

超高压微射流均质机

ULTRA-HIGH PRESSURE
MICROFLUIDIZATION HOMOGENIZER



CE TÜV AUSTRIA TÜV ISO9001

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Noozle
TECHNOLOGY

无菌型微射流均质机和自动配液系统
Aseptic Microfluidization Homogenizer & Auto-Formulation System

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产品优势 Product Advantage

- ▶ 模块化高压设计, 可实现 24 小时连续工作
- ▶ PLC 全自动控制, 符合 GAMP 规范
- ▶ 控制系统符合 FDA 21 CFR Part 11
- ▶ 无菌设计, 符合 cGMP, 自动 CIP/SIP, 可满足无菌制剂生产
- ▶ 可处理高粘度, 可耐受有机溶剂, 优良的耐化学性能
- ▶ 防爆设计, 可在气体易爆环境 (I / II 区) 中使用
- ▶ 喷嘴 / 对射流腔可选
- ▶ Modular high-pressure design, can achieve 24-hour continuous operation
- ▶ PLC automatic control, in accordance with GAMP specifications
- ▶ Control system complies with FDA 21 CFR Part 11
- ▶ Sterile process design, in line with cGMP, automatic CIP / SIP, can meet the production of sterile preparations
- ▶ Applicable for high viscosity medium, resistant to organic solvents and excellent chemical resistance
- ▶ Explosion-proof design for usage in explosive environment (I / II)
- ▶ Both Noozle and Impinging Stream Chamber available

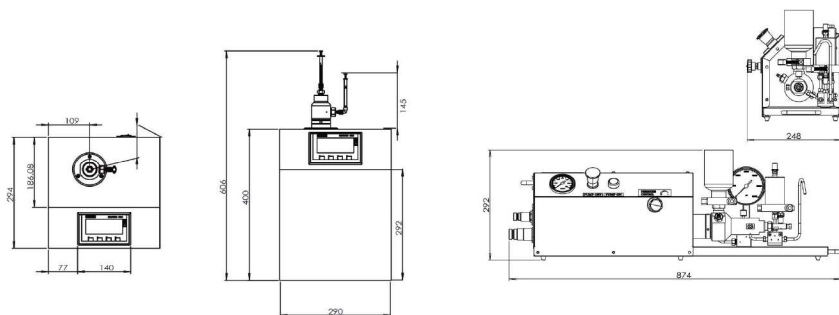


技术参数

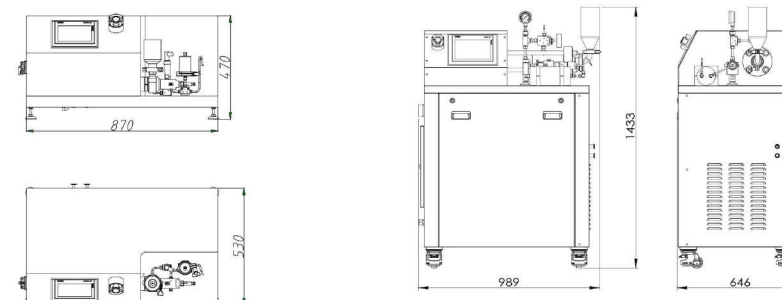
TECHNICAL PARAMETERS



	实验型 Nano LAB TYPE : Lab	实验型 Nano LAB TYPE : Nano
处理压力 Pressure Range	可达 (Up to) 20,000psi	可达 (Up to) 45,000psi
处理量 Capacity	25ml/min	50ml/min
最小处理量 Minimum Capacity	1ml	10ml
重量 Weight	35kg	80kg



	实验型 Nano LAB TYPE : Nano-La	Mini - 中试型 MINI TYPE
处理压力 Pressure Range	可达 (Up to) 45,000psi	可达 (Up to) 30,000psi
处理量 Capacity	可达 (Up to) 3L/H	可达 (Up to) 330ml/Min
重量 Weight	约75kg	约255kg



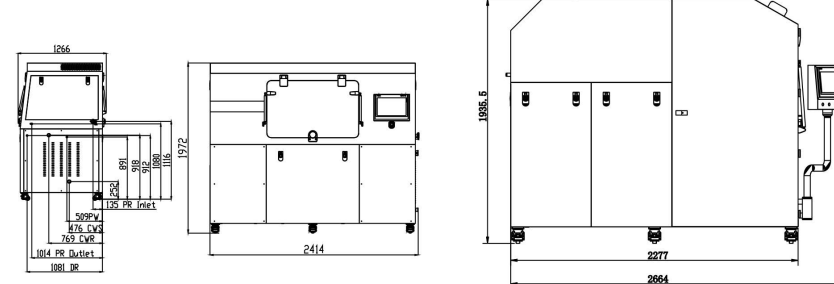
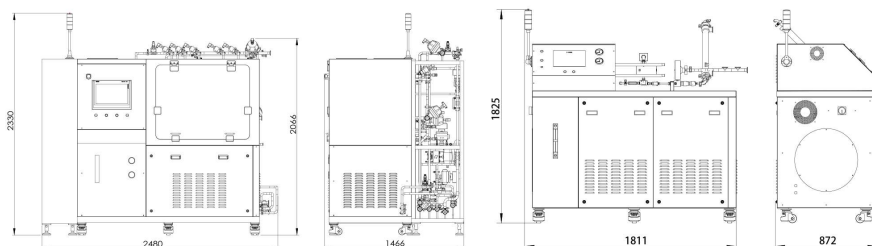
技术参数

