

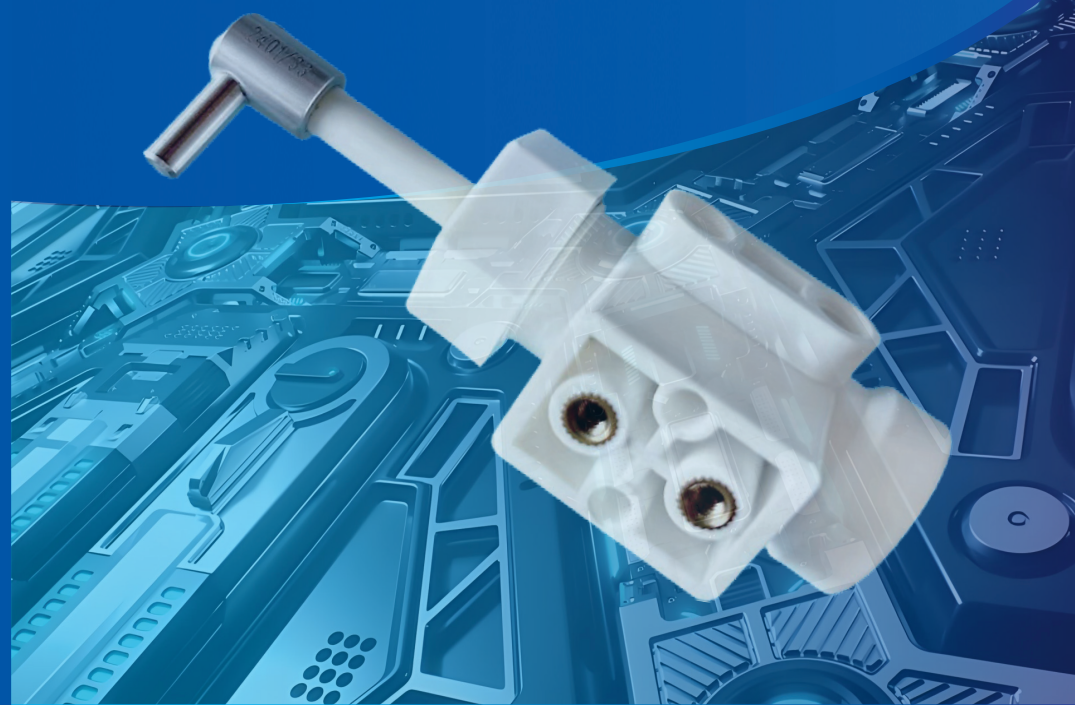


炬昌精密  
JU CHANG JINGMI



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深圳市炬昌精密有限公司  
Shenzhen Juchang Precision Co., LTD



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Shenzhen Juchang Precision Co., LTD



- ☎ 电话: 13538229732
- ✉ 邮箱: glzmdy@163.com
- 🌐 网址: www.bluesealeader.com
- 📍 地址: 深圳市坪山区坑梓街道坑梓社区梓祥路2号105

## Core features of Juchang ceramic piston metering pump valve

### ◆ 炬昌陶瓷柱塞计量泵阀核心特点

- 高精度微小液体计量精度可达±0.1ul  
The measurement accuracy of high-precision micro liquid can reach ±0.1 ul
- 精度配对间隙3微米以内  
Accuracy matching gap within 3 microns
- 防化反应与大多数流体介质兼容  
Chemical resistance compatible with most fluid media
- 模块化设计、小巧紧凑、能快拆快装  
Modular design, small and compact, quick disassembly and quick assembly
- 特殊陶瓷材料, 冷等静压和1600°C烧结工艺  
Special ceramic material, cold isostatic pressing and 1600°C sintering process
- 耐高温、耐腐蚀、高硬度、耐磨损  
High temperature resistance, corrosion resistance, high hardness, wear resistance
- 部分泵阀型号可清洗或高温蒸汽负压灭菌  
Some pump valve models can be cleaned online or sterilized by high temperature steam negative pressure

## Quality control

### ◆ 品质保障

精益质控是炬昌陶瓷可持续发展的根本要素。我们始终严格按照ISO质量管理体系标准一丝不苟地执行。为了提供高品质产品,公司配置了先进的检测设备以及采用完整的检测手段,建立了一支严格要求的品管队伍,实现了从产品的设计开发、原材料、部件加工、产品装配、性能检验到包装出货,我们坚持达到最高标准,确保产品始终如一的高品质。

Lean quality control is the fundamental element for the sustainable development of Juchang Ceramics. We have always strictly adhered to the ISO Quality Management System standards and carried out our work meticulously. To provide high-quality products, the company has equipped with advanced testing equipment and adopted comprehensive testing methods. A strict quality control team has been established, ensuring that from the design and development of products, raw material selection, component processing, product assembly, performance testing to packaging and shipment, we consistently meet the highest standards. We guarantee the consistent high quality of our products.



