



Cimbria Gravity Separator



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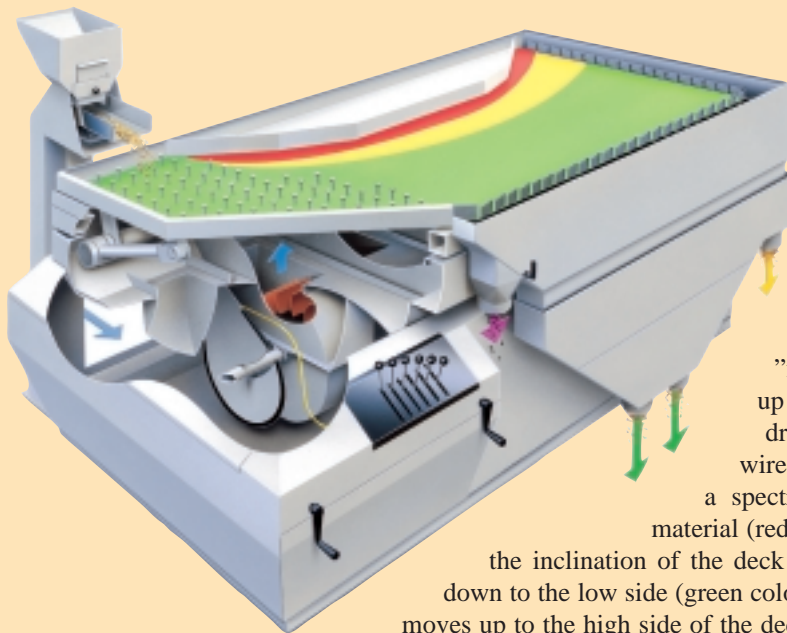


2293 S MT PROSPECT RD
DES PLAINES, IL 60018
TOLL FREE: 800-284-5779
PHONE: 312-738-3700
FAX: 312-738-5329
E-MAIL: sales@seedburo.com
WEB: www.seedburo.com





Purpose & Principle of Operation



The Gravity Separator is used for the separation of any kinds of kernels and granular products with nearly the same size according to the specific weight. The size of the kernels is normally between 0,5 mm (fine seeds) and 20 mm (e.g. beans).

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 (green colour) to heavy material (red colour). Due to the conveying system and the inclination of the deck the light material in the top layer moves down to the low side (green colour) and heavy material in the bottom layer moves up to the high side of the deck (red colour).

Series Production

Cimbria Heid produce machines in series production. During production each machine has to pass several specific quality controls to meet the requirements at the highest level.





Machine Range



GA 31



Lab GA



GA 71



GA 210



GA 110



GA 310



Features

The Gravity Separator should only be fed with clean products (i.e. after a Pre/Fine Cleaner, Indent Cylinder, Grader etc). The correct choice of the deck covering, a minimum amount of dust in the air inlet and the regular cleaning of the deck cover are further requirements to enhance capacity and to reach optimal performance.



Feeding device

- is an essential component of the gravity separator
- consists of a hopper with an electromagnetic vibrating feeder and a cascade (aspiration possibility) to enable a constant product flow under all operating conditions



Easy to operate

- because all adjustments are conveniently positioned at a suitable height which enables the operator an easy and precise re-adjustment
- as each fan segment is controlled by an individual operating level
- the deck slopes can be adjusted while the machine is running smoothly, with no locking device



Partial dust hood

- reduces significantly environmental dust, collecting 80 % but only requires a remote fan/filter with a duty of 40 % of the total air volume thus reducing energy costs-
- on request a FULL DUST HOOD is also available



Lightweight aluminium decks

- can be lifted easily (and remains in an open position via gas filled struts) to enable servicing and cleaning
- deck can be changed in a matter of minutes for other products



Fully counterbalanced eccentric drive

- all gravity tables are equipped with a patented fully counterbalanced eccentric drive
- reduces the need of special support or foundation
- reduces installation and maintenance cost



