

**T** 公司简介  
Company profile



上海沃迪自动化装备股份有限公司成立于1999年，在册员工近400人。金山工厂占地80.5亩，建筑面积33000平方米。沃迪装备视科技创新为核心竞争力，在立足自主创新的基础上，同时整合、吸收欧美先进的机械设计理念以及自动化控制技术，拥有一支以硕士、博士和高级工程师为核心的研发团队，并积极联合上海交通大学、同济大学、上海理工大学、上海海洋大学、江南大学、华中农业大学等多所国内著名高校共建硕博研究生培养点及博士后工作站。经过多年累积，沃迪已拥有各类专利超过133项，先后承担了国家科技部、工信部的多项国家重点装备攻关课题项目及上海市科委、上海市机器人产业十二五规划纲要的多个重大项目。沃迪现在已成为机器人自动化搬运包装领域以及智能食品装备领域（特别是整厂装备交钥匙工程领域）世界范围内的行业领导者之一。

沃迪装备由食品智能装备和机器人智能装备两大事业部构成，市场覆盖欧盟、美国、加拿大、新加坡、澳大利亚、日本、英国等发达国家和地区，力求打造和提升中国装备在世界舞台上的全新形象。

Established in 1999 Shanghai Triowin Automation has played an important role in several National Chinese Programs. Today, our company is a Public leading company having reached a high level of expertise, know-how and knowledge in processing technology and robotic systems.

Our Processing Division with the support of our R&D dept. to develop our technology and bring it to European levels is able to provide solutions in the food & beverage industry. We divided this division in 3 main families of solutions.

1. Fruit & tomato processing technology
2. Dairy processing
3. Pilot lines & lab equipment

沃迪食品装备事业部又包含：果蔬装备、实验设备及乳品装备；果蔬装备部专业从事果蔬浓缩及非浓缩汁/浆，热灌装茶饮料、果汁饮料设备生产制作及整厂安装工程交钥匙系列服务，具备整体项目的开发设计、生产制作、安装调试、技术培训、售后服务诸多方面的综合能力。以“融合世界先进科技、造福民族饮料工业”为己任，致力于消化、吸收并掌握国际先进的果蔬深加工及饮料加工工艺的前沿科技，曾先后与德国、意大利、美国、英国等诸多公司联手合作，并代理国外著名的加工机械品牌，对番茄、芒果、菠萝、橙、葡萄、蓝莓、草莓、桃、杏、枣、胡萝卜等果蔬品种的加工有着丰富的认识和深刻了解，具备根据客户的不同要求提供个性化的精辟解决方案的能力。沃迪装备于2014年7月在全国中小企业股份转让系统挂牌。股票代码：830843。

“变、渐进、学习力”，完美诠释了沃迪装备积极进取、锐意创新、“不以一日造罗马、矢志百年铸沃迪”的企业精神。“日式管理、德国式技术、中国式人文”体现了沃迪人集众家之长，以人为本，力求在国际舞台发中国声音的匠心文化。全体沃迪人秉持精益求精造精机的理念，争做精品民族机械的领导者！

Each family is composed by a team of persons, supported by a team of engineers, devoted to find the most suitable solution which will fulfill the requirements of our customers. Our people and company use the most modern tools to design, manufacture every single machinery which will make the success of our customers' products.

# Triowin

沃迪装备



**工作原理:**

利用高温饱和蒸汽具有很强的穿透性和吸附性，短时间内让微生物细胞迅速受热，使蛋白质凝固变性直至死亡，而蒸汽对很少含有蛋白质的天然植物根、茎、叶等几无破坏作用；通过调节杀菌温度和时间，既能达到杀菌目的，又能保持物料色泽和特有的天然挥发性芳香油不受破坏或损失。

**operating principle:**

The high temperature saturated steam has strong penetrability and adsorption, which can heat the microbial cells rapidly in short time, make the protein solidifiable, denatured until dead, while the steam cannot damage the natural plant roots, stems, leaves which hardly contain protein. By adjusting the sterilizer temperature and time, we can sterilize the material meanwhile keep the color and make sure no damage or loss of the unique natural volatile aromatic oil.



