

Destined with Fruits
Selected One by One

FRUITS AND VEGETABLES SORTING SOLUTIONS

www.sortedmachine.com



Hefei Jinguoyuan Vision Technology Co., Ltd.

Hefei Jinguoyuan Vision Technology Co., Ltd.

+86 173 0565 1407

sortedmachine@hotmail.com

www.sortedmachine.com

Intersection of South Jinzhai Road & East Jiangjunling Road
Feixi County, Hefei, Anhui China 231241

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Company Introduction

Set Sailing to Create a new Era of AI Deep Learning Sorting Equipment

Hefei Jinguoyuan Vision Technology Co., Ltd. is located in Hefei China. It is a national high-tech company specializing in R&D, production and sales of artificial intelligent sorting equipment. Our company owns an AI sorting equipment production base covering an area of 60,000 sq.m with more than 200 employees. Our annual output has exceeded 100 million. We focus on the AI sorting equipment industry, and have won honors of AKSTSPE (Anhui Key Science and Technology Special Project Enterprises), ASE (Anhui Software Enterprises), AADEoFUMTE (Anhui Application Demonstration Enterprises of First Unit Major Technical Equipment), AADEoICIP (Anhui Application Demonstration Enterprises of Information Consumption Innovation Product), HBDE (Hefei Big Data Enterprises), HDDGE (Hefei High-tech District Gazelle Enterprises). Meanwhile, our company attached great attention to product quality since its establishment, and passed Three System Certifications of QMS (Quality Management System), EMS (environmental management system) and OHMS (occupational health management system) in 2020.

Jinguoyuan is a tech-oriented technology enterprise, it owns a R&D center, of which staff proportion hits 40% among the company, including more than 50 Doctors & Masters. Our R&D team has 20 years' experience in optical sorting section, dozens of long-term core tech members engaged in visual sorting, all of them is competent with rich practical experience and strong R&D, possessing core independent intellectual property rights in new technologies and new fields. By using new generation of deep self-learning system and FPGA fusion algorithm, through industrial grade ultra-HD digital cameras, materials are 360° rotational captured, and sorting simultaneously with multiple wanted discharges only one time after special computer data model processing. We have achieved nearly 100 intellectual properties so far.

Jinguoyuan AI Sorting Robots with complete models have superior performance, which can meet different processing requirements from different type of companies. According to different sorting requirement, we are able to provide complete tailored production line. Our robots are widely used for sorting various Fruits (such as Apples, Oranges, Pears, Kiwis, Plums) and various Nuts & Dried Fruits (such as Dates, Chestnuts, Hazelnuts, Lotus, Walnuts, Pistachios). Our strict QMS guarantees the qualities of our products and services, which have been exported to many countries and regions around the world. In 2021, Jinguoyuan successfully developed complete production lines for Walnuts/Pecans cracking & shelling processing, they are used to replace labor work and increase efficiency and yield, breaking foreign monopoly, realizing localization of cracking shelling processing equipment, and widely praised by our customers.

JINGUOYUAN

PROFESSIONAL MANUFACTURER

FRUITS AND VEGETABLES SORTING EQUIPMENT

Company Culture

Corporate Vision: focus on user experience's value, strive to be a leader in AI sorting

Company Philosophy: co-create a healthy ecological environment for the Internet of Things (IoT) with partners on basis of open and win-win platform

Company Purpose: user value oriented, satisfy user needs with excellent products and services

Company Spirit: dare to be the first, pursue excellence, and achieve the mission

Sortable Materials

Complete Cases



Blueberry



Cherry



Cherry Tomato



Hawthorn



Lychee



Date



Prune



Plum



Kumquats



Apricots



Avocado



Apple



Kiwi



Tomato



Lemon



Mango



Tangerine



Pear



Pomegranate



Peach



Orange



Pitaya



Pummelo



Watermelon

Equipment Introduction

Series A

small fruits



blueberry, cherry

Series B

medium fruits



lychee, apricot, date, prune, kumquat
plum, hawthorn, cherry tomato

Series C

conventional fruits



avocado, pear, mango, kiwi, apple, tangerine,
lemon, orange, tomato, honey peach
yellow peach, pomegranate

