



VORONEZHSELMASH


**COLOR SORTER
OF THE JSC «VORONEZHSELMASH» —
YOUR RELIABLE ASSISTANT!**





Smart Color Sorters JSC «Voronezhselmash»

None of the traditional techniques can achieve such a quality in the grain cleaning as photo-pneumatic technology!



To make a competitive product with minimal expenses is a purpose of each and every agricultural producer. Only the advanced and innovative technologies that are realized in the Color Sorter F 5.1. are capable to cope with this.

The Color Sorter is intended **for sorting grain products on the color base.**

It automatically rejects the damaged grains or kernels that are differ by color, as well as quickly and effectively separates a good product from various impurities. The family of the Color Sorters characterised by the following:

high level of cleaning - up to 99,9 %;
high capacity - up to 30 t/h;*
simple control;
high reliability;
universality - separation of various products.


The Voronezhselmash Color Sorters are effectively used in seed-growing, crop sciences, cereal processing industry. It sorts grain, leguminous, olive cultures, and also products of their processing.

Using the Color Sorters the manufacturer receives unprecedented quality of the separated cultures whether it be oats, wheat or sunflower.

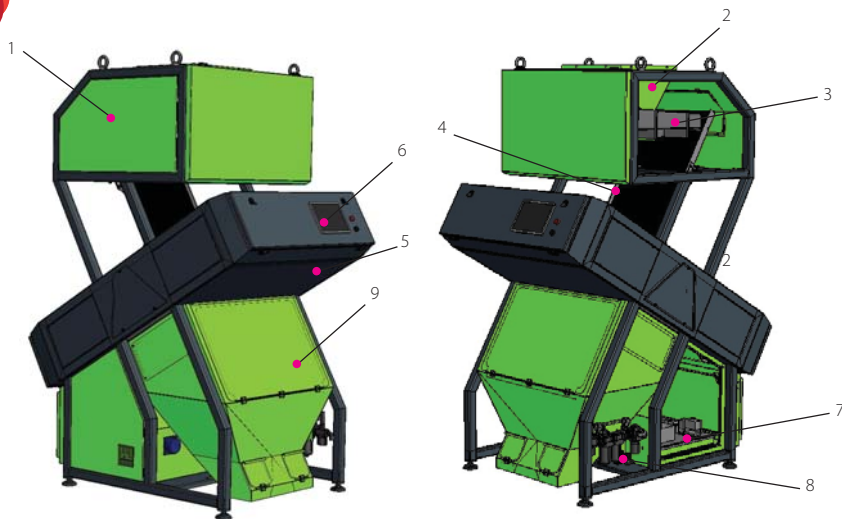
Sorting by color is capable to make your product perfect!



* Productivity depends on the color sorter's model, crops, the incoming grain pile conditions (humidity, a contamination).

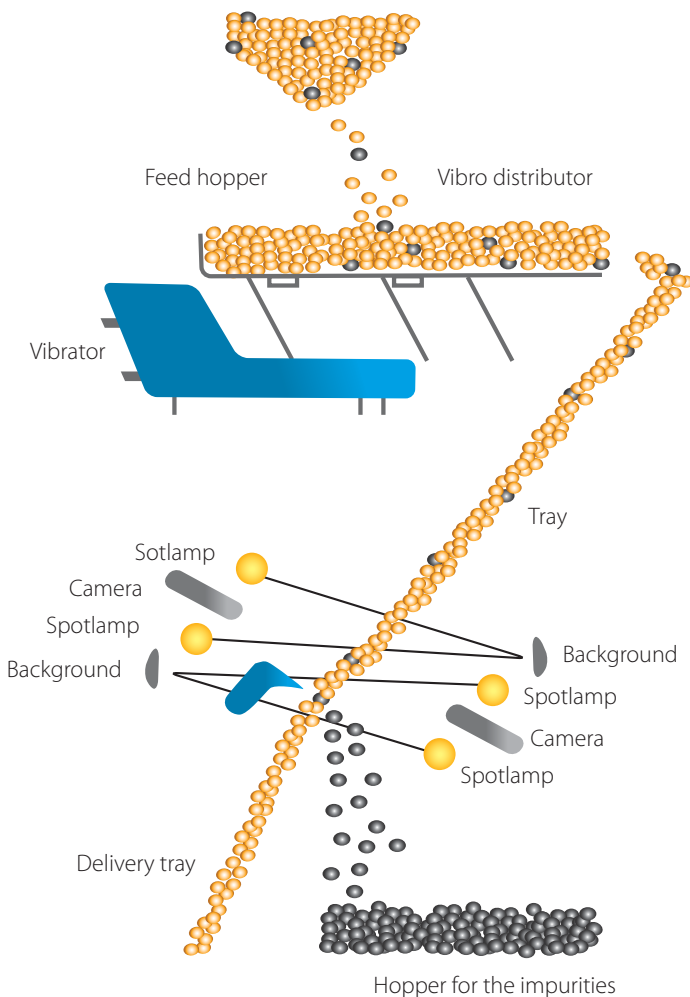


Application



- 1 - frame;
- 2 - loading hopper;
- 3 - shaking feeder;
- 4 - sack chute;
- 5 - photoelectronic module;
- 6 - control panel;
- 7 - pneumoelectronic module;
- 8 - system of air preparation;
- 9 - receiving chute;

