

AI Optical Coffee Bean Sorters



AI deep learning



Remote control



Smart backup

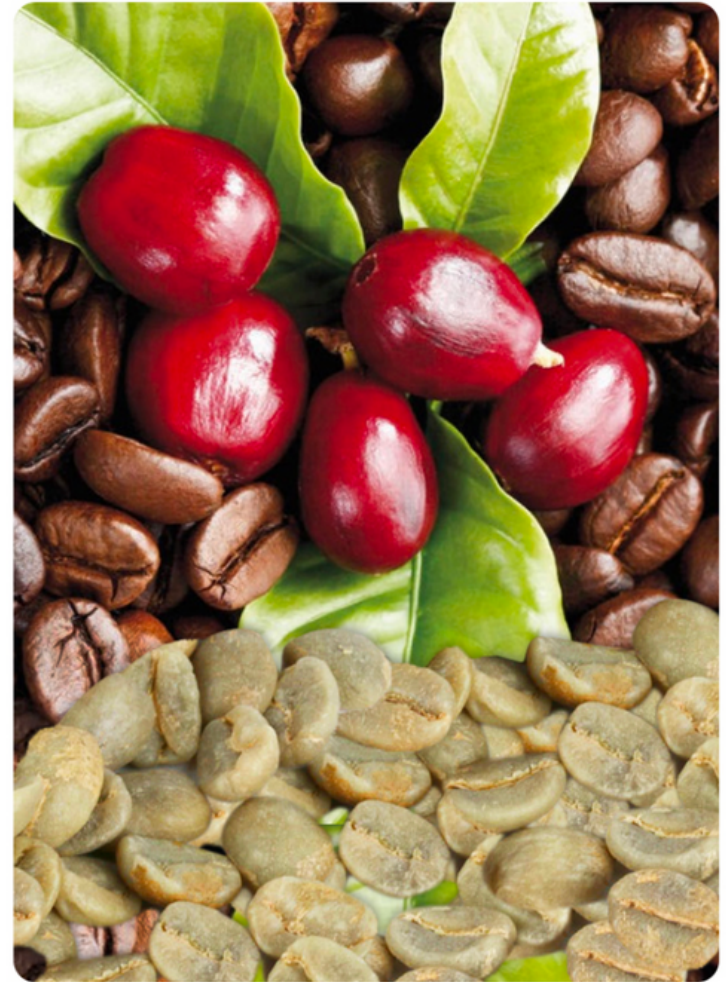


Magnetic ejector

AI Optical Coffee Bean Sorters

The quality of your beans has an impact on the value, taste and success of each roast.

Rubiaceae Consulting imports and supplies optical coffee bean sorters. Beans can be sorted on a wide range of characteristics and defects before and after roasting including: quakers, full black, partial black, insect damage, sours, broken, chipped and foreign matter. Electronic colour sorting (Automated Optical Sorting) uses a special camera to evaluate the colour of a bean compared to a pre-programmed colour range.



Technology overview

- **Multifunctional:** Programme to sort green coffee beans, coffee cherries and roasted coffee beans.
- **Colour + shape sorting to improve the quality of coffee:** Remove black, white, dark waxy, light waxy, immature, insect damage, malformed, shell etc.
- **AI intelligent sorting + APP remote control:** AI intelligent targeted removal of mildew and storage defects.

