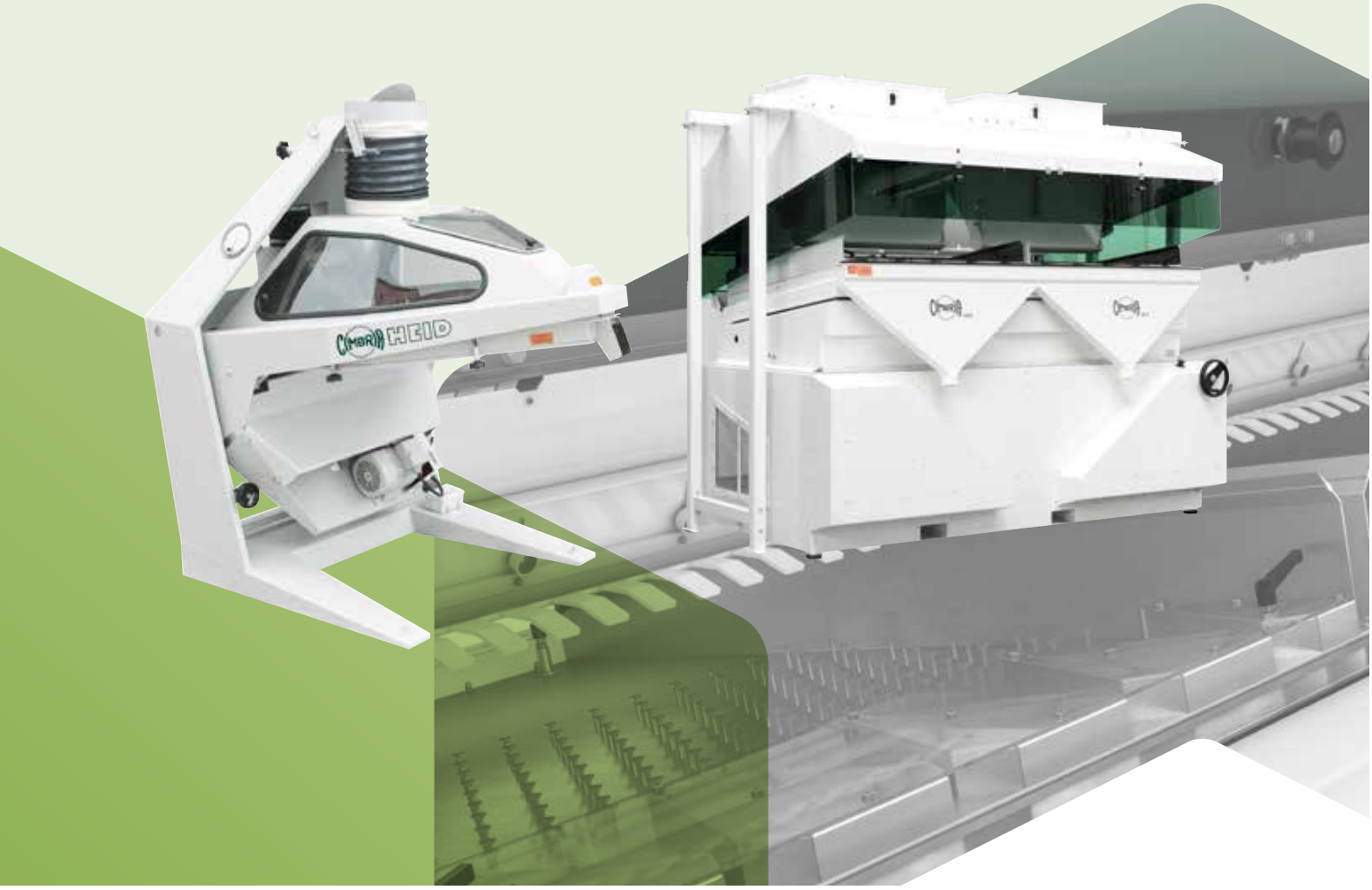
| GB |

DESTONER

SEED PROCESSING



CONVEYING | DRYING | SEED PROCESSING | ELECTRONIC SORTING | STORAGE | TURNKEY | SERVICE

RELIABLE EXTRACTION OF STONES, METALLIC PARTS AND GLASS SPLINTERS

REMOVING HEAVY IMPURITIES

Cimbria holds a leading position in the global market within seed processing equipment, where we maintain a strong focus on quality and cost-benefit.