Principle of sorting



The grain pile comes into the loading hopper, whence it goes into the shaking feeder 3. The shaking feeder 3 evenly and with fixed productivity delivers the grain pile into the sack chute 4. Being dispersed on the sack chute and being leveled in a single-layered stream the grain pile comes into the revision module. Two video cameras are established on the both sides of the control zone. The single-layered stream of grain pile coming from the sack chute is scanned by cameras. The data from video cameras comes to the computing block which analyses the seeding images. By the results of the image analysis the signals which comes to the electronic block are formed. According to the air impulse the valves open at the moment when the unconditioned grain is flying in an operative zone of an air impulse. The air impulse compressed under air pressure (0,4...0,6 Mpa) with the duration of the milliseconds beats out the unconditioned grain into the corresponding reception module. The trajectory of the conditioned grain flight corresponds to its hit into the hooper of the cleared product.



Technical specifications

The name	Unit of measurements	Value	Value	Value	Value
Model		F 5.1	F 10.1	F 15.1	F 20.1
Type		stationary	stationary	stationary	stationary
Drive		electrical	electrical	electrical	electrical
Overall dimensions in the working position (maximum)	mm				
Length		1585	1368	1741	2015
Width		1100	1350	1350	1300
Height		2265	1950	1950	1950
Constructional weight with the complete set of working bodies and devices for the basic technological operation (maximum)	kg	550	610	730	820
Number of high-speed pneumoallocators		96	144	216	288
The total installed capacity, no more	Kw	1,4	1,5	1,8	2,5
Quantity of the attendants		1 (operator)	1 (operator)	1 (operator)	1 (operator)
Nominal output per hour of prime time	t/h	0,5...9	0,8...15	1,2...22,5	1,6...30
Cleanness of a suitable product, (minimum)	%	99,9	99,9	99,9	99,9
Air consumption	l/min	500-1000	1000-1500	1000-2500	1000-2500

Requirements for installation of the Color Sorter



The Color Sorter should be maintained in premises with an artificial adjustable climatic conditions (exclude an influence of the direct and diffuse sunlights, an atmospheric precipitation, a wind, sand and a dust of external air; moisture condensation), with an ambient temperature from +1 °C up to +30°C. For convenient operation there should be a free space around the Color Sorter, minimum 1 m. The compressor with drying and freezing device should be installed together with the Color Sorter. The compressor's capacity should not be

less than 800 l/minutes. Working pressure should be 8...10 atm.

There should be a storage bin for a preliminary reception of the processable grain pile with the capacity minimum 2 m³ in the technological line in front of the Color Sorter. From the Color Sorter's top and bottom reception hoppers there should be organized suction pump for the dusty air with the charge not less than 1000 m³/h*

* At the high level of the dust content of initial grain pile it is necessary to increase the aspiration charge.





Service package


Interests of our customer are very important for us. We appreciate the long-term partnership and consequently we offer more than simple sale and installation. Voronezhselmash continues to care of your technical equipment even after the sale. The package of services is generated so that to make the work on the Color Sorter more effective, and our cooperation more strong.

- 1** Service assistance of the Color Sorter by the service expert of the JSC «Voronezhselmash» during transportation, loading, installation, starting and testing.
- 2** Training of customer experts how to operate the Color Sorter.
- 3** Individual approach to each client.
- 4** On-line consultations:
Phone of technical support – (4732) 20-43-01, M-F 08:00 till 16.45 ;
Availability of the service expert during the day since the receiving of inquiry.
- 5** The warranty period - 24 months.



● Warranty service is available only when technical equipment is purchased in a trading network of the JSC «Voronezhselmash»!

Buying technical equipment of the JSC «Voronezhselmash» you receive a long-term post qualitative guarantee and after guarantee service.



Test protocols

Rice

Version of testing	Sorted raw material
Product	Rice
Final product	Rice
Productivity	1300 kg / hour
Model of the machine	F 5.1

Initial product



Final good product



Impurities



The report of efficiency

Initial product		Final good product		Impurities	
Total good product	Total damage product	Total good product	Total damage product	Total good product	Total damage product
90,4%	9,6%	99,8%	0,2%	9,7%	90,3%
100%		89,6%		10,4%	
The losses of good product 1%					

Notes

The test has been executed to present the results of sorting of the final-product received after the prime testing (The work is carried out in a case to get a better product)

Conclusion

The impurity contamination in initial grain pile were 9,6 %, after clearing on the Color Sorter the impurity was 0,2 %.