Green bean with no defects



Defective beans



Arabica green bean sorting

·Arabica coffee scraps only black beans



raw material



accepts



rejects

·Honey processed Arabica coffee separates bad defects



raw material



accepts



rejects

·Arabica coffee is fermented in the wrong way to separate red and black



raw material



accepts



rejects

Robusta green coffee bean sorting

· Improperly preserved Robusta coffee, black and dark waxy



raw material



accepts



rejects

· Robusta coffee only remove black beans and white



raw material



accepts



rejects

· Natural processed Fine Robusta coffee



raw material



accepts



rejects

Medium roasted coffee bean



Defective beans



·Roasted Coffee Beans sorting

·roasted coffee bean only removes light roast



raw material



accepts



rejects

·roasted coffee bean removes light roast and dark roast



raw material



accepts



rejects

·roasted coffee shape sorting removes broken beans



raw material



accepts



rejects

Good coffee cherry



Defective coffee cherries



Coffee cherry sorting

·fresh coffee cherry with green berries and overripe



raw material



accepts



rejects

·coffee cherry only remove green berries



raw material



accepts

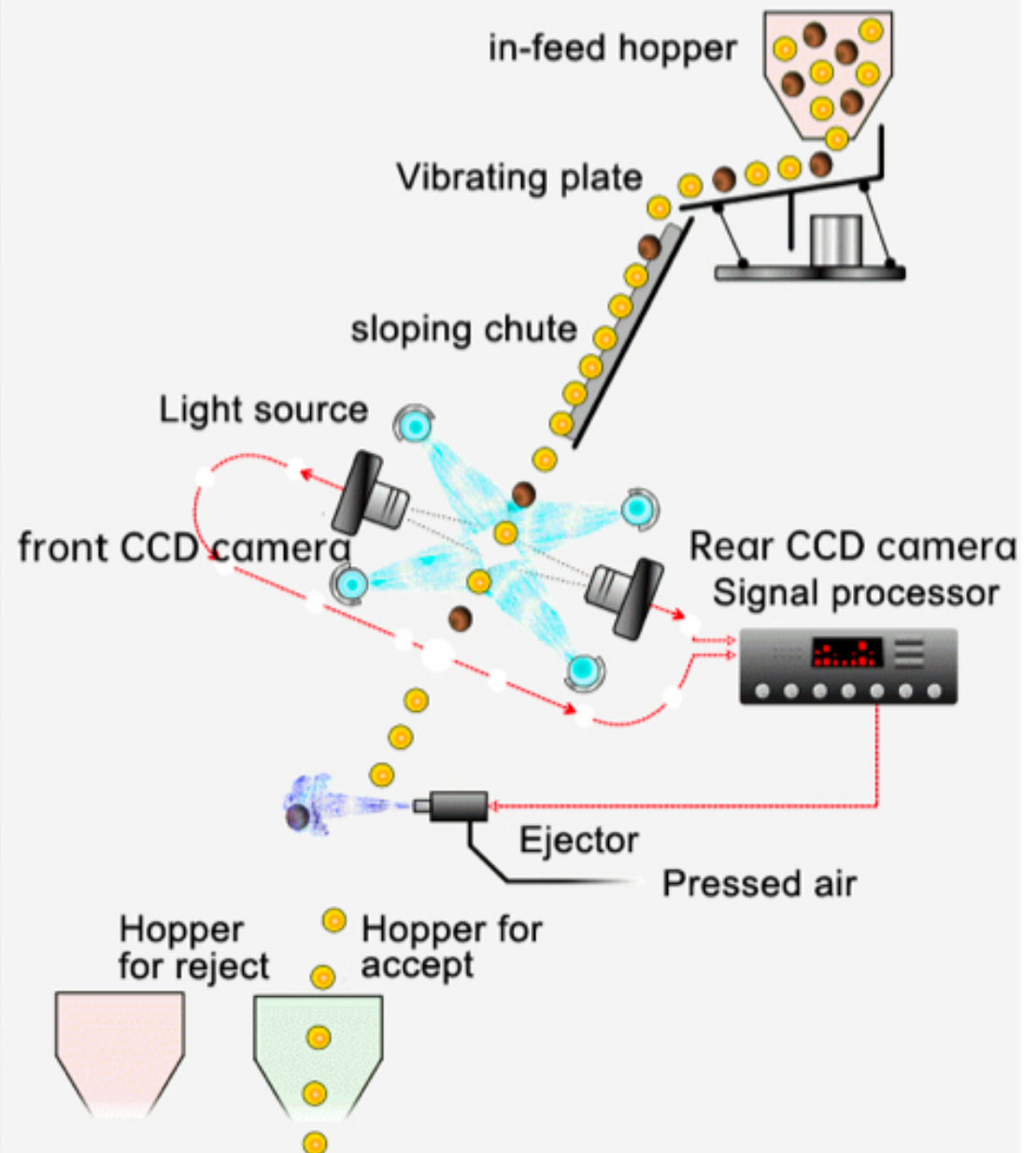


rejects

How it works

Technology overview

- Product enters machine via a hopper
- The vibration plate distributes product evenly
- Product flows down a sloping chute
- Product photographed, analysed and classified
- Product is accepted or rejected by a pressed air ejector into the appropriate hopper



Ten advantages



1.Nikon Camera

- 1.Japanese brand
- 2.High-end customized lens for wesort color sorter



2.Solenoid valve

- 1.Italian brand
- 2.High-frequency 1200/s.
- 3.Long lifetime more than 20 billion times.
- 4.High-speed response time 0.6 ms.

TOSHIBA

3.Toshiba CCD sensor

- 1.Japanese brand.
- 2.5400 pixel TOSHIBA CCD sensor.
- 3.Totally 200 million pixel.
- 4.The detective defects can be as small as 0.01mm²



4.YSC Filter

- 1.South Korean brand.
- 2.Filter water,oil and contaminates in the air.



5.HUAWEI Remote control tablet

- 1.Chinese brand.
- 2.Tablet 5.
Model : A Gs 2-W09HN.



