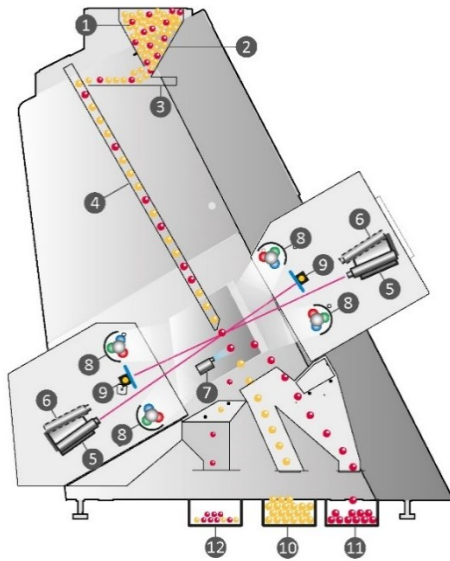
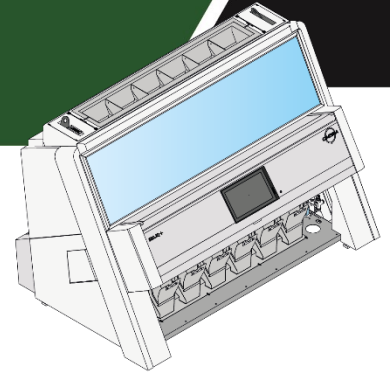




Optical Sorter

SEA.IQ PLUS UV

The entry-level version of the **SEA.IQ PLUS UV color sorter** is equipped with advanced sorting technology, capable of precisely detecting defects RGB visible spectrum and UV fluorescence **integrated with SWIR multi-spectral cameras** to meet the highest quality standards in any application



OPERATION

1. Product Input
2. Loading hopper
3. Vibratory plate
4. Feed chute
5. Full-Color and UV cameras
6. InGaAs Cameras (Optional)
7. Solenoid valves
8. Lighting
9. References
10. Product output is compliant
11. Product outfeed rejected
12. Bounce out



Grano



Cereali



Semi



Legumi



Caffé



Noci

KEY FEATURES

- Up to 4 sections for simultaneous review
- Offers configurations for single review, double review, and reverse sorting
- Image acquisition perfectly in line with reality
- Color analysis such as that of the human eye
- It can also be controlled and reprogrammed remotely with customer recipes

ELECTRONICS

- Electronic boards are designed for easy replacement
- Self-diagnostics and self-calibration optimize operational performance
- An Ethernet connection enables real-time remote monitoring and support
- OPC system (optional)

POP-UP SYSTEM

- Standard 5 mm pitch with 63 solenoid valves per channel.
- Optional 3.3 mm pitch with 96 solenoid valves per channel.
- Solenoid valves operate at up to 1,000 cycles/s, guaranteed for 2 billion cycles.
- Ejection time and duration can be customized via software settings.

OPTICAL SYSTEM

- The base version uses Full Color RGB cameras with visible and ultraviolet lighting. UV light stimulates fluorescence in specific chemicals, producing visible light to differentiate products that appear identical under white light.
- The inspection system supports 24-bit color depth (16 million colors) with an optical resolution of 0.1 mm, surpassing human vision.
- Optional SWIR InGaAs cameras enhance detection of specific material properties.
- Additional SWIR InGaAs cameras
- The software can check up to 14 customized groups of defects
- Shape-sizing integrated into the system
- Check and adjust defect sizes
- Illumination and references to active LEDs
- High precision with the advanced **BRAIN™**

