



# **GRAVITY SEPARATOR**

## **SEED PROCESSING**







# The Experts in Seed Processing.

To find the right machines for your business you need a partner you can rely on. One who understands your business and offers expert advice during selection, installation and everytime on going. Cimbria has been helping customers succeed for more than 75 years, with extensive know-how and technologically advanced solutions on the whole process of cleaning grain, seed and food commodities.



# **Specify Your Concept of Quality with Gravity Separators.**

Purify your production with the right system for your operation. Get the quality you require, right from the start – with Gravity Separators. Eliminate stones, metals, plastics and other granular contaminants – even elements of almost identical size. Cimbria's gravity separators are designed to be user-friendly and tailored for the way you do business.

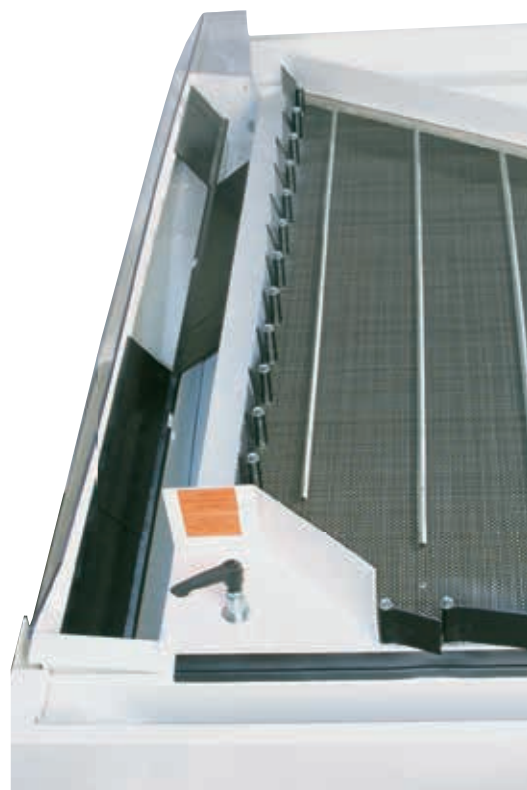




# Construction And Function.

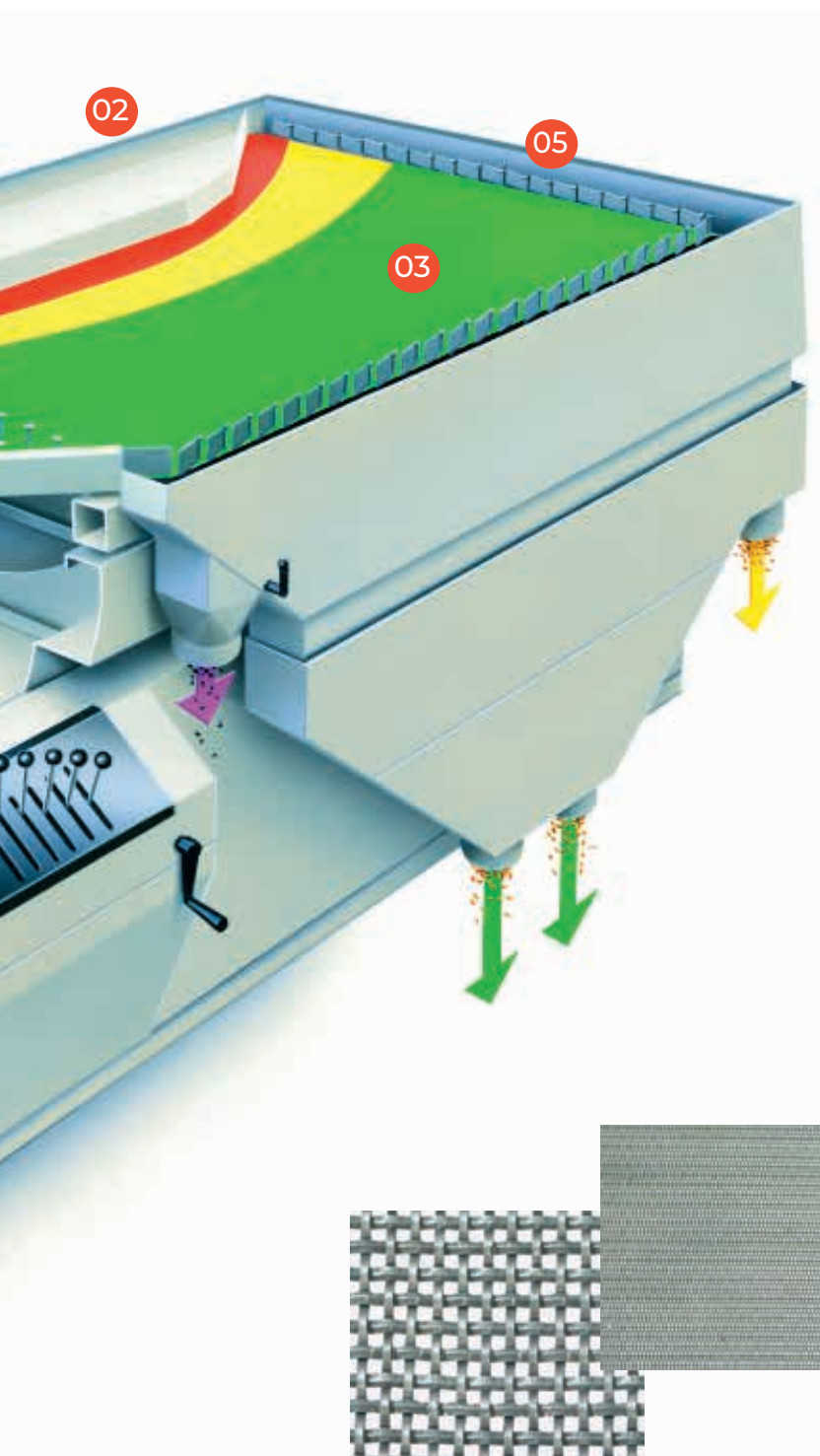
## 01. FEEDING DEVICE

A hopper (with or without supporting legs) and an electromagnetic vibrating feeder and a cascade enable product to flow consistently under all operating conditions.



## 02. RECTANGULAR DECK WITH MAXIMISER

Enables a longer product retention time than a triangular shaped deck. Much smaller "middling" fraction due to the integrated maximizer and therefore better product quality.

