



新马药机



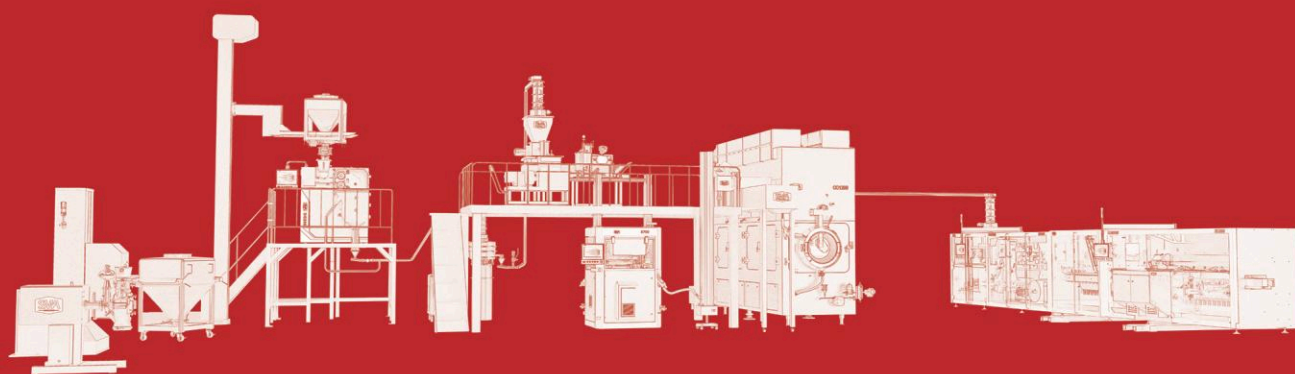
山东新马制药装备有限公司

SHANDONG SMA PHARMATECH CO.,LTD.



固体制剂整体解决方案

Solid Dosage Comprehensive Solution



专业化
Professionalization

自动化
Automation

信息化
Informatization

智能化
Intelligentization

专注医药科技 服务健康人生

SMA

FOCUS ON
MEDICAL SCIENCE AND
TECHNOLOGY TO
SERVE HEALTHY LIFE

SINCE
1995

企业简介COMPANY PROFILE

山东新马制药装备有限公司坐落于蕴含三千年泱泱齐风的大美齐地——淄博。公司成立于1995年，其前身为意大利IMA集团与新华医疗共同出资成立的淄博伊马新华制药设备有限公司。

依托全球领先的IMA固体制剂产品技术，秉承“创新 严谨 专业 卓越”的技术创新理念，公司不断加大研发投入，建设了上海、山东两大实验科研平台，建立了院士工作站，致力于固体制剂智能制造的产学研。公司以固体制剂核心工艺装备为基础，市场为导向，通过创新驱动，一系列独具工艺优势的新产品不断被推向市场，积极推动了医药行业创新研制新药研发和一致性评价的进程，公司也步入发展快车道，现已形成了一系列专业化、自动化、信息化、智能化的固体制剂整体解决方案：

实验型项目整体解决方案 定制化项目整体解决方案

生产型项目整体解决方案 连续制造整体解决方案

密闭型项目整体解决方案

我们将遵循“紧盯前沿、打造生态、沿链聚合、集群发展”的要求，创新发展，以固体制剂领域的高端工艺技术需求为导向，加快研发推出服务制药企业的更加连续化、智能化工艺装备和精准整体方案，为制药企业提供更加优质的涵盖制药工艺、制药装备、工程服务在内的三位一体的全方位服务。

欢迎新老客户莅临公司指导工作！我们愿与您携手，共同推进中国医药产业的健康快速发展，推动健康中国战略的全面实施！

Shandong SMA Pharmatech Co., Ltd. is located in Zibo, Shandong Province- a beautiful place with 3,000 years history of Qi Culture. The company was founded in 1995, its predecessor was Zibo IMA SHINVA Pharmatech Co., Ltd., which was a joint venture by IMA group and SHANDONG SHINVA MEDICAL INSTRUMENT CO.,LTD. Based on the world's leading IMA solid dosage equipment technology and adhering to the technical innovation concept of "Innovation, Preciseness, Professionalism, Excellence ", the company has continuously increased R&D investment, built two R&D platforms in Shanghai and Shandong, and established an academician workstation, committed to the joint research on learning& producing in the intelligent solid dosage manufacturing. Based on the core solid dosage process equipment, oriented by market requirement, and implements an innovation-driven development strategy, a series of new products with unique process advantages are constantly being introduced to the market. We are actively promoting the process of innovative development of new drugs and consistency evaluation in the pharmaceutical industry. The company has also stepped into the fast development stage, and has formed a series of specialized, automatic, informatized and intellectualized solid dosage overall solutions:

Laboratory project comprehensive solution

Customized project comprehensive solution

Production-oriented project comprehensive solution

Continuous manufacturing comprehensive solution

Containment project comprehensive solution

We will follow the requirements of "focusing on the frontier, creating ecology, aggregating along the chain, developing in clusters" for innovative development. Guided by the high-end process technology needs in the solid dosage filed, we will accelerate the R&D and launch continuous & intelligent process equipment and precise overall solutions in the pharmaceutical industry. We will provide high-quality & all-round services covering pharmaceutical process, equipment and engineering services to Pharmaceutical companies.

Warmly welcome every respected customer to visit SMA company! We are looking forward to cooperating with you, jointly promote the healthy and rapid development of China's pharmaceutical industry and promote the full implementation of the Healthy China Strategy!



发展历程DEVELOPMENT HISTORY

1995年由香港伊马远东和新华医疗共同出资组建成为淄博伊马新华机械制造有限公司。

1996年公司采用意大利伊马集团的先进制造技术和经验，进口关键精密零部件，开始组装IMA-ZANASI系列全自动胶囊充填机。

2002年公司厂区搬迁至淄博高新区裕桥工业园内。

2003年由意大利伊马和新华医疗共同出资创建淄博伊马新华制药设备有限公司，原合资企业逐步并入统一运行。

2004年引进Kilian压片机产品，开始零件试制和组装工作；开始85型胶囊充填机进口零件组装工作；开始GS包衣机国产化试制工作。

2005-2009年胶囊充填机、压片机、无孔包衣机、提升机取得DNV颁发CE产品认证证书，公司通过ISO9001质量管理体系认证审核，并通过了高新技术企业认证。

2010年公司迁址至淄博高新区化北路中意新技术中心，引进IMA公司PERFIMA有孔包衣机产品。

2012年公司开始湿法制粒机和流化床的国产化工作。

2014年公司改制为山东新马制药装备有限公司。

2015年密闭型固体制剂整体解决方案推出，并且通过第三方认证，符合OEB4等级要求。

2016年ZLAB胶囊机、DG120干法制粒机等制药装备的上市，公司形成了完整的实验型固体制剂整体解决方案。

2017年公司与德国ANDOCK在密闭传输领域开始战略合作。

2019年公司高端制药设备产业园开工建设。

2020年公司入选山东省瞪羚企业，搬迁至尊贤路2989号新园区。

2022年公司获评国家级专精特新“小巨人”企业，推出泡罩机、装盒机等新产品，进入固体制剂包装领域。

2023年公司推出热熔挤出机、包芯片压片机，完善连续制造解决方案，同期新园区二期工厂及人才公寓项目建设完成，并投入使用。

2024年公司推出多列条包装盒生产线，丰富了固体制剂包装产品体系。

In 1995, ZIBO IMA SHINVA MACHINERY MANUFACTURE CO.,LTD. was created by IMA HONGKONG FAR-EAST group、SHANDONG SHINVA.

From 1996, ZIBO IMA based on IMA group' s advanced manufacture technology & experience,imported critical precise spare parts, started to assemble IMA-ZANASI series Automatic Capsule filling machine & relevant accessories.

In 2002, the company removed to ZIBO High&New Tech Zone YUQIAO Industrial Park.

In 2003, ZIBO IMA SHINVA PHARMATECH CO.,LTD was created by Italy IMA & Shandong SHINVA, the original joint venture (ZIBO IMA MACHINERY MANUFACTURE CO.,LTD.) was merged into the new company and ran together.

In 2004, Tabletpress Machine was introduced from KILIAN, Spare parts manufacture & assembly work started; Z85 Capsule filling machine assembly work started by use of imported parts; GS coating machine localization development work started.

From 2005 to 2009, the capsule filler, tablet press, non-perforated coater and lifter obtained the CE product certification issued by DNV, and the company passed the ISO9001 quality management system certification audit, and passed the high-tech enterprise certification.

In 2010, the company removed to China-Italy New Tech Zone located at Huabei Road, IMA PERFIMA Coating Machine was introduced to produce.

In 2012, Wet Granulator & Fluid Bed localization development work started, the first Granulating line successfully developed.

In 2014, the company restructured to SHANDONG SMA PHARMATECH CO.,LTD.

In 2015, launch the isolated containment solid dosage overall solution into market which conforms to the OEB4 level request and certified by the third party.

In 2016, launch the ZLAB capsule filling machine,DG120 Roller Compactor into market, and SMA can provide complete R&D solid dosage overall solution.

In 2017,SMA starts the strategy cooperation with Germany ANDOCK in the field of isolated material transfer.

In2019,High-end Pharma tech industrial park has been under construction.

In2020, the company was selected as a gazelle enterprise in Shandong Province and moved to a new park at 2989 Zunxian road.

In 2022, the company was awarded the national specialized and special new "little giant" enterprise, launched new products such as blister machine and box filling machine, and entered the field of solid preparation packaging.

In 2023, the company launched a hot melt extruder and a chip press to improve continuous manufacturing solutions. During the same period, the construction of the second phase of the new park factory and the talent apartment project were completed and put into use.

In 2024, the company launched a series of packaging box production lines to enrich the solid preparation packaging product.

智慧创造空间

精品服务市场

诚信立于天地

责任书写辉煌

SMA

EUROPEAN ORIGIN
INTERNATIONAL
QUALITY

源于欧洲 国际品质

European Origin
International Quality

产品总览PRODUCT OVERVIEW



胶囊充填机
CAPSULE FILLER



高速压片机
HIGH SPEED TABLET PRESS



高效包衣机
COATER



湿法制粒机
HIGH SHEAR MIXER



多功能流化床
FLUID BED



干法制粒机
ROLLER COMPACTOR



全自动铝塑包装线
BLISTER&CARTONER



热熔挤出机
HOT MELT EXTRUDER



连续混合机
CONTINUOUS MIXER



多列条包装盒生产线
MULTI-LANE SACHET/STRIP PACKAGING LINE



连续包衣机
CONTINUOUS COATER



部分战略合作伙伴MAIN STRATEGIC PARTNERS





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实验型项目整体解决方案

Laboratory Project Comprehensive Solution



MA SMA SMA SM

DGLAB干法制粒机 DGLAB ROLLER COMPACTOR

DGLAB干法制粒机，适用于极小批量物料干法制粒工艺的研究和开发。

The DGLAB micro continuous Roller Compactor is designed for R&D of roller compaction processes with small batch materials.

- 辊轮直径 Roller diameter: 50mm
- 最大产量 Maximum capacity: 2kg
- 最大压力 Maximum pressure: 20kN/cm
- 最大生产间隙 Maximum production gap: 2.5mm
- 设备重量 Weight: 150kg
- 设备尺寸 Dimensions: 510X670X500mm



相关配置 Related configuration

- 可选配移动整粒机。
Optional Mobile granule mill.
- 可选配水冷却系统。
Optional water cooling system.



产品优势 Advantage

结构设计Structural design

传动区与生产区之间采用Garlock密封圈正压密封，杜绝交叉污染。

Garlock gaskets with positive pressure sealing prevent cross-contamination between the transmission and production zones.

精准控制Precise control

压辊间隙控制精度±0.1mm以内，压力控制精度±1bar以内。

Roller gap accuracy: ±1mm; Pressure accuracy: ±1bar.

操控便捷Convenient operation

生产片厚与供料电机闭环控制，可实现自动调节生产片厚。

Closed-loop control of ribbon thickness and feed motor allows automatic thickness adjustment.

DG120干法制粒机 DG120 ROLLER COMPACTOR

DG120干法制粒机，适用于小批量物料干法制粒工艺的研究和开发。

The DG120 lab roller compactor is designed for R&D of roller compaction process with small batches.

