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TECHNOLOGY LEADER · INDUSTRY MODEL

HIGHFINE
南通海发

Integral solution of
vial freeze-dried powder preparation
西林瓶冻干粉针剂整体解决方案



HIGHFINE

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符合FDA标准的灌装系列设备
全球灌装系列设备主流供应商
FDA standard filling equipment
Mainstream supplier of global filling equipment

西林瓶冻干粉针制剂整体解决方案

Integral solution of vial freeze-dried powder preparation



主要为国内外制药企业提供

HIGHFINE mainly provides the following equipments for domestic and foreign pharmaceutical enterprises

关于海发 About us >>

HIGHFINE 主要从事吹瓶 - 灌封 - 封口一体机 (BFS)、非 PVC 膜软袋大输液生产线、西林瓶冻干粉针、西林瓶粉针分装、安瓿小容量、口服液大小容量联动生产线；预灌封注射器自动化生产线等灌装设备的研发、生产、销售与服务。公司拥有国内领先的研发、设计能力，为制药企业提供专业化、个性化的灌装系统整体解决方案。

HIGHFINE 秉承“科技兴邦，造福人类”的使命，企业的最终奋斗目标：成为中国制药工业灌装系统设备的主流供应商，最终成为全球制药工业灌装系统设备的领军者和主流供应商。

Highfine is mainly engaged in R & D, production, sales and service of BFS (Blow-Fill -Sealing), non-pvc film soft bag in infusion production line, lyophilized vials, powder vials, small volume ampoules, oral liquid linkage line and PFS (pre-fill system) etc. The company can provide professional and personalized filling system overall solution for pharmaceutical enterprises with our advanced R & D and design capability.

Highfine adhering to the "science and technology development, for the benefit of mankind" mission, the final goal of the enterprise: become a mainstream supplier of filling system of China, and eventually become the global pharmaceutical industry filling system leader and main supplier.

寸金的光阴堆积起来的二十多年，转眼即逝。我们从年青走向了成熟，从过去的满怀热情变成了今天的更执着、更严谨，因为我们深深的感受到责任重于泰山。

时间把我们的理想变得具体，赋予了它真正的意义。如果由于我们的努力，使人类的生存环境得到了更好的改善，那我们将会感到，海发人的智慧是无穷的。

Over 20 years, Time passed quickly. We from young to mature, from full of enthusiasm in the past into today's more persistent and more rigorous, because we deeply feel that the responsibility be weightier than mountain.

Time made our ideal specific, given its true meaning. If human's living environment better improved as our efforts, then we will feel that HighFine's wisdom is infinite.



主要用途 Main application

本联动生产线由 HQCLA 系列立式超声波洗瓶机、HSDH 系列隧道式热风循环灭菌烘箱、HSFG 系列灌装加塞机组成。既可联动使用，也可单机使用。联动生产时可完成喷淋注水、超声波清洗、冲水（瓶内外壁）、冲气（瓶内外壁）、预热烘干、干燥灭菌去热源、冷却出瓶、灌装、加塞等工序。

本联动线能满足 2-30ml 西林瓶洗瓶、干燥灭菌去热源、灌装和加塞的生产工艺要求。

The linkage line consists of HQCLA series vertical ultrasonic washing machine, HSDH series hot air circulation sterilization tunnel, HSFG series filling and stoppering machine. The model can be used in combination or in a single machine. The linkage line can complete water spray filling, ultrasonic cleaning and flushing (internal and external), CA flushing (internal and external), preheating, drying and sterilizing to remove heat source, cooling, filling, sealing, capping and other processes.

This line can meet the size range from 2-30ml vials of washing, drying and sterilizing to remove heat source, filling and sealing requirements of the production process.

