

# SFXB 雪霸®

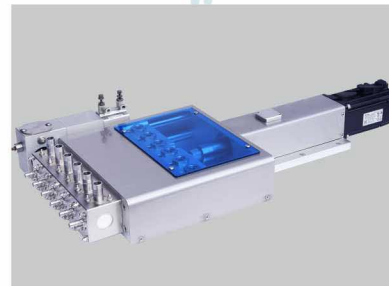
股权代码：891330

▶ 高精度陶瓷定量灌装泵 ◀

▶ 高性能结构陶瓷零部件 ◀

## 秉持精湛技术 跨越世界巅峰

Uphold The Pinnacle Of Technical Excellence Across The World



## SFXB 雪霸®

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2023.09版 摄影设计:广州市岚莆设计有限公司 18028686501



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2016年9月22日  
在广州股权交易中心正式挂牌



高新技术企业

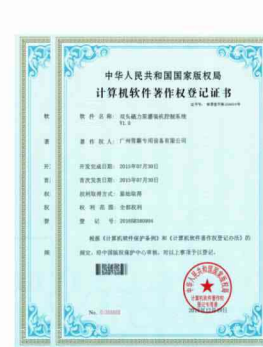
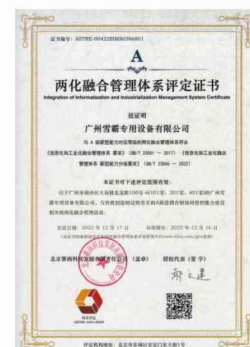


## 关于雪霸

广州雪霸成立于2015年1月12日,信奉“创新求发展,品质是生命”,立志在高精度、超洁净、微量、耐磨蚀陶瓷泵在灌装/分装技术方面成为行业标杆;现已在无阀陶瓷柱塞泵、转阀陶瓷柱塞泵、陶瓷柱塞移液泵等系列进行研究开发,在单道、双道、多道陶瓷泵伺服电机控制技术,步进电机控制技术及全气路控制技术进行综合研究开发,并取得了在智能自动化陶瓷泵灌装/分装的不同应用领域(如:生物医学、IDV企业、新能源、科研院所、实验室环保、高端化妆品等行业)推广及应用。公司SF系列电磁感应铝箔封口机已是国内领先品牌;公司具有直线灌装生产线(理瓶、灌装、旋盖、封口、贴标机)所有环节的设计开发及生产能力,是集机械设计、电气设计、电子设计、软件编程于一身的智能自动化创新型企业。

## About Xueba

Established on January 12, 2015, Guangzhou Xueba believes in "innovation and development, quality is life", and is determined to become the industry benchmark in the filling/packaging technology of high-precision, ultra-clean, micro-quantity and abrasive resistance ceramic pumps. Now in the valveless ceramic plunger pump, rotary valve ceramic plunger pump, ceramic plunger pipette pump and other series of research and development, in the single channel, double channel, multi-channel ceramic pump servo motor control technology, stepper motor control technology and full gas path control technology comprehensive research and development, and achieved in the intelligent automatic ceramic pump filling/packaging of different applications (such as: Biomedicine, IDV enterprises, new energy, research institutes, laboratory environmental protection, high-end cosmetics and other industries) promotion and application. SF series electromagnetic induction aluminum foil sealing machine is a leading brand in China; The company has the design, development and production capacity of all links of linear filling production line (bottle management, filling, capping, sealing, labeling machine). It is an intelligent automation innovative enterprise integrating mechanical design, electrical design and electronic design.



2023年9月 发明授权专利9项, 实用型专利44项, 外观设计专利8项; 另有软件著作权14项, 商标5项



# 陶瓷泵应用领域

Ceramic pump application field



生物医学行业  
Biomedical industry



化工行业  
Chemical industry



电子工业  
Electronics industry



能源行业  
Energy industry



日化行业  
Daily chemical industry



食品工业  
Food industry



# 陶瓷泵产品应用

Ceramic pump product application



专注高精度、超洁净、耐腐蚀陶瓷泵及陶瓷泵定量灌装机、微小量单道、多道定量注液泵、移液泵；是国内最早从事微小量、高精度、超洁净定量泵的研发生产销售型企业。

Focus on high-precision, ultra-clean, corrosion resistant ceramic pump and ceramic pump quantitative filling machine, small single-channel, multi-channel quantitative injection pump, pipette pump; It is the earliest engaged in the research and development, production and sales of micro-filling, high-precision, ultra-clean quantitative pump enterprises.

# 01

## 无阀陶瓷柱塞泵

Valveless ceramic plunger pump



高精度 超洁净 耐腐蚀 长寿命

High precision ultra-clean Corrosion resistance long-life

### 主要零件均由微米级技术精密加工而成


The main parts are precisely machined by micron technology

**结构: Structure**


微米级技术加工而成, 保证了泵具有精密的吐量。材质有Al<sub>2</sub>O<sub>3</sub>和SiC可供选择

The micrometer technology is processed to ensure that the pump has a precise discharge volume. Available in Al<sub>2</sub>O<sub>3</sub> and SiC.

**缸筒 Cylinder barrel**



SiC




Al<sub>2</sub>O<sub>3</sub>


**柱塞 Plunger**

微米级技术加工而成, 材质有SiC、氧化铝陶瓷 (Al<sub>2</sub>O<sub>3</sub>) 和氧化锆等多样选择。


Micron technology processing, materials are SiC, alumina ceramic Al<sub>2</sub>O<sub>3</sub> and zirconia and other options.



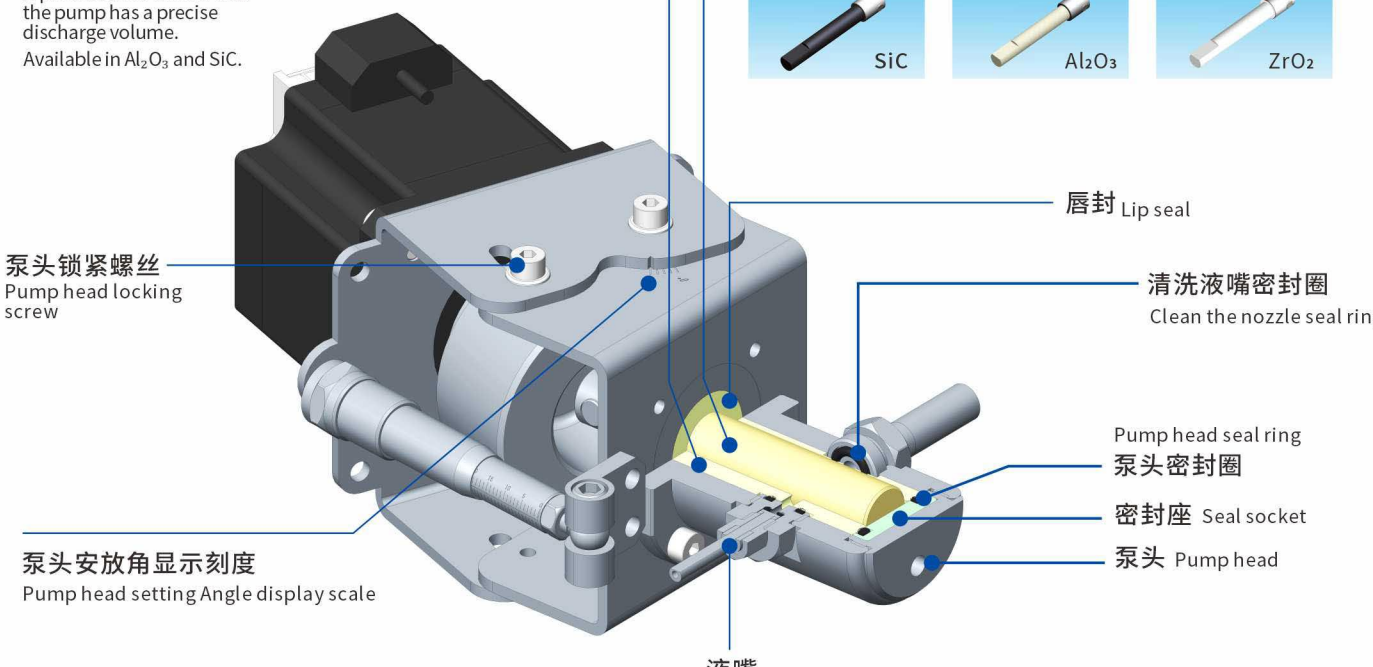
SiC



Al<sub>2</sub>O<sub>3</sub>



ZrO<sub>2</sub>



泵头锁紧螺丝 Pump head locking screw

泵头安放角显示刻度 Pump head setting Angle display scale

唇封 Lip seal

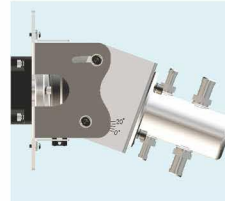
清洗液嘴密封圈 Clean the nozzle seal ring

泵头密封圈 Pump head seal ring

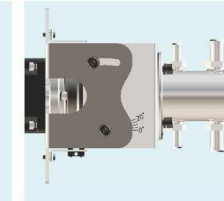
密封座 Seal socket

泵头 Pump head

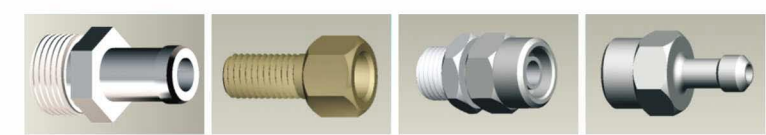
液嘴 Liquid nozzle



泵头安放角20°最大流量液体吐出  
The pump head is placed at 20° maximum flow rate for liquid discharge



泵头安放角0°无液体吐出  
The pump head setting Angle 0° no liquid discharge

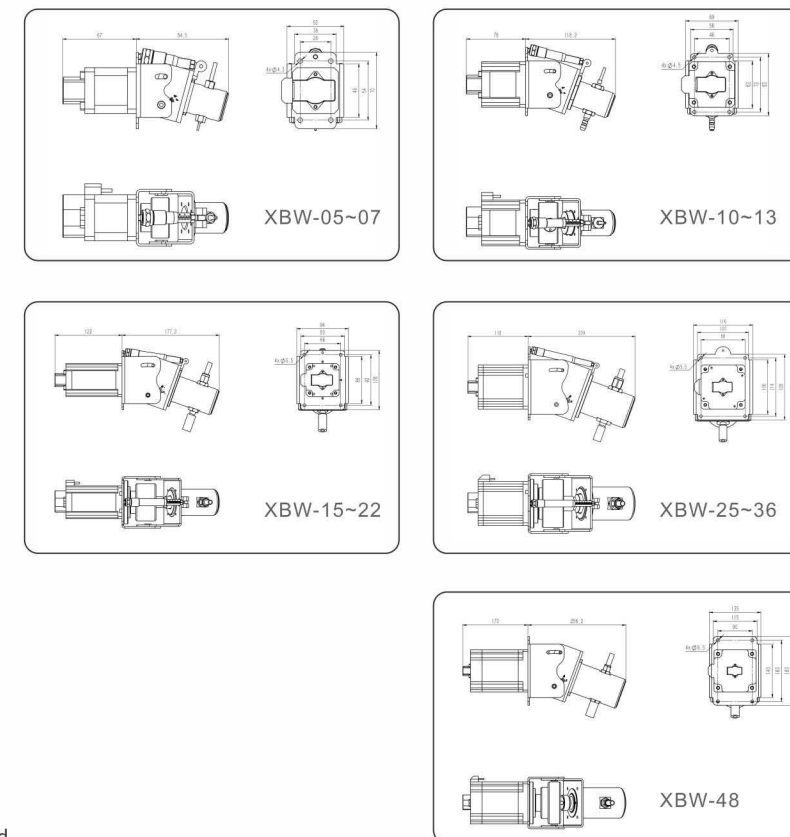
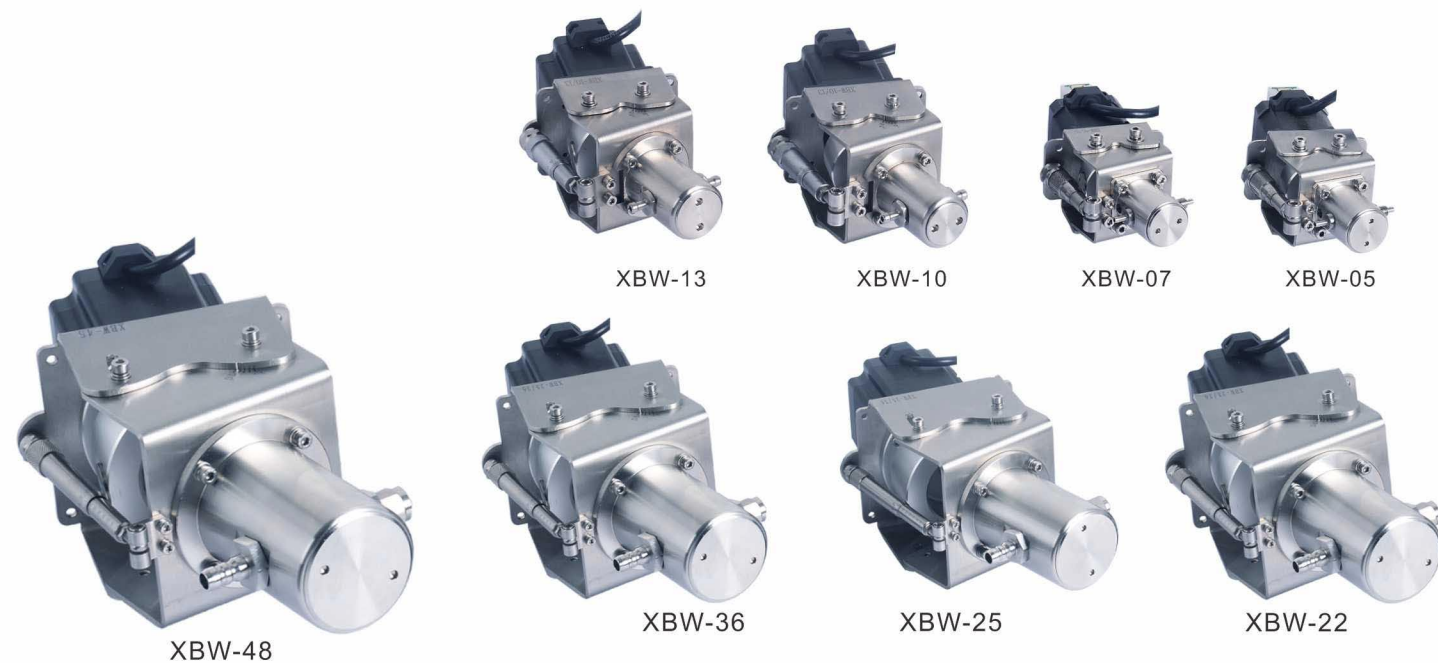


#### 泵过流部分材质:

型号	XBW-05	XBW-07	XBW-10	XBW-15	XBW-20
柱塞 Plunger	ZrO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub>		Al <sub>2</sub> O <sub>3</sub> , SiC		
缸筒 Plunger diameter	Al <sub>2</sub> O <sub>3</sub> , SiC				
泵头 Pump head	PTFE, SUS316			SUS316	
泵头密封座 Pump head seal seat	PTFE, SUS316			PTFE	
泵头密封圈 Pump head seal ring	丁晴橡胶、硅胶、氟胶 Butadiene rubber, silicone, fluorine glue				
液嘴和清洗液嘴 Liquid nozzle and cleaning liquid nozzle	PEEK, PTFE, PP, SUS316			PEEK, PTFE, PP, SUS316	
液嘴密封圈 Liquid nozzle seal ring	丁晴橡胶、硅胶、氟胶 Butadiene rubber, silicone, fluorine glue				
唇封 Lip seal	PTFE				

## XBW系列 无阀陶瓷柱塞泵总成

### XBW Series Valveless Ceramic Plunger Pump Assembly



#### 特点

- 生物制药、食品、化妆品行业最高卫生和健康标准；
- 极惰性的化学稳定性，耐酸碱、耐腐蚀、耐高温；
- 材料致密，吸水率低至零；表面光洁度极高，摩擦力极小，所以物料残留极少；
- 热膨胀系数极小，活塞间隙配合更加，灌装精度极高，可实现在线清洗及灭菌；
- 超硬、耐磨损，粒子释放极小，使用寿命超长。

#### Feature

- The highest hygiene and health standards in the biopharmaceutical, food and cosmetic industries;
- Extremely inert chemical stability, acid and alkali resistance, corrosion resistance, high temperature resistance;
- Dense material, water absorption rate is low to zero; High surface finish, minimal friction, so very little material residue;
- The thermal expansion coefficient is very small, the piston clearance matches more, the filling precision is very high, can realize online cleaning and sterilization;
- Super hard, wear resistance, minimal particle release, long service life.