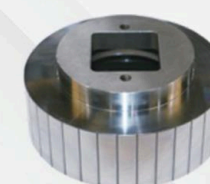
- 辊轮直径 Roller diameter: 120mm
- 最大产量 Maximum capacity: 8kg/h
- 最大压力 Maximum pressure: 20kN/cm
- 最大生产间隙 Maximum production gap: 2.5mm
- 设备重量 Equipment weight: 600kg
- 设备尺寸 Dimensions: 850X1250X600mm



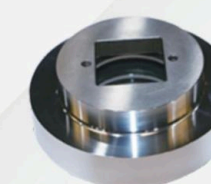
多规格压辊Multi-specification rollers

可提供多类型纹路压辊，适用于不同性质物料。

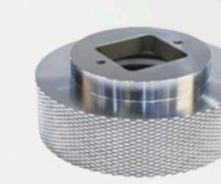
Multiple types of textured rollers are available for materials with different properties.



直纹压辊
Straight grain roller



光纹压辊
Smooth grain roller



网纹压辊
Reticulated grain roller



微量装置Micro metering device

微量装置，实现0.5-1g微量生产，无尾料残留。

Optional micro metering device to achieve 0.5-1g microproduction, no tailing residue.

真空压缩系统Vacuum compression system

螺杆处配置真空预压缩系统,大大提高制粒成品率。

The vacuum pre-compression system integrated at the screw significantly improves granulation yield.



HLSGMINILAB湿法制粒机 HLSGMINILAB HIGH SHEAR MIXER

HLSGMINILAB湿法制粒机遵循CGMP要求，适用于实验和小批量生产，可实现宽范围批量生产。

The HLSGMINILAB high shear mixer meets CGMP standards, designed for lab and small-batch production, with wide range of batch production.

- 工作容积 Bowl Capacity: 1-15L
- 搅拌功率 Impeller power: 3kW
- 搅拌速度 Impeller speed: 0-960rpm
- 切刀功率 Chopper power: 0.96kW
- 切刀速度 Chopper speed: 0-3000rpm
- 设备尺寸 Dimensions: 1440X710X1500mm



锅体更换 Interchangeable Bowl



- 批量范围宽，1L、3L、6L、10L、15L五种锅体互换。
Broad batch capacity range, with interchangeable bowl available in 1L, 3L, 6L, 10L and 15L.
- 与产品接触部件由AISI316L制造，其余部件均由AISI304制造。
Product contact parts: AISI 316L; other parts: AISI 304.

产品优势 Advantage

安全检测 Security detection

配有安全传感器及安全模块，检测报警。

Equipped with safety sensors and safety modules for real-time monitoring and alarm triggering.

出料彻底 Complete discharge

手动切入式卸料阀，减少产品残留。

Manual guillotine discharge valve minimizes product residue.

高效搅拌 High efficiency mixing

搅拌桨与锅底部的距离<2毫米，吹气密封，防止主轴堵塞。

Impeller-to-bowl bottom clearance <2 mm, with air purge to avoid shaft clogging.

LGL002流化床 LGL002 FLUID BED

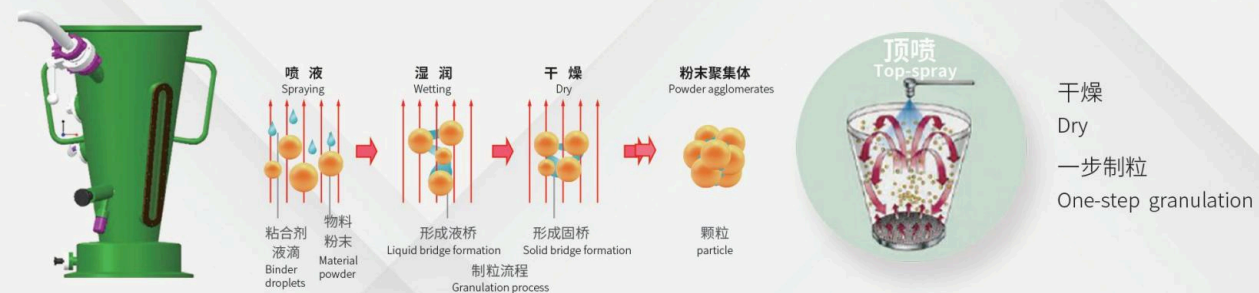
LGL002流化床采取紧凑化设计，可实现顶喷制粒和底喷包衣功能，具备所有工艺所需求的功能部件。

The LGL002 FBD features a compact design, with top-spray granulation and bottom-spray coating function, including all functional components for the process.

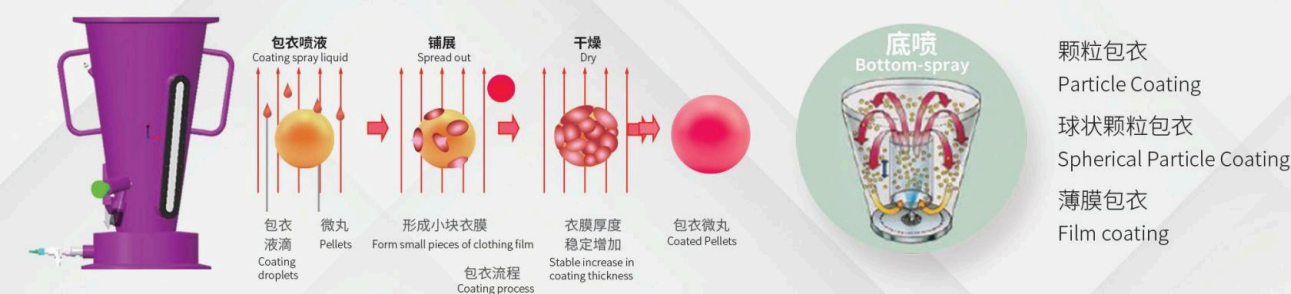
- 顶喷容积 Top-spray batch volume: 1-12L
- 底喷容积 Bottom-coating Volume: 2-5.4L
- 额定风量 Air flow: 200m³/min
- 风机功率 Fan power: 2.2kW
- 压缩空气 Compressed air: 6bar
- 设备重量 Weight: 800kg
- 设备尺寸 Dimensions: 1800X950X2550mm



制粒顶喷物料仓 Top-Spray Granulation Chamber



包衣底喷物料仓 Bottom-spray coating Chamber



HME-12热熔挤出机 HME-12 HOT MELT EXTRUDER

HME-12热熔挤出机可用于制备缓控释制剂、制备靶向制剂、掩盖药物异味等，适用于实验室和小批量生产。
The HME-12 hot-melt extruder is designed for preparing sustained- and controlled-release formulations, developing targeted drug delivery systems, and masking unpleasant drug taste, etc., It is ideal for laboratory use and small-batch production.

- 产能范围 Capacity: 0.02-2.5kg/h
- 温度范围 Temperature: 10-300°C
- 螺杆转速 Screw speed: 10-1000 rpm/min
- 额定功率 Power: 7kW
- 设备重量 Weight: 200kg
- 设备尺寸 Dimensions: 950X470X740mm



掀分式腔体
Clamshell Barrel



积木式螺纹单元
Building-Block Screw Unit Design



自动化控制系统
Automatic control system

产品优势 Advantage

结构设计Structural design

腔体采用上下掀分式，齿轮箱采用高转速、高扭矩、高精度设计。
Up-and-down clamshell barrel design, and the gearbox adopts the design of high-speed, high-torque, and high-precision.

工艺一致性Process consistency

加热方式、温度范围及控温精度均与生产型设备保持一致。
The heating method, temperature range and temperature control accuracy are consistent with the production equipment.

精准控制Precise control

温控控制精度±0.5°C，供料重量控制精度1%以内。
Temperature control accuracy ±0.5°C, feed weight control accuracy less than 1%.

S60压片机 S60 TABLET PRESS

S60压片机具有详实的数据记录，利于新品研发，可压制粘、涩、易吸潮、热敏性等物料。
The S60 tablet press features comprehensive data record to facilitate new product development, with the capability to compress sticky, cohesive, moisture-sensitive, and heat-sensitive materials.

- 最大产能 Capacity: 86,400 tab/hour
- 片径范围 Tablet diameter range: 2-25mm
- 额定功率 Power: 9kW
- 稳定电压 Voltage: 380V 50-60Hz
- 压缩空气 Compressed air: 0.6-0.8MPa
- 设备重量 Weight: 1850kg
- 设备尺寸 Dimensions: 1270X1310X1855mm



强制供料靴
Forced feeding shoe

- 两层三腔结构Two layers three chambers
- 重力供料靴Gravity feeding shoe
- 小批量生产Small batch production

界面展示
Interface presentation

- 单冲运行记录Single punch operating record
- 压力曲线分析功能Pressure curve analysis function
- 充填量自动调节功能Automatic adjustment function of filling



产品优势 Advantage

操作便捷Convenient operation

S60可更换8-24冲转塔，料斗、供料靴、片剂刮板等零部件拆卸无需特殊工具。
The S60 tablet press features an interchangeable 8 - to - 24 punch turret, and parts such as the hopper, feed shoe, and tablet scraper can be disassembled without special tool.

程序优化Program optimization

可实现任意角度点动运行功能，标配压力监控和上下冲过紧检测功能。
The tablet press enables jog operation at any angular position and comes standard with compression force monitoring and upper/lower punch over-tightening detection.

剔除取样Tablet Rejection and Sampling

可实现自动在线取样功能，并对不合格药片单片进行剔除。
The tablet press enables automatic in-process sampling and performs single-tablet rejection of defective products.

ZLAB胶囊机 ZLAB CAPSULE FILLER

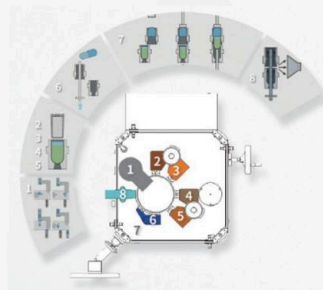
ZLAB胶囊机是我公司专为实验室推出的一款MINI型胶囊机，是目前国内唯一插管式实验机型。

ZLAB capsule filler is a MINI machine specially launched for lab by SMA, and the only lab dosator type capsule filler in China at present.

- 运行速度 Capacity: 1,700-12,000 cap/hour
- 适用胶囊 Capsules: 000#-5#SUPRO A-E,D-B,DBAA
- 额定功率 Power: 6kW
- 稳定电压 Voltage: 230-400V 50-60Hz
- 压缩空气 Compressed air: 50-60bar
- 设备重量 Weight: 700kg
- 设备尺寸 Dimensions: 710X900X1650mm



工位介绍 Stations introduction



- | | |
|--|-------------------------------------|
| ① 空胶囊的供给和打开
Supply and opening | ⑤ 丸剂/片剂
Pellet/Tablet |
| ② 丸剂/片剂
Pellet/Tablet | ⑥ 未打开胶囊的剔除
Rejection of capsules |
| ③ 丸剂/片剂
Pellet/Tablet | ⑦ 胶囊锁合
Capsule closing |
| ④ 粉剂/丸剂/片剂/软胶囊
Powder/Pellet/Tablet/Softgel capsule | ⑧ 胶囊排出
Discharge and cleaning |

产品优势 Advantage

◆ 计量准确Accurate measurement

设备精度可通过工艺参数调整和计量管式装置达到2%以内。

The filling accuracy: within $\pm 2\%$, through process parameter adjustment and dosator device.

◆ 操作便捷Convenient operation

15分钟内可进行快速更换规格部件以及快速清洗。

Rapid tooling changeover (<15mins) and cleaning.

◆ 组合充填Combination filling

具有灵活多样的填充方式，胜任同粒胶囊体中不同药物的充填。

With multi-filling methods, can fill different raw material (Powder/Pellet/Tablet/Mico-tablet) in one capsule.

PMINILAB包衣机 PMINILAB COATER

PMINILAB包衣机适用于实验和小批量生产，锅体的可互换性使它可应用于宽范围的批量生产。

The PMINILAB coater is designed for experimental and small-batch production, and its interchangeable coating drum make it suitable for broad range of batch production.

- 有效容积 Volume: 0.25-8L
- 锅体直径 Pan Diameter: 480-655mm
- 锅口直径 Coating Drum Opening Diameter: 400mm
- 额定功率 Power: 13kW
- 气体流量 Gas Flow Rate: 250m³/h
- 设备尺寸 Dimensions: 1900X1050X2200mm



搅拌桨 Mixing Paddle



◆ 基本结构Fundamental structure

采用获专利的PELLIGRINI搅拌桨叶，搅拌效果良好。

The Patented PELLIGRINI mixing paddle, with great mixing performance.