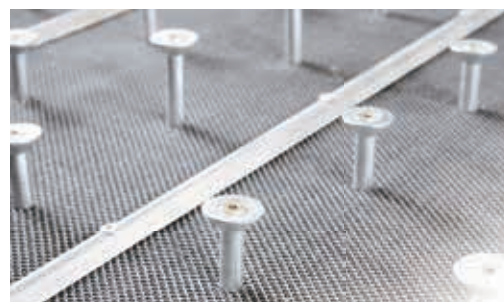


#### 05. SEGMENTED DISCHARGE GATES

- Quickly adjust all product discharges in heavy/middlings/lights to separation results.
- Total product flow can be directed to middlings discharge during machine start-up, so quality is not compromised
- A stone trap removes heavy stones without the loss of good products.

#### 04. STRATIFICATION PINS

Fixed on the deck in the stratification zone to achieve a faster separation of the particle mixture to fall or rise by their weight



#### 03. DECK COVER

- Square wire overcovers are used for all decks
- Gives more traction to separate faster
- Ensures more capacity per square meter of deck area, with better separation results





# Gravity Separator.



## LAB GA

Used where the accuracy of air grading is no longer sufficient.



## GA 31

0,9 mq screen surface, suitable both for industry and laboratories.



## GA 71

Full accessorized machine for small volumes selection.

## Principles of Operation

The product processed by the Gravity Separator is separated into layers with different specific weight according to the "fluid bed" principle. The fluid bed is built up due to the linear motion of the eccentric drive and the air, which is blown through the wire mesh or textile cloth.

