

PINPOINT
ACCURACY
OF SORTING



SMART SORT B series

1 to 6 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



Cereal



Nuts



Freezing



Plastics, metals



Seeds



Legumes



Tea, spices



Glass and minerals

CSort color sorters have proven themselves in sorting wide range of food and non-food products from difficult to separate impurities in 26 countries of the world.

Wheat from barley



Accepted

Rejected

Barley from mealy wheat (by vitreousity)



Accepted

Rejected

Wheat from black head mold



Accepted

Rejected

Mustard



Rape seeds



Buckwheat



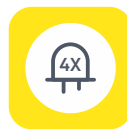
Transparent plastic pellets from non-transparent ones



KEY FEATURES OF NEW SmartSort^B



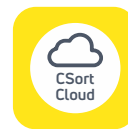
Excellent
sorting accuracy



High power
LED lighting



Quick setup
for a product



Efficient
equipment
operation



High resolution camera



High detailed elaboration provides more information for analysis, which means that it becomes possible to detect and remove larger number of problematic products.

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 a similar color but with different textures. Moreover, now it is possible to sort by shape removing malformed or split grains.

Powerful lightning

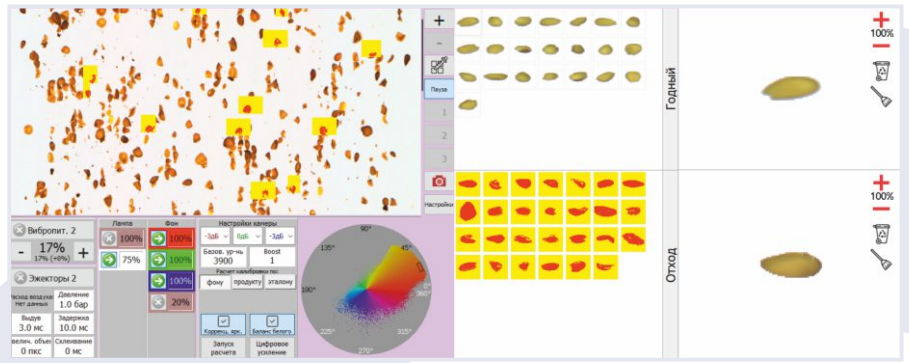
Powerful LED lighting and low signal-to-noise ratio allow to distinguish the smallest shade differences of the products that was previously impossible.

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.

Fast and smart program setting

The device independently creates program based on real images of raw materials proposed in turn by small batches to its analysis system. For this, it is enough to take pictures of shared fractions and the system automatically learns to sort them.



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





Improved sorting of overclogged products



Sorting by internal properties



Sorting in visible and infrared spectra



Ergonomic design



An ability to upgrade and increase productivity



Integration with enterprises automation system



Arranged in a row cameras narrow an inspection area, and reduce a time for image analysis.

A position of the ejectors is adjustable for a product.

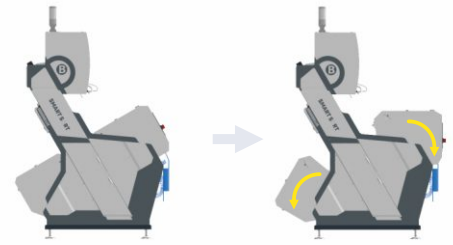
Advanced inspection and ejector systems

New inspection and ejector 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. Moreover, there would be no need for resorting for the most cases.