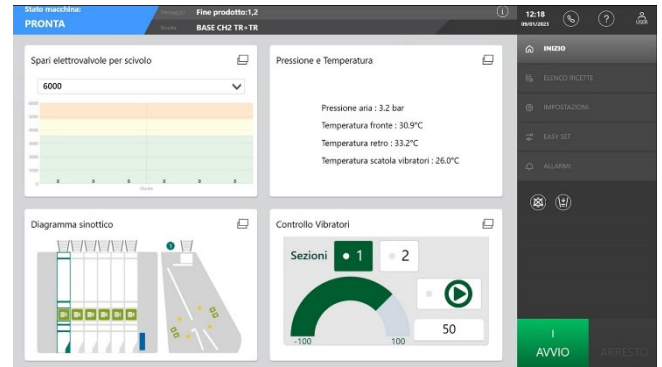
MECHANICS

- 320mm wide slides
- Available from 1 to 6 channels
- Splitting a channel into 50/50 (optional)
- The pressurization and the airtight structure prevent dust from entering
- Programmable automatic cleaning system
- The cooling system ensures the ideal temperature inside the optical boxes
- Easy maintenance and cleaning
- Preparation for connection to the intake system

SEA.IQ PLUS UV

HMI

- Windows 10® provides user-friendly operation and seamless integration with customer networks.
- 21.5" HD color touchscreen ensures clear visibility, even in low-light conditions.
- Intuitive graphics and multilingual interface for quick and easy recipe programming and control
- Easily customizable recipes with no storage limit, named according to the operator's needs
- Mark-good/mark-bad function*
- Out of good programming mode*
- Active synoptic system with machine status (vibrators and sensitivity)
- Machine health and production capacity control
- Real-time statistics (e.g. scrap/s, throughput, reject/channel, etc.)
- Data backup
- Crop control inside the hopper (level sensors)
- PLC status
- Alarms and instructions to restore functionality



SEA.IQ PLUS CONFIGURATIONS

Model	Configuration	Step
SEA.IQ PLUS	Integrated Full-Color +NIR RGB (Duplex)	5mm
SEA.IQ PLUS R	Full-Color RGB +Integrated NIR (Duplex) + 2W/3W SWIR (back)	5mm
SEA.IQ PLUS RR	RGB Full-Color +Integrated NIR (Duplex) + SWIR 2W/3W (Duplex)	5mm
SEA.IQ PLUS RIGHT	Full-Color RGB + Integrated NIR (Duplex)	3,3mm
SEA.IQ PLUS RS	Full-Color RGB +Integrated NIR (Duplex) + 2W/3W SWIR (back)	3,3mm
SEA.IQ PLUS RRS	RGB Full-Color +Integrated NIR (Duplex) + SWIR 2W/3W (Duplex)	3,3mm
SEA.IQ PLUS V	Full Color RGB + Integrated UV (Duplex)	5mm
SEA.IQ PLUS VR	Full Color RGB + Integrated UV (Duplex) + 1W SWIR (back)	5mm
SEA.IQ PLUS VRR	RGB Full Color + Integrated UV (Duplex) + SWIR 1W (Duplex)	5mm
SEA.IQ PLUS VS.	Full Color RGB + Integrated UV (Duplex)	3,3mm
SEA.IQ PLUS VRS	Full Color RGB + Integrated UV (Duplex) + 1W SWIR (back)	3,3mm
SEA.IQ PLUS VRRS	RGB Full Color + Integrated UV (Duplex) + SWIR 1W (Duplex)	3,3mm

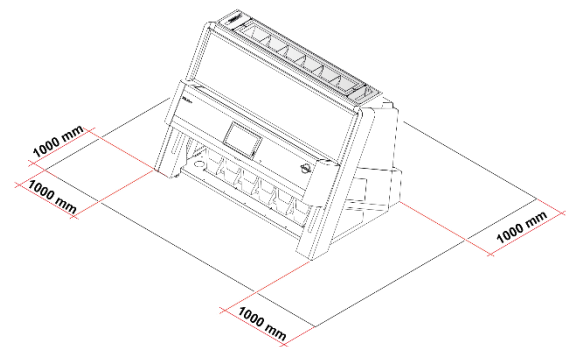
* Configuration upgrade available

EXTERNAL EQUIPMENT REQUIRED FOR CORRECT OPERATION*

- Power supply: 230 V – 50/60 Hz
- Voltage stabilizer (strictly necessary)
- Pneumatic system consisting of rotary compressor, reservoir, filters and dehumidifier class:
 - ISO 8573-1:2010 [5:4:3] FOR NON-FOOD PRODUCTS*
 - ISO 8573-1:2010 [1:2:1] FOR FOODSTUFFS*¹
- Compressed air supply pipe with a minimum diameter of 1"
- Support frame (1 meter minimum free space per side)
- Loading and unloading hoppers (optional supply of Cimbria)
- Product transport systems
- High speed internet connection