Series D

large fruits



pitaya, pummelo, watermelon

Our advantages

20 years

20 years of experience in sorting industry advanced technology

360°

360°rotating scan sorting simultaneously with multiple discharges with different expectations only one time

800

Large output and high efficiency with 400-800 pieces per minute

Accurate

high-end nuts & dried fruit sorting system with high accuracy

Farewell to Manual Sorting

**Manual
Sorting**

Labor intensive
Low efficiency
High cost
Poor accuracy
Concerned hygiene quality



**Jinguoyuan
AI Sorting**

High intelligence
High accuracy
High speed
AI deep learning technology
One-time materials sorting



▶ Series A Fruit Sorting Equipment

Small diameter fruit sorting



▶ Equipment Details and Sorting Expectations

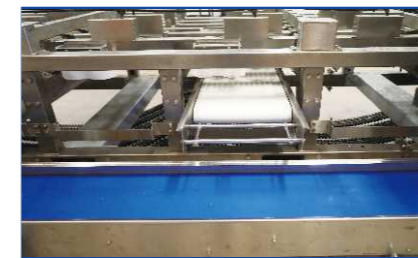
▶ Sortable Materials



Blueberry



Cherry



Expectations



Large



Medium



Small



Green



Red



Soft



Defects

Remarks: expectations of series A takes blueberries as an example. Sorting Expectations of different types of materials are slightly different.

Series B Fruit Sorting Equipment

Medium diameter fruit sorting



Sortable Materials



Cherry tomato



Lychee



Date



Prune



Plum



Kumquat



Hawthorn

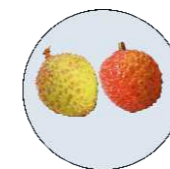


Apricot

Equipment Details and Sorting Expectations



Expectations



Colors



Sizes



Blemish



Defects



1st-class



2nd-class



3rd-class



Damaged

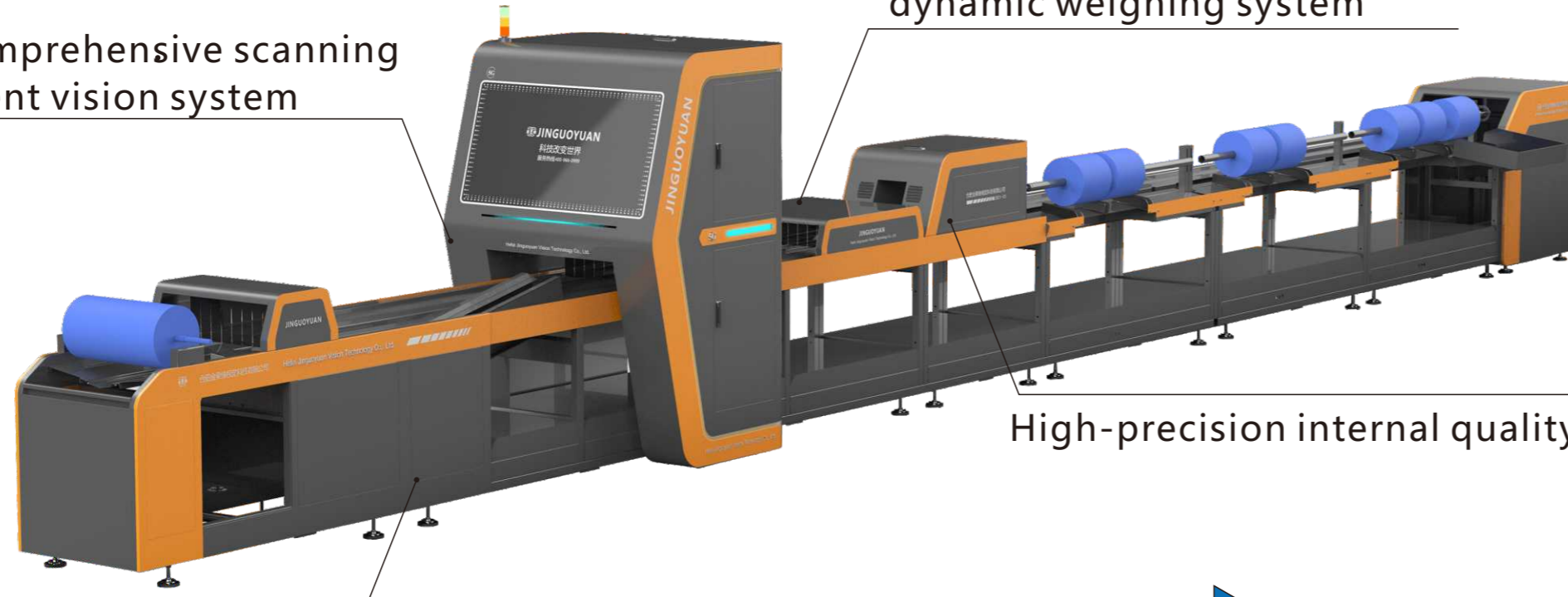
Remarks: sorting expectations of the series B takes lychees as an example. Sorting Expectations of different types of materials are slightly different. Efficiency: 360-480 pieces per channel per minute (as feeding), due to different cherry varieties and water content, the efficiency is subject to actual situation.