## Single Head Micro Pump Type B Series

### ◆ 单头微量泵B型系列

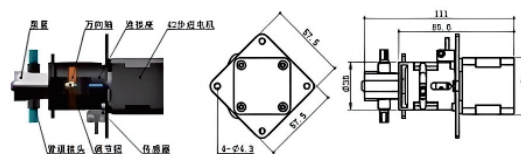
- 结构紧凑、外形体积超小、安装调节方便。
  - 高精度、耐腐蚀、耐磨损、耐高温、高性能、长寿命。
  - 由单轴42步进马达驱动。
  - 精密陶瓷阀往复旋转运行, 计量大小通过调节冲程长度。
  - 无动态密封件, 无易损件, 零维修及保养成本。
  - 日常清洗、消毒等无需拆卸, 可在线清洗通过阀向正反切换实现。
1. Compact structure, ultra-small size, convenient installation and adjustment.
  2. High precision, corrosion resistance, var resistance, high temperature resistance, high performance and long service life.
  3. Driven by single shaft 42 stepping motor.
  4. The precision ceramic valve rotates reciprocally, and the measurement size is adjusted by the stroke length.
  5. No dynamic seal, no quick-wear parts, zero maintenance and repair costs. No need to disassemble for routine cleaning and disinfection, and online cleaning can be achieved by switching the valve to forward and reverse.
  6. Daily cleaning and disinfection do not need to be disassembled, and online cleaning can be achieved by switching the valve forward and reverse.

### 广泛应用 Widely used for

电解电容注液、CR电池、水平仪注油、AF防污液等。

Widely used for: electrolytic capacitor liquid injection, CR battery, level meter oil injection, AF antifouling liquid, etc.

### 外形安装图 Outline installation drawing



### 技术参数 Technical Parameters

| JC-F-B100pL                       |  |
|-----------------------------------|--|
| 泵阀材质 Pump valve material          | Alumina / zirconia (optional)                              |
| 泵套材质 Pump casing material         | PE   |
| 接触液体部材质 Contact liquid material   | Polytetrafluoroethylene (PTFE), special zirconia / alumina |
| 驱动方式 Driving mode                 | 42单轴步进电机 (42 single-axis stepper motor)                    |
| 冲程范围 Single stroke metering range | 5-100ul  |
| 冲程精度 Single head stroke accuracy  | 0.5%   |
| 调量方式 Modulation mode              | 精密螺杆调节 Precision screw adjustment                          |
| 配制电源 Power supply                 | DC24V  |
| 泵体重量 Weight                       | About 0.5kg  |

## Single Head Micro Pump Y Series

### ◆单头微量泵Y型系列



- 结构紧凑、外形体积超小、耐腐蚀、耐高温。
- 拆卸安装方式,可在线清洗通过阀正反切换实现。
- 可负压高温灭菌,适合无菌制剂。
- 单轴步进马达驱动、高性能。精密陶瓷阀往复旋转运行,计量大小通过调节冲程长度。无动态密封,无易损件,零维修及保养成本。
- 电化学反应与大多数流体都兼容。

- 1.Compact structure, small size, high precision, corrosion resistance, high temperature resistance.
- 2.Removing the installation side,online cleaning can be realized by switching the valve to positive and negative.
- 3.Can be sterilized by negative pressure and high temperature, suitable for aseptic preparation.
- 4.Single-axis stepping motor drive, high performance, long life, high strength and repeatable operation.
- 5.The precision ceramic valve reciprocates and rotates,and the measurement size is adjusted by adjusting the stroke length.
- 6.No dynamic seals, no wearing parts, zero repair and maintenance costs.
- 7.Anti-chemical reaction is compatible with most fluids.

