



# SEA.HY

OPTICAL SORTING





# Global pioneer in Optical Sorting.

To find the right optical sorter for your business, you need a partner you can rely on. One who understands your biggest sorting challenge, allows you to put their **solutions to the test** and offers **expert advice**.

You need **support at every stage of the selection** of the solution, installation and after-sales process. Cimbria has been helping customers succeed for more than 75 years. With a wide range of technologically advanced and user-friendly optical sorters to sort seeds, grains, food commodities and industrial products, you can feel confident you will get **the right system tailored to your business**.



## Beyond the visible.

Previously known as Hypersort, the **SEA.HY** Optical Sorter is ideal for food sorting applications and plays a leading role in the recycling industry worldwide. Using Hyperspectral Near-infrared cameras, SEA.HY excels with food like **almonds, hazelnuts, pistachios, and other nuts**; separating foreign bodies such as fragments of shells or stones, and other contaminants like wood, glass and plastics. SEA.HY combines **high resolution RGB Full-Colour** with SWIR cameras for maximum purity and food safety even in the most challenging sorting applications with elements **sized from 2 to 30 mm**.

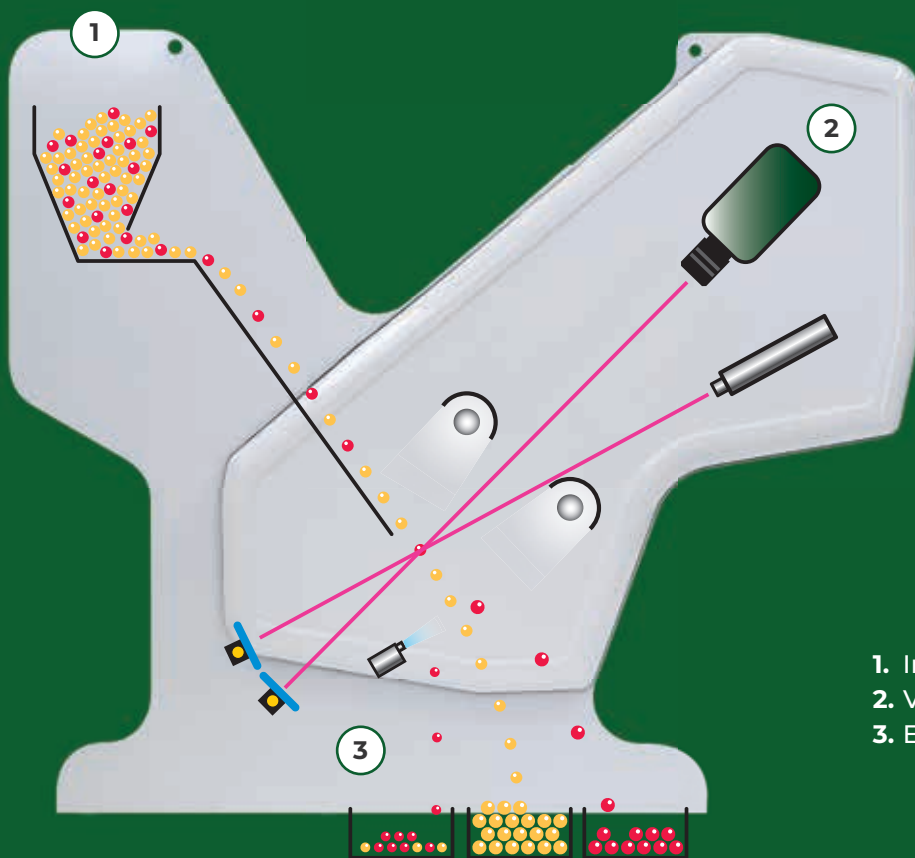
In industrial applications, SEA.HY is the right choice for added value processes and makes the **recycling of different polymers** possible. The separation of different polymers that have the same colour has always been a challenge in dry processing, as the polymers cannot be visually distinguished. Now, thanks to SEA.HY, all **PET, PVC, PE, PP, PS** or other polymers can be recycled in order to conform to the purity standards required in the market today.