Cimbria develops and manufactures a full range of seed processing equipment for cleaning seed and grain products.

We offer advice and design of equipment and plants for a wide variety of cleaning and sorting purposes based on successful R&D and many years of experience. Cimbria has a wide and experienced service network which always remains fully up to date with regard to the latest technical product developments and processing of grain and seeds. Our service organization is thus always at your disposal to ensure the best and quickest service.

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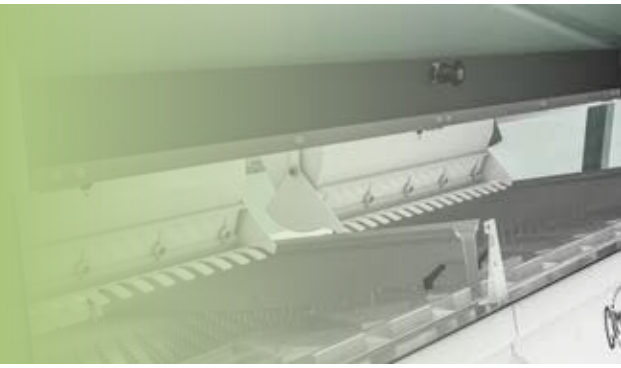
DESTONER MODELS AND CAPACITIES

Destoners are used for separating granular material into two fractions according to specific weight.

They are primarely used for the elimination of heavy impurities, such as stones, metallic particles etc., from coffee, grain, pulses etc.
Destoners find their application in the food processing sector and in the milling industry, but they are also used in the seed sector, in particular on products harvested close to the ground



MODEL		TS 90	TS 180	TS 360	TS 400
Capacity	[t/h]				
Wheat		5.0	10.0	20.0	30.0
Green coffee		3.8	7.5	15.0	22.5
Roasted coffee		2.5	5.0	10.0	15.0
Rice (Paddy)		2.8	5.5	11.0	16.5
White rice		3.2	6.5	13.0	19.5
Sesame		1.5	3.0	6.0	9.0
Soya beans		4.0	8.0	16.0	25.0
Technical data					
Eccentric drive	[kW]	0.37	0.55	1.10	1.10
Fan drive	[kW]		No integrated fan		15,00
Air demand for external aspiration	[m³ / min]	65 / 95*	95 / 120*	155 / 200*	550
Dimensions	[mm]				
Length		1460	1645	2150	2150
Width		980	1700	2600	3350
Height		1500	1580	2050	2790
Weight (net)	[kg]	204	250	740	1700 / 2350**

* For heavy products (e.g. beans, peas.) ** Inlcuding pre-bin and dust hood.
The dimensions and technical data specified above are indicative and are subject to alteration. We reserve the right to alter specifications at any time without prior notice.