Series C Fruit Sorting Machine

Conventional diameter fruit and vegetable sorting

360° comprehensive scanning intelligent vision system

Intelligent sensing high-speed dynamic weighing system



High-precision internal quality detector

Concealed silent transmission system

Sortable Materials



Avocado

Pear

Mango

Kiwi

Apple

Peach



Lemon



Orange



Tomato



Pomegranate



Tangerine



Yellow Peach

Equipment Sorting Details



Technical Parameters

No.	Channels	Output(t/h)	Volt(V/Hz)	Power (kW)	Dimension (LxWxH mm)
ZG01	1	2~3	380/50	7.55	21690x1400x2280
ZG02	2	4~6	380/50	15.36	22690x1950x2280
ZG04	4	8~12	380/50	16.25	25690x2390x2280
ZG06	6	12~15	380/50	18.65	27690x2790x2280

Remarks: output takes apples as an example, and actual dimension is subject to the customer's requirements.

Product Configuration (optional)

No.	Function	Voltage (V/Hz)	Power (kW)	Dimension (LxWxH mm)
Water Sterilization System	Flexible feeding, cleaning and sterilization	380/50	3.05	5000x1280x1135
Drying system	Surface is air-dried without destroying the fruit characteristics	380/50	3.75	5000x1000x1750
Dry switching feeding	Dry direct feeding	380/50	2.5	4600x1000x980
Discharge packaging line	For manual packing	380/50	7.53	6000x900x1400
Empty container delivery	Fruit box supply	380/50	0.6	10030x530x300

As per customers need, we can provide automatic assembly lines such as front-end process, main sorting, fine packaging.

Expectations



Internal Quality Flaw Shapes Diameter Colors Density Volume Texture Weight

Remarks: expectations of the series C takes apples as an example. Sorting Expectations of different types of materials are slightly different.