◆ 锅体容积范围Pan Volume Range

搅拌桨固定在锅体的中心，容积范围25%-100%。

The mixing paddle is fixed in the center of the coating drum, with a working volume range of 25%-100%.

产品优势 Advantage

◆ 气流方向Airflow direction

排风管位置和尺寸的特殊设计可保证良好均一的干燥效果，并且避免25%的能量损失。

The special design of the position and size of the exhaust pipe ensures a good uniform drying effect and avoids 25% energy loss.

◆ 喷射系统Spray System

薄膜包衣系统配有高品质蠕动泵加浆系统，具备完整的雾化压力和喷枪控制功能。

The film coating system is equipped with a high quality peristaltic pump feeding system with complete atomization pressure and gun control.



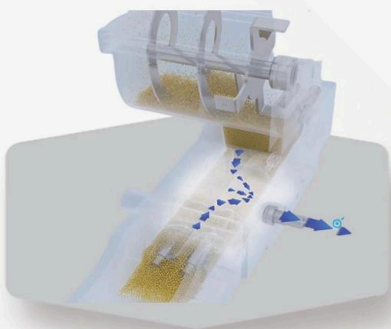
生产型项目整体解决方案

Production-oriented Project Comprehensive Solution

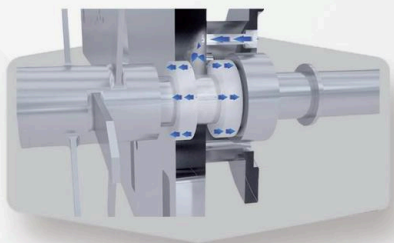


MA SMA SMA SM

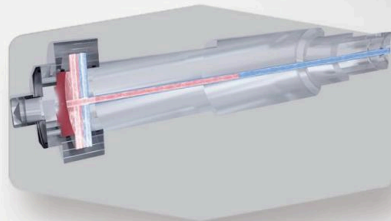
干法制粒机涵盖中试、连续大生产等机型，设备一次颗粒率高，运行稳定，自动化程度高。
DG Series Roller Compactor covers , pilot-scale testing, continuous large-scale production, and containment models. It delivers high primary granulation yield, stable operation, and advanced automation.



真空压缩系统
Vacuum compression system



传动轴正压密封
Drive shaft positive pressure seal



在线水冷却系统
On-line water cooling system



整粒间隙实时调节
Real-Time Granulation
Gap Adjustment



单/双螺杆供料组件
Single/twin screw feed assembly

产品优势
Advantage

- 压辊生产压力控制精度±1bar以内。
Roller Pressure Control Accuracy: Within ±1 bar.
- 压辊生产间隙控制精度±0.1mm以内。
Roller Gap Control Accuracy: Within ±0.1 mm.
- 传动轴正压密封，彻底杜绝交叉污染。
Positive Pressure Seal on Drive Shaft to Eliminate Cross-Contamination.
- 压辊传动前后间隙控制精度±0.1mm以内，保证压辊水平。
Roller Horizontal Alignment Accuracy: Within ±0.1 mm.
- 整粒刀与整粒筛网间隙通过外置旋钮实时调节。
Real-Time Adjustment of Granulator Blade-Screen Gap via External Knob.

技术参数 Technical Parameter

型号 Model	DGC120	DG150	DG200
最大产能 Max Capacity (kg/h)	40	100	200
辊轮直径Roller Diameter (mm)	120	150	200
辊轮宽度 Roller Width (mm)	40/25	50	75
最大转速 Maximum Speed(RPM)	13	20	37
最大压力 Max Pressure (kN/cm)	20		
最大辊轮间隙 Max Roller Gap (mm)	5	5	5
整机重量 Weight(kg)	1500	1900	2500
外观尺寸 Dimensions(mm)	1150X1450X1700	1950X1450X1800	1970x1600x2000

湿法制粒机用于干式混料和湿法制粒，能一次性完成混合、加浆、制粒等工序，运行过程中无交叉污染，符合GMP标准，可实现灵活可靠的全自动生产。

HLSG Series High Shear Mixer integrates dry mixing, binder addition, and wet granulation in one step. It operates without cross-contamination, complies with GMP standards, and supports fully automated production.



搅拌桨
Impeller



卸料阀
Discharge valve



喷液系统
Spray system

产品优势
Advantage

- ✔ V型切刀变频调速，提高物料的剪切效率。
V-Shaped Chopper with VFD(Variable Frequency Drive) for Enhanced Shearing Efficiency.
- ✔ 可选配Z型搅拌桨和直切刀，满足多种工艺需求。
Optional Z-Type Impeller and Straight Chopper for Diverse Process Needs.
- ✔ 可配备PAT在线监测，确定颗粒均匀度和监测成粒程度。
PAT Online Monitoring for Granule Uniformity and Particle Formation Analysis.
- ✔ 卸料阀位于锅体底部一侧，无死角，卸料快速干净。
Bottom-Side Discharge Valve for Rapid, Residue-Free Material Release.
- ✔ 整机取得欧洲ATEX体系防爆认证，可在易燃溶剂或粉尘环境中使用。
Certified by European ATEX Explosion-Proof Standards for Use in Flammable Solvent/Dust Environments with Nitrogen Purging Function.
- ✔ 锅盖采用电动推杆方式开盖，节省人力，开盖角度任意可控
The bowl Lid adopts electric push rod to open the lid, saving manpower, and the opening Angle is controllable.
- ✔ 配备液柱式喷枪和雾化喷枪，搭配WATSON MARLOW蠕动泵，喷液流量由PLC精确控制
Equipped with liquid column spray gun and atomizing spray gun, with WATSON MARLOW peristaltic pump, spray flow is precisely controlled by PLC.

技术参数 Technical Parameter

型号 Model	HLSG 120	HLSG 200	HLSG 300	HLSG 600	HLSG 900	HLSG 1200	HLSG 1500
重量 Weight (kg)	1,200	1,800	2,000	2,800	4,200	5,200	5,500
总容积 Capacity (L)	120	200	300	600	900	1,200	1,500
搅拌刀功率 Motor Power (kW)	11	15	18.5	30	45	55	75
搅拌刀速度 Impeller Speed (RPM)	220	180	165	130	115	100	97
切刀速度 Chopper Speed (RPM)	700-2,000						

多功能流化床
FLUID BED

多功能流化床可根据不同产品的生产工艺，不同配方以及不同应用环境进行灵活快捷的切换，其稳定的工艺参数可确保获取最优产品，易与其他制粒设备整合，可满足客户对高自动化程度的要求。

LGL and LGLM Series Fluid Beds enable flexible switching across product formulations, processes, and environments. Stable process parameters ensure optimal product quality, seamless integration with granulation equipment, and high automation levels.



多功能流化床
FLUID BED

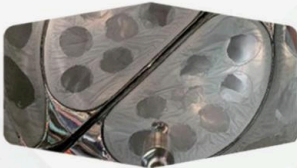
产品优势
Advantage



采用进口Schlick高速喷枪，匹配Watson marlow蠕动泵，单枪单泵，喷液速度均匀可控。
Schlick High-Speed Spray Guns Paired with Watson Marlow Peristaltic Pumps(one gun-one pump) for Uniform and Controllable Spraying.



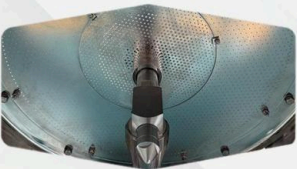
PAT在线监测技术，可配置近红外探头，在线监测物料水分。
PAT Online Monitoring with NIR Probes for Real-Time Moisture Analysis.



防静电滤袋与过滤盘贴合紧密，具有良好的细粉拦截效果。
Anti-Static Filter Bags Tightly Sealed to Intercept Fine Particles.



底喷包衣可用于0.1-3mm的微丸及微片包衣。
Bottom Spray Coating for 0.1–3 mm Micro-Pellets or Mico-Tablet.



技术参数 Technical Parameter

单功能 single function	型号 Model	LGL060	LGL100	LGL200	LGL300	LGL400		
	顶喷 Top Spray (L)	40-128	96-308	190-600	250-800	300-1,000		
	范围 Range (kg)	16-52	38-123	76-240	100-320	120-400		
	尺寸 Dimensions (mm)	2805x1500x4070	2805x1500x4070	2950x1680x4480	2550x2310x4930	3245x2000x5580		
	重量 Weight (kg)	2000	2000	2800	3800	4500		
多功能 Multi-fonction	型号 Model	LGLM 010	LGLM 020	LGLM 030	LGLM 060	LGLM 120	LGLM 200	LGLM 300
	顶喷 Top Spray (L)	15/40/50	40/100	176	336	420	800	1,000
	范围 Range (kg)	2-20	8-50	10-90	30-100	40-200	130-400	200-560
	尺寸 Dimensions (mm)	2270x1200x3695	2110x1975x4415	2320x1800x4846	2610x2000x5130	2720x2310x5540	2710x2500x5595	3100*2800*5850
	重量 Weight (kg)	1800	2200	2500	3000	3500	4000	4500

热熔挤出机

HOT MELT EXTRUDER

热熔挤出机采用平行同向旋向双螺杆，用于生产含有活性药物成分的热塑性化合物或颗粒。以粉末或液体形式的生产物料混合物料通过失重式进料器添加到挤出机中。物料在封闭的模具中通过双螺挤压、混合、加热和排气处理，将熔融的物料连续排出。

HME Hot Melt Extrusion System utilizes parallel co-rotating twin screws to produce thermoplastic compounds or granules containing APIs. Powder or liquid raw materials are fed via gravimetric feeders into a closed barrel, where they undergo extrusion, mixing, heating, and degassing before continuous discharge.



技术参数 Technical Parameter

型号 Model	HME-24
产能 Capacity (kg/h)	HME:2-20 TSG:70
最大长径比 Max Draw Ratio	40:1
运行温度 Operating Temperature (°C)	10-300
螺杆转速 Screw Speed (RPM)	10-1,000
最大扭矩 Max Torque (Nm)	100
最大压力 Max Pressure (bar)	100
功率 Power (Kw)	19
尺寸 Dimensions (mm)	1700*690*1500
重量 Weight (kg)	700

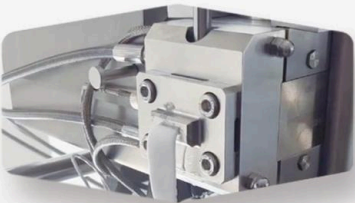
热熔挤出机

HOT MELT EXTRUDER

产品优势

Advantage

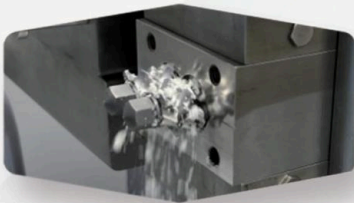
- 可配置双螺杆体积式或失重式喂料器，保证进料均匀稳定。
Optional Twin-Screw Volumetric or Loss-in-Weight Feeders for Consistent Material Input.
- 采用加热棒与水冷系统结合的控温方式，保证温度控制精确。
Combined Heating Rod and Water Cooling System for Precise Temperature Control.
- 多种不同功能螺纹单元搭配组合，满足不同物料的工艺要求。
Modular Screw Elements for Customized Processing of Diverse Materials.
- 多种规格挤出口可供选择，满足不同生产需求。
Multiple Die Configurations to Meet Varied Production Needs.



单孔挤出
Single-hole extrusion



片形挤出
Sheet extrusion



连续湿法制粒
Twin-screw wet granulation

LS-150 传送带

LS-150 CONVEYOR BELT

传送带将热熔挤出的熔融物料通过冷却风扇进行冷却输送，使冷却后的物料进入下一级生产工序。
The Conveyor Belt Transports Molten Material Through Cooling Fans for Solidification Before Downstream Processing.



VCP-12 切粒机

VCP-12 PELLETIZER

切粒机可将热熔挤出的料条进行定距切断，制成符合工艺规格要求长度的片条。
Pelletizer Cuts Extruded Strands into Uniform Lengths as per Specifications.



CRS-160 冷却辊

CRS-160 COOLING ROLLER

冷却辊将热熔挤出的熔融物料快速冷却固化，并将冷却后的物料破碎成小碎片。
Cooling Roller Rapidly Solidifies Molten Material and Breaks It into Fragments.



