

Precision Ceramic Rotary Plunger Pump For Micro Liquid Metering

Item Number: YZ16



Introduction

Precision ceramic rotary plunger pump for micro liquid metering delivers $\pm 3\%$ accuracy, corrosion resistance, high temperature capability, programmable control, reversible flow, and flexible dosing for demanding laboratory, pharmaceutical, electrolyte, chemical, adhesive, dairy, and advanced materials applications with reliable operation

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Application	Description	Key Benefit
Battery electrolyte dispensing	Precisely meters electrolyte during laboratory cell assembly, electrolyte addition, and advanced battery process development.	Stable micro-volume delivery with ceramic contact surfaces suited to chemically active liquids.
Pharmaceutical liquid filling	Supports controlled filling, addition, and transfer of specialized pharmaceutical liquids and reagents.	Repeatable positive-displacement dosing and automatic stop at the programmed quantity.
Acid and solvent handling	Transfers and meters acidic, alkaline, solvent-based, and other aggressive chemical media in laboratory or pilot systems.	Corrosion-resistant ceramic wetted components reduce reaction and contamination concerns.
Adhesive and reagent dosing	Delivers controlled quantities of adhesives, laboratory reagents, and process chemicals for testing or assembly.	Valve-free operation helps reduce dripping, leakage, bubbles, and material waste.
Dairy and specialty liquid processing	Performs small-volume metering and filling where stable flow and clean handling are important.	Consistent dosing with flexible inlet, outlet, and needle configurations.
Precision coating and line marking	Feeds liquids for micro-scale spraying, coating, dispensing, and line-marking operations.	Adjustable stroke and cycle settings provide adaptable flow control for process development.
Advanced materials research	Supports ceramic, powder metallurgy, materials science, and academic research workflows requiring controlled liquid addition.	Compact programmable control and recipe storage simplify repeatable experimental procedures.
Automated laboratory equipment	Integrates into PLC-controlled or industrial-computer-managed workstations and production equipment.	Standard communication capability enables synchronized operation within larger systems.

Parameter	Specification
Product item number	YZ16
Product type	Single-head, one-inlet and one-outlet reciprocating rotary positive-displacement industrial ceramic plunger metering pump
Pump-core material	ZrO ₂ , Al ₂ O ₃
Pump-core performance	Corrosion resistant, high-temperature resistant, wear resistant, high hardness, low friction coefficient, long service life
Pump-core pairing accuracy	2 μ m
Drive method	Imported servo motor or stepper motor
Speed range	1 to 1200 rpm; forward and reverse rotation reversible
Speed-control method	Pulse control
Display and control method	4.3-inch touchscreen human-machine interface with display and dialogue operation

Parameter	Specification
Programming software	Programmable controller integrated with the display and control system
Memory performance	Permanent memory; stores parameters and up to 100 recipes
Single-stroke capacity range	0 μ L to 10000 μ L; maximum 10000 μ L per stroke
Capacity calculation	Q_{total} , total metered quantity = Q_{stroke} , stroke volume $\times$ N stroke, number of strokes
Metering accuracy	$\pm 3\%$
Applicable medium temperature	Liquid medium temperature $\leq 250^{\circ}\text{C}$; material selection must be specified when ordering
Liquid-transfer tubing	PE or Teflon
Inlet tubing dimensions	Inner diameter $\Phi 6$ mm; outer diameter $\Phi 8$ mm
Outlet tubing dimensions	Inner diameter $\Phi 4$ mm; outer diameter $\Phi 6$ mm
Outlet needle options	$\Phi 2.5$ mm, $\Phi 4.0$ mm, or $\Phi 6.0$ mm
Outlet needle length	Selectable
Pump dimensions	L $\times$ W $\times$ H: 201 $\times$ 125 $\times$ 147 mm
Controller dimensions	L $\times$ W $\times$ H: 295 $\times$ 215 $\times$ 157 mm
Weight	Approximately 7.3 kg, including controller and pump
Standard power supply	AC 220 V $\pm 10\%$, 50 Hz/60 Hz
Optional power supply	AC 110 V $\pm 10\%$, 50 Hz/60 Hz
Operating environment	Temperature 0 to 40°C ; relative humidity $< 80\%$
Protection rating	IP31
Safety functions	Password protection and factory-reset function to prevent unauthorized modification of set parameters
Configurable operating modes	Forward suction, retraction, retraction volume, delayed metering, standby cleaning, and production-capacity counting
Communication capability	Standard communication interface for standalone use or connection with a PLC or industrial computer