▶ C1 series Flexible Fruit Sorting Line

Conventional diameter thin skin fruit sorting



▶ Equipment Sorting Details



▶ Sortable Materials

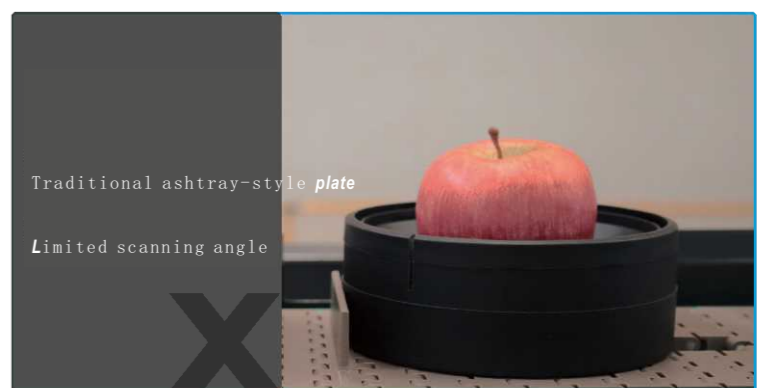
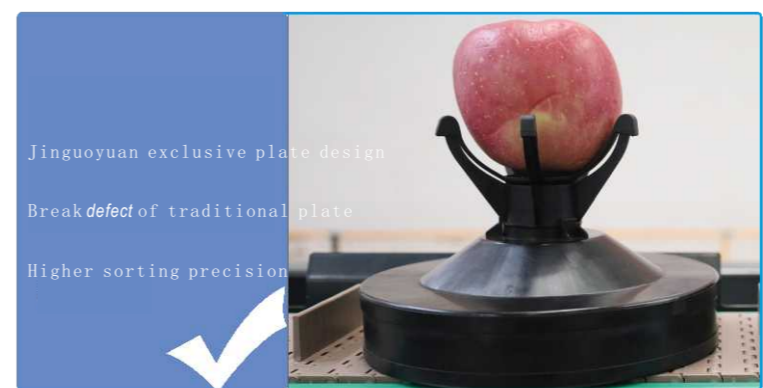


Pear

Kiwi

Apple

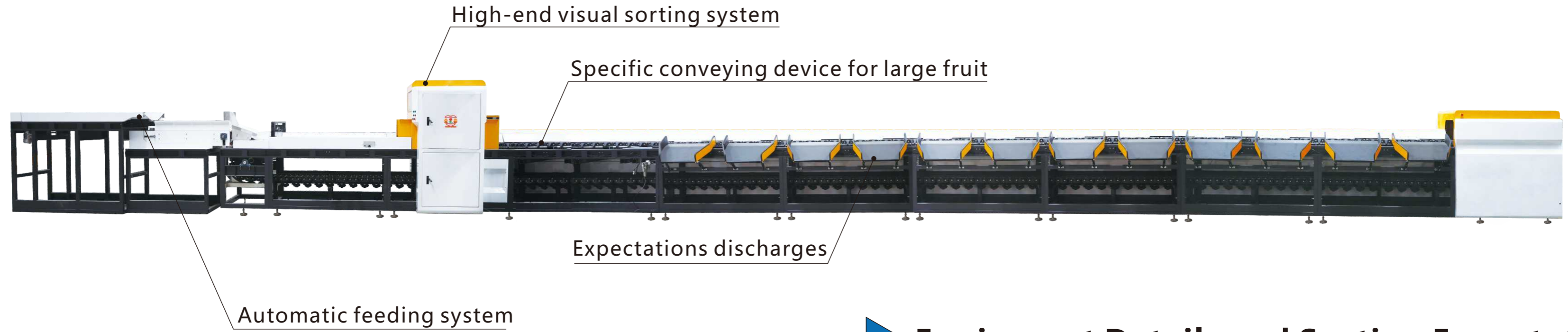
▶ Technical Advantages



Remarks: Expectations of C1 flexible sorting line refers to series C. Sorting Expectations is slightly different from different types of materials.

▶ Series D Fruit Sorting Equipment

Large diameter fruit sorting



▶ Sortable Materials



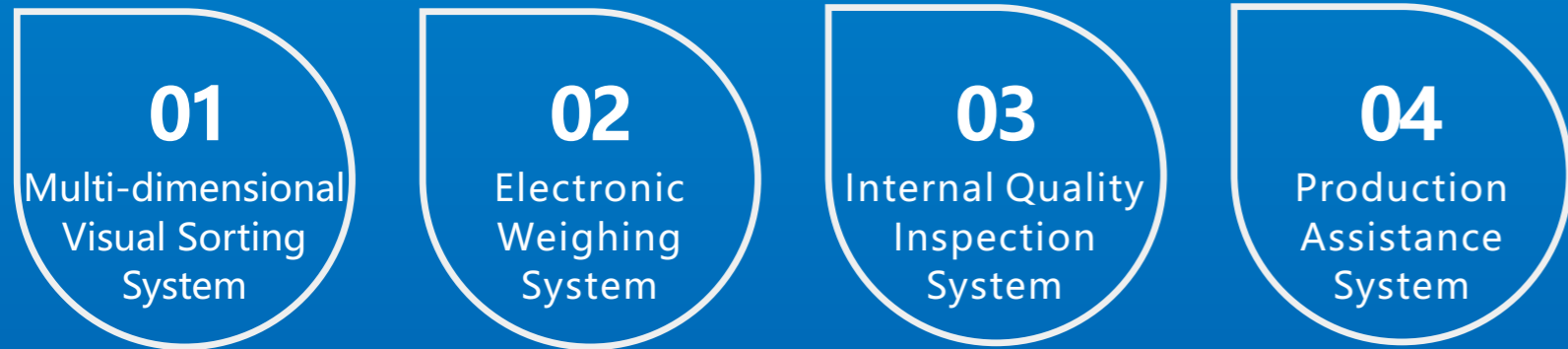
▶ Equipment Details and Sorting Expectations