高速压片机
HIGH SPEED TABLET PRESS

高速压片机的S系列机型是基于用户需求，为提供高效压片方案而设计的先进制药设备，以其稳定性，可靠性获得了业界认可，更是以其便捷的人机界面、控制灵活性和自动化程度得到了广泛赞誉，同时可提供单层片、双层片、泡腾片、微片、微丸压片等多种剂型生产的解决方案，为用户提供了多样化的压片选择。

S-Series Tablet Press Machine is advanced pharmaceutical equipment designed to deliver high-efficiency tablet compression solutions based on user-specific requirements. Recognized for its stability and reliability, it has earned industry-wide acclaim for its user-friendly HMI (Human-Machine Interface), flexible control systems, and high automation capabilities. It supports the production of diverse dosage forms, including single-layer tablets, bi-layer tablets, triple-layer, effervescent tablets, Mini-tablets, and pellet compression, providing customer with more choices.



产品优势
Advantage

- 控制系统完全符合FDA 21 CFR PART 11 电子签名/电子记录要求，保证数据完整性。
The control system fully complies with FDA 21 CFR Part 11 requirements for electronic signatures and electronic records, ensuring data integrity and regulatory adherence.
- 预留TCP/IP接口，满足工业物联网标准协议OPC UA。
Equipped with a TCP/IP interface that supports the industrial IoT standard protocol OPC UA.
- 移动端智能控制系统，轻量化的应用，协同作业。
Mobile smart control system, Streamlined Application, collaborative operations.

技术参数 Technical Parameter

型号 Model	S250C	S500	S700
转塔冲数 Number of Press Station	26/32/40/44	45/55/67/73	53/65/79/87/101
最大片径 Max Table Diameter (mm)	25	25	25
最大产量 Max Output (pcs/h)	297,000	543,120	730,800
设备重量Weight(kg)	2700	4100	5100
设备尺寸Dimensions(mm)	1540*1302*2006	1742*1530*2181	1905*1715*2038

高速压片机
HIGH SPEED TABLET PRESS

高速压片机的S100MC多功能机型，可适用于包芯片及其他多种片剂类型的研发和商业化生产，具备节圆同步功能与高速视觉系统，可精准定位片芯位置，实现100%全检。

S100MC Production type multi-functional tablet press, is designed for R&D and commercial production of tablet-in-tablet, and other tablet types. Key features include: Synchronous indexing function for precise tablet core and die alignment. High-speed vision system for accurate tablet core positioning and 100% full inspection of tablets.



双出料设计
Double Outlet Design



包芯片
Tablet-In-Tablet



三层片
Triple-layer Tablet

技术参数 Technical Parameter

功能 Function	包芯片 Tablet-In-Tablet	多层片 Multilayer Tablet
最大直径/厚度 Max Diameter/Thickness (mm)	16/8.5	25/10.5
最大产量 Max Output (Tab/h)	4800 - 48000	4800 - 72000
转塔冲数 Number of Press Station	40	
主压力/预压力 Main Pressure/Pre-pressure (kN)	100/20	
设备重量Weight (kg)	4960	
设备尺寸Dimensions(mm)	1709*1579*2116	

胶囊充填机的Z系列机型，采用独特的计量管式充填原理，专为硬胶囊的药物充填而设计，可满足多种不同的生产需求。该系列机型凭借一机多用、功能完善、性能可靠、装量精准等优势，能够实现粉末、颗粒、微丸等多种形态药物的分装需求。其创新性结构设计适用于单粒胶囊内不同药物的精准混合填充。

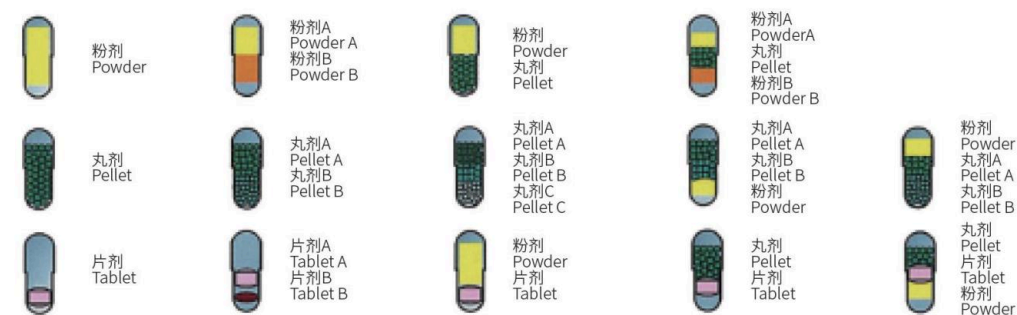
Z-Series capsule filling machine features a unique dosator type filling principle, specifically designed for hard capsule drug filling to meet diverse production needs. With advantages including multi-functionality, comprehensive features, reliable performance, and precise dosing, it accommodates powders, pellets, tablet and Micro-tablet. Its innovative design enables accurate multi-API blending within single capsules.



产品优势

Advantage

- 计量准确 Precise Dosing
- 装量调节简便 Easy Dosing adjustment
- 物料适应性广 Suitable for different kinds of materials
- 计量管式充填 Dosator type filling

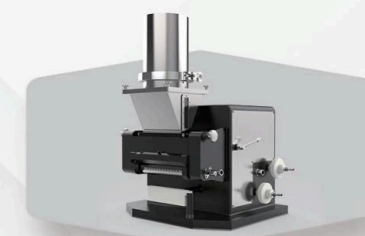


技术参数 Technical Parameter

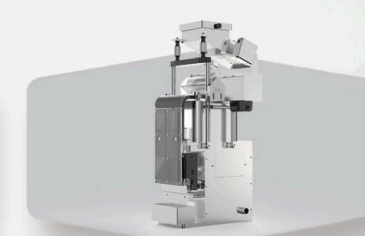
型号 Model	Z25	Z40	Z85	Z180
最大产量 Max Output (Capsules/h)	25,000	40,000	85,000	180,000
每次胶囊充填数 Number of Capsules per Cycle	4	6	11	38

胶囊充填机的C系列机型是基于近30年胶囊机设计制造技术经验的积累，融合了国际先进胶囊机的优点，最新研发的计量盘式胶囊机。适用于物料的中、大产量生产需求，与Z系列胶囊机一起建立起完善的新马硬胶囊充填设备体系，能全面满足客户的生产需求。

The C-Series Capsule Filling Machine is the latest innovation in tamping disc type capsule filling technology, developed through over 30 years of expertise in capsule machine design and manufacturing. By incorporating the strengths of globally advanced capsule filling technologies, it is suitable for medium to high-batch production demands. Together with the Z-Series, the C-Series establishes a comprehensive SMA Hard Capsule Filling System, offering end-to-end solutions to meet diverse customer needs.



吸入剂充填
DPI (Dry Powder Inhaler) Filling



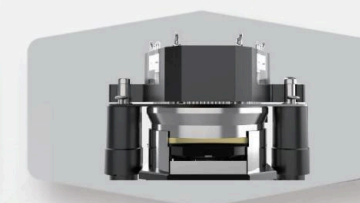
片剂充填
Tablet Filling



微片充填
Micro-Tablet Filling



丸剂充填
Pellet Filling



粉剂充填
Powder Filling

技术参数 Technical Parameter

型号 Model	C100	C200
最大产量 Max Output (Capsules/h)	100,000	200,000
每次胶囊充填数 Number of capsules per cycle	12	23

高效包衣机 COATER

高效包衣机的P系列有孔机型是采用最新包衣技术的国际一流产品，它集合了当前国际市场上所有包衣机的优点，符合当今制药工业对机器隔离、清洁的最新要求，能够达到完全的隔离生产，减少高活性成分的暴露，进一步提高了操作人员的安全保护

The P-Series Full-automatic Perforated Coating Machine is a globally leading product that integrates the latest coating technologies. Combining the strengths of all advanced coating machines available in the international market, it meets the pharmaceutical industry's latest requirements for containment machine and CIP. Designed for complete isolation production, it minimizes exposure to HPAPI (High Potency Active Pharmaceutical Ingredients) and significantly enhances operator protection.



喷液系统
Spray system

- 进口SCHLICK喷枪 SCHLICK Spray Gun
- WATSON MARLOW蠕动泵 WATSON MARLOW peristaltic pump
- 喷枪支臂特殊设计 Specially Designed Spray Gun Support Arm

鲨鱼翅搅拌桨
Shark Fin Agitator Paddle

- 专利设计 Patent design
- 片剂混合均匀度高 High tablet mixing uniformity
- 一体式结构 Integrated structure



技术参数 Technical Parameter

型号 Model	PLAB	P150	P200	P350	P500	P800
容量 Capacity (L)	3-70	8-150	60-250	88-350	140-550	240-990
锅体转速 Coating Drum Speed (rpm)	2-17	2-17	1-17	1-15	1-15	1-15
功率 Power (kW)	1.5	2.2	4	5.5	5.5	7.5
气体流量 Gas Flow Rate(m³/h)	1,100	3,000	4,000	5,000	6,000	8,000

高效包衣机 COATER

高效包衣机的G系列无孔机型是先进的包衣制药装备，该设备适用于任何形状和尺寸的产品，是片剂薄膜包衣，微片剂薄膜包衣，糖包衣，微丸包衣及微丸加层的理想选择。使用专利的干燥系统可显著提升干燥效率和产品质量。

The G-Series Non-Perforated Coating Machine is an advanced pharmaceutical coating equipment designed to handle tablets of all shapes and sizes. It is an ideal solution for Film coating of tablets and mini-tablets, Sugar coating, Pellet coating, and Multi-layer pellet layering. Featuring a patented drying system, this machine significantly enhances drying efficiency and ensures superior product quality.



圆形
Round



三角形
Triangle



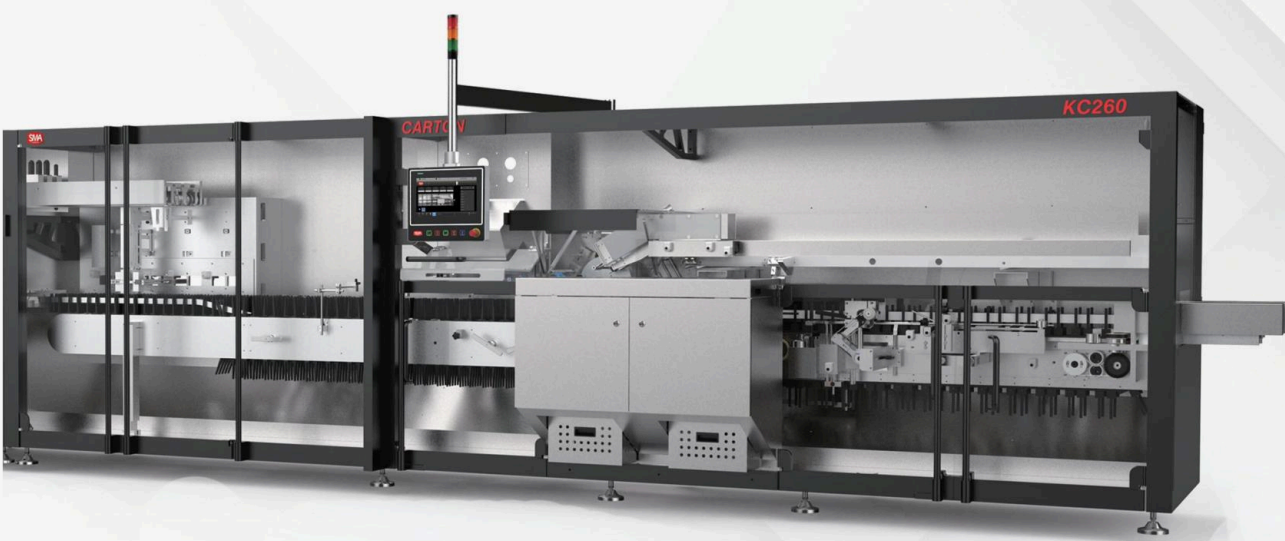
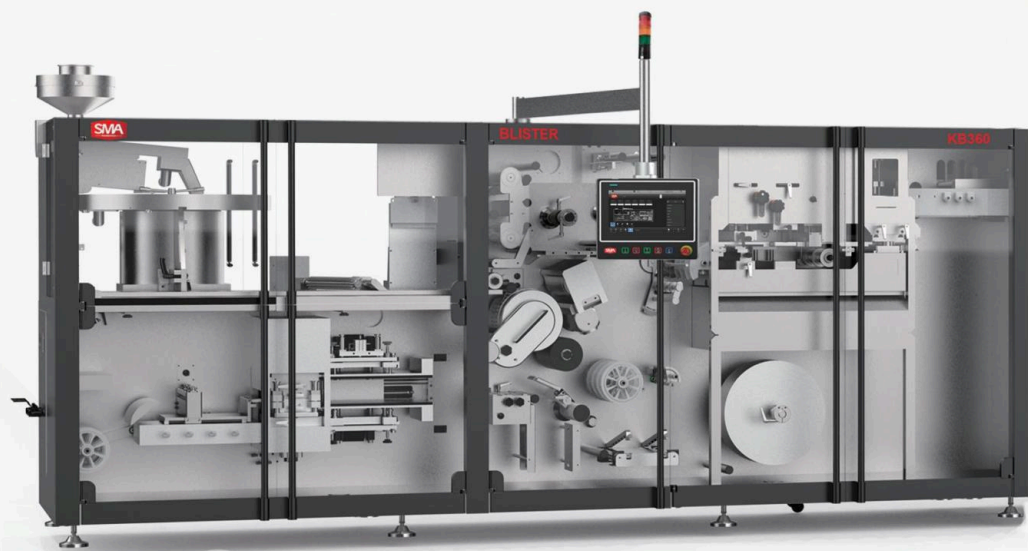
囊形
Caplet