性能特点 Characteristics

立式超声波洗瓶机采用超声波粗洗与循环水、注射用水和洁净压缩空气交替喷射清洗的方式对容器进行清洗，洗净透明度和可见异物检测效果理想，是当今国际上最流行的清洗设备。

隧道式灭菌烘箱采用热空气层流原理和高温灭菌工艺对容器进行预热、干燥灭菌去热源、冷却的灭菌生产工艺，是当今国际上最流行的烘干灭菌设备。

灌装加塞机采用同步带 V 型块定位输瓶，往复跟踪式灌装方式，输瓶稳定，灌装时间充裕，装量精准，加塞采取渐进式加塞方式，加塞合格率高，是当今国际上最流行的灌装加塞设备。

本联动生产线采用 PLC 控制触摸屏操作，既可联动控制，也可单机操作。控制运行稳定，自动化程度高。

Vertical ultrasonic washing machine using ultrasonic rough washing, circulating water, WFI and clean compressed air spray and clean the container alternately. Cleaning clarity and visible material detection effect is ideal; it is the most popular cleaning machine in the world today.

The sterilization tunnel adopts the principle of hot air laminar flow and high temperature sterilization process to preheat, dry, sterilize, remove heat and sterilization process. It is the most popular drying and sterilizing machine in the world.

The filling and stoppering machine adopts V shape block to transfer and reciprocating tracking filling which can ensure stable vials transfer, full time of filling and accurate filling volume, using progressive stoppering way to ensure high qualification rate. It is the most popular filling and sealing machine in the world.

The interlocking production line adopts PLC control and touch screen operation, which can be used for linkage control or stand-alone operation. The control runs stably and with high automation.

主要技术参数 Main technical parameters

产品型号 Product model	HXLL-2	HXLL-4	HXLL-6	HXLL-8	HXLL-10	HXLL-12	HXLL-16	HXLL-20
适应规格 (ml) Suitable sizes	2-30ml (vial)							
生产能力 (pcs/min) Output	20-60	40-120	60-200	100-250	120-300	150-400	200-500	280-600
灌装头数 Filling heads	2	4	6	8	10	12	16	20
电源 Power supply	380V 50Hz							
电容量 (kW) Power capacity	79	79	90	92	108	108	115	132
总重量 (kg) Total weight	8500	8500	8800	9300	9900	10200	10800	11800
外形尺寸 (mm) Overall dimensions	9050×2200×2450	9050×2200×2450	9700×2200×2450	9700×2200×2450	10850×2200×2450	10850×2200×2450	11770×2200×2450	13653×2200×2450

HQCLA series vertical ultrasonic bottle washing machine

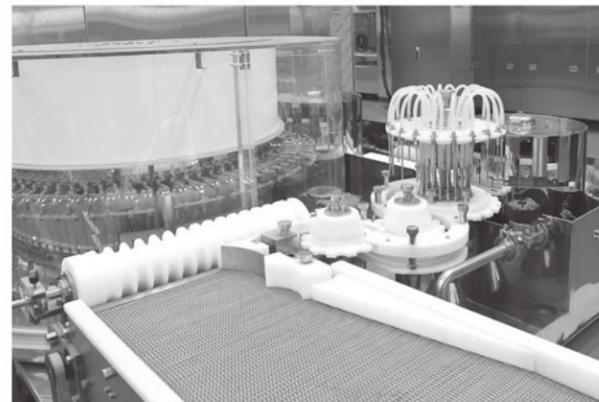
HQCLA系列立式超声波洗瓶机



主要用途 Main application

HQCLA 系列立式超声波洗瓶机主要适用于制药企业西林瓶的清洗，也可用于安瓿瓶、口服液瓶等容器的清洗。

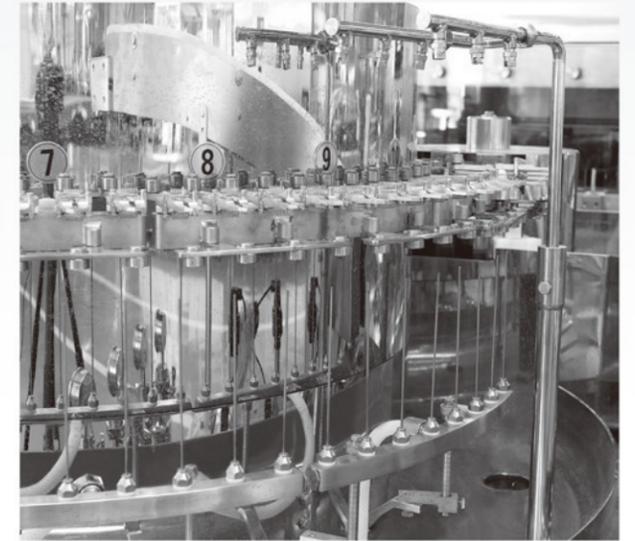
HQCLA series vertical ultrasonic bottle washing machine is mainly suitable for cleaning penicillin bottles in pharmaceutical enterprises. It can also be used for cleaning containers such as ampoule bottles and oral liquid bottles.