Segmented discharge gates

- allows operator to 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

Rectangular Deck with maximiser

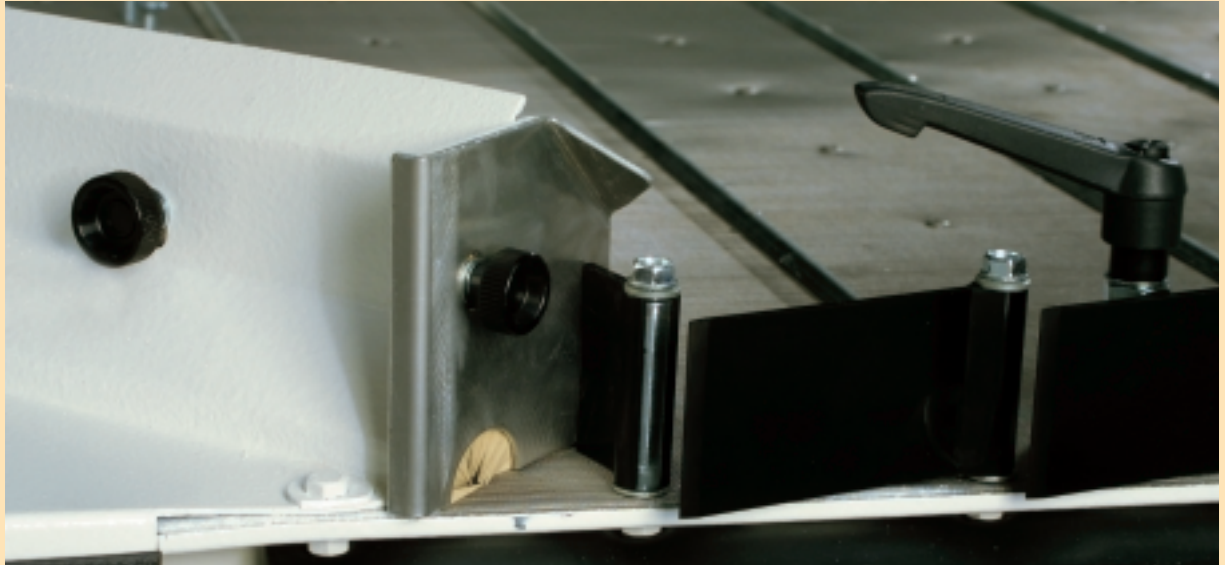
- enables a longer product retention time than a triangular shaped deck
- has a much smaller "middling" fraction due to the integrated maximizer and therefore better product quality



Separation of heavy and light product

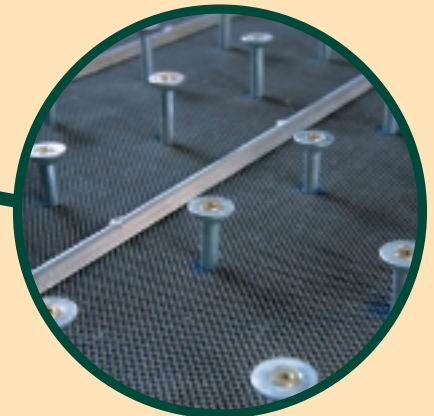
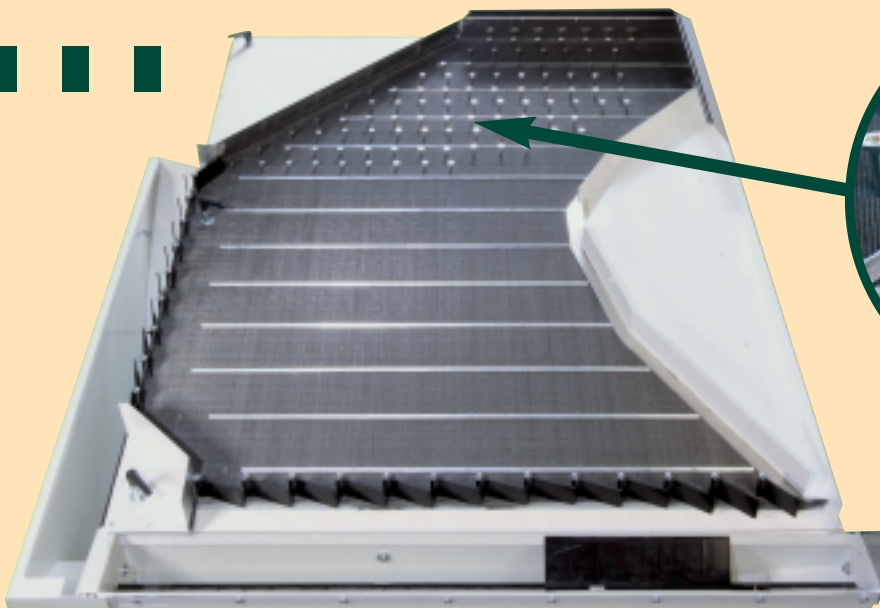
- Very accurate separation between heavy and light product with a minimal mixing zone e.g. rape seed with 5 % mixing zone and a precise separation which cannot be achieved on competitors machine





Stone trap

- is for removal of a small percentage of heavy stones in a concentrated discharge without the loss of good product

