| GB |

# SEA NEXT

## ELECTRONIC SORTING


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

# PROGRESS NEEDS PASSION FOR DETAILS


## STATE-OF-THE-ART TECHNOLOGY

Many years of experience has made Cimbria SEA a leading supplier of electronic sorting technology. When it comes to optimizing the crop qualities by sorting the grain and seed, the strong market position is a result of over 40 years of knowhow within development and production of optical electronic colour sorting equipment. This enables us to offer innovative and flexible sorting solutions based on a technical experience and a strong concept.

We offer the SEA Next colour sorter series, a result of state-of-the-art technology where traditional advantages have been improved with most advanced technology, whilst maintaining simplicity of use.

# WORKING PROCESS


## OPERATION

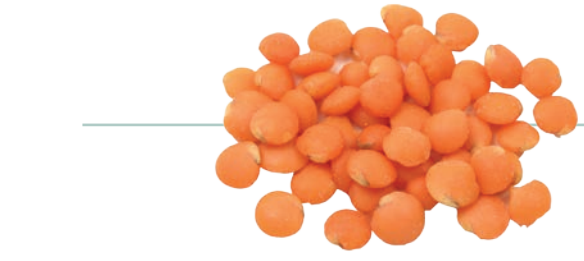
1 Input product is loaded into the in-feed hopper,
2 it moves along the vibrating plate
3 until it flows on to a sloping chute where it is individually checked and sorted by state-of-the-art cameras
4 (CCD cameras for standard version and
5 additional cameras for bichromatic, NIR and InGaAs versions) situated in the front and rear of the flow.

6 Depending on the signals received by the optical device, the sorter software controls the pneumatic device,
7 which physically separates the unwanted products out of the conforming ones which naturally reach their discharging hopper.

8 The rejected products are instead deviated by a jet of compressed air produced by the relevant ejector and discharged in the front side hopper.

In automatic re-pass versions, the sorted or rejected product is automatically conveyed to another section of the machine for undergoing an identical process.

Tilting optical boxes



# POSSIBLE CONFIGURATIONS

| MODEL | NEXT 1 | NEXT 1.5 | NEXT 2 | NEXT 3 | NEXT 4 | NEXT 5 | NEXT 6 | NEXT 7 |
|---|---|---|---|---|---|---|---|---|
| CONFIGURATION | | | | | | | | |
| VIBRATOR | 1 | 2 | 2 | 3 | 4 | 5 | 6 | 7 |
| CHUTE | 1 | 1.5 | 2 | 3 | 4 | 5 | 6 | 7 |
| CCD CAMERAS* | 2 to 4 | 2 to 4 | 4 to 8 | 6 to12 | 8 to 16 | 10 to 20 | 12 to 24 | 14 to 28 |
| EJECTORS | 54 | 77 | 108 | 162 | 216 | 270 | 324 | 378 |

* Number of cameras depends on configuration. It is possible to configure any model into monochromatic, bi-chromatic, NIR and InGaAs versions depending on different sorting requirements.


| MODEL | NEXT 1 | NEXT 1.5 | NEXT 2 | NEXT 3 | NEXT 4 | NEXT 5 | NEXT 6 | NEXT 7 |
|---|---|---|---|---|---|---|---|---|
| DIMENSIONS mm | | | | | | | | |
| WIDTH | 1560 | 920 | 1560 | 1560 | 1950 | 1950 | 2540 | 2540 |
| DEPTH | 1550 | 1715 | 1550 | 1550 | 1550 | 1550 | 1550 | 1550 |
| HEIGHT | 2100 | 2100 | 2100 | 2100 | 2100 | 2100 | 2100 | 2100 |
| WEIGHT kg. | 655 | 660 | 705 | 735 | 845 | 955 | 1150 | 1200 |
| POWER CONS. kW | 1.5 | 1.5 | 1.5 | 1.5 | 2.5 | 2.5 | 3.5 | 3.5 |
| AIR CONS AT 4 BAR l/sec | 8.4 | 12.6 | 16.8 | 25.2 | 33.6 | 42.0 | 50.4 | 58.8 |

The dimensions and technical data herein mentioned are indicative and subject to changes. We reserve the right to change them at any time without prior notice.