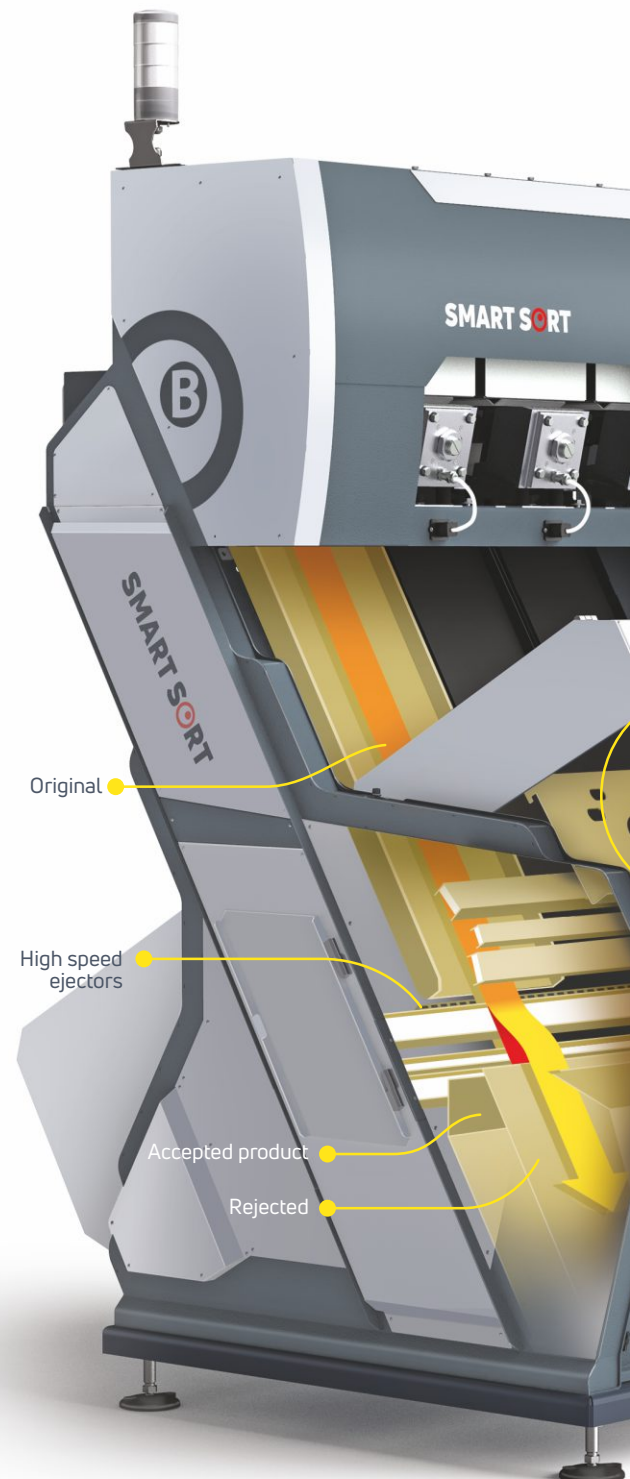
Extended recognition capabilities

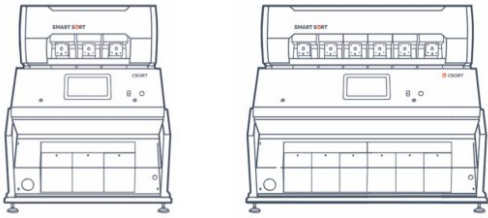
Simultaneous 4 sides shooting with RGB and IR cameras ensures analyzing and sorting products by color, shape, texture, and inner properties. For instance, sorting nuts from shells, removing rancid sunflower kernels or separation of mineral admixtures from grains.



Reclining optical boxes

SmartSort[®] is extremely convenient to maintain and use. Hinged sections of inspection systems allow to access to the most remote components of the color sorter.





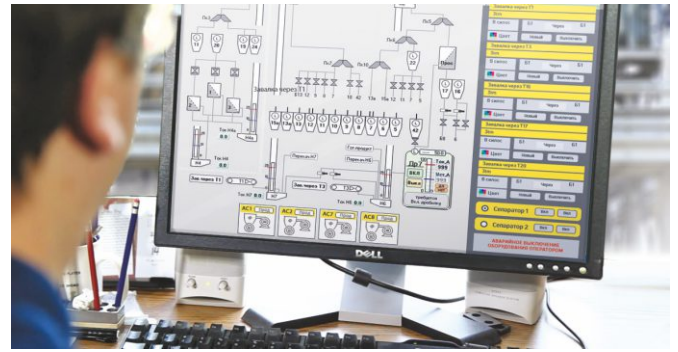
Block-modular construction

Universal **SmartSort[®]** frames make it possible to set a variable number of sorting sections: from 1 to 3; from 4 to 6. This allows to increase productivity and save money in comparison with the purchase of a new color sorter, not to increase the occupied space, to avoid dismantling



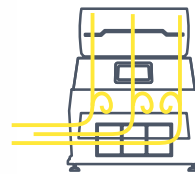
Industrial signal lights

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



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 B 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.



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.



● High permission RGB camera and NIR camera

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.

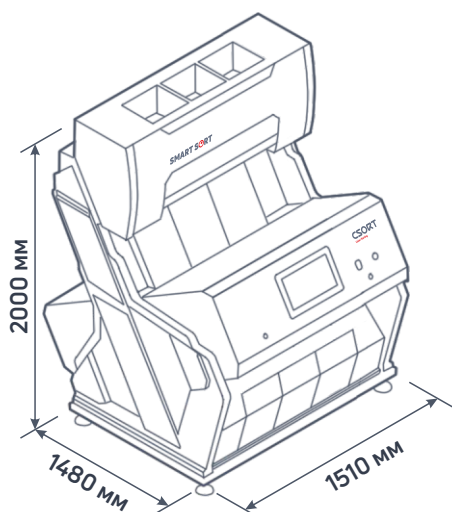


THE MAIN TECHNICAL CHARACTERISTICS

SmartSort^B 1-3, B Series

SMART SORT^B 1

1 section



Number of channels

54

Production capacity (for wheat), tons per hour*

7

Air consumption for the technical process (wheat), m³/h, max.*

40

Nominal power, kW

1,4

Weight, kg, max.

