text{m}^2/(\text{t/h}) > \text{the biggest ratio in the category.}$

The emission of particulate material exceeds the strictest environmental standards.

Theoretical emission  $\leq 50\text{mg}/\text{Nm}^3$

Field measurements  $\leq 10\text{mg}/\text{Nm}^3$



### VORTEX STATIC SEPARATOR

It collects and send back to the mixer the particulate above sieve # 200 in a continuous process.

It reduces the amount of dust into the bag house allowing it to operate under optimized conditions.

### BAG HOUSE

Responsible for collecting and returning to the mixer the material passing in sieve # 200, the particles of smaller particle size.

It allows the plant to operate near urban centers, as the rate of particulate material emission are practically negligible.

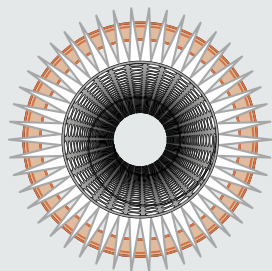




**New support**



**Self-structures internal face**



**Filtering surface**



**Pleated bag**



**Bag exchange tool**



**ENVIRONMENT**

Ciber has always been at the forefront of the development of green technologies. Environmental preservation is one of the highlights of the Ciber plant iNOVA 1200. Its levels of atmospheric emissions meet the strictest environmental standards for particulate material.

This dust, a pollutant that is extremely aggressive to the respiratory system, is retained by the bag filter and it is reincorporated into the asphalt mass.

In addition to collaborating to maintain good air quality, the Ciber Bag Filter operates to improve the characteristics of the final product.

**CIBER BAG FILTER: A CLEANER AIR AND THE BEST ASPHALT MASS.**



**1|** Clean chimney, only water steam is visible.

# External mixer Pug-Mill type

## PRODUCTION OF HIGH QUALITY ASPHALT MIXTURES

Ciber, true to its standard concept, uses a two-axis Pug-Mill to mix bitumen with aggregates.

This is the best and most effective mixing method for asphalt mass production:

- > It preserves the physic-chemical characteristics of the bitumen because the injection of this material on the aggregates is carried out in a closed environment, with controlled temperature and without hot gases flow. Thus, there is no early aging/oxidation of bitumen during aggregates mixing.
- > It produces the most homogeneous asphalt mass because it applies great mechanical energy directly into the mixing process.
- > The residence time in the mixing stage is configurable according to the need for each type of product.

The mixing process is divided into two stages:

- > Stage # 1: dry mixing zone = homogenization of the aggregates according to the grain size curve = same thickness of the bitumen film at the edges of all aggregates = greater adhesiveness of the mixture.

Fundamental for special mixes SMA type:

- > Step # 2: mixing zone with bitumen, fundamental for obtaining a homogeneous binder layer on the aggregates, with the correct thickness.



### ARMS / PADDLES

Built in special material, with high resistance to wear by abrasion and fractures.

Configurable arms to obtain optimum mixing time according to type of asphalt mix.

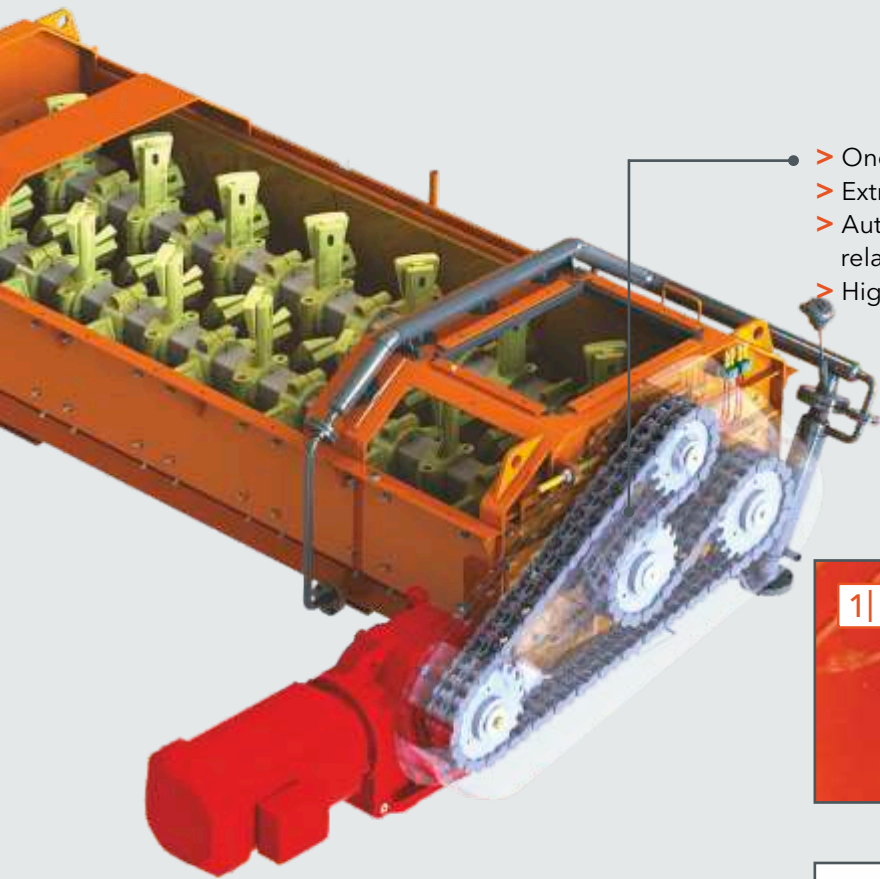
Interchangeable paddles, the same for both axes.