TS 90

Vacuum machine
Capacity up to 5 t/h

TS 180

Vacuum machine
Capacity up to 10 t/h

TS 360

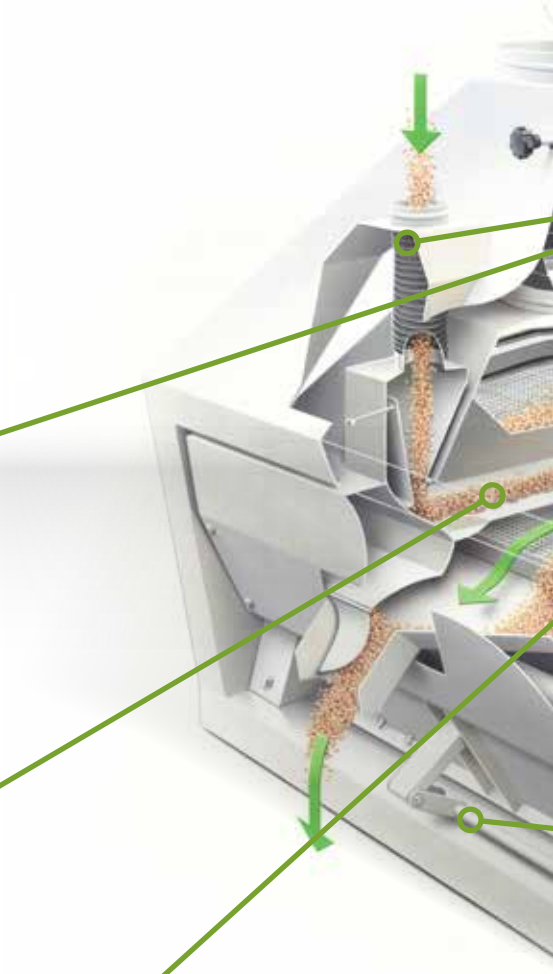
Vacuum machine
Capacity up to 20 t/h

TS 400

Pressurized machine
Capacity up to 30 t/h

PRINCIPLE AND CONSTRUCTION - VACUUM AIR SYSTEM

The granular material to be separated is fed to the table deck through an adjustable spring-actuated flap. The deck surface is covered by a wire mesh, through which a steady and adjustable air flow is aspirated. The combined effect of the vibrating movement and of the air passing through the deck causes the flow of material to be separated into layers. The heavy admixtures sink towards the bottom and are moved to the highest point of the table deck surface (stone outlet) by means of contact with the rough deck covering. Lighter material (= good product) floats on top of the layer and flows to the good product outlet due to the inclination of the deck. The machine consists of a self-supporting steel section frame, holding the inclination frame (adjustable from 6 – 15°), which, in turn, holds the vibrating frame and the deck, both driven by a counterbalanced eccentric drive. Through the dust hood, the necessary process- airstream is aspirated, thereby also removing light particles and dust. The system is in a permanent state of negative pressure, thus preventing any dust from escaping.



ASPIRATION

The required air volume is aspirated through the deck insert, which is permeable to air and can easily be folded down for cleaning or replacement. Air volume and material input are adjusted to each of the required operating conditions by means of adjustable flaps. Full deck surface is covered with a dust hood in order to maintain a vacuum.

INLET

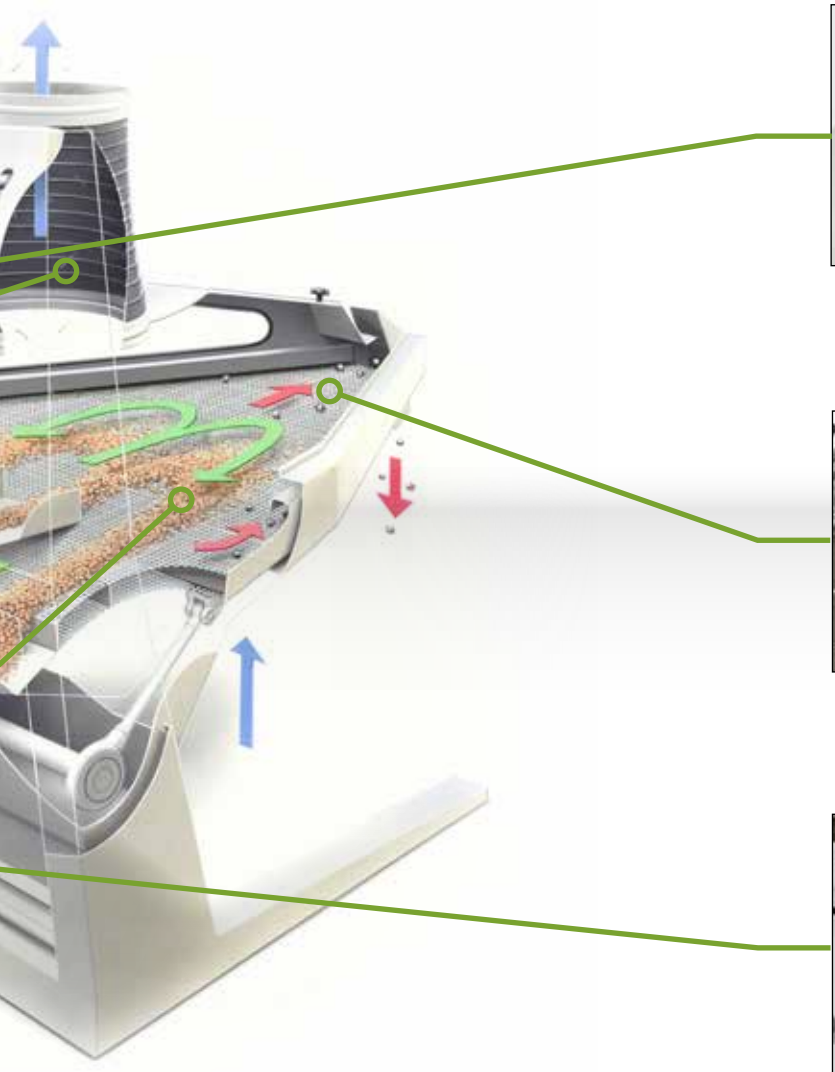
The machine with its so called “inlet-shoe” takes in the correct amount of product from the material supply pipe arranged in front of the dry stoner.