- Expectations**
- Colors
 - Sizes
 - Shapes
 - Flaw
 - Internal quality
 - Weight
 - Sugar content
 - Acidity

Remarks: sorting Expectations of series D takes pummelos as an example. Sorting Expectations is slightly different from different types of materials.

Intelligent High-speed Sorting System



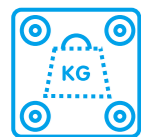
Multi-dimensional Visual Sorting System

Computer vision technology is used to collect information such as color, shape, flaw etc. Each channel has at least 2 color cameras, which materials can be 360° inspected and realize all-round and non-blind angle detection



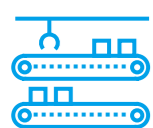
Internal Quality Inspection System

Infrared non-destructive detection technology is used to collect the internal quality of fruits and vegetables, including sugar content, mildewed, etc.



Electronic Weighing System

Electronic sensing technology is used to collect weight info of fruits and vegetables



Production Assistance System

Feeding system: including water-type feeding, dry-type feeding, and air-drying system, which are better solutions to fruit and vegetable bruising issues

Packaging system: packaging speed and production efficiency improved significantly

Technical Highlights of Jinguoyuan Fruit Sorting Equipment

- 01 Each channel standardizes 2-50 sorting Expectations
- 02 Output 300-800 pieces per minute per channel (according to materials)
- 03 Sorting damage rate $\leq 5\%$
- 04 Each channel adopts 3 color cameras, which can realize 360° inspection and detect sunken areas of stems and calyx effectively
- 05 Weight sorting, accuracy $\pm 2g$, pass rate reaches 95%
- 06 Color sorting, effectively sort fruits with different coloring rates, such as striped red and sliced red; pass rate higher than 95%
- 07 Shape sorting, effectively sort heterocarpy, pass rate higher than 95%
- 08 Defect sorting, effectively sort defects, pass rate higher than 95%
- 09 Internal quality sorting, sugar content sorting accuracy $\pm 1^\circ$, pass rate higher than 95%
- 10 Hidden wound detection: identifying invisible bumps, crushed and hidden wounds accurately
- 11 Heavy metal detection: remove heavy metals exceeded fruit effectively
- 12 Pesticide detection: rejecting hazards and protecting consumers' food safety
- 13 Modern user interface, simple operation
- 14 Complete intellectual properties, provide tailored services as per customers personalized needs, software enjoys lifetime upgrade