# The vision system.

- **SEA.HY** is equipped with advanced IR spectrometry **sensors able to recognize the difference in materials based on their specific and unique chemical properties**. This extremely precise selection is carried out through the specific spectral properties of the light reflected by the relevant elements.
- The ability of the hyperspectral infrared sensors (SWIR) to “see beyond the visible” allows SEA.HY to separate foreign bodies with the same color

and shape of the compliant products, such as fragments of shells, stones, wood, glass. Optimal sorting efficiency is achieved through **the best SWIR technology available**, combined with **the most advanced RGB Full Color technology** in high resolution cameras.



1. In-feed system
2. Vision system
3. Ejection system



# Characteristics.

## 01. IN-FEED SYSTEM

- The in-feed system ensures ideal product upload. It can be separated into two sections in order to handle different sizes of material

## 02. VISION SYSTEM

- The SWIR camera, combined with full-colour technology allows the identification of material to be sorted by type and colour as well as by the hyperspectral nature of the elements, beyond human eyes
- RGB camera snapshots rate can reach 18.000 times/sec

## 03. EJECTION SYSTEM

- State-of-the-art ejectors guarantee maximum precision and expulsion, producing highly concentrated rejects
- Rapid-firing ejectors are guaranteed for more than 2 billion operating cycles and can easily be repaired or replaced
- SEA.HY specially designed ejection devices grant optimal expulsion of the rejects by precisely addressing them to the discharging hopper

## 04. ELECTRONICS

- High-speed signal elaboration and communication to the ejection system ensures excellent performance
- Self-control functions, such as self-diagnosis and self-calibration ensure consistent sorting performance

## 05. MECHANICAL DESIGN

- The pressurized and conditioned optical boxes keep sensitive parts safe from any infiltration of dust
- SEA.HY automatic cleaning system can be programmed based on working environmental conditions
- The built-in conditioning system enables the electronics to work at appropriate operating temperatures



SCAN THE QR  
TO SET UP  
YOUR TRIAL

## PUT US TO THE TEST

Send us your toughest sorting challenge. Cimbria's multiple testing centers are available for customizable lab trials worldwide. Let our experts recommend the best solution.



Food



Recycling







# Fast, Intuitive, Connected. Exagon™ HMI.

Simplified screens, increased visibility and improved graphics makes it easy to control set dedicated programs.

Quickly create efficient programs using your password to retrieve data remotely and optimize performance. The customizable home screen ensures your machine is set for the way you operate. The same programs can be uploaded to multiple machines with a single database.

Thanks to OPC protocols, SEA.HY can be **connected to your company's network** and remote assistance for real-time information exchange and solutions **compliant with the most modern industrial processes**.



# Service first.

## CERTIFICATIONS



- CE conformity certificate
- 2006/42/CE on machinery safety
- 2014/30/CE on Electromagnetic Compatibility
- Compatible with UL and CSA standards

Cimbria and its authorized local partners offer exclusive and **qualified after-sales service**. This includes spare parts, regular maintenance and plant check-ups.

SEA.HY is supplied and installed by Cimbria's highly-skilled technical staff, who you can rely on for in-person training, remote assistance and annual maintenance services.

**Cimbria, an expert at your side.**

## MACHINE TECHNICAL DATA

			M	L
				
Dimensions	Length	mm - inch	1330 - 52.40	1960 - 77.20
	Width	mm - inch	1980 - 78	
	Height	mm - inch	1780 - 70.10	
Weight		Kg - lbs	970 - 2138	1250 - 2757
Standard vibrating feeder			2	4
Chute width 300 mm for chute			2 x 300 = 600	4 x 300 = 1200
Hyperspectral SWIR cameras			1	2
Full-Color RGB cameras			1	2
No. ejectors / chutes			126	252
Compressed air consumption (max value at 6 bar)		l/min - m <sup>3</sup> /h	1700 - 102	2500 - 150
Power supply / Frequency		V/Hz	230 / 50 - 1 Ph (L + N + PE)	
Power absorption - Power consumption (max. value)		A - kVA	5.2 - 1.2	7.9 - 1.8



PLEASE DOWNLOAD THE DATA SHEET FOR MORE TECHNICAL INFORMATION



Cimbria.com

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