

SINCE
2080

Science of Seed Processing



OPTICAL COLOR SORTER OPTISORT SERIES

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OPTICAL COLOR SORTER

ADDAMS is more than the equipment we produce. We are professionals who thrive on building creative solutions to bring your vision to life. We've been doing it since '2080'. We combine the right technology with the right team to get it all together. Our purpose is your success. You can feel confident because you have an expert by your side to help you grow into the future.

To find the optimal cleaning process for your business, you need a partner who understands your unique challenges and provides expert support. **ADDAMS** has been helping customers succeed for more than 15 years. With a wide range of accurate and effective Seed Processing Equipment for grain, seed, feed, and food, you can feel confident with an expert at your side to help you grow into the future.

ADDAMS is one of the world's leading suppliers of Seed processing solutions. Based on our in-house technology and experience, we can undertake the complete design and supply of turnkey seed processing projects. You can count on our experts throughout the entire process. When designing process plants and solutions, we utilize our expertise to ensure that all components of a plant work together seamlessly and that daily operations and subsequent maintenance run as smoothly as possible. Robust project management assures the safety inherent in our products and project execution. From the placement of your order to the end of your warranty, you have an experienced and dedicated senior project team at your side.

Hi-Tech Made Easy.

With global industry experience, **ADDAMS** makes high-tech simple. **OPTISORT** has the right technology to help you deliver the highest quality. Suitable for a wide range of products, including those for human consumption, animal feed or non-food commodities. The multispectral vision system, equipped with RGBN cameras, scans the visible and invisible portions of the spectrum. Like all **ADDAMS** optical sorters, **OPTISORT** has been designed to maximize energy efficiency.

What is an Optical Color Sorter?

Optical Sorters are among the newest technology in seed and grain processing. This equipment separates particles based on color and is often found at or near the end of the processing line, after mechanical separations, to remove impurities of similar size and density.

At **ADDAMS**, **OPTISORT** offers a comprehensive range of optical sorters. Machines are available with one to ten chutes. The technology range includes a simple monochromatic version, biochromatic, NIR, RGB Full Color, and now Shape Sizing.

Colour sorting is necessary nowadays to ensure the highest purity of bulk products, as well as to meet the strictest food hygiene and health requirements of end-products.

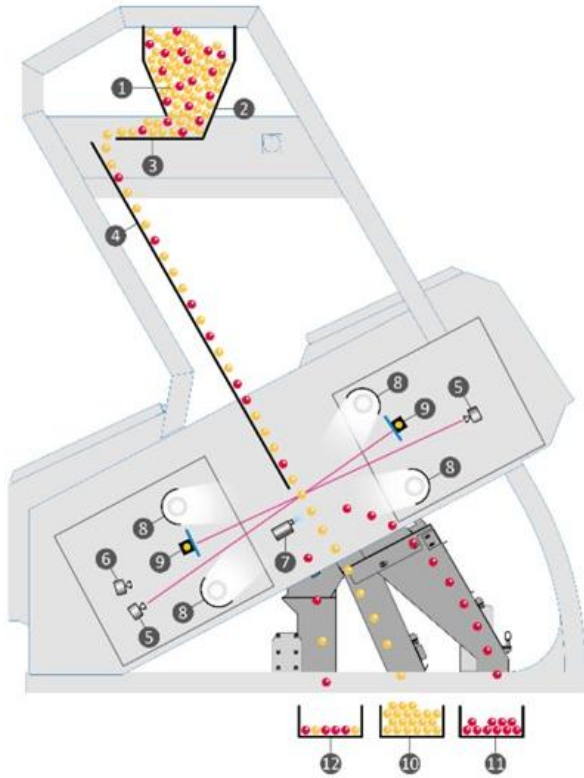
OPTISORT is equipped with smart, Full-color RGB cameras and, if required, integrated NIR. Compared to the set parameters, the images of each element are processed and identified as conforming, defect or foreign elements. The defect parameters are adjustable from acceptable to imperfections. The vision system converts the RGBN measurements into an HSI color area to maximize the ability to "see" products.