技术参数 Technical Parameter

型号 Model	G70	G150	G300	G600
容量 Capacity (L)	40-70	70-150	150-300	350-600
锅体直径 Coating Drum Diameter(mm)	1,050	1,280	1,580	2,000
锅口直径 Coating Drum Opening Diameter(mm)	400	450	520	730

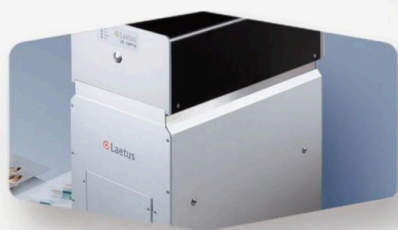
全自动铝塑包装线，最高产量360板/分钟及260盒/分钟，吸收欧洲先进成熟技术，融入新马设计理念，人体工程学设计，结构紧凑；采用倍福工控机及其智能运动模块，性能稳定可靠。

Blister & Cartoner Machine,with the maximum capacity 360 plates/min and 260 boxes/min, Combining advanced European technologies with the innovative SMA design concept, it features ergonomic operation design, compact structure, and adopts Beckhoff IPC and intelligent motion control modules to ensure stable and reliable performance.

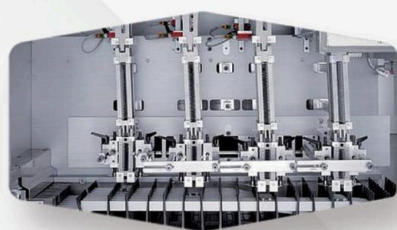


产品优势
Advantage

- 伺服驱动，整线运动控制精准。
Servo-driven, ensuring precise motion control throughout the entire line.
- 模具切换快捷，减少调机时间。
Quick mold change, reducing setup time.
- 功能配置丰富，适用客户多种包材包装需求。
Rich in functional configurations, catering to a variety of customer packaging material requirements.
- 整线配置灵活，满足不同客户对整线配置的需求。
The entire production line is flexibly configured to meet the diverse requirements of different customers for complete line setups.



德国 LAETUS 检测系统
The German LAETUS Detection system



药板真空转运系统
Blister Sheet Vacuum Transfer System



德国 GUK 折纸系统
German GUK Carton Folding System

技术参数 Technical Parameter

KB360泡罩机Blister		KC260装盒机 Cartoner	
产能 Capacity (plates/min)	360-480	产能 Capacity (plates/min)	260
药板规格 Blister Sheet Size(mm)	30*60-95*145	药板规格 Blister Sheet Size(mm)	30*60*3.5-95*145*12
成型次数 Forming Cycles(times /min)	50	纸盒规格 Carton Size(mm)	30*63*15-100*150*90
成型深度 Forming Depth(mm)	10-12	说明书规格 Instruction Manual Size(mm)	90*105-210*320
膜卷宽度 Film Roll Width(mm)	320	压缩空气消耗量 Compressed Air Consumption(m³/h)	10
设备尺寸 Machine Dimensions(mm)	4,550*1,280*1,880	设备尺寸 Machine Dimensions(mm)	4,750*1,880*1,700

多列条包装盒生产线

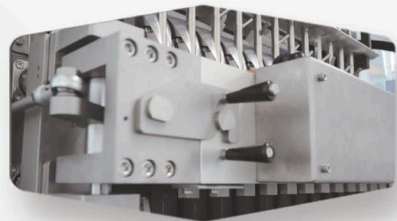
MULTI-LANE SACHET/STRIP PACKAGING LINE

多列条包装盒生产线

MULTI-LANE SACHET/STRIP PACKAGING LINE

多列条包装盒生产线是一种通过自动上料、打码、制袋、灌装、封口、分切等步骤得到产品的设备。其后端可配套计数整理、自动装盒机等设备,实现自动化、连续化生产。

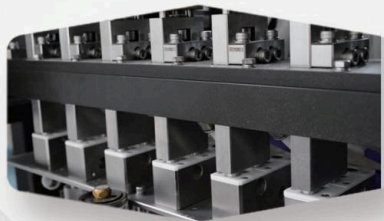
The Multi-lane Sachet/Strip Packaging Line is a equipment that integrates automated processes including material feeding, coding, pouch forming, filling, sealing, and cutting to produce finished sachet/strip-packed products. Its downstream can be seamlessly integrated with counting/collating systems and automatic cartoning machines, enabling fully automated and continuous production.



纵封装置
Longitudinal Sealing Unit (LSU)



吸尘加速落料装置
Vacuum-Assisted High-Speed Discharge System



气流分装装置
Airflow Precision Dosing Module

产品优势

Advantage

- 计量管式充填结构, 采用独特的气流分装原理, 粉/颗粒共用性好, 充填精度高, 尤其适合于小剂量灌装。
Dosator filling structure and filling mechanism with unique pneumatic partitioning principle, offering excellent compatibility for powders/granules, high dosing accuracy, and especially suitable for small dose filling.
- 在常规量杯滑块式基础上, 增加真空引导, 压缩空气辅助排料功能, 精度更高, 速度更快。
Based on the conventional volumetric slider mechanism, this system integrates vacuum-guided positioning and compressed air-assisted discharge functions, achieving higher dosing accuracy and faster speed.
- 整机采用贝加莱全伺服控制系统, 精度高, 性能稳定, 操作及维护方便。
The entire machine adopts B&R's fully integrated servo control system, delivering high precision, stable performance, and user-friendly operation and maintenance.
- 紫外激光打码, 节省耗材成本, 智能视觉检测功能, 对三期信息进行在线检测。
UV laser coding reduces consumable costs; Intelligent vision inspection system enables real-time online verification of manufacturing date, expiry date, and batch number.
- 可以配置理袋机, 补袋机, 二次计数, 装盒机等设备, 实现条包整线运行。
The system can be configured with auxiliary equipment such as a bag aligner, bag replenisher, secondary counter, and cartoning machine to enable integrated full-line operation for Sachet/strip packaging.

技术参数 Technical Parameter

产能 Capacity(cut/min)	70
生产列数 Number of Production Lanes	1-16
卷膜内径 Film Roll Core Diameter(mm)	Min 76.2
卷膜外径 Film Roll Outer Diameter(mm)	Max 400
装量范围 Dosing Range(g)	0.1-20
装量精度 Dosing Accuracy	±2%
气压 Compressed Air Pressure(MPa)	≥0.6
功率 Power(Kw)	25
设备重量 Weight(kg)	2500
尺寸 Dimensions(mm)	3150*2000*3000



密闭型项目整体解决方案

Containment Project Comprehensive Solution



MA SMA SMA SM

密闭工艺要求

CONTAINMENT PROCESS REQUIREMENTS

随着高活性药物需求增长，人员防护和环境法规要求越来越严格，导致固体制剂密闭生产线需求显著增长。

The growing demand for high-potency API (HPAPI), coupled with increasingly stringent personnel protection and environmental regulations, has driven a significant surge in demand for containment production lines in solid dosage form manufacturing.

OEB 1
1000-5000 $\mu\text{g}/\text{m}^3$

OEB 2
100-1000 $\mu\text{g}/\text{m}^3$

OEB 3
10-100 $\mu\text{g}/\text{m}^3$

OEB 4
1-10 $\mu\text{g}/\text{m}^3$

OEB 5
<1 $\mu\text{g}/\text{m}^3$

基于风险控制的密闭方案

Containment Solution Based On Risk Control

- 随着市场对OEB3-5粉剂处理、制粒、压片、胶囊充填和包衣等生产和研发用设备需求增长，SMA及时推出各类高密闭固体制剂线，满足市场需要。

In response to the growing market demand for equipment handling OEB3-5 powders, granulation, tablet pressing, capsule filling, and coating in both production and R&D applications, SMA has promptly launched a range of high-containment solid dosage lines to meet industry needs.

- 密闭设备的设计必须是基于风险的解决办法。
Containment equipment design must be risk-based.

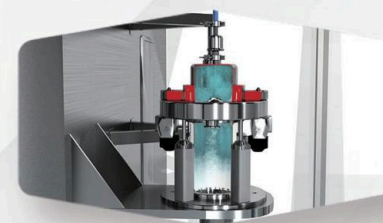
- 针对药物要用的工艺和工厂条件，例如法规，布局和工业目标，对关键和潜在的风险进行初步分析。
A preliminary risk assessment is conducted based on drug-specific processes and facility conditions, such as regulatory requirements, facility layout, and production objectives, to identify critical and potential risks.

在线清洗

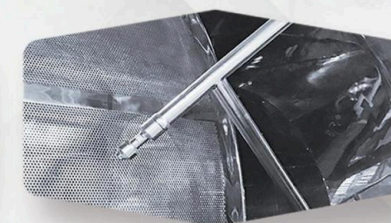
CIP CLEANING SYSTEM

所有接触产品的部件在拆除前将根据操作风险控制分析，进行润湿或更严格和更复杂的自动在线清洗。

All product-contact components will undergo pre-rinse or more stringent and sophisticated automatic online cleaning procedures prior to disassembly, based on a risk-based operational control analysis.



AB阀在线清洗
AB valve online cleaning



CIP清洗设计
CIP Cleaning Design



胶囊机WIP
Capsule filler WIP

密闭型干法制粒机
CONTAINMENT ROLLER COMPACTOR

密闭型干法制粒机涵盖中小试、生产机型，适用于高活性、有毒物料的密闭连续制粒。
The DG-Series Containment Roller Compactor offers models ranging from R&D, pilot-scale, and production-scale, specifically designed for containment continuous granulation of HPAPI and toxic materials.



产品优势
Advantage

- 密闭等级OEB4/OEB5，物料生产、对接转运过程全密闭。
Containment Level OEB4/OEB5, ensuring fully enclosed material processing, docking, and transfer operations.
- 配备WIP自动清洗系统。
Equipped with WIP automatic cleaning system.
- 排风量自动调节，腔体内部维持稳定负压。
Automatic adjustment of exhaust air volume, maintaining stable negative pressure inside the chamber.
- 配备手套，实现密闭操作、无接触在线取样。
Equipped with glove ports to enable contained operations and non-contact in-line sampling.
- 密封护罩一体式设计。
Integrated Sealed Housing Design.

技术参数 Technical Parameter

型号 Model	DGC120W	DG150W
最大产能 Max Capacity (kg/h)	40	100
辊轮直径 Roller Diameter (mm)	120	150
辊轮宽度 Roller Width (mm)	40/25	50
最大转速 Max Rotation Speed (RPM)	13	20
最大压力 Max Pressure (kN/cm)	20	20
最大辊轮间隙 Max Roller Gap (mm)	5	5

密闭制粒线
CONTAINMENT WET GRANULATION LINE

密闭制粒线适用于高活性、高毒性、高致敏性物料的湿法制粒和颗粒干燥的批量生产，满足OEB5要求。

The Containment wet granulation line is designed for batch production applications in containment wet granulation and particle drying of HPAPI, highly toxic, and highly sensitizing materials, meeting OEB5 requirements ($OEL \leq 1 \mu g/m^3$).