性能特点 Characteristics

本机为立式转鼓结构，采用机械手夹瓶、翻转和喷针插入作往复跟踪方式，利用超声波粗洗与循环水、注射用水和洁净压缩空气交替喷射清洗的方式对容器进行清洗，完成瓶内壁三水三气和瓶外壁一水一气的清洗。整个清洗过程中，每组喷针固定对应一种清洗介质，无交叉污染，符合无菌生产要求。洗净澄明度和可见异物检测效果最理想，是当今国际上最流行的清洗设备。

This machine is a vertical drum structure, by mechanical hand, overturning and needles reciprocating tracking mode, by using rough ultrasonic washing and recycling water, WFI and clean compressed air alternating jet cleaning method, finishing washing of internal 3times water washing, 3times CA washing, and external 1time water washing and 1time CA washing. In the whole cleaning process, each spray needle is fixed corresponding to a cleaning medium, without cross contamination, and meets the requirements of aseptic production. Cleaning, clarity and visible substances can be tested with good results; it is the most popular cleaning machine in the world today.



主要技术参数 Main technical parameters

产品型号 Product model	HQCL20A	HQCL30A	HQCL40A	HQCL60A	HQCL80A	HQCL100A	HQCL120A
适应规格 (ml) Suitable sizes	2-30ml (vial)						
生产能力 (pcs/min) Output	50-100	80-150	100-200	150-300	200-400	250-500	300-600
碎瓶率 (%) Breakage rate	≤0.1%						
注射水耗量 WFI consumption	0.4-0.5m³/h 0.3-0.5MPa	0.4-0.5m³/h 0.3-0.5MPa	0.4-0.5m³/h 0.3-0.5MPa	0.4-0.6m³/h 0.3-0.5MPa	0.6-0.8m³/h 0.3-0.5MPa	0.8-1.0m³/h 0.3-0.5MPa	1-1.2m³/h 0.3-0.5MPa
压缩空气耗量 CA consumption	20-30m³/h 0.4-0.6MPa	20-30m³/h 0.4-0.6MPa	35-40m³/h 0.4-0.6MPa	35-40m³/h 0.4-0.6MPa	45-50m³/h 0.4-0.6MPa	55-60m³/h 0.4-0.6MPa	65-70m³/h 0.4-0.6MPa
电源 Power supply	380V 50Hz						
电容量 (kW) Power capacity	13						
总重量 (kg) Total weight	1700	1800	2100	2200	2300	2400	2500
外形尺寸 (mm) Overall dimensions	2200×1900×1450	2200×1900×1450	2200×1900×1450	2200×2200×1450	2200×2200×1450	2200×2200×1450	2200×2200×1450

HSDH series hot air circulation sterilizing tunnel

HSDH系列隧道式热风循环灭菌烘箱



主要用途 Main application

HSDH 系列隧道式热风循环灭菌烘箱主要适用于制药企业西林瓶的干燥、灭菌、去热源，也可用于安瓿瓶、口服液瓶等容器的干燥、灭菌、去热源。

HSDH series tunnel type hot air circulation sterilization tunnel is mainly suitable for drying, sterilizing and removing heat sources of vials bottles in pharmaceutical enterprises. It can also be used for drying, sterilizing and removing heat sources of containers such as ampoule bottles and oral liquid bottles.