This separation gives a spectrum from light to heavy material. **Due to the conveying system and the inclination of the deck the light material in the top layer moves down to the low side and heavy material in the bottom layer moves up to the high side of the deck.**

**The machines perform with a very accurate split between weight ranges, with a minimal mixing zone (e.g. rape seed 5% mixing zone).**



### **GA 110**

For medium volumes it has a screen area of 2,2 mq.



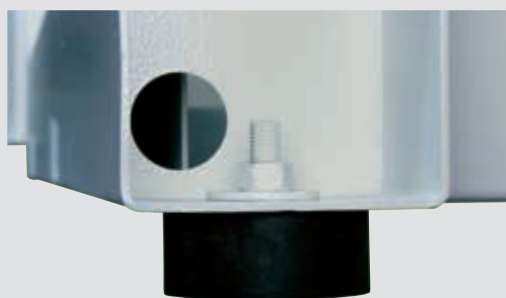
### **GA 210**

With an intake pre-storage hopper this machine has a screen area of 3,4 mq.



### **GA 310**

For high volumes, it has a screen surface of 5,4 mq.



## **Cimbria's Patented Eccentric Drive**

Every gravity table is equipped with a Cimbria's patented eccentric drive, which is counterbalanced to increase the machine stability. It minimizes the need for special supports or foundation to reduce installation and maintenance costs.





# Easy to Operate.

## MECHANICAL CONTROL

- Adjustments are conveniently positioned at a suitable height, which enables the operator an easy and precise re-adjustment
- Each fan segment is controlled by an individual operating lever
- Deck slopes can be adjusted while the machine is running smoothly, with no locking device.

## DIGITAL CONTROL

- Automatic start/stop
- Preset values for different Products (recipe-database)
- Service-management (Reminders and spare part Catalogues, user manual)
- Central control equipped With a can-bus interface Option)





# Assembly Variations.

## 01. INTAKE PRE-STORAGE HOPPER

It enables an homogeneous product flow under operating conditions

## 02. ELECTRO-MAGNETIC FEEDER

Vibrates the hopper to facilitate flow. Rubber buffers on the bottom of the feeding device limit transmission of vibrations to the environment

## 03. CASCADE

To adapt the flow to specific heights

## 04. PARTIAL DUST HOOD

Significantly reduces environmental dust, and energy costs by collecting 80% with 40% air-volume duty remote fan/filter

## 05. FULL DUST HOOD

Full dust hood complete closed; suction over the whole table area. With frame

## 6a. DISCHARGE HOPPER FOR HEAVY PRODUCT

## 6b. VIBRATING DISCHARGE TROUGH FOR HEAVY PRODUCT WITH STONE TRAP

The stone trap is useful for the removal of a small percentage of heavy stones in a concentrated discharge without the loss of good product.

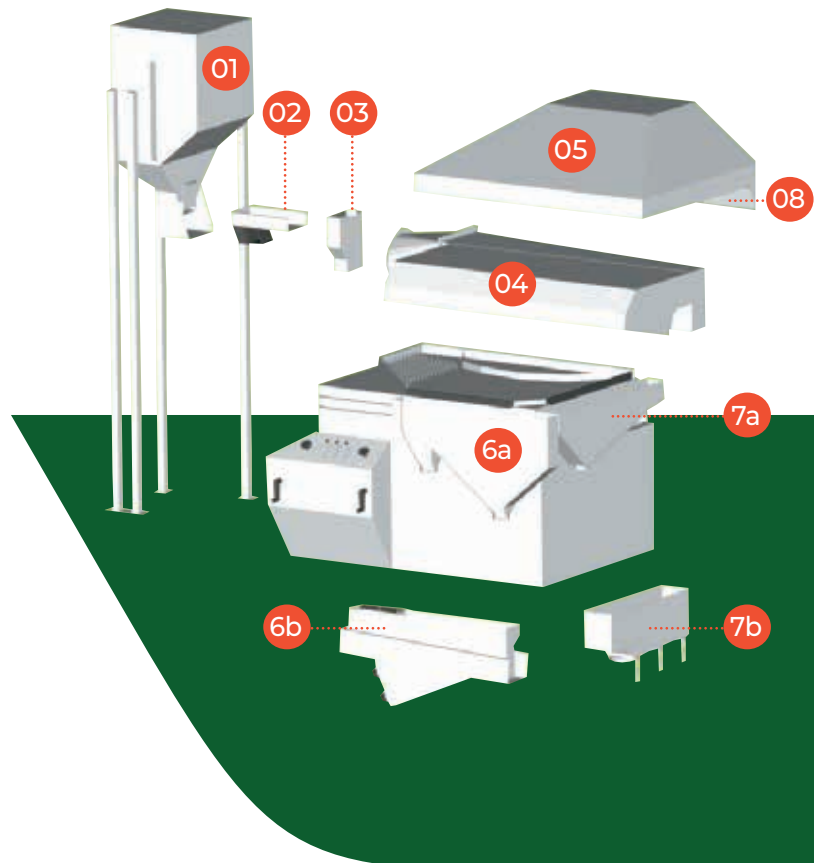
## 7a. VIBRATING DISCHARGE TROUGH FOR LIGHT PRODUCT