TECHNICAL PARAMETERS



	无菌生产型 2000 Aseptic type	生产型 2000 Commercial production
处理压力 Pressure Range	可达 (Up to) 30,000psi	可达 (Up to) 30,000psi
处理量 Capacity	可达 (Up to) 120L/h	可达 (Up to) 200L/h
重量 Weight	约1300kg	约955kg

	生产型 4000 Commercial production	生产型 4000T Commercial production
处理压力 Pressure Range	可达 (Up to) 30,000psi	可达 (Up to) 30,000psi
处理量 Capacity	可达 (Up to) 480L/h	可达 (Up to) 1000L/h
重量 Weight	约2200kg	约3000kg

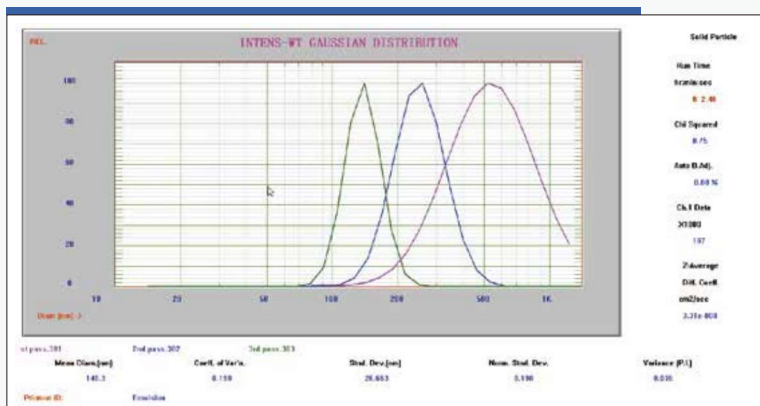


应用与原理

APPLICATION AND PRINCIPLE

主要应用 Main Application

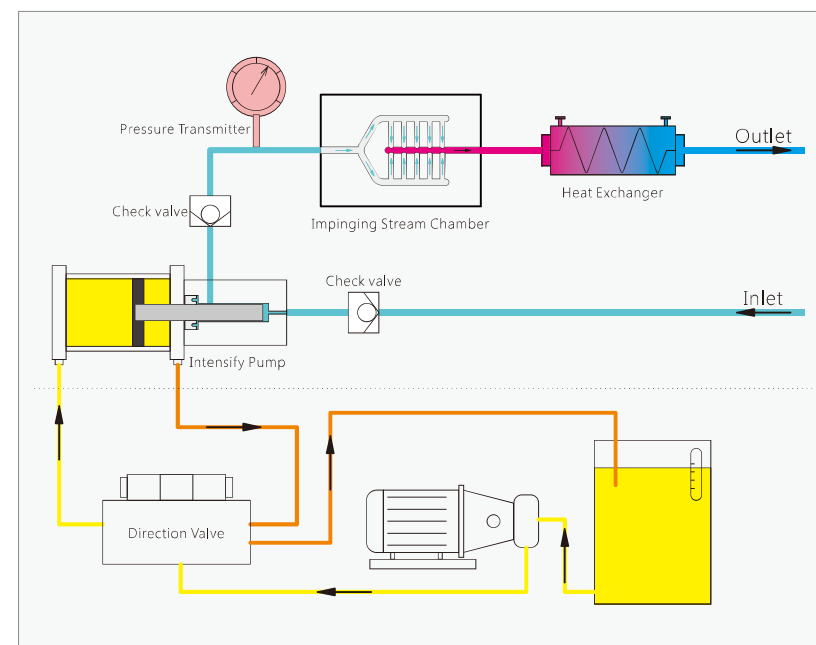
- ▶ **制药行业**
 - 载药型乳液的均质
 - 脂质体的微粒化制备
 - 纳米混悬液的分散
- ▶ **生物医药行业**
 - 新冠疫苗 角鲨烯 佐剂乳化制备
 - mRNA 包载解决方案
 - 大肠杆菌破碎、酵母菌破碎
- ▶ **新材料行业**
 - 石墨烯导电添加剂的分散
- ▶ **食品行业**
- ▶ **电子浆料行业**
- ▶ **化妆品行业**
 - 脂质纳米粒的均质
- ▶ **Pharmaceutical Industry**
 - Homogenization of drug-loaded emulsion
 - Nano particle preparation of liposome
 - Dispersion of Nano suspension
- ▶ **Pharmaceutical Industry**
 - Used for 2019-nCoV vaccine, Squalene and vaccine adjuvant
- ▶ **mRNA encapsulation solution**
- ▶ **Escherichia coli and yeast fragmentation**
- ▶ **New Materials Industry**
 - Dispersion of graphene conductive additives
- ▶ **Food Industry**
- ▶ **Electronic Paste Industry**
- ▶ **Cosmetics Industry**
 - Homogenization of liposome granules