840

Cleanliness coefficient, %, min.*

99,5

Power supply voltage, V

230

Air pressure, MPa

from 0.6 to 0.8

Air purity according to GOST 17433, ISO 8573-1:

Particles - 1

CCD-matrix resolution (per chute), pixel

5400

Power line frequency, Hz

50

Maximum air consumption (at 0.6 MPa), m³/h

225

Humidity - 4

Oil - 1

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

SMART SORT^B 2

2 sections



SMART SORT^B 3

3 sections



108

14

80

1,6

870

162

21

120

1,8

900

Air consumption for the aspiration, m³/h, max.:

Standard aspiration - 1800

With additional aspiration nozzles on chutes - 3600

Electric shock protection class according to GOST IEC 61140-2012

I

Degree of protection provided by enclosures according to GOST 14254

IP54

Relative air humidity at the temperature of 25 °C, %

from 20 to 80

Ambient temperature, °C

from 5 to 40

Noise level at the work site, dBA, max.

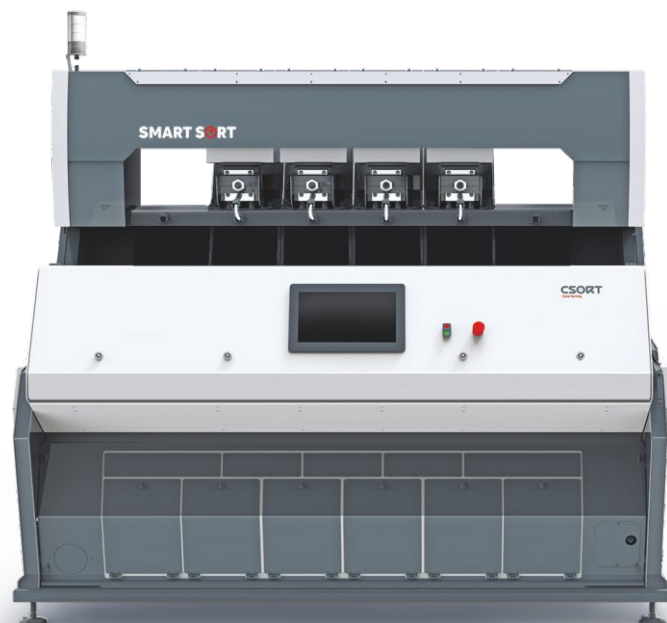
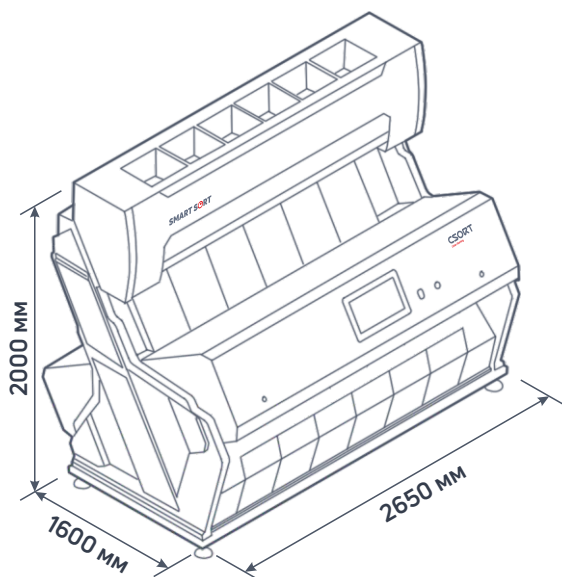
80

THE MAIN TECHNICAL CHARACTERISTICS

SmartSort^B 4-6, B Series

SMART SORT^B 4

4 sections



Number of channels

216

Production capacity (for wheat), tons per hour*

28

Air consumption for the technical process (wheat), m³/h, max.*

160

Nominal power, kW

3,0

Weight, kg, max.