产品优势
Advantage

- OEB5设备开机后进行保压测试。
OEB5-compliant equipment undergoes pressure retention testing after startup to validate containment integrity.
- 湿法制粒机进料配置AB阀，配置负压风机及高效过滤器，实现高活性药粉密闭进料。
The wet granulation line features AB Valves for feed entry, paired with a Negative Pressure Fan and HEPA Filter (H13/H14) to ensure contained transfer of high-potency powders.
- 制粒线各腔体采用充气密封圈，并且断电不泄气，保证完全密闭和生产区域隔离。
All granulation chambers utilize inflatable sealing gaskets that maintain sealing integrity during power outages, ensuring full containment and isolation of production zones.
- 流化床主机排风配置高效过滤器，过滤器袋进袋出。
The fluid bed exhaust is equipped with HEPA Filters and Bag-in Bag-out (BIBO) replacement systems to prevent airborne release.
- 选配密闭取样装置，方便工作人员对药物进行取样分析。
Optional Contained Sampling Device facilitates safe sampling for analytical testing without breaching containment.

OEB5高密闭制粒线

OEB5 HIGH CONTAINMENT GRANULATION LINE

OEB5高密闭制粒线适用于高活性、高毒性、高致敏性物料的湿法制粒和颗粒干燥的小试及研发。
The HLSG Series High Shear Mixer + LGL-Series Fluid Bed is designed for small-scale and R&D applications in containment wet granulation and particle drying of HPAPI, highly toxic, and highly sensitizing materials, meeting OEB5 requirements (OEL ≤1 μg/m³).



产品优势

Advantage

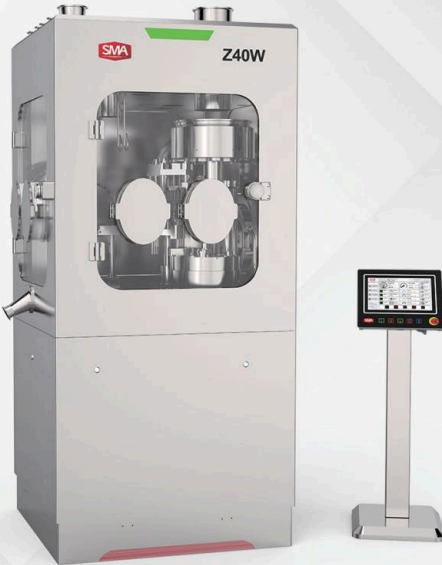
- ❖ 整机密闭等级可达OEB5以上。
System Containment Level: OEB5 or higher.
- ❖ 隔离器采用充气密封系统，带完整性监测功能，操作时保持 -40Pa±10pa，静态条件下，舱内压力波动范围设定值±5Pa。
The isolator is equipped with an inflatable sealing system integrated with integrity monitoring. It maintains a negative pressure of -40 Pa ±10 Pa during operation, with chamber pressure fluctuation controlled within ±5 Pa under static conditions.
- ❖ 采用传递舱和操作舱结构设计，物料进出可选用连续套袋系统或RTP接口。
The system adopts a structural design incorporating transfer chambers and processing chambers, with material transfer options including a continuous bagging system or RTP (Rapid Transfer Port) interface.
- ❖ 集成HLSGMINILAB湿法制粒机和LGL002流化床，同时可集成干整粒AB阀出料对接系统。
The system integrates the HLSGMINILAB high Shear Mixer and LGL002 Fluid Bed, with optional integration of the Dry Milling AB valve discharge docking system.
- ❖ MINILAB湿法制粒机搅拌桨与锅底间隙小于2mm，搅拌均匀；搅拌切刀传动轴间采用吹气密封技术，药粉无残留，同时可配置更换5种锅体。
The HLSGMINILAB High-Shear Mixer:Impeller-to-bowl bottom clearance <2 mm; Chopper Blade Drive Shaft are equipped with pneumatic sealing to avoid powder residue,and with interchangeable bowl available in 1L,3L,6L,10L and 15L.

技术参数 Technical Parameter									
隔离器 Isolator	舱体压差控制范围: 0-100Pa（可调），泄漏率≤0.5% vol/hr@100pa Chamber Pressure Differential Control Range: 0-100 Pa (Adjustable), Leakage Rate ≤0.5%								
HLSGMINILAB 湿法制粒机 HLSGMINILAB High Shear Mixer					LGL002流化床 LGL002 Fluid Bed				
工作容积 Bowl Capacity (L)	1	3	6	10	15	顶喷容积 Top-spray batch volume(L)	1-3	2-6	5-12
搅拌功率 Impeller power (kW)	3					底喷容积 Bottom-coating Volume (L)	3.5		
搅拌速度 Impeller speed (rpm)	0~960					额定风量 Air flow (m³/min)	200		
切刀速度 Chopper speed(rpm)	0~3000					风机功率 Fan power (kW)	2.2		
切刀功率 Chopper power (kW)	0.96					压缩空气消耗量 Compressed Air Consumption(m³/h)	20		

密闭胶囊机

CONTAINMENT CAPSULE FILLER

密闭胶囊机依托Z系列胶囊机插管式技术，进行结构性改造，使胶囊填充区与机械传动区达到IP65的密封等级，采用类似隔离器结构将胶囊填充区密封，形成具有高密闭性的可进行WIP清洗的高密闭胶囊机，整机密闭等级可达到OEB4-5。密闭胶囊机填充区配置高效过滤器与外界进行气体交换，有效防止粉尘外泄污染洁净室。在生产过程中整个胶囊填充室保持负压，机器配有负压检测装置，并能够实现自动调整，保证胶囊室负压的稳定。机器具有清洗排水功能，密闭环境良好，能有效阻止机器内粉尘泄露，对操作人员起到良好的保护作用。
The containment capsule filling machine, based on the Z-Series capsule machine' s dosator filling technology, incorporates structural modifications to achieve IP65 sealing between the capsule filling zone and mechanical drive components. By adopting an isolator-like structure to encapsulate the filling zone, it forms a highly sealed capsule machine capable of Wash-In-Place (WIP) cleaning, with an overall containment level compliant with OEB4-5 standards.The filling zone is equipped with HEPA filters for controlled air exchange with the external environment, effectively preventing powder leakage and contamination of the cleanroom. During operation, the entire capsule filling chamber maintains negative pressure, supported by integrated pressure monitoring sensors that automatically adjust to stabilize the pressure. The machine features an integrated cleaning and drainage system, ensuring robust containment to minimize internal powder leakage and providing enhanced operator protection.



产品优势

Advantage

- ❖ 密闭等级OEB4-5
Containment level: OBE4/5
- ❖ WIP在线清洗
WIP washing system
- ❖ 滤芯堵塞、破损检测，袋进袋出更换
Real-time filter cartridge clogging & integrity monitoring, Bag-in/Bag-out (BIBO) replacement
- ❖ AB阀、RTP转运，无接触进出料
AB valves with RTP (Rapid Transfer Port) transfer interface, Closed material transfer for feeding and discharging
- ❖ 尾料剩余少，最低200g
Minimal residual material with as low as 200g remaining

技术参数 Technical Parameter		
型号 Model	Z40W	Z85W
最大产量 Maximum output	40000	85000
密闭等级 Containment level	OEB4-5	OEB4-5
适用胶囊 Capsule Size	00-5#	00-5#
适用充填物料 Suitable for filling materials	粉、丸、液体 Powder/Pellet/Liquid	粉、丸 Powder/Pellet

密闭压片机

CONTAINMENT TABLET PRESS

S系列密闭压片机是基于用户需求，为保证生产过程安全防护而设计的高密闭设备，主要用于高活、高毒、高致敏性物料压片工序的研发测试及批量生产，可满足OEB5密闭要求。S系列密闭压片机以其稳定性及可靠性获得了用户认可，一直保持着较高的市场占有率。

The S-Series Containment Tablet Press is engineered based on user-centric design principles to ensure operator safety during production processes. As a high-containment system, it is specifically designed for R&D testing and batch production of tablets containing highly active, toxic, and sensitizing compounds, fully compliant with OEB5. The S-Series has gained industry recognition for its mechanical stability and operational reliability, consistently maintaining a dominant market share in HAPI drug manufacturing.



产品优势

Advantage

- ❖ 开机后控制系统自动执行保压测试及检测报警功能，运行过程可实现-30至-60pa稳定负压环境，支持滤芯压差持续检测及故障诊断功能。
Upon startup, the containment tablet press control system automatically initiates pressure retention testing and activates leak detection alarms. During operation, it maintains a stable negative pressure environment of -30 to -60 Pa, with continuous filter differential pressure monitoring and fault diagnosis capabilities.
- ❖ 采用双重隔离结构，大幅缩减清洁死角的同时，降低设备运行过程中的能量消耗量。
The dual-isolation containment design significantly minimizes sanitation dead zones while optimizing energy efficiency during operation.
- ❖ 采用特殊结构充气密封圈，配置应对断电断气突发情况的应急处理系统。
Adopting specially designed inflatable sealing rings, with an emergency response system to handle power/compressed air supply interruptions
- ❖ 支持手套箱、RTP传递口等人为干预方案及人为干预过程中的安全防护功能。
The system supports human intervention protocols including glove ports and RTP (Rapid Transfer Port) connections, with integrated safety containment features during manual operations.

技术参数 Technical Parameter

型号 Model	SLABW	S250W
转塔冲数 Number of Turret Station	4D/8D/11D/14B/17BB/4D+4B/4D+4B+4BB	26D/32B/40BB
最大片径 Max Sheet Diameter(mm)	25	25
最大产量 Max Output(pcs/h)	61200	156000
设备重量 Weight (kg)	1200	2600
设备尺寸Dimensions (mm)	1020*1050*1890	1415*1405*2205

密闭包衣机

CONTAINMENT COATING MACHINE

包衣机的主要作用及应用：是为片剂表面包裹一层连续固体物，根据包衣膜材料的不同可以分为薄膜包衣、糖包衣。其目的包括：提高药片美观、增加有效期、掩味、调节活性成分的释放速率、标识制作及保护知识产权等。

The primary role of the coating machine is to apply a continuous solid layer onto tablet surfaces. Based on coating material properties, the process is categorized into: Film Coating、Sugar Coating .The objectives include: enhancing tablet appearance, extending shelf life, masking taste, modulating the release rate of active ingredients, creating identification marks, and protecting intellectual property.



产品优势

Advantage

- ❖ 锅体单臂支撑设计，不会交叉污染。
The coating drum employs a single-arm cantilevered design, prevent cross-contamination.
- ❖ 可满足OEB5防护等级，能够通过保压测试。
OEB5 containment level, and successfully passes pressure holding tests.
- ❖ 锅体上的通风口采用锥孔，保证清洗无残留。
The coating drum is equipped with a vent port featuring a tapered bore, which ensure no residue after CIP(Clean-in-Place)
- ❖ 锅体护罩采用充气密封圈与外界隔绝，密闭等级高，便于定制化设计。
The coating drum cover employs an inflatable gasket sealing system to achieve isolation from external environments,with OEB5 high containment level and easy customization design.

密闭生产解决方案 CONTAINMENT PRODUCTION SOLUTIONS

2018年新马药机与Andocksysteme签订战略合作协议，成为Andock在中国境内的独家代理。

Andocksysteme成立于2000年，在德国巴登维勒有密闭技术中心。整个技术团队在制药、化学、生命科学领域拥有超过100年的密闭经验，能够提供满足最高要求的阀类产品。其核心产品包括密闭分离型蝶阀、球段阀、连接件、取样器等。

新马药机和Andocksysteme此次强强联合将致力于高密闭生产方式的开发和研究，为国内外客户提供制药、生物、化学等领域的密闭生产整体解决方案。

In 2018, Shandong SMA Pharmatech Co., Ltd. signed a strategic cooperation agreement with Andocksysteme, becoming the exclusive agent of Andock in China.

Andocksysteme was founded in 2000 and has a containment technology center in Badadenweiler, Germany. The entire technical team has more than 100 years of isolated experience in the field of pharmacy and chemistry and life science, and can provide valve products that meet the highest requirements. Its core products include sealed separation-type butterfly valve, segmented ball valve connector, sampler, etc. Shandong SMA Pharmatech Co., Ltd. and Andocksysteme will be committed to the development and research of high isolated production mode, providing customers with overall solutions for isolated production in pharmaceutical, biological, chemical and other fields.