工作原理 Working Principle

物料流经单向阀后，在高压腔泵里加压，通过微米级的喷嘴，以亚音速撞击在乳化腔上，同时通过强烈的空穴，剪切效应，得到足够小而均匀的粒径分布。

The material flow through a one way valve, was pressured in the high pressure chamber, when pass the micron nozzle, the material will subsonic impact the chamber, with a shearing effect at the same time, then get a narrow range of micron particle.



自控系统

CONTROL SYSTEM



- ▶ 采用触摸屏 PLC 控制，一键式操作，工艺流程图直接明了，全自动配液及物料传输，简洁方便、人性化
- ▶ 配有全自动 CIP 在线清洗系统、SIP 在线灭菌系统，系统可自动在线 SIP、CIP，降低生产成本和劳动强度
- ▶ 自动实时监测、记录、打印各类相关数据
- ▶ 电子签名
- ▶ 审计追踪

- ▶ Touch-screen PLC control, one-button operation. Straightforward process flow chart. Automatic liquid distribution and material transfer—simple, convenient and user-friendly.
- ▶ Online CIP/SIP system, can reduce production cost and relieve labor intensity
- ▶ Automatically monitor, record, and print all relevant data in real time
- ▶ Electronic signature
- ▶ Audit tracking

验证 Verification

诺泽科技有专业的验证团队，负责制药用水设备、配液工艺系统、洁净管道系统及高压气体的验证工作。

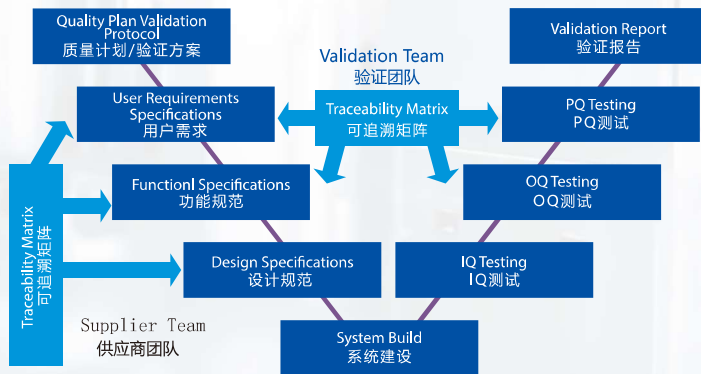
验证生命周期从制定 URS 为起点，经过设计确认、建造阶段、安装确认、运行确认、最终通过性能确认来证实 URS 是否完成。

验证会生成配套的书面证据，在满足各项相关法规的前提下，保证客户达到预期的质量特性。

Nozzle Technology has a specialized verification service team established to verify pharmaceutical water equipment, solution preparation process system, clean piping system, and high-pressure gas.

The life cycle of verification starts from the formulation of URS; after design qualification, construction, installation qualification and transportation qualification, the performance qualification is performed to check whether URS is completed.

The verification generates supporting documentary evidence to ensure that the customer achieves the desired quality characteristics, subject to compliance with the relevant regulations



服务 Services

产品支持

耗材和备品备件

上海的备件仓库有大量的备品库存，可及时满足客户需求

工程技术支持

快速解决所有机械、控制和过程工艺上的技术问题

维修

24小时/ 7天实现现场维修

销售支持

安装与调试

现场安装
机械和电气调试，运行测试

培训

全员培训包括操作、控制和故障处理

维护

远程维护和现场维护

售前支持

来料测试

专业人员和不同设备用于产品特性测试

来料加工

客户可中试样品加工和批量产品加工

Product Support

Wearing and spare parts

A large amount of spare parts inventory in Shanghai, which can meet customer requirements.

Engineering support

Solutions for all mechanical, control and process engineering questions.

Repairs

Service 7 days/24hours available

Sales Support

Installation/commissioning

On-site installation
Mechanical and electrical testing, test runs

Training

Staff training on operation, control and trouble-shooting

Maintenance

Remote maintenance and on-site maintenance

Business Support

Sample test

Professionals and various equipment for product characteristics testing

Contract Micronization Processing

Pilot sample processing and batch product processing