SEA custom CCD cameras allow the simultaneous setting of 4 sensitivity thresholds and adjustment of the defect size with optical resolution of 0.1mm

# MACHINE RANGE

NEXT 1.5

NEXT 4


NEXT 1


NEXT 5


NEXT 2


NEXT 6


NEXT 3


NEXT 7

# MAIN FEATURES

### UP TO 7 CHUTES
To satisfy even the highest production capacities.

### VERSATILE CONFIGURATION
Multiple and resort sorting passes set up;
Flexible and user-friendly adjustment and programming.

### LED RGB LIGHTING AND BACKGROUND
The full colour RGB Led, exclusively designed for SEA in association with one leading producer, allows the most precise focus of the beam on the inspection line;
Long lasting and reliability (over 100.000 h) and low heat dissipation.

### UP TO 28 CAMERAS FOR ANY OPTICAL CONFIGURATION
Up to 4 cameras per chute for monochrome, bi-chrome, NIR and InGaAs configurations, and with size control;
2048 Pixel CCD cameras allow the highest optical resolution for camera / inspection surface ratio (0.1 mm);
The optical system grants extreme flexibility in image processing, allowing the sorter sensitivity setting based on colour/transparency and dimension of the defects to separate;
Pixel Next CCD cameras have best possible signal/noise ratio.

### ELECTRONICS - HARDWARE
The hardware is organized in easy replaceable electronic boards, using the ultimate SMD and FBGA technology;
Self-control functions, such as auto-diagnosis and auto-calibration;
Back-up of the operating software by USB on board.
The high speed signal elaboration and communication to expulsion system allows an excellent performance.

### EJECTION SYSTEM
State-of-the-art ejectors guarantee most accurate precision and expulsion rapidity, producing highly concentrated rejects;
Extremely fast ejectors are guaranteed for more than 2 billion operating cycles and they can easily be repaired or replaced;
Blowers are directly placed on the ejectors pneumatic lung.

### NEW 15 INCHES COLOUR TOUCH-SCREEN DISPLAY
The Windows 7 embedded graphic interface assures an easy connection to company networks and to remote assistance systems.

### MECHANICAL DESIGN
Pressurized and conditioned optical boxes;
Airtight structure prevents dust and product outflow;
Easy product sampling collection;
The folding optical boxes enable the full opening of the sorter, facilitating its cleaning and maintenance;
SEA Next sorters are provided with standard flanges for de-dusting systems; additional pre-arrangement for aspiration system available as option.

### RELIABILTY
Remote control and on-line assistance from Cimbria headquarters;
Prompt technical interventions on site;
Programmed technical service contracts;
Servicing and spare parts centers in several countries;
Best references in the international markets.

### OTHER
CE certification of conformity can be combined with ATEX 22 certification (option)
Customized color (option)
Stainless steel (AISI 316L) version available (option)

EUROPEAN
TECHNOLOGY
MADE IN ITALY

# APPLICATIONS

Best optical resolution
- Minimum rejects
- High production

| SORTED | REJECTED | SORTED |
|---|---|---|
| Wheat | | Chickpeas |
| Rice | | Fava beans |
| Maize | | Roasted Coffee |
| Oat | | Green Coffee |
| Sorghum | | Pine nuts |
| Soya | | Pistachios |
| Barley | | Almonds |
| Millet | | Hazelnuts |
| Onion seeds | | Chestnuts |
| Sunflower seeds | | Salt and minerals |
| Lentils | | Plastic materials |

Testing centers are available in different countries for free of charge industrial tests.

A/S CIMBRIA
Faartoftvej 22
P.O. Box 40, 7700 Thisted
DENMARK
Phone: +45 96 17 90 00
holding@cimbria.com
www.cimbria.com

CIMBRIA S.R.L.
Via Colombarotto 2
40026 Imola BO
ITALY
Phone: +39 0542 361423
info@seasort.com
www.seasort.com

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