EXCLUSIVE CUSTOMIZATION

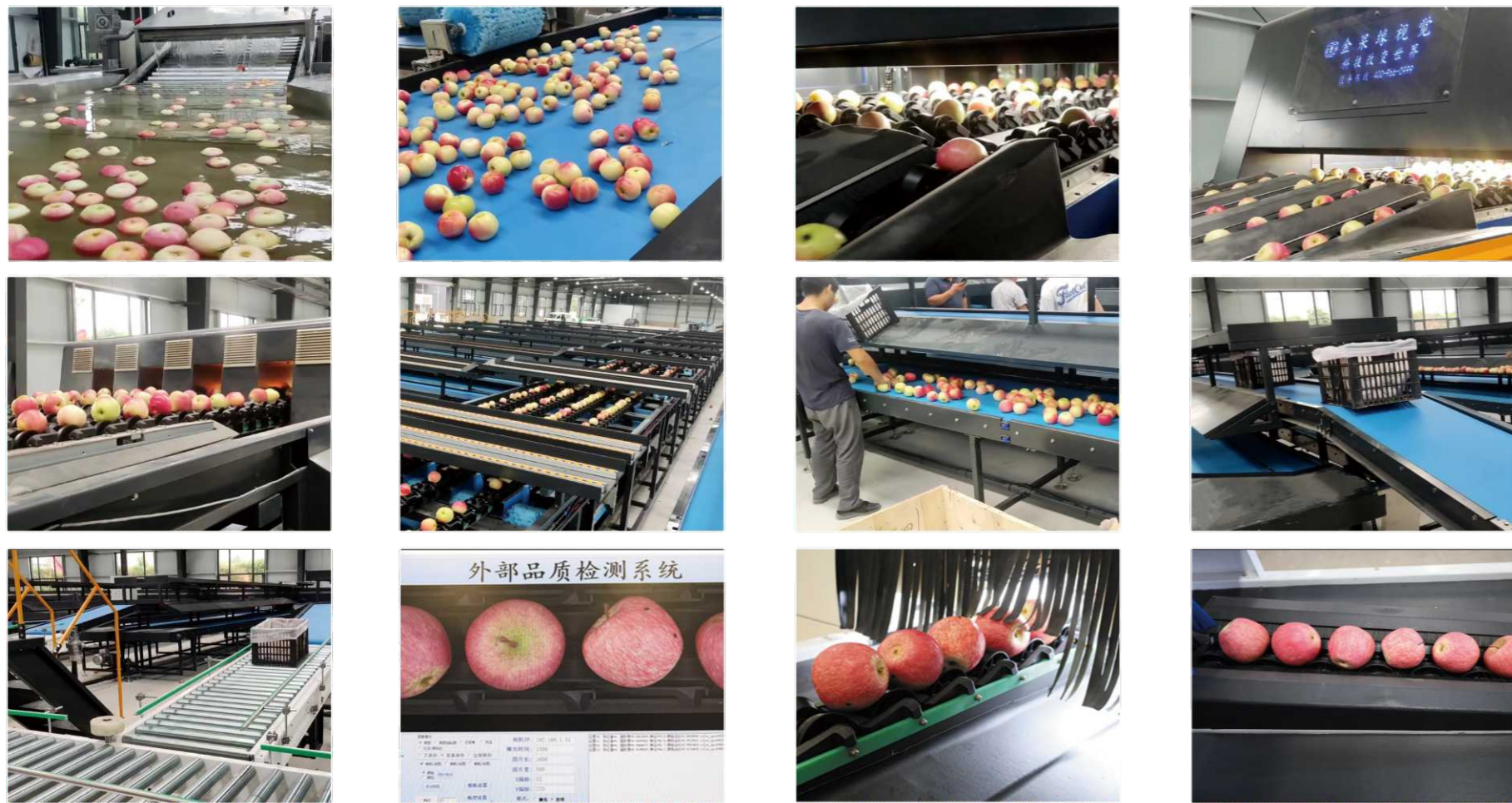
TAILOR EXCLUSIVE EQUIPMENT
ACCORDING TO YOUR NEEDS



sortedmachine@hotmail.com

Hefei Jinguoyuan Vision Technology Co., Ltd.