DECK SURFACE

The deck can be covered with 4 different types of wire mesh, each ideally suited to the product that is being processed on the machine. Large sight windows in the dust hood grant optimum process overview for the operator. A service hatch in the dust hood gives simple and quick access for cleaning and maintenance.

ADVANTAGES VACUUM SYSTEM

- Only 1 fan required for both process air and dust aspiration
- Compact design
- 100 % dust-tight due to negative pressure in the system
- Easy to adjust
- Low energy demand



ADJUSTMENT OF CAPACITY

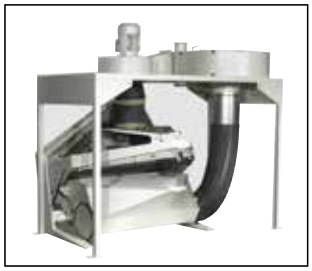
The amount of incoming material can be regulated, thus enabling ideal coverage of the deck surface to be achieved. An adjustable spring- actuated flap prevents false air from being sucked in through the material supply pipe.

STONE OUTLET

At the stone outlet an adjustable reverse air flow zone is installed. This system is designed to prevent good product from being discharged through the stone outlet during operation by causing a strong reverse air stream that will blow good product back towards the clean product outlet.

RESIDUAL DISCHARGE

The destoner can be equipped with residual discharge. The sorting table is inclined pneumatically towards the clean product discharge (working inclination +8°) so that rapid table emptying can take place.

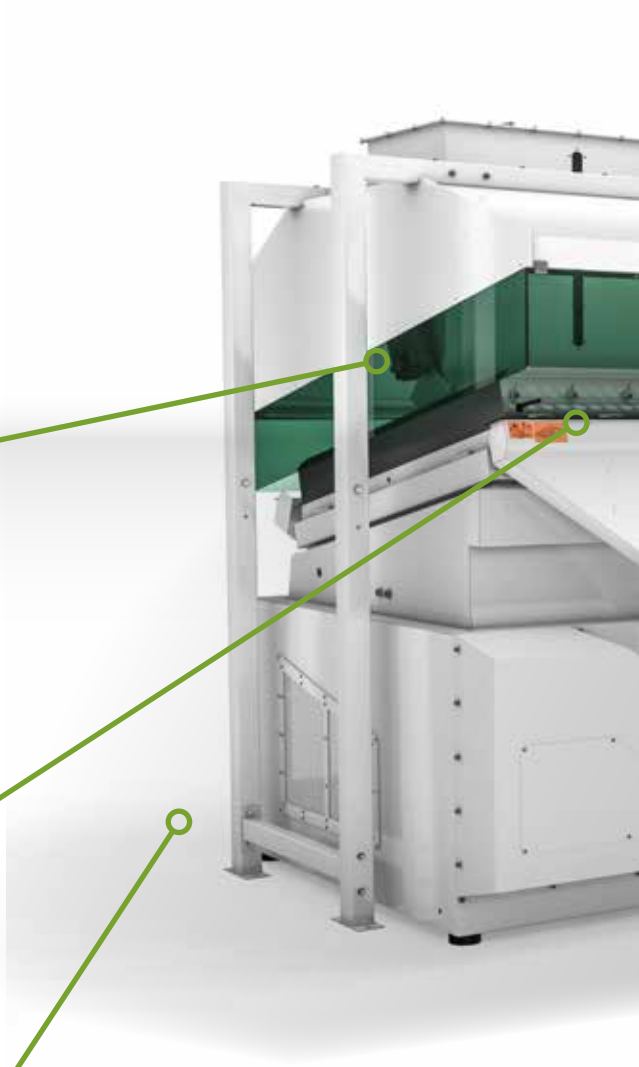


OPTION: AIR RECIRCULATION SYSTEMS

The air is pulled through the stoner by the fan and pushed into the dust separator where the dust is skimmed off before returning the clean air to the stoner via the air inlet hood. Inside the dust separator, the air flow is spiral. The dust and concentrated outer layer are forced through an adjustable slot and sucked into a general exhaust system or filter. The air volume that is removed from the system is replaced by air from around the stoner. The negative pressure in the system ensures that dust remains in the circuit. The amount of air leaving the system can be controlled by adjusting the width of the slot of the dust separator and controlling air velocity in the aspiration duct.