6.304 Food safety standard stainless Steel

- 304 Food Grade to ensure the cleanliness and safety of materials.

OSRAM

7.OSRAM LED light

- 1.Germany brand
- 2.Advanced shadowless cold light guarantee high-revolutionimage and avoids damage to other electronic components

OMRON

8.Omron Switched-mode power supply

- 1.Japanese brand
- 2.Lifetime more than fifty thousand hours.



9.SMC Rodless cylinder

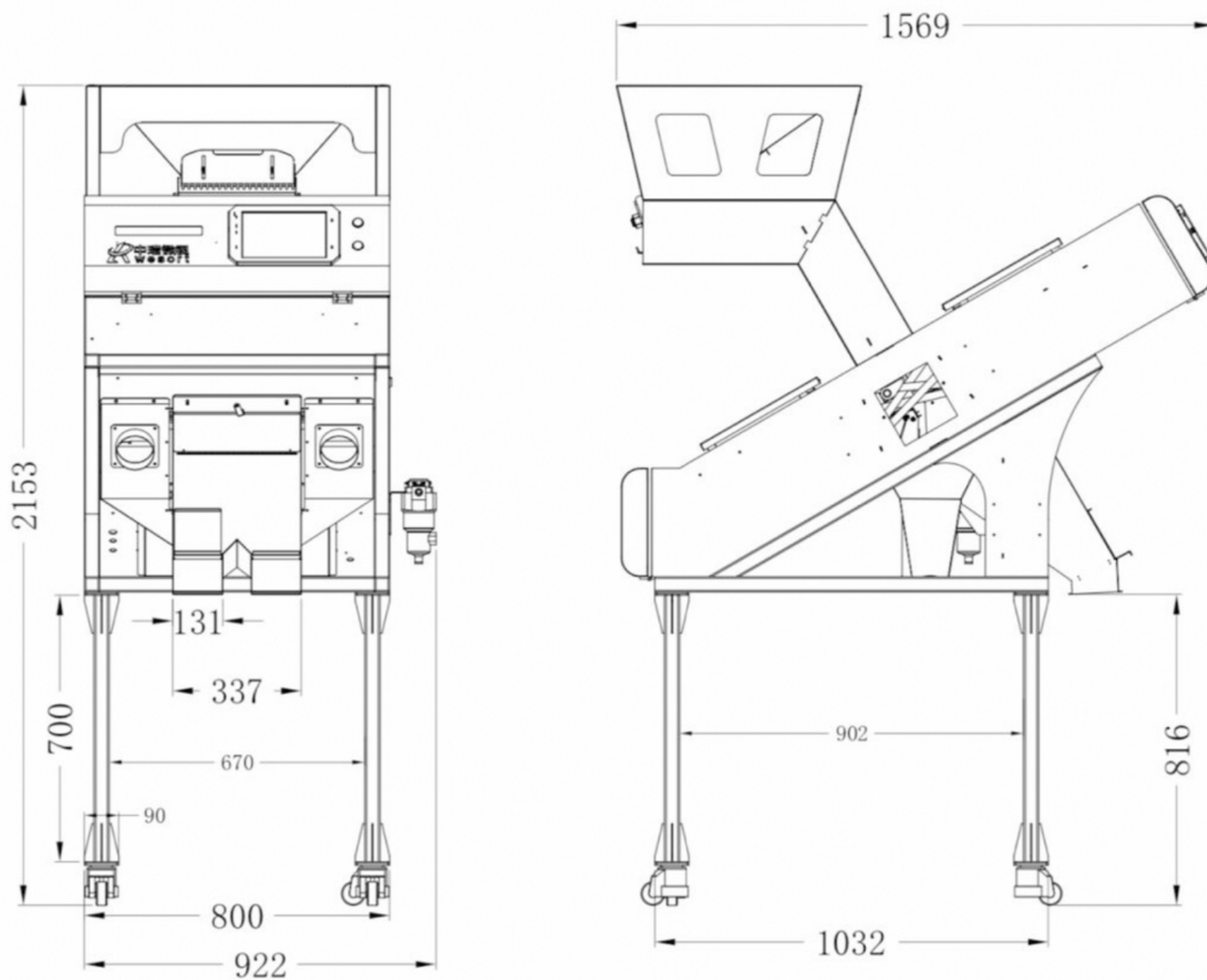
- 1.Japanese brand
2. Durable 304 anti-rust food safety standard aluminum alloy cylinder.
3. 304 food safety standard stainless steel rack for cleaning brushes.
- 4 Automatic glass cleaning system.



10.Intel Core process chip

- 1.US brand
2. Adopt advanced technology of DSP (digital signal processs)+ FPGA (Field programmable gate array).

