

Color Sorter



NANTA ACE series



New color sorter NANTA ACE is proficient in any sorting.

General Features

Excellent accuracy and precision

- High resolution CCD Camera identify the smallest defect and foreign material
- High luminant LED lead to more accurate separation
- Bi-chromatic camera detect the subtlest defects and foreign matter
- NIR sensor detect defects on the invisible properties

Customer's profitability

- Minimum loss of quality product during separation maximize the customers profit
- Efficient and accurate ejector reduce the air and electric consumption
- Long life LED reduce the cost of management
- ACE is so flexible to meet the needs of the customer

Easy use and Easy change

- User oriented interface and menu search
- ACE can be controlled and monitored by wireless LAN
- Soft touch type and wide LCD screen
- Easy change of the parts

Excellent performance

- Reliable and uniform feed
- Many channel enlarge the quantity of the product(~384ch)
- Fast product changeover
- Un-trained person can learn how to run the machine shortly

Safety and Cleaness

- ACE ensure the product safe and clean
- Reliable and stable working after the test of extreme condition
- CE compliance meet all current safety legislation
- Easy to clean of the parts



Installation

All electronics and software have been newly designed. The change to both the mechanical design and the digital processing technology have improved the sorting efficiency.

Site

Intended for the machine should be leveled and firmed. Where a built-up platform or structure is provided it should absorb any vibrations from surroundings plant or machinery.

Environment

In common with other electronic equipment, the machine is not used in an environment where the ambient temperature is above 45°C (113°F) or at below freezing point. Humidity and dust should be kept to the minimum.

Lighting

The ambient lighting should not be varied during the day and should have no bright spots or glare from the sun or overhead lamp.

Clearance

It is particularly important to allow sufficient clearance at the front and rear of the unit for removing lamp assembly and permitting reasonable access for servicing the various items.

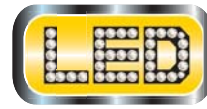


Specifications

Model No.	Dimensions (W × L × H mm)	Input to M/C (Ton/Hour)	Power (KW)	Compressor Power (H/P)	Remarks
NANTA ACE-1	1125 × 1500 × 1750	1~3	1.6	10	
NANTA ACE-2	1445 × 1500 × 1750	2~6	2	15	
NANTA ACE-3	1765 × 1500 × 1750	3~9	2.5	20	
NANTA ACE-4	2065 × 1500 × 1750	4~12	3	25	
NANTA ACE-5	2385 × 1500 × 1750	5~15	3.5	30	
NANTA ACE-6	2705 × 1500 × 1750	6~18	4	35	

NANTA ACE series

NANTA ACE series is the latest machine of our optical sorter lines. It can sort all of grains and other material by CCD cameras(built-in DCS engine) & NIR(Near Infrared) sensors & Bi-chromatic camera, and also can sort the similar-colored-contaminants from good grain. When you sort your grain by color, size, weight, breakage, crack using our sorter, you will be so surprised by it's accuracy.



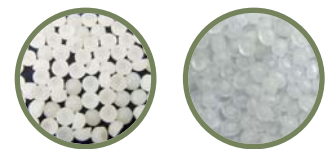
※ Bi-chromatic Sorter

Dual camera function in one camera module
Simultaneous sorting through penetration CCD(RED) and reflection CCD(BLUE) with Separation filter

- large volume production(~384ch)
- high resolution CCD camera with DCS algorithm
- high luminant LED
- sorting any defect of grain
- feeding materials in uniform flow by sensors
- adopting Windows XP, improved control capability
- image acquirement and analysis system
- various camera combinations- CCD, Bi-chromatic, NIR