## 7b. BAGGING-OFF TYPE HOPPER

For design with base structure. Required if bagging-off type hoppers instead of discharge hopper will be supplied.

## 8. LIGHTWEIGHT ALUMINIUM DECKS

It can be lifted easily remaining in open position to enable servicing and cleaning.





# Products Applications.

Gravity separators can be used for multiple purposes. For seed cleaning, to remove damaged products, shells and immature or low germinations, and for commercial cleaning, to improve the quality of wheat, rye and barley and many other products. They find applications in the industrial sector too. Some applications are listed here below.

- grown-out, damaged cereals, wild oat, weed, small kernels, etc.
- barley and wheat if the size is the same
- plastic granulates
- soft and hard bones for gelatine production
- copper and insulation of cut wire
- broken cocoa beans from cocoa germs
- cocoa from shells
- apricot pips from shell parts
- herbs from sticks, earth and other impurities
- spices from sticks, shells and other impurities
- green coffee beans from unshelled beans (cherries), splits and ears
- tea into different qualities
- ergot from rye
- nuts (hazel nuts, peanuts, almonds etc.) from shells, sticks and other impurities

## Quality Control.

During the manufacturing process, each machine as well as its components must pass several strict quality controls to meet our customers' requirements at the highest level. Before dispatch, a final quality control process following a sophisticated checklist is carried out, rounded off by a 24-hour test run. We can thus guarantee that each machine is ready to operate at the customer's site very quickly and without any surprises.



# Our Services.







CERTIFICATIONS

- CE conformity certificate
- 2006/42/CE on machinery safety
- 2014/30/CE on Electromagnetic Compatibility

**DELIVERING RELIABILITY AND DEPENDABILITY**

You are committed to delivering the highest quality for your customers. Cimbria can help you deliver. With our customer service team and partners we offer exclusive after-sales service, for qualified assistance at all times. Aftersales service not only includes spare parts service, but also regular maintenance services, plant check-ups and consulting services.

**CONTACT US:**  
[WWW.CIMBRIA.COM/EN/CONTACT/CONTACT-US.HTML](http://WWW.CIMBRIA.COM/EN/CONTACT/CONTACT-US.HTML)

MACHINE TECHNICAL DATA			LABOR GA	GA 31	GA 71	GA 110	GA 210	GA 310
								
Dimensions	Length	mm	1380	1630	2033	2365	3288	3877
	Width	mm	1020	1280	1519	1905	1905	2106
	Height	mm	1420	1250	1320	1650	1650	1990
Technical data	Fan drive	Kw	1.5	3	4	7.5	11	15
	Eccentric drive motor	Kw	0.37	0.55	0.55	1.1	1.1	1.1
	Table area	m²	0.2	0.9	1.5	2.3	3.6	5.5
	Air requirement	m³/min	37	150	250	300	470	550
Capacity	Wheat, sojabbeans		0.3	2.0	4.0	6.5	10.0	15.0
	Peas		0.2	1.5	3.0	4.5	6.5	10.0
	Rape seed		0.15	0.8	1.6	2.6	4.0	6.0
	Coffee green		0.25	1.3	2.7	4.3	6.7	12.0



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