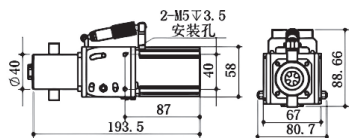
### 广泛应用 Widely used for

生物试剂、制药、凝胶、扣电、CR电池、水剂、96深孔分装、板卡分装等液体的精密定量灌装。

Widely used for: Precise quantitative filling of liquids such as biological reagents, pharmaceuticals, gels, deducting electricity, water agents, 96 deep-hole sub-packaging, and board sub-packaging.

### 外形安装图

#### Outline installation drawing

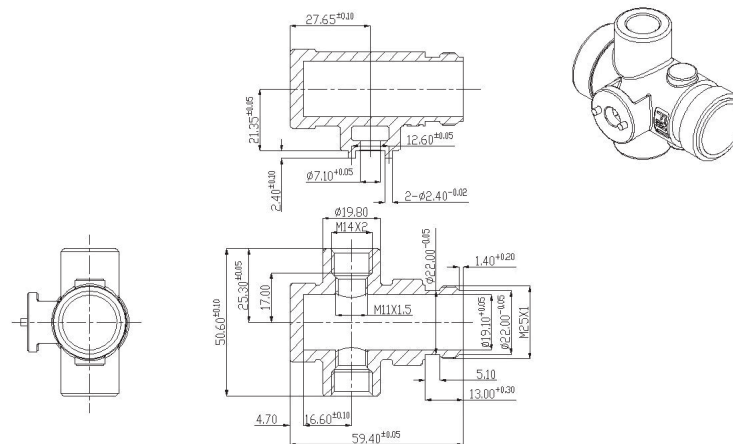


| 技术参数 Technical Parameters            | JC-Y100uL  | JC-Y200uL | JC-Y500uL | JC-Y1000uL |
|--------------------------------------|--|-----------|-----------|------------|
| 泵阀材质 Pump valve material             | 氧化铝 Alumina /氧化锆 zirconia / 氮化硅 sicon nitride (可选optional) |           |           |            |
| 接触液体部材质 Contact liquid material      | 陶瓷Ceramic, SUS316L, PTFE (可选optional)                      |           |           |            |
| 驱动方式 Driving mode                    | 单轴步进电机Dual axis stepper motor                              |           |           |            |
| 调节方式 Adjustment mode                 | 精密 18杆调节 Precision screw adjustment                        |           |           |            |
| 单冲程计算范围 Single stroke metering range | 5-100uL  | 10-200yL  | 20-500pL  | 25-1000uL  |
| 冲程精度 Stroke accuracy                 | ±0.5%«   | ±0.5%o    | ±0.5%o    | ±0.5%o     |
| 出口压力 Outlet pressure                 | Max0.3Mpa  | Max0.3Mpa | Max0.3Mpa | Max0.5Mpa  |
| 导液接口 Liquid guide pipe               | ① 1.0、S.602.0、03.00) 4.0 (可选择)                             |           |           |            |
| 电源要求 Power                           | 24VDC/500mA  |           |           |            |

## Ceramic Rotary Valve Series

### ◆陶瓷旋转阀系列

高精度氧化铝、氧化锆、氮化硅、碳化硅等材质的陶瓷泵、陶瓷柱塞、陶瓷缸套、陶瓷零件及其他精密陶瓷产品



## Ceramic Filling Valve Custom Series

### ◆陶瓷灌装阀定制系列

- 可按照客户要求来图、来样制定。
- 完全替代进口陶瓷泵芯。
- 品质优于国内同行。
- 广泛应用于绝大多数化学介质精密计量输送。
- 抗酸碱腐蚀。
- 高强度可重复运行。

1. According to customer requirements, drawings and samples can be made.
2. Can completely replace imported ceramic pump core.
3. Quality is better than domestic counterparts.
4. Widely used in precision metering and conveying of most chemical media.
5. Anti-acid and alkali corrosion.
6. High-intensity repeatable operation.

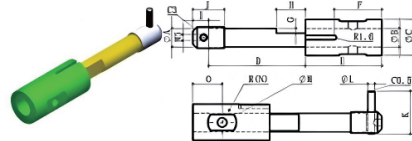
#### 广泛应用 Widely used for

适用于旋转阀注射液及相关精密注液及流体灌装设备。

Widely used for: suitable for rotary valve injection pumps and related precision injection and fluid filling equipment

