

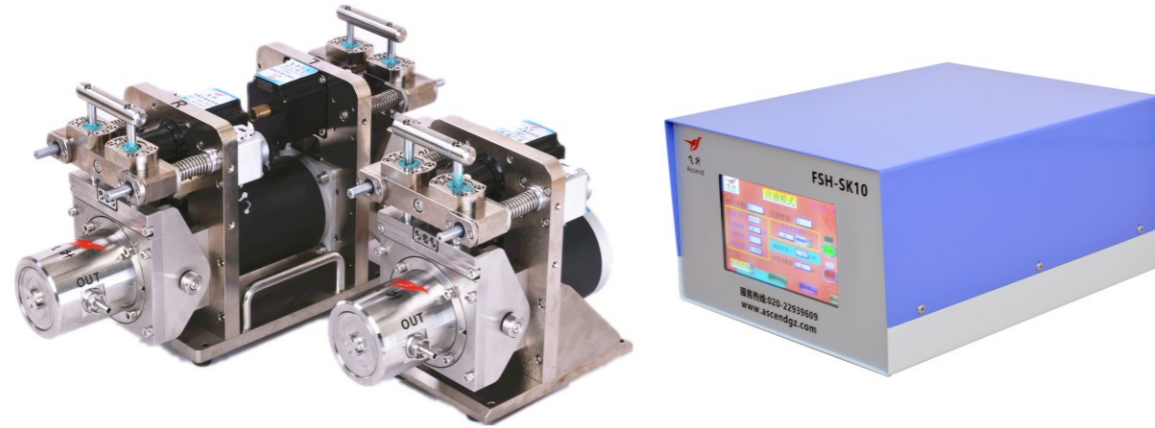
FSH-SK10 系列

智能数控注液/灌装系统

FSH-SK10 Series of Intelligent Digital-control Fluid Injection / Filling system

FSH-SK10系列是广州飞升全新推出的自主研发设计,集高效率、高精度、高稳定性、全数控于一体的智能注液/点液/灌装系统,适用于各种全自动注液灌装、无人化生产车间。该系统由1个数控箱,单/双套高精度数控调节机构,以及特殊陶瓷泵模块组成。是行业内首个突破传统常规注液灌装泵调节不便、不完全数控等技术瓶颈的专利产品。

FSH-SK10 product series is Guangzhou Ascend latest high efficiency, high precision and high reliability intelligent digital-control dispensing system. With all the necessary intelligent control features and integration capabilities, FSH-SK10 is the top choice for automated fluid filling systems and intelligent factory production lines. FSH-SK10 includes a digital controller, a single end or dual end high precision digital controlled automated volume change mechanism, and special high precision ceramic pump modules. The system has solved the traditional issue of variable volume change and adjustment with advanced digital volume change technology.

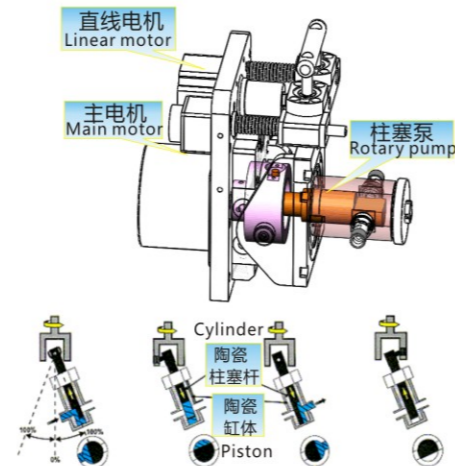


专利产品, 仿造必究, 专利号: ZL 201630595929.3
Patented products, IP protection, Patent NO. :ZL 2016305929.3