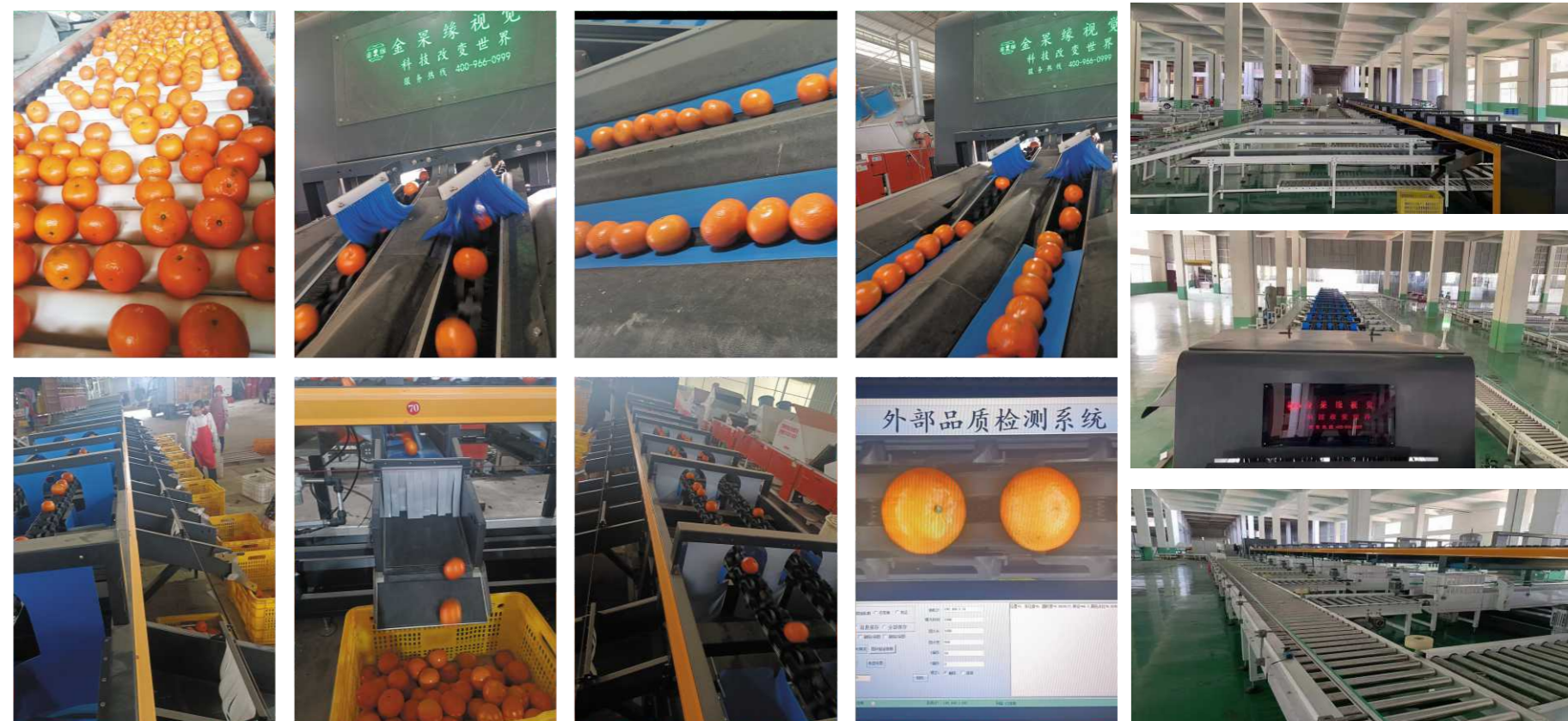
Fruit Sorting Cases - Apple



Fruit Sorting Cases - Hawthorn



Fruit Sorting Cases - Tangerine



Fruit Sorting Cases - Orange



Fruit Sorting Cases - Kumquat



Fruit Sorting Cases - Lemon



Fruit Sorting Cases - Plum



Fruit Sorting Cases - Apricot



Fruit Sorting Cases - Cherry Tomato



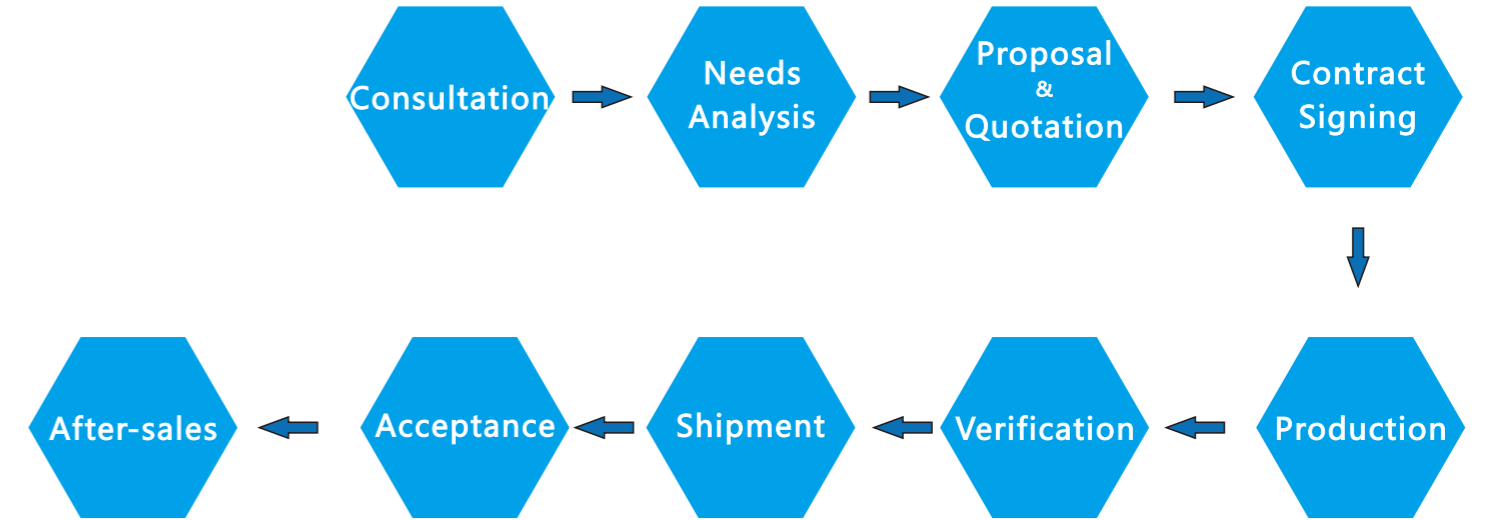
Fruit Sorting Cases - Lychee



Fruit Sorting Cases - Hawthorn



Business Process



Business Partners



Company Horons >>>

3A Enterprise Certificates



Management System Certificates



Software Certificates



Invention Patents



Computer Software Copyrights



Utility Model Patent Certificates



Anhui First Set/Unit of Major Technical Equipment

2021年度安徽省首台套重大技术装备（第二批）拟评定名单公示