Dimensions



Core technologies



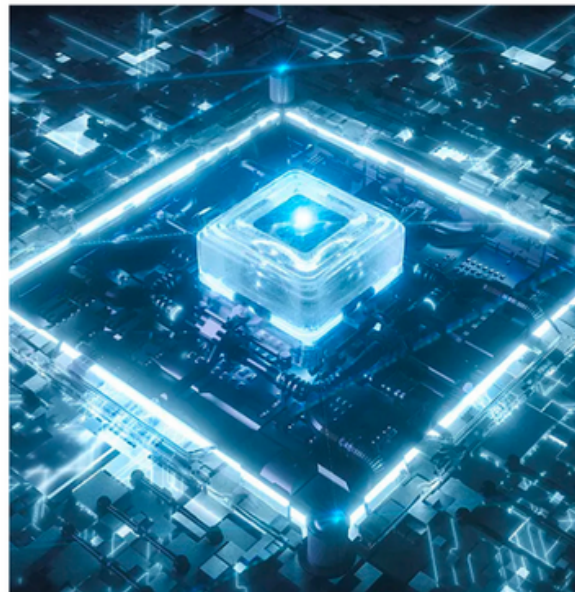
AI deep learning

- Automatic identification of good and defective products through the software system
- Automatically record good and defective products information



APP remote control

- Mobile APP remote control
- tablet operating system
- Original 99 groups of material color selection parameter memory function
- Two-key switch



Smart system

- Multi-megapixel high-resolution CCD
- Full color CCD image sensor
- Identify 0.01mm² spots



Magnetic Ejector

- Italian high-precision magnetic ejector
- Key rejection device of color sorter
- long service life

Product parameters

Chute color sorter



1-chute
color sorter

90 channels
color sorter

2-chute
color sorter

Product parameters

Product	Model	Capacity (kg/h)	Sorting Accuracy (%)	Power (kw)	Air Pressure (Mpa)	Air Consumption (L/min)	Size (mm)	Weight (kg)
Mini color sorter	6SXZ-30	200-400	≥99	0.4-0.6	0.4-0.6	< 250	569*1330*1836	145
1-chute color sorter	6SXZ-68	500-1000	≥99	0.6-0.8	0.4-0.6	< 500	1221*1538*2068	350
90 channels color sorter	6SXZ-90	600-1200	≥99	0.7-0.8	0.6-0.8	< 750	922*1569*1753	270
2-chute color sorter	6SXZ-136	1000-2000	≥99	1.1-1.4	0.5-0.7	< 1000	1259*1571*1769	370
3-chute color sorter	6SXZ-204	1500-3000	≥99	1.6-2	0.5-0.7	< 1500	1467*1572*2691	580
4-chute color sorter	6SXZ-272	2000-4000	≥99	4.2-4.6	0.6-0.8	< 2000	2286*1720*2834	960
5-chute color sorter	6SXZ-340	2500-5000	≥99	5.3-6.2	0.6-0.8	< 2500	2348*1518*2250	1070
7-chute color sorter	6SXZ-476	3500-7000	≥99	7.5-8.7	0.6-0.8	< 3500	2984*1556*2949	1450
10-chute color sorter	6SXZ-680	5000-10000	≥99	11-13	0.6-0.8	< 5500	4390*1590*2221	2200

NOTE: The above processing capacity is calculated with reference to the coffee beans with an impurity content of 5% in the raw material.

Product Category	Model	Capacity (kg/h)	Sorting Accuracy (%)	Power (kw)	Air Pressure (Mpa)	Air Consumption (L/min)	Size (mm)	Weight (kg)
Mini belt color sorter	6SXZ-32L	350-500	≥99	0.4-0.6	0.4-0.6	< 250	677*1651*1289	145
1-chute belt color sorter	6SXZ-68L	700-1000	≥99	0.7-1.0	0.4-0.6	< 500	1241*2038*1761	380
2-chute belt color sorter	6SXZ-136L	1400-2000	≥99	1.4-1.8	0.5-0.7	< 1000	1840*2079*1851	510
4-chute belt color sorter	6SXZ-272L	2800-4000	≥99	2.6-3.2	0.6-0.8	< 2000	1922*2430*1349	920

NOTE: The above processing capacity is calculated with reference to the coffee cherries with an impurity content of 5% in the raw material.

Accessories

Air compressor



Oil-free belt air compressor



oil-free air compressor



Screw air compressor

Elevators



vacuum conveyor



Vertical bucket elevator



Z type elevator (stainless steel)



Inclined bucket elevator (stainless steel)



Please get in touch if you would like to see an optical colour sorter in action or discuss how it could benefit your roastery.

jamie@rubiaceaeconsulting.co.uk

+44 (0)7931 749 777