#### 适用范围

- 实验设备、分析设备、制药设备物料定量分配或连续输送的重要部件；
- 广泛应用于医药、制药、食品、化工、化妆品等行业的精密定量灌装；
- 用于血液、生物试剂、口服剂、注射剂、高级化妆品、香精、电子烟油、杀菌剂等液体的精密定量灌装；
- 各种酸碱腐蚀性液体的精密定量灌装。

#### Scope Of Application

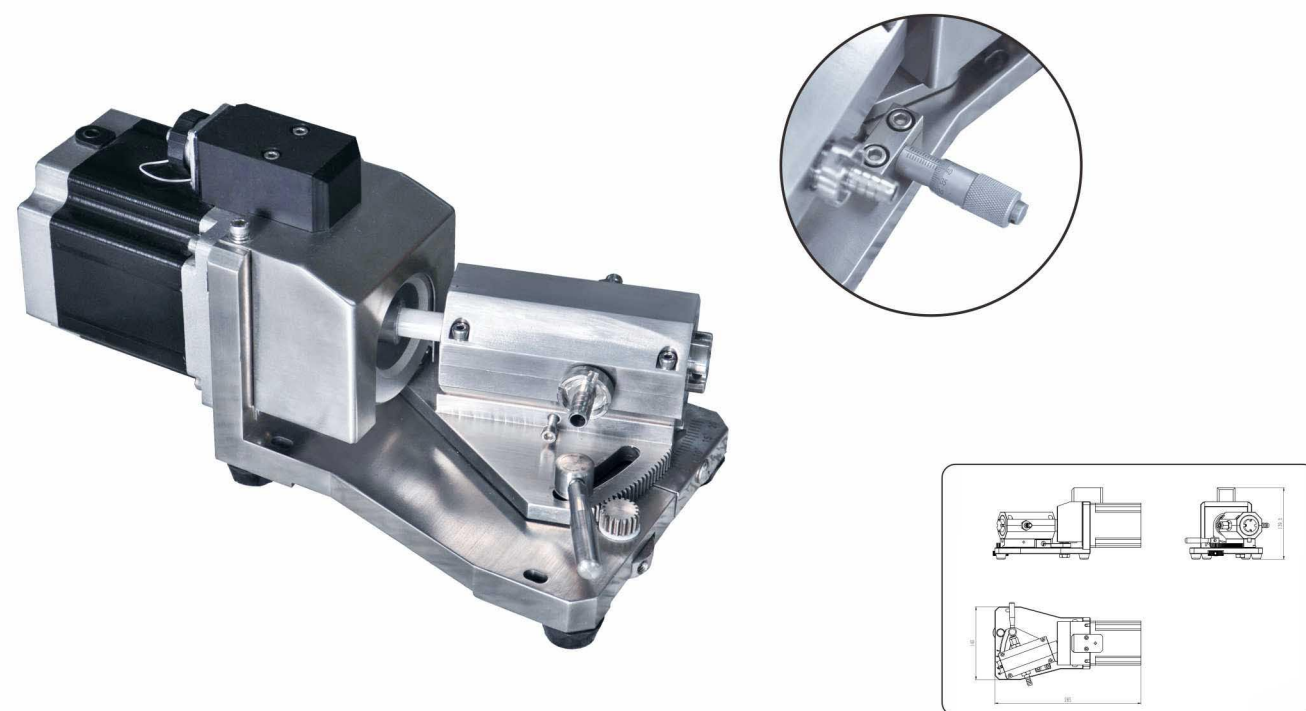
- Important parts of experimental equipment, analyzing equipment and pharmaceutical equipment for the rationing of materials or successive transportation.
- Widely applied to precision quantitative filling of industries such as medicine, pharmacy, food, chemistry, cosmetics, etc.
- Used for precision quantitative filling of liquids such as blood, biological reagent, oral liquid, injection liquid, senior cosmetics, fragrance, fungicide, etc.
- Used for precision quantitative filling of all kinds of acid and alkali corrosive liquid.

#### 技术参数 Technical parameters

型号 Model	XBW-05	XBW-07	XBW-10	XBW-13	XBW-15	XBW-22	XBW-25	XBW-36	XBW-48
柱塞直径 Plunger diameter	5mm	7mm	10mm	13mm	15mm	22mm	25mm	36mm	48mm
泵头材料 Material	柱塞, 泵腔套 (99.99%氧化铝、氧化锆) Plunger, pump chamber sleeve (99.99% alumina, zirconia)				最大吸程高度 Maximum suction height		4m (本产品的数据测量以水为介质) The product data is measured with water as the medium.		
每转最大吐出量 Throughput/rev	130μl/rev	0.25ml/rev	0.95ml/rev	1.6ml/rev	2.9ml/rev	6ml/rev	12ml/rev	25ml/rev	50ml/rev
灌装精度/转速 Filling accuracy spinning speed	≤±0.5% 0~300RPM				≤±0.25% 0~300RPM		≤±0.25% 0~150RPM		≤±0.25% 0~20RPM
精度标准 Precision standard	以水为标准, 最大灌装值的30%以上可达到精度				With water as the standard, more than 30% of the maximum filling value can be achieved				
安放角度/吞吐压力 Placement angle throughput pressure	15°/0.6MPa			20°/0.6MPa	20°/0.5MPa		20°/0.4MPa		
重量 Weight	1kg			2kg	3.5kg		7kg		16kg

## XBWI系列 单头无阀陶瓷柱塞泵总成

XBWI Series Single Head Valveless Ceramic Plunger Pump Assembly



### 适用范围

- 实验设备、分析设备、制药设备物料定量分配或连续输送的重要部件；
- 广泛应用于医药、制药、食品、化工、化妆品等行业的精密定量灌装；
- 用于血液、生物试剂、口服剂、注射剂、高级化妆品、香精、电子烟油、杀菌剂等液体的精密定量灌装；
- 各种酸碱腐蚀性液体的精密定量灌装。

### Scope Of Application

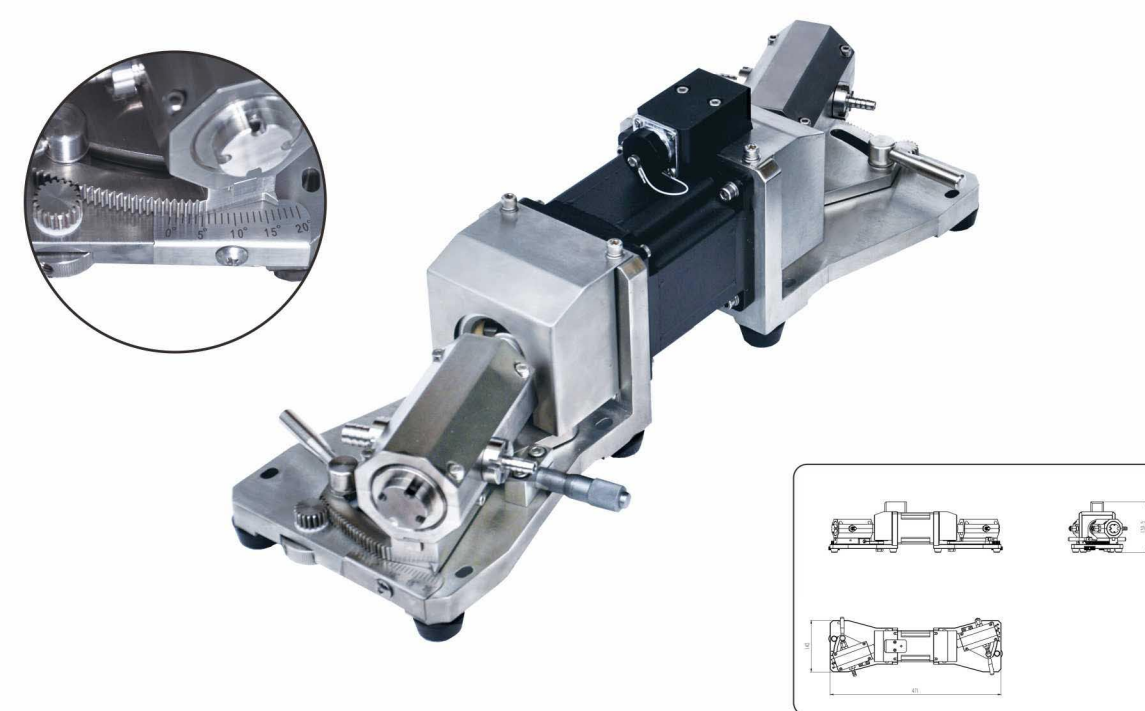
- Important parts of experimental equipment, analyzing equipment and pharmaceutical equipment for the rationing of materials or successive transportation.
- Widely applied to precision quantitative filling of industries such as medicine, pharmacy, food, chemistry, cosmetics, etc.
- Used for precision quantitative filling of liquids such as blood, biological reagent, oral liquid, injection liquid, senior cosmetics, fragrance, fungicide, etc.
- Used for precision quantitative filling of all kinds of acid and alkali corrosive liquid.

### 技术参数 Technical parameters

型号 Model	XBWI-12	XBWI-22	XBWI-30
柱塞直径 Plunger diameter	12mm	21.5mm	30mm
泵头材料 Material	柱塞, 泵腔套 (99.99%氧化铝、氧化锆) Plunger, pump chamber sleeve (99.99% alumina, zirconia)		
每转吐出量 Throughput/rev	0.13~1.5ml/rev	0.6~6ml/rev	1~10ml/rev
灌装精度/转速 Filling accuracy spinning speed	≤ ±0.5% (以水为标准, 最大灌装值的30%以上可达到精度) With water as the standard, more than 30% of the maximum filling value can be achieved		
安放角度/吞吐压力 Placement angle throughput pressure	20°/0.5MPa		20°/0.4MPa
最大吸程高度 Maximum suction height	4m(本产品的数据测量以水为介质)		(the product data is measured with water as the medium)
重量 Weight	9.5kg		

## XBWI系列 双头无阀陶瓷柱塞泵总成

XBWI Series Double Heads Valveless Ceramic Plunger Pump Assembly



### 适用范围

- 实验设备、分析设备、制药设备物料定量分配或连续输送的重要部件；
- 广泛应用于医药、制药、食品、化工、化妆品等行业的精密定量灌装；
- 用于血液、生物试剂、口服剂、注射剂、高级化妆品、香精、电子烟油、杀菌剂等液体的精密定量灌装；
- 各种酸碱腐蚀性液体的精密定量灌装。

### Scope Of Application

- Important parts of experimental equipment, analyzing equipment and pharmaceutical equipment for the rationing of materials or successive transportation.
- Widely applied to precision quantitative filling of industries such as medicine, pharmacy, food, chemistry, cosmetics, etc.
- Used for precision quantitative filling of liquids such as blood, biological reagent, oral liquid, injection liquid, senior cosmetics, fragrance, fungicide, etc.
- Used for precision quantitative filling of all kinds of acid and alkali corrosive liquid.

### 技术参数 Technical parameters

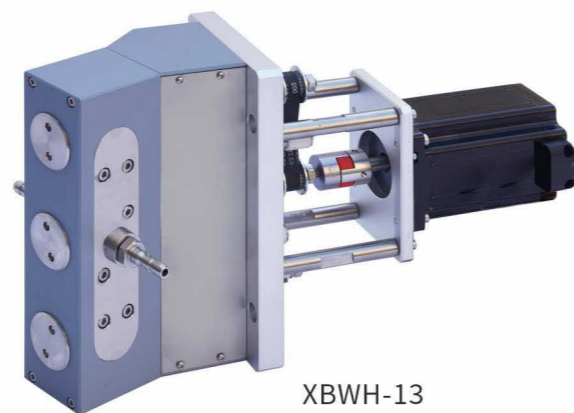
型号 Model	XBWI-12-2	XBWI-22-2	XBWI-30-2
柱塞直径 Plunger diameter	12mm	21.5mm	30mm
泵头材料 Material	柱塞, 泵腔套 (99.99%氧化铝、氧化锆) Plunger, pump chamber sleeve (99.99% alumina, zirconia)		
每转吐出量 Throughput/rev	0.13~1.5ml/rev	0.6~6ml/rev	1~10ml/rev
灌装精度/转速 Filling accuracy spinning speed	≤ ±0.5% (以水为标准, 最大灌装值的30%以上可达到精度) With water as the standard, more than 30% of the maximum filling value can be achieved		
安放角度/吞吐压力 Placement angle throughput pressure	20°/0.5MPa		20°/0.4MPa
最大吸程高度 Maximum suction height	4m(本产品的数据测量以水为介质)		(the product data is measured with water as the medium)
重量 Weight	14.5kg		

## XBWH 陶瓷恒流泵

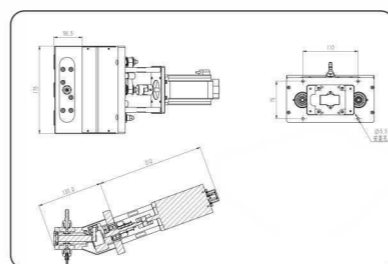
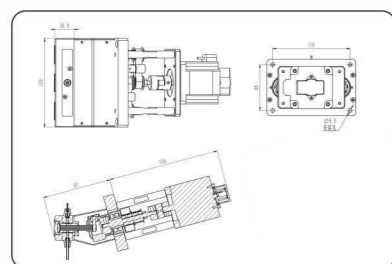
XBWH Ceramic constant flow pump



XBWH-07



XBWH-13



### 适用范围

- 应用：电解液、电子烟油、热管超纯水、彩笔、香水、洗发水、化学液体、药液、溶液、精油、精华等液体物料。
- 该恒流计量泵定量性卓越，每根柱塞匀速往复运动，泵的转数比例始终保持流速恒常一致，流量不随压力而变动，实现精准定量注液。用于各种不含颗粒的中低粘稠度液体的定量灌注。
- 陶瓷柱塞和316L不锈钢液体接触部位都以微米级高精度加工，在实际锂离子电池注液及其他工业应用，表现出非常优异的耐腐蚀性能。

### Scope Of Application

- Application: electrolyte, e-cigarette oil, heat pipe ultra-pure water, color pens, perfume, shampoo, Chemical liquid, pharmaceutical liquid, solution, essential oil, essence and other liquid materials.
- The constant flow metering pump has excellent quantification, and each plunger reciprocates at uniform speed. The ratio of pump revolution always maintains the constant flow rate, and the flow rate does not change with the pressure to achieve accurate quantitative injection. It is used for quantitative filling of various medium and low viscosity liquids without particles.
- Ceramic plungers and 316L stainless steel liquid contact parts are machined with micron precision, showing very excellent corrosion properties in actual lithium-ion battery injection and other industrial applications.