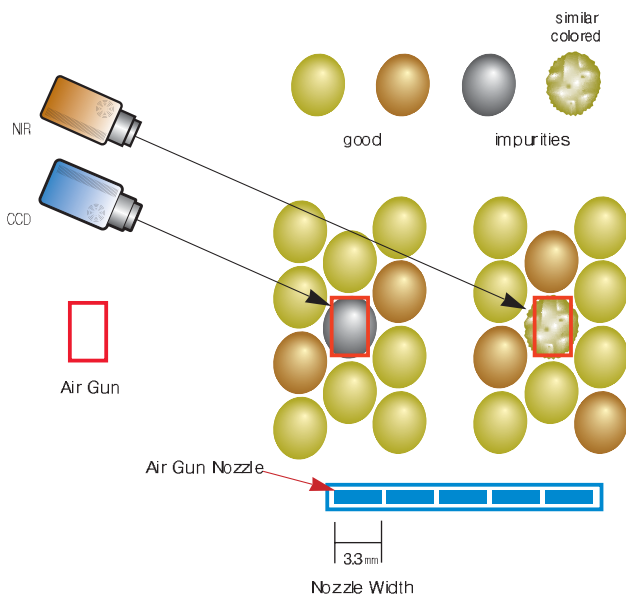
※ sortable on the invisible properties of grain(NIR)

sorting sample by NIR →

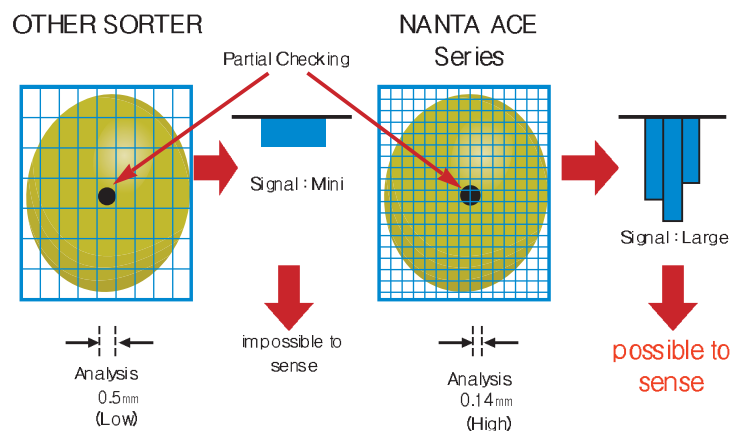


plastic

Screen Processing & Air Nozzle



Analysis Ability of CCD Camera

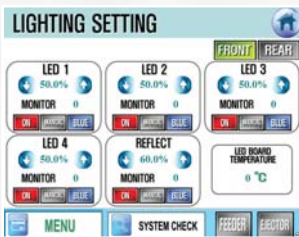


Technical features

NANTA ACE series adopts many kinds of new technologies for more precise and reliable sorting. The new combination of CCD cameras, NIR sensors and Bi-chromatic camera will offer consumer's perfect satisfactions. Meet and enjoy our high edge unbelievable sorting.



High Luminant LED



Control board of LED and halogen lighting

- Without changing lamps, two colors can be changed at the same time
- Adopting ALC (Auto Lighting Control) and mixing LED expand color expression
- A high brightness LED parallel arrangement of RED, BLUE ensure the intensity of lighting
- Keeping normal brightness, it extends life and removes noise
- Minimizing the effect of heat, frequency, keep up the normal brightness



Digital IO board

- System monitoring and security
- Checking the wiper point by sensor, improved the cleaning time and function
- Monitoring a door switch of viewing section and power section
 - Control the FEED board, EJT board directly and prevents balance materials in hopper
- Controlling power of color sorter

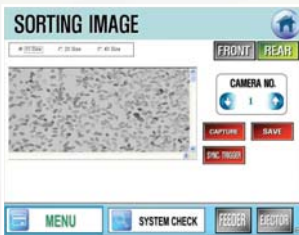


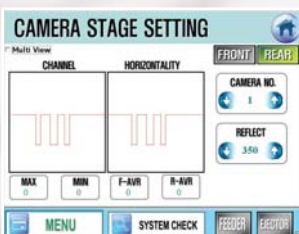
Image acquirement, analysis system

- Special camera board design for NANTA ACE
- CCD camera capture image
- Double speed of CCD line scan for a image acquirement
- Through a quick image acquirement exactly differentiate sorting materials
- Offering a data for a sorting degree
- Setting up a various standard for rejection