### BINDING AGENT INJECTION



ADJUSTABLE  
MIXING  
TIME





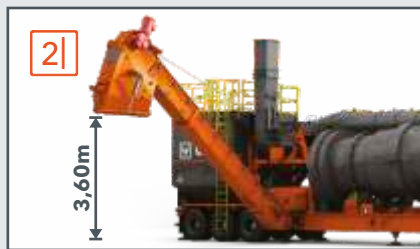
- > One gearmotor for maximum mechanical efficiency.
- > Extremely robust double chain.
- > Auto synchronizing system, ensuring the perfect spin relation between the arms.
- > High durability, with simplified maintenance.

- > Emergency button.
- > Safety lock.



1| New elevator guides.

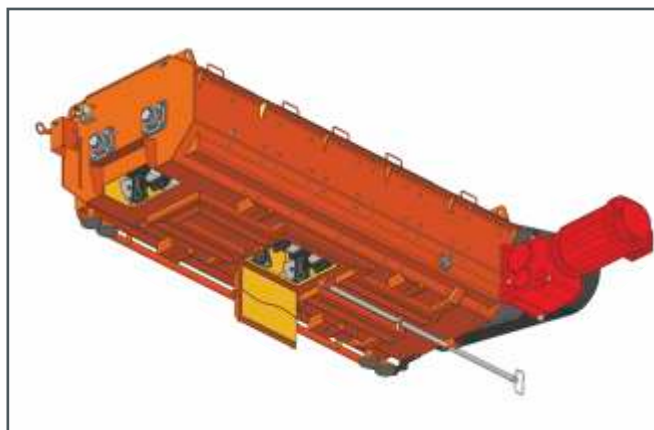
2| Asphalt mix discharge.



### ASPHALT FEEDING

Carried out by a special motor pump, with thermal oil circulation chambers for internal heating.

Speed motor pump automatically variable according to the percentage of bitumen in the mix, actual weighing of the aggregates and production of the plant.



### LOWER OPENING FOR CLEANING

Easy maintenance through fully removable upper covers and lower gate.

Mixing time for cleaning.

## COMFORT AND RELIABILITY

As a company specialized in paving and producing high-performance equipment, Ciber creates the systems that control its asphalt plants internally.

Dual operation system, automatic and manual. Automatic operation through industrial microcomputer, suitable for operation in aggressive environments, with a 15" touch screen, data processing through PLC. Latest generation technology with simple operation.

Advanced operating software, which fully controls the plant and the production, generating various types of reports.

Plug-and-play software, ready to receive any of the options offered (depending on the component, it may be necessary to add some hardware).

Software with diagnostic screens for fast and easy location of maintenance points.

Option of remote monitoring, with production visualization, operation alarms and generation of maintenance warnings.

Manual operation through simple and intuitive pushbuttons, making emergency operation easier.



## MANUAL AND AUTOMATIC OPERATION SYSTEM

As standard in the same panel, it is possible to choose the operation mode:

- > Automatic: intelligent system, with graphical indication of all stages of the process, generation of reports of consumption of inputs, production and operation.
- > Manual: system independent from electronic components, so that it can operate even when the PLCs and the computer are removed.

## BROAD VISIBILITY

Cabin with glass windows all around, located in a way to facilitate the operator's vision of both the processes at the plant and the load on the truck.