表1 杀菌前后对主要理化指标的影响

产品名称	色价 (ASTA单位)		精油/油树脂 (ml/100g)		胡椒碱 (干基汁%)	
	杀菌前	杀菌后	杀菌前	杀菌后	杀菌前	杀菌后
黑胡椒	----	----	1.3	1.3	4.5	4.5
辣椒	95	93	0.8	0.7	----	----

表2 杀菌前后微生物指标变化

产品名称	细菌总数 (个/g)		大肠菌群 (个/100g)		酵母菌与霉菌 (个/100g)	
	杀菌前	杀菌后	杀菌前	杀菌后	杀菌前	杀菌后
黑胡椒	不可计	100 00	100 00	<30	100 00	<10
孜然	190 0000	500	170 00	<30	30 00	<10
茴香	14 000	570	27 00	<30	20 00	<10
牛至	490 0000	380	----	----	15 00	<10
辣椒	260 000	350	55 00	<30	20 00	<10
罗勒	220 000	80	15 00	<30	4 00	<10
姜黄	140 00	80	1500	<30	10	<10



**使用性能:**

1. 连续式生产，生产效率高
2. 干热蒸汽杀菌，杀菌效果好
3. 杀菌均匀，产品品质稳定
4. 保持产品中高挥发油含量
5. 旋转进料，不破坏物料完整性
6. 杀菌温度、杀菌时间及产能可灵活调整

**PERFORMANCE:**

1. continuous working with high production efficiency
2. sterilization with dry hot steam, which results in good effect
3. homogeneous sterilization, stable product quality
4. high content of the volatile oil in the product
5. keep the integrity of the material by spiral feeding
6. be flexible to adjust the sterilizing temperature, sterilizing time and capacity

# Triowin

沃迪装备



适用产品：

本连续式干物质电热蒸汽杀菌系统可处理大部分干和湿的产品：

1. 香辛料 如辣椒、胡椒、生姜、八角、桂皮等
2. 种子 如麦类、粗粮及稻谷类等
3. 各类中药材
4. 果蔬干 如红薯、香菇、菠萝、香蕉等

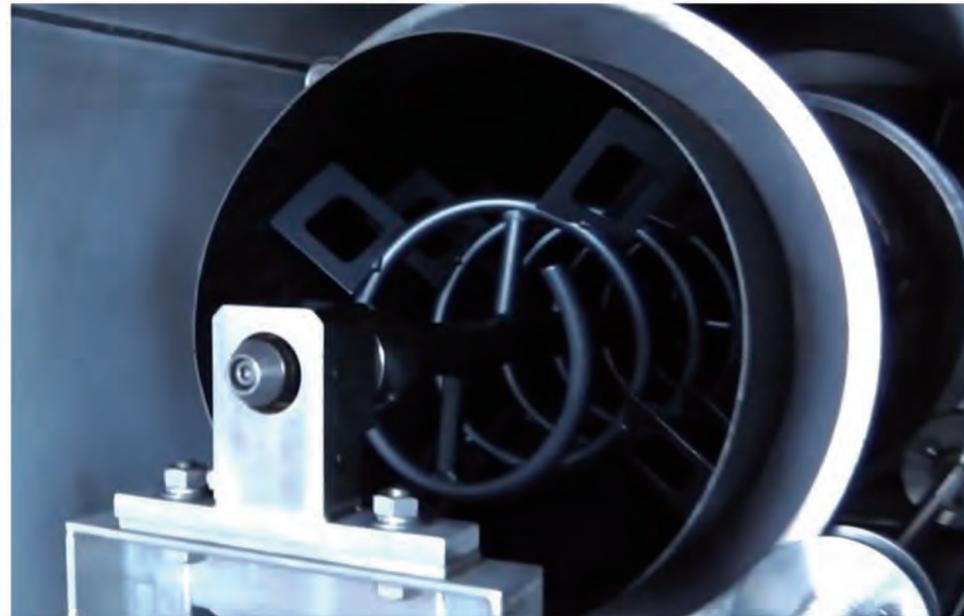
适用于所有形状，从块状至粉末状均可。

APPLICABLE PRODUCT:

This system can be used for most of the wet and dry product

1. spice, like chili, pepper, ginger, anise, cassia
2. seeds, like wheat, roughage/ coarse food grain, rice
3. all kinds of Chinese herbal medicinal material
4. dry fruit, like sweet potato, mushroom, pineapple, banana and etc.

Can be suitable for all kinds of shape, from bulk to powder



产品技术参数：

序号	型号	产能	蒸汽耗量	电功率	外形尺寸	重量
1	TW-ES200	50-200KG/H	10KG/H	14KW	1400*1200*2200	800KG
2	TW-ES500	200-500KG/H	15KG/H	21KW	1600*1400*2300	1000KG
3	TW-ES1000	500-1000KG/H	25KG/H	36KW	2260*1480*2100	1200KG
4	TW-ES2000	1000-2000KG/H	45KG/H	60KW	2760*1580*2300	1600KG

备注：不同的物料，处理量有所不同；可定制其他产能的产品。

该系统由杀菌旋转螺旋、物料进出旋转控制阀、风送系统、蒸汽阀组、电加热装置、电控系统及机架组成。杀菌旋转螺旋是物料进行杀菌的关键部件，通过调节旋转螺旋的转速，可以控制物料杀菌的时间。

风送系统是将杀菌旋转螺旋内的余热空气经过旋风分离器净化后，由风机将洁净的热空气送到电加热器加热到设定的温度后送进杀菌旋转螺旋内，如此循环。

该系统在正常运行前，须提供洁净的饱和蒸汽，进料尽量保证连续恒定。进料前，须在人机界面上设定好参数（进料旋转阀转速、杀菌旋转螺旋转速、出料旋转阀转速、风机运行转速、进入杀菌旋转螺旋的热空气温度、热空气湿度），进料后，根据设定的参数，进行实时观察运行是否符合设定要求。

PRODUCT TECHNICAL PARAMETER:

Item	Model	Capacity	Steam Consumption	Power	Dimension	Weight
1	TW-ES200	50-200KG/H	10KG/H	14KW	1400*1200*2200	800KG
2	TW-ES500	200-500KG/H	15KG/H	21KW	1600*1400*2300	1000KG
3	TW-ES1000	500-1000KG/H	25KG/H	36KW	2260*1480*2100	1200KG
4	TW-ES2000	1000-2000KG/H	45KG/H	60KW	2760*1580*2300	1600KG

Note: The processing capacity will be different based on different material; can be customized for other capacity

This system is composed with rotary screw sterilizer, rotation control valve for material in and out, pneumatic conveying system, steam valve group, the electric heating device, electric control system and frame.

The rotary screw sterilization is the key component of the sterilization, the sterilization time can be controlled by adjusting the speed of rotation of the spiral.

The air in the rotary screw sterilization will be purified through the cyclone separator, then the fan will convey the clearly hot air into the electric heater for heating, after reach the set temperature, the air will be sent to rotary screw sterilizer, and cycle.

Before starting the system, make sure to provide the clean saturated steam and continuous constant input material. Before input the material, set all the parameters in the human-computer interface (the speed of input rotary valve, the speed of rotary screw sterilizer, the speed of discharge rotary valve, the speed of fan operation, the temperature of hot air into the rotary screw sterilizer, the humidity of hot air), after put in the material, according to the set parameters, check whether according with the set requirement by real-time observation



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TW-ES型干物质电热蒸汽杀菌系统  
TW-Electric Heating and Steam Sterilization System for Dry Material