OPTISORT can be equipped with additional cameras featuring NIR technology to optimize performance.

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The Vision System.



PROCESS

1. Product to sort
2. In-feed hopper
3. Vibrating feeder
4. Feeding chute
5. RGBN (Full-Color+NIR) cameras
6. InGaAs cameras (option)
7. Ejection system
8. Lights
9. Backlights
10. Sorted product output
11. Reject output
12. Bounce output

MAIN CHARACTERISTICS

- Up to 4 sections for simultaneous resorting
- Available configurations with re-sorting, re-resorting or reverse sorting
- Image acquisition perfectly consistent with reality
- Can be controlled and reprogrammed even remotely with the customer's specific recipes

ELECTRONICS

- Organized in easily replaceable electronic boards using the latest technology
- Self-control functions (self-diagnosis and self-calibration) guarantee excellent operational stability
- The Windows 10® embedded graphic interface assures an easy connection to company network and to remote assistance systems
- Ethernet connection allows real-time monitoring and web-based remote assistance

EJECTION SYSTEM

- No. 54 solenoid valves per chute
- Ejectors working speed up to 1,000 cycles/s guaranteed up to 2 billion opening/closing cycles

- Ejection time and duration adjustable according to needs

OPTICAL SYSTEM

- The **OPTISORT** standard version is equipped with 4096-pixel full-color RGB+NIR smart cameras (front & back) working in the visible and infrared spectrum
- Scan rate: 25.000 scan/s
- Optical resolution: 0.06 mm
- The software can control 7 families of defects
- LED lighting and active background

MECHANICS

- Available from 1 to 7 chutes
- Reversible chutes
- Tilting optical boxes simplify cleaning and maintenance
- Pressurization and airtight structure prevent dust from entering
- Automatic programmable cleaning system
- Cooling system to grant the ideal temperature inside the optical boxes
- Pre-arrangement for the intake system installation

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MACHINE TECHNICAL DATA

		1	2	3	4	5	6	7
No. of feeders/chutes		1	2	3	4	5	6	7
No. of cameras (front+back)		2-3	4-6	6-9	8-12	10-15	12-18	14-21
No. Solenoid valves/chutes		54	108	162	216	270	324	378
Compressed air consumption (max. Value at 6 bar)	l/min	300	600	900	1200	1500	1800	2100
Compressed air consumption (max. value at 6 bar)	m ³ /h	18	36	54	72	90	108	126
Compressed air hose	∅	1"						
Power supply/ frequency	V/Hz	230V-50/60Hz-1Ph(L+N+PE)						
Maximum current*	A	1,6	2,6	2,8	4,6	4,8	5,7	5,9
Maximum power*	Kw	0,36	0,60	0,65	1,05	1,10	1,34	1,38

* *The values indicated are calculated to process a highly polluted product

ASPIRATION SYSTEM

	1		2		3		4		5		6		7	
	m ³ /h	l/min	m ³ /h	l/min	m ³ /h	l/min	m ³ /h	l/min	m ³ /h	l/min	m ³ /h	l/min	m ³ /h	l/min
Extraction	500	8330	1000	16665	1000	16665	2000	33330	2000	33330	3000	50000	3000	50000

* The user must ensure, near the intake vents, an air head equal to 150 mm H²O

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

DIMENSIONS (mm)

	1	2	3	4	5	6	7
	mm	mm	mm	mm	mm	mm	mm
Length	1095	1705	1705	2125	2125	2675	2675
Width	1695	1695	1695	1690	1690	1690	1690
Height	2200	2200	2200	2200	2200	2200	2200

ADDAMS and its authorized local partners offer an exclusive after-sales service, providing qualified assistance at all times. The after-sales service not only includes the supply of spare parts but also provides support for routine maintenance and plant check-ups. **OPTISORT** is supplied and installed by **ADDAMS**'s highly skilled technical staff. You can rely on them every step of the way, with in-person training, remote assistance, and annual maintenance services.

ADDAMS, an expert at your side.

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