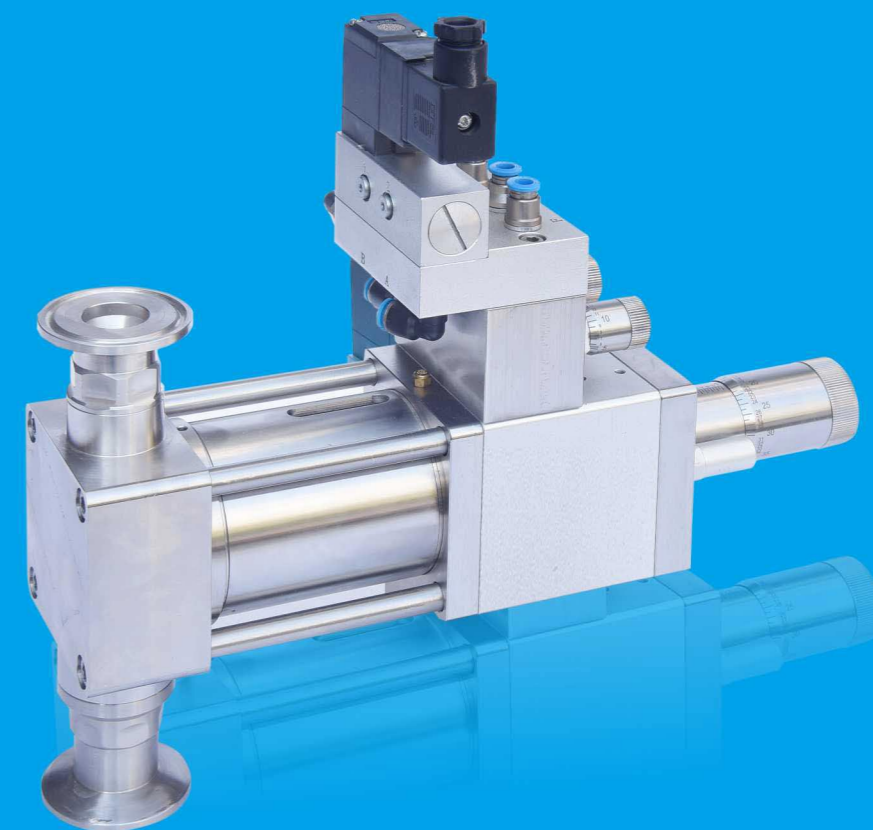
### 技术参数 Technical parameters

型号 Model	XBWH-07	XBWH-13
柱塞直径 Plunger diameter	7mm	13mm
泵头材料 Material	柱塞, 泵腔套 (99.99%氧化铝、氧化锆) Plunger, pump chamber sleeve (99.99% alumina, zirconia)	
最大流量 Maximum flow	7.5ml/s	48mL/s
灌装精度 Filling accuracy	≤ ±0.5~1%	
供电 Powersupply	AC220V 50Hz	
重量 Weight	2.5Kg	5.5Kg

# 02

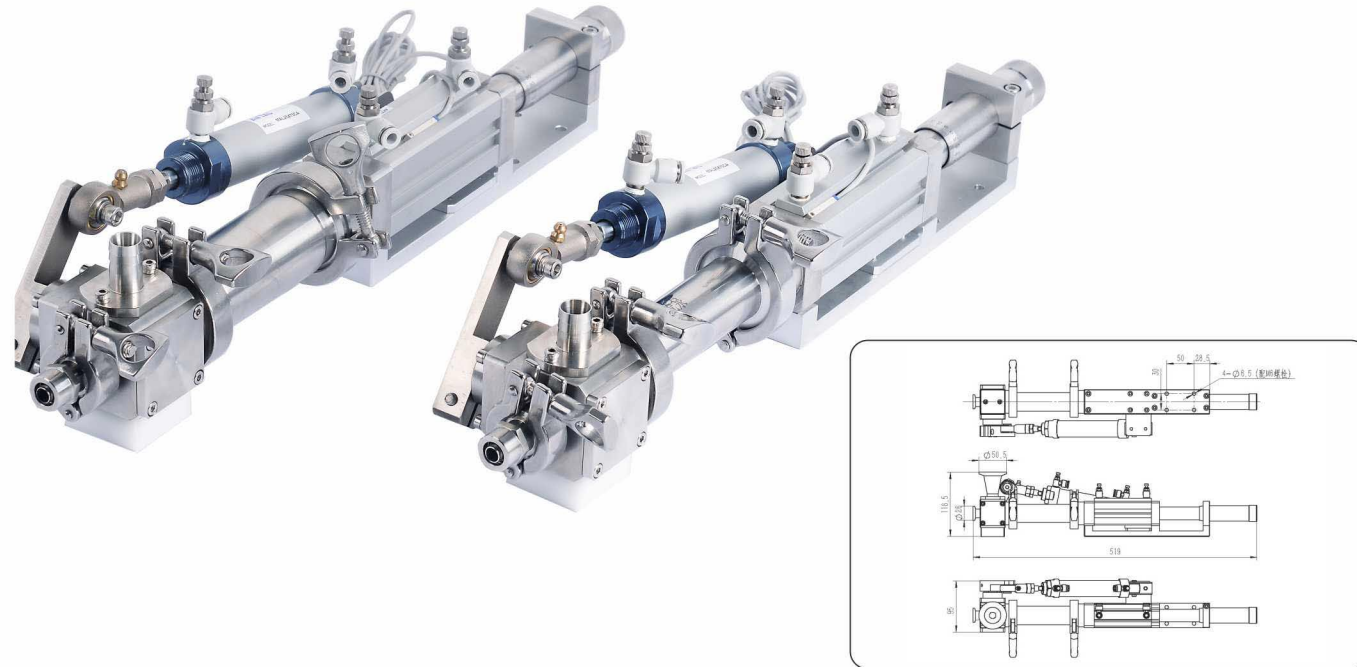
## 气动单向/转阀陶瓷柱塞总成

Pneumatic one-way/rotary valve ceramic plunger assembly



## XBTG 单头气动转阀陶瓷泵

XBTG Single Head Pneumatic Rotary Valve Ceramic Pump



### 适用范围

- 多列式包装机、直线灌装机、多工位旋转式灌装旋盖机和其它配套的灌装设备。
- 用于口服剂、食品饮料、高级化妆品、香精、杀菌剂等液体及膏体的精密定量灌装；
- 采用精密陶瓷转阀及陶瓷柱塞式设计，适用于中高粘稠度的液体、膏霜类以及含一定颗粒物料的定量灌注。
- 千分尺容量调整装置，能精准控制注液量和注液速度，实现在各种条件下要求的定量注液；
- 该泵具有极高的计量精度和重复一致性，灌装精度优于±0.5%；
- 标准泵型全316不锈钢结构，泵的零件有更好的耐腐蚀性。

### Scope Of Application

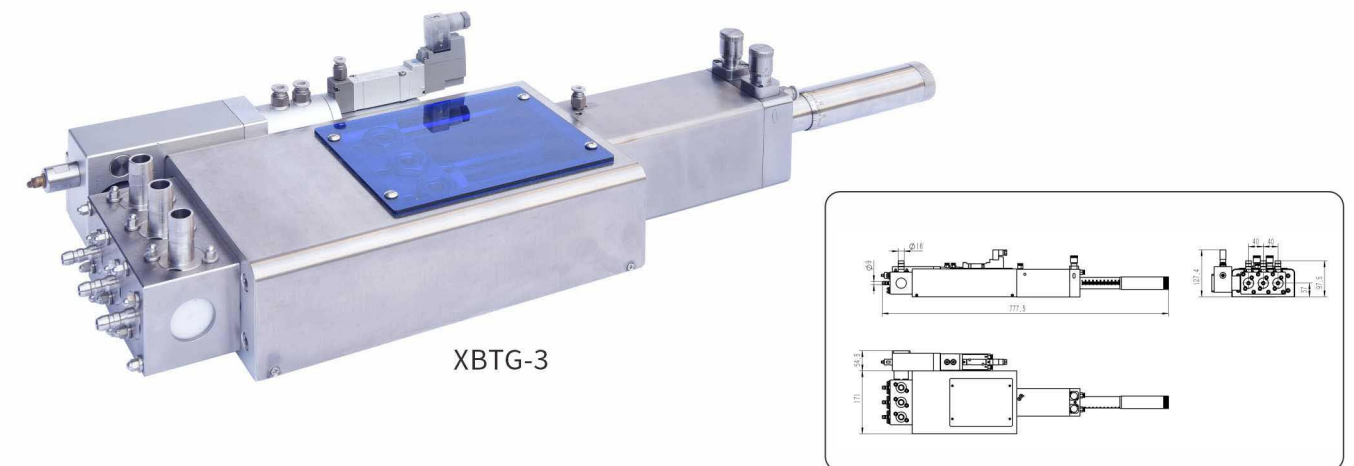
- Multi-row packaging machine, linear filling machine, multi-station rotary filling and capping machine and other supporting filling equipment.
- It is used for precise quantitative filling of liquids and pastes such as oral agents, food and beverages, high-grade cosmetics, essences, and fungicides.
- Adopt precision ceramic rotary valve and ceramic plunger design, suitable for medium and high viscosity liquids and pastes and quantitative filling of materials which containing certain particles.
- The micrometer capacity adjustment device can accurately control the injection volume and injection speed, and realize the quantitative injection required under various conditions.
- This pumps have the feature of extremely high accuracy and repeated consistency, tolerance is less than ± 5%.
- Standard pump all in 316 stainless steel construction, all parts with better corrosion resistance.

### 技术参数 Technical parameters

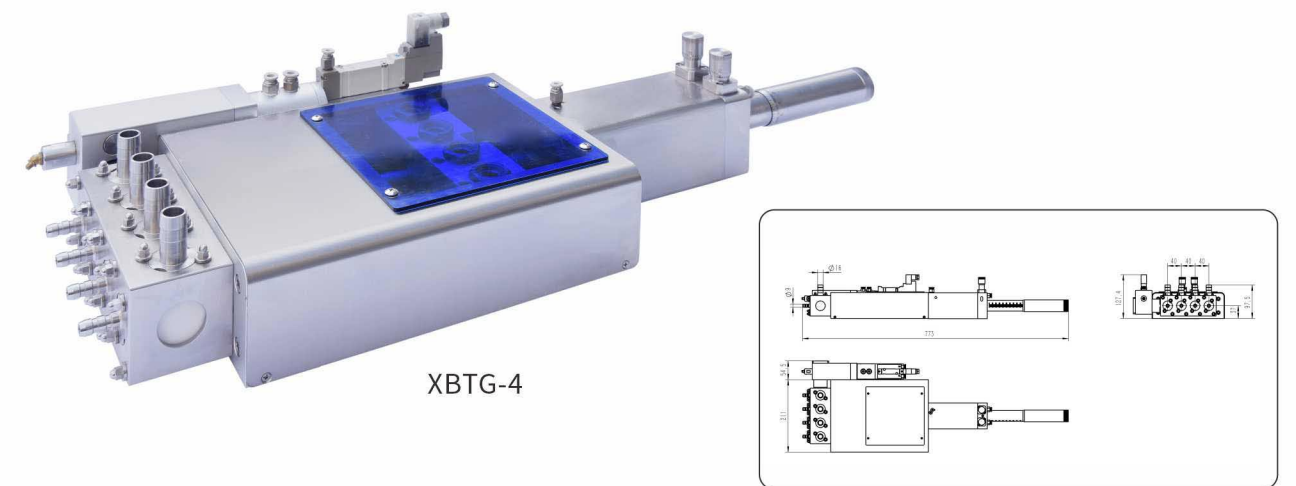
型号 Model	XBTG-12	XBTG-25	XBTG-50
泵头 Pumphead	柱塞, 泵腔套 (99.99%氧化铝、氧化锆) Plunger, pump chamber sleeve (99.99% alumina, zirconia)		
灌装精度 Filling accuracy	≤ ±0.5% (以水为标准, 最大灌装值的30%以上可达到精度) With water as the standard, more than 30% of the maximum filling value can be achieved		
灌装量 Filling capacity	1~12ml	2~25ml	3~50ml
灌装速度 Filling speed	20~60次/分钟 (times/min)		
供气 Air pressure	0.4~0.6Mpa		

## XBTG三头/四头 气动转阀陶瓷泵

XBTG Three/Four HeadS Pneumatic Rotary Valve Ceramic Pump



XBTG-3



XBTG-4

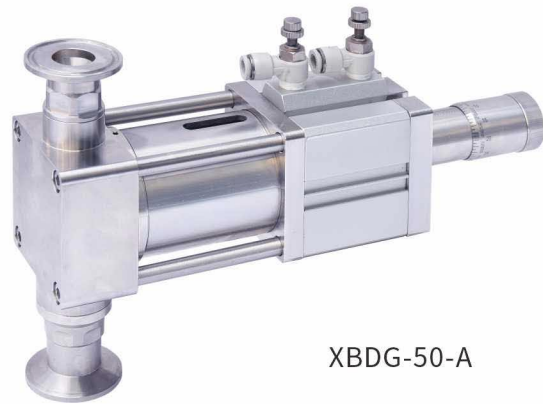
### 技术参数 Technical parameters

型号 Model	XBTG-3	XBTG-4
泵头材料 Material	柱塞, 泵腔套 (99.99%氧化铝、氧化锆) Plunger, pump chamber sleeve (99.99% alumina, zirconia)	
注液量范围 Dispensing Vol.	30ml×3	30ml×4
灌装精度 Filling accuracy	≤ ±0.5% (以水为标准, 最大灌装值的30%以上可达到精度) With water as the standard, more than 30% of the maximum filling value can be achieved	
供气 Air pressure	0.4~0.6Mpa	
重量 Weight	17.5Kg	19.5Kg



## XBDG-50 气动单向阀泵

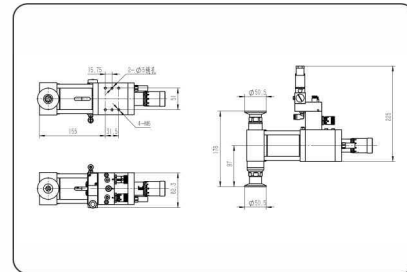
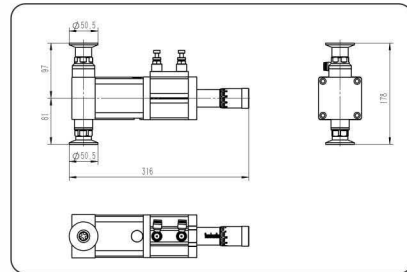
XBDG-50 Pneumatic Check Valve Pump



XBDG-50-A



XBDG-50-B



### 适用范围

- 应用: 电解液、电子烟油、热管超纯水、彩笔、香水、洗发水、化学液体、药液、溶液、精油、精华等液体物料。
- XBDG-50气动单向阀计量泵, 采用精密的单向阀设计, 适用于各种不含颗粒的中低粘稠度液体的定量注液。
- 千分尺容量调整装置和内置配装的速度控制器, 能精准控制注液量和注液速度, 实现在各种条件下要求的定量注液。
- 该系列的计量泵具有极高的计量精度和重复一致性, 精度由于0.5%在实际锂离子电池注液及其他工业应用, 表现出优异的耐腐蚀性能。
- 标准泵型全316不锈钢结构, 泵的零件有更好的耐腐蚀性。

### Scope Of Application

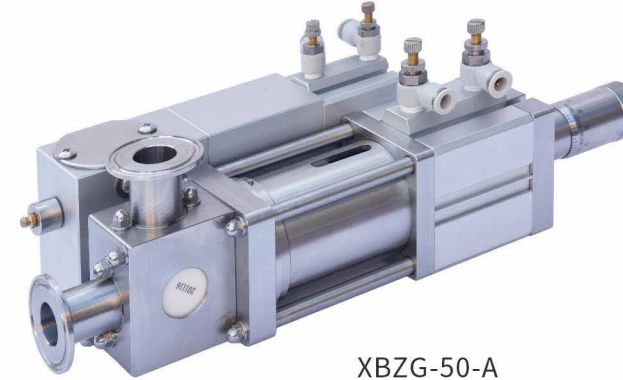
- Application scope: Electrolyte, electronic cigarette oil, heat pipe ultra-pure water, colored pen, perfume, shampoo, chemical liquid, liquid materials such as liquid medicine, solution, essential oil, essence, etc.
- XBDG-50series pneumatic check valve metering pump, with precision check valve structure, suitable for all kinds of quantitative injection of medium to low viscosity liquid without particles.
- The micrometer filling volume adjustment device and the built-in equipped speed controller can precisely control the injection volume and the speed realizes the quantitative liquid injection under various conditions.
- This series of metering pumps has extremely high metering accuracy and repeated consistency, with an accuracy of 0.5% in actual lithium-ion battery injection and other industrial applications, showing excellent corrosion resistance.
- Standard pump type all 316L stainless steel construction, pump parts have better corrosion resistance.