DCS engine algorithm

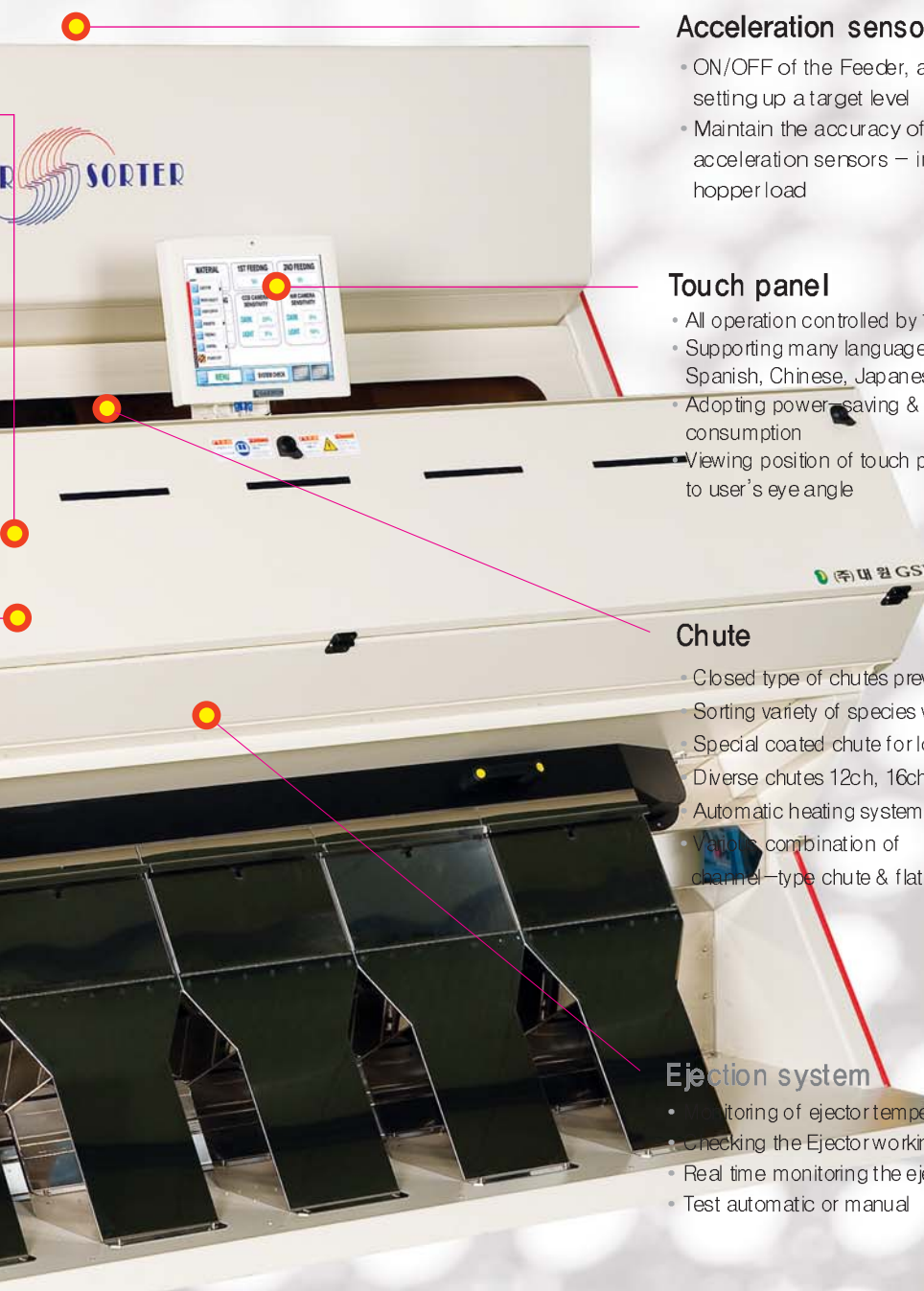
- Choosing variety of a sorting item by adopting camera with DCS engine in itself
- An innovative vertical line sensing adopted for sizing compared to regular horizontal sensing
- Sensing function by size
- More precise CCD sensor by White balancing
- Channel optimizing function to sort grains which are deviated from the sorting channel
- Each camera sensitivity can be changed independently
- Improved test function to confirm cameras normal operation