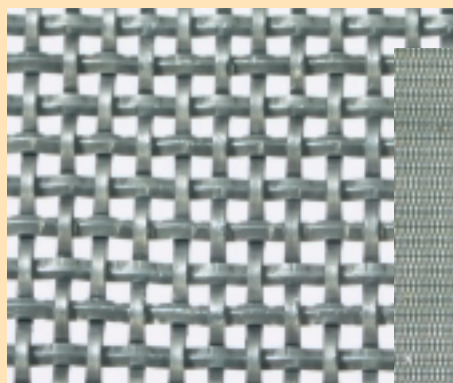


Stratification pins

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

Deck Cover

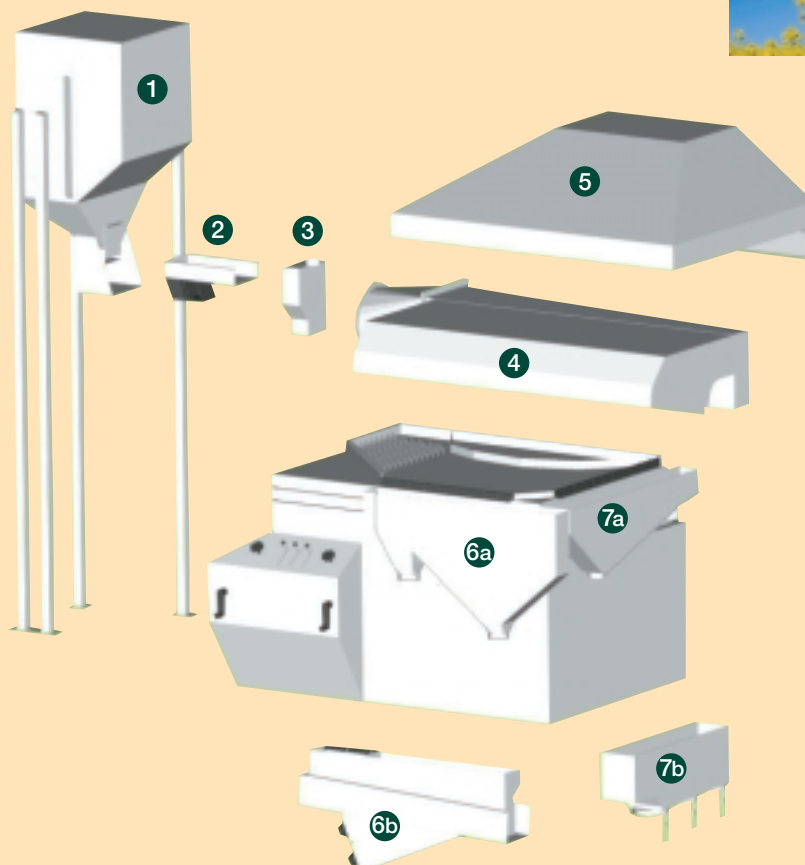
- square wire overcovers are used for all decks
- gives more traction and therefore the heavy fraction separates faster
- ensures more capacity per square meter of deck area, with better separation results





Assembly Variations of our Gravity Table Separators

- 1 Intake pre-storage hopper
- 2 Electro-magnetic feeder
- 3 Cascade
- 4 Partial dust hood
- 5 Full dust hood
- 6a Discharge hopper for heavy product
- 6b Vibrating discharge trough for heavy product with stone trap
- 7a Vibrating discharge trough for light product
- 7b Bagging-off type hopper



Applications

The Gravity Separator is utilised when the limits of air-aspiration-systems are reached. That doesn't mean that a Gravity Separator substitutes the air aspiration, but it is an additional piece of equipment for separating more exactly according to the weight.

For example, separating / sorting out:

- 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 grom 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

	Labor GA	GA 31	GA 71	GA 110	GA 210	GA 310
Capacity t/h (lbs/h)						
Corn, Wheat, Sojabeans	0,3 (660)	2,0 (4.400)	4,0 (8.800)	6,5 (14.300)	10,0 (22.000)	15,0 (33.000)
Peas	0,2 (440)	1,5 (3.300)	3,0 (6.600)	4,9 (10.780)	7,5 (16.500)	11,0 (24.200)
Clover, Rape seed	0,1 (220)	0,8 (1.760)	1,6 (3.520)	2,6 (5.720)	4,0 (8.800)	6,0 (13.200)
Coffee green	0,2 (440)	1,3 (2.860)	2,7 (5.940)	4,3 (9.460)	6,7 (14.740)	12,0 (26.400)
Fan Drive kW (hp)	1,5 (2,0)	3 (4,0)	4 (5,4)	7,5 (10,1)	11 (14,7)	15 (20,1)
Eccentric drive motor kW (hp)	0,37 (0,5)	0,55 (0,74)	0,55 (0,74)	1,1 (1,5)	1,1 (1,5)	1,1 (1,5)
Table area m ² (ft ²)	0,2 (2,2)	0,9 (9,7)	1,5 (16,1)	2,3 (24,8)	3,6 (38,8)	5,5 (59,2)
Air requirement m ³ /min (CFM)	37 (1.307)	150 (5.299)	250 (8.831)	300 (10.597)	470 (16.602)	550 (19.428)
Dimensions mm (inch)						
Length	1120 (44)	1616 (64)	2033 (80)	2365 (93)	3288 (129)	3877 (153)
Width	925 (36)	1214 (48)	1519 (60)	1905 (75)	1905 (75)	2106 (83)
Height	1088 (43)	1140 (45)	1175 (46)	1442 (57)	1442 (57)	1710 (67)
Net weight kg (lbs)	300 (661)	510 (1.124)	740 (1.631)	1340 (2.954)	1830 (4.034)	2440 (5.379)

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Seedburo Equipment Company • 2293 South Mt. Prospect Road • Des Plaines, IL 60018-1810 USA
Toll-Free 1-800-284-5779 (USA & Canada) • Telephone +1-312-738-3700 / Fax +1-312-738-5329
www.seedburo.com