PRINCIPLE AND CONSTRUCTION - PRESSURIZED AIR SYSTEM

Grains or particles of almost identical size are fed continuously onto the separating deck to ensure a uniform bed of material over the entire width of the deck surface. For better feeding results, two decks with a separate pre-bin are used.
The deck is made fluid by means of a completely uniform pressurised air system that lifts the light material, while the heavy material sinks towards the bottom and comes into contact with the deck surface.
The machine consists of a self supporting steel section frame, holding the inclination frame (adjustable from 6 – 19°), which, in turns, holds the vibrating frame and the decks, all driven by a counterbalanced eccentric drive. Radial fans, which produce the necessary process air are mounted on the inclination frame within a fan housing and are driven by a central shaft. The dust-laden air is aspirated through the dust hood. The system is in a permanent state of negative pressure, thus preventing any dust from escaping.



INLET / PRE-BINS

The destoner is constructed with two decks with separate pre-bins to ensure better feeding results. An adjustable feeding rate is enabled by a flap driven by an electric motor that is steplessly adjustable by means of a potentiometer.

DECK SURFACE

The deck consists of 2 separate parts, thus enabling quick turnaround when changing varieties or for cleaning and maintenance purposes. The deck can be covered with 4 different types of wire mesh, each ideally suited to the product that is being processed on the machine. Large sight windows in the dust hood grant optimum process overview for the operator.

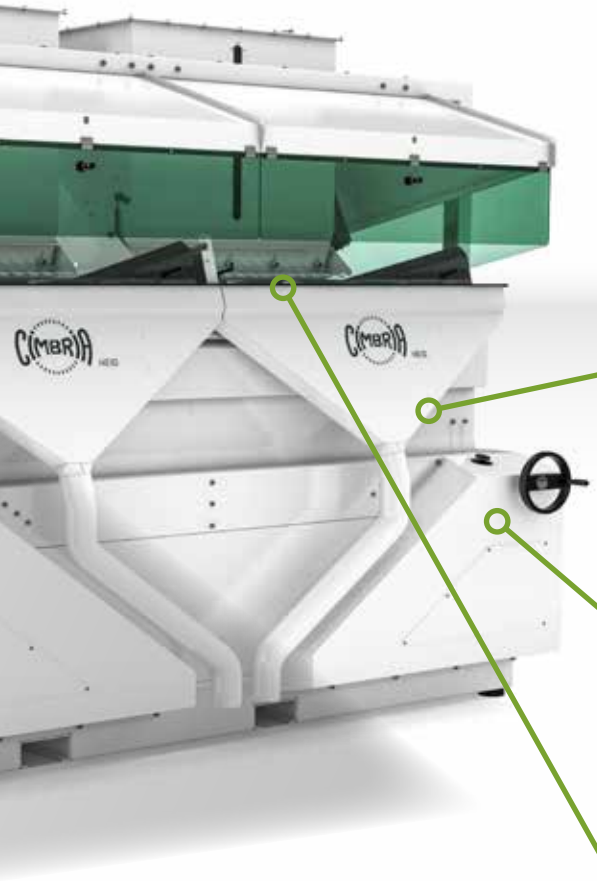
RADIAL FANS

The process air, necessary to separate the product into layers with different weight, is produced by radial fan wheels, all together fixed to a central shaft that is adjustable in terms of speed. The high pressure of the fan and its stepless adjustability mean that the machine can be precisely adjusted to suit any product to be sorted.

ADVANTAGES PRESSURIZED SYSTEM

- High capacity
- Easy to adjust
- Very precise sorting due to the advanced pressurized air system
- Simple feeding system
- Optimum aspiration

CONSTRUCTION AND PRINCIPLES BASED ON PROVEN TECHNOLOGY



ECCENTRIC DRIVE

The deck is powered by a well-balanced eccentric drive which moves the deck at low amplitude and high frequency.

EASE OF OPERATION

Adjustment of inclination and fan speed at a single central point with optimum view over the entire deck, thus enabling the operator to make quick and simple adjustments to the machine.

STONE OUTLET

At the stone outlet an adjustable reverse air flow zone is installed. This system is designed to prevent good product from being discharged through the stone outlet during operation by causing a strong reverse air stream that will blow good product back towards the clean product outlet.

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