



Angelon

合肥安晶龙电子股份有限公司

Hefei Angelon Electronics Co., Ltd.

Color Sorter Supply Solution

No: _

To:


From: Hefei Angelon Electronics Co., Ltd

1. Specification and parameters of Angelon Plastic Color Sorters

(1) A221C4-128V6

Model Name	A221C4-128V6				
Image					
No.	Description	Parameters	No.	Description	Parameters
1	Power of machine(kW)	2.0	6	Camera	4
2	Voltage(V)	220 (50Hz)	7	Output	0.5~1t/h
3	Dimensions(L×W×H, mm)	3080*1220*2150	8	Sorting accuracy(%)	>99.8
4	Weight(kg)	950	9	Optimized carryover(bad: good)	>8:1
5	Air pressure(MPa)	0.6-0.8	10	Number of ejectors	128
Note	The above parameters are based on plastic material with impurity lower than 5%. The actual parameter is subject to change based on different size and impurity rate of material.				

(2) A421C8-256V6

Model Name	A421C8-256V6				
Image					
No.	Description	Parameters	No.	Description	Parameters
1	Power of machine(kW)	5.0	6	Camera	8
2	Voltage(V)	220 (50Hz)	7	Output	1.0-2.0t/h
3	Dimensions(L×W×H, mm)	3080*1820*2150	8	Sorting accuracy(%)	99.9
4	Weight(kg)	1440	9	Optimized carryover(bad: good)	>8:1
5	Air pressure(MPa)	0.6-0.8	10	Number of ejectors	256
Note	The above parameters are based on plastic material with impurity lower than 5%. The actual parameter is subject to change based on different size and impurity rate of material.				

2. Machine Structure and its function

2.1 Vibrating Feeder System

There are vibrators built under the feeder of the machine. Through the vibration of the vibrator, the raw material will be distributed evenly onto the belt. The vibrator also helps to control the output of the machine.

2.2 Conveyer System

The conveyer system is formed of drive roller, driven roller, conveyer belt and motor. Supported by trestle, the conveyer belt is driven by motor through drive roll. After vibrating feeder distributing material onto the belt, the belt will convey material to the optical observation area of the machine in constant setting speed, which ensures material passing through observing point of camera in a fixed parabola.

2.3 Optical System — Color Observation Unit

The color observation unit is designed for detecting and defining color of material. It is composed of LED lights, background adjustment apparatus, CCD HD industry cameras and dust wiper.

When material depart from the belt and making a parabolic motion, the optical sensor will scan and detect the material. If the detected item has the same color parameter as the rejection parameter pre-set in the software, signals will be sent to the ejector valve system, the corresponding ejector will reject the item by compressed air.

And the wiper gets rid of dust automatically at preset time so that the sorting will not be interfered by dust.

2.4 Ejector Valve System – valves and ejectors

After optical system identifying the rejects by color, the ejector will eject compressed air to blow them off, stopping bad material go into the good material.

3.5 Controlling Device — Electronic Box and cantilever PC

Electronics box is a totally sealed box which contains a control system mainly consisting of microcomputer boards and windows system. As the control center of the machine, with ANGELON own designed software with special algorithm, the system automatically collects graphic information and digitalize the information, and then gives commands through the control panel to drive the ejector valve system.

Note: ANGELON software is the best part of the machine, the software decides the sorting accuracy and solutions. It is well protected by the company.

2.5 Cantilever PC

Through Cantilever PC, we can pre-set color parameters and control the speed of belt for different material. We can also observe material operation situation at real time.

2.6 Air Passage System

The air passage is installed under the conveyor belt of the machine. The air passage system includes ball valve, oil-mist filter, pressure gauge and regulator, supplies the air ejector system with high-purity compressed air. The compressed air comes from matching air compressor and air tank.

2.7 Frame

It is an integral frame with doors to make the machine looks better. It is made of stainless steel square tubes.