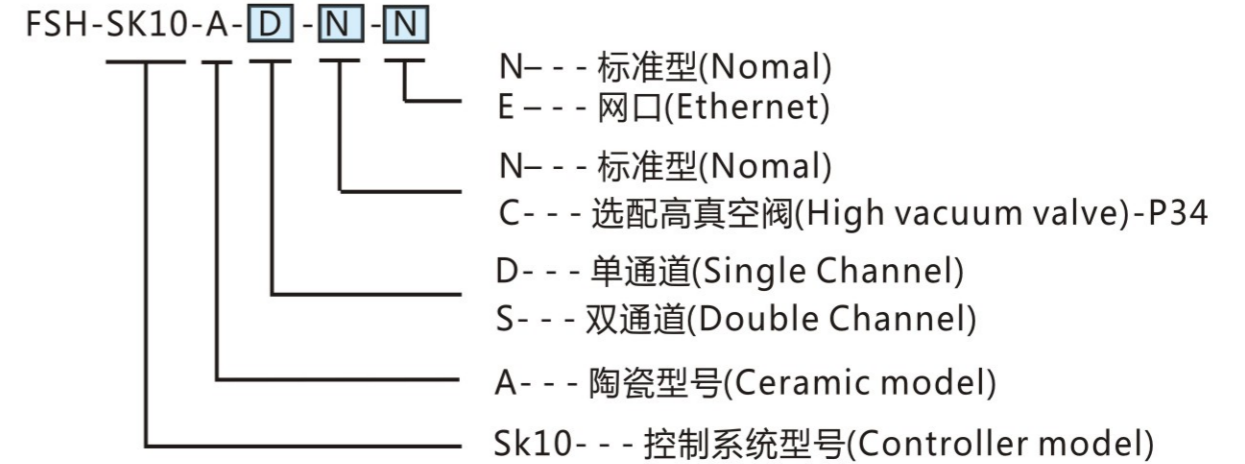
工作原理 Working Principle:

当泵工作时,由直线电机调节旋转角度改变陶瓷柱塞泵的体积。主电机带动柱塞泵进行旋转往复运动,旋转运动改变阀向,往复运动切换进出液。如右图所示:

When pump starts to operate, change the angle of rotation by the linear motor to adjust the volume of ceramic pump. The main motor pushes pump module to do rotational motion. Rotary motion is to change valve direction. Reciprocating motion is to switch fluid inlet and outlet direction for dispensing (refer to chart).



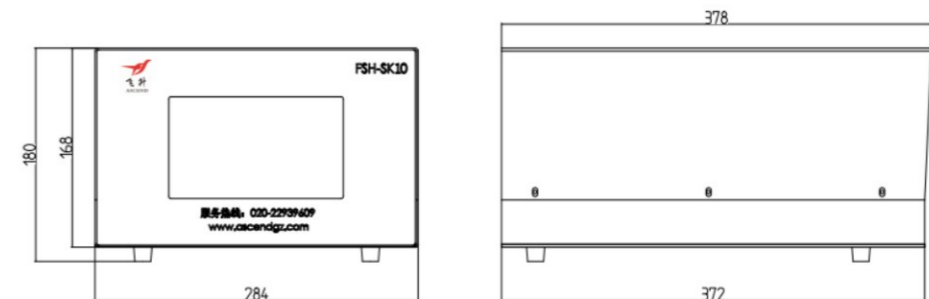
规格型号定义 Specifications:



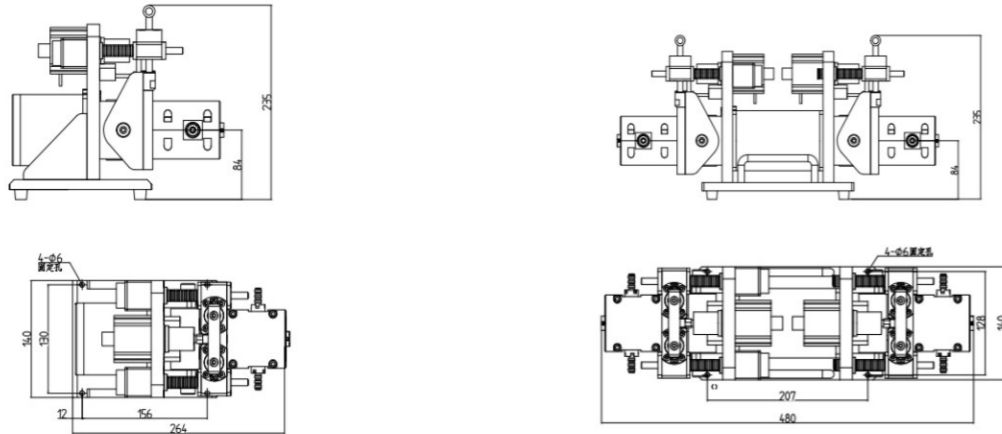
技术参数 Technical Parameters:

型号 Model	FSH-SK10-A-D	FSH-SK10-A-S
类型 Type	特殊陶瓷正排量陶瓷泵 Special positive displacement ceramics	
单次注液范围 Dispensing Volume per stroke	0~6.0ml	
重复精度 Accuracy	±0.3%	
接触液体材料 Materials in contact with fluid	316不锈钢 特氟龙 陶瓷(特殊氧化锆/氧化铝) 316 Stainless Steel Teflon Ceramics(Special Alumina/Zirconia)	
标准速度 Standard rate	50~300RPM	
使用温度,湿度 Use temperature, humidity	5-40°C, <85%RH	
驱动方式 Type of drive	电动(步进电机) Electric(Stepping Motor)	
电源电压,频率 Power supply voltage, frequency.	AC100-240V,50/60HZ	
功率 Power	400W	
通讯接口 Communication port	I/O, CC TRIG, AUX OUT, RS232, Ethernet(可选配 optional)	
真空注液(可选配) Vacuum injection (optional)	高真空阀+隔膜阀+注液针头(定制) High vacuum valve+Diaphragm valve+Special needle(customized)	

控制器的安装尺寸图 Installation Dimensions of Controller (in mm)



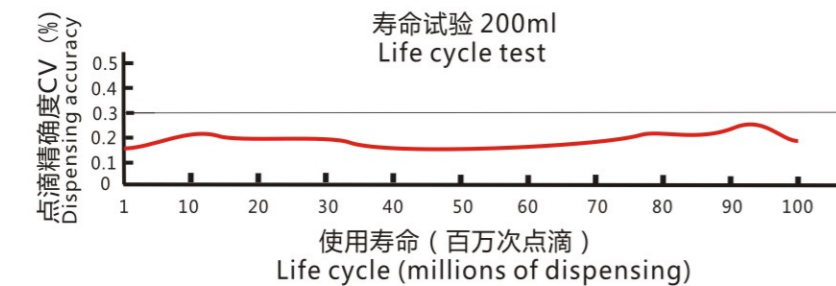
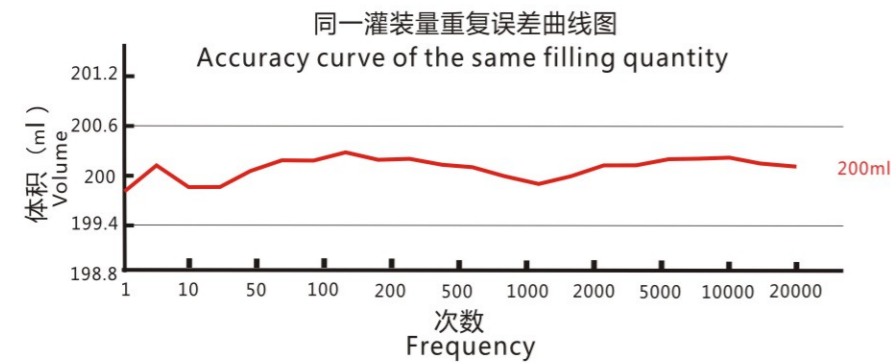
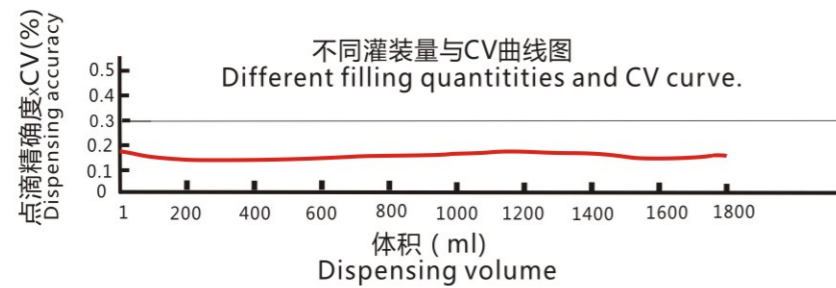
» 泵的安装尺寸图 Installation Dimensions of Pump (in mm) :