#### 外形安装图

#### Outline installation drawing



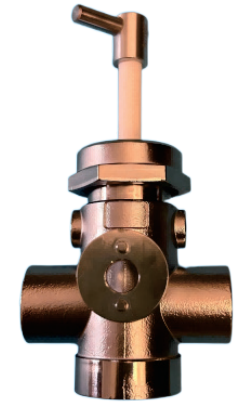
| 技术参数 Technical Parameters |                     |                            |                           |
|---------------------------|---------------------|----------------------------|---------------------------|
|                           | 材质 Material         | 泵芯直径 Diameter of pump core | 计算精度 Measurement accuracy |
| JC-D476                   | Alumina / Zirconium | 4.76mm                     | W0.5%                     |
| JC-D634                   | Alumina / Zirconium | 6.34mm                     | W0.5%                     |
| JC-D8                     | Alumina / Zirconium | 8mm                        | W0.5%                     |
| JC-D10                    | Alumina / Zirconium | 10mm                       | =50.5%                    |
| JC-D12                    | Alumina / Zirconium | 12mm                       | W0.5%                     |
| JC-D13                    | Alumina / Zirconium | 13mm                       | =50.5%                    |
| JC-D14                    | Alumina / Zirconium | 14mm                       | W0.5%                     |
| JC-D16                    | Alumina / Zirconium | 16mm                       | =±0.5%                    |
| JCD20                     | Alumina / Zirconium | 20mm                       | W0.5%                     |
| JCD25                     | Alumina / Zirconium | 25mm                       | W0.5%                     |
| JC-D30                    | Alumina / Zirconium | 30mm                       | =50.5%                    |
| JC-D36                    | Alumina / Zirconium | 36mm                       | W0.5%                     |
| JC-D40                    | Alumina / Zirconium | 40mm                       | W0.5%                     |

## Ceramic Filling Valve Custom Series

### ◆陶瓷灌装阀定制系列

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- 完全替代进口陶瓷泵芯。
- 品质优于国内同行。
- 广泛应用于绝大多数化学介质精密计量输送。
- 抗酸碱腐蚀。
- 高强度可重复运行。

7. According to customer requirements, drawings and samples can be made.
8. Can completely replace imported ceramic pump core.
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10. Widely used in precision metering and conveying of most chemical media.
11. Anti-acid and alkali corrosion.
12. High-intensity repeatable operation.



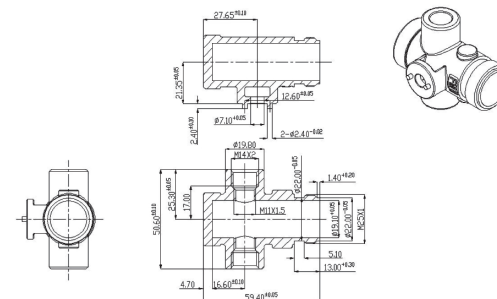
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适用于旋转阀注射液及相关精密注液及流体灌装设备。

Widely used for: suitable for rotary valve injection pumps and related precision injection and fluid filling equipment

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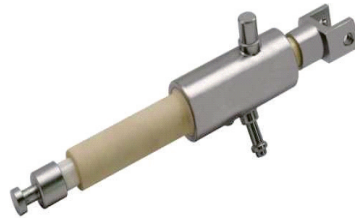
#### Outline installation drawing



| 技术参数 Technical Parameters |                     |                            |                             |
|---------------------------|---------------------|----------------------------|-----------------------------|
|                           | 材质 Material         | 泵芯直径 Diameter of pump core | 计算精度 Measurement accuracy j |
| JC-F634                   | Alumina / Zirconium | 6.34mm                     | W0.5%                       |
| JC-F994                   | Alumina / Zirconium | 9.94mm                     | W0.5%                       |

## Ceramic Filling Valve Custom Series

### 陶瓷灌装阀定制系列



- 可按客户要求定制来图来样。
- 电化学反应, 广泛应用于绝大多数化学介质输送。
- 柱塞间隙小, 无液可连续运行, 灌装精度高, 可在线清洗及灭菌。
- 完全替代进口陶瓷。

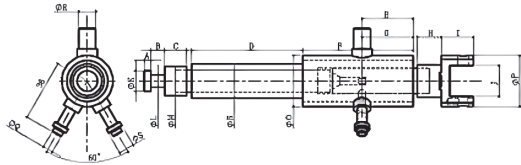
1. According to customer requirements, drawings and samples can be made.
2. Anti-chemical reaction widely used in transportation of most chemical media.
3. The plunger gap is small, it can run continuously without liquid, the filling precision is high, and it can be cleaned and sterilized online.
4. Can completely replace imported ceramics.