- 1| *Diagnosis.*
- 2| *Production.*
- 3| *Remote access.*



### ERGONOMICS AND COMFORT

Air-conditioned cabin with ergonomic operator's seat for long, safe and fatigue-free working hours.



### POWER PANEL

Power panel with air conditioning suitable for electric panels: maximum protection of the components, keeping easy access for maintenance and inspection.

# Optional parts and technical information

Optional parts - iNOVA 1200	
QUANTITY OF DOSES BINS	3 or 4 bins
MONITORING VIDEO CAMERA	Camera
GROUNDING KIT	Grounding kit
REMOTE MONITORING SYSTEM	Portuguese
	Spanish
	English
	French
GRATE FOR OVERSIZED MATERIAL SEPARATION	For 3 individual bins
	For 2 individual bins + 1 double bin
ADDITIONAL VIBRATOR	For feeding bin 2
FILLER FEEDING BIN	Filler bin 2m <sup>3</sup>
	Bins of fines and filler
FIBERS FEEDING BIN	Fibers feeding bin 2m <sup>3</sup>
RAP 10%	Simple feeder without grinder
TOOL KIT	Tool Kit
PRINTER	Printer
EXTRA TECHNICAL DOCUMENTATION	Extra technical documentation (in four languages, PT, ES, FR, EN)
TANK/ HEAT GENERATOR	With master tank
	With heat generator

## Technical Information - iNOVA 1200

Production capacity	80 - 120 t/h
<b>TRANSPORT</b>	
Mobilities	1
Axes / n° of tires	3/ 12 (+ 1 spare)
Suspension / brakes	Tandem triple / double spring brake
Dimensions (L x l x H)	22.25 x 3.20 x 4.30 m
Weight	43 tons
<b>DOSING SYSTEM</b>	
Bins	3 or 4
Bins volume	Bins 1 and 2: 10m <sup>3</sup>
	Bins 3 and 4: 5m <sup>3</sup>
Aggregates weighting	Individual dynamic weighing through centralized, high precision compression load cells, individual capacity of 100kg
Dosing belt	Flat for maximum precision with vulcanized lateral guards
Speed Sensor	Inductive sensor for speed verification
Wall vibrator	Standard in bin No. 1, optional in the other bins
	Automatic and manual drive
<b>DRYING SYSTEM</b>	
Type	Counterflow 100% dedicated to the process of aggregates drying and heating
Burner	CIBER Brand model MC - 10 - for fuel oils
<b>FILTERING SYSTEM</b>	
Pre-collector	Vórtex® Type
	80 - 90% guarantee of material present #200 in the Bag Filter
Bag house	144 elements of 5 m <sup>2</sup> each = 720 m <sup>2</sup> of filtering area
	Internal deflectors for flow distribution
	Maximum emission of particulate material ≤ 15 mg/Nm <sup>3</sup>
Filtering element	Efficiency ≥ 99,99%
	Shaped on the body of metal structure, deep and with a rubber top
	Quick change system with EasySpin tool
<b>MIXING SYSTEM</b>	
Type	Pug-Mill and 2 symmetrical and massive axes
	60 sets of arms + vane
	Stages of dry mix, bitumen injection and mixture of both
	Adjustable residency time
	Collection point of dry sample
	Bottom cleaning gate
	Direct bitumen injection on aggregates
<b>MIXED MATERIAL STORAGE SYSTEM</b>	
Type	Closed box drag elevator Redler-type
	Structure protected by high abrasion-resistant wear material
	Metal bin 1m <sup>3</sup> capacity
	Maximum level sensor, inspection gate, and anti-saturation window
Truck clearance height	3.60 meters
<b>CONTROL SYSTEM</b>	
Type	Metal cabin with side door with control panel, PLC board and the operator seat
Climate control	7,000 BTUs/h air-conditioning
Control	DUAL system: Automatic / Manual - Automatic: industrial microcomputer, flash memory (without HD), 15" touchscreen LCD screen appropriate for operation in environments such as job sites. Automatic Controller PLC type - Manual: intuitive manual panel for operation independent from the automatic system
<b>SAFETY SYSTEM</b>	
Feeders	Restrictive handles and electro-mechanic drive
	Emergency button
Dryer / burner	Flame sensor - UV photocell
	Emergency button
Mixer	Cross bar that prevents turning the machine on when open + emergency button
Bag filter	Maximum temperatures sensors and automatic drive valves/dampers
	Emergency button
Station	Emergency switch + internal sound alarm
Electric power switch panel	General selecting switch



**WIRTGEN GROUP QUALITY STANDARD**

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