* The customer must provide and install the above

*¹ minimum legal requirements



* Leave at least one meter of free space around the sorter



Optical Sorter

SEA.IQ PLUS UV

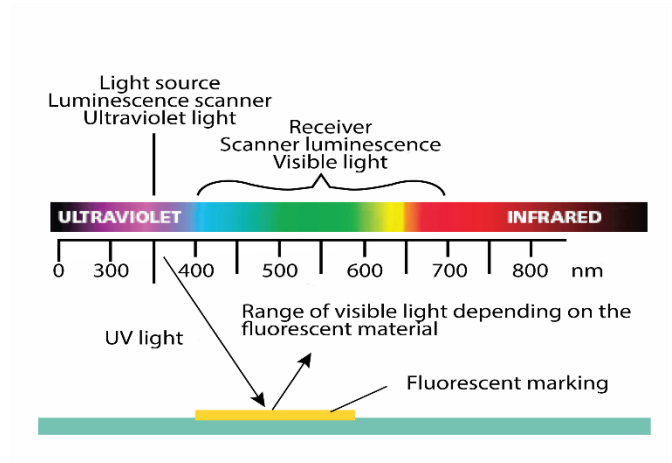
UV CHARACTERISTICS

The **SEA.IQ PLUS UV sorter** guarantees maximum hygiene by combining full-color / hyperspectral vision with an innovative **UV system**. The latter is essential for food safety, as it identifies and removes invisible contaminants (such as toxigenic fungi and **UV fluorescent crystalline substances**), ensuring unparalleled purity of the final product

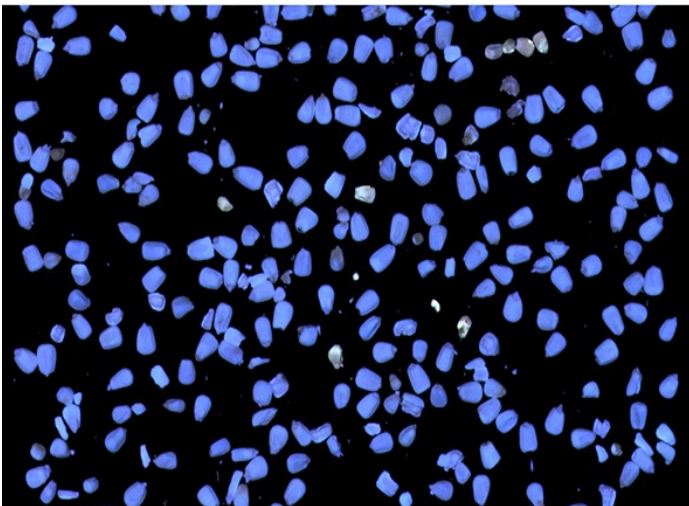
OPTICAL SYSTEM

The use of **UV LED technology** enables the detection of product defects that are invisible to the human eye. When exposed to ultraviolet light, the defective material emits a characteristic fluorescence that makes clear and accurate separation possible.