### 技术参数 Technical parameters

型号 Model	XBDG-50-A	XBDG-50-B
泵头材料 Material	柱塞, 泵腔套 (99.99%氧化铝、氧化锆) Plunger, pump chamber sleeve (99.99% alumina, zirconia)	
注液量范围 Dispensing Vol.	50ml	
灌装精度 Filling accuracy	≤ ±0.5% (以水为标准, 最大灌装值的30%以上可达到精度) With water as the standard, more than 30% of the maximum filling value can be achieved	
供气 Air pressure	0.4~0.6Mpa	
重量 Weight	6Kg	7.5Kg

## XBZG-50 全自动气动转阀陶瓷泵

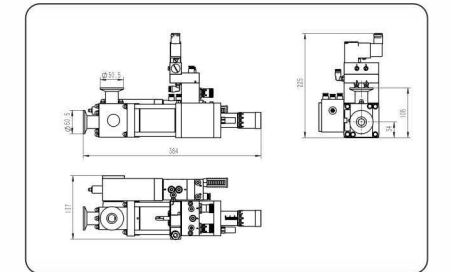
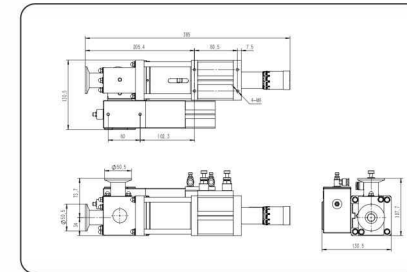
XBZG-50 Fully Automatic Pneumatic Rotary Valve Ceramic Pump



XBZG-50-A



XBZG-50-B



### 适用范围

- 应用: 电解液、面霜、凝胶、蜂蜜、乳液、酱料、胶水、唇釉、精华、高级化妆品等液体物料。
- 该泵适用于各种的中高粘度液体或含颗粒液体的定量注液。可在容量范围内通过千分尺容量调整器实现无级调整。
- 该计量泵具有极高的计量精度和重复一致性, 精度优于正负千分之五在实际锂离子电池注液及其他工业应用, 表现出优异耐腐蚀性能。
- 独立的速度控制组件, 能实现在各种条件下达到注液。容易拆装的整体设计, 方便清洗泵头, 适合食品医药行业的洁净要求。
- 标准泵型全316不锈钢结构, 泵的零件有更好的耐腐蚀性。

### Scope Of Application

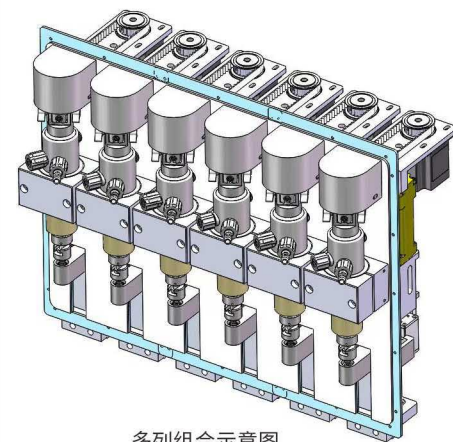
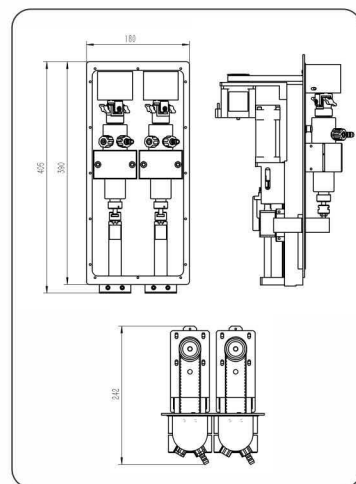
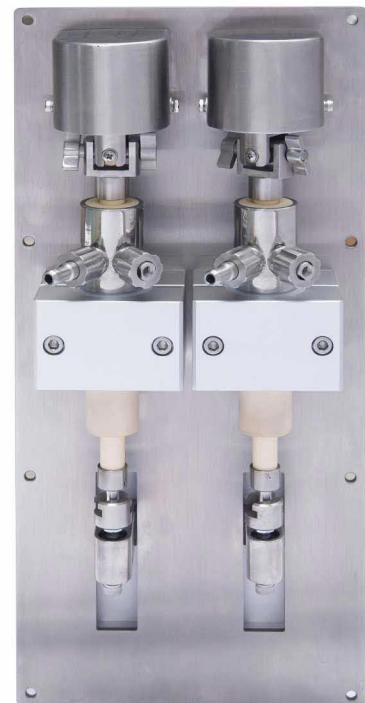
- Application: Electrolyte, cream, gel, honey, lotion, sauce, glue, lip glaze, essence, advanced liquid materials such as cosmetics.
- The pump is suitable for a variety of medium and high viscosity liquids or liquid containing particles quantitative injection, can be stepless adjustment within the capacity range through the micrometer capacity regulator.
- The metering pump has extremely high metering accuracy and repeated consistency, with an accuracy of better than plus or minus 5 % in practical lithium-ion battery injection and other industrial applications, showing excellent corrosion resistance.
- The vertical speed control component can achieve the overall design of liquid injection under various conditions, easy to disassemble and assemble, convenient to clean the pump head, suitable for the clean requirements of the food and pharmaceutical industry.
- Standard pump type all 316 stainless steel construction, pump parts have better corrosion resistance.

### 技术参数 Technical parameters

型号 Model	XBZG-50-A	XBZG-50-B
泵头材料 Material	柱塞, 泵腔套 (99.99%氧化铝、氧化锆) Plunger, pump chamber sleeve (99.99% alumina, zirconia)	
注液量范围 Dispensing Vol.	50ml	
灌装精度 Filling accuracy	≤ ±0.5% (以水为标准, 最大灌装值的30%以上可达到精度) With water as the standard, more than 30% of the maximum filling value can be achieved	
供气 Air pressure	0.4~0.6Mpa	
重量 Weight	7.5Kg	9.5Kg

# XBS系列 高精度转阀柱塞陶瓷泵总成

XBS Series High Precision Rotary Valve Plunger Ceramic Pump



多列组合示意图

### 适用范围

- 科研院所、实验室、高校、制药厂、IDV企业、化妆品厂等；
- 广泛应用于医药、制药、食品、化工、化妆品等行业的精密定量灌装；
- 色谱前溶液制备，药厂QC及研发，环境监测、矿物及血液分析，法医鉴定和其他各种应用；
- 用于血液、生物试剂、口服液、注射液、高级化妆品、电子烟油、香精、杀菌剂等液体的精密定量灌装。

### Scope Of Application

- Scientific research institute, laboratory, colleges and universities, pharmaceutical factory, IVD enterprise, cosmetics factory, etc.
- Widely applied to precision quantitative filling of industries such as medicine, pharmacy, food, chemistry, cosmetics, etc.
- Chromatography sample preparation, pharmaceutical QC and research and development, environment test, analysis of mineral and blood, forensic identification and variety of other application.
- Precision quantitative filling of liquids such as blood, biological reagents, oral agents, injections, advanced cosmetics, fragrances, electronic cigarette oils, fungicides, etc.

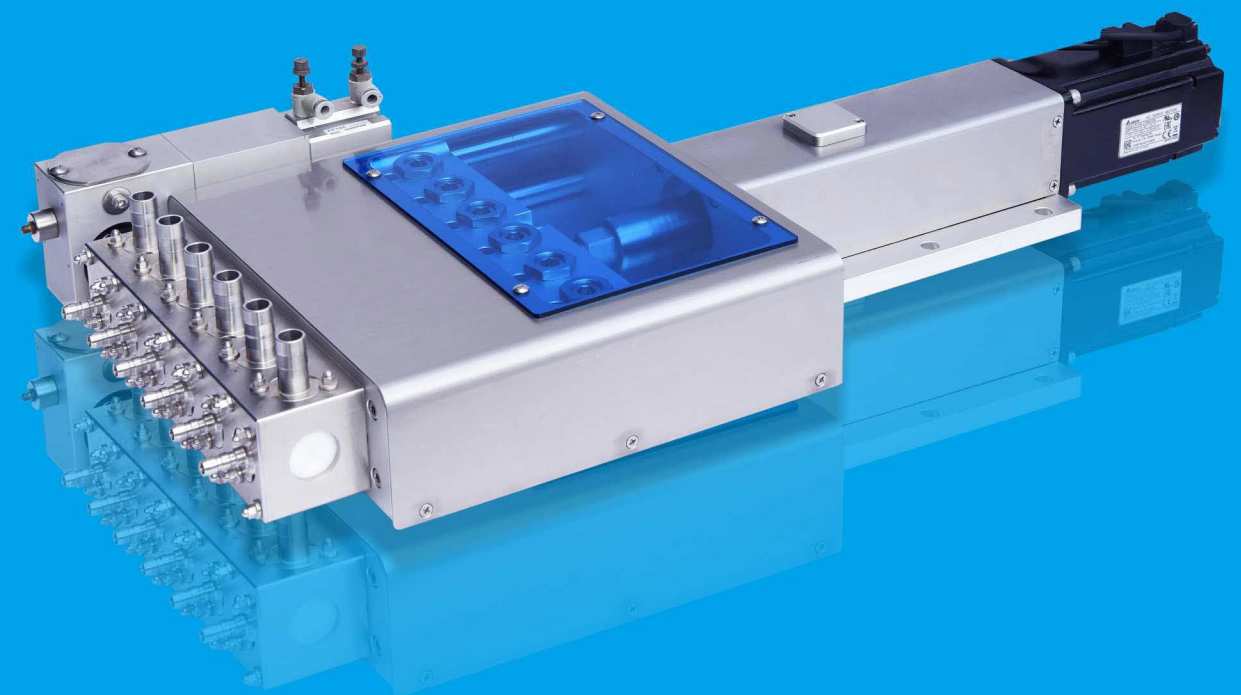
### 技术参数 Technical parameters

型号 Model	XBS-02	XBS-05	XBS-10	XBS-20
泵头 Pump head	柱塞, 泵腔套 (99.99%氧化铝、氧化锆) Plunger, pump chamber sleeve (99.99% alumina, zirconia)			
灌装精度 Filling accuracy	± ≤0.25% (以水为标准, 最大灌装值的30%以上可达到精度) With water as the standard, more than 30% of the maximum filling value can be achieved			
灌装范围 Filling range	0.5~2ml/次time	1~5ml/次time	2~10ml/次time	5~20ml/次time
产量 Production speed	20~60次/分钟 time/min			
供电 Power	AC220V 50/60Hz 380W			
重量 Weight	14.5Kg			

# 03

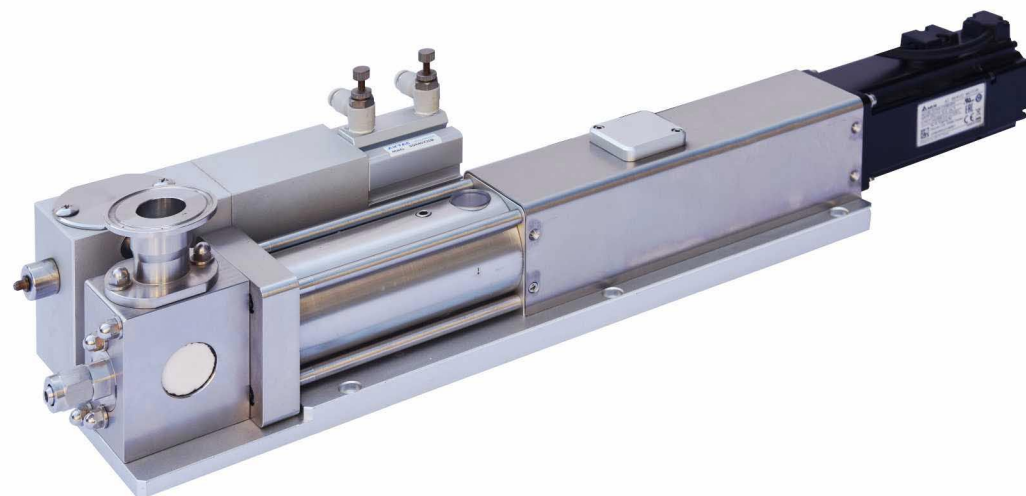
## 伺服转阀陶瓷柱塞总成

Servo rotary valve ceramic plunger assembly



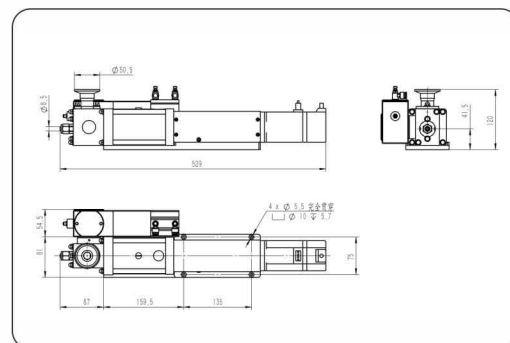
## XBTGS-50 单头伺服转阀陶瓷泵

XBTGS-50 Single Head Servo Rotary Valve Ceramic Pump



### 特点

- 采用精密的陶瓷旋转阀控制液体的输入和输出,陶瓷柱塞精密研磨保证稳定精准的液体容量计量;
- 伺服电机驱动精密的丝杆驱动系统,通过彩色触摸屏设置所有注液参数,无需对泵进行任何机械调整,就能实现精准控制注液量。
- 该计量泵具有极高的计量精度和重复一致性,精度优于正负千分之五在实际锂离子电池注液及其他工业应用,表现出优异的耐腐蚀性能。配置伺服电机适用于高速自动碱锰电池生产线上注锌膏。
- 接触物料金属为316不锈钢,具有相当好的耐腐蚀性。