为贯彻落实《安徽省人民政府关于印发支持首台套重大技术装备首批次新材料首批次软件发展若干政策的通知》（皖政秘〔2020〕52号），促进首台套重大技术装备的研发应用，推动制造业高质量发展，根据《安徽省经济和信息化厅关于印发〈安徽省首台套重大技术装备首批次新材料首批次软件评定管理暂行办法〉的通知》（皖经信装备函〔2020〕236号）、《安徽省经济和信息化厅关于开展2021年第二批首台套重大技术装备申报评定工作的通知》的规定和要求，经企业申报，所在地（直管县/市）经信局审核推荐，第三方机构组织专家评审，拟评定“安徽省首台套重大技术装备及预研仿测系统”等84项产品为2021年度安徽省首台套重大技术装备（第二批），现予公示，公示期为5个工作日，如有异议，请实名向省经济和信息化厅装备工业处反映。

联系电话（传真）：0551-62871778，邮箱：zhuangbei@ahjxw.gov.cn
附件：2021年度安徽省首台套重大技术装备（第二批）拟评定名单

2021年度安徽省首台套重大技术装备（第二批）拟评定名单		
序号	企业名称	产品名称及规格型号
12	合肥开松智能科技有限公司	中央仓库物流系统
13	合肥金果缘视觉科技有限公司	PH04智能水果分拣机器人
14	安徽中联润天环境科技股份有限公司	非膜法（AOR）自循环污水处理装备，ZJ1-ANR-400



Anhui Science & Technology Major Special Project

2021年度省科技重大专项立项项目清单（第二批）									
序号	项目编号	项目名称	项目类别	承担单位	项目负责人	项目合作单位	归口管理单位	省支持经费	
								总计	2021年
10	202103a06020015	优质薄皮水果智能化分选装备研发与产业化	公开竞争类-技术领域项目-农业领域	合肥金果缘视觉科技有限公司	方成	安徽农业大学	合肥市科技局	150	150

Other Honors Certificates