独一无二的对接系统 PROPRIETARY CONTAINMENT DOCKING SYSTEM

- 新的对接系统由一个主动阀和一个被动阀组成，两侧由高端精密轴承支撑，被动阀可以安装在容器的进口或出口上。
The new docking system consists of an active valve and a passive valve, which are supported by high-end precision bearings on both sides. The passive valve can be installed on the inlet or outlet of the container.
- 主动阀是手动或自动操作的，集成到工艺站的灌装或排放一侧，并且可以支持多种配置。
The active valve is manually or automatically operated, it is integrated to one side of the filling unit or discharge unit of the process station, and can be configured with a variety of options.



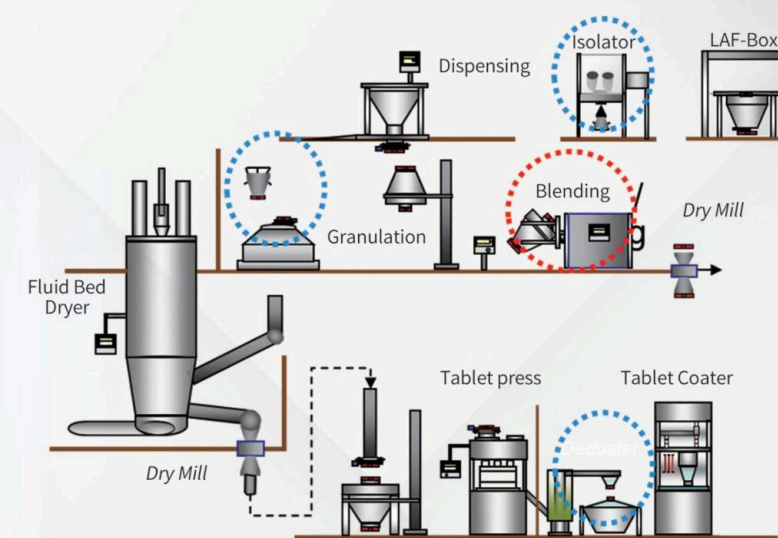
缓冲型手动主动阀
Manual Active Valve With Flexible Unit



吸尘口
Suction Port



到位检测
Position Check



灵活的操作 FLEXIBLE OPERATION

- 只需要一个小模块的改装，可以在短时间内完成阀门手动状态和自动状态的快速切换。
Only one small module is required to be modified, and the quick switch between manual and automatic status of the valve can be completed in a short time.



密闭运转 CONTAINMENT TRANSFER

- 在对接时，符合GMP设计的锁定销钉将主动阀和被动阀连接在一起。两个阀门在对接后同时打开。在罐装和卸料过程中，产品完全处于密闭状态。
During docking, the locking pin in accordance with GMP design connects the active valve with the passive valve. Two separate valves are opened at the same time after docking. During the process of loading and discharging, the product is completely isolated.



连续制造解决方案

Continuous manufacturing solution



MA SMA SMA SM



SMA连续制造平台

SMA Continuous Manufacturing platform

- 药品连续制造涉及生产过程中输入物料的持续进料、物料的持续转化、以及输出物料的同时产出。
Continuous drug manufacturing involves the continuous feeding of input materials in the production process, the continuous transformation of materials, and the synchronous output of output materials.
- 《化药口服固体制剂连续制造技术指导原则（试行）》集中阐述了化药口服固体制剂实施连续制造过程的基本考量要素。
Guidelines for Continuous Manufacturing of Chemical Pharmaceutical Oral Solid Dosages (Draft for Comment) focuses on the basic considerations for the continuous manufacturing process of oral solid preparations for chemical drugs.
- 监管机构通过倡导FDA新兴技术计划和ICHQ13指南，使连续生产的开发、实施、操作和生命周期管理等方面更加完善。
By advocating for FDA's Emerging Technologies Program (ETP) and ICH Q13 guidance, regulators are improving the development, implementation, operation, and lifecycle management of continuous manufacturing.
- 连续制造提供了稳健的流程、优质的产品，最终达到了降本增效的目的。
Continuous manufacturing provides a robust process, high-quality products, and ultimately achieves the purpose of reducing costs and increasing efficiency.

- 在研发过程中使用更少的产品收集更多的信息。
Use fewer products to gather more information during research and development.
- 排除高风险、耗时以及消耗产品的放大过程。
Eliminate high-risk, time-consuming, and product-consuming scale-up processes.
- 引入在线测量和针对实时监测的闭环控制，将浪费降到最低。
On-line measurement and closed-loop control for real-time monitoring are introduced to minimize waste.
- 采用灵活的方式生产，减少库存。
Adopt a flexible approach to production and reduce inventory.
- 降低生产的能源成本，减少对环境的影响。
Reduce the energy cost of production and reduce the environmental impact.

SMA连续制造平台根据FDA的QbD计划开发，满足制药行业对药品降险提质的需求，避免了冗长而昂贵的验证和扩大规模，从而更快地将产品推向市场。SMA连续制造平台集成先进工艺控制和PAT工具，采用全流程监控模式，将质量来源设计的观念融入到生产过程中。提供连续直压、连续湿法、连续干法等连续制造解决方案，产品从端到端生产始终保持一致的质量，并对关键质量属性实行在线控制。SMA的创新设计理念使得启动和停机过程中产生的不合格产品显著减少。SMA连续制造平台系统采用连续生产和“基于风险的GMP方法”，可确保产品稳定且高质量的生产。

Developed under the FDA's QbD program, the SMA continuous manufacturing platform addresses the pharmaceutical industry's need for risk reduction and quality improvement, avoiding lengthy and expensive validation and scaling to bring products to market faster. The SMA continuous manufacturing platform integrates advanced process control and PAT tools with a whole-process monitoring mode to integrate the concept of quality Source design (QbD) into the production process. Provide continuous manufacturing solutions such as continuous direct compression, continuous wet granulation process and continuous dry granulation process, and maintain consistent quality from end to end production, and implement online control of key quality attributes. SMA's innovative design concept has resulted in a significant reduction in the number of non-qualified products produced during start-up and shutdown. The SMA Continuous Manufacturing platform system uses continuous production and a "Risk-Based GMP Approach" to deliver higher and more consistent quality.



连续称量喂料Continuous Weighing Feeding

- 通过使用失重式喂料机确保每种成分的正确计量，该喂料机配备高精度称重传感器，能够准确地向混合机喂料。
The correct dosing of each component is ensured by the use of a loss in weight (LIW) feeder, which is equipped with a high-precision load cell to accurately feed to the blender.

连续混料Continuous Mixing

- 连续混合机的设计适合进料装置，尺寸根据所需的生产量而定，混合叶片适合粉末的特性。
The continuous blender is designed to fit the feed unit, the size is based on the required production volume, and the mixing baffle is adapted to the characteristics of the powder.

连续双螺杆制粒Continuous twin-screw granulation

- 连续湿法造粒模块基于高剪切双螺杆造粒，该技术生产的颗粒具有更一致的均匀性，比传统方法使用更少的液体。
The continuous screw granulating module is based on high-shear twin-screw granulation, which produces particles with more consistent uniformity and uses less liquid than traditional methods.

连续干燥Continuous Drying

- 连续流化床利用通过通风板的热风干燥物料，腔体呈矩形，通过调整筛网规格、通风板等，使其中的物料得到有效干燥。
The continuous drying uses hot air through the ventilation shutter to dry the material. The chamber is rectangular, and the material can be dried effectively by adjusting the size of the screen and ventilation shutter.

连续包衣Continuous Coating

- 连续包衣机呈现了片剂包衣的模式转变，药片从一端连续混合并输送到另一端，通过更快速、更温和、更精确地包衣来强化传统工艺。
Continuous coating machines represent a paradigm shift in tablet coating, where tablets are continuously mixed and delivered from one end to the other, enhancing the traditional process by faster, gentler, and more precise coating.

双螺杆连续混合系统

Twin Screw Continuous Mixer System



产品优势
Advantage

- 采用进口德国密封、瑞士质量流量计、美国雾化喷枪。
Adopting imported German seal, Swiss mass flowmeter, American spray gun.
- 采用专利同心异速双螺杆技术，混合均匀，输送稳定。
Patented concentric allometric twin screw technology, mixed evenly, stable transmission.
- 适用范围广泛，固体与固体混合、固体与液体混合，可有效防止聚合物的产生。
Wide range of application, solid and solid mixing, solid and liquid mixing, can effectively prevent the production of polymers.

技术参数 Technical Parameter	
产能 Capacity (kg/h)	200
喂料单元数量 Number of Feeding Units	3-5
混料单元转速 Mixing Unit Speed (RPM)	90
加湿水箱容积 Capacity of Humidifying Water Tank (L)	30
气压 Air Pressure (bar)	6
设备重量Weight(kg)	800
设备尺寸Dimensions(mm)	2900*2100*2200

桨叶式连续混合系统

PADDLE TYPE CONTINUOUS MIXER SYSTEM

产品优势
Advantage

- 每种物料均配有喂料单元，喂料精确、流量稳定。
A single material corresponds to a feeding unit, accurate feeding, stable flow.
- 物料输送采用料斗、真空上料器及高精度计量阀组合方式，减少加料扰动。
Material conveying adopts hopper/vacuum feeder and high-precision metering valve combination to reduce feeding disturbance.
- 混合单元采用多种桨叶配合安装方式，增加足够物料平均暂留时间及暂留量，保证混合均匀度。
The mixing unit adopts a variety of blade installation methods to increase the average temporary time and temporary amount of sufficient materials to ensure the mixing uniformity.



失重式连续喂料机
Loss-In-Weight Continuous Feeder



桨叶式连续混料机
Paddle Blade Continuous Mixer

技术参数 Technical Parameter	
产能 Capacity (kg/h)	50
喂料单元数量 Number of Feeding Units	3-5
混料单元转速 Mixing Unit Speed (RPM)	400
电源 Power Supply (V)	380
设备重量 Weight (kg)	700
设备尺寸Dimensions(mm)	2200*1700*3200



连续制粒机
CONTINUOUS GRANULATOR

连续制粒机采用模块化设计，集成双螺杆制粒机，高精度连续喂料器，连续干燥等功能单元，集成PAT在线监测技术，可以实现连续精确供料，连续制粒和干燥功能。

The SCG10 continuous wet granulator adopts a modular design, integrating twin-screw granulator, high-precision continuous feeder, continuous drying and other functional units, and integrating PAT online detection technology, which can achieve continuous and precise feeding, continuous granulation and drying functions.

产品优势
Advantage

- 连续供料精度小于1%。
Continuous feeding accuracy is less than 1%.
- 模块化安装多规格螺杆单元元件，可基于不同性质物料调节螺杆元件组合。
Modular installation of multi-specification screw unit elements allows adjusting screw element combinations based on materials with different properties.
- 连续干燥模块使用独立进风区域设计，各区域风量比例调节，物料干燥时间可控。
The continuous drying module adopts the design of independent air inlet area, the air volume of each area is adjusted proportionally, and the drying time of materials is controllable.

技术参数 Technical Parameter	
产能 Capacity (kg/h)	10
螺杆直径 Screw Diameter (mm)	16
螺杆长径比 Screw Length-diameter Ratio	25:1
最大螺杆转速 Max Screw Speed (RPM)	500
功率 Power (Kw)	8
电源 Power Supply (V)	380
设备尺寸Dimensions (mm)	1800*1023*1660
设备重量Weight(kg)	1000

连续包衣机
CONTINUOUS COATER

连续包衣机满足大产量、低成本、连续化生产的需求。设备产量取决于生产时间，连续式包衣机从锅体一端进料，另一端出料，进料与出料同时进行，从根本上杜绝非有效包衣阶段，从而极大提高生产效率。

Continuous coater machine to meet the needs of large output, low cost, continuous production. The output of the equipment depends on the production time, the continuous coating machine feeds from one end of the drum to the other end, and the feeding and discharging are carried out at the same time, which fundamentally eliminates the non-effective coating stage, thus greatly improving the production efficiency.



产品优势
Advantage

- 喷枪可单独控制，可实现时序控制。单枪单泵控制保证每把喷枪具有相同的流量。
The spray gun can be controlled individually, and the timing control can be achieved. Single gun, single pump control ensures the same flow rate for each gun.
- 采用红外温度探头检测片床温度，方便清洁维护及调整。
The infrared temperature probe is used to detect the temperature of the tablet bed, which is convenient for cleaning, maintenance and adjustment.
- 可选配ATEX防爆设计，可放置于防爆区。
Optional ATEX explosion-proof design, can be placed in the explosion-proof area.