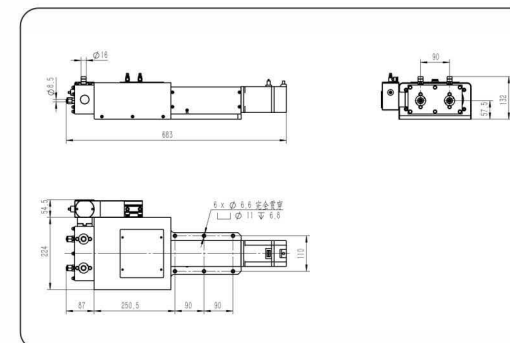
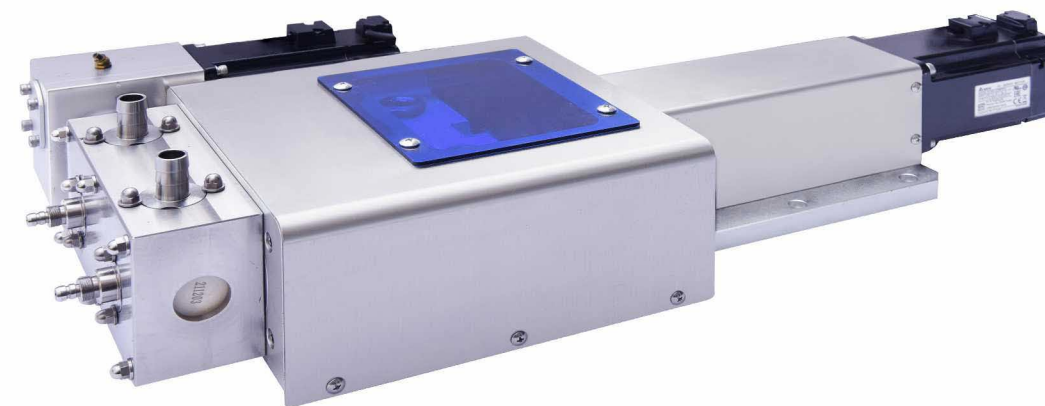


### 技术参数 Technical parameters

型号 Model	XBTGS-单头	
泵头材料 Material	柱塞,泵腔套(99.99%氧化铝、氧化锆) Plunger, pump chamber sleeve (99.99% alumina, zirconia)	
注液量范围 Dispensing Vol.	25ml	50ml
灌装精度 Filling accuracy	≤ ±0.5% (以水为标准,最大灌装值的30%以上可达到精度) With water as the standard, more than 30% of the maximum filling value can be achieved	
供电 Power supply	AC220V 50Hz 400W	
重量 Weight	11.5Kg	

## XBTGS-50-2 双头伺服转阀陶瓷泵

XBTGS-50-2 Dual Heads Servo Rotary Valve Ceramic Pump



### Feature

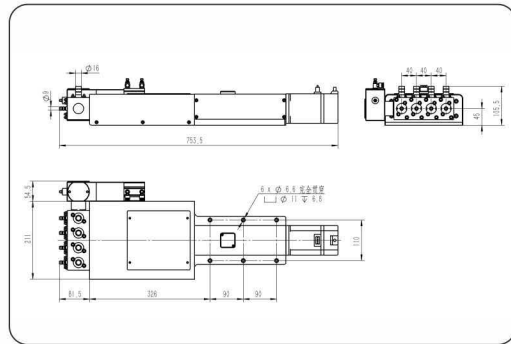
- The precision ceramic rotary valve is used to control the input and output of the liquid, and the precision grinding of the ceramic plunger ensures stable and accurate liquid capacity measurement.
- The servo motor drives the precision screw drive system, and all the filling parameters of the color touch screen device can be precisely controlled without any mechanical adjustment to the pump.
- The metering pump has extremely high metering accuracy and repeated consistency, with an accuracy of better than plus or minus 5% in practical lithium-ion battery injection and other industrial applications, showing excellent corrosion resistance. The servo motor is suitable for filling zinc paste on high speed automatic alkaline manganese battery production line.
- The contact material metal is 316 stainless steel with good corrosion resistance.

### 技术参数 Technical parameters

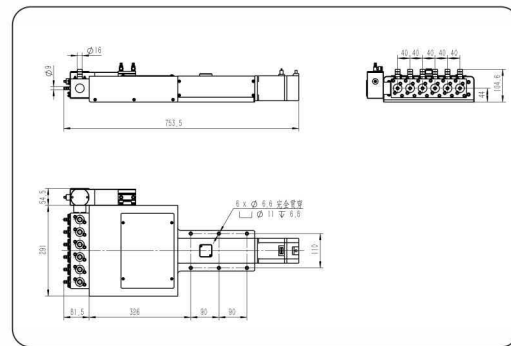
型号 Model	XBTGS-50-2	
泵头材料 Material	柱塞,泵腔套(99.99%氧化铝、氧化锆) Plunger, pump chamber sleeve (99.99% alumina, zirconia)	
注液量范围 Dispensing Vol.	25ml×2	50ml×2
灌装精度 Filling accuracy	≤ ±0.5% (以水为标准,最大灌装值的30%以上可达到精度) With water as the standard, more than 30% of the maximum filling value can be achieved	
供电 Power supply	AC220V 50Hz 400W	
重量 Weight	28.5Kg	

# XBTGS-30 伺服转阀陶瓷泵

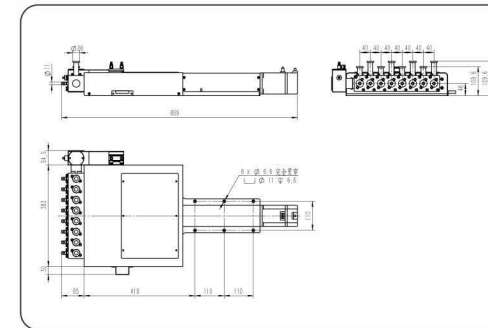
XBTGS-30 Servo Rotary Valve Ceramic Pump



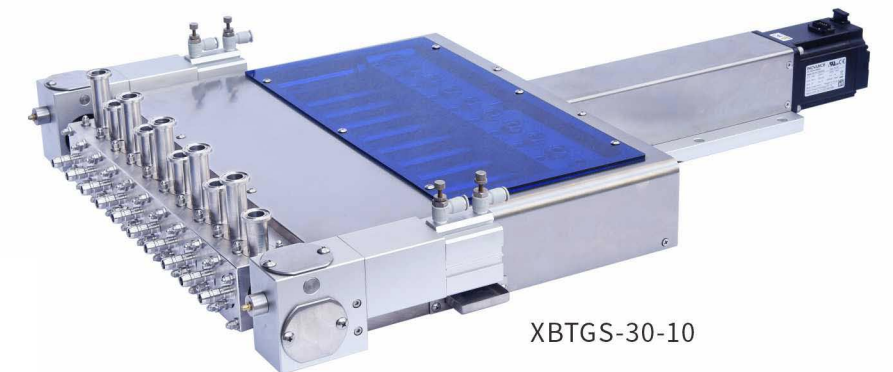
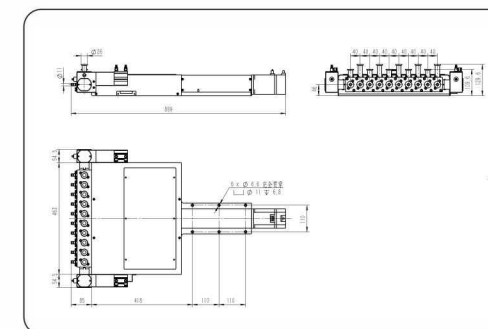
XBTGS-30-4



XBTGS-30-6



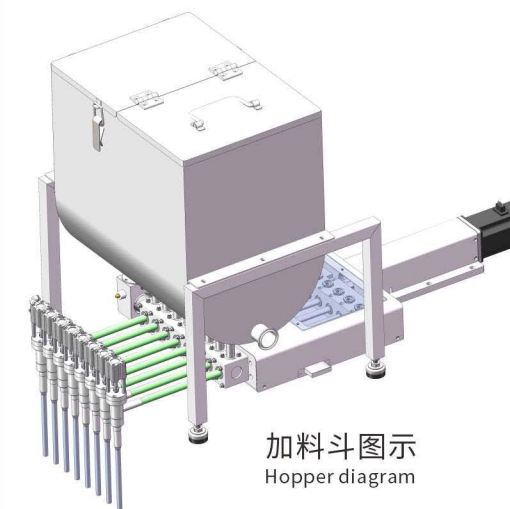
XBTGS-30-8



XBTGS-30-10

## 适用范围

- 多列式包装机、直线灌装机、多工位旋转式灌装旋盖机和其它配套的灌装设备。
- 适用于中高粘度液体和含颗粒液体，酱料、膏体的定量灌装。
- 广泛应用于医药、制药、食品、化工、化妆品等行业的精密定量灌装；
- 用于口服剂、食品饮料、高级化妆品、香精、杀菌剂等液体及膏体的精密定量灌装；
- 各种酸碱腐蚀性液体的精密定量灌装。



加料斗图示  
Hopper diagram

## Scope Of Application

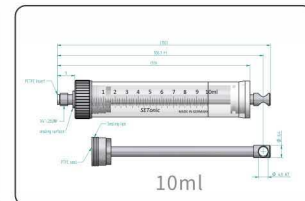
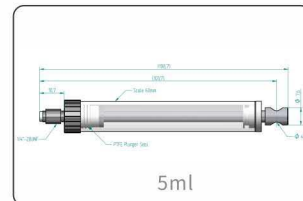
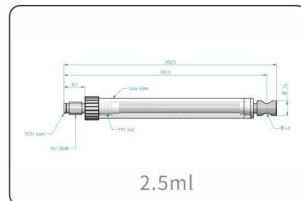
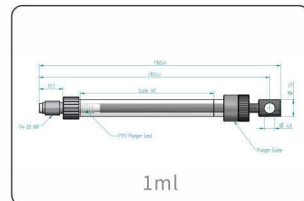
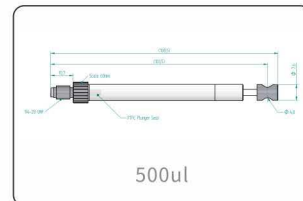
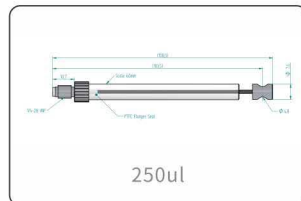
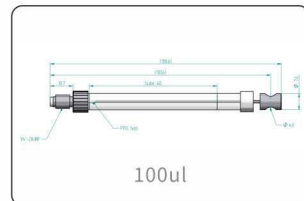
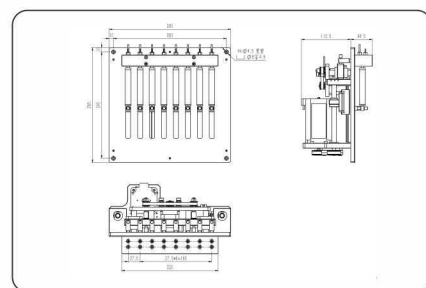
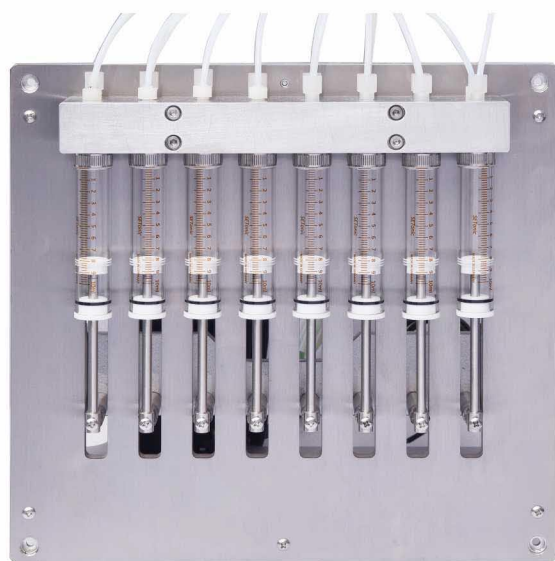
- Multi-row packing machine, linear filling machine, multi-station rotary filling capping machine and other supporting filling equipment.
- Suitable for medium and high viscosity liquid and liquid containing particles, paste, paste quantitative filling.
- Widely used in medicine, pharmaceutical, food, chemical, cosmetics and other industries of precision quantitative filling.
- Used for oral agents, food and beverage, high-grade cosmetics, flavors, fungicides and other liquid and paste precise quantitative filling.
- Precise quantitative filling of various acid, alkali and corrosive liquids.

## 技术参数 Technical parameters

型号 Model	XBTGS-30-4		XBTGS-30-6		XBTGS-30-8		XBTGS-30-10	
泵头材料 Material	柱塞, 泵腔套 (99.99%氧化铝、氧化锆) Plunger, pump chamber sleeve (99.99% alumina, zirconia)							
注液量范围 Dispensing Vol.	15ml×4	30ml×4	15ml×6	30ml×6	15ml×8	30ml×8	15ml×10	30ml×10
灌装精度 Filling accuracy	≤ ±0.5% (以水为标准, 最大灌装值的30%以上可达到精度) With water as the standard, more than 30% of the maximum filling value can be achieved				供电 Power supply		AC220V 50Hz 700W	
重量 Weight	23.5Kg		28.5Kg		41Kg		50Kg	

## XBDG-8 八道小剂量注射泵

XBDG-8 Eight Channels Of Low-dose Injection Pump



### 适用范围

- 科研院所、实验室、高校、制药厂、IDV企业、化妆品厂等；
- 广泛应用于医药、制药、食品、化工、化妆品等行业的精密定量灌装；
- 色谱前溶液制备，药厂QC及研发，环境监测、矿物及血液分析，法医鉴定和其他各种应用；
- 用于血液、生物试剂、口服液、注射液、高级化妆品、电子烟油、香精、杀菌剂等液体的精密定量灌装。

### Scope Of Application

- Scientific research institute, laboratory, colleges and universities, pharmaceutical factory, IVD enterprise, cosmetics factory, etc.
- Widely applied to precision quantitative filling of industries such as medicine, pharmacy, food, chemistry, cosmetics, etc.
- Chromatography sample preparation, pharmaceutical QC and research and development, environment test, analysis of mineral and blood, forensic identification and variety of other application.
- Precision quantitative filling of liquids such as blood, biological reagents, oral agents, injections, advanced cosmetics, fragrances, electronic cigarette oils, fungicides, etc.

