

PINPOINT
ACCURACY
OF SORTING



SMART SORT B series

1 to 3 chutes

SmartSort[®] is a top-of-the-line model of the color sorter that incorporates the latest developments of the company. It was designed for the clients looking for the “pinpoint” accuracy of sorting even if the initial content of impurities is high and greater productivity without resorting is required.

SmartSort[®] color sorters achieved a strong position in the highly competitive European market.

SmartSort[®] is suited for sorting food and non-food bulk products as well as for difficult color sorting applications. Thanks to the new **CSort Cloud** platform, the operator is now able to monitor and control the technological process of sorting.

IMPRESSIVE CAPABILITIES

Detection of small defects up to 0.05 mm

SmartSort[®] is equipped with a new 5400 pixel camera designed to receive high-definition images.

Distinction of subtle color variations between accepted and rejected products

Ultra-bright LED lighting in the inspection area of the color sorter SmartSort B allows differentiating color shades and provides greater performance for difficult applications.

SORTING RESULTS

Wheat from barley



Accepted

Rejected

Mustard



Accepted

Barley from mealy wheat (by vitreousity)



Accepted

Rejected

Rape seeds



Accepted

Sorting by inner properties

Machines equipped with different types of cameras are able to detect not only visible defects but also the defects hidden from human eyes in infrared light.

Improved performance for the commodities with the high content of impurities

SmartSort[®] incorporates enhanced inspection and ejection systems increasing concentration of defective product to avoid re-sorting in most cases.

Simpler and quicker adjustment of SmartSort[®]

Intelligent system creates the sorting program according to the proposed samples of accepted and rejected products that simplifies and speeds up the adjustment of the color sorter.

More efficient operation of sorting machine

New software collects statistics on productivity, downtime, production load and equipment operating modes. This information facilitates decision-making on sorting program management.

Reliability

New software provides access to the remote control of the equipment, technical support of the service center and life control of the equipment units. It guarantees the quality of sorting and decreases equipment downtime due to preventative and predictive maintenance.

For our equipment we select the best components of such brands as **SMC, Mitsubishi, Festo, Matrix, Eles+Ganter and LAPP.**

CSort machines are manufactured at the company's factory using high-precision German equipment. Eurasian and European certificates of conformity confirm the compliance with the safety standards.



Rejected



Accepted



Rejected

Transparent plastic pellets from non-transparent ones



Rejected



Accepted



Rejected

Wheat from black head mold

KEY FEATURES OF NEW SmartSort^B



Advanced inspection and ejection systems

New inspection and ejection systems ensure greater productivity for more concentrated waste even if the content of impurities is high. This aspect is crucially important in seeds production where quality standards are highly demanding.

Excellent sorting accuracy



High resolution camera

5400 pixels allows **0.05 mm** optical resolution to detect the smallest defects. It has 2,6 times higher sorting accuracy than was before. High resolution provides color sorters with an ability to detect and reject grains having similar color but with different textures. Moreover, now it is possible to sort by shape removing malformed or split grains.