Control board of background

- Combined control of light source background by various lighting
- Monitoring temperature in viewing section to control heaters and fans for keeping cameras and light sources steady





Acceleration sensor

- ON/OFF of the Feeder, automatic/manual, setting up a target level
- Maintain the accuracy of output by using acceleration sensors – irrespective of input hopper load

Touch panel

- All operation controlled by 12" TFT-LCD touch screen
- Supporting many languages—Korean, English, Spanish, Chinese, Japanese, Italian and etc
- Adopting power-saving & reduction of power consumption
- Viewing position of touch panel can be adjusted to user's eye angle

Chute

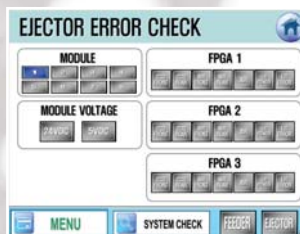
- Closed type of chutes prevent foreign materials mixed
- Sorting variety of species with suitable chutes
- Special coated chute for long life
- Diverse chutes 12ch, 16ch, 21ch, 24ch and 64ch
- Automatic heating system at the lower part of chute
- Various combination of channel-type chute & flat-type chute

Ejection system

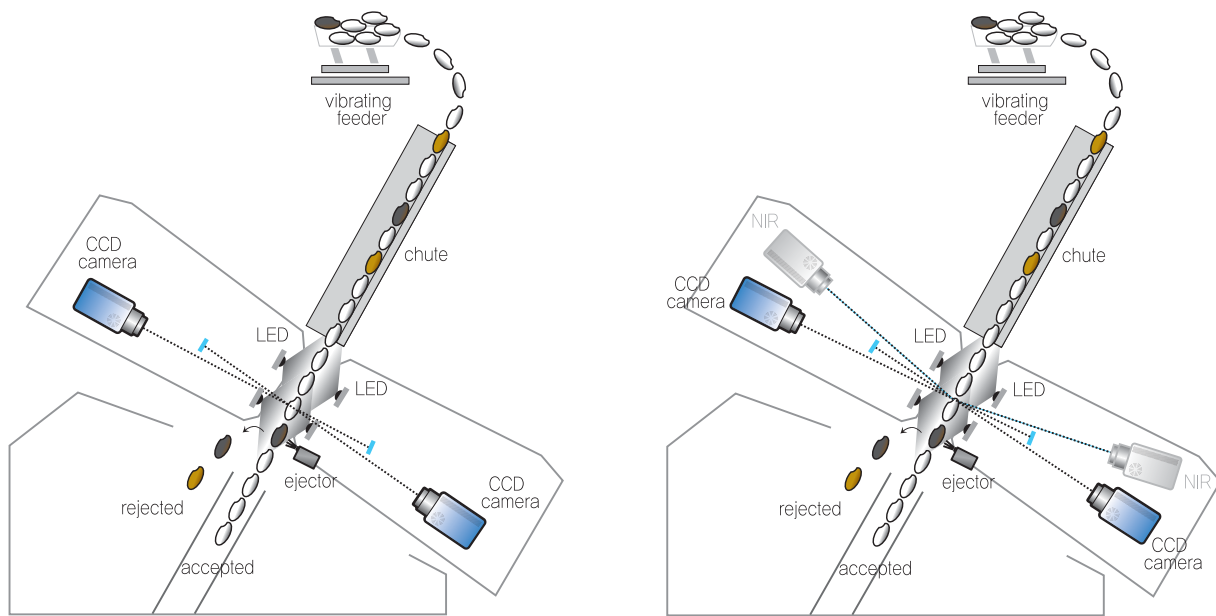
- Monitoring of ejector temperature and voltage
- Checking the Ejector working & abnormality
- Real time monitoring the ejector count
- Test automatic or manual

Remote Control

- Remote control of multi sorters at the same time and place
- Setting and monitoring the sorters by wireless LAN in factory



Sorting Principle (CCD + NIR)



High luminant LED, High resolution CCD Camera & NIR

With the highest resolution & brightness to detect and then reject the smallest defects even on the invisible properties, the NANTA ACE series consistently gives reliable and fast result to the customers, guaranteeing the safe and clean production.