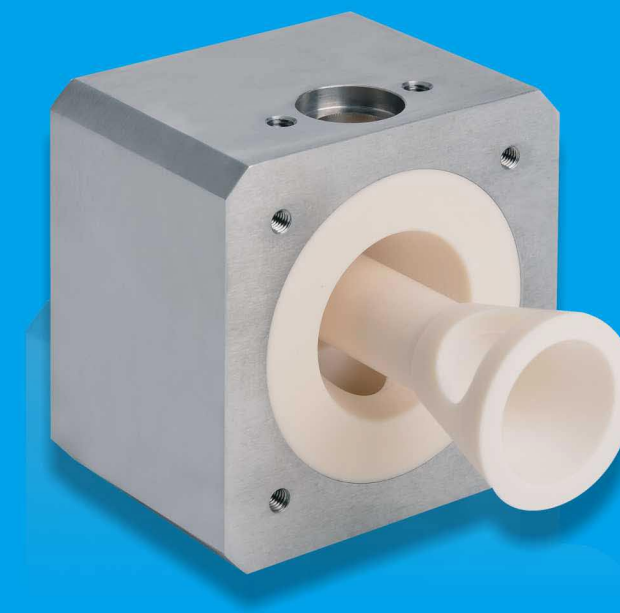
### 技术参数 Technical parameters

常用规格 Common Specifications	100ul/250ul/500ul/1ml/2.5ml/5ml/10ml	灌装精度 Filling accuracy	≤ ±0.5%
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# 04

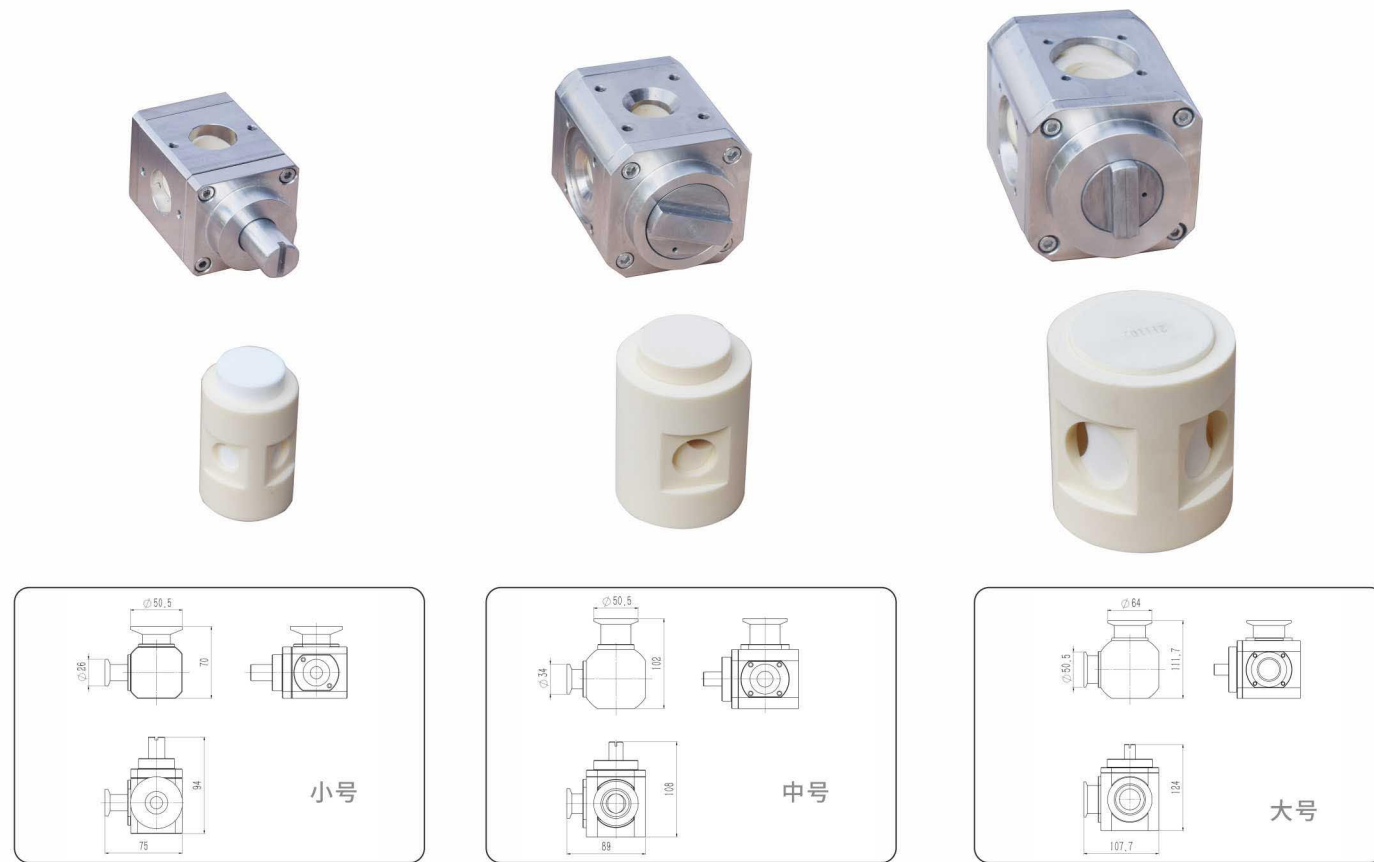
## 各类大中小陶瓷活塞缸 陶瓷转阀部件

All kinds of large and small ceramic piston cylinder and ceramic rotary valve components



## 精密陶瓷转阀 Precision Ceramic Rotary Valve

## 多孔精密陶瓷转阀 Porous Precision Ceramic Rotary Valve



### 适用范围

- 用于日用牙膏、外用药膏、各种酱汁类食品等酸、碱、腐蚀性液体及溶剂灌装设备。

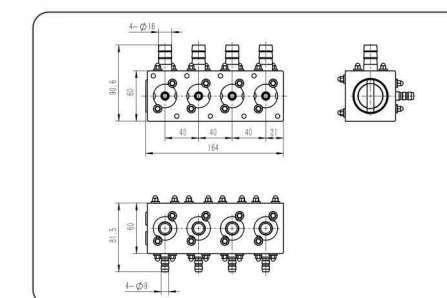
### Scope Of Application

- Used for daily toothpaste, external ointment, all kinds of sauces such as acid, alkali, corrosive liquid and solvent filling equipment.



### 技术参数 Technical parameters

材料 Material	氧化铝99.7%、氧化锆(根据产品特性可选择不同的陶瓷材料),外观为不锈钢316L/304 Aluminium oxide 99.7%(various ceramic materials can be chosen in accordance with the characteristics of products),the appearance is stainless steel 316L/304.		
转阀过孔 The through-hole of rotary valve	小 Small	中 Medium	大 Big
	φ12 φ20	φ22 φ30	φ30 φ41



### 适用范围

- 用于高卫生要求的医药、食品大剂量灌装设备。

### Scope Of Application

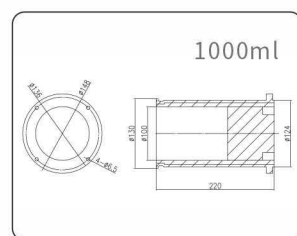
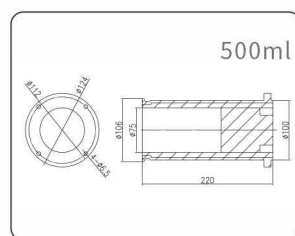
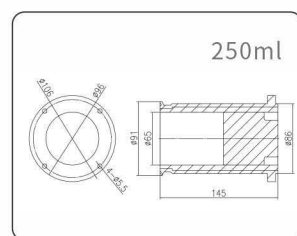
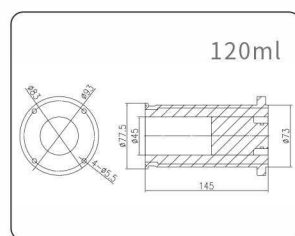
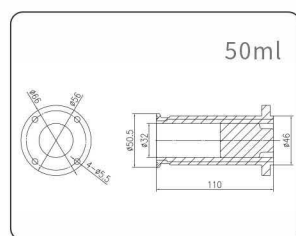
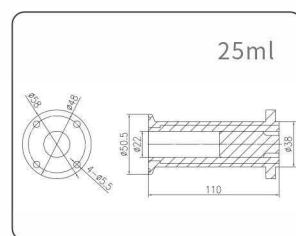
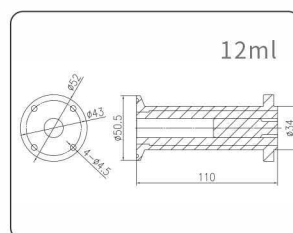
- Applied to the high-dose medical and food fillin for high-hygiene standard.

### 技术参数 Technical parameters

材料 Material	氧化锆,外观为不锈钢316L/304 Zirconia, appearance of stainless steel 316L/304
转阀过孔 The through-hole of rotary valve	转阀过孔(Rotary valve via holes) φ22 φ12 φ8

## 大剂量陶瓷柱塞泵

Large-dose Ceramic Plunger Pump



### 适用范围

- 用于各种液体的大剂量高精度定量灌装。

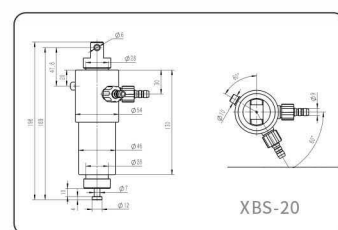
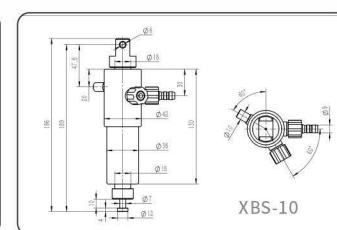
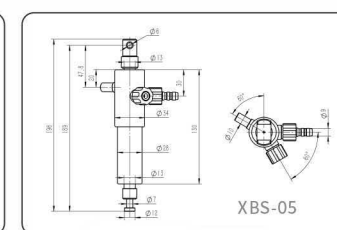
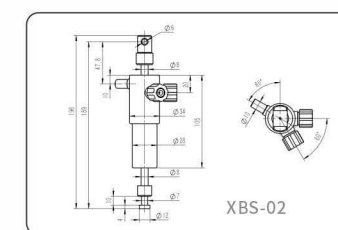
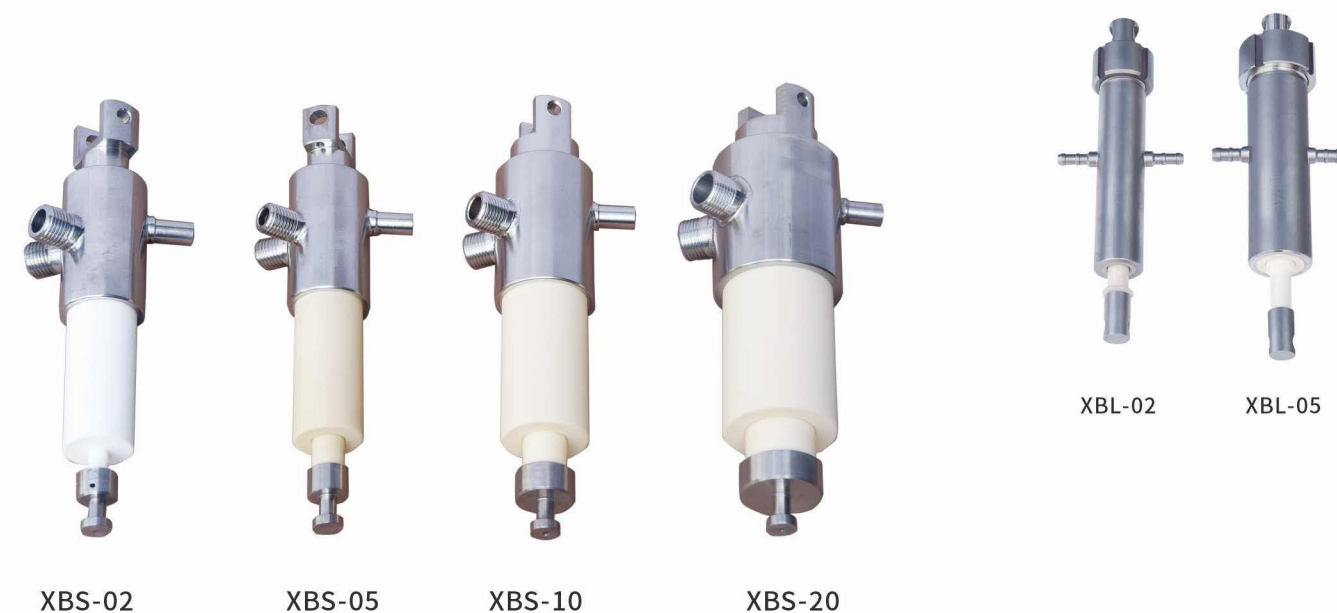
Applied to high-precision quantitative filling of all kinds of materials.

### 技术参数 Technical parameters

材料 Material	氧化铝99.7%(根据产品特性可选择不同的陶瓷材料),外观为不锈钢316L/304 Aluminium oxide 99.7%(various ceramic materials can be chosen in accordance with the characteristics of products),the appearance is stainless steel 316L/304.		
常用规格 Common Specifications	25ml/50ml/120ml/250ml/500ml/1000ml	灌装精度 Filling accuracy	≤±0.25%

## 小剂量陶瓷转阀柱塞泵

Small dose ceramic rotary valve plunger pump



### 适用范围

- 科研院所、实验室、高校、制药厂、IDV企业、化妆品厂等；
- 广泛应用于医药、制药、食品、化工、化妆品等行业的精密定量灌装；
- 色谱前溶液制备，药厂QC及研发，环境监测、矿物及血液分析，法医鉴定和其他各种应用；
- 用于血液、生物试剂、口服液、注射液、高级化妆品、电子烟油、香精、杀菌剂等液体的精密定量灌装。

### Scope Of Application

- Scientific research institute, laboratory, colleges and universities, pharmaceutical factory, IVD enterprise, cosmetics factory, etc.
- Widely applied to precision quantitative filling of industries such as medicine, pharmacy, food, chemistry, cosmetics, etc.
- Chromatography sample preparation, pharmaceutical QC and research and development, environment test, analysis of mineral and blood, forensic identification and variety of other application.
- Precision quantitative filling of liquids such as blood, biological reagents, oral agents, injections, advanced cosmetics, fragrances, electronic cigarette oils, fungicides, etc.

### 技术参数 Technical parameters

型号 Model	XBS-02	XBS-05	XBS-10	XBS-20
泵头 Pump head	柱塞, 泵腔套 (99.99%氧化铝、氧化锆) Plunger, pump chamber sleeve (99.99% alumina, zirconia)			
灌装精度 Filling accuracy	±≤0.25% (以水为标准,最大灌装值的30%以上可达到精度) With water as the standard, more than 30% of the maximum filling value can be achieved			
灌装范围 Filling range	0.5~2ml/次time	1~5ml/次time	2~10ml/次time	5~20ml/次time

# 05

## 精密陶瓷零部件加工

Precision ceramic parts processing



### 高温灭菌单向阀陶瓷柱塞泵总成(无密封圈)

High temperature sterilization one-way valve ceramic plunger pump assembly (no seal ring)

#### 应用范围:

1. 应用于需高温灭菌的制药设备(该泵头可达300度及以下的高温消毒)。用于血液、生物试剂、口服液、注射液、高级化妆品、香精、杀菌剂等液体的精密定量灌装。
2. 各种酸碱腐蚀性液体的精密定量灌装。

#### Scope of application:

1. It is applied to pharmaceutical equipment requiring high-temperature sterilization (the pump head can be sterilized at a high temperature of 300 degrees and below). Used for blood liquid, biochemical reagent, oral liquid, injection, advanced cosmetics, essence, bactericide and other liquids.
2. Precise quantitative filling of various acid-base corrosive liquids.

#### 技术参数 Technical parameters

材料 Material	氧化铝99.7%(根据产品特性可选择不同的陶瓷材料),外观为不锈钢316L/304 Aluminium oxide 99.7%(various ceramic materials can be chosen in accordance with the characteristics of products), the appearance is stainless steel 316L/304.		
常用型号 Regular type	XBDS-02	XBDS-05	XBDS-10
柱塞直径 Diameter of plunger	8mm	13mm	18mm
灌装量 Filling capacity	0.5~2ml/rev	1.5~5ml/rev	3~10ml/rev
灌装精度 Filling accuracy	± ≤ 0.25% (以水为标准,最大灌装值的30%以上可达到精度) With water as the standard, more than 30% of the maximum filling value can be achieved		



### 单向阀陶瓷柱塞泵

Check valve ceramic plunger pump

#### 应用范围:

1. 用于各种微量、小剂量液体的定量分装。
2. 用于注射液、口服液等高卫生等级要求的定量分装。
3. 用于高级化妆品的液体定量分装。
4. 用于食品类高卫生等级要求的定量分装。

#### Scope of application:

1. It is used for quantitative packaging of various micro and small dose liquids.
2. It is used for quantitative packaging with high hygiene requirements such as injection and oral liquid.
3. Liquid quantitative packaging for advanced cosmetics.
4. It is used for quantitative packaging of foods with high hygiene grade requirements.