性能特点 Characteristics

本机为隧道式结构，整个隧道腔体分为预热区、高温灭菌区、冷却区三部分。采用热空气层流原理和高温灭菌工艺对容器进行干燥、灭菌、去热源，采用负压密封结构，再配合独特的热空气导流等核心技术，热分布均匀，是当今国际上最流行的烘干灭菌设备。

This machine is a tunnel structure, and the whole tunnel is divided into three parts: preheating zone, high temperature sterilization zone and cooling zone. The use of hot air laminar flow principle and high temperature sterilization process for the container drying, sterilization, heat source, the use of negative pressure sealing structure, coupled with the unique hot air diversion and other core technologies, thermal distribution, is the most popular in today's world of the drying and sterilization machine.

主要技术参数 Main technical parameters

产品型号 Product model	HSDH600/3600	HSDH600/4250	HSDH600/5000	HSDH800/4250	HSDH800/5000	HSDH800/6500
适应规格 (ml) Suitable sizes	2-30ml (vial)					
生产能力 (pcs/min) Output	300-500	400-600	480-700	550-800	680-1000	800-1200
网带有效宽度 (mm) Mesh belt width	600	600	600	800	800	800
灭菌温度 (°C) Temperature	280-350°C可调					
碎瓶率 (%) Breakage rate	≤0.05%					
电源 Power supply	380V 50Hz					
电容量 (kW) Power capacity	60	71	81	86	91	108
总重量 (kg) Total weight	4500	4800	5200	5500	5800	6500
外形尺寸 (mm) Overall dimensions	3600×1750×2245	4250×1750×2245	5000×1750×2245	4250×1950×2245	5000×1950×2245	6500×1950×2245

HSFG series filling and stoppering machine

HSFG系列灌装加塞机



性能特点 Characteristics

本机采用单根或二根完全独立的同步带 V 型块定位输瓶，往复跟踪式灌装方式，输瓶稳定，灌装时间充裕，装量精准，加塞采取渐进式加塞方式，加塞合格率高，是当今国际上最流行的灌装加塞设备。

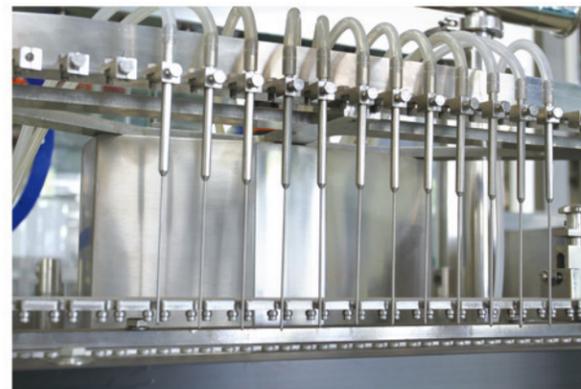
This machine adopts single or two independent synchronous belt V type block for bottle transferring, reciprocating tracking filling mode for stable transfer, full time of filling, accurate filling volume. It adopt progressive stoppering solution with high qualification. It is the most popular filling and capping machine in the world today.



主要用途 Main application

HSFG 系列灌装加塞机主要适用于制药企业西林瓶冻干粉针制剂的灌装和加塞，也可用于西林瓶水针的灌装和加塞。

HSFG series filling machine is mainly applicable to the freeze-dried powder vials filling line for pharmaceutical enterprises, It can also be used for vials water filling and stoppering purpose.



主要技术参数 Main technical parameters

产品型号 Product model	HSFG2	HSFG4	HSFG6	HSFG8	HSFG10	HSFG12	HSFG16	HSFG20
适应规格 (ml) Suitable sizes	2-30ml (vial)							
生产能力 (pcs/min) Output	30-60	60-120	90-180	150-240	180-300	220-400	300-500	420-600
灌装头数 Filling heads	2	4	6	8	10	12	16	20
灌装精度 (%) Filling accuracy	±1%							
加塞合格率 (%) Qualified rate of stoppering	≥99.99%							
碎瓶率 (%) Breakage rate	≤0.1%							
电源 Power supply	380V 50Hz							
电容量 (kW) Power capacity	6	6	8	8	9	9	11	11
总重量 (kg) Total weight	1800	1800	2100	2100	2300	2300	2500	2800
外形尺寸 (mm) Overall dimensions	3250×1700×2450	3250×1700×2450	3250×1700×2450	3650×1700×2450	3650×1700×2450	3650×1700×2450	4570×1850×2450	4953×1850×2450