技术参数 Technical Parameter		
型号 Model	CCLAB	CC1200
产能 Capacity (kg/h)	30	1200
锅体转速 Coating Drum Speed (RPM)	1-17	
锅电机功率 Boiler Motor Power (Kw)	0.75	4
工艺气体流量 Process Gas Flow Rate (m³/h)	2,000	20,000
喷枪数量 Number of Spray Guns	8	28
设备尺寸 Dimensions (mm)	1,900*1,500*2,900	5,500*1,700*3,000
设备重量Weight(kg)	1000	6000

近红外光谱分析技术Near infrared spectrum analysis technology

近红外光谱记录的主要是含氢基团X-H (X=C、N、O) 振动的倍频和合频吸收。可用于分析物质的水分、粒径、均匀度、成分、膜厚等各方面指标。

The near-infrared spectroscopy mainly records the frequency-doubling and frequency-merging absorption of hydrogen-containing group X-H (X=C, N, O) vibration. The analysis of material moisture, particle size, uniformity, composition, film thickness, discrimination and other aspects can be achieved by using near-infrared spectroscopy analysis technology.

产品优势 Advantage

- 分析速度快，最短几秒钟就可以得出分析结果，实时在线监控。
The analysis speed is fast, the analysis results can be obtained in the shortest few seconds, real-time online monitorin.
- 分析效率高，信息量大，一次测试可同时测定多个成分和指标。
High analysis efficiency, large amount of information, one test can determine multiple components and indicators at the same time.
- 分析成本低，无其他损耗附件，无需使用试剂，无污染。
Low analysis cost, no other loss accessories, no need to use reagents, no pollution.



微波技术Microwave technology

微波技术利用微波在水分子中的吸收和散射特性来测量水分含量。水分子会吸收和散射微波信号，从而影响信号的传播速度、振幅和相位。微波在线水分检测技术因性能稳定、精度高、易维护等优点已在多个行业得到广泛认可。

Microwave technology uses the absorption and scattering properties of microwaves in water molecules to measure water content. Water molecules absorb and scatter microwave signals, affecting the speed, amplitude, and phase of the signal. Microwave online moisture detection technology has been widely recognized in many industries because of its stable performance, high precision and easy maintenance.

产品优势 Advantage

- 特定微波频率，无需调整，传感器无衰减。
Specific microwave frequency, no need to adjust, sensor no attenuation.
- 接触式，无损检测，不受生产流量影响。
Contact type, non-destructive testing, not affected by production flow.
- 操作简单，可用于各种粉尘、粉末、颗粒以及其他散装固体物料的水份在线检测。
Simple to operate, it can be used for all kinds of dust, powder, granule and other bulk solid material moisture online detection.



在线粒径检测技术On-line particle size detection technology

采用探头式在线成像粒度仪，主要用于检测颗粒的形貌和粒度大小分布，可用于颗粒化学品加工过程的在线检测，例如造粒、粉碎、研磨、结晶等。

The probe type online imaging particle size meter is mainly used to detect the morphology and particle size distribution of particles, which can be used for online detection of particle chemical processing, such as granulation, crushing, grinding, crystallization and so on.

产品优势 Advantage

- 采用了特殊的探头结构设计和防粘黏镜头镜面设计，防粘性能高。
With special probe structure design and anti-stick lens mirror design, the anti-stick performance is high.
- 基于人工智能深度学习的图像处理技术在处理高浓度颗粒方面有着优异的功能。
The image processing technology based on artificial intelligence deep learning has excellent function in processing high concentration particles.
- 测量粒度范围：1μm-1000μm(标准)；（定制可扩展至10000μm）。
Measuring particle size range: 1μm-1000μm(standard); (Customization can be extended to 10000μm).

激光粒度仪 Online particles analyzer

由激光照射的阵列（空间滤波器）检测来自单个粒子的光信号。高达每秒几千个粒子的采样率将保证高置信度，用于在制药过程中分别测量粉末、颗粒或微丸的粒度分布。

An array (spatial filter) illuminated by a laser detects light signals from individual particles. Sampling rates of up to a few thousand particles per second will guarantee high confidence, It is used to measure the particle size distribution of powder, particle or pellet separately in the pharmaceutical process.

产品优势 Advantage

- 扩展滤波技术，精度高，使用简单，安装方便。
Extended filter technology, high precision, easy to use, easy to install.
- 无需建模，可以实时在线/离线进行粒度检测，无滞后。
No modeling required, real-time online/offline particle size detection, no lag.
- 独特设计的分散器，自动清洁探头和吹散物料，避免物料堆积或者粘连物料对分析的影响。
The uniquely designed disperser automatically cleans the probe and blows away the material to avoid material accumulation or adhesion to the analysis.



新马数智化平台SCSMA 4.0基于边缘计算平台开发，为生产执行全局的优化、调度、策略性任务，控制策略和目标判断统一部署，集成多种PAT在线检测模型，为实时放行检测（RTRT）提供准确的依据，应用场景包括工艺优化分析，能源分析，预测性维护等，B/S架构可随时随地查看产线状态，提升 OEE、KPI等关键数据的透明度，通过机器学习手段进行过程分析和检测，保障生产稳定高效和高质量运行。

SMA SCSMA 4.0 Digital-Intelligent Platform, developed on an edge computing platform, enables global optimization, scheduling, and strategic task management for production execution. It implements unified deployment of control strategies and objective assessments, integrates multiple PAT (Process Analytical Technology) online monitoring models to provide validated data support for Real-Time Release Testing (RTRT). Application scenarios include process optimization analysis, energy consumption profiling, and predictive maintenance. The B/S (Browser/Server) architecture allows real-time production line monitoring with enhanced transparency of OEE (Overall Equipment Effectiveness) and KPIs (Key Performance Indicators). Machine learning-driven process analysis and detection ensure stable, efficient, and high-quality production operations.



平台特点 Platform features

- ◆ B/S架构，内置强大的Web服务器，可支持数百个Web客户端并发访问。
B/S(Browser/Server) architecture with a built-in robust web server, supporting concurrent access from hundreds of web clients.
- ◆ 驱动丰富，支持MQTT、OPC UA、S7 TCP、Modbus等主流通讯协议，无阻碍的与设备进行通讯，方便的与上层IT系统集成。
Protocol Support:Extensive protocol drivers (MQTT, OPC UA, S7 TCP, Modbus) enable seamless device communication and easy integration with upper-layer IT systems.
- ◆ Web组态。具备画面编辑、数据归档、数据库，报表生成、趋势曲线，用户集中管理、审计追踪、短信邮件报警信息通知机制等功能。
Web configuration with functionalities including HMI Configuration editing, data archiving, database management, report generation, trend curves, centralized user management, audit trails, SMS/email alert notification mechanisms, and other features.
- ◆ 支持界面风格定制化，融合企业文化和LOGO等UI、UX设计。
Supports customizable UI(User Interface) &UX(User Experience)incorporating corporate culture and logos.
- ◆ 符合美国 FDA in 21 CFR Part 11和欧盟Annex 11 of the EU GMP Guideline 电子签名和电子记录规范，支持CSV验证。
Compliant with US FDA 21 CFR Part 11 and EU GMP Annex 11 electronic signature and electronic record regulations, supports CSV validation.

平台特点 Platform features



功能模块 Functional module



生产制造管理 Manufacturing Management

- 过程分析和监测：帮助机器、产线和工厂进行效率提升；用于计算和可视化机器状况的灵活工具，以提高机器透明度，通过提高 OEE、质量、KPI 等关键数据的透明度，实现优化生产，通用的可视化功能满足各种设备数据集成。
Process Analytics & Monitoring: Enhances efficiency for machines, production lines, and plants. Provides flexible tools to compute and visualize equipment status, improved machine data transparency. Optimizes production through enhanced visibility of key data such as OEE(Overall Equipment Effectiveness),quality,KPI(Key Performance Indicators),and etc. Universal visualization supports multi-device data integration.
- 工艺管理，参数对比，看板报表。
Process Management, Parameter Benchmarking, Production Dashboard Report.
- 故障检测，诊断，分类，报警频率分析，风险分析。
Fault Detection,Diagnosics,Classification,Alarm Frequency Analysis,Risk Analysis.



过程质量管理 Process Quality Management

- 集成NIR（近红外光谱）或拉曼光谱仪 等PAT检测手段到产线，实时监测物料成分。
Integration of PAT (Process Analytical Technology) tools such as Near-Infrared (NIR) Spectroscopy,Raman Spectrometers and etc into production lines for real-time monitoring of material composition.
- 使用 Python/TensorFlow 开发异常检测算法，实时预警偏离工艺窗口情况（例如混合不均、压片硬度波动）。
Anomaly detection algorithms developed with Python/TensorFlow provide real-time alerts for deviations from process windows (e.g., blending inhomogeneity, tablet hardness variations).
- 输出：构建实时质量仪表盘，动态调整工艺参数。
Output: Establish a real-time quality dashboard enabling dynamic adjustment of process parameters.

设备健康管理 Equipment Health Management

- 设备性能建模
Equipment Performance Modeling
- 规范性操作建议
Standardized Operation Recommendations
- 故障事件预测
Failure Event Prediction
- 与维护运营计划集成
Integration with Maintenance & Operation Planning
- 可在需要时执行维护
On-Demand Maintenance Execution



生产能源管理 Production Energy Management

- 能源计划管理
Energy Planning Management
- 能源统计管理
Energy Statistical Analysis
- 能源数据监控
Energy Data Monitoring
- 能源成本管理
Energy Cost Optimization



设备运维管理 Asset Management

- 增强现实AR
Augmented Reality (AR)
- 虚拟现实XR
Extended Reality (XR)
- 数字孪生DT
Digital Twin (DT)
- 物料追溯MMC
Material Movement Control (MMC)



数智化平台目标：数智结合，让机器更聪明，更懂你！

Objective of Digital-Intelligent Platform: Integrate digital intelligence to enable smarter machinery with adaptive, operator-centric performance.

轻量化应用
浏览器访问画面

大容量的本地数据
存储，专业工艺数
据分析工具与应用

协同作业
提高沟通效率



报警推送
到手机

智慧平台达成目标

实时采集生产数据，解决信息断层问题
生产实时监控，并对采集数据进行相应的分析和处理，进行生产管理、报表管理，为决策提供数据支持
在车间设电子看板，实时展示生产情况
优化车间整个生产制造过程，提高生产效率和管理水平，节省人工成本
平台上显示图纸信息，作业指导书、备品备件，维护手册等
连接至云端应用系统的交互，预测性维护应用场景

生产全局
信息化、可视化
可远程监控生产现场



机器学习优化生产
工艺，完成质量实
时过程控制

智能化固体制剂整体解决方案
INTELLECTUALIZED SOLID DOSAGE COMPREHENSIVE SOLUTION

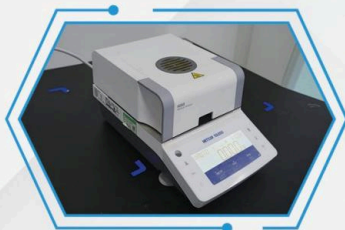
智能化固体制剂整体解决方案：工程设计、工艺研究、工艺装备、工程服务
Intellectualized solid dosage integrated solution:
Engineering Design, Process Study, Process Equipment, Engineering Service.

智能化固体制剂整体解决方案
INTELLECTUALIZED SOLID DOSAGE COMPREHENSIVE SOLUTION



公司建设有山东、上海两大实验基地，为客户试机及工艺研究提供全方位、高质量的工作平台。

SMA has two R&D center bases in Shandong and Shanghai, providing customers with a comprehensive and high-quality working platform for machine testing and process research.



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山东新马制药装备有限公司
SHANDONG SMA PHARMATECH CO.,LTD.

山东省淄博市高新技术开发区尊贤路2989号
国内销售：0533-7998921 国际销售：0533-7998923
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2989 ZUNXIAN ROAD,HIGH&NEW TECHNOLOGY DEVELOPMENT ZONE,
ZIBO,SHANDONG,P.R.OF CHINA postode: 255086
DOMESTIC SALES TEL:(+86)533 7998925/7998921
INTERNATIONAL SALES TEL:(+86)533 7998923
AFTER-SALES SERVICE TEL:(+86)533 7998922
FAX:(+86)533 7998925 website: www.sd-sma.com