Wheat

Version of testing	Sorted raw material
Product	Wheat
Final product	Wheat
Productivity	4000 kg / hour
Model of the machine	F 5.1

Initial products



Final good product



Impurities



The report of efficiency

Initial product		Final good product		Impurities	
Total good product	Total damage product	Total good product	Total damage product	Total good product	Total damage product
94,2%	5,8%	99,3%	0,7%	22,7%	77,3%
100%		93,4%		6,6%	
The losses of good product 1,5%					

Notes

The test has been executed to present the results of sorting of the final-product received after the prime testing (The work is carried out in a case to get a better product)

Conclusion

The impurity contamination in initial grain pile were 5,8 %, after clearing on the Color Sorter the impurity was 0,7 %.



Millet

Version of testing	Sorted raw material
Product	Millet
Final product	Millet
Productivity	550 kg / hour
Model of the machine	F 5.1

Initial product



Final good product



Impurities



The report of efficiency

Initial product		Final good product		Impurities	
Total good product	Total damage product	Total good product	Total damage product	Total good product	Total damage product
99,1%	0,9%	99,9%	0,1%	46,7%	53,3%
100%		98,5%		1,5%	
The losses of good product 0,7%					

Notes

The test has been executed to present the results of sorting of the final-product received after the prime testing (The work is carried out in a case to get a better product)

Conclusion

The impurity contamination in initial grain pile were 0,9%, after clearing on the Color Sorter the impurity was 0,1 %.



Test protocols

Sunflower

Version of testing	Sorted raw material
Product	Sunflower
Final product	Sunflower
Productivity	1300 kg / hour
Model of the machine	F 5.1

Initial product



Final good product



Impurities



The report of efficiency

Initial product		Final good product		Impurities	
Total good product	Total damage product	Total good product	Total damage product	Total good product	Total damage product
98,3%	1,7%	99,7%	0,3%	51,7%	48,3%
100%		97,1%		2,9%	
The losses of good product 1,5%					

Notes

The test has been executed to present the results of sorting of the final-product received after the prime testing (The work is carried out in a case to get a better product)

Conclusion

The impurity contamination in initial grain pile were 1,7%, after clearing on the Color Sorter the impurity was 0,3%.





Test protocols

Pumpkin

Version of testing	Sorted raw material
Product	Pumpkin
Final product	Pumpkin
Productivity	1500 kg / hour
Model of the machine	F 5.1

Initial product



Final good product



Impurities



The report of efficiency

Initial product		Final good product		Impurities	
Total good product	Total damage product	Total good product	Total damage product	Total good product	Total damage product
92,5%	7,5%	99,5%	0,5%	30%	70%
100%		90%		10%	
The losses of good product 3%					

Notes

The test has been executed to present the results of sorting of the final-product received after the prime testing (The work is carried out in a case to get a better product)

Conclusion

The impurity contamination in initial grain pile were 7,5 %, after clearing on the Color Sorter the impurity was 0,5 %.



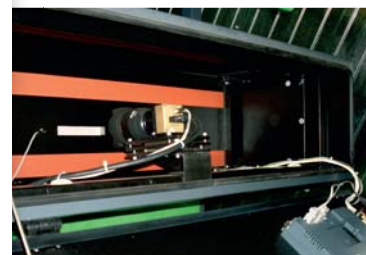
The first installation

LLC «KALITA-SERVICE»

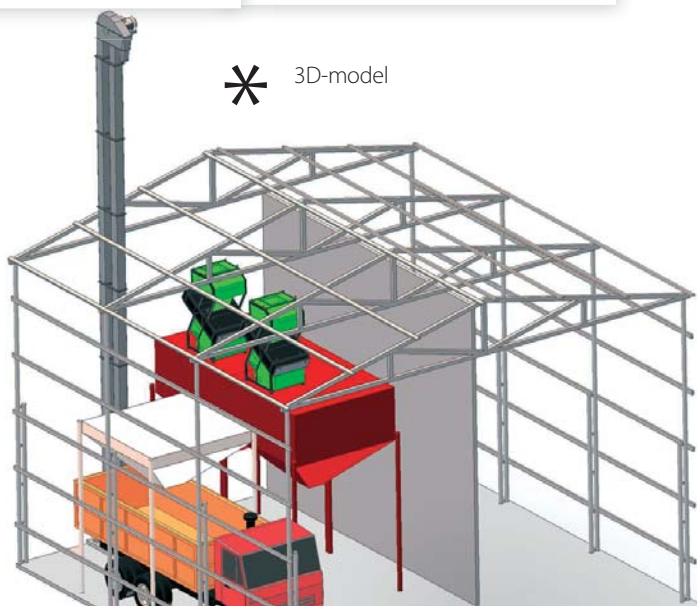
Voronezh region, Novaya Usmany village.
Sphere of activity – selling of sized sunflower seeds.

Voronezh

Novaya Usmany



✱ 3D-model



Those who would like to buy our Color Sorter should send the product pile for testing.

To receive more information, please, contact us:
(4732)20 48 96



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