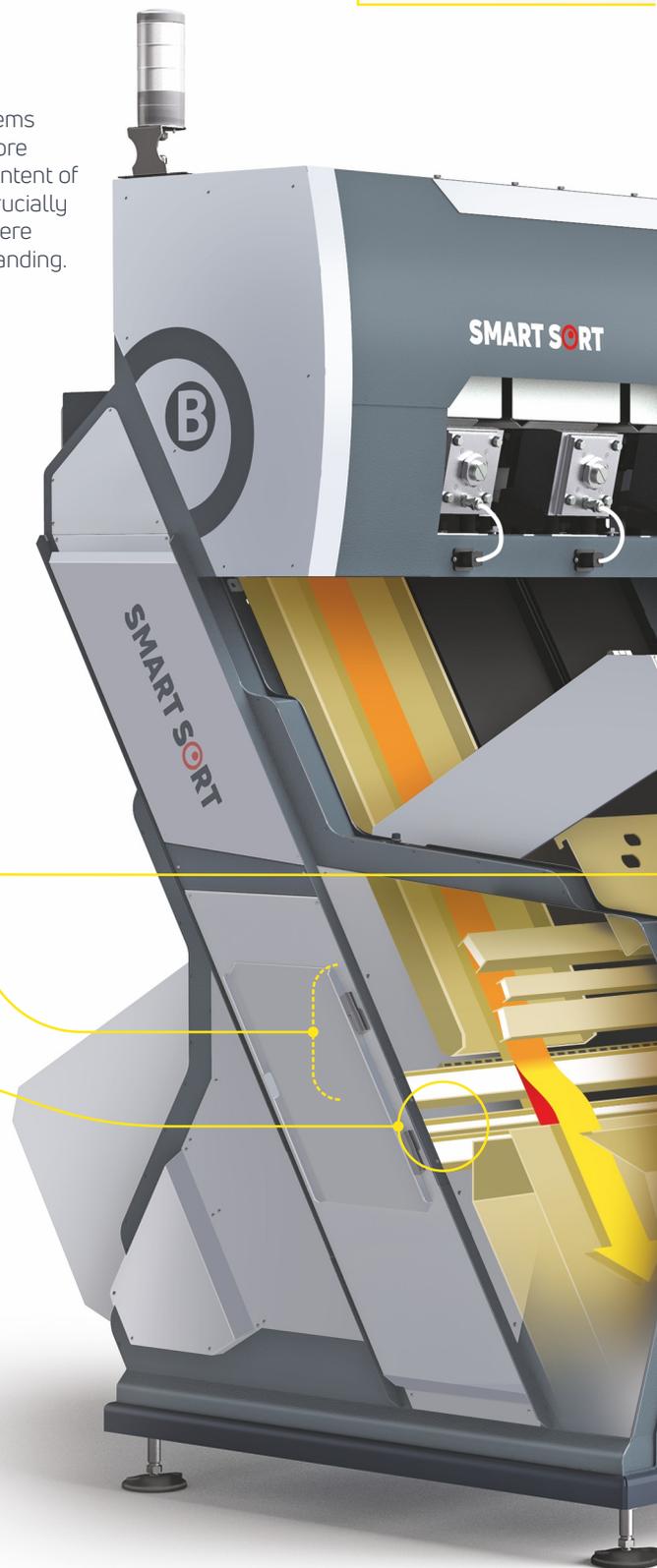
Powerful lighting

Powerful LED lighting and low signal-to-noise ratio allow to distinguish the smallest shade differences of the products that was previously impossible.

Due to upgraded lighting it is now possible to "penetrate" inside the product and reflect its content and defects hidden from the human eye. It opens new opportunities in sorting hulled and unhulled grains, dried fruits with and without stones, mealy and vitreous wheat, and plastic by its transparency.

New lighting has stable parameters. It ensures faster adjustment of the machine by transferring parameters set to one chute to the whole machine.

x4 brighter lighting



Extended recognition capabilities

Simultaneous 4 sides shooting with RGB and IR cameras ensures analyzing and sorting products by color, shape, texture, and inner properties. For instance, soring nuts from shells, removing rancid sunflower kernels or separation of mineral admixtures from grains.

Fast and smart program setting

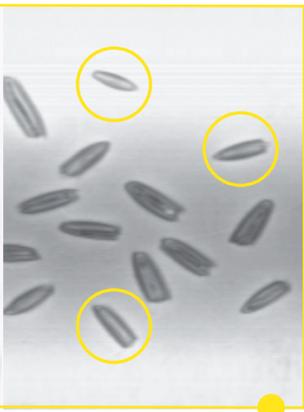
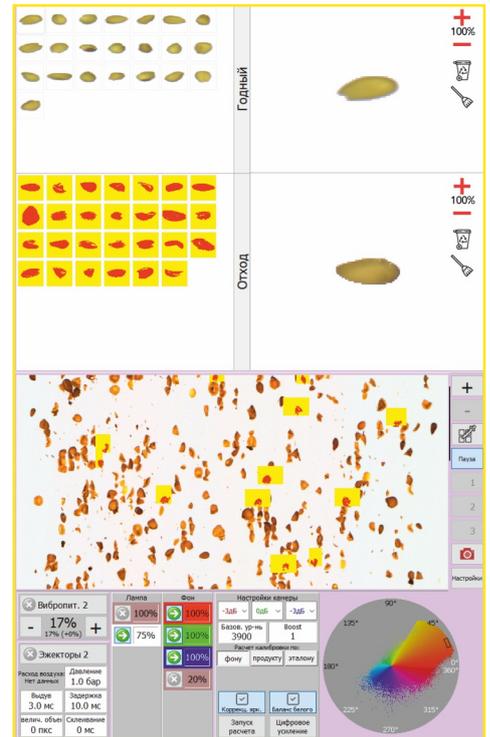
SmartSort[®] creates a sorting program according to the images of your product made by the inspection system after inserting samples of the products to be accepted and rejected. Several images are enough for the machine self-setting.

CSort Cloud — new operational capabilities

CSort Cloud is a global online platform integrating system for color sorter monitoring by the CSort experts. The system controls the productivity of the production line, raw material quality, equipment downtime, and in-time software update. It allows to provide remote equipment maintenance anywhere.

Statistics of different parameters is always available in the personal account of the online service to help the operator to control the machine and the whole production line where it is integrated.

CSort Cloud – less downtimes, more benefits for the user.