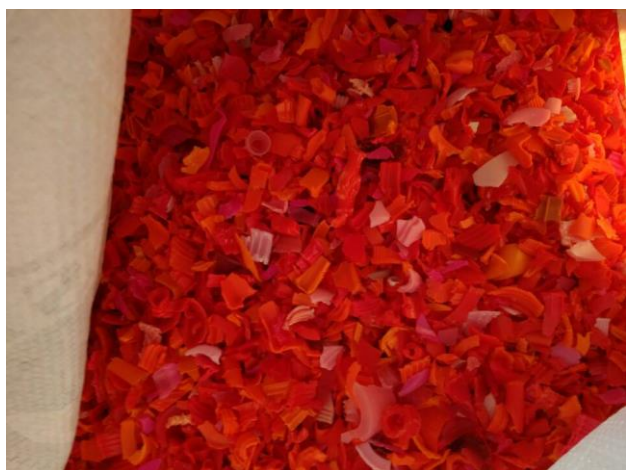
3. Product Features

1. Full Color	High-Definition and high-sensitivity chromatic CCD image sensor, together with industrial wide-angle lens for accurate recognition. Adopt the international first-class optical lens; the articulation up within 0.02 mm ² can recognize a subtle chromatism and tiny flaws.
2. Full Computer Operation	For complete sorting of material with colors, we use a computer to operate the machine. A touch screen cannot meet the requirements of full color sorting. A computer has bigger display, higher color resolution ratio, can be used to do multi-function image processing to increase sorting accuracy apparently.
3. Full LED Light Source	Unique LED lighting system, with long service life, equipped with LED light source, and to ensure the high-definition image quality, can meet 1000 kinds of color separation, identify color changes.

4. Full True Visible Image	Real picture of material display helps to separate good from bad and increase sorting accuracy.
5. High Accuracy	Belt-type color sorter use belt to convey material, which makes material stay still on the belts and ensures constant speed of moving. This is conducive to color sorting. In the same time, belt-type is with lower crashing to material, cause lower damage to material.
6. Low carryover	Special picture processing algorithm, decreased material carryover.

4. Plastic Color Sorting Cases by Angelon Color Sorter

CASE 1 Sort out different colors from PP (Raw material, sorted colors)



CASE 2 Angelon color sorter sorting PP (Raw material, good, bad)



CASE 3 Angelon color sorter sorting PET (Raw material, good, bad)



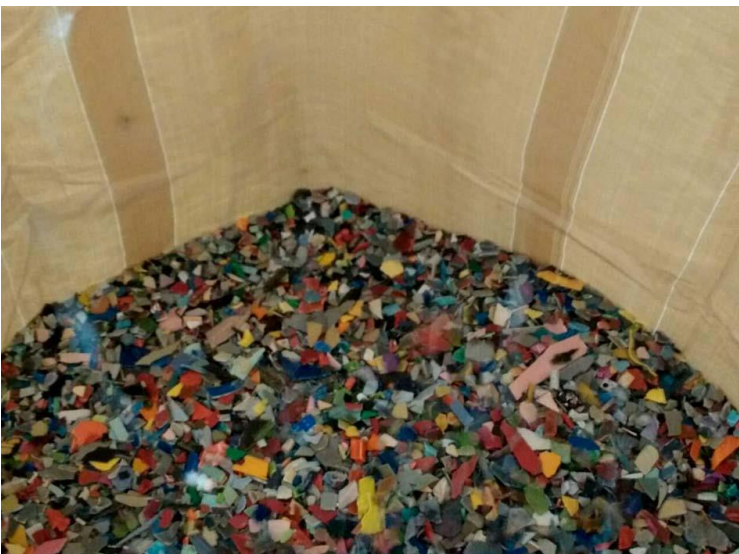
CASE 4 Angelon color sorter sorting PET (Raw material, good, bad)



CASE 5 Angelon color sorter sorting HDPE (Raw material, separated colors)



CASE 6 Angelon color sorter sorting HDPE (Raw material, good, bad)



CASE 7 Angelon color sorter sorting granules (Raw material, separated colors)



CASE 8 Angelon color sorter sorting granules (Raw material, accepted, rejected)



CASE 9 Angelon color sorter sorting granules (Raw material, semitransparent, transparent)



5. Angelon Color Sorter in Customer' Factories

5.1 Machines in a production line in Taiwan



5. 2. PET Sorting Machine in Dezhou



5.3 Sorting HDPE in Brazil



5.4 Three machines in a line



6. Service & Quality Warranty

- We will send engineer to install and debug the machine in free charge, and train the staff for customer. Customers assume the food and accommodation for our engineer.
- The main machine has one year quality warranty, the LED lighting source and cameras have three years quality warranty.
- Enjoy the software update in free charge

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