#### 技术参数 Technical parameters

材料 Material	氧化铝99.7%(根据产品特性可选择不同的陶瓷材料),外观为不锈钢316L/304 Aluminium oxide 99.7%(various ceramic materials can be chosen in accordance with the characteristics of products), the appearance is stainless steel 316L/304.
常用规格 Common specification	0.5-2ml/1.5-5ml/3-10ml
订制范围 Custom Range	0-200ml
灌装精度 Filling accuracy	± ≤ 0.25% (以水为标准,最大灌装值的30%以上可达到精度) With water as the standard, more than 30% of the maximum filling value can be achieved





## 氧化铝Al<sub>2</sub>O<sub>3</sub>(96%)

Aluminum oxide Al<sub>2</sub>O<sub>3</sub>(96%)



**Product features:**  
High hardness, acid and alkali corrosion resistance, high temperature resistance, good insulation, small expansion coefficient, water absorption is low to zero.

技术参数 Technical parameters			
材料 Material	氧化铝(Al <sub>2</sub> O <sub>3</sub> ) Aluminum oxide	热膨胀系数 Coefficient of thermal expansion	9.5×10 <sup>-6</sup> /°C
颜色 Colour	白 White	热传导率 Thermal conductivity	3 W/(m.K)
纯度 Pure degree	96%	最高工作温度 Maximum operating temperature	300长期°C (Long time)
密度 Density	3.7 kg/m <sup>3</sup> ×10 <sup>3</sup>	耐热冲击 Heat shock	200 °C
吸水率 Water absorption	0%	介电强度 Resistivity of volume	10 V/m×10 <sup>6</sup>
硬度 Hardness	87-91 HRA	体积电阻率 Hardness	1 Ω.cm(20°C)×10 <sup>4</sup> *
抗弯强度 Turning strength	350 MPa	介电常数 Dielectric constant	30
抗压强度 Compressive strength	3000 MPa	介电损耗系数 Dielectric loss coefficient	5.1 × 10 <sup>-4</sup>
弹性模量 Modulus of elasticity	320 GPa	硝酸 Nitric acid	0.08 WtLoss mg/cm <sup>2</sup> /D
泊松比 Poisson ratio	0.23	硫酸 Sulfuric acid	0.09 WtLoss mg/cm <sup>2</sup> /D
断裂韧性 Fracture toughness	4 Mpa/m	氢氧化钠 Sodium hydroxide	0.8 WtLoss mg/cm <sup>2</sup> /D

**产品特点:**  
超高的硬度,耐酸碱腐蚀,耐高温,绝缘性好,膨胀系数小,吸水率低至零。

**应用范围:**  
1、用于军工、民用高端机械电子零部件。  
2、用于要求硬度高,耐酸碱环境中的机械零部件。  
3、用于水中或潮湿环境中的机械零部件。

**Scope of application:**  
1. For military, civilian high-end mechanical and electronic parts.  
2. Used for mechanical parts requiring high hardness and acid and alkali resistance.  
3. Used for mechanical parts in water or wet environments.

## 氧化铝Al<sub>2</sub>O<sub>3</sub>(99.7%)

Aluminum oxide Al<sub>2</sub>O<sub>3</sub>(99.7%)



**Product features:**  
High hardness, acid and alkali corrosion resistance, high temperature resistance, good insulation, small expansion coefficient, water absorption is low to zero.

技术参数 Technical parameters			
材料 Material	氧化铝(Al <sub>2</sub> O <sub>3</sub> ) Aluminum oxide	热膨胀系数 Coefficient of thermal expansion	7×10 <sup>-6</sup> /°C
颜色 Colour	淡黄 Light yellow	热传导率 Thermal conductivity	33 W/(m.K)
纯度 Pure degree	99.7%	最高工作温度 Maximum operating temperature	1600长期°C (Long time)
密度 Density	3.93 kg/m <sup>3</sup> ×10 <sup>3</sup>	耐热冲击 Heat shock	200°C
吸水率 Water absorption	0%	介电强度 Resistivity of volume	18V/m×10 <sup>6</sup>
硬度 Hardness	88-93 HRA	体积电阻率 Hardness	10 Ω.cm(20°C)×10 <sup>3</sup>
抗弯强度 Turning strength	390 MPa	介电常数 Dielectric constant	9.7
抗压强度 Compressive strength	2300 MPa	介电损耗系数 Dielectric loss coefficient	10.06×10 <sup>3</sup>
弹性模量 Modulus of elasticity	375 GPa	硝酸 Nitric acid	0.15 WtLoss mg/cm <sup>2</sup> /D
泊松比 Poisson ratio	0.25	硫酸 Sulfuric acid	0.04 WtLoss mg/cm <sup>2</sup> /D
断裂韧性 Fracture toughness	4 Mpa/m	氢氧化钠 Sodium hydroxide	—

**产品特点:**  
超高的硬度,耐酸碱腐蚀,耐高温,绝缘性好,膨胀系数小,吸水率低至零。

**应用范围:**  
1、用于军工、民用高端机械电子零部件。  
2、用于高温(1600°C)工作环境下的机械零部件。  
3、用于各种精密柱塞泵、精密阀门等高硬度,耐腐蚀的机械零部件。

**Scope of application:**  
1. For military, civilian high-end mechanical and electronic parts.  
2. It is used for mechanical parts in high temperature (1600°C) working environment.  
3. Used for various precision plunger pumps, precision valves and other high hardness, corrosion resistant mechanical parts.

## 氧化铝Al<sub>2</sub>O<sub>3</sub>(99.99%)

Aluminum oxide Al<sub>2</sub>O<sub>3</sub>(99.99%)



**Product features:**  
High hardness, acid and alkali corrosion resistance, high temperature resistance, good insulation, small expansion coefficient, water absorption is low to zero.

技术参数 Technical parameters			
材料 Material	氧化铝(Al <sub>2</sub> O <sub>3</sub> ) Aluminum oxide	热膨胀系数 Coefficient of thermal expansion	7×10 <sup>-6</sup> /°C
颜色 Colour	白 White	热传导率 Thermal conductivity	34W/(m.K)
纯度 Pure degree	99.99%	最高工作温度 Maximum operating temperature	1600长期°C (Long time)
密度 Density	3.97 kg/m <sup>3</sup> ×10 <sup>3</sup>	耐热冲击 Heat shock	200°C
吸水率 Water absorption	0%	介电强度 Resistivity of volume	18 V/m×10 <sup>6</sup>
硬度 Hardness	89-93 HRA	体积电阻率 Hardness	10 Ω.cm(20°C)×10 <sup>4</sup>
抗弯强度 Turning strength	390 MPa	介电常数 Dielectric constant	9.9
抗压强度 Compressive strength	200 MPa	介电损耗系数 Dielectric loss coefficient	10.5×10
弹性模量 Modulus of elasticity	380 GPa	硝酸 Nitric acid	0.04 WtLoss mg/cm <sup>2</sup> /D
泊松比 Poisson ratio	0.23	硫酸 Sulfuric acid	0.09 WtLoss mg/cm <sup>2</sup> /D
断裂韧性 Fracture toughness	4 Mpa/m	氢氧化钠 Sodium hydroxide	0.03 WtLoss mg/cm <sup>2</sup> /D

**产品特点:**  
超高的硬度,耐酸碱腐蚀,耐高温,绝缘性好,膨胀系数小,吸水率低至零。

**应用范围:**  
1、用于军工、民用高端机械电子零部件。  
2、用于高温(1600°C)工作环境下的机械零部件。  
3、用于各种精密柱塞泵、精密阀门等高硬度,耐腐蚀的机械零部件。

**Scope of application:**  
1. For military, civilian high-end mechanical and electronic parts.  
2. It is used for mechanical parts in high temperature (1600°C) working environment.  
3. Used for various precision plunger pumps, precision valves and other high hardness, corrosion resistant mechanical parts.

## 氧化锆ZrO<sub>2</sub>

Zirconia ZrO<sub>2</sub>



**Product features:**  
High strength, high toughness, high hardness, wear resistance.

技术参数 Technical parameters			
材料 Material	氧化锆(ZrO <sub>2</sub> ) Zirconia	热膨胀系数 Coefficient of thermal expansion	10×10 <sup>-6</sup> /°C
颜色 Colour	白 White	热传导率 Thermal conductivity	3W/(m.K)
纯度 Pure degree	3Y-TZP %	最高工作温度 Maximum operating temperature	<200长期°C (Long time)
密度 Density	6 kg/m <sup>3</sup> ×10 <sup>3</sup>	耐热冲击 Heat shock	200°C
吸水率 Water absorption	0%	介电强度 Resistivity of volume	11 V/m×10 <sup>6</sup>
硬度 Hardness	84-87 HRA	体积电阻率 Hardness	1 Ω.cm(20°C)×10 <sup>4</sup> *
抗弯强度 Turning strength	1000 MPa	介电常数 Dielectric constant	33
抗压强度 Compressive strength	3500 MPa	介电损耗系数 Dielectric loss coefficient	520×10 <sup>+</sup>
弹性模量 Modulus of elasticity	200 GPa	硝酸 Nitric acid	0.1 WtLoss mg/cm <sup>2</sup> /D
泊松比 Poisson ratio	0.31	硫酸 Sulfuric acid	0.5 WtLoss mg/cm <sup>2</sup> /D
断裂韧性 Fracture toughness	7 Mpa/m	氢氧化钠 Sodium hydroxide	1 WtLoss mg/cm <sup>2</sup> /D

**产品特点:**  
高强、高韧,硬度高,耐磨损。

**应用范围:**  
1、用于军工、民用高端机械零部件。  
2、用于对韧性、抗弯强度高的机械零部件。  
3、用于各种电池模具、精密柱塞、精密阀门和导套。

**Product features:**  
For military, civilian high-end mechanical and electronic parts. Used for mechanical parts with high toughness and bending strength. Used in various battery molds, precision plungers, precision valves and guide bushings.

## 氧化铝Al<sub>2</sub>O<sub>3</sub>(96%)

Aluminum oxide Al<sub>2</sub>O<sub>3</sub>(96%)



**Product features:**  
High hardness, acid and alkali corrosion resistance, high temperature resistance, good insulation, small expansion coefficient, water absorption is low to zero.

技术参数 Technical parameters			
材料 Material	氧化铝(Al <sub>2</sub> O <sub>3</sub> ) Aluminum oxide	热膨胀系数 Coefficient of thermal expansion	9.5×10 <sup>-6</sup> /°C
颜色 Colour	白 White	热传导率 Thermal conductivity	3 W/(m.K)
纯度 Pure degree	96%	最高工作温度 Maximum operating temperature	300长期°C (Long time)
密度 Density	3.7 kg/m <sup>3</sup> ×10 <sup>3</sup>	耐热冲击 Heat shock	200 °C
吸水率 Water absorption	0%	介电强度 Resistivity of volume	10 V/m×10 <sup>6</sup>
硬度 Hardness	87-91 HRA	体积电阻率 Dielectric constant	1 Ω.cm(20°C)×10 <sup>4</sup> *
抗弯强度 Turning strength	350 MPa	介电常数 Dielectric loss coefficient	30
抗压强度 Compressive strength	3000 MPa	介电损耗系数 Dielectric loss coefficient	5.1 × 10 <sup>-4</sup>
弹性模量 Modulus of elasticity	320 GPa	硝酸 Nitric acid	0.08 WtLoss mg/cm <sup>2</sup> /D
泊松比 Poisson ratio	0.23	硫酸 Sulfuric acid	0.09 WtLoss mg/cm <sup>2</sup> /D
断裂韧性 Fracture toughness	4 Mpa/m	氢氧化钠 Sodium hydroxide	0.8 WtLoss mg/cm <sup>2</sup> /D

**产品特点:**  
超高的硬度,耐酸碱腐蚀,耐高温,绝缘性好,膨胀系数小,吸水率低至零。

**应用范围:**  
1、用于军工、民用高端机械电子零部件。  
2、用于要求硬度高,耐酸碱环境中的机械零部件。  
3、用于水中或潮湿环境中的机械零部件。

**Scope of application:**  
1、For military, civilian high-end mechanical and electronic parts.  
2、It is used for mechanical parts in high temperature (1600°C) working environment.  
3、Used for various precision plunger pumps, precision valves and other high hardness, corrosion resistant mechanical parts.

## 氮化铝AlN

Aluminum nitride AlN



**Product features:**  
High thermal conductivity, good thermal conductivity, high temperature resistance, water absorption is low to zero.

技术参数 Technical parameters			
材料 Material	氮化铝(AlN) Aluminum nitride	热膨胀系数 Coefficient of thermal expansion	4.6×10 <sup>-6</sup> /°C
颜色 Colour	黑灰 Blackgray	热传导率 Thermal conductivity	150-180W/(m.K)
纯度 Pure degree	— —	最高工作温度 Maximum operating temperature	500长期°C (Long time)
密度 Density	3.4 kg/m <sup>3</sup> ×10 <sup>3</sup>	耐热冲击 Heat shock	600°C
吸水率 Water absorption	0%	介电强度 Resistivity of volume	14 V/m× 10
硬度 Hardness	75-82 HRA	体积电阻率 Dielectric constant	100 Ω.cm(20°C)×10 <sup>4</sup> *
抗弯强度 Turning strength	310 MPa	介电常数 Dielectric loss coefficient	8.6
抗压强度 Compressive strength	— —	介电损耗系数 Dielectric loss coefficient	26×10
弹性模量 Modulus of elasticity	320 GPa	硝酸 Nitric acid	— —
泊松比 Poisson ratio	0.24	硫酸 Sulfuric acid	— —
断裂韧性 Fracture toughness	— —	氢氧化钠 Sodium hydroxide	— —

**产品特点:**  
热导率高,导热性好,耐高温,吸水率低至零。

**应用范围:**  
1、用于军工、民用高端机械电子零部件。  
2、用于绝缘性要求高,导热性好、耐高温的机械电子零部件。  
3、用于电加热管, LED芯片。

**Scope of application:**  
1、For military, civilian high-end mechanical and electronic parts.  
2、Used for mechanical and electronic parts with high insulation requirements, good thermal conductivity and high temperature resistance.  
3、For electric heating tube, LED chip.

## 氮化硅Si<sub>3</sub>N<sub>4</sub>

Silicon nitride Si<sub>3</sub>N<sub>4</sub>



**Product features:**  
Strong acid resistance, strong alkali resistance, super hard, wear resistance.

技术参数 Technical parameters			
材料 Material	氮化硅(Si <sub>3</sub> N <sub>4</sub> ) Silicon nitride	热膨胀系数 Coefficient of thermal expansion	3.2×10 <sup>-6</sup> /°C
颜色 Colour	黑灰 Black gray	热传导率 Thermal conductivity	30W/(m.K)
纯度 Pure degree	— —	最高工作温度 Maximum operating temperature	1100长期°C (Long time)
密度 Density	3.25 kg/m <sup>3</sup> ×10 <sup>3</sup>	耐热冲击 Heat shock	550°C
吸水率 Water absorption	0%	介电强度 Resistivity of volume	— —
硬度 Hardness	89-92 HRA	体积电阻率 Dielectric constant	1 Ω.cm(20°C)×10 <sup>4</sup> *
抗弯强度 Turning strength	700 MPa	介电常数 Dielectric loss coefficient	— —
抗压强度 Compressive strength	3800 MPa	介电损耗系数 Dielectric loss coefficient	— —
弹性模量 Modulus of elasticity	290 GPa	硝酸 Nitric acid	0.05 WtLoss mg/cm <sup>2</sup> /D
泊松比 Poisson ratio	0.28	硫酸 Sulfuric acid	0.2 WtLoss mg/cm <sup>2</sup> /D
断裂韧性 Fracture toughness	5 Mpa/m	氢氧化钠 Sodium hydroxide	0.3 WtLoss mg/cm <sup>2</sup> /D

**产品特点:**  
耐强酸、耐强碱、超硬、耐磨。

**应用范围:**  
1、用于军工、民用高端机械电子零部件。  
2、用于硬度高、耐高温的机械零部件。  
3、用于滚轴、辊喷嘴、耐磨零部件。

**Scope of application:**  
1、For military, civilian high-end mechanical and electronic parts.  
2、Used for mechanical parts with high hardness and high temperature resistance.  
3、For rollers, roller nozzles, wear parts.