Integration of technological process automation

After connection with the dispatcher remote control, the machine is able to work without operator. To integrate the color sorter with the enterprise management system **SmartSort[®]** is able to transfer information on power control, error warning, equipment availability, work of different sections, and also to receive signals of the management system.

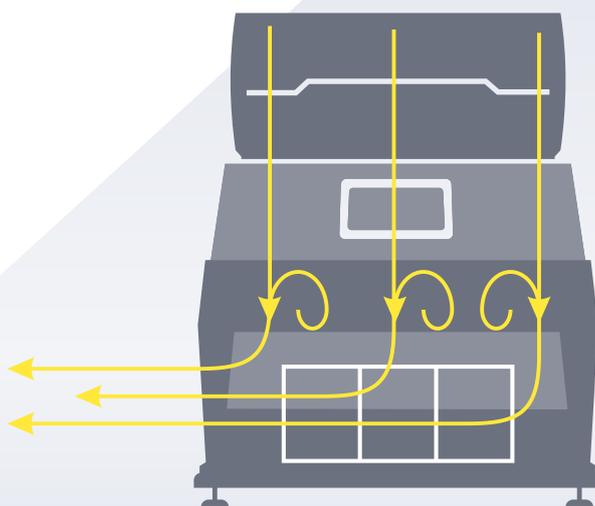


Industrial signal lights

Standard industrial signal lights provide visual indicators of a machine state such as sorting regime, standby, machine fault or emergency situation.

Clean inside and out

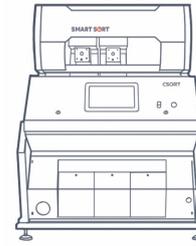
Aspiration and cleaning systems are improved to ensure processing of dusty products. These systems provides better quality of sorting and minimize the time for inspection area cleaning that significantly increases equipment capacity and decreases maintenance costs. We enlarged inner dimension of channels to achieve better aspiration using dust-collecting fans of the same capacity.



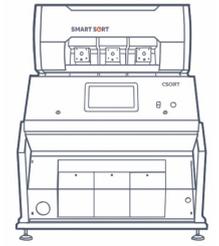
MAIN TECHNICAL CHARACTERISTICS



SmartSort^B 1



SmartSort^B 2



SmartSort^B 3

01	Number of channels	54	108	162
02	Production capacity (for wheat), tons per hour*	7	14	21
03	Cleanliness coefficient, %, min.*	99,5		
04	CCD-matrix resolution (per chute), pixel	5400		
05	Power supply voltage, V	230		
06	Power line frequency, Hz	50		
07	Nominal power, kW	1.4	1.6	1.8
08	Air pressure, MPa	from 0.6 to 0.8		
09	Air purity according to GOST 17433, ISO 8573-1:	particles	1	
		humidity	4	
		oil	1	
10	Air consumption for the technical process (wheat), m ³ /h, max.*	40	80	120
11	Maximum air consumption (at 0.6 MPa), m ³ /h	225		
12	Air consumption for the aspiration, m ³ /h, max.:	standard aspiration	1800	
		with additional aspiration nozzles on chutes	3600	
13	Dimensions, mm	Length	1510	
		Width	1480	
		Height	2000	
14	Weight, kg, max.	550	600	650
15	Electric shock protection class according to GOST IEC 61140-2012	I		
16	Degree of protection provided by enclosures according to GOST 14254	IP54		
17	Ambient temperature, °C	from 5 to 40		
18	Relative air humidity at the temperature of 25 °C, %	from 20 to 80		
19	Noise level at the work site, dBA, max.	80		

* With the initial content of foreign materials of 2% or less and the volume weight of the product of 0.750 t/m³

CUSTOMER SERVICE BEFORE, DURING AND AFTER PURCHASE

Trouble-free equipment operation depends on efficiency of the technical service and their quick respond to the demands of the clients. **CSort** technical service guarantees prompt support in test sorting, personnel training, software update, new program setting, equipment upgrade, or spare parts delivery.

CSort Service

Consulting and sorting tests

CSort carries out sorting tests to select the program perfectly matching client's requirements. In addition, the experts of the company can recommend how to modernize the technological process to improve the quality of the finish product.

Commissioning and personnel training

CSort specialists provide the customer with a working program after the machine adjustment and start-up, as well as training of the operator during start-up and technical support after sale.

Maintenance

To ensure smooth and uninterrupted performance of the production line **CSort** engineers perform at a time of your convenience preventive and predictive maintenance, replacements of units and components before their expiration, program setting, equipment upgrade and information delivery.

Remote support

By means of the Internet connection **CSort** engineers can remotely access the color sorter to monitor, modify and save program settings.

Spare parts

CSort supply original spare parts for all its machines including models being taken out of production. A wide network of service guarantees fast solution of the arising problems.

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