#### 广泛应用 Widely used for

适用于口服液、生物制药、化工试剂等腐蚀性液体的精密灌装。

Widely used for: suitable for precision filling of corrosive liquids such as oral liquid, biopharmaceuticals, chemical reagents, etc.

#### 外形安装图 Outline installation drawing



| 技术参数 Technical Parameters             |  |
|---------------------------------------|--|
|                                       | JC-GZB-柱塞直径 JC-GZB-Plunger Diameter                        |
| 陶瓷柱塞材质 Plunger material               | Alumina / zirconia / silicon nitride / sapphire (optional) |
| 柱塞套材质 Plunger sleeve material         | 不锈钢 SUS316L Stainless steel SUS316L                        |
| 最大适应温度 Maximin adaptation temperature | Max1000°C  |
| 断裂韧性 Fracture toughness               | 8-10   |
| 柱塞配合间隙 Pinger fil clearance           | W0.002mm   |
| 单个工程范围 Single range                   | 0.5~20ml   |
| 冲程精度 Stroke accuracy                  | ±0.25%   |

注: 炬昌陶瓷计量阀适用于国内外各种品牌灌装机上, 外形和尺寸可按客户需求设计加工。

Note: Juchang Ceramic Metering Valve is suitable for various brands of filling machines both domestically and internationally. Weclome OEM/ODM and customized service.

## Ceramic Filling Valve Custom Series

### 陶瓷灌装阀定制系列



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- 电化学反应, 广泛应用于绝大多数化学介质输送。
- 柱塞间隙小, 无液可连续运行, 灌装精度高, 可在线清洗及灭菌。
- 完全替代进口陶瓷。

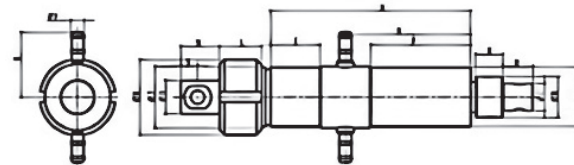
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Widely used for: suitable for precision filling of corrosive liquids such as oral liquid, biopharmaceuticals, chemical reagents, etc.

#### 外形安装图 Outline installation drawing



| 技术参数 Technical Parameters             |  |
|---------------------------------------|--|
| 规格型号 Specification & Model            | JC-柱塞直径 JC-GZB-Plunger Diameter                            |
| 陶瓷柱塞材质 Plunger material               | Alumina / zirconia / silicon nitride / sapphire (optional) |
| 柱塞套材质 Plunger sleeve material         | 不锈钢 SUS316L Stainless steel SUS316L                        |
| 最大适应温度 Maximin adaptation temperature | Max1000°C  |
| 断裂韧性 Fracture toughness               | 8-10   |
| 柱塞配合间隙 Pinger fil clearance           | W0.002mm   |
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## Customized Ceramic Structural Components Series

### ◆陶瓷结构件定制系列

- 工业陶瓷具有优越的强度、硬度、绝缘性、热传导、耐高温、耐氧化、耐腐蚀、耐磨耗、高温强度等特色，具有耐高温、耐冲刷、耐腐蚀、高硬度、高强度、低蠕变速率等优异力学、热学、化学性能。
- 常用于各种结构部件的先进陶瓷。
- 主要应用于机械配件、化工、石油、电子、航天等多种用途。
- Industrial ceramics possess remarkable characteristics such as superior strength, hardness, insulation, heat conduction, high temperature resistance, oxidation resistance, corrosion resistance, wear resistance, and high temperature strength. They also exhibit excellent mechanical, thermal and chemical properties including high temperature resistance, resistance to erosion, corrosion resistance, high hardness, high strength, and low creep rate.
- Advanced ceramics commonly used in various structural components.
- Mainly applied in various fields such as mechanical parts, chemical industry, petroleum, electronics, aerospace, etc.