单通道 Single channel

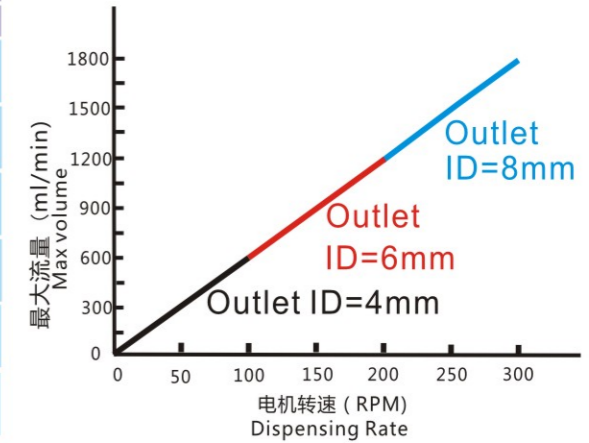
双通道 Double channel

» 高精度和极端可靠性 High Precision and Extreme Reliability:



» 管道配置及流量曲线 Pipe configuration and flow properties:

参数 Parameter configuration	电机转速 (RPM) Dispensing Rate			
	50~100	100~150	150~200	200~300
进液接头 (mm) Inlet fitting	φ8	φ10	φ10	φ12
出液接头 (mm) Outlet fitting	φ8	φ8	φ10	φ10
进液管内径 (mm) Inlet tubing ID	6	8	8	10
出液管内径 (mm) Outlet tubing ID	6	6	8	8
注液针头内径 (mm) Needle ID	2~4	4~6	4~6	4~6
最大流量 (ml/min) Max volume	300~600	600~900	900~1200	1200~1800



软管材质请用Teflon (铁氟龙) 材料, 不建议使用PE材质软管。
Tubing material shall be use Teflon. Do not use PE tubing.

» 系统特点 System Features:

- 智能数控 Intelligent digital volume control
- 高硬度 (莫氏硬度9级)/高密度特殊陶瓷, 经过多级航模高精度抛光处理
Extremely high hardness (Mohs hardness rating of 9---next to diamond) and high density special ceramics. Multi stage high precision polishing processing
- 高效率、高精度 (重复精度±0.3%以内) High efficiency and high precision. (±0.3%CV)
- 免维护设计, 极端可靠性. Maintenance free design. Extremely reliable.
- 可在线清洗/灭菌 Online cleaning / sterilization
- 驱动方式: 步进/中/高档转矩电机类型 Driving method: step motor. Medium / high torque motor selection.
- 具有计数功能 Counting function
- 控制方式: 外接 PLC / 电脑/工控机可自动控制, 可外接脚踏开关人工操作。 Control method: Automatic control by external PLC / computer or IPC. Or manual operation by external pedal switch
- 通讯接口 Communication port: I/O, CC TRIG, AUX OUT, RS232, Ethernet
- 直线电机自动调节角度, 实现数字化注液量调节, 使注液量调节更精准快捷。 The linear motor automatically adjust angle. Digital volume change with high precision and fast speed.
- 在线补偿模式显著提高生产稳定性 Online compensation mode improves stability substantially.

» 典型应用 Typical Applications:

- 锂电池电解液注液 Lithium battery electrolyte injection
- 硅油喷涂 Silicone oil atomizing and spraying
- 制药行业点液, 注液灌装 Fluid drug dispensing or filling
- 生化诊断试剂点液 Reagent dispensing or filling
- 隐形眼镜镜片及药液生产 Contact lens dispensing
- 液体喷涂 Spraying or coating
- 香料香精点液喷涂 Flavor, essence and liquid vitamin additions