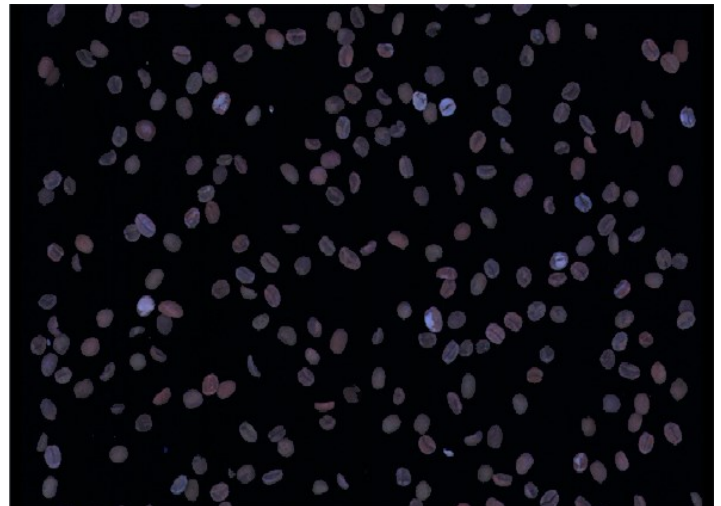
- **Sea.IQ PLUS UV sorters** use continuous UV LED illuminators with the following characteristics:
 - High reliability
 - Long service life
 - High efficiency
 - Low power consumption
- The working principle is based on the detection of the fluorescence of the product hit by a beam of ultraviolet light. It is a precision technique that illuminates seeds, for example of corn and coffee, with UV light and analyzes the fluorescence emitted by internal compounds.



Detection of mycotoxins in maize



Find fluorescent defects in coffee





Optical Sorter

SEA.IQ PLUS UV

TECHNICAL DATA

- Standard color: White RAL 9003 (custom colors available)
- Operating temperature range: 5°C to 35°C
- IP55 protection rating
- EC certificate of conformity
- 2006/42/EC on machine safety
- 2014/30/EU on electromagnetic compatibility
- Compatible with UL and CSA standards
- ATEX Standard Certificate (option)
- MOCA Certificate (option)

SORTING TECHNICAL DATA

		1	2	3	4	5	6
No. of Vibratory Feeders / Channel		1	2	3	4	5	6
No. of Cameras (Duplex)		2-4	4-8	6-12	8-16	10-20	12-24
No. of solenoid valves/5mm pitch channel		63	126	189	252	315	378
No. of solenoid valves/3,3mm pitch channel		96	192	288	384	480	576
Compressed air consumption (max. 6 bar)	l/min.	320	640	960	1280	1600	1920
	m³/h	19	38	58	77	96	115
Compressed air pipe	Ø [inch]	1 in.					
Power/ frequency	V/Hz	230V – 50/60Hz					
Current consumption pitch 5mm (max. value)	TO	4	5,9	9,8	11,7	14,6	16,5
Power consumption pitch 5mm (max. value)	KW	0,9	1,3	2,1	2,5	3,2	3,6
Current consumption pitch 3,3mm (max. value)	TO	4,3	6,6	10,9	13,1	16,4	18,7
Power consumption pitch 3,3mm (max. value)	KW	1	1,5	2,3	2,8	3,6	4
Intake manifold	no.	1	2	2	2	2	2
Manifold diameter	Ø [mm]	100	100	118	118	118	118

INTAKE SYSTEM

	1		2		3		4		5		6	
	m³/h	l/min.	m³/h	l/min.	m³/h	l/min.	m³/h	l/min.	m³/h	l/min.	m³/h	l/min.
Air intake	500	8333	1000	16667	1500	25000	1500	25000	2500	41667	2500	41667

*For proper use of the suction system consider a head of 300mm H₂O (~0.015 bar)

**Minimum flow rates required for the machine to process a highly polluted product

DIMENSIONS (mm/in)

	1		2		3		4		5		6	
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
Width	1720	67,71	1720	67,71	2400	94,49	2400	94,49	3100	122,04	3100	122,04
Depth	1887	74,29	1887	74,29	1887	74,29	1887	74,29	1887	74,29	1887	74,29
Height	2090	82,28	2090	82,28	2090	82,28	2090	82,28	2090	82,28	2090	82,28

WEIGHT (kg/lbs)

	1		2		3		4		5		6	
	Kg	lbs	Kg	lbs	Kg	lbs	Kg	lbs	Kg	lbs	Kg	lbs
Weight	970	2138	1050	2315	1220	2690	1500	3307	1520	3351	1600	3527