1540

Cleanliness coefficient, %, min.*

99,5

Power supply voltage, V

230

Air pressure, MPa

from 0.6 to 0.8

Air purity according to GOST 17433, ISO 8573-1:

Particles - 1

CCD-matrix resolution (per chute), pixel

5400

Power line frequency, Hz

50

Maximum air consumption (at 0.6 MPa), m³/h

960

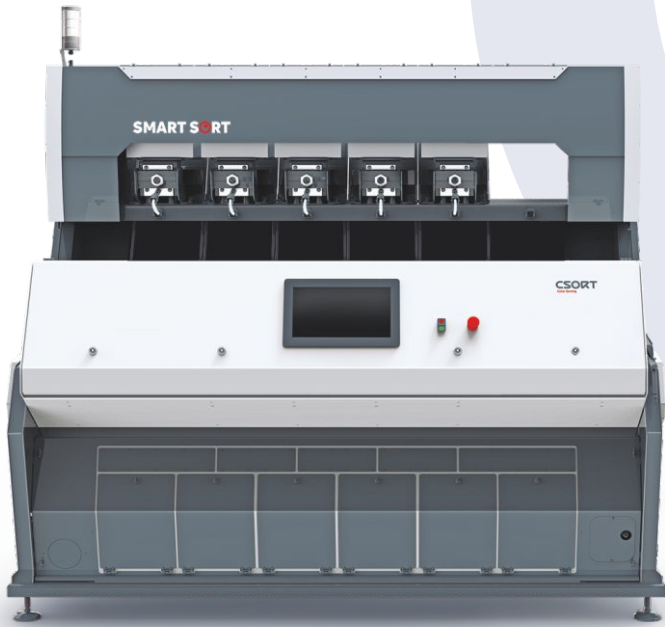
Humidity - 4

Oil - 1

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

SMART SORT^B 5

5 sections



SMART SORT^B 6

6 sections



270

35

200

3,3

1570

324

42

240

3,5

1600

Air consumption for the aspiration, m³/h, max.:

Standard aspiration - 5200

With additional aspiration nozzles on chutes - 8600

Electric shock protection class according to GOST IEC 61140-2012

I

Degree of protection provided by enclosures according to GOST 14254

IP54

Relative air humidity at the temperature of 25 °C, %

from 20 to 80

Ambient temperature, °C

from 5 to 40

Noise level at the work site, dBA, max.

90

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

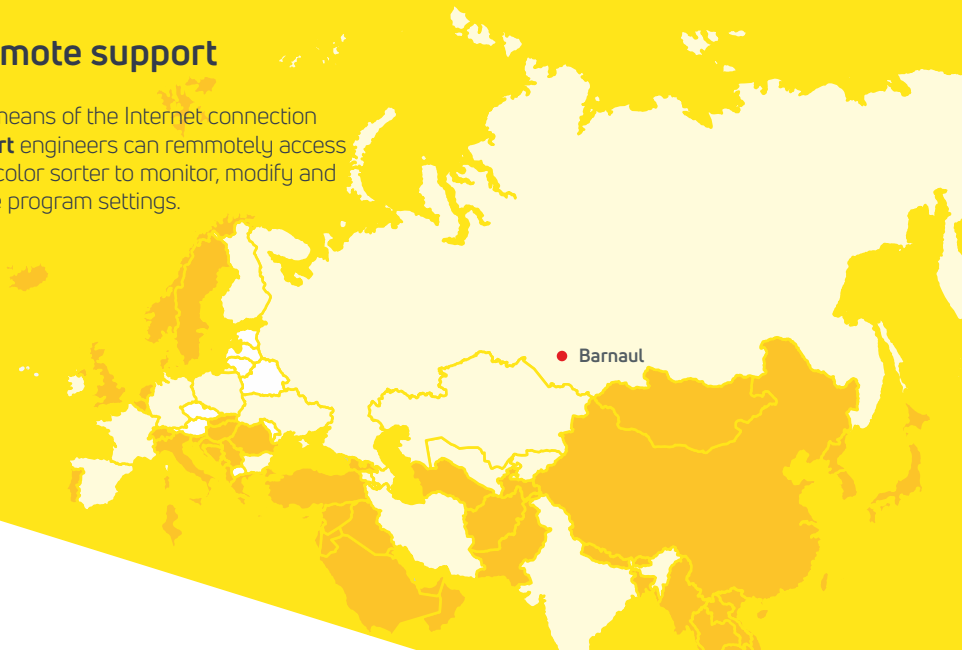
To ensure smooth and uninterrupted performance of the production line **CSort** engineers perform at a time of your convenience preventive and predictive maintenance, replacements of units and components before their expiration, program setting, equipment upgrade and information delivery.

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 centers in Russia and abroad guarantees fast solution of the arising problems.



HEADQUARTER

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