## 超级氧化锆ZrO<sub>2</sub>

Super zirconia ZrO<sub>2</sub>



**Product features:**  
Super strong, super tough, heat resistant, high hardness, wear resistance.

技术参数 Technical parameters			
材料 Material	超级氧化锆(Super ZrO <sub>2</sub> ) Super zirconia	热膨胀系数 Coefficient of thermal expansion	9.5×10 <sup>-6</sup> /°C
颜色 Colour	灰白、黑 Grey-white, black	热传导率 Thermal conductivity	3W/(m.K)
纯度 Pure degree	— —	最高工作温度 Maximum operating temperature	300长期°C (Long time)
密度 Density	6.07 kg/m <sup>3</sup> ×10 <sup>3</sup>	耐热冲击 Heat shock	200°C
吸水率 Water absorption	0%	介电强度 Resistivity of volume	10 V/m×10 <sup>6</sup>
硬度 Hardness	89-91 HRA	体积电阻率 Dielectric constant	1 Ω.cm(20°C)×10 <sup>4</sup> *
抗弯强度 Turning strength	2000 MPa	介电常数 Dielectric loss coefficient	30
抗压强度 Compressive strength	4000 MPa	介电损耗系数 Dielectric loss coefficient	5.1×10 <sup>+</sup>
弹性模量 Modulus of elasticity	390 GPa	硝酸 Nitric acid	0.08 WtLoss mg/cm <sup>2</sup> /D
泊松比 Poisson ratio	0.32	硫酸 Sulfuric acid	0.09 WtLoss mg/cm <sup>2</sup> /D
断裂韧性 Fracture toughness	8 Mpa/m	氢氧化钠 Sodium hydroxide	0.8 WtLoss mg/cm <sup>2</sup> /D

**产品特点:**  
特超强、超韧,耐热,硬度高,耐磨损。

**应用范围:**  
1、用于军工、民用高端机械零部件。  
2、用于超强、超韧的机械零部件。如各种高精度超薄刀具、高压柱塞。

**Scope of application:**  
1、For military, civilian high-end mechanical and electronic parts.  
2、For super strong, super tough mechanical parts. Such as a variety of high-precision ultra-thin cutting tools, high-pressure plungers.

## 雪霸高纯度陶瓷泵性能特点

Xueba high purity ceramic pump performance characteristics

雪霸陶瓷泵具有对液体无污染, 精度极高, 使用寿命超长等特点。

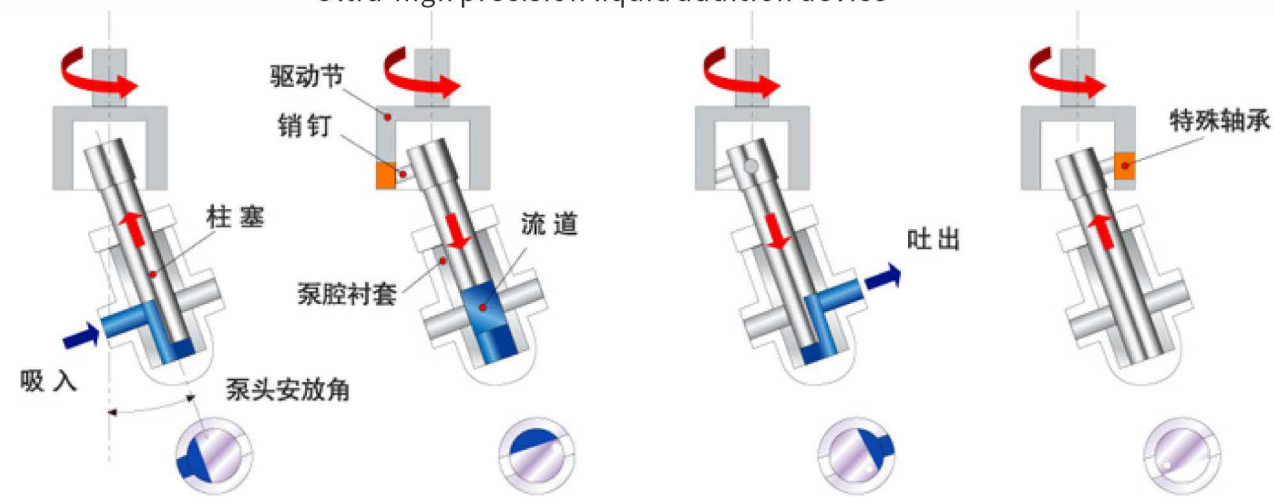
Xueba ceramic pump has the characteristics of no pollution to liquid, high precision and long service life.

- 制药、食品、化妆品行业最高卫生和健康标准。
- 极惰性的化学稳定性, 耐酸碱、耐腐蚀、耐高温。
- 超硬、耐磨损, 粒子释放极小, 使用寿命超长。
- 材料致密, 吸水率低至零; 表面光洁度极高, 摩擦力极小; 所以物料残留极小。
- 热膨胀系数极小, 活塞间隙配合更加, 灌装精度更高, 可实现在线清洗及灭菌。

1. The highest hygiene and health standards in the pharmaceutical, food and cosmetic industries.
2. Extremely inert chemical stability, acid and alkali resistance, corrosion resistance, high temperature resistance.
3. Super hard, wear resistance, minimal particle release, long service life.
4. The material is dense, the water absorption is low to zero, the surface finish is very high, and the friction is very small, so the material residue is very small.
5. The coefficient of thermal expansion is very small, the piston clearance is better, the filling accuracy is higher, and the online cleaning and sterilization can be realized.

### 超高精度液体添加装置

Ultra-high precision liquid addition device



#### 吸入过程

Suction process

当柱塞的流道朝向泵腔吸入口的同时, 伴随柱塞旋转, 泵腔容积逐渐增大形成局部真空, 液体被吸入, 柱塞继续旋转后退。

When the flow channel of the plunger faces the suction inlet of the pump chamber, the volume of the pump chamber gradually increases to form a local vacuum with the rotation of the plunger, the liquid is sucked in, and the plunger continues to rotate backward.

#### 吸入完成

Suction completion

当柱塞的流道朝向泵腔吸入口时, 吸入过程完成, 柱塞变换为旋转前行。

When the flow path of the plunger is towards the suction inlet of the pump chamber, the suction process is completed and the plunger changes to a rotary forward.

#### 吐出过程

Spitting process

随着柱塞旋转前行, 当柱塞的流道向泵腔吐出侧靠近的同时, 泵腔容积逐渐减小, 液体被压缩排出。

As the plunger rotates forward, when the flow channel of the plunger approaches the discharge side of the pump chamber, the volume of the pump chamber is gradually reduced, and the liquid is compressed and discharged.

#### 吐出完成

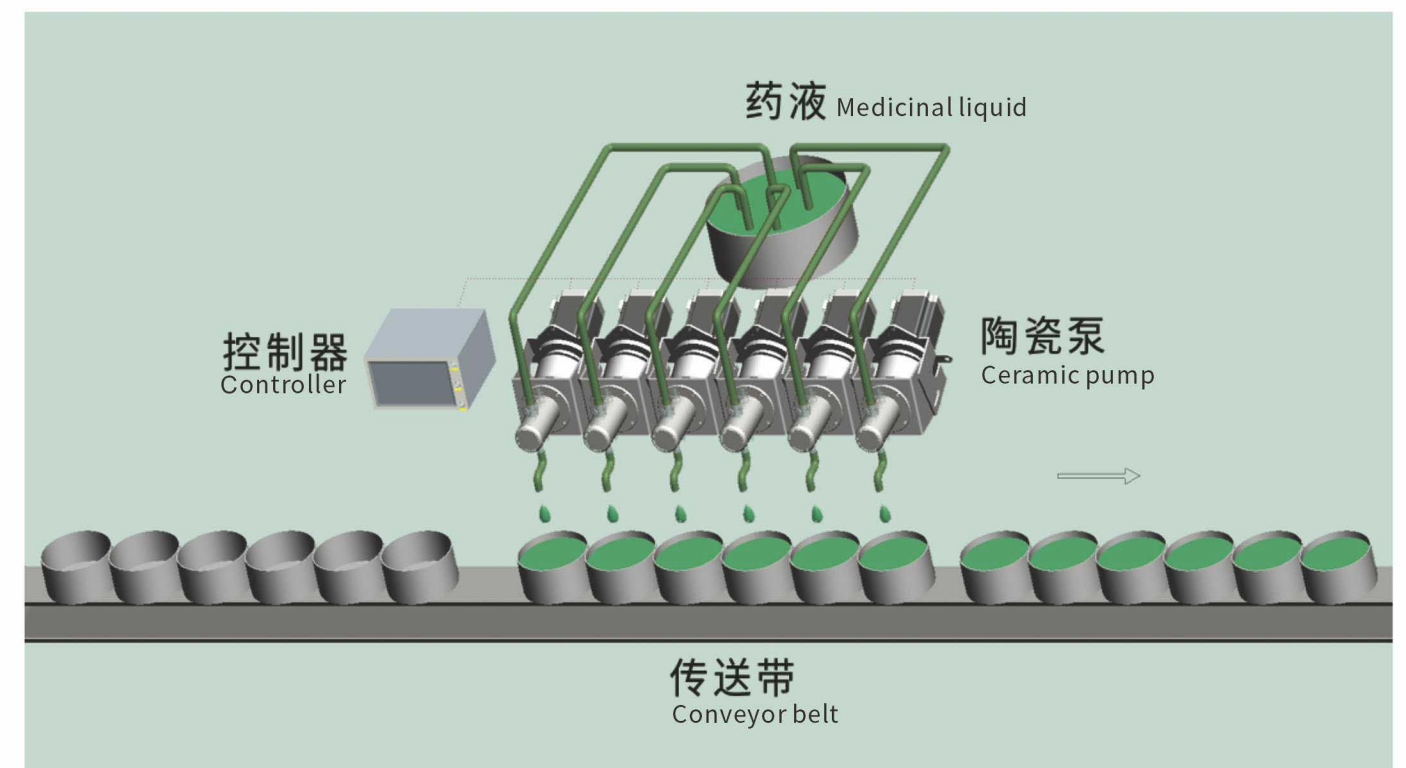
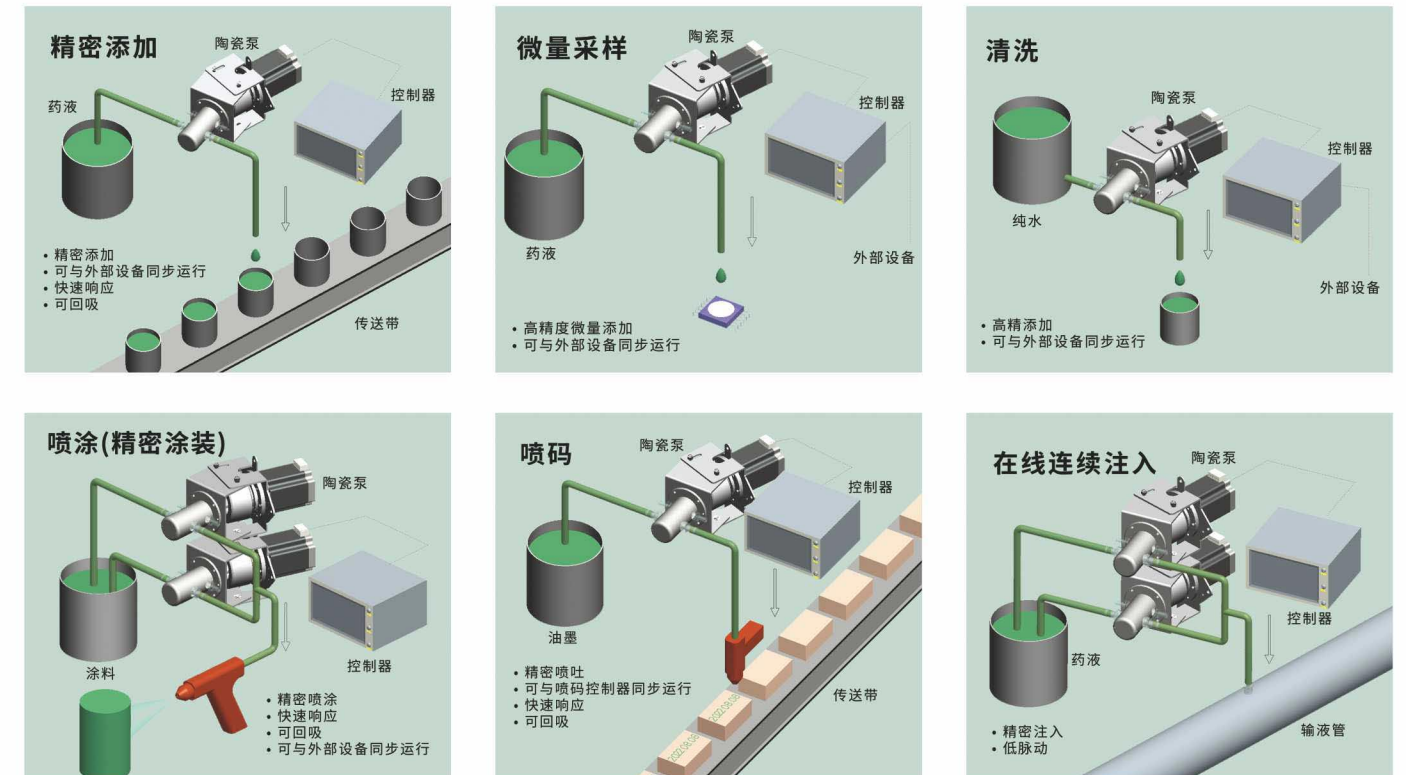
Spit out

当柱塞的流道错开泵腔的吐出口时, 吐出过程完成。柱塞变换为旋转后退, 开始下一吸入过程。

When the flow channel of the plunger staggers the discharge outlet of the pump chamber, the discharge work is completed. The plunger shifts back to rotation to begin the next suction process.

## 应用示意图

Schematic diagram of application



## 专业设备/品质控制

Professional equipment/quality control



品质控制 Quality control



三坐标检查仪 3D tester



激光切割机  
Laser cutting machine



CNC雕刻机  
CNC engraving machine



数控折弯机  
Numerical control bender



数控机  
Numerical control lathe



CNC加工中心 CNC processing center



活塞缸精密加工  
Precision processing of piston cylinder

## 合作共赢

真诚感谢所有合作伙伴长久以来对我们的帮助和支持!



- 无阀陶瓷泵产品于2016年获得广东省高新技术产品证书(证书编号:06946)
- 无阀陶瓷泵所涉及的相关技术成果于2017年获得广州市科学技术成果证书,目前已获得了一项团体标准,T/NSSQ 001—2022无阀陶瓷柱塞泵。
- 无阀陶瓷泵系列灌装机具有高精度、高洁净、微小量定量灌装的特点,产品广泛用于医药、实验室、新能源锂电池、食品、化工、化妆品行业。相关技术符合《产业基础创新发展目录(2021年版)》中食品领域的产业技术基础“灌装机用小口径电磁流量计和质量流量计”相关技术。符合工业“六基”领域的“产业技术基础”领域。

在2004年成功注册了“”商标;

在2015年成功注册了“**SFXB雪霸**”商标。