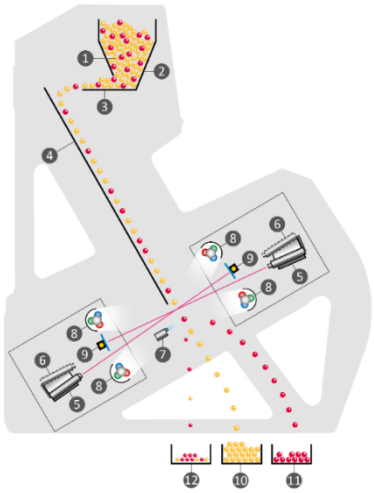
Optical Sorting

SEA.CX UV

The SEA.CX UV optical sorter contributes to making many products destined for human consumption pure, where compliance with the most stringent hygienic and sanitary requirements is needed. The ultraviolet vision system makes it possible to identify and remove products affected by particular toxigenic strains, microscopic fungi and other defects. SEA.CX UV can recognize crystalline substances, colorless in natural light but fluorescent under UV light.



PROCESS

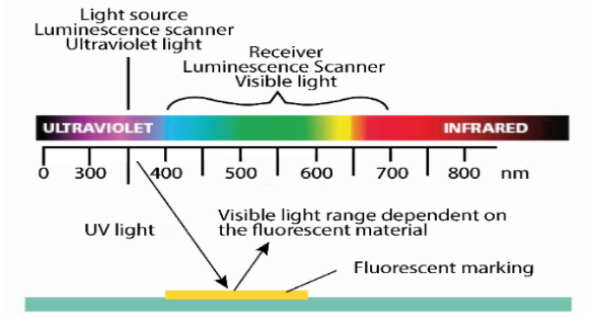
1. **Product to sort**
2. **In-feed hopper**
3. **Vibrating feeder**
4. **Feeding chute**
5. **RGB Full-Color and/or UV cameras**
6. **NIR and/or UV cameras** (option)
7. **Ejectors**
8. **Lights**
9. **Backlights**
10. **Sorted flow output**
11. **Reject flow output**
12. **Bounce output**

MAIN CHARACTERISTICS

- Up to 4 sections for simultaneous resorting
- Available configured with re-sorting, re-resorting or reverse sorting
- Image acquisition perfectly conform to reality
- Color analysis like that of the human eye
- Can be controlled and reprogrammed even remotely with the customer's specific recipes

OPTICAL SYSTEM

- SEA.CX standard version has RGB Full-color cameras (front and back) with 4096 pixels working in the visible spectrum. The inspection system recognizes 16 million colors that combined to 0.06 mm optical resolution sees almost as the human eye
- Scan rate up to 15,000 Hz
- Optical resolution 0.06 mm (60 µm)
- The software controls 14 families of defects
- Shape-sizing integrated into the system
- Defect size control and adjustment
- Active LED light and background



UV CHARACTERISTICS

The use of UV LED lights allows detecting imperfections of the product that are not recognizable by the human eye.

Illuminated by ultraviolet light the separation of the product becomes possible as the defective one appears fluorescent

Detection of mycotoxins in maize

Compliant product

Non-compliant product

Detection of fluorescent defects in coffee

Compliant product

Non-compliant product

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TECHNICAL CHARACTERISTICS

- Cimbria UV sorters use UV LED illuminators that emit continuous light and have the following features:
  - high reliability
  - long duration
  - high efficiency
  - low consumption
- The operating principle is based on the detection of the fluorescence of the product excited by an ultraviolet light beam

TECHNICAL DATA

- The SEA.CX sorter uses cameras equipped with a particular sensor that recognizes the luminescence. Thanks to the specifically designed software it is therefore possible to separate the materials that are fluorescent to the vision system
- White RAL 9003 Standard (custom colors as option)
- Working temperature in workrooms min +5°C max+35°C
- IP 55 protection
- CE conformity certificate
- 2006/42/CE on machinery safety
- 2014/30/CE on Electromagnetic Compatibility
- Compatible with UL and CSA standards
- ATEX standards Certificate (option)
- Sorting machine in stainless steel AISI 316 L (option)

SEA.CX CONFIGURATION

Front		Back	Main Application	Notes
UN	+	**UN**	**Maize sorting**	**This configuration reduces the contamination of products infected by aflatoxins**
TU	+	**TU**	**Coffee sorting**	**Can sort by color, and recontrol the product by means of UV**
TU	+	**TU**	**Oats sorting**	**Can divide two different types of hull oats but with different fluorescence**

T= RGB Full-Color Camera / N=NIR Camera / U=UV camera

MACHINE TECHNICAL DATA

		0,5	1	1,5	2	3	4	5	6	7
										
No. of vibrating feeders/chutes		1	1	1.5	2	3	4	5	6	7
No. of cameras (front+back)		2	2-4	2-4	4-8	6-12	8-16	10-20	12-24	14-28
No. ejectors/chutes		27	54	81	108	162	216	270	324	378
Compressed air consumption (max value at 6 bar)	l/min	150	300	450	600	900	1200	1500	1800	2100
	m³/h	9	18	27	36	54	72	90	108	126
Compressed air hose	Ø	1"								
Power supply/ frequency	V/Hz	230/ 50 - 1 Ph (L + N + PE)								
Power consumption (max. value)	kVA	0,8	0,8	0,8	1.5	1.5	2.3	2.3	2,8	2,8
Power absorption (max. value)	A	3,1	3,1	3,1	6,4	6,4	9,7	9,7	11,8	11,8

DIMENSIONS (mm/ in) & WEIGHT (Kg/ lbs)

	0,5		1		1,5		2		3		4		5		6		7	
	mm	**in**	**mm**	**in**	**mm**	**in**	**mm**	**in**	**mm**	**in**	**mm**	**in**	**mm**	**in**	**mm**	**in**	**mm**	**in**
Length	935	36,81	935	36,81	935	36,81	1510	59,44	1510	59,44	1915	75,39	1915	75,39	2465	97,04	2465	97,04
Width	1690	66,53	1690	66,53	1690	66,53	1690	66,53	1690	66,53	1690	66,53	1690	66,53	1690	66,53	1690	66,53
Height	2100	82,67	2100	82,67	2100	82,67	2100	82,67	2100	82,67	2100	82,67	2100	82,67	2100	82,67	2100	82,67
	Kg	**lbs**	**Kg**	**lbs**	**Kg**	**lbs**	**Kg**	**lbs**	**Kg**	**lbs**	**Kg**	**lbs**	**Kg**	**lbs**	**Kg**	**lbs**	**Kg**	**lbs**
Weigh	700	1543	750	1653	800	1764	1000	2205	1060	2337	1250	2756	1300	2866	1600	3527	1650	3638

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