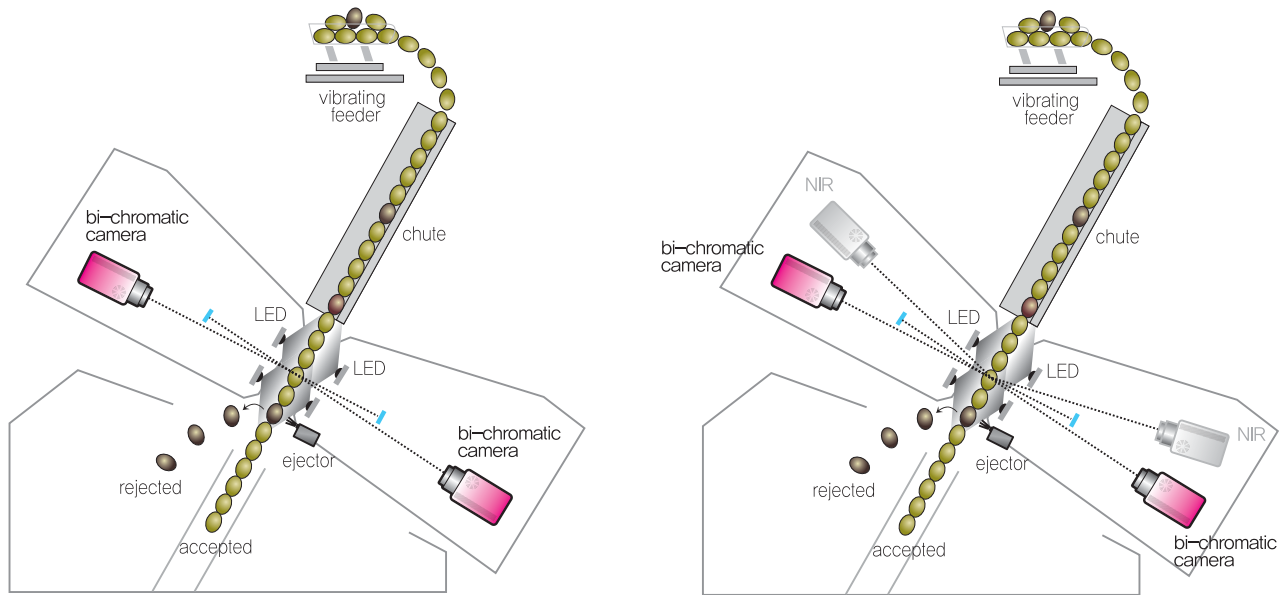
Sorting Samples



An up-to-date sorter uses CCD camera, NIR sensor & Bi-chromatic technology combined with fast, precise ejectors to reject as many defective product as possible while minimizing the number of good product blown out of the stream at the same time.

A combination of the most advanced cameras and shape recognition identifies the widest range of foreign material, extraneous matter, smaller spot defects, finer product damage and subtler colors. It reduces compressed air consumption per channel up to 30%. The ejectors accurately aim and remove defects.

Sorting Principle (Bi-Chromatic + NIR)



High luminant LED, Bichromatic Camera & NIR

With the highest resolution & brightness to detect and then reject the smallest defects even on the invisible properties, the NANTA ACE series will always offer customers higher profitability and satisfaction.

Sorting Samples



Power of the camera combination

With the highest resolution and the various camera combination to noise ratio to detect and then reject the smallest product defects on optical or non-optical properties, DAEWONGSI NANTA ACE series can work and remove subtle imperfections consistently & efficiently at bichromatic camera system - on one camera module as two cameras capacity.

WE'RE ALWAYS LOOKING TO THE FUTURE & GLOBE

Our commitment to 41-year-old research and development underpins our continuing reputation for innovation and creativity. Innovation and creative are the guiding principles that have been with us from the beginning. Abiding respect for diverse agricultural traditions.

And also a competitive spirit is our principle too. In global agricultural market we will build our future, though the market is so tough.

DAEWONGSI's most efficient Sorter Series



Optical Seed series



NANTA KB series



NANTA GREEN series



NANTA 9000T series

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