陶瓷特性表 Ceramic Properties Table

|                                   | 名称<br>Title                             | 99.9瓷<br>Alumina ceramics | 99瓷<br>Alumina ceramics | 氧化锆<br>Zirconia ceramics |
|-----------------------------------|---|---------------------------|-------------------------|--------------------------|
|                                   | 主要成份<br>Main composition                | AL2O3 >=99%               | AL2O3 >= 99.99%         | ZrO2 >=94%               |
| 物理特性:<br>Physical property        | 密度<br>Density                           | 3.85                      | 4.0                     | 5.9                      |
|                                   | 吸水率%<br>Water absorption                | 0                         | 0                       | 0                        |
|                                   | 烧结温度 C<br>Sinter point                  | 1690                      | 1700                    | 1650                     |
| 物质特性:<br>Physical properties      | 硬度 HV<br>Rigidity                       | 1700                      | 1800                    | 1400                     |
|                                   | 抗折强度Pt<br>Rupture strength              | >3500                     | >4000                   | >11000                   |
|                                   | 抗太强度Kgf/cm<br>High resistance strength  | 30000                     | 35000                   | 25000                    |
| 热力特性:<br>Thermal performance      | 使用温度<br>Operating temperature           | 1500                      | 1600                    | 1600                     |
|                                   | 热膨胀系数<br>Thermal expansivity            | 10-6                      | 9                       | 10                       |
|                                   |   |                           |                         |                          |
|                                   | 耐热冲击力<br>Heat shock resistance          | 200                       | 220                     | 350                      |
|                                   | 热传导率<br>Pyroconductivity                | 31                        | 30                      | 3                        |
| 电气特性:<br>Electrical specification | 体积电阻率<br>Volume resistivity             | >10                       | >10                     | >10                      |
|                                   | 绝缘破坏强力<br>Insulation breakdown strength | 18                        | 18                      | 15                       |
|                                   | 介电常数<br>Permittivity                    | 9.2-10.5                  | 9.0-10                  | 12.5                     |

## Pre-sales and after-sales service team

### ◆售前售后服务团队

- 超越客户的期望，是我们炬昌陶瓷的追求！
- 我们拥有技术精湛、实践经验丰富、认真负责的专业售前售后技术人员。提供一流精准的服务与支持，是我们强大的保障，无论何时都让客户满意。
- 炬昌陶瓷品牌，是我们声誉的证明。
- Exceeding customers' expectations is our pursuit at Ju Chang Ceramics!
- We have highly skilled, experienced and responsible professional pre-sales and after-sales technicians. Providing first-class and precise services and support is our strong guarantee, ensuring customer satisfaction at all times.
- Ju Chang Ceramics brand is the proof of our reputation.

## Typical applications

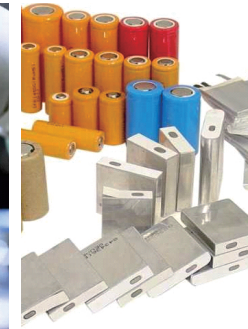
### ◆典型应用



#### 生物行业 Biomedical industry

诊断试剂、核酸、疫苗、采血管抗凝剂、凝胶、口服、DMA分析仪、分装、试管灌装、血样收集试剂的添加及喷涂及药液生产等。

Spraying, drug production, nucleic acids, vaccines, blood collection anticoagulants, water injection, freeze-dried powder injection, oral administration, DMA analyzers, packaging, test tube filling, blood sample collection reagent addition.



#### 能源行业 Energy industry

扣式电池、圆柱电池、电容、聚合物电池、动力电池、铅酸、锌空气电池的定量添加注液及跟电池手套箱、自动/半自动注液机等设备厂家配套。

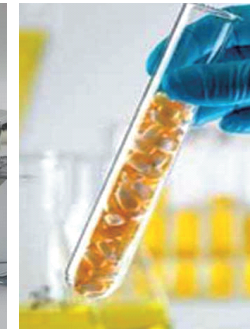
Accurate quantitative liquid injection for button cells, cylindrical batteries, super capacitors, potymer batteries, power batteries, lead-acid batteries, zinc air batteries, and auxiliary equipment manufacturers such asfor battery boxes, automatic / semi automatic / manual liquid injection machines.



#### 日化工业 Daily chemical industry

乳液、精油、睫毛液、洗面奶、化妆品、护肤霜、染发剂、脂肪酸、化妆品色料的添加，湿度控制及香料的添加灌装。

Color addition, humidity control and flavoring filling for perfume, essential oils, mascaras, cleansing creams, cosmetics, skin creams, hair dyes and fatty adds.



#### 食品工业 Food industry

番茄浆、牛奶、酸奶、奶油、汽水、果汁、酒、调味品、芥末、调味品、蜜糖、牛油、果浆果汁、布丁、酸奶食品添加剂、香精、食用油分装等。

Milk, yogurt butter, soft drinks, fruit juices, wines, condiments, mustards, slurry, honey, butter, fruit juices, yogurt food additives, fungicides, flavors